



# GENERAL HYDRAULICS

## PRODUCT CATALOGUE

# 2020



# TABLE OF CONTENTS

Preamble .....	iii
<b>1 - HOSES</b>	
Introduction .....	1
Hoses Index .....	7
Hoses by Working Pressure .....	11
Hoses by Approvals .....	13
Global Standard Hoses .....	15
High Grade Isobaric Hoses .....	27
High Grade Traditional Hoses .....	46
Premium Hoses .....	71
<b>2 - FITTINGS</b>	
Introduction .....	97
Visual Index .....	98
Termination Ends Working Pressure .....	99
Index .....	100
MF2000 - Minifit Type .....	107
MF2000 - Multifit Type .....	113
MF2000 - Interlock Plus Type .....	176
MF2000 - Interlock Plus Stainless Steel Type .....	211
MF2000 - Interlock Super Type .....	222
MF2000 - Spiralfit Type .....	226
MF2000 - Spiralfit GX Type .....	248
MF2000 - Push-lock Type .....	250
MF2000 - Accessories .....	252
MF3000 - OPK Type .....	256
MF3000 - OPF Type .....	281
MF2000 - Easy Fit Type .....	308
MF2000 - Fast Fit Type .....	312
MF2000 - Fast Fit Disconnectable Type .....	319
MF2000 - RotoFit Type .....	322
MF2000 - Adjustable Flange Type .....	333

**3 - QUICK COUPLINGS - Q.SAFE**

Q.Safe - Quick Couplings - Introduction .....	335
Q.Safe - Quick Couplings - Index .....	338
Q.Safe - Quick Couplings .....	341
Q.Safe - DHI Quick Couplings .....	463
Q.Safe - Multiconnectors .....	471
Q.Safe - Quick Couplings - Accessories and Spare Parts .....	485
Q.Safe - Check Valves .....	502

**4 - ASSEMBLY MACHINES**

Introduction .....	527
Index .....	529
Modular Assembly Units .....	531
Cutting Machines .....	533
Skiving Machines .....	541
Insert Pushing Machines .....	546
Marking Machines .....	548
Complimentary Products .....	549
Crimping Machines .....	551
Test Benches .....	582
Die Sets .....	584

**5 - HOSE PROTECTIONS**

Introduction .....	607
Hose Protections .....	608

**6 - APPENDICES**

Legend of Symbols .....	617
Hose Size Conversion Chart .....	619
Torque Recommendations .....	620
Fluid Compatibility Chart .....	624
Easy Fit Instructions .....	645
Q.Safe Instructions .....	648
Part Numbering System .....	650
Hose Installation Guide .....	681



## MANULI HYDRAULICS - OUR MISSION

---

*Manuli Hydraulics is focused on achieving excellence in the design, manufacture and supply of fluid conveyance solutions, components and associated equipment for high pressure hydraulics, refrigeration and oil and marine applications.*

**Just some of the application areas where Manuli Hydraulics products are used are:**

- Construction and public works
- Underground and open pit mining
- Maintenance services
- Forestry
- Agriculture
- Water blasting and cleaning
- Refrigeration
- Material handling and logistics
- Industrial machines
- Industrial services
- Energy

**Manuli Hydraulics Offers:**

- Wire spiral reinforced rubber hoses
  - Wire braid reinforced rubber hoses
  - Textile braid reinforced rubber hoses
  - Reinforced thermoplastic hoses
  - Hose fittings
  - Quick couplings
  - Staple-lock fittings, adaptors and valves for underground mining applications
  - Assembling machines
  - Hose assemblies and hose kits for mobile refrigeration systems
  - Hose assemblies for water cleaning and water blasting applications
  - Hose assemblies for high and very high pressure hydraulics systems
  - Other fluid connectors
-

## INNOVATION

---

*Manuli Hydraulics R&D activities are based at the Manuli Innovation Centre (MIC) in Bologna, Italy, which oversees the R&D centres in France, Poland, China and the UK. All of our research centres are equipped with advanced design, testing and validation facilities.*

The main MIC laboratories feature special rooms and equipment that allow researchers to simulate the most extreme environmental and operational conditions including:

- Heat
- Cold
- Fog
- Fatigue (Impulse testing)
- Hydrostatic testing
- Saline environments
- Vibrations

MIC are responsible for the design and development of every aspect of our product range, from rubber compounds and hose structures, to fitting design and assembly machines. Our global R&D teams are made up of highly skilled international engineers who are dedicated to the development of integrated solutions for Manuli customers. The quality, wide selection of products and cost saving initiatives that our Innovation Centres provide allow us to better support our customers whatever their requirements.

Our Innovation Centres also focus on the development of co-design projects in confidential alliances with Original Equipment Customers. This is an additional benefit to our Partners, whilst the technological cooperation with OEMs helps our engineers to better understand the demanding and ever-evolving requirements of fluid conveying applications. Our focus on customer requirements enhances our capability and expertise in providing complete fluid connector solutions.



## QUALITY CERTIFICATIONS

---

*Quality and sustainable development are the driving forces of all Manuli Hydraulics' activities. Manuli Rubber Industries was the first European hydraulic components manufacturer to achieve the ISO 9001 certification in 1992 and the OHSAS certification in 2005.*

The Manuli Group facilities are compliant to ISO 9001 and ISO 14001 and have achieved the Occupational Health and Safety Assessment Series (OHSAS) certifications as the result of its strong commitment to the preservation of people's health & safety on the work sites.

### ISO 9001 CERTIFIED PLANTS

- Manuli Rubber Industries - Italy, Innovation Centre & Headquarters
- Manuli Rubber Industries - Italy, Hydraulic Hoses
- Manuli Rubber Industries - Italy, Oil & Marine Hoses
- Manuli Hydraulics (Suzhou) - PRC, Hydraulic Hoses
- Manuli Hydraulics (Suzhou) - PRC, Hose assemblies
- Manuli Hydraulics Manufacturing (Radomsko) - Poland, Hydraulic Hoses
- Manuli Hydraulics Polska - Poland, HY Connectors, Refri & A/C systems
- Manuli Hydraulics - UK, Hose assemblies
- Manuli Hydraulics Europe - Czech Rep., Hose assemblies
- Manuli Hydraulics - India, Hose assemblies
- Manuli Hydraulics Korea - S. Korea, Hose assemblies
- Manuli Otim - France, Hose assemblies
- Techmaflex - France, Assembling machines
- Fluiconnecto by Manuli - South Africa
- Fluiconnecto by Manuli - The Netherlands



### ISO 14001 CERTIFIED PLANTS

- Manuli Rubber Industries - Italy - Hydraulic Hoses
- Manuli Rubber Industries - Italy - Oil & Marine Hoses
- Manuli Hydraulics (Suzhou) - P.R.C. - Hydraulic Hoses
- Manuli Hydraulics (Suzhou) - P.R.C. - Hose assemblies
- Manuli Hydraulics Polska - Poland - HY Connectors, Refri & A/C systems
- Manuli Hydraulics UK - United Kingdom - Hose assemblies
- Manuli Hydraulics Europe - Czech Rep. - Hose assemblies
- Manuli Hydraulics Korea - Korea - Hose assemblies
- Manuli Hydraulics India - India - Hose assemblies



### OHSAS 18001 CERTIFIED PLANTS

- Manuli Hydraulics (Suzhou) - PRC, Hydraulic Hoses
  - Manuli Hydraulics (Suzhou) - PRC, Hose assemblies
  - Fluiconnecto by Manuli - South Africa
-

## THIRD PARTY APPROVALS

Manuli products meet and exceed the highest industry standards as proven by the achievement of our extensive list of technical approvals issued by third party accreditation bodies.

### MINING APPROVALS

- FRAS (Fire Resistant and Anti-Static Australian Dept. Mineral Resource)
- MSHA (Mine Safety and Health Administration - USA)
- Polish B Safety certification
- MA (Chinese Mining Approval)

### OIL AND GAS APPROVALS

- API (American Petroleum Institute) Monogram License 7K
- API (American Petroleum Institute) Monogram License 5L
- API (American Petroleum Institute) 16D Fire test
- QS mark by AQSIQ (General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China)

### MARINE EQUIPMENT APPROVALS

- ABS (American Bureau of Shipping)
- BV (Bureau Veritas)
- DNV-GL (Det Norske Veritas - Germanischer Lloyd)
- MED (Marine Equipment Directive)
- RINA (Italian Bureau of Shipping)
- KRS (Korean Register of Shipping)
- LR (Lloyd's Register of Shipping)
- CCS (China Classification Society)
- NKK (Nippon Kaiji Kyokai)

### GOVERNMENT SAFETY APPROVALS

- DB (DIN 5510-2) - German Railway
- DB (EN 45545-2) - Europe Railway (requested)
- CU-TR - Russian Fed. & CIS
- EN 81-2 - Safety of hydraulic elevators







HYDRAULIC HOSES



## INTRODUCTION TO THE MANULI HOSE RANGE

The Manuli Hydraulics range of hydraulic hoses is a comprehensive selection of products aimed at supporting both general and speciality hydraulics applications in a wide range of environments. From construction and agriculture to mining, forestry and offshore, Manuli hoses are designed to meet and surpass the most demanding operational and environmental requirements, ensuring long life, high performance and reliable service.

Manuli hoses are categorised according to our unique G.H.P. System, which helps users to identify the type of properties required for their specific applications.

The G.H.P. System for hydraulic hoses comprises the following 3 categories:

### GLOBAL STANDARD

Suitable for a wide variety of general hydraulic applications, the Global Standard range of hoses are designed to meet the requirements of various international norms, including ISO, BS, SAE and JIC. Featuring some of Manuli's most successful and widely used product lines, the Global Standard range offers high quality and reliability in most standard hydraulic applications.

### HI-GRADE

These hoses are designed to meet and exceed the international specifications, making them ideal for high performance products and harsh environments. Suited to both OEM and aftermarket maintenance these hoses are split into two sections according to the selection criteria across the range. As such the range comprises hoses which use traditional design methodologies where working pressure varies according to the hose size, and Isobaric hoses, where working pressure is constant across all sizes according to the specifications of ISO 18752.

### PREMIUM

A superior range of products designed for the utmost performance in specific applications, these hoses are designed to surpass expectations and requirements. Featuring some of the most advanced hose design on the market today, these products demonstrate what can be achieved when decades of experience, intelligent design and collaboration with industry leaders are brought seamlessly together. Many of the hoses in this range have advanced properties or are designed to resist specific environmental challenges.



## MANULI COVER TECHNOLOGY

Choosing the correct hydraulic hose for the job requires careful consideration. The widespread use of hydraulics in a variety of industries and environments means that characteristics such as robustness, flexibility, chemical resistance and operating temperature must all be considered.

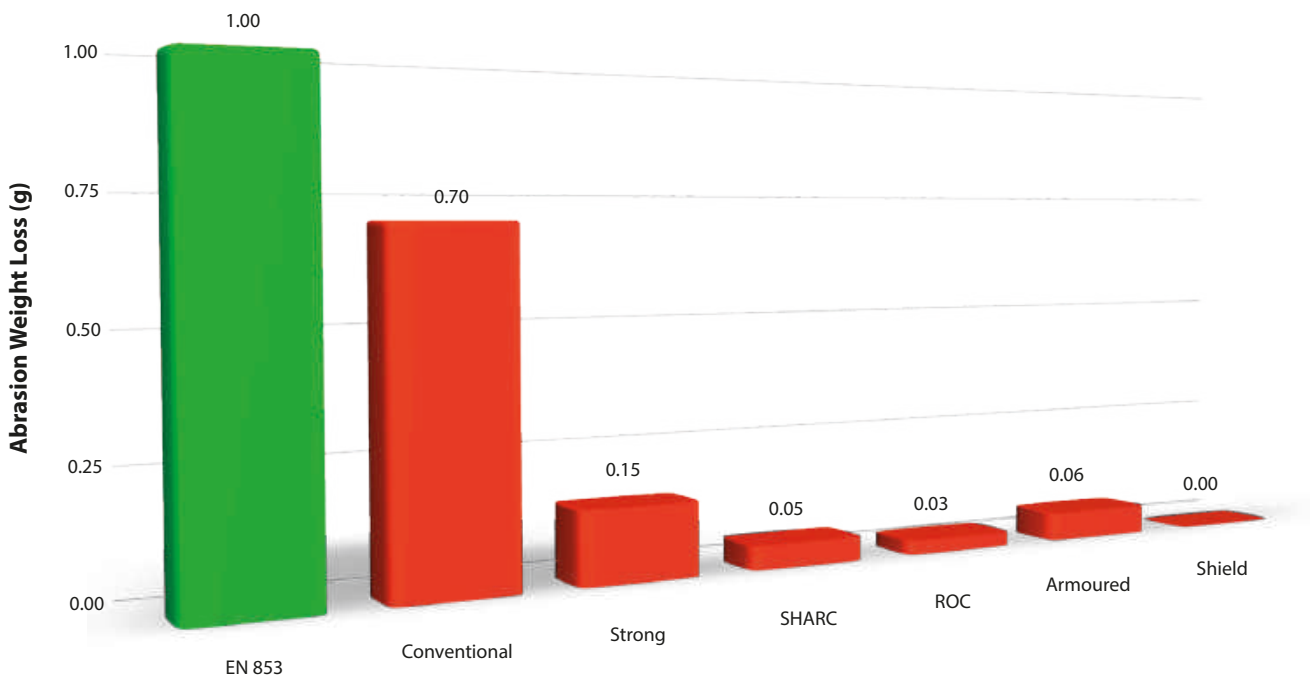
However, most experts agree that the hose cover is the singular most important part of a hose's construction, as wear of the cover due to environmental factors is the primary cause of hose failure. It is therefore critical that the hose cover be as robust and long-lasting as it can be, whilst also meeting the other specific requirements of the system it is included in.

Manuli Hydraulics has developed a range of highly innovative and proprietary cover materials and structures to ensure maximum service life in even the most harsh of environmental conditions. The outstanding performance of our cover materials compared to many of our competitors' products illustrates the fact that, whilst hose selection itself may be complex, making sure you choose the right cover need not be.

Progressively developed over several years and multiple hose families, the Manuli Hydraulics range of hose cover solutions is many and varied. Aside from certain application-specific covers dedicated to unique hose families, Manuli offers 6 fundamental hose cover types:

- **Conventional Cover** - "STD" & "XT" Type
- **Strong Cover** - "SD" & "SC" Type
- **Super High Abrasion Resistant Cover (SHARC)**
- **Rubber Outstanding Cover (ROC.)**
- **Armoured Cover**
- **Shield Cover**

The relative abrasion resistance performance of each of these cover types compared to EN 853 can be assessed from the below graph:

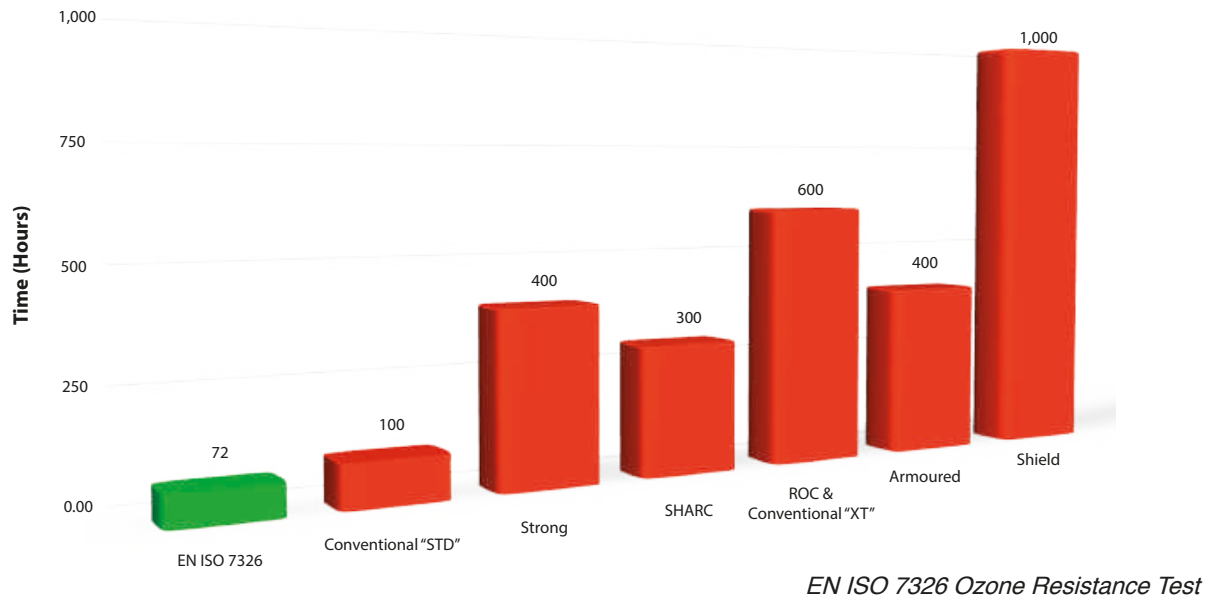


*ISO 6945 Abrasion Test, 5kg vertical force*



In addition to their outstanding performance against abrasion, these covers also boast a high level of resistance to cracking due to ozone exposure. The general rule of thumb is that abrasion resistance and ozone resistance for a cover compound are inversely proportional. So high abrasion resistance leads to poor ozone resistance, and vice versa.

However, in contrast to these typical material limitations, each of the above Manuli cover compounds performs noticeably better than the required test specification, EN ISO 7326.



## CONVENTIONAL COVER

As Manuli's base-line cover compound, the Conventional Cover is fully compliant to current international specifications for both abrasion and ozone resistance.

Used primarily on the classic Manuli hose ranges, such as **Tractor**, this cover is robust enough for most general hydraulic applications where excessive abrasion or ozone exposure is not expected.

With a working temperature range of -40°C to +100°C, hoses with the Conventional Cover are prime examples of the perfect balance between reliability, toughness and value.

**"XT" Type** - The Conventional Cover is also used as the basis for the "XT" type covers used on premium hose ranges such as **Equator**. In these cases, the abrasion resistance characteristic remain consistent with the Conventional Cover, but the covers have significantly upgraded ozone resistance and an extended operational temperature range of -55°C to + 135°C.

## STRONG COVER

As the first major performance step change in both abrasion and ozone resistance, the Strong Cover outperforms the Conventional Cover four times over in these areas. It is for this reason that two of Manuli's core product families, **RockMaster** and **GoldenIso** (except AntiWear) use this cover type.

The Strong Cover comes in two types:

**"SD" Type** - Used on the majority of **RockMaster** products, as well as **Pilot** and **Eternity/2**, the "SD" cover has a minimum working temperature of -40°C.

**"SC" Type** - Used on the new **Cryoflex** range, the "SC" cover compound has an extreme resistance to low temperatures, allowing it to remain flexible down to -60°C.

## SUPER HIGH ABRASION RESISTANT COVER - SHARC

Developed as a high-protection cover, the SHARC solution provides abrasion and weathering resistance to a standard which makes it ideal for all but the most extreme of applications.

Used on the **GoldenIso AntiWear** and **Xtraflow** hydraulic hose ranges, the SHARC solution ensures long lasting, reliable hose protection in some of the toughest operational environments.

The SHARC solution also has high fire resistance and anti-static properties, making it suitable for use in highly regulated applications such as mining and offshore drilling.

## RUBBER OUTSTANDING COVER - ROC

Specifically designed for extreme abrasion and weathering resistance on heavy duty hoses, the ROC solution easily out-performs all but the toughest and most resilient hose cover solutions.

Used on the newly released **RockMaster/2 Plus Super-AntiWear** hose family and within the new **ForeMaster** range, the ROC solution has already proven itself to be a superb investment for use in the harshest of environmental conditions.

Once again, a high fire and anti-static resistance, coupled with an ability to function at very low temperatures, makes the ROC solution a highly versatile addition to the Manuli Hydraulics cover solutions range.

## ARMOURED COVER

The Armoured Cover is the culmination of years of research and development in both hose structural design and rubber compound formulation. This innovative new cover is made up of two fundamental elements:

- Outer cover made from a proprietary, specially formulated anti-wear rubber compound
- High-tensile textile breaker layer

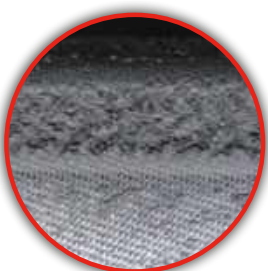
The Armoured Cover is currently used on the higher pressure hose lines within the **ForeMaster** range of hoses.

### Putting it to the test

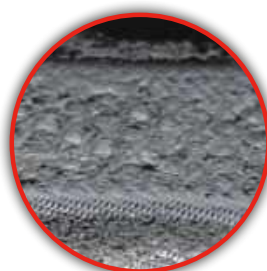
In standard ISO 6945 abrasion tests a reciprocating 5kg load is used to create wear on the hose cover. The test lasts for 2,000 cycles and measures the mass of material lost. The lower the result, the better the performance.

However, to truly test the performance of the Armoured Cover, Manuli devised a more severe test. A 10kg reciprocating load was used, and the number of cycles required to expose the steel reinforcement was determined. In this case, the higher the result, the better the performance.

**Whilst hoses with the Armoured Cover performed up to 4 times better than the competition in standard ISO 6945 abrasion tests, they lasted as much as 30 times longer before the steel reinforcement was exposed.**



*2,000 cycles (10kg)*

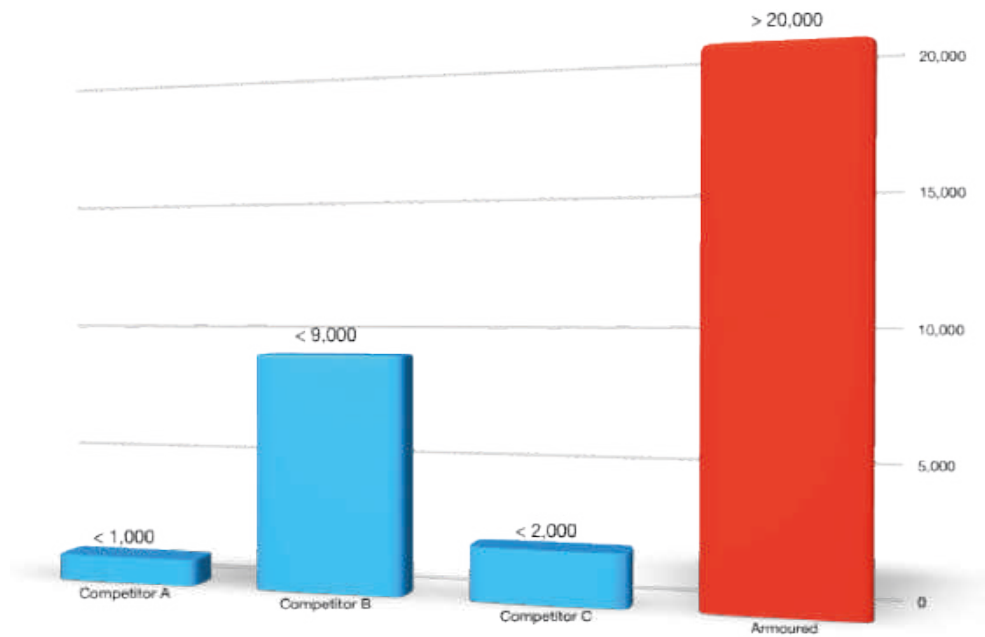


*20,000 cycles (10kg)*



*60,000 cycles (10kg)*

### Number of Cycles Before Reinforcement Exposure



*Modified ISO 6945 Abrasion Test, 10kg vertical force*

## SHIELD COVER

The Shield Cover solution is designed for maximum hose to hose abrasion and weathering resistance in none friction-flexing and non-impact applications.

Used throughout the **ShieldMaster** hose family and comprising a robust synthetic rubber layer with an additional ultra-high molecular weight polyethylene (UHMWPE) outer skin, the Shield Cover outperforms all other Manuli cover types in its resistance to both abrasion and ozone.

In fact the abrasion resistance of the Shield Cover is so great that under standard ISO 6945 test conditions it is necessary to perform around 1 million cycles to register a discernible weight loss.

The self-lubricating properties of UHMWPE make the Shield Cover perfect for situations where bunches of hoses rub against each other, and the smooth cover finish provides an easy-to-clean alternative to spring guards.

In addition to its outstanding abrasion and weathering resistance, the Shield Cover also resists cracking down to -46°C and has flame retardant and anti-static properties, making it suitable for use in even the harshest environments.

WHERE ARE THE COVERS USED?

HOSES  
6

	DN	5	6	8	10	12	16	19	25	31	38	51	60	63	76	89	102	
ASTRO/2			STD	STD	STD	STD	STD	STD	STD	STD								
ASTRO/3			STD	STD	STD	STD	STD	STD	STD	STD	STD	STD						
HARVESTER/17			STD	STD	STD	STD												
JACKMASTER/70			STD		STD													
LUBEMASTER			STD		STD													
LYTE-FLEX			STD	STD	STD	STD	STD	STD	STD									
MULTITEX		STD	STD	STD	STD	STD	STD	STD	STD									
PUSHFIT			STD	STD	STD	STD	STD	STD	STD									
SPIRTEX								STD	STD	STD	STD	STD		STD	STD	STD	STD	
TRACTOR/1SN			STD	STD	STD	STD												
TRACTOR/2SN			STD	STD	STD	STD												
TRACTOR/1SC			STD	STD	STD	STD												
TRACTOR/2SC			STD	STD	STD	STD												
TWINPOWER 4000					STD	STD												
EQUATOR/1 (BLACK)			XT	XT	XT	XT	XT	XT	XT	XT	XT	XT		XT				
EQUATOR/1 (BLUE)			XT	XT	XT	XT	XT	XT	XT	XT	XT	XT		XT				
EQUATOR/2 (BLACK)			XT	XT	XT	XT	XT	XT	XT	XT	XT	XT						
EQUATOR/2 (BLUE)			XT	XT	XT	XT	XT	XT	XT	XT	XT	XT						
DIAMONDSPIR								SD	SD	SD	SD	SD						
ETERNITY/2			SD	SD	SD	SD	SD	SD	SD									
ROCKMASTER/12					SD	SD	SD	SD	SD	SD	SD	SD						
ROCKMASTER/13			SD		SD	SD		SD	SD	SD	SD	SD						
ROCKMASTER/15								SD	SD	SD	SD	SD						
ROCKMASTER/1SC			SD	SD	SD	SD	SD	SD	SD	SD	SD	SD				SD		
ROCKMASTER/1SN			SD	SD	SD	SD	SD	SD	SD	SD	SD	SD	SD					
ROCKMASTER/2SC		SD	SD	SD	SD	SD	SD	SD	SD	SD	SD	SD	SD		SD	SD		
ROCKMASTER/2SN			SD	SD	SD	SD	SD	SD	SD	SD	SD	SD	SD					
ROCKMASTER/2ST		SD	SD	SD	SD	SD	SD	SD	SD	SD	SD	SD	SD					
ROCKMASTER/4SH								SD	SD	SD	SD	SD	SD					
ROCKMASTER/4SP			SD		SD	SD	SD	SD	SD	SD	SD	SD	SD					
SYNERGY			SC		SC	SC	SC	SC	SC	SC								
TWINPOWER 5000				SD	SD	SD												
TWINPOWER/PLUS					SD													
ANACONDA								SC	SC	SC	SC							
CRYOFLEX/21						SC		SC	SC									
CRYOFLEX/35			SC	SC	SC	SC		SC	SC	SC								
CRYOFLEX/42								SC	SC	SC		SC						
DIAMONDSPIR/14																SC		
DIAMONDSPIR/17																SC	SC	
DIAMONDSPIR/21																SC	SC	
DIAMONDSPIR/35																SC	SC	
DIAMONDSPIR/62										SC	SC							
GOLDENISO/38 LONGLIFE								SC	SC	SC	SC	SC						
GOLDENISO/45 LONGLIFE			SC			SD	SD	SD	SD									
GOLDENISO/14 PILOT			SC	SC	SC	SC												
GOLDENISO/21 XTRAFLEX										SC	SC	SC						
GOLDENISO/28 XTRAFLEX					SC	SC	SC	SC	SC	SC	SC	SC						
GOLDENISO/35 XTRAFLEX					SC	SC	SC	SC	SC	SC	SC	SC						
GOLDENISO/42 XTRAFLEX			SC		SC	SC	SC	SC	SC	SC	SC							
GOLDENMINE																SC		
HERCULES/HT										SC	SC	SC						
HYDROROPE										SC	SC	SC						
INFINITY			SC	SC	SC	SC	SC	SC	SC									
GOLDENISO/21 ANTIWEAR																		
GOLDENISO/28 ANTIWEAR																		
XTRAFLOW/2WB																		
XTRAFLOW/4WS																		
XTRAFLOW/HT																XT	XT	XT
ROCKMASTER/2 PLUS SUPER-AW																		
FOREMASTER/21																		
FOREMASTER/28																		
FOREMASTER/35																		
FOREMASTER/42																		
SHIELDMASTER/21																		
SHIELDMASTER/28																		
SHIELDMASTER/35																		
SHIELDMASTER/42																		

CONVENTIONAL STD / XT     
 STRONG SD / SC     
 SHARC   
 ROC      
 ARMURED      
 SHIELD

RANGE	HOSE	HOSE STRUCTURE	NORM	KEY PERFORMANCE	PAGE
GLOBAL STANDARD HOSES	TRACTOR/1SN	WIRE BRAIDED	EN 853, ISO 1436-1SN, SAE J517-100R1AT	STANDARD HYDRAULIC APPLICATIONS	16
	TRACTOR/2SN	WIRE BRAIDED	EN 853, ISO 1436-2SN, SAE J517-100R-2AT	STANDARD HYDRAULIC APPLICATIONS	17
	TRACTOR/1SC	WIRE BRAIDED	EN 857 1SC, ISO 11237 1SC	STANDARD HYDRAULIC APPLICATIONS	18
	TRACTOR/2SC	WIRE BRAIDED	EN 857 2SC, ISO 11237 2SC, SAE 100 R16	STANDARD HYDRAULIC APPLICATIONS	19
	LYTE-FLEX	WIRE BRAIDED	MANULI DESIGN (COMPACT WIRE BRAIDED)	HIGH FLEXIBILITY	20
	HARVESTER/17	WIRE BRAIDED	SAE J517-100R17, ISO 11237-R17	LIGHT AND COMPACT STRUCTURE	21
	COVER	WIRE BRAIDED	SAE J517-100 R5	GENERAL PURPOSE HOSE	22
	SPIRTEX	TEXTILE / HELIX WIRE	SAE J517-100 R4	HIGH QUALITY R4 SUCTION HOSE	23
	MULTITEX	TEXTILE	SAE J517-100 R6, EN 854, ISO 4079 R6/1TE	UNIVERSAL LOW PRESSURE SOLUTION	24
	ASTRO/2	TEXTILE	EN 854, ISO 4079-2TE	MEDIUM PRESSURE SOLUTION	25
	ASTRO/3	TEXTILE	EN 854, ISO 4079-3TE	MEDIUM PRESSURE SOLUTION	26

RANGE	HOSE	HOSE STRUCTURE	NORM	KEY PERFORMANCE	PAGE
HI-GRADE ISOBARIC HOSES	GOLDENISO/14 PILOT	WIRE BRAIDED	ISO 18752-C	COMPACTNESS & FLEXIBILITY	28
	GOLDENISO/21 ANTIWEAR	WIRE BRAIDED	ISO 18752-A, ISO 11237-R17, SAE J517-100R17	EXTREME ABRASION RESISTANCE	29
	GOLDENISO/28 ANTIWEAR	WIRE BRAIDED	ISO 18752-A, ISO 11237-R19, SAE J517-100R19	EXTREME ABRASION RESISTANCE	30
	GOLDENISO/21 XTRAFLEX	WIRE SPIRALLED	ISO 18752-C/D, JIS K6349	EXTREME FLEXIBILITY	31
	GOLDENISO/28 XTRAFLEX	WIRE SPIRALLED	ISO 18752-C/D, JIS K6349	EXTREME FLEXIBILITY	32
	GOLDENISO/35 XTRAFLEX	WIRE SPIRALLED	ISO 18752-C/D, JIS K6349	EXTREME FLEXIBILITY	33
	GOLDENISO/42 XTRAFLEX	WIRE SPIRALLED	ISO 18752-C/C PLUS	EXTREME FLEXIBILITY	34
	GOLDENISO/38 LONGLIFE	WIRE SPIRALLED	ISO 18752-C/D	HIGH FATIGUE RESISTANCE	35
	GOLDENISO/45 LONGLIFE	WIRE SPIRALLED	ISO 18752-D EXT., ISO 11237-R15, SAE J517-100R15	HIGH FATIGUE RESISTANCE	36
	SHIELDMASTER/21	WIRE BRAIDED	ISO 18752-B	OUTSTANDING WEAR RESISTANCE	37
	SHIELDMASTER/28	WIRE BRAIDED AND SPIRALLED	ISO 18752-B	OUTSTANDING WEAR RESISTANCE	38
	SHIELDMASTER/35	WIRE BRAIDED AND SPIRALLED	ISO 18752-B	OUTSTANDING WEAR RESISTANCE	39
	SHIELDMASTER/42	WIRE BRAIDED AND SPIRALLED	ISO 18752-B	OUTSTANDING WEAR RESISTANCE	40
	DIAMONDSPIR/14	WIRE SPIRALLED	MANULI DESIGN, ISO 18752-C EXT.	HIGH FLOW RATES, OUTSTANDING ABRASION RESISTANCE	41
	DIAMONDSPIR/17	WIRE SPIRALLED	MANULI DESIGN, ISO 18752-C EXT.	HIGH FLOW RATES, OUTSTANDING POWER TRANSMISSION	42
	DIAMONDSPIR/21	WIRE SPIRALLED	MANULI DESIGN, ISO 18752-C EXT.	VERY HIGH HYDRAULIC POWER TRANSMISSION	43
	DIAMONDSPIR/35	WIRE SPIRALLED	MANULI DESIGN, ISO 18752-C EXT.	VERY HIGH HYDRAULIC POWER TRANSMISSION	44
	MASTERTEX	TEXTILE	EXCEEDS SAE 100 R6, ISO 4079 R6/1TE	LOW PRESSURE, HIGH TEMPERATURE	45

RANGE	HOSE	HOSE STRUCTURE	NORM	KEY PERFORMANCE	PAGE
HI-GRADE TRADITIONAL HOSES	ROCKMASTER/1SC	WIRE BRAIDED	EN 857, ISO 11237-1SC	ABRASION, WEATHER & HEAT RESISTANCE	46
	ROCKMASTER/2SC	WIRE BRAIDED	EN 857, ISO 11237-2SC, SAE J517-100R16	ABRASION, WEATHER & HEAT RESISTANCE	47
	ROCKMASTER/1SN	WIRE BRAIDED	EN 853, ISO 1436-1SN, SAE J517-100R1AT	ABRASION, WEATHER & HEAT RESISTANCE	48
	ROCKMASTER/2SN	WIRE BRAIDED	EN 853, ISO 1436-2SN, SAE J517-100R2AT	ABRASION, WEATHER & HEAT RESISTANCE	49
	ROCKMASTER/2ST	WIRE BRAIDED	EN 853, ISO 1436-2ST	ABRASION, WEATHER & HEAT RESISTANCE	50
	ROCKMASTER/2 PLUS SUPER ANTI-WEAR	WIRE BRAIDED	MANULI DESIGN, EN 853-2SN; SAE J517 TYPE 100R2AT. PERFORMANCE BCS 174; ISO 6805 TYPE 4	ABRASION, WEATHER & HEAT RESISTANCE	51
	ROCKMASTER/4SH	WIRE SPIRALLED	EN 856, ISO 3862-4SH	ABRASION, WEATHER & HEAT RESISTANCE	52
	ROCKMASTER/4SP	WIRE SPIRALLED	EN 856, ISO 3862-4SP	ABRASION, WEATHER & HEAT RESISTANCE	53
	ROCKMASTER/12	WIRE SPIRALLED	EN 856, ISO 3862-R12, SAE J517-100R12	ABRASION, WEATHER & HEAT RESISTANCE	54
	ROCKMASTER/13	WIRE SPIRALLED	EN 856, ISO 3862-R13, SAE J517-100R13	ABRASION, WEATHER & HEAT RESISTANCE	55
	ROCKMASTER/15	WIRE SPIRALLED	ISO 3862-R15, SAE J517-100R15	ABRASION, WEATHER & HEAT RESISTANCE	56
	EQUATOR/1 (BLACK)	WIRE BRAIDED	EN 853, ISO 1436-1SN, SAE J517-100R1AT	EXTREME TEMPERATURE	57
	EQUATOR/1 (BLUE)	WIRE BRAIDED	EN 853, ISO 1436-1SN, SAE J517-100R1AT	EXTREME TEMPERATURE	58
	EQUATOR/2 (BLACK)	WIRE BRAIDED	EN 853, ISO 1436-2SN, SAE J517-100R2AT	EXTREME TEMPERATURE	59
	EQUATOR/2 (BLUE)	WIRE BRAIDED	EN 853, ISO 1436-2SN, SAE J517-100R2AT	EXTREME TEMPERATURE	60
	INFINITY	WIRE BRAIDED	EN 857 2SC; ISO 11237-2SC; SAE J517 TYPE 100 R16	HIGH SERVICE LIFE & RELIABILITY	61
	DIAMONDSPIR	WIRE SPIRALLED	MANULI DESIGN, EXCEEDS ISO 3862-R15, SAE J517-100R15	VERY HIGH PRESSURE RATING	62
	SYNERGY	WIRE BRAIDED AND SPIRALLED	MANULI DESIGN EXCEEDS 4SP PERFORMANCE	HIGH PRESSURE HYDRAULICS	63
	XTRAFLOW/2WB	WIRE BRAIDED	EXT. EN 857-2SC, ISO 11237-2SC	HIGH FLOW RATES, LOW PRESSURE DROPS	64
	XTRAFLOW/4WS	WIRE SPIRALLED	MANULI DESIGN	HIGH FLOW RATES, OUTSTANDING ABRASION RESISTANCE	65
XTRAFLOW/HT	WIRE BRAIDED	MANULI DESIGN	HIGH TEMPERATURE, SUCTION AND RETURN LINES	66	
XTRAFLOW/HTEX	WIRE BRAIDED	MANULI DESIGN	HIGH TEMPERATURE, SUCTION AND RETURN LINES	67	
SPIRTEX/HT	TEXTILE / HELIX WIRE	SAE J517-100 R4	HIGH PERFORMANCE R4 SUCTION AND DELIVERY HOSE	68	
PUSHFIT	TEXTILE	MANULI DESIGN	PUSH-ON HOSE	69	

RANGE	HOSE	HOSE STRUCTURE	NORM	KEY PERFORMANCE	PAGE
PREMIUM HOSES	FOREMASTER/21	WIRE BRAIDED	ISO 18752-C, EXCEEDS SAE J517 TYPE 100R17 & ISO 11237-R17	OUTSTANDING ABRASION RESISTANCE	71
	FOREMASTER/28	WIRE BRAIDED	ISO 18752-C, EXCEEDS SAE J517 TYPE 100R19 & ISO 11237-R19	OUTSTANDING ABRASION RESISTANCE	72
	FOREMASTER/35	WIRE BRAIDED AND SPIRALLED	MANULI DESIGN, REF. ISO 18752-C	FORESTRY MACHINES, EXTREME ABRASION RESISTANCE	73
	FOREMASTER/42	WIRE BRAIDED AND SPIRALLED	MANULI DESIGN, REF. ISO 18752-C	FORESTRY MACHINES, EXTREME ABRASION RESISTANCE	74
	CRYOFLEX/21	WIRE BRAIDED	ISO 18752-B EXT.	EXTREME COLD ENVIRONMENTS	75
	CRYOFLEX/35	WIRE BRAIDED AND SPIRALLED	ISO 18752-B EXT.	EXTREME COLD ENVIRONMENTS	76
	CRYOFLEX/42	WIRE SPIRALLED	ISO 18752-B EXT.	EXTREME COLD ENVIRONMENTS	77
	ANACONDA	WIRE SPIRALLED	ISO 18752-C, EXCEEDS SAE J517 R15, ISO 3862 R15	HEAVY DUTY, LOW BENDING FORCE	78
	HERCULES/HT	WIRE SPIRALLED	ISO 18752-D EXT., EXCEEDS SAE J517 R15	HEAVY DUTY FOR GIANT EQUIPMENT	79
	HYDROROPE	WIRE BRAIDED AND SPIRALLED	MANULI DESIGN	OUTSTANDING TENSILE STRENGTH	80
	DIAMONDSPIR/62	WIRE SPIRALLED	ISO 18752 GRADE A EXT., EN 16228-6	JET GROUTING & VERY HIGH PRESSURE HYDRAULICS	81
	GOLDENGUARD/3000	WIRE SPIRALLED	API 16D FIRE TEST (PR. 10.1.2), ISO 18752	EMERGENCY HYDRAULICS	82
	GOLDENGUARD/5000	WIRE SPIRALLED	API 16D FIRE TEST (PR. 10.1.2), ISO 18752, ISO 3862, SAE J517-100R13	EMERGENCY HYDRAULICS	83
	GOLDENARMOUR	WIRE SPIRALLED	API 16D FIRE TEST (PR. 10.1.2), ISO 18752, ISO 3862, SAE J517 TYPE 100R13	EMERGENCY HYDRAULICS	84
	SAFEMASTER/2SC	WIRE BRAIDED	EN 857 2SC; SAE 100R16; ISO 11237 2SC/R16	RAILWAYS - EN 45545-2	86
	SAFEMASTER/2SN	WIRE BRAIDED	EN 853 2SN; SAE 100 R2AT; ISO 1436 2SN/R2AT	RAILWAYS - EN 45545-2	87
	T°REX	WIRE BRAIDED	MANULI DESIGN	EXTREME TEMPERATURE	88
	TWINPOWER 4000	WIRE BRAIDED	DN 10: ISO 11237-R19, SAE J517-R19 DN 12: ISO 11237-2SC, EN 857-2SC, SAE J517-R16	COMPACT, TWINNED HOSE STRUCTURE, EASY INSTALLATIONS FOR OEMS	89
	TWINPOWER 5000	WIRE BRAIDED	EXCEEDS ISO 11237 2SC, EN 857 2SC, SAE J517 TYPE 100R16	COMPACT, TWINNED HOSE STRUCTURE	90
	TWINPOWER/PLUS	WIRE BRAIDED	EN 857, ISO 11237-2SC, SAE J517-100R16	COMPACT, TWINNED HOSE STRUCTURE	91
FIREND	WIRE BRAIDED	EN 853, ISO 1436-1SN, SAE J517-100R1AT	FIRE SUPPRESSION SYSTEMS	92	
LUBEMASTER	WIRE BRAIDED	MANULI DESIGN	LUBRICATION LINE	93	
JACKMASTER/70	WIRE BRAIDED	IJ-100, MANULI DESIGN (REF. ISO/CD 16301)	EXTREME STATIC PRESSURE	94	
GOLDENMINE	WIRE SPIRALLED	MT/T 98	VERY HIGH HYDRAULIC POWER TRANSMISSION IN COAL MINES (CHINA)	95	



HOSE SIZE	WORKING PRESSURE (bar)																			
	5	6	8	10	12	16	19	22	25	28	31	35	38	46	51	60	63	76	89	102
dash	-03	-04	-05	-06	-08	-10	-12	-16	-16	-20	-20	-24	-24	-32	-32	-38	-40	-48	-56	-64
ANACONDA							420		420		420		420							
ASTRO/2		75	68	63	58	50	45		40		35									
ASTRO/3		145	130	110	93	80	70		55		45		40		33					
COVER	210	210	157	140	122	105		56		43		35		24						
CRYOFLEX/21						210	210													
CRYOFLEX/35		350		350	350		350		350		350									
CRYOFLEX/42							420		420						420					
DIAMONDSPIR							560		560		525		475		420					
DIAMONDSPIR/14																		140		
DIAMONDSPIR/17																		170	170	
DIAMONDSPIR/21																210	210			
DIAMONDSPIR/35																350	350			
DIAMONDSPIR/62											621									
EQUATOR/1		225	215	180	160	130	105		88		65		50		40		35			
EQUATOR/2		400	350	330	275	250	215		175		150		100		90					
FIREND		225		180	160		105		88											
FOREMASTER/21		210	210	210	210	210	210		210											
FOREMASTER/28		280	280	280	280	280	280													
FOREMASTER/35							350		350		350									
FOREMASTER/42							420		420						420					
GOLDENARMOUR				345	345	345	345		345		345		345		345					
GOLDENGUARD/3000							207		207											
GOLDENGUARD/5000				345	345	345	345		345		345		345		345					
GOLDENISO/14 PILOT	140	140	140	140	140															
GOLDENISO/21 ANTIWEAR	210	210	210	210	210	210	210		210											
GOLDENISO/28 ANTIWEAR		280	280	280	280	280	280													
GOLDENISO/38 LONGLIFE							380		380		380									
GOLDENISO/45 LONGLIFE		460				460	460		460		450		450							
GOLDENISO/21 XTRAFLEX											210		210		210					
GOLDENISO/28 XTRAFLEX				280	280	280	280		280		280		280		280					
GOLDENISO/35 XTRAFLEX				350	350	350	350		350		350		350		350					
GOLDENISO/42 XTRAFLEX		420		420	420	420	420		420		420		420		420					
GOLDENMINE																	350			
HARVESTER/17		210	210	210	210															
HERCULES/HT											420		420		420					
HYDROROPE											420		420							
INFINITY		450	400	400	360	320	320		225											
JACKMASTER/70		700		700																
LUBEMASTER		210		210																
LYTE-FLEX		350	297	280	245	210	210		140											
MASTERTEX		30		30	30	30														
MULTITEX	35	30	30	30	30	30	30		30											
PUSHFIT		35	35	35	25	25	21		14											
ROCKMASTER/1SC		260	250	225	190	150	150		110		75		50		50					

HOSE SIZE	WORKING PRESSURE (bar)																			
	5	6	8	10	12	16	19	22	25	28	31	35	38	46	51	60	63	76	89	102
	dash	-03	-04	-05	-06	-08	-10	-12	-16	-16	-20	-20	-24	-24	-32	-32	-38	-40	-48	-56
ROCKMASTER/2SC	420	400	350	330	275	250	245		210		140		100		90		70	45		
ROCKMASTER/1SN		225	215	180	160	130	105		90		65		50		40	50				
ROCKMASTER/2SN		400	350	350	350	250	215		175		140		100		90	90				
ROCKMASTER/2ST	415	400	350	350	350	250	215		175		140		100		90					
ROCKMASTER/2 PLUS SUPER A/W		450		400	362	340	310		240		175		146		112			70		
ROCKMASTER/4SH						450	420		385		350		300		250					
ROCKMASTER/4SP		485		450	420	380	380		320		210		185		175					
ROCKMASTER/12				280	280	280	280		280		210		175		175					
ROCKMASTER/13		690		690	620		350		350		350		350		350					
ROCKMASTER/15							420		420		420		420							
SAFEMASTER/2SC		400	350	350	275	250	245		210											
SAFEMASTER/2SN		400	350	350	350	250	215		175		140		100							
SHIELDMASTER/21		210	210	210	210	210	210		210											
SHIELDMASTER/28		280	280	280	280	280	280		280											
SHIELDMASTER/35		350	350	350	350	350	350		350		350		350							
SHIELDMASTER/42		420		420	420		420		420		420									
SPIRTEX							21		17		14		11		7		4	4	3	3
SPIRTEX/HT							25		25		17		17		10		10	7	5	5
SYNERGY		450		450	420		365		300		210									
T°REX											43									
TRACTOR/1SN		225	215	180	160															
TRACTOR/2SN		400	350	330	275															
TRACTOR/1SC		225	215	180	160															
TRACTOR/2SC		400	350	330	275															
TWINPOWER 4000				280	280															
TWINPOWER 5000			350	350	350															
TWINPOWER/PLUS					310															
XTRAFLOW/2WB																	105	80	35	
XTRAFLOW/4WS																	140	105	80	35
XTRAFLOW/HT																	35	35	35	
XTRAFLOW/HTEX																	35			

HOSES 12

	HYDRAULICS, MARINE EQUIPMENT TYPE APPROVALS									MINING SAFETY TYPE APPROVALS				GOVERNMENT, SAFETY AND SPECIAL TYPE APPROVALS	
	ABS	BV	CCS	DNV-GL	KRS	LLOYD'S REGISTER	RINA	MED	NK	MSHA	POLISH "B"	FRAS	MA	Railways EN 44545-2	CU-TR
ANACONDA									*						*
ASTRO/2				*											
ASTRO/3				*											
COVER															*
CPH/2SC									*						*
CRYOFLEX/21									*						*
CRYOFLEX/35									*						*
CRYOFLEX/42									*						*
DIAMONDSPIR	*								*		*	*			*
DIAMONDSPIR/14	*		*	*					*		*	*			*
DIAMONDSPIR/17									*						*
DIAMONDSPIR/21	*		*	*					*			*			*
DIAMONDSPIR/35	*		*	*					*		*	*			*
DIAMONDSPIR/62									*						*
EQUATOR/1	*			*		*		*	*						*
EQUATOR/1 (BLUE)	*	*		*		*		*	*						*
EQUATOR/2	*			*		*		*	*						*
EQUATOR/2 (BLUE)	*	*		*		*		*	*						*
FIREND									*						*
FOREMASTER/21									*						*
FOREMASTER/28									*						*
FOREMASTER/35									*						*
FOREMASTER/42									*						*
GOLDENARMOUR	*		*	*		*									*
GOLDENGUARD/3000	*		*	*		*			*						*
GOLDENGUARD/5000	*		*	*		*			*						*
GOLDENISO/14 PILOT									*						*
GOLDENISO/21 ANTIWEAR								*	*		*				*
GOLDENISO/28 ANTIWEAR				*				*	*		*				*
GOLDENISO/38 LONGLIFE									*		*				*
GOLDENISO/45 LONGLIFE									*		*				*
GOLDENISO/21 XTRAFLEX	*	*				*		*	*		*	*			*
GOLDENISO/28 XTRAFLEX	*	*	*			*		*	*		*	*			*
GOLDENISO/35 XTRAFLEX	*	*		*		*	*	*	*	*	*	*			*
GOLDENISO/42 XTRAFLEX	*	*		*		*	*	*	*	*	*	*			*
GOLDENMINE									*			*			*
HARVESTER/17						*									*
HERCULES/HT									*						*
HYDROROPE									*						*
INFINITY															*
JACKMASTER/70															*
LUBEMASTER															*
LYTE-FLEX						*									*
MASTERTEX															

	HYDRAULICS, MARINE EQUIPMENT TYPE APPROVALS									MINING SAFETY TYPE APPROVALS				GOVERNMENT, SAFETY AND SPECIAL TYPE APPROVALS	
	ABS	BV	CCS	DNV-GL	KRS	LLOYD'S REGISTER	RINA	MED	NK	MSHA	POLISH "B"	FRAS	MA	Railways EN 44545-2	CU-TR
MULTITEX															
PUSHFIT															
ROCKMASTER/1SC	*		*	*		*				*					*
ROCKMASTER/2SC	*	*	*	*		*	*	*	*	*	*	*	*		*
ROCKMASTER/1SN	*	*	*	*	*	*	*	*	*	*	*	*	*		*
ROCKMASTER/2SN	*	*	*	*	*	*	*	*	*	*	*	*	*		*
ROCKMASTER/2ST	*	*				*	*			*	*	*			*
ROCKMASTER/2 PLUS SUPER A/W										*					*
ROCKMASTER/4SH	*	*	*	*	*	*	*	*	*	*	*	*	*		*
ROCKMASTER/4SP	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
ROCKMASTER/12	*	*		*		*		*	*	*	*	*	*		*
ROCKMASTER/13	*	*	*	*		*	*	*		*	*	*	*		*
ROCKMASTER/15	*	*	*	*		*	*	*		*	*	*	*		*
SAFEMASTER/2SC														*	*
SAFEMASTER/2SN														*	*
SHIELDMASTER/21										*		*			*
SHIELDMASTER/28										*		*			*
SHIELDMASTER/35										*		*			*
SHIELDMASTER/42										*		*			*
SPIRTEX															*
SPIRTEX/HT															*
SYNERGY										*					*
T°REX															*
TRACTOR/1SN		*		*	*			*	*	*					*
TRACTOR/2SN		*		*	*			*	*	*					*
TRACTOR/1SC				*				*							*
TRACTOR/2SC				*		*		*		*					*
TWINPOWER 4000															*
TWINPOWER 5000										*					*
TWINPOWER/PLUS										*					*
XTRAFLOW/2WB	*			*						*		*	*		*
XTRAFLOW/4WS	*			*						*					*
XTRAFLOW/HT	*			*						*					*



**GLOBAL STD. ● HI-GRADE ● PREMIUM**

# TRACTOR/1SN

INTEGRATED, RELIABLE HOSE ASSEMBLY



HOSES

16

## TECHNICAL DATA

PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H02004A06*	6	-4	1/4"	11.2	0.44	13.2	0.52	225	3,260	900	13,050	100	3.94	220	0.15	MF+M03400-04	OPF-04
H02004008*	8	-5	5/16"	12.8	0.50	14.8	0.58	215	3,110	850	12,320	114	4.49	270	0.18	MF+M03400-05	OPF-05
H02004010*	10	-6	3/8"	15.1	0.59	17.1	0.67	180	2,610	720	10,440	127	5.00	340	0.23	MF+M03400-06	OPF-06
H02004012*	12	-8	1/2"	18.1	0.71	20.1	0.79	160	2,320	640	9,280	178	7.01	400	0.27	MF+M03400-08	OPF-08

### KEY FEATURES

- EN/DIN and new SAE rated working pressures
- Flame retardant property of the cover compound, MSHA approved
- Smooth cover FRAS approved (DN 5-12)
- Halogen-Free hose line

### APPLICATIONS & FLUIDS

- Hydraulics: low-medium pressure lines, return lines
- Mineral oils, vegetable and rape seed oils, glycol and polyglycol based oils, synthetic ester based oils, oils in aqueous emulsion, water

### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F

100 °C, 212 °F

### TUBE

Oil resistant synthetic rubber

### REINFORCEMENT

One high tensile steel braid

### COVER

Weather resistant synthetic rubber

### APPLICABLE SPECS

EN 853 1SN; SAE 100 R1AT; ISO 1436 1SN/R1AT

### TYPE APPROVALS

MSHA, ABS; BV; DNV-GL; NK; CU-TR; KRS; LR; DNV-GL(MED)

# TRACTOR/2SN

INTEGRATED, RELIABLE HOSE ASSEMBLY



## TECHNICAL DATA

PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H01027006*	6	-4	1/4"	12.7	0.50	14.7	0.58	400	5,800	1,600	23,200	100	3.94	370	0.25	MF+M03400-04	OPF-04
H01027008*	8	-5	5/16"	14.3	0.56	16.3	0.64	350	5,070	1,400	20,300	114	4.49	410	0.28	MF+M03400-05	OPF-05
H01027010*	10	-6	3/8"	16.7	0.66	18.7	0.74	330	4,780	1,320	19,140	127	5.00	530	0.36	MF+M03400-06	OPF-06
H01027012*	12	-8	1/2"	19.8	0.78	21.8	0.86	275	3,980	1,100	15,950	178	7.01	620	0.42	MF+M03400-08	OPF-08

### KEY FEATURES

- EN/DIN and new SAE rated working pressures
- Wide range of TYPE APPROVALS available
- Flame retardant property of the cover compound, MSHA approved
- Halogen-Free hose line

### APPLICATIONS & FLUIDS

- Hydraulics: medium-high pressure lines
- Mineral oils, vegetable and rape seed oils, glycol and polyglycol based oils, synthetic ester based oils, oils in aqueous emulsion, water

### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F  
100 °C, 212 °F

### TUBE

Oil resistant synthetic rubber

### REINFORCEMENT

Two high tensile steel braids

### COVER

Weather resistant synthetic rubber

### APPLICABLE SPECS

EN 853 2SN; SAE 100 R2AT; ISO 1436 2SN/R2AT

### TYPE APPROVALS

MSHA, ABS; BV; DNV-GL; CU-TR; KRS; NK; LR; DNV-GL(MED)

# TRACTOR/1SC

INTEGRATED, RELIABLE HOSE ASSEMBLY



HOSES  
18

TECHNICAL DATA																	
PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H01013006*	6	-4	1/4"	10,2	0,40	12,0	0,47	225	3260	1050	15220	50	1,97	185	0,12	MF+M03300-04	MF+M00120-04
H01013008*	8	-5	5/16"	11,5	0,45	13,6	0,54	215	3110	1000	14500	55	2,17	215	0,14	MF+M03300-05	MF+M00120-05
H01013010*	10	-6	3/8"	13,6	0,54	15,5	0,61	180	2610	850	12320	60	2,36	265	0,18	MF+M03300-06	MF+M00120-06
H01013012*	12	-8	1/2"	17,1	0,67	18,9	0,74	160	2320	660	9570	70	2,76	335	0,23	MF+M00820-08	MF+M00120-08

## KEY FEATURES

- High flexibility and excellent bend radius
- Low weight
- Flame retardant property of the cover compound, MSHA approved
- Halogen-Free hose line
- Vacuum resistance with SAE 100 R4 performance

## APPLICATIONS & FLUIDS

- Hydraulics: low-medium pressure lines with installation constraints, pilot lines, return lines, suction lines
- Mineral oils, vegetable and rape seed oils, glycol and polyglycol based oils, synthetic ester based oils, oils in aqueous emulsion, water

## CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F

100 °C, 212 °F

## TUBE

Oil resistant synthetic rubber

## REINFORCEMENT

One high tensile steel braid

## COVER

Weather resistant synthetic rubber

## APPLICABLE SPECS

EN 857 1SC; ISO 11237 1SC

## TYPE APPROVALS

ABS; DNV-GL; CU-TR; LR;



# TRACTOR/2SC

INTEGRATED, RELIABLE HOSE ASSEMBLY



## TECHNICAL DATA

PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H01025006*	6	-4	1/4"	11,3	0,44	13,1	0,52	400	5800	1850	26830	45	1,77	280	0,19	MF+M03400-04	OPF-04
H01025008*	8	-5	5/16"	12,9	0,51	14,7	0,58	350	5070	1700	24650	55	2,17	330	0,22	MF+M03400-05	OPF-05
H01025010*	10	-6	3/8"	15,0	0,59	16,8	0,66	330	4780	1500	21750	65	2,56	395	0,27	MF+M03400-06	OPF-06
H01025012*	12	-8	1/2"	18,5	0,73	20,3	0,80	275	3980	1220	17690	80	3,15	510	0,34	MF+M03400-08	OPF-08

### KEY FEATURES

- High flexibility and excellent bend radius
- Low weight
- Flame retardant property of the cover compound, MSHA approved
- Halogen-Free hose line
- Vacuum resistance with SAE 100 R4 performance

### APPLICATIONS & FLUIDS

- Hydraulics: medium-high pressure lines with installation constraints, return lines and suction lines
- Mineral oils, vegetable and rape seed oils, glycol and polyglycol based oils, synthetic ester based oils, oils in aqueous emulsion, water

### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F  
100 °C, 212 °F

### TUBE

Oil resistant synthetic rubber

### REINFORCEMENT

Two high tensile steel braids

### COVER

Weather resistant synthetic rubber

### APPLICABLE SPECS

EN 857 2SC; ISO 11237 2SC; SAE 100 R16

### TYPE APPROVALS

MSHA, ABS; DNV-GL; CU-TR; LR;

# LYTE-FLEX

COMPACT WIRE BRAID, INTEGRATED RELIABLE HOSE ASSEMBLY



HOSES 20

TECHNICAL DATA																	
PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H01084006*	6	-4	1/4"	11.6	0.46	13.2	0.52	350	5,070	1,400	20,300	50	1.97	265	0.18	MF+M03400-04	OPF-04
H01084008*	8	-5	5/16"	12.9	0.51	14.5	0.57	297	4,300	1,190	17,250	55	2.17	290	0.19	MF+M03400-05	OPF-05
H01084010*	10	-6	3/8"	15.4	0.61	17.0	0.67	280	4,060	1,120	16,240	63	2.48	385	0.26	MF+M03400-06	OPF-06
H01084012*	12	-8	1/2"	18.5	0.73	20.3	0.80	245	3,550	980	14,210	88	3.46	465	0.31	MF+M03400-08	OPF-08
H01084016*	16	-10	5/8"	22.2	0.87	24.0	0.94	210	3,040	840	12,180	100	3.94	630	0.42	MF+M03400-10	OPF-10
H01084019*	19	-12	3/4"	25.6	1.01	27.7	1.09	210	3,040	840	12,180	120	4.72	790	0.53	MF+M03400-12	OPF-12
H01084025*	25	-16	1"	32.3	1.27	34.6	1.36	140	2,030	560	8,120	150	5.91	1,090	0.73	MF+M03400-16	OPF-16

## KEY FEATURES

- Intermediate pressure rating between 1SC & 2SC
- Lightness and flexibility
- Halogen-Free hose line

## APPLICATIONS & FLUIDS

- Hydraulics: medium pressure lines with installation constraints
- Mineral oils, vegetable and rape seed oils, glycol and polyglycol based oils, synthetic ester based oils, oils in aqueous emulsion, water

## CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F

100 °C, 212 °F

## TUBE

Oil resistant synthetic rubber

## REINFORCEMENT

Two high tensile steel braids

## COVER

Weather resistant synthetic rubber

## APPLICABLE SPECS

Manuli® Design; DN 16 and 19: SAE 100 R17; ISO 11237 R17

## TYPE APPROVALS

CU-TR; LR

# HARVESTER/17

INTEGRATED, RELIABLE HOSE ASSEMBLY



## TECHNICAL DATA

PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H01056006*	6	-4	1/4"	10.2	0.40	12.0	0.47	210	3,040	840	12,180	50	1.97	185	0.12	MF+M03300-04	OPF-04
H01056008*	8	-5	5/16"	11.5	0.45	13.6	0.54	210	3,040	840	12,180	55	2.17	215	0.14	MF+M03300-05	OPF-05
H01056A10*	10	-6	3/8"	14.4	0.57	16.2	0.64	210	3,040	840	12,180	65	2.56	305	0.20	MF+M03400-06	OPF-06
H01056A12*	12	-8	1/2"	17.9	0.70	19.7	0.78	210	3,040	840	12,180	90	3.54	420	0.28	MF+M03400-08	OPF-08

### KEY FEATURES

- Isobaric pressure rating
- Compact hose structures for installations in narrow spaces
- Halogen-Free hose line

### APPLICATIONS & FLUIDS

- Hydraulics: medium pressure lines with installation constraints
- Mineral oils, vegetable and rape seed oils, glycol and polyglycol based oils, synthetic ester based oils, oils in aqueous emulsion, water

### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F  
100 °C, 212 °F

### TUBE

Oil resistant synthetic rubber

### REINFORCEMENT

One high tensile steel braid

### COVER

Weather resistant synthetic rubber

### APPLICABLE SPECS

SAE 100 R17; ISO 11237 R17

### TYPE APPROVALS

CU-TR; LR

# COVER

INTEGRATED, RELIABLE HOSE ASSEMBLY



HOSES 22

TECHNICAL DATA																	
PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H05002005*	5	-4	3/16"	-	-	13.2	0.52	210	3,040	840	12,180	75	2.95	220	0.15	MF+M00310-03	OPF-03
H05002006*	6	-5	1/4"	-	-	14.8	0.58	210	3,040	840	12,180	85	3.35	260	0.17	MF+M00310-04	OPF-04
H05002008*	8	-6	5/16"	-	-	17.1	0.67	157	2,270	630	9,130	100	3.94	305	0.20	MF+M00310-05	OPF-05
H05002010*	10	-8	13/32"	-	-	19.4	0.76	140	2,030	560	8,120	115	4.53	365	0.25	MF+M00310-06	OPF-06
H05002012*	12	-10	1/2"	-	-	23.3	0.92	122	1,760	490	7,100	140	5.51	495	0.33	MF+M00310-08	OPF-08
H05002016*	16	-12	5/8"	-	-	27.3	1.07	105	1,520	420	6,090	165	6.50	650	0.44	MF+M00310-10	
H05002022*	22	-16	7/8"	-	-	31.2	1.23	56	810	224	3,240	185	7.28	600	0.40		
H05002028*	28	-20	1.1/8"	-	-	38.0	1.50	43	620	175	2,530	229	9.02	780	0.52		
H05002035*	35	-24	1.3/8"	-	-	44.3	1.74	35	500	140	2,030	265	10.43	1,010	0.68		
H05002046*	46	-32	1.13/16"	-	-	56.1	2.21	24	340	98	1,420	335	13.19	1,400	0.94		

## KEY FEATURES

- Robust design, general purpose hose
- Wear resistant cover

## APPLICATIONS & FLUIDS

- Hydraulics: low-medium pressure lines, general purpose applications
- Mineral oils, vegetable and rape seed oils, glycol and polyglycol based oils, synthetic ester based oils, oils in aqueous emulsion, water, diesel fuel (up to 200°F/93°C)

## CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F

100 °C, 212 °F

## TUBE

Oil resistant synthetic rubber

## REINFORCEMENT

One high tensile steel braid

## COVER

One textile braid

## APPLICABLE SPECS

SAE 100 R5

## TYPE APPROVALS

CU-TR

# SPIRTEX

## SAE 100 R4 SUCTION AND DELIVERY HOSE



HOSES 23

TECHNICAL DATA																	
PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H80002019*	19	-12	3/4"	-	-	29.0	1.14	21	300	84	1,210	80	3.15	533	0.36	MF+M00321-12	
H80002025*	25	-16	1"	-	-	35.5	1.40	17	240	70	1,010	100	3.94	666	0.45	MF+M00930-16	
H80002031*	31	-20	1.1/4"	-	-	42.5	1.67	14	200	56	810	130	5.12	812	0.55	MF+M00920-20	
H80002038*	38	-24	1.1/2"	-	-	49.0	1.93	11	160	44	630	170	6.69	1,047	0.70	MF+M00910-24	
H80002051*	51	-32	2"	-	-	62.0	2.44	7	100	28	400	200	7.87	1,414	0.95	MF+M00910-32	
H80002063*	63	-40	2.1/2"	-	-	76.0	2.99	4	60	17	240	235	9.25	2,357	1.58	MF+M03400-40	
H80002076*	76	-48	3"	-	-	88.0	3.46	4	60	17	240	300	11.81	2,712	1.82	MF+M03400-48	
H80002089*	89	-56	3.1/2"	-	-	103.5	4.07	3	40	12	170	350	13.78	3,465	2.33	MF+M03400-56	
H80002102*	102	-64	4"	-	-	115.0	4.53	3	20	12	170	400	15.75	3,832	2.58	MF+M03400-64	

### KEY FEATURES

- Hardwall hose used for the suction and delivery of hydraulic oils
- High robustness of hose structure
- Long lasting in severe applications
- Resistance to Vacuum
- Improved minimum bend radius
- Max. length: 60m

### APPLICATIONS & FLUIDS

- Hydraulics: suction lines, return lines
- Mineral oils, vegetable and rape seed oils, glycol and polyglycol based oils, synthetic ester based oils, oils in aqueous emulsion, water

### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F  
100 °C, 212 °F

### TUBE

NBR synthetic rubber

### REINFORCEMENT

High tensile synthetic cord, helix body wire

### COVER

Weather resistant synthetic rubber

### APPLICABLE SPECS

SAE J517 100 R4, Manuli® Design; two-thirds the SAE J517 100R4 minimum bend radius

### TYPE APPROVALS

CU-TR

# MULTITEX

INTEGRATED, RELIABLE HOSE ASSEMBLY



HOSES

24

## TECHNICAL DATA

PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H09067005*	5	-3	3/16"	0.0	0.00	11.0	0.43	35	500	140	2,030	35	1.38	90	0.06	MF+M00820-03	
H09067006*	6	-4	1/4"	0.0	0.00	12.6	0.50	30	430	120	1,740	45	1.77	115	0.08	MF+M00830-04	
H09067008*	8	-5	5/16"	0.0	0.00	14.1	0.56	30	430	120	1,740	65	2.56	140	0.09	MF+M00830-05	
H09067010*	10	-6	3/8"	0.0	0.00	15.8	0.62	30	430	120	1,740	75	2.95	160	0.11	MF+M00820-06	
H09067012*	12	-8	1/2"	0.0	0.00	19.4	0.76	30	430	120	1,740	90	3.54	210	0.14	MF+M00820-08	
H09073016*	16	-10	5/8"	0.0	0.00	23.0	0.91	30	430	120	1,740	115	4.53	290	0.19	MF+M00820-10	
H09073019*	19	-12	3/4"	0.0	0.00	26.0	1.02	30	430	120	1,740	140	5.51	325	0.22	MF+M00820-12	
H09073025*	25	-16	1"	0.0	0.00	32.0	1.26	30	430	120	1,740	150	5.91	400	0.27	MF+M00820-16	

### KEY FEATURES

- High flexibility
- Wide range of fluid compatibility
- MF2000® Multifit Type couplability
- Push-On hose with MF2000® Push-Lock insert Type without ferrule

### APPLICATIONS & FLUIDS

- Hydraulics: low pressure lines, return lines, drain lines
- Mineral oils, vegetable and rape seed oils, glycol and polyglycol based oils, synthetic ester based oils, oils in aqueous emulsion, water

### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F

125 °C, 257 °F

### TUBE

Oil resistant synthetic rubber

### REINFORCEMENT

One high resistance textile braid

### COVER

Weather resistant synthetic rubber

### APPLICABLE SPECS

SAE 100 R6; EN 854 R6/1TE; ISO 4079 R6/1TE

# ASTRO/2

INTEGRATED, RELIABLE HOSE ASSEMBLY



HOSES  
25

TECHNICAL DATA																	
PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H09045006*	6	-4	1/4"	-	-	13.0	0.51	75	1,080	300	4,350	40	1.57	125	0.08	MF+M00830-04	
H09045008*	8	-5	5/16"	-	-	14.6	0.57	68	980	272	3,940	50	1.97	150	0.10	MF+M00830-05	
H09045010*	10	-6	3/8"	-	-	16.1	0.63	63	910	252	3,650	60	2.36	180	0.12	MF+M00820-06	
H09045012*	12	-8	1/2"	-	-	19.2	0.76	58	840	232	3,360	70	2.76	220	0.15	MF+M00820-08	
H09045016*	16	-10	5/8"	-	-	23.6	0.93	50	720	200	2,900	90	3.54	290	0.19	MF+M00820-10	
H09045019*	19	-12	3/4"	-	-	26.5	1.04	45	650	180	2,610	110	4.33	360	0.24	MF+M00820-12	
H09045025*	25	-16	1"	-	-	33.4	1.31	40	580	160	2,320	130	5.12	440	0.30	MF+M00820-16	
H09045032*	31	-20	1.1/4"	-	-	41.5	1.63	35	500	140	2,030	140	5.51	650	0.44	MF+M00820-20	

## KEY FEATURES

- Wide range of fluid compatibility
- High flexibility of the hose structure

## APPLICATIONS & FLUIDS

- Hydraulics: low pressure lines, return lines
- Mineral oils, vegetable and rape seed oils, glycol and polyglycol based oils, synthetic ester based oils, oils in aqueous emulsion, water

## CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F  
125 °C, 257 °F

## TUBE

Oil resistant synthetic rubber

## REINFORCEMENT

One high resistance textile braid

## COVER

Weather resistant synthetic rubber

## APPLICABLE SPECS

EN 854 2TE; ISO 4079 2TE

## TYPE APPROVALS

DNV-GL

# ASTRO/3

INTEGRATED, RELIABLE HOSE ASSEMBLY



HOSES

26

## TECHNICAL DATA

PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H09046006*	6	-4	1/4"	-	-	14.2	0.56	145	2,100	580	8,410	45	1.77	150	0.10	MF+M00310-04	
H09046008*	8	-5	5/16"	-	-	16.6	0.65	130	1,880	520	7,540	55	2.17	210	0.14	MF+M00310-05	
H09046010*	10	-6	3/8"	-	-	18.2	0.72	110	1,590	440	6,380	70	2.76	230	0.15	MF+M00310-06	
H09046012*	12	-8	1/2"	-	-	21.5	0.85	93	1,340	372	5,390	85	3.35	290	0.19	MF+M00310-08	
H09046016*	16	-10	5/8"	-	-	25.6	1.01	80	1,160	320	4,640	105	4.13	395	0.27	MF+M00310-10	
H09046019*	19	-12	3/4"	-	-	28.8	1.13	70	1,010	280	4,060	130	5.12	455	0.31	MF+M00321-12	
H09046025*	25	-16	1"	-	-	35.4	1.39	55	790	220	3,190	150	5.91	580	0.39	MF+M00310-16	
H09046032*	31	-20	1.1/4"	-	-	42.5	1.67	45	650	180	2,610	190	7.48	740	0.50	MF+M00310-20	
H09046040*	38	-24	1.1/2"	-	-	49.4	1.94	40	580	160	2,320	240	9.45	920	0.62	MF+M00910-24	
H09046051*	51	-32	2"	-	-	62.2	2.45	33	470	132	1,910	300	11.81	1,140	0.77	MF+M00910-32	

### KEY FEATURES

- Wide range of fluid compatibility
- High flexibility of the hose structure
- Low bend radii and compactness
- Exceeds performance of SAE100R3

### APPLICATIONS & FLUIDS

- Hydraulics: low-medium pressure lines, return lines
- Mineral oils, vegetable and rape seed oils, glycol and polyglycol based oils, synthetic ester based oils, oils in aqueous emulsion, water

### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F

125 °C, 257 °F

### TUBE

Oil resistant synthetic rubber

### REINFORCEMENT

Two high resistance textile braids

### COVER

Weather resistant synthetic rubber

### APPLICABLE SPECS

EN 854 3TE; ISO 4079 3TE

### TYPE APPROVALS

DNV-GL





**GLOBAL STD. • HI-GRADE • PREMIUM**

# GOLDENISO/14 PILOT

COMPACTNESS AND FLEXIBILITY



HOSES

28

## TECHNICAL DATA

PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H01160005*	5	-3	3/16"	8.7	0.34	10.5	0.41	140	2,030	560	8,120	20	0.79	144	0.10	MN+M02400-03	MF+M03300-03
H01160006*	6	-4	1/4"	9.9	0.39	11.5	0.45	140	2,030	560	8,120	25	0.98	160	0.11	MN+M02400-04	MF+M03300-04
H01160008*	8	-5	5/16"	11.5	0.45	13.1	0.52	140	2,030	560	8,120	30	1.18	183	0.12	MN+M02400-05	MF+M03300-05
H01160010	10	-6	3/8"	13.2	0.52	14.8	0.58	140	2,030	560	8,120	40	1.57	220	0.15	MN+M02400-06	MF+M03300-06
H01160012*	12	-8	1/2"	16.2	0.64	18.0	0.71	140	2,030	560	8,120	50	1.97	277	0.19	MN+M02400-08	MF+M03300-08

### KEY FEATURES

- Compact dimensions
- Very low bend radius, suitable for difficult installations
- High flexibility
- Flame retardant MSHA approved cover
- MiniFit special dedicated fittings, compact dimensions, designed for small bore 1WB hose

### APPLICATIONS & FLUIDS

- Hydraulics: low pressure lines, pilot lines, auxiliary hydraulic systems
- Mineral oils, vegetable and rape seed oils, glycol and polyglycol based oils, synthetic ester based oils, oils in aqueous emulsion, water

### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F

121 °C, 250 °F

### TUBE

Oil resistant synthetic rubber

### REINFORCEMENT

One high tensile steel braid

### COVER

STRONG - TYPE "SC"

Synthetic rubber with high abrasion, ozone, weather and heat resistance and an extended operational temperature range

### APPLICABLE SPECS

ISO 18752 Type C

### TYPE APPROVALS

MSHA; CU-TR

# GOLDENISO/21 ANTIWEAR

OUTSTANDING ABRASION RESISTANCE



## TECHNICAL DATA

PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H01125A05*	5	-3	3/16"	9.1	0.36	11.1	0.44	210	3,040	840	12,180	45	1.77	170	0.11	MF+M03300-03	OPF-03
H01125006*	6	-4	1/4"	10.2	0.40	12.0	0.47	210	3,040	840	12,180	50	1.97	180	0.12	MF+M03300-04	OPF-04
H01125008*	8	-5	5/16"	11.5	0.45	13.6	0.54	210	3,040	840	12,180	55	2.17	210	0.14	MF+M03300-05	OPF-05
H01125010*	10	-6	3/8"	14.4	0.57	16.2	0.64	210	3,040	840	12,180	65	2.56	300	0.20	MF+M03400-06	OPF-06
H01125012*	12	-8	1/2"	17.9	0.70	19.7	0.78	210	3,040	840	12,180	90	3.54	415	0.28	MF+M03400-08	OPF-08
H01125016*	16	-10	5/8"	22.2	0.87	24.0	0.94	210	3,040	840	12,180	100	3.94	620	0.42	MF+M03400-10	OPF-10
H01125019*	19	-12	3/4"	25.6	1.01	27.7	1.09	210	3,040	840	12,180	120	4.72	780	0.52	MF+M03400-12	OPF-12
H01125025*	25	-16	1"	33.0	1.30	35.2	1.39	210	3,040	840	12,180	150	5.91	1,120	0.75	MF+M03400-16	OPF-16

### KEY FEATURES

- Extreme abrasion resistance
- Very low bend radius to suit restricted space installations
- High robust and compact hose structure compared to rated pressure
- Approved at 200.000 impulse cycles, at T=100°C (ISO 18752 grade A)
- High environmental agents resistance
- Vacuum resistance accordingly to SAE 100R4 requirements

### APPLICATIONS & FLUIDS

- Medium and high pressure hydraulic lines with installation constraints, pilot lines, return, drain and suction lines
- Mineral oils, vegetable oils and synthetic ester based oils (up to 100°C/212°F), glycols and polyglycols, mineral oils in aqueous emulsion, water

### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F

100 °C, 212 °F

### TUBE

Synthetic rubber

### REINFORCEMENT

One wire braid (DN 5-12). Two wire braid (DN 16-25)

### COVER

S.H.A.R.C.

Synthetic rubber with very high abrasion, ozone and weather resistance

### APPLICABLE SPECS

ISO 18752 grade A; SAE J517 Type 100 R17; ISO 11237-R17

### TYPE APPROVALS

CU-TR; MSHA; FRAS; DNV-GL(MED)

# GOLDENISO/28 ANTIWEAR

OUTSTANDING ABRASION RESISTANCE



HOSES

30

## TECHNICAL DATA

PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H01126006*	6	-4	1/4"	11.6	0.46	13.2	0.52	280	4,060	1,120	16,240	50	1.97	260	0.17	MF+M03400-04	OPF-04
H01126008*	8	-5	5/16"	12.9	0.51	14.5	0.57	280	4,060	1,120	16,240	55	2.17	280	0.19	MF+M03400-05	OPF-05
H01126010*	10	-6	3/8"	15.4	0.61	17.0	0.67	280	4,060	1,120	16,240	63	2.48	380	0.26	MF+M03400-06	OPF-06
H01126012*	12	-8	1/2"	18.5	0.73	20.3	0.80	280	4,060	1,120	16,240	80	3.15	495	0.33	MF+M03400-08	OPF-08
H01126016*	16	-10	5/8"	22.7	0.89	24.7	0.97	280	4,060	1,120	16,240	90	3.54	730	0.49	MF+M03400-10	OPF-10
H01126019*	19	-12	3/4"	27.1	1.07	29.3	1.15	280	4,060	1,120	16,240	120	4.72	1,060	0.71	MF+M03400-12	OPK-12

### KEY FEATURES

- Extreme abrasion resistance
- Very low bend radius to suit restricted space installations
- High robust and compact hose structure compared to rated pressure
- Approved at 200.000 impulse cycles, at T=100°C (ISO 18752 grade A)
- High environmental agents resistance
- Vacuum resistance accordingly to SAE 100R4 requirements

### APPLICATIONS & FLUIDS

- Medium and high pressure hydraulic lines with installation constraints, pilot lines, return, drain and suction lines
- Mineral oils, vegetable oils and synthetic ester based oils (up to 100°C/212°F), glycols and polyglycols, mineral oils in aqueous emulsion, water

### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F

100 °C, 212 °F

### TUBE

Synthetic rubber

### REINFORCEMENT

Two wire braids

### COVER

S.H.A.R.C.  
Synthetic rubber with very high abrasion, ozone and weather resistance

### APPLICABLE SPECS

ISO 18752 grade A; SAE J517 Type 100R19

### TYPE APPROVALS

CU-TR; MSHA; FRAS; DNV-GL; DNV-GL(MED)

# GOLDENISO/21 XTRAFLEX

COMPACTNESS AND FLEXIBILITY



## TECHNICAL DATA

PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H10093031*	31	-20	1.1/4"	41.7	1.64	44.5	1.75	210	3,040	840	12,180	210	8.27	2,071	1.39	MF+M00920-20	OPK-20
H10093038*	38	-24	1.1/2"	48.9	1.93	52.1	2.05	210	3,040	840	12,180	260	10.24	2,989	2.01	IP+M01500-24	SP+M05400-24
H10093051*	51	-32	2"	63.2	2.49	66.8	2.63	210	3,040	840	12,180	330	12.99	4,311	2.90	IP+M01500-32	SP+M05400-32

### KEY FEATURES

- Bend radius which exceeds the standard requirements by -50%
- Good flexibility in the whole temperature range
- Easy mounting in any installation
- High impulse resistance according to ISO 18752 Grade D (with skive / double-skive fittings)
- Weight saving vs traditional R12 hose construction, despite the higher working pressure of the GoldenISO Xtraflex range
- No-skive fitting solution is available
- Isobaric pressure rating for easy selection and product management

### APPLICATIONS & FLUIDS

- Medium pressure hydraulic lines for general hydraulics
- Return lines of hydraulic systems
- Applications with installation constraints (short assemblies, compact spaces, low bend radii, etc.)
- Mineral oils, vegetable oils and synthetic ester based oils (up to 100°C/212°F), glycols and polyglycols, mineral oils in aqueous emulsion, water

### CONTINUOUS SERVICE TEMPERATURE RANGE

-46 °C, -50 °F  
121 °C, 250 °F

### TUBE

Oil resistant synthetic rubber

### REINFORCEMENT

4 high tensile steel spirals

### COVER

STRONG - TYPE "SC"  
Synthetic rubber with high abrasion, ozone, weather and heat resistance and an extended operational temperature range

### APPLICABLE SPECS

ISO 18752-C/D; JIS K6349-3

### TYPE APPROVALS

CU-TR; MSHA; FRAS; ABS; BV; LR; DNV-GL(MED); NK; B

# GOLDENISO/28 XTRAFLEX

COMPACTNESS AND FLEXIBILITY



HOSES

32

TECHNICAL DATA																	
PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H10095010*	10	-6	3/8"	16.7	0.66	18.9	0.74	280	4,060	1,120	16,240	65	2.56	520	0.35	MF+M00910-06	OPK-06
H10095012*	12	-8	1/2"	19.6	0.77	21.8	0.86	280	4,060	1,120	16,240	90	3.54	650	0.44	MF+M00910-08	OPK-08
H10095016*	16	-10	5/8"	23.5	0.93	25.7	1.01	280	4,060	1,120	16,240	100	3.94	934	0.63	MF+M00910-10	OPK-10
H10095019*	19	-12	3/4"	26.9	1.06	29.3	1.15	280	4,060	1,120	16,240	120	4.72	1,040	0.70	MF+M00920-12	OPK-12
H10095025*	25	-16	1"	34.1	1.34	36.5	1.44	280	4,060	1,120	16,240	150	5.91	1,530	1.03	MF+M00930-16	OPK-16
H10095031*	31	-20	1.1/4"	41.7	1.64	44.5	1.75	280	4,060	1,120	16,240	210	8.27	2,160	1.45	MF+M00920-20	OPK-20
H10095038*	38	-24	1.1/2"	48.9	1.93	52.1	2.05	280	4,060	1,120	16,240	280	11.02	2,994	2.01	IP+M01500-24	SP+M05400-24
H10095051*	51	-32	2"	63.9	2.52	67.5	2.66	280	4,060	1,120	16,240	350	13.78	4,633	3.11	IP+M01500-32	SP+M05400-32

## KEY FEATURES

- Bend radius which exceeds the standard requirements by - 30% to -50%
- Good flexibility in the whole temperature range
- Easy mounting in any installation
- High impulse resistance according to ISO 18752 Grade D (with skive / double-skive fittings)
- Weight saving of 20% vs traditional R12 hose construction
- No-skive fitting solution is available
- Isobaric pressure rating for easy selection and product management

## APPLICATIONS & FLUIDS

- High pressure power lines for general hydraulics
- Applications with installation constraints (short assemblies, compact spaces, low bend radii, etc.)
- Mineral oils, vegetable oils and synthetic ester based oils (up to 100°C/212°F), glycols and polyglycols, mineral oils in aqueous emulsion, water

## CONTINUOUS SERVICE TEMPERATURE RANGE

-46 °C, -50 °F

121 °C, 250 °F

## TUBE

Oil resistant synthetic rubber

## REINFORCEMENT

4 high tensile steel spirals

## COVER

STRONG - TYPE "SC"

Synthetic rubber with high abrasion, ozone, weather and heat resistance and an extended operational temperature range

## APPLICABLE SPECS

ISO 18752-C/D; JIS K6349-3

## TYPE APPROVALS

CU-TR; MSHA; FRAS; CCS; ABS; BV; LR; DNV-GL(MED); NK; B

# GOLDENISO/35 XTRAFLEX

COMPACTNESS AND FLEXIBILITY



HOSES 33

TECHNICAL DATA																	
PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H10096010*	10	-6	3/8"	16.7	0.66	18.9	0.74	350	5,070	1,400	20,300	80	3.15	530	0.36	MF+M00910-06	OPK-06
H10096012*	12	-8	1/2"	19.6	0.77	21.8	0.86	350	5,070	1,400	20,300	90	3.54	660	0.44	MF+M00910-08	OPK-08
H10096016*	16	-10	5/8"	23.5	0.93	25.7	1.01	350	5,070	1,400	20,300	100	3.94	934	0.63	MF+M00910-10	OPK-10
H10096019*	19	-12	3/4"	27.5	1.08	29.9	1.18	350	5,070	1,400	20,300	120	4.72	1,220	0.82	IP+M01500-12	SP+M05400-12
H10096025*	25	-16	1"	34.6	1.36	37.0	1.46	350	5,070	1,400	20,300	150	5.91	1,800	1.21	IP+M01500-16	SP+M05400-16
H10096031*	31	-20	1.1/4"	42.1	1.66	44.9	1.77	350	5,070	1,400	20,300	230	9.06	2,340	1.57	IP+M01500-20	SP+M05400-20
H10096038*	38	-24	1.1/2"	52.9	2.08	56.1	2.21	350	5,070	1,400	20,300	300	11.81	4,165	2.80	IP+M01600-24	SP+M05500-24
H10096051*	51	-32	2"	66.8	2.63	70.4	2.77	350	5,070	1,400	20,300	360	14.17	6,161	4.14	IP+M01800-32	SP+M05500-32

## KEY FEATURES

- Bend radius which exceeds the standard requirements by - 30% to -50%
- Good flexibility in the whole temperature range
- Easy mounting in any installation
- High impulse resistance according to ISO 18752 requirements
- Weight saving of 20% vs traditional R15 hose construction
- No-skive fitting solution is available
- Isobaric pressure rating for easy selection and product management

## APPLICATIONS & FLUIDS

- High pressure power lines for general hydraulics
- Applications with installation constraints (short assemblies, compact spaces, low bend radii, etc.)
- Mineral oils, vegetable oils and synthetic ester based oils (up to 100°C/212°F), glycols and polyglycols, mineral oils in aqueous emulsion, water

## CONTINUOUS SERVICE TEMPERATURE RANGE

-46 °C, -50 °F

121 °C, 250 °F

## TUBE

Oil resistant synthetic rubber

## REINFORCEMENT

Four high tensile steel spirals (DN 6-31). Six high tensile steel spirals (DN 38-51).

## COVER

STRONG - TYPE "SC"

Synthetic rubber with high abrasion, ozone, weather and heat resistance and an extended operational temperature range

## APPLICABLE SPECS

ISO 18752-C/D, JIS K6349-3

## TYPE APPROVALS

DNV-GL; CU-TR; MSHA; FRAS; B; ABS; BV; LR; RINA; DNV-GL(MED); MA

# GOLDENISO/42 XTRAFLEX

COMPACTNESS AND FLEXIBILITY



HOSES

34

## TECHNICAL DATA

PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H10097006*	6	-4	1/48"	11.3	0.44	13.1	0.52	420	6,090	1,680	24,360	45	1.77	284	0.19	MF+M00120-04	
H10097010*	10	-6	3/8"	17.6	0.69	20.0	0.79	420	6,090	1,680	24,360	100	3.94	550	0.37	MF+M00910-06	
H10097012*	12	-8	1/2"	20.3	0.80	22.7	0.89	420	6,090	1,680	24,360	120	4.72	807	0.54	MF+M00910-08	
H10097016*	16	-10	5/8"	23.9	0.94	26.4	1.04	420	6,090	1,680	24,360	140	5.51	989	0.66	IP+M01500-10	SP+M05400-10
H10097019*	19	-12	3/4"	27.7	1.09	30.2	1.19	420	6,090	1,680	24,360	150	5.91	1,285	0.86	IP+M01500-12	SP+M05400-12
H10097025*	25	-16	1"	34.8	1.37	37.3	1.47	420	6,090	1,680	24,360	210	8.27	1,915	1.29	IP+M01500-16	SP+M05400-16
H10097031*	31	-20	1.1/4"	46.3	1.82	49.5	1.95	420	6,090	1,680	24,360	260	10.24	3,663	2.46	IP+M01600-20	SP+M05500-20
H10097038*	38	-24	1.1/2"	53.2	2.09	56.4	2.22	420	6,090	1,680	24,360	310	12.20	4,450	2.99	IP+M01600-24	SPGX+M05500-24GX
H10097051*	51	-32	2"	68.9	2.71	72.4	2.85	420	6,090	1,680	24,360	500	19.69	7,310	4.91	IS+M02700-32	SPGX+M05500-32GX

### KEY FEATURES

- Bend radius which exceeds the standard requirements by - 30% to -50%
- Good flexibility in the whole temperature range
- Easy mounting in any installation
- High impulse resistance according to ISO 18752 requirements
- Weight saving of 20% vs traditional R15 hose construction
- No-skive fitting solution is available
- Isobaric pressure rating for easy selection and product management

### APPLICATIONS & FLUIDS

- High pressure power lines for general hydraulics
- Heavy duty power lines
- Applications with installation constraints (short assemblies, compact spaces, low bend radii, etc.)
- Mineral oils, vegetable oils and synthetic ester based oils (up to 100°C/212°F), glycols and polyglycols, mineral oils in aqueous emulsion, water

### CONTINUOUS SERVICE TEMPERATURE RANGE

-46 °C, -50 °F

121 °C, 250 °F

### TUBE

Oil resistant synthetic rubber

### REINFORCEMENT

Four high tensile steel spirals (DN 6-25). Six high tensile steel spirals (DN 31-51).

### COVER

STRONG - TYPE "SC"

Synthetic rubber with high abrasion, ozone, weather and heat resistance and an extended operational temperature range

### APPLICABLE SPECS

ISO 18752-C (Grade C "Plus" approved 1 Mil impulse cycles with Interlock Plus fittings)

### TYPE APPROVALS

CU-TR; MSHA; FRAS; B; ABS; BV; LR; RINA; DNV-GL(MED); DNV-GL; MA



# GOLDENISO/38 LONGLIFE

HIGH FATIGUE RESISTANCE



## TECHNICAL DATA

PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H10098006*	6	-4	1/4"	11.3	0.44	13.1	0.52	380	5,510	1,680	24,360	45	1.77	284	0.19	MF+M00120-04	
H10098008*	8	-5	5/16"	12.9	0.51	14.7	0.58	380	5,510	1,680	24,360	55	2.17	318	0.21	MF+M00120-05	
H10098010*	10	-6	3/8"	15.5	0.61	17.1	0.67	380	5,510	1,680	24,360	65	2.56	440	0.30	MF+M00120-06	
H10098012*	12	-8	1/2"	18.6	0.73	20.6	0.81	380	5,510	1,680	24,360	80	3.15	573	0.39	MF+M00120-08	
H10098019*	19	-12	3/4"	27.7	1.09	32.0	1.26	380	5,510	1,680	24,360	170	6.69	1,410	0.95	IP+M01500-12	
H10098025*	25	-16	1"	34.8	1.37	38.1	1.50	380	5,510	1,680	24,360	220	8.66	1,964	1.32	IP+M01500-16	
H10098031*	31	-20	1.1/4"	46.3	1.82	49.5	1.95	380	5,510	1,680	24,360	267	10.51	3,663	2.46	IP+M01600-20	

### KEY FEATURES

- Designed for original equipment
- Long-term mission profile in severe applications
- Over standard pressure rating
- High impulse resistance exceeding the ISO 18752 requirements
- Superior abrasion resistance
- High ozone and weather resistance
- Flame retardant and antistatic properties of the cover
- Wide compatibility with hydraulic fluids, mineral and biodegradable oils
- Low bend radius, better than the standard requirements
- Interlock-Plus easy mounting system for a very high-level robustness
- Isobaric pressure rating for easy selection and product management

### APPLICATIONS & FLUIDS

- Heavy duty pressure lines, hydrostatic transmissions, heavy duty earth moving equipment, hydraulic presses, drilling applications, injection moulding machines, specific installations with severe abrasion conditions and/or harsh environmental conditions, marine applications, underground and open pit mining
- Mineral oils, vegetable oils and synthetic ester based oils (up to 100°C/212°F), glycols and polyglycols, mineral oils in aqueous emulsion, water

### CONTINUOUS SERVICE TEMPERATURE RANGE

-46 °C, -50 °F

121 °C, 250 °F

### TUBE

Oil resistant synthetic rubber

### REINFORCEMENT

Two high tensile steel wire braids (DN 6 - 12), four high tensile steel wire spirals (DN 19 & 25), six high tensile steel wire spirals (DN 31)

### COVER

STRONG - TYPE "SC"

Synthetic rubber with high abrasion, ozone, weather and heat resistance and an extended operational temperature range

### APPLICABLE SPECS

Manuli® Design: DN 6 to 12 exceeds ISO 18752-C extension; DN 19 to 31 exceeds SAE J517 Type 100R13; ISO 3862 R13; ISO 18752-C-D extension

### TYPE APPROVALS

CU-TR; MSHA; FRAS

# GOLDENISO/45 LONGLIFE

HIGH FATIGUE RESISTANCE



HOSES

36

## TECHNICAL DATA

PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H10089006*	6	-4	1/4"	14.7	0.58	17.1	0.67	460	6,670	1,840	26,680	125	4.92	567	0.38	IP+M01500-04	
H10089016*	16	-10	5/8"	25.5	1.00	28.5	1.12	460	6,670	1,840	26,680	250	9.84	1,290	0.87	IP+M01500-10	
H10089019*	19	-12	3/4"	28.4	1.12	32.0	1.26	460	6,670	1,840	26,680	280	11.02	1,530	1.03	IP+M01500-12	
H10089025*	25	-16	1"	35.4	1.39	38.2	1.50	460	6,670	1,840	26,680	340	13.39	2,150	1.44	IP+M01500-16	
H10089031*	31	-20	1.1/4"	46.3	1.82	49.5	1.95	450	6,520	1,800	26,100	420	16.54	3,790	2.55	IP+M01800-20	
H10089038*	38	-24	1.1/2"	54.2	2.13	58.0	2.28	450	6,520	1,800	26,100	450	17.72	5,002	3.36	IP+M01600-24	

### KEY FEATURES

- Designed for original equipment
- Long-term mission profile in severe applications
- Over standard pressure rating
- High impulse resistance exceeding the ISO 18752 requirements
- Superior abrasion resistance
- High ozone and weather resistance
- Flame retardant and antistatic properties of the cover
- Wide compatibility with hydraulic fluids, mineral and biodegradable oils
- Low bend radius, better than the standard requirements
- Interlock-Plus easy mounting system for a very high-level robustness
- Isobaric pressure rating for easy selection and product management

### APPLICATIONS & FLUIDS

- Heavy duty pressure lines, hydrostatic transmissions, heavy duty earth moving equipment, hydraulic presses, drilling applications, injection moulding machines, specific installations with severe abrasion conditions and/or harsh environmental conditions, marine applications, underground and open pit mining
- Mineral oils, vegetable oils and synthetic ester based oils (up to 100°C/212°F), glycols and polyglycols, mineral oils in aqueous emulsion, water

### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F

121 °C, 250 °F

### TUBE

Oil resistant synthetic rubber

### REINFORCEMENT

Four high tensile steel wire spirals (DN 16-25). Six high tensile steel wire spirals (DN 31-38)

### COVER

STRONG - TYPE "SC"

Synthetic rubber with high abrasion, ozone, weather and heat resistance and an extended operational temperature range

### APPLICABLE SPECS

Manuli® Design exceeds SAE J517 Type 100R15; ISO 3862 R15; ISO 18752-D extension

### TYPE APPROVALS

CU-TR; MSHA; FRAS

# SHIELDMASTER/21

OUTSTANDING WEAR RESISTANCE



TECHNICAL DATA																	
PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H01154006*	6	-4	1/4"	10,2	0,40	12,2	0,48	210	3040	840	12180	50	1,97	188	0,13	MF+M00120-04	OPF-04
H01154008*	8	-5	5/16"	11,5	0,45	13,6	0,54	210	3040	840	12180	55	2,17	212	0,14	MF+M00120-05	OPF-05
H01154010*	10	-6	3/8"	14,4	0,57	16,0	0,63	210	3040	840	12180	65	2,56	306	0,21	MF+M00120-06	OPF-06
H01154012*	12	-8	1/2"	18,1	0,71	20,1	0,79	210	3040	840	12180	90	3,54	444	0,30	MF+M00120-08	OPF-08
H01154016*	16	-10	5/8"	22,2	0,87	24,2	0,95	210	3040	840	12180	100	3,94	624	0,42	MF+M00120-10	OPF-010
H01154019*	19	-12	3/4"	25,6	1,01	27,7	1,09	210	3040	840	12180	120	4,72	771	0,52	MF+M00120-12	OPF-12
H01154025*	25	-16	1"	33,0	1,30	34,8	1,37	210	3040	840	12180	150	5,91	1,193	0,80	MF+M00130-16	OPF-16

### KEY FEATURES

- Outstanding abrasion and ozone resistance
- Compact and light structure
- Very low bend radius makes this product suitable for difficult installations
- Easy assembling and mounting operations (no protection sleeves required)
- Isobaric pressure rating
- Suitable for very cold environments

### APPLICATIONS & FLUIDS

- Low, medium pressure hydraulic lines
- High resistance to abrasion conditions, including rubbing amongst hoses in bunches, alternative to spring guards, ease of cleaning in dusty environments
- For severe environmental conditions, long resistance to ozone and weathering, cold temperatures, dirty industrial environments
- Skive and no-skive fitting solutions
- Mineral oils, vegetable oils and synthetic ester based oils (up to 100°C/212°F), glycols and polyglycols, mineral oils in aqueous emulsion, water

### CONTINUOUS SERVICE TEMPERATURE RANGE

-46 °C, -50 °F  
100 °C, 212 °F

### TUBE

Oil resistant synthetic rubber

### REINFORCEMENT

One high tensile wire braid (DN 6 to 12), two high tensile wire braids (DN 16 to 25)

### COVER

**SHIELD**  
Composite bi-layer structure with outstanding abrasion and ozone resistance

### APPLICABLE SPECS

ISO 18752-B

### TYPE APPROVALS

MSHA, FRAS (requested); CU-TR

### REMARKS



- Applications with material projections or winding on low bend radius pulley systems should be field tested before use; high abrasion resistant rubber cover hoses are appropriate in most cases

# SHIELDMASTER/28

OUTSTANDING WEAR RESISTANCE



HOSES

38

## TECHNICAL DATA

PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H01155006*	6	-4	1/4"	11.6	0.46	13.6	0.54	280	4,060	1,120	16,240	50	1.97	272	0.18	MF+M00120-04	OPF-04
H01155008*	8	-5	5/16"	12.9	0.51	14.9	0.59	280	4,060	1,120	16,240	55	2.17	299	0.20	MF+M00120-05	OPF-05
H01155010*	10	-6	3/8"	15.4	0.61	17.4	0.69	280	4,060	1,120	16,240	63	2.48	397	0.27	MF+M00120-06	OPF-06
H01155012*	12	-8	1/2"	18.5	0.73	20.5	0.81	280	4,060	1,120	16,240	80	3.15	507	0.34	MF+M00120-08	OPK-08
H01155016*	16	-10	5/8"	22.7	0.89	24.7	0.97	280	4,060	1,120	16,240	90	3.54	731	0.49	MF+M00120-10	OPK-10
H01155019*	19	-12	3/4"	27.1	1.07	29.3	1.15	280	4,060	1,120	16,240	120	4.72	1,058	0.71	MF+M00120-12	OPK-12
H01155025*	25	-16	1"	34.1	1.34	36.5	1.44	280	4,060	1,120	16,240	150	5.91	1,536	1.03	MF+M00930-16	OPK-16
H01155031*	31	-20	1.1/4"	41.7	1.64	44.5	1.75	280	4,060	1,120	16,240	210	8.27	2,171	1.46	MF+M00920-20	OPK-20

### KEY FEATURES

- Outstanding abrasion and ozone resistance
- Compact and light structure
- Very low bend radius makes this product suitable for difficult installations
- Easy assembling and mounting operations (no protection sleeves required)
- Isobaric pressure rating
- Suitable for very cold environments

### APPLICATIONS & FLUIDS

- Medium and high pressure hydraulic lines
- High resistance to abrasion conditions, including rubbing amongst hoses in bunches, alternative to spring guards, ease of cleaning in dusty environments
- For severe environmental conditions, long resistance to ozone and weathering, cold temperatures, dirty industrial environments
- Skive and no-skive fitting solutions
- Mineral oils, vegetable oils and synthetic ester based oils (up to 100°C/212°F), glycols and polyglycols, mineral oils in aqueous emulsion, water

### CONTINUOUS SERVICE TEMPERATURE RANGE

-46 °C, -50 °F

100 °C, 212 °F

### TUBE

Oil resistant synthetic rubber

### REINFORCEMENT

Two high tensile steel braids (DN 6-19); Four high tensile steel spirals (DN 25-31)

### COVER

SHIELD

Composite bi-layer structure with outstanding abrasion and ozone resistance

### APPLICABLE SPECS

ISO 18752-B

### TYPE APPROVALS

MSHA, FRAS (requested); CU-TR

### REMARKS



- Applications with material projections or winding on low bend radius pulley systems should be field tested before use; high abrasion resistant rubber cover hoses are appropriate in most cases

# SHIELDMASTER/35

## OUTSTANDING WEAR RESISTANCE



HOSES 39

TECHNICAL DATA																	
PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H10119006*	6	-4	1/4"	11.3	0.44	13.1	0.52	350	5,070	1,400	20,300	45	1.77	288	0.19	MF+M00120-04	OPF-04
H10119008*	8	-5	5/16"	12.9	0.51	14.9	0.59	350	5,070	1,400	20,300	55	2.17	330	0.22	MF+M00120-05	OPF-05
H10119010*	10	-6	3/8"	15.0	0.59	16.8	0.66	350	5,070	1,400	20,300	65	2.56	393	0.26	MF+M00120-06	OPF-06
H10119012*	12	-8	1/2"	18.6	0.73	20.4	0.80	350	5,070	1,400	20,300	80	3.15	556	0.37	MF+M00120-08	OPK-08
H10119016*	16	-10	5/8"	23.5	0.93	25.9	1.02	350	5,070	1,400	20,300	100	3.94	964	0.65	MF+M00910-10	OPK-10
H10119019*	19	-12	3/4"	27.5	1.08	29.9	1.18	350	5,070	1,400	20,300	120	4.72	1,229	0.83	IP+M01500-12	SP+M05400-12
H10119025*	25	-16	1"	34.6	1.36	37.0	1.46	350	5,070	1,400	20,300	150	5.91	1,795	1.21	IP+M01500-16	SP+M05400-16
H10119031*	31	-20	1.1/4"	42.1	1.66	44.9	1.77	350	5,070	1,400	20,300	230	9.06	2,369	1.59	IP+M01500-20	SP+M05400-20
H10119038*	38	-24	1.1/2"	51.2	2.02	56.1	2.21	350	5,070	1,400	20,300	300	11.81	4,214	2.83	IP+M01600-24	SP+M05500-24
H10119051*	51	-32	2"	66.8	2.62	70.4	2.77	350	5,070	1,400	20,300	360	14.17	6,205	4.17	IP+M01800-32	SP+M05500-32

### KEY FEATURES

- Outstanding abrasion and ozone resistance
- Compact and light structure
- Very low bend radius makes this product suitable for difficult installations
- Easy assembling and mounting operations (no protection sleeves required)
- Isobaric pressure rating
- Suitable for very cold environments

### APPLICATIONS & FLUIDS

- High pressure hydraulic lines
- High resistance to abrasion conditions, including rubbing amongst hoses in bunches, alternative to spring guards, ease of cleaning in dusty environments
- For severe environmental conditions, long resistance to ozone and weathering, cold temperatures, dirty industrial environments
- Skive and no-skive fitting solutions
- Mineral oils, vegetable oils and synthetic ester based oils (up to 100°C/212°F), glycols and polyglycols, mineral oils in aqueous emulsion, water

### CONTINUOUS SERVICE TEMPERATURE RANGE

-46 °C, -50 °F  
100 °C, 212 °F

### TUBE

Oil resistant synthetic rubber

### REINFORCEMENT

Two high tensile steel braids (DN 6-12); Four high tensile steel spirals (DN 16-31); Six high tensile steel spirals (DN 38-51)

### COVER

**SHIELD**  
Composite bi-layer structure with outstanding abrasion and ozone resistance

### APPLICABLE SPECS

ISO 18752-B

### TYPE APPROVALS

MSHA, FRAS (requested); CU-TR

### REMARKS



- Applications with material projections or winding on low bend radius pulley systems should be field tested before use; high abrasion resistant rubber cover hoses are appropriate in most cases

# SHIELDMASTER/42

OUTSTANDING WEAR RESISTANCE



HOSES  
40

TECHNICAL DATA																	
PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H10120006*	6	-4	1/4"	11,3	0,44	13,3	0,52	420	6090	1680	24360	45	1,77	294	0,20	MF+M00120-04	OPF-04
H10120010*	10	-6	3/8"	17,6	0,69	20,0	0,79	420	6090	1680	24360	100	3,94	699	0,47	MF+M00910-08	OPK-08
H10120012*	12	-8	1/2"	20,3	0,80	22,7	0,89	420	6090	1680	24360	120	4,72	808	0,54	MF+M00910-08	OPK-08
H10120019*	19	-12	3/4"	27,7	1,09	30,2	1,19	420	6090	1680	24360	150	5,91	1,307	0,88	IP+M01500-12	SP+M05400-12
H10120025*	25	-16	1"	35,0	1,38	37,5	1,48	420	6090	1680	24360	210	8,27	2,031	1,36	IP+M01500-16	SP+M05400-16
H10120031*	31	-20	1.1/4"	44,7	1,76	49,5	1,95	420	6090	1680	24360	260	10,24	3,701	2,49	IP+M01600-20	SP+M05500-20
H10120038*	38	-24	1.1/2"	53,2	2,09	56,4	2,22	420	6090	1680	24360	310	12,20	4,498	3,01	IP+M01600-20	SPGX+M05500-24GX
H10120051*	51	-32	2"	68,9	2,71	72,4	2,85	420	6090	1680	24360	500	19,69	7,388	4,96	IS+M02700-32	

## KEY FEATURES

- Outstanding abrasion and ozone resistance
- Compact and light structure
- Very low bend radius makes this product suitable for difficult installations
- Easy assembling and mounting operations (no protection sleeves required)
- Isobaric pressure rating
- Suitable for very cold environments

## APPLICATIONS & FLUIDS

- High pressure hydraulic lines
- Heavy duty power lines
- High resistance to abrasion conditions, including rubbing amongst hoses in bunches, alternative to spring guards, ease of cleaning in dusty environments
- For severe environmental conditions, long resistance to ozone and weathering, cold temperatures, dirty industrial environments
- Skive and no-skive fitting solutions
- Mineral oils, vegetable oils and synthetic ester based oils (up to 100°C/212°F), glycols and polyglycols, mineral oils in aqueous emulsion, water

## CONTINUOUS SERVICE TEMPERATURE RANGE

-46 °C, -50 °F

100 °C, 212 °F

## TUBE

Oil resistant synthetic rubber

## REINFORCEMENT

Two high tensile steel braids (DN 6); Four high tensile steel spirals (DN 10-25); Six high tensile steel spirals (DN 31-51)

## COVER

SHIELD

Composite bi-layer structure with outstanding abrasion and ozone resistance

## APPLICABLE SPECS

ISO 18752-B

## TYPE APPROVALS

MSHA, FRAS (requested); CU-TR

## REMARKS



- Applications with material projections or winding on low bend radius pulley systems should be field tested before use; high abrasion resistant rubber cover hoses are appropriate in most cases



# DIAMONDSPIR/14

HIGH FLOW RATES, OUTSTANDING ABRASION RESISTANCE



## TECHNICAL DATA

PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H10104076*	76	-48	3"	87.8	3.46	92.2	3.63	140	2,030	560	8,120	700	27.56	5,900	3.96	IP+M01500-48	

### KEY FEATURES

- Extreme abrasion resistance
- High ozone and weather resistance
- Flame retardant and antistatic cover
- Superior pressure rating
- Structure robustness for tough handling
- Interlock robust fitting technology

### APPLICATIONS & FLUIDS

- Medium pressure hydraulic lines with high flow rates, mine hydraulic return lines, large equipment hydraulics
- Mineral oils, vegetable oils and synthetic ester based oils (up to 100°C/212°F), glycols and polyglycols, mineral oils in aqueous emulsion, water

### CONTINUOUS SERVICE TEMPERATURE RANGE

-46 °C, -50 °F  
121 °C, 250 °F

### TUBE

Oil resistant synthetic rubber

### REINFORCEMENT

Four high tensile wire spirals

### COVER

STRONG - TYPE "SC"  
Synthetic rubber with high abrasion, ozone, weather and heat resistance and an extended operational temperature range

### APPLICABLE SPECS

Manuli® Design, ISO 18752-C Ext.

### TYPE APPROVALS

CU-TR; MSHA; CCS; DNV-GL; ABS; FRAS

# DIAMONDSPIR/17

HIGH FLOW RATES, OUTSTANDING ABRASION RESISTANCE



HOSES

42

TECHNICAL DATA																	
PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H10104076*	76	-48	3"	89.0	3.50	92.1	3.63	170	2,460	700	10,150	600	25.98	6,060	4.07	IP+M01500-48	
H10104089*	89	-56	3.1/2"	109.7	4.32	115.6	4.55	170	2,460	800	11,600	1,200	47.24	12,735	8.56	IS+M02610-56	

## KEY FEATURES

- Extreme abrasion resistance
- High ozone and weather resistance
- Flame retardant and antistatic cover
- Superior pressure rating
- Structure robustness for tough handling
- Interlock robust fitting technology

## APPLICATIONS & FLUIDS

- Medium pressure hydraulic lines with high flow rates, mine hydraulic return lines, large equipment hydraulics
- Mineral oils, vegetable oils and synthetic ester based oils (up to 100°C/212°F), glycols and polyglycols, mineral oils in aqueous emulsion, water

## CONTINUOUS SERVICE TEMPERATURE RANGE

-46 °C, -50 °F

121 °C, 250 °F

## TUBE

Oil resistant synthetic rubber

## REINFORCEMENT

Four or six high tensile wire spirals

## COVER

STRONG - TYPE "SC"  
Synthetic rubber with high abrasion, ozone, weather and heat resistance and an extended operational temperature range

## APPLICABLE SPECS

Manuli® Design, ISO 18752-C Ext.

## TYPE APPROVALS

CU-TR; MSHA;



# DIAMONDSPIR/21

VERY HIGH HYDRAULIC POWER TRANSMISSION



## TECHNICAL DATA

PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H10102063*	63	-40	2.1/2"	77.5	3.05	81.5	3.21	210	3,040	840	12,180	700	27.56	5,890	3.96	IP+M01500-40	
H10102076*	76	-48	3"	990.8	3.57	94.6	3.72	210	3,040	840	12,180	900	35.43	7,910	5.32	IP+M01810-48	

### KEY FEATURES

- Very high flow rates in high pressure hydraulics
- Extremely robust hose structure
- Compact hose dimensions
- Approved with severe fatigue tests
- Superior abrasion resistance
- High ozone and weather resistance
- Flame retardant (MSHA) and antistatic properties
- Biological and mineral oils compatibility
- Crimped Interlock Plus fitting structures

### APPLICATIONS & FLUIDS

- Hydraulics: heavy duty power lines, hydrostatic transmissions in severe environmental conditions, specific installations with tough abrasion conditions, off-shore applications, underground and open pit mining
- Mineral oils, vegetable oils and synthetic ester based oils (up to 100°C/212°F), glycols and polyglycols, mineral oils in aqueous emulsion, water

### CONTINUOUS SERVICE TEMPERATURE RANGE

-46 °C, -50 °F  
121 °C, 250 °F

### TUBE

Oil resistant synthetic rubber

### REINFORCEMENT

Four to six high tensile wire spirals

### COVER

STRONG - TYPE "SC"  
Synthetic rubber with high abrasion, ozone, weather and heat resistance and an extended operational temperature range

### APPLICABLE SPECS

Manuli® Design, ISO 18752-C Ext.

### TYPE APPROVALS

CU-TR; MSHA; MA; CCS; ABS; DNV-GL

# DIAMONDSPIR/35

VERY HIGH HYDRAULIC POWER TRANSMISSION



HOSES

44

## TECHNICAL DATA

PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H10103063*	63	-40	2.1/2"	80.6	3.17	84.8	3.34	350	5,070	1,400	20,300	800	31.50	8,105	5.45	IP+M01810-40	
H10103076*	76	-48	3"	97.9	3.85	101.9	4.01	350	5,070	1,400	20,300	1,000	39.37	12,249	8.23	IS+M02700-48	IS+M02800-48

### KEY FEATURES

- Very high flow rates in high pressure hydraulics
- Extremely robust hose structure
- Compact hose dimensions
- Approved with severe fatigue tests
- Superior abrasion resistance
- High ozone and weather resistance
- Flame retardant (MSHA) and antistatic properties
- Biological and mineral oils compatibility
- Crimped Interlock Plus & Interlock Super fitting structures

### APPLICATIONS & FLUIDS

- Hydraulics: heavy duty power lines, hydrostatic transmissions in severe environmental conditions, specific installations with tough abrasion conditions, off-shore applications, underground and open pit mining
- Mineral oils, vegetable oils and synthetic ester based oils (up to 100°C/212°F), glycols and polyglycols, mineral oils in aqueous emulsion, water

### CONTINUOUS SERVICE TEMPERATURE RANGE

-46 °C, -50 °F

121 °C, 250 °F

### TUBE

Oil resistant synthetic rubber

### REINFORCEMENT

Six to eight high tensile wire spirals

### COVER

STRONG - TYPE "SC"

Synthetic rubber with high abrasion, ozone, weather and heat resistance and an extended operational temperature range

### APPLICABLE SPECS

Manuli® Design, ISO 18752-C Ext.

### TYPE APPROVALS

CU-TR; MSHA; MA; CCS;ABS; DNV-GL; FRAS

# MASTERTEX

LOW PRESSURE, HIGH TEMPERATURE HOSE



TECHNICAL DATA																	
PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H09069006*	6	-4	1/4"			12.6	0.50	30	430	120	1,740	45	1.77	115	0.08	MF+M00830-04	
H09069010*	10	-6	3/8"			15.8	0.62	30	430	120	1,740	75	2.95	160	0.11	MF+M00820-06	
H09069012*	12	-8	1/2"			19.4	0.76	30	430	120	1,740	90	3.54	210	0.14	MF+M00820-08	
H09069016*	16	-10	5/8"			23.0	0.91	30	430	120	1,740	115	4.53	285	0.19	MF+M00820-10	

## KEY FEATURES

- Long term aging resistance
- Suitability for high temperature applications
- High flexibility
- Wide range of fluid compatibility
- MF2000 Multifit type compatibility

## APPLICATIONS & FLUIDS

- Hydraulics: low pressure lines, return lines, drain lines with high temperature fluids
- Mineral oils, synthetic base oils (HS), vegetable and rape seed oils, glycol and polyglycol based oils, oils in aqueous emulsion, water

## CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F  
135 °C, 275 °F

## TUBE

Oil resistant synthetic rubber

## REINFORCEMENT

One high resistance textile braid

## COVER

Weather and high heat resistant synthetic rubber

## APPLICABLE SPECS

Exceeds SAE 100 R6; ISO 4079 R6/1TE

# ROCKMASTER/1SC

ABRASION, WEATHER & HEAT RESISTANCE



HOSES

46

## TECHNICAL DATA

PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H01108006*	6	-4	1/4"	10.2	0.40	12.0	0.47	260	3,770	1,050	15,220	50	1.97	180	0.12	MF+M03300-04	MF+M00120-04
H01108008*	8	-5	5/16"	11.5	0.45	13.6	0.54	250	3,620	1,000	14,500	55	2.17	210	0.14	MF+M03300-05	MF+M00120-05
H01108010*	10	-6	3/8"	13.6	0.54	15.5	0.61	225	3,260	900	13,050	60	2.36	255	0.17	MF+M03300-06	MF+M00120-06
H01108012*	12	-8	1/2"	17.3	0.68	19.1	0.75	190	2,750	760	11,020	70	2.76	355	0.24	MF+M03300-08	MF+M00820-08
H01108016*	16	-10	5/8"	20.6	0.81	22.4	0.88	150	2,170	600	8,700	90	3.54	430	0.29	MF+M03400-10	MF+M00820-10
H01108019*	19	-12	3/4"	23.9	0.94	25.9	1.02	150	2,170	600	8,700	100	3.94	520	0.35	MF+M03400-12	MF+M00820-12
H01108025*	25	-16	1"	31.3	1.23	33.1	1.30	110	1,590	440	6,380	160	6.30	730	0.49	MF+M03400-16	MF+M00820-16
H01108031*	31	-20	1.1/4"	38.4	1.51	40.9	1.61	75	1,080	300	4,350	210	8.27	1,040	0.70	MF+M03400-20	MF+M00820-20
H01108038*	38	-24	1.1/2"	45.0	1.77	47.5	1.87	50	720	200	2,900	300	11.81	1,170	0.79	MF+M00820-24	
H01108051*	51	-32	2"	58.0	2.28	60.5	2.38	50	720	200	2,900	400	15.75	1,560	1.05	MF+M00820-32	
H01108063*	63	-40	2.1/2"	70.5	2.78	73.0	2.87	50	720	200	2,900	760	29.92	2,090	1.40	MF+M03400-40	
H01108076*	76	-48	3"	85.0	3.35	87.7	3.45	35	500	140	2,030	900	35.43	2,616	1.76	MF+M03400-48	

## KEY FEATURES

- Compact and flexible one wire braid hose line
- High temperature resistance for the most severe service and OEM applications
- Working pressure exceeds 1SC standards
- Superior protection with ROCKMASTER® cover compound
- High ozone and weather resistance
- Flame resistance to a wide range of specs.
- Antistatic and antitoxic cover
- Vacuum resistance with SAE 100 R4 performance approved on sizes up to DN 31

## APPLICATIONS & FLUIDS

- Hydraulics: low-medium pressure lines with installation constraints in severe environmental conditions, specific installations with tough abrasion conditions, marine applications, underground and open pit mining
- Mineral oils, vegetable and rape seed oils, glycol and polyglycol based oils, synthetic ester based oils, oils in aqueous emulsion, water

## CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F

121 °C, 250 °F

## TUBE

Oil resistant synthetic rubber

## REINFORCEMENT

One high tensile steel braid

## COVER

STRONG - TYPE "SD"

Synthetic rubber with high abrasion, ozone, weather and heat resistance

## APPLICABLE SPECS

Exceeds EN 857 1SC; ISO 11237 1SC

## TYPE APPROVALS

CU-TR; LR; MSHA; ABS; CCS; DNV-GL

# ROCKMASTER/2SC

ABRASION, WEATHER & HEAT RESISTANCE



## TECHNICAL DATA

PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H01030005*	5	-3	3/16"	9.7	0.38	11.5	0.45	420	6,090	2,000	29,000	40	1.57	220	0.15	MF+M03400-03	OPF-03
H01030006*	6	-4	1/4"	11.3	0.44	13.1	0.52	400	5,800	1,850	26,830	45	1.77	275	0.18	MF+M03400-04	OPF-04
H01030008*	8	-5	5/16"	12.9	0.51	14.7	0.58	350	5,070	1,700	24,650	55	2.17	325	0.22	MF+M03400-05	OPF-05
H01030010*	10	-6	3/8"	15.0	0.59	16.8	0.66	330	4,780	1,500	21,750	65	2.56	390	0.26	MF+M03400-06	OPF-06
H01030012*	12	-8	1/2"	18.5	0.73	20.3	0.80	275	3,980	1,220	17,690	80	3.15	500	0.34	MF+M03400-08	OPF-08
H01030016*	16	-10	5/8"	21.8	0.86	23.6	0.93	250	3,620	1,050	15,220	90	3.54	620	0.42	MF+M03400-10	OPF-10
H01030019*	19	-12	3/4"	25.6	1.01	27.6	1.09	245	3,550	980	14,210	120	4.72	790	0.53	MF+M03400-12	OPF-12
H01030025*	25	-16	1"	33.0	1.30	35.2	1.39	210	3,040	840	12,180	150	5.91	1,180	0.79	MF+M03400-16	OPF-16
H01030031*	31	-20	1.1/4"	41.1	1.62	43.6	1.72	140	2,030	560	8,120	250	9.84	1,550	1.04	MF+M03400-20	OPK-20
H01030038*	38	-24	1.1/2"	47.7	1.88	50.7	2.00	100	1,450	400	5,800	300	11.81	1,880	1.26	MF+M03400-24	OPK-24
H01030051*	51	-32	2"	60.4	2.38	63.4	2.50	90	1,300	360	5,220	400	15.75	2,430	1.63	MF+M03400-32	OPK-32
H01030063*	63	-40	2.1/2"	73.0	2.87	76.0	2.99	70	1,010	300	4,350	760	29.92	2,900	1.95	MF+M03400-40	
H01030076*	76	-48	3"	87.8	3.46	90.5	3.56	45	650	180	2,610	900	35.43	3,120	2.10	MF+M03400-48	

### KEY FEATURES

- Compactness and flexibility
- Superior abrasion resistance
- High ozone and weather resistance
- Flame resistance to a wide range of specs.
- Antistatic and antitoxic cover
- Working pressure improvement
- Range extension to DN 76
- Vacuum resistance with SAE 100 R4 performance approved on sizes up to DN 76

### APPLICATIONS & FLUIDS

- Hydraulics: medium-high pressure lines with installation constraints in severe environmental conditions, specific installations with tough abrasion conditions, marine applications, underground and open pit mining, return and suction lines
- Mineral oils, vegetable and rape seed oils, glycol and polyglycol based oils, synthetic ester based oils, oils in aqueous emulsion, water

### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F  
100 °C, 212 °F

### TUBE

Oil resistant synthetic rubber

### REINFORCEMENT

Two high tensile steel braids

### COVER

STRONG - TYPE "SD"  
Synthetic rubber with high abrasion, ozone, weather and heat resistance

### APPLICABLE SPECS

Exceeds EN 857 2SC; ISO 11237 2SC; SAE 100 R16. In addition: DN 25 SAE 100 R17; ISO 11237 R17

### TYPE APPROVALS

ABS; BV; DNV-GL; CU-TR; LR; MSHA; RINA; B; FRAS; CCS; NK; DNV-GL(MED)

# ROCKMASTER/1SN

ABRASION, WEATHER & HEAT RESISTANCE



HOSES

48

## TECHNICAL DATA

PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H01007006*	6	-4	1/4"	11.0	0.43	13.0	0.51	225	3,260	1,000	14,500	100	3.94	215	0.14	MF+M03400-04	OPF-04
H01007008*	8	-5	5/16"	12.6	0.50	14.6	0.57	215	3,110	950	13,770	114	4.49	260	0.17	MF+M03400-05	OPF-05
H01007010*	10	-6	3/8"	15.0	0.59	17.0	0.67	180	2,610	800	11,600	127	5.00	320	0.22	MF+M03400-06	OPF-06
H01007012*	12	-8	1/2"	18.1	0.71	20.1	0.79	160	2,320	680	9,860	178	7.01	400	0.27	MF+M03400-08	OPF-08
H01007016*	16	-10	5/8"	21.3	0.84	23.3	0.92	130	1,880	600	8,700	200	7.87	480	0.32	MF+M03400-10	OPF-10
H01007019*	19	-12	3/4"	25.3	1.00	27.3	1.07	105	1,520	500	7,250	240	9.45	600	0.40	MF+M03400-12	OPF-12
H01007025*	25	-16	1"	33.1	1.30	35.1	1.38	90	1,300	360	5,220	300	11.81	910	0.61	MF+M03400-16	OPF-16
H01007032*	31	-20	1.1/4"	40.6	1.60	43.3	1.70	65	940	260	3,770	419	16.50	1,243	0.84	MF+M03400-20	OPK-20
H01007040*	38	-24	1.1/2"	47.0	1.85	49.7	1.96	50	720	260	3,770	500	19.69	1,450	0.97	MF+M03400-24	OPK-24
H01007051*	51	-32	2"	60.4	2.38	63.1	2.48	40	580	250	3,620	630	24.80	2,050	1.38	MF+M03400-32	OPK-32
H01007060*	60	-38	2.3/8"	68.8	2.71	71.5	2.81	50	720	200	2,900	650	25.59	2,190	1.47	MF+M03400-38	

### KEY FEATURES

- Superior abrasion resistance
- High ozone and weather resistance
- Flame resistance to a wide range of specs.
- Antistatic and antitoxic cover

### APPLICATIONS & FLUIDS

- Hydraulics: low-medium pressure lines, return lines, in severe environmental conditions, specific installations with tough abrasion conditions, marine applications, underground and open pit mining
- Mineral oils, vegetable and rape seed oils, glycol and polyglycol based oils, synthetic ester based oils, oils in aqueous emulsion, water

### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F

100 °C, 212 °F

### TUBE

Oil resistant synthetic rubber

### REINFORCEMENT

One high tensile steel braid

### COVER

STRONG - TYPE "SD"

Synthetic rubber with high abrasion, ozone, weather and heat resistance

### APPLICABLE SPECS

Exceeds EN 853 1SN; SAE 100 R1AT; ISO 1436 1SN/R1AT

### TYPE APPROVALS

ABS; BV; DNV-GL; DNV-GL (MED); FRAS; CU-TR; MSHA; LR; NK; MA; CCS; KRS; RINA

# ROCKMASTER/2SN

ABRASION, WEATHER & HEAT RESISTANCE



## TECHNICAL DATA

PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H01038006*	6	-4	1/4"	12.7	0.50	14.7	0.58	400	5,800	1,750	25,380	50	1.97	365	0.25	MF+M03400-04	OPF-04
H01038008*	8	-5	5/16"	14.3	0.56	16.3	0.64	350	5,070	1,480	21,460	60	2.36	405	0.27	MF+M03400-05	OPF-05
H01038010*	10	-6	3/8"	16.7	0.66	18.7	0.74	350	5,070	1,400	20,300	70	2.76	530	0.36	MF+M03400-06	OPF-06
H01038012*	12	-8	1/2"	19.8	0.78	21.8	0.86	350	5,070	1,400	20,300	89	3.50	650	0.44	MF+M03400-08	OPF-08
H01038016*	16	-10	5/8"	23.0	0.91	25.0	0.98	250	3,620	1,020	14,790	100	3.94	720	0.48	MF+M03400-10	OPF-10
H01038019*	19	-12	3/4"	27.0	1.06	29.0	1.14	215	3,110	900	13,050	130	5.12	930	0.62	MF+M03400-12	OPF-12
H01038025*	25	-16	1"	34.8	1.37	36.8	1.45	175	2,530	670	9,710	160	6.30	1,290	0.87	MF+M03400-16	OPF-16
H01038032*	31	-20	1.1/4"	44.3	1.74	47.0	1.85	140	2,030	600	8,700	419	16.50	1,930	1.30	MF+M03400-20	OPK-20
H01038040*	38	-24	1.1/2"	50.7	2.00	53.4	2.10	100	1,450	500	7,250	500	19.69	2,262	1.52	MF+M03400-24	OPK-24
H01038051*	51	-32	2"	63.5	2.50	66.2	2.61	90	1,300	420	6,090	630	24.80	2,880	1.94	MF+M03400-32	OPK-32
H01038060*	60	-38	2.3/8"	68.8	2.71	71.5	2.81	90	1,300	360	5,220	650	25.59	2,670	1.79	MF+M03400-38	

### KEY FEATURES

- Superior abrasion resistance
- High ozone and weather resistance
- Flame resistance to a wide range of specs.
- Antistatic and antitoxic cover
- Over standard pressure resistance

### APPLICATIONS & FLUIDS

- Hydraulics: medium-high pressure lines in severe environmental conditions, specific installations with tough abrasion conditions, marine applications, underground and open pit mining
- Mineral oils, vegetable and rape seed oils, glycol and polyglycol based oils, synthetic ester based oils, oils in aqueous emulsion, water

### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F  
100 °C, 212 °F

### TUBE

Oil resistant synthetic rubber

### REINFORCEMENT

Two high tensile steel braids

### COVER

STRONG - TYPE "SD"  
Synthetic rubber with high abrasion, ozone, weather and heat resistance

### APPLICABLE SPECS

Exceeds EN 853 2SN; SAE 100 R2AT; ISO 1436 2SN/R2AT

### TYPE APPROVALS

ABS; BV; DNV-GL; DNV-GL (MED); LR; FRAS; CU-TR; MSHA; RINA ; B; NK; MA; DIN 5510-2; CCS; KRS



# ROCKMASTER/2ST

ABRASION, WEATHER & HEAT RESISTANCE



HOSES

50

## TECHNICAL DATA

PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H01035005*	5	-3	3/16"	11.3	0.44	15.6	0.61	415	6,010	2,000	29,000	89	3.50	385	0.26	MF+M00910-03	
H01035006*	6	-4	1/4"	12.7	0.50	17.2	0.68	400	5,800	1,750	25,380	100	3.94	450	0.30	MF+M00910-04	
H01035008*	8	-5	5/16"	14.3	0.56	18.9	0.74	350	5,070	1,480	21,460	114	4.49	500	0.34	MF+M00910-05	
H01035010*	10	-6	3/8"	16.7	0.66	21.3	0.84	350	5,070	1,400	20,300	127	5.00	640	0.43	MF+M00910-06	
H01035012*	12	-8	1/2"	19.8	0.78	24.5	0.96	350	5,070	1,400	20,300	178	7.01	790	0.53	MF+M00910-08	
H01035016*	16	-10	5/8"	23.0	0.91	27.7	1.09	250	3,620	1,020	14,790	200	7.87	870	0.58	MF+M00910-10	
H01035019*	19	-12	3/4"	27.0	1.06	31.6	1.24	215	3,110	900	13,050	240	9.45	1,100	0.74	MF+M00920-12	
H01035025*	25	-16	1"	34.8	1.37	39.5	1.56	175	2,530	670	9,710	300	11.81	1,510	1.01	MF+M00930-16	
H01035032*	31	-20	1.1/4"	44.3	1.74	50.6	1.99	140	2,030	600	8,700	419	16.50	2,310	1.55	MF+M00920-20	
H01035040*	38	-24	1.1/2"	50.7	2.00	57.0	2.24	100	1,450	500	7,250	500	19.69	2,683	1.80	MF+M00910-24	
H01035051*	51	-32	2"	63.5	2.50	69.8	2.75	90	1,300	420	6,090	630	24.80	3,410	2.29	MF+M00910-32	

### KEY FEATURES

- High robustness of the cover for mining applications and tough handling
- Superior abrasion resistance
- High ozone and weather resistance
- Flame resistance to a wide range of specs.
- Antistatic and antitoxic cover
- Over standard pressure resistance

### APPLICATIONS & FLUIDS

- Hydraulics: medium-high pressure lines in severe environmental conditions, specific installations with tough abrasion conditions, marine applications, underground and open pit mining
- Mineral oils, vegetable and rape seed oils, glycol and polyglycol based oils, synthetic ester based oils, oils in aqueous emulsion, water

### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F

100 °C, 212 °F

### TUBE

Oil resistant synthetic rubber

### REINFORCEMENT

Two high tensile steel braids

### COVER

STRONG - TYPE "SD"

Synthetic rubber with high abrasion, ozone, weather and heat resistance

### APPLICABLE SPECS

Exceeds EN 853 2ST; SAE 100 R2A; ISO 1436 2ST/R2A

### TYPE APPROVALS

BV; CU-TR; LR; B; MSHA; FRAS; ABS; RINA



# ROCKMASTER/2 PLUS SUPER ANTI-WEAR

ABRASION, WEATHER & HEAT RESISTANCE



## TECHNICAL DATA

PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H01139006*	6	-4	1/4"	11.3	0.44	13.1	0.52	450	6,520	1,800	26,100	45	1.77	269	0.18	MF+M03400-04	
H01139010*	10	-6	3/8"	16.7	0.66	18.5	0.73	400	5,800	1,600	23,200	127	5.00	518	0.35	MF+M00910-06	OPK-06
H01139012*	12	-8	1/2"	20.1	0.79	22.1	0.87	362	5,250	1,450	21,030	150	5.91	683	0.46	MF+M00910-08	OPK-08
H01139016*	16	-10	5/8"	23.2	0.91	25.2	0.99	340	4,930	1,360	19,720	200	7.87	833	0.56	MF+M00910-10	OPK-10
H01139019*	19	-12	3/4"	27.1	1.07	29.3	1.15	310	4,490	1,240	17,980	230	9.06	1,034	0.69	MF+M00920-12	OPK-12
H01139025*	25	-16	1"	35.1	1.38	37.8	1.49	240	3,480	960	13,920	300	11.81	1,531	1.03	MF+M00930-16	OPK-16
H01139032*	31	-20	1.1/4"	44.5	1.75	47.2	1.86	175	2,530	700	10,150	380	14.96	2,055	1.38	MF+M00920-20	OPK-20
H01139038*	38	-24	1.1/2"	51.0	2.01	53.7	2.11	146	2,110	584	8,470	450	17.72	2,444	1.64	MF+M00910-24	
H01139051*	51	-32	2"	62.8	2.47	65.5	2.58	112	1,620	448	6,490	600	23.62	3,013	2.02	MF+M00910-32	
H01139076*	76	-48	3"	87.8	3.46	91.4	3.60	70	1,010	280	4,060	500	19.69	3,901	2.62	MF+M03400-48	

### KEY FEATURES

- Superior pressure rating
- Superior abrasion resistance
- High ozone and weather resistance
- Flame resistance to a wide range of specs.
- Antistatic and antitoxic cover
- Robustness thanks to skive fittings solution

### APPLICATIONS & FLUIDS

- Hydraulics: high pressure lines with installation constraints in severe environmental conditions, specific installations with tough abrasion conditions, marine applications, underground and open pit mining
- Mineral oils, vegetable and rape seed oils, glycol and polyglycol based oils, synthetic ester based oils, oils in aqueous emulsion, water

### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F  
100 °C, 212 °F

### TUBE

Oil resistant synthetic rubber

### REINFORCEMENT

Two high tensile steel braids

### COVER

R.O.C.  
Synthetic rubber with extreme abrasion and ozone resistance

### APPLICABLE SPECS

Manuli® Design exceeds ISO 1436-2SN; EN 853-2SN; SAE J517 Type 100R2AT. Performance BCS 174; ISO 6805 Type 4

### TYPE APPROVALS

MSHA; CU-TR

# ROCKMASTER/4SH

ABRASION, WEATHER & HEAT RESISTANCE



HOSES

52

## TECHNICAL DATA

PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H10044016*	16	-10	5/8"	25.5	1.00	28.5	1.12	450	6,520	1,850	26,830	180	7.09	1,290	0.87	IP+M01500-10	
H10044019*	19	-12	3/4"	28.2	1.11	31.9	1.26	420	6,090	1,750	25,380	210	8.27	1,500	1.01	IP+M01500-12	SP+M05400-12
H10044025*	25	-16	1"	35.1	1.38	38.1	1.50	385	5,580	1,750	25,380	220	8.66	2,040	1.37	IP+M01500-16	SP+M05400-16
H10044032*	31	-20	1.1/4"	42.2	1.66	45.0	1.77	350	5,070	1,400	20,300	420	16.54	2,410	1.62	IP+M01500-20	SP+M05400-20
H10044038*	38	-24	1.1/2"	49.1	1.93	53.1	2.09	300	4,350	1,250	18,120	560	22.05	3,170	2.13	IP+M01500-24	SP+M05400-24
H10044051*	51	-32	2"	63.5	2.50	67.5	2.66	250	3,620	1,000	14,500	700	27.56	4,460	3.00	IP+M01500-32	SP+M05400-32

### KEY FEATURES

- Validated for high fatigue resistance
- Superior abrasion resistance
- High ozone and weather resistance
- Flame resistance to a wide range of specs.
- Antistatic and antitoxic cover
- Upgraded temperature resistance
- BIO biological and mineral oils compatibility

### APPLICATIONS & FLUIDS

- Hydraulics: very high pressure power lines in severe environmental conditions, specific installations with tough abrasion conditions, marine applications, underground and open pit mining
- Mineral oils, vegetable oils and synthetic ester based oils (up to 100°C/212°F), glycols and polyglycols, mineral oils in aqueous emulsion, water

### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F

121 °C, 250 °F

### TUBE

Oil resistant synthetic rubber

### REINFORCEMENT

Four high tensile steel spirals

### COVER

STRONG - TYPE "SD"

Synthetic rubber with high abrasion, ozone, weather and heat resistance

### APPLICABLE SPECS

Exceeds EN 856 4SH; ISO 3862 4SH

### TYPE APPROVALS

ABS; DNV-GL; DNV-GL (MED); BV; FRAS; CU-TR; LR; MA; MSHA; B; RINA; NK; CCS; KRS

# ROCKMASTER/4SP

ABRASION, WEATHER & HEAT RESISTANCE



## TECHNICAL DATA

PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H10008006*	6	-4	1/4"	14.7	0.58	17.6	0.69	485	7,030	2,400	34,800	125	4.92	590	0.40	MF+M00910-04	
H10008010*	10	-6	3/8"	17.6	0.69	21.0	0.83	450	6,520	2,000	29,000	125	4.92	740	0.50	MF+M00910-06	
H10008012*	12	-8	1/2"	20.3	0.80	24.2	0.95	420	6,090	1,750	25,380	175	6.89	880	0.59	MF+M00910-08	
H10008016*	16	-10	5/8"	23.7	0.93	27.6	1.09	380	5,510	1,600	23,200	200	7.87	1,080	0.73	MF+M00910-10	
H10008019*	19	-12	3/4"	28.2	1.11	31.7	1.25	380	5,510	1,600	23,200	240	9.45	1,450	0.97	MF+M00920-12	SP+M05400-12
H10008025*	25	-16	1"	35.0	1.38	39.0	1.54	320	4,640	1,400	20,300	340	13.39	1,880	1.26	MF+M00930-16	SP+M05400-16
H10008032*	31	-20	1.1/4"	46.1	1.81	49.7	1.96	210	3,040	1,250	18,120	460	18.11	2,990	2.01	MF+M00920-20	SP+M05500-20
H10008038*	38	-24	1.1/2"	52.4	2.06	56.1	2.21	185	2,680	1,000	14,500	560	22.05	3,500	2.35	MF+M00910-24	SP+M05500-24
H10008051*	51	-32	2"	65.4	2.57	69.0	2.72	175	2,530	1,000	14,500	660	25.98	5,010	3.37	MF+M00910-32	SP+M05400-32

### KEY FEATURES

- Validated for high fatigue resistance
- Superior abrasion resistance
- High ozone and weather resistance
- Flame resistance to a wide range of specs.
- Antistatic and antitoxic cover
- Upgraded temperature resistance
- BIO biological and mineral oils compatibility

### APPLICATIONS & FLUIDS

- Hydraulics: very high pressure power lines in severe environmental conditions, specific installations with tough abrasion conditions, marine applications, underground and open pit mining
- Mineral oils, vegetable oils and synthetic ester based oils (up to 100°C/212°F), glycols and polyglycols, mineral oils in aqueous emulsion, water

### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F  
121 °C, 250 °F

### TUBE

Oil resistant synthetic rubber

### REINFORCEMENT

Four high tensile steel spirals

### COVER

STRONG - TYPE "SD"  
Synthetic rubber with high abrasion, ozone, weather and heat resistance

### APPLICABLE SPECS

Exceeds EN 856 4SP; ISO 3862 4SP; DN 16 & 19: thin cover style, exceeds EN 856 4SP and ISO 3862 4SP

### TYPE APPROVALS

ABS; DNV-GL; DNV-GL (MED); BV; FRAS; CU-TR; MA; MSHA; RINA; B; LR; NK; DB (EN 45545-2); CCS; KRS

# ROCKMASTER/12

ABRASION, WEATHER & HEAT RESISTANCE



HOSES

54

## TECHNICAL DATA

PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H10031010*	10	-6	3/8"	17.3	0.68	20.0	0.79	280	4,060	1,600	23,200	100	3.94	620	0.42	MF+M00910-06	OPK-06
H10031012*	12	-8	1/2"	20.4	0.80	23.5	0.93	280	4,060	1,350	19,580	125	4.92	760	0.51	MF+M00910-08	OPK-08
H10031016*	16	-10	5/8"	24.4	0.96	27.1	1.07	280	4,060	1,300	18,850	140	5.51	990	0.67	MF+M00910-10	OPK-10
H10031019*	19	-12	3/4"	27.4	1.08	30.4	1.20	280	4,060	1,300	18,850	150	5.91	1,160	0.78	MF+M00920-12	OPK-12
H10031025*	25	-16	1"	35.0	1.38	37.6	1.48	280	4,060	1,150	16,670	225	8.86	1,740	1.17	MF+M00930-16	OPK-16
H10031A32*	31	-20	1.1/4"	43.1	1.70	45.9	1.81	210	3,040	1,000	14,500	250	9.84	2,280	1.53	MF+M00920-20	OPK-20
H10031040*	38	-24	1.1/2"	50.0	1.97	53.3	2.10	175	2,530	1,000	14,500	500	19.69	3,130	2.10	MF+M00910-24	OPK-24
H10031051*	51	-32	2"	63.6	2.50	66.7	2.63	175	2,530	800	11,600	630	24.80	4,440	2.98	MF+M00910-32	OPK-32

### KEY FEATURES

- Validated for high fatigue resistance
- Superior abrasion resistance
- High ozone and weather resistance
- Flame resistance to a wide range of specs.
- Antistatic and antitoxic cover
- BIO biological and mineral oils compatibility

### APPLICATIONS & FLUIDS

- Hydraulics: high pressure power lines in severe environmental conditions, specific installations with tough abrasion conditions, marine applications, underground and open pit mining
- Mineral oils, vegetable oils and synthetic ester based oils (up to 100°C/212°F), glycols and polyglycols, mineral oils in aqueous emulsion, water

### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F

121 °C, 250 °F

### TUBE

Oil resistant synthetic rubber

### REINFORCEMENT

Four high tensile steel spirals

### COVER

STRONG - TYPE "SD"

Synthetic rubber with high abrasion, ozone, weather and heat resistance

### APPLICABLE SPECS

Exceeds EN 856 R12; SAE 100 R12; ISO 3862 R12

### TYPE APPROVALS

ABS; BV; FRAS; CU-TR; LR; MA; MSHA; NK; DNV-GL(MED)

# ROCKMASTER/13

ABRASION, WEATHER & HEAT RESISTANCE



## TECHNICAL DATA

PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H10035A06*	6	-4	1/4"	14.6	0.57	17.6	0.69	690	10,000	3,250	47,130	120	4.72	660	0.44		
H10035A10*	10	-6	3/8"	17.4	0.69	20.4	0.80	690	10,000	2,900	42,060	150	5.91	830	0.56		
H10035A12*	12	-8	1/2"	21.5	0.85	24.5	0.96	620	8,990	2,500	36,250	200	7.87	1,140	0.77		
H10035019*	19	-12	3/4"	29.0	1.14	31.8	1.25	350	5,070	1,950	28,280	240	9.45	1,630	1.10	IP+M01500-12	SP+M05400-12
H10035025*	25	-16	1"	36.0	1.42	39.2	1.54	350	5,070	1,650	23,930	300	11.81	2,190	1.47	IP+M01500-16	SP+M05400-16
H10035032*	31	-20	1.1/4"	47.0	1.85	50.0	1.97	350	5,070	1,500	21,750	420	16.54	3,600	2.42	IP+M01600-20	SP+M05500-20
H10035040*	38	-24	1.1/2"	54.6	2.15	57.5	2.26	350	5,070	1,600	23,200	500	19.69	4,700	3.16	IP+M01600-24	SP+M05500-24
H10035051*	51	-32	2"	68.4	2.69	72.0	2.83	350	5,070	1,500	21,750	630	24.80	6,800	4.57	IP+M01800-32	SP+M05500-32

### KEY FEATURES

- Validated for high fatigue resistance
- Superior abrasion resistance
- High ozone and weather resistance
- Flame resistance to a wide range of specs.
- Antistatic and antitoxic cover
- BIO biological and mineral oils compatibility

### APPLICATIONS & FLUIDS

- Hydraulics: heavy duty power lines, hydrostatic transmissions, severe environmental conditions, specific installations with tough abrasion conditions, marine applications, underground and open pit mining
- Mineral oils, vegetable oils and synthetic ester based oils (up to 100°C/212°F), glycols and polyglycols, mineral oils in aqueous emulsion, water

### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F

121 °C, 250 °F

### TUBE

Oil resistant synthetic rubber

### REINFORCEMENT

Four high tensile steel spirals (DN 6-25). Six high tensile steel spirals (DN 31-51)

### COVER

STRONG - TYPE "SD"

Synthetic rubber with high abrasion, ozone, weather and heat resistance

### APPLICABLE SPECS

Exceeds EN 856 R13; SAE 100 R13; ISO 3862 R13

### TYPE APPROVALS

ABS; BV; DNV-GL; FRAS; LR; CU-TR; MA; MSHA; RINA; B; CCS; DNV-GL(MED)

# ROCKMASTER/15

ABRASION, WEATHER & HEAT RESISTANCE



HOSES

56

## TECHNICAL DATA

PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H10049019*	19	-12	3/4"	28.2	1.11	31.0	1.22	420	6,090	1,750	25,380	265	10.43	1,440	0.97	IP+M01500-12	SP+M05400-12
H10049025*	25	-16	1"	35.1	1.38	38.1	1.50	420	6,090	1,750	25,380	267	10.51	2,040	1.37	IP+M01500-16	SP+M05400-16
H10049A32*	31	-20	1.1/4"	46.3	1.82	49.5	1.95	420	6,090	1,680	24,360	267	10.51	3,660	2.46	IP+M01600-20	SP+M05500-20
H10049040*	38	-24	1.1/2"	54.6	2.15	57.5	2.26	420	6,090	1,680	24,360	315	12.40	4,700	3.16	IP+M01600-24	SP+M05500-24

### KEY FEATURES

- Validated for high fatigue resistance
- Superior abrasion resistance
- High ozone and weather resistance
- Flame resistance to a wide range of specs.
- Antistatic and antitoxic cover
- BIO biological and mineral oils compatibility

### APPLICATIONS & FLUIDS

- Hydraulics: heavy duty power lines, hydrostatic transmissions, in severe environmental conditions, specific installations with tough abrasion conditions, marine applications, underground and open pit mining
- Mineral oils, vegetable oils and synthetic ester based oils (up to 100°C/212°F), glycols and polyglycols, mineral oils in aqueous emulsion, water

### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F

121 °C, 250 °F

### TUBE

Oil resistant synthetic rubber

### REINFORCEMENT

Four high tensile steel spirals (DN 19 - 25). Six high tensile steel spirals (DN 31 - 38)

### COVER

STRONG - TYPE "SD"

Synthetic rubber with high abrasion, ozone, weather and heat resistance

### APPLICABLE SPECS

Exceeds SAE 100 R15; ISO 3862 R15

### TYPE APPROVALS

ABS; BV; DNV-GL; FRAS; CU-TR; LR; MA; MSHA; B; CCS; RINA; DNV-GL(MED)

# EQUATOR/1 (BLACK)

EXTREME HIGH TEMPERATURE - BLACK VERSION



HOSES 57

TECHNICAL DATA																	
PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H01058006*	6	-4	1/4"	11.0	0.43	13.4	0.53	225	3,260	1,000	14,500	100	3.94	240	0.16	MF+M00120-04	OPF-04
H01058008*	8	-5	5/16"	12.6	0.50	15.0	0.59	215	3,110	900	13,050	114	4.49	280	0.19	MF+M00120-05	
H01058010*	10	-6	3/8"	15.0	0.59	17.3	0.68	180	2,610	800	11,600	127	5.00	335	0.23	MF+M00120-06	
H01058012*	12	-8	1/2"	18.1	0.71	20.5	0.81	160	2,320	680	9,860	178	7.01	430	0.29	MF+M00120-08	
H01058016*	16	-10	5/8"	21.3	0.84	23.5	0.93	130	1,880	600	8,700	200	7.87	500	0.34	MF+M00120-10	
H01058019*	19	-12	3/4"	25.2	0.99	27.7	1.09	105	1,520	500	7,250	240	9.45	640	0.43	MF+M00120-12	
H01058025*	25	-16	1"	33.1	1.30	35.8	1.41	88	1,270	360	5,220	300	11.81	970	0.65	MF+M00130-16	
H01058031*	31	-20	1.1/4"	40.6	1.60	43.5	1.71	65	940	345	5,000	420	16.54	1,300	0.87	MF+M00110-20	OPK-20
H01058038*	38	-24	1.1/2"	46.9	1.85	50.0	1.97	50	720	290	4,200	500	19.69	1,540	1.03	MF+M00110-24	OPK-24
H01058051*	51	-32	2"	60.4	2.38	63.1	2.48	40	580	250	3,620	630	24.80	2,100	1.41	MF+M00110-32	OPK-32
H01058063*	63	-40	2.1/2"	72.0	2.83	74.6	2.94	35	500	140	2,030	600	23.62	2,400	1.61	MF+M03400-40	

## KEY FEATURES

- Wide range temperature resistance
- EN/DIN and new SAE pressure rating
- Outstanding ozone resistance
- Superior weather and UV resistance
- High aging resistance

## APPLICATIONS & FLUIDS

- Hydraulics: low-medium pressure lines in extreme temperature conditions (foundries, compressors, hydraulics within engine compartments, etc.)
- Mineral oils, glycols and polyglycols, transmission fluids, air with oil vapours, mineral oils in aqueous emulsion (up to 212°F/100°C)

## CONTINUOUS SERVICE TEMPERATURE RANGE

-55 °C, -67 °F  
135 °C, 275 °F

## MAX. OPERATING TEMPERATURE

150 °C, 300 °F

## TUBE

Oil resistant synthetic rubber

## REINFORCEMENT

One high tensile steel braid

## COVER

STANDARD - TYPE "XT"  
Synthetic rubber with high ozone, weather and heat resistance

## APPLICABLE SPECS

Exceeds EN 853 1SN; SAE 100 R1AT; ISO 1436 1SN/R1AT

## TYPE APPROVALS

ABS; DNV-GL; CU-TR; LR; MSHA; DNV-GL(MED)

## REMARKS



- Compressed air applications require cover pin-pricking and additional safety devices. High pressure compressed air applications must be carefully analysed to verify the suitability of the hose, contact Manuli Hydraulics Help Desk for technical guidelines.
- Equator hose is not suitable for high temperature water applications
- Equator hoses are not designed and not approved for "air brake" applications on railway and/or mobile equipment



# EQUATOR/1 (BLUE)

EXTREME HIGH TEMPERATURE - BLACK VERSION



HOSES 58

TECHNICAL DATA																	
PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H01059006*	6	-4	1/4"	11.0	0.43	13.4	0.53	225	3,260	1,000	14,500	100	3.94	240	0.16	MF+M00120-04	OPF-04
H01059008*	8	-5	5/16"	12.6	0.50	15.0	0.59	215	3,110	900	13,050	114	4.49	285	0.19	MF+M00120-05	
H01059010*	10	-6	3/8"	15.0	0.59	17.3	0.68	180	2,610	800	11,600	127	5.00	340	0.23	MF+M00120-06	
H01059012*	12	-8	1/2"	18.1	0.71	20.5	0.81	160	2,320	680	9,860	178	7.01	435	0.29	MF+M00120-08	
H01059016*	16	-10	5/8"	21.3	0.84	23.5	0.93	130	1,880	600	8,700	200	7.87	510	0.34	MF+M00120-10	
H01059019*	19	-12	3/4"	25.2	0.99	27.7	1.09	105	1,520	500	7,250	240	9.45	640	0.43	MF+M00120-12	
H01059025*	25	-16	1"	33.1	1.30	35.8	1.41	88	1,270	360	5,220	300	11.81	980	0.66	MF+M00130-16	
H01059032*	31	-20	1.1/4"	40.6	1.60	43.5	1.71	65	940	345	5,000	420	16.54	1,300	0.87	MF+M00110-20	OPK-20
H01059038*	38	-24	1.1/2"	46.9	1.85	50.0	1.97	50	720	290	4,200	500	19.69	1,540	1.03	MF+M00110-24	OPK-24
H01059051*	51	-32	2"	60.4	2.38	63.1	2.48	40	580	250	3,620	630	24.80	2,100	1.41	MF+M00110-32	OPK-32
H01059063*	63	-40	2.1/2"	72.0	2.83	74.6	2.94	35	500	140	2,030	600	23.62	2,400	1.61	MF+M03400-40	

## KEY FEATURES

- Wide range temperature resistance
- EN/DIN and new SAE pressure rating
- Outstanding ozone resistance
- Superior weather and UV resistance
- High aging resistance

## APPLICATIONS & FLUIDS

- Hydraulics: low-medium pressure lines in extreme temperature conditions (foundries, compressors, hydraulics within engine compartments, etc.)
- Mineral oils, glycols and polyglycols, transmission fluids, air with oil vapours, mineral oils in aqueous emulsion (up to 212°F/100°C)

## CONTINUOUS SERVICE TEMPERATURE RANGE

-55 °C, -67 °F

135 °C, 275 °F

## MAX. OPERATING TEMPERATURE

150 °C, 300 °F

## TUBE

Oil resistant synthetic rubber

## REINFORCEMENT

One high tensile steel braid

## COVER

STANDARD - TYPE "XT"

Synthetic rubber with high ozone, weather and heat resistance

## APPLICABLE SPECS

Exceeds EN 853 1SN; SAE 100 R1AT; ISO 1436 1SN/R1AT

## TYPE APPROVALS

ABS; BV; DNV-GL(MED); DNV-GL; CU-TR; LR; MSHA

## REMARKS



- Compressed air applications require cover pin-pricking and additional safety devices. High pressure compressed air applications must be carefully analysed to verify the suitability of the hose, contact Manuli Hydraulics Help Desk for technical guidelines.
- Equator hose is not suitable for high temperature water applications
- Equator hoses are not designed and not approved for "air brake" applications on railway and/or mobile equipment

# EQUATOR/2 (BLACK)

EXTREME HIGH TEMPERATURE - BLACK VERSION



HOSES 59

TECHNICAL DATA																	
PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H01060006*	6	-4	1/4"	12.7	0.50	14.9	0.59	400	5,800	1,725	25,010	100	3.94	390	0.26	MF+M00910-04	OPF-04
H01060008*	8	-5	5/16"	14.3	0.56	16.5	0.65	350	5,070	1,480	21,460	114	4.49	435	0.29	MF+M00910-05	
H01060010*	10	-6	3/8"	16.7	0.66	19.0	0.75	330	4,780	1,400	20,300	127	5.00	530	0.36	MF+M00910-06	
H01060012*	12	-8	1/2"	19.8	0.78	22.0	0.87	275	3,980	1,200	17,400	178	7.01	640	0.43	MF+M00910-08	
H01060016*	16	-10	5/8"	23.0	0.91	25.2	0.99	250	3,620	1,020	14,790	200	7.87	760	0.51	MF+M00910-10	
H01060019*	19	-12	3/4"	27.0	1.06	29.0	1.14	215	3,110	900	13,050	240	9.45	940	0.63	MF+M00920-12	
H01060025*	25	-16	1"	34.8	1.37	37.0	1.46	175	2,530	700	10,150	300	11.81	1,350	0.91	MF+M00930-16	
H01060031*	31	-20	1.1/4"	44.3	1.74	47.0	1.85	150	2,170	600	8,700	420	16.54	2,010	1.35	MF+M00920-20	
H01060038*	38	-24	1.1/2"	50.7	2.00	53.4	2.10	100	1,450	410	5,940	500	19.69	2,250	1.51	MF+M00910-24	OPK-24
H01060051*	51	-32	2"	63.5	2.50	66.2	2.61	90	1,300	370	5,360	630	24.80	3,080	2.07	MF+M00910-32	OPK-32

## KEY FEATURES

- Wide range temperature resistance
- EN/DIN and new SAE pressure rating
- Outstanding ozone resistance
- Superior weather and UV resistance
- High aging resistance

## APPLICATIONS & FLUIDS

- Hydraulics: medium-high pressure lines in extreme temperature conditions (foundries, compressors, hydraulics within engine compartments, etc.)
- Mineral oils, glycols and polyglycols, transmission fluids, air with oil vapours, mineral oils in aqueous emulsion (up to 212°F/100°C)

## CONTINUOUS SERVICE TEMPERATURE RANGE

-55 °C, -67 °F  
135 °C, 275 °F

## MAX. OPERATING TEMPERATURE

150 °C, 300 °F

## TUBE

Oil resistant synthetic rubber

## REINFORCEMENT

Two high tensile steel braids

## COVER

STANDARD - TYPE "XT"  
Synthetic rubber with high ozone, weather and heat resistance

## APPLICABLE SPECS

Exceeds EN 853 2SN; SAE 100 R2AT; ISO 1436 2SN/R2AT

## TYPE APPROVALS

ABS; DNV-GL; CU-TR; LR; MSHA; DNV-GL(MED)

## REMARKS



- Compressed air applications require cover pin-pricking and additional safety devices. High pressure compressed air applications must be carefully analysed to verify the suitability of the hose, contact Manuli Hydraulics Help Desk for technical guidelines.
- Equator hose is not suitable for high temperature water applications
- Equator hoses are not designed and not approved for "air brake" applications on railway and/or mobile equipment

# EQUATOR/2 (BLUE)

EXTREME HIGH TEMPERATURE - BLUE VERSION



HOSES

60

## TECHNICAL DATA

PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H01061006*	6	-4	1/4"	12.7	0.50	14.9	0.59	400	5,800	1,725	25,010	100	3.94	395	0.27	MF+M00910-04	OPF-04
H01061008*	8	-5	5/16"	14.3	0.56	16.5	0.65	350	5,070	1,480	21,460	114	4.49	435	0.29	MF+M00910-05	
H01061010*	10	-6	3/8"	16.7	0.66	19.0	0.75	330	4,780	1,400	20,300	127	5.00	530	0.36	MF+M00910-06	
H01061012*	12	-8	1/2"	19.8	0.78	22.0	0.87	275	3,980	1,200	17,400	178	7.01	640	0.43	MF+M00910-08	
H01061016*	16	-10	5/8"	23.0	0.91	25.2	0.99	250	3,620	1,020	14,790	200	7.87	760	0.51	MF+M00910-10	
H01061019*	19	-12	3/4"	27.0	1.06	29.0	1.14	215	3,110	900	13,050	240	9.45	940	0.63	MF+M00920-12	
H01061025*	25	-16	1"	34.8	1.37	37.0	1.46	175	2,530	700	10,150	300	11.81	1,350	0.91	MF+M00930-16	
H01061032*	31	-20	1.1/4"	44.3	1.74	47.0	1.85	150	2,170	600	8,700	420	16.54	2,010	1.35	MF+M00920-20	
H01061040*	38	-24	1.1/2"	50.7	2.00	53.4	2.10	100	1,450	410	5,940	500	19.69	2,250	1.51	MF+M00910-24	OPK-24
H01061051*	51	-32	2"	63.5	2.50	66.2	2.61	90	1,300	370	5,360	630	24.80	3,080	2.07	MF+M00910-32	OPK-32

### KEY FEATURES

- Wide range temperature resistance
- EN/DIN and new SAE pressure rating
- Outstanding ozone resistance
- Superior weather and UV resistance
- High aging resistance

### APPLICATIONS & FLUIDS

- Hydraulics: medium-high pressure lines in extreme temperature conditions (foundries, compressors, hydraulics within engine compartments, etc.)
- Mineral oils, glycols and polyglycols, transmission fluids, air with oil vapours, mineral oils in aqueous emulsion (up to 212°F/100°C)

### CONTINUOUS SERVICE TEMPERATURE RANGE

-55 °C, -67 °F

135 °C, 275 °F

### MAX. OPERATING TEMPERATURE

150 °C, 300 °F

### TUBE

Oil resistant synthetic rubber

### REINFORCEMENT

Two high tensile steel braids

### COVER

STANDARD - TYPE "XT"

Synthetic rubber with high ozone, weather and heat resistance

### APPLICABLE SPECS

Exceeds EN 853 2SN; SAE 100 R2AT; ISO 1436 2SN/R2AT

### TYPE APPROVALS

ABS; BV; DNV-GL(MED); DNV-GL; CU-TR; LR; MSHA; DIN 5510-2

### REMARKS



- Compressed air applications require cover pin-pricking and additional safety devices. High pressure compressed air applications must be carefully analysed to verify the suitability of the hose, contact Manuli Hydraulics Help Desk for technical guidelines.
- Equator hose is not suitable for high temperature water applications
- Equator hoses are not designed and not approved for "air brake" applications on railway and/or mobile equipment

# INFINITY

LONG SERVICE LIFE & HIGH RELIABILITY



## TECHNICAL DATA

PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H01164006	6	-04	1/4"	11.3	0.44	13.1	0.52	450	6,520	1,800	26,100	45	1.77	275	0.18	MF+M00120-04	OPF-04
H01164008	8	-05	5/16"	12.9	0.51	14.7	0.58	400	5,800	1,600	23,200	55	2.17	325	0.22	MF+M00120-05	OPF-05
H01164010	10	-06	3/8"	15.0	0.59	16.8	0.66	400	5,800	1,600	23,200	65	2.56	390	0.26	MF+M00120-06	OPK-06
H01164012	12	-08	1/2"	18.6	0.73	20.4	0.80	360	5,220	1,440	20,880	80	3.15	560	0.38	MF+M00120-08	OPK-08
H01164016	16	-10	5/8"	22.7	0.89	24.7	0.97	320	4,640	1,280	18,560	90	3.54	730	0.49	MF+M00120-10	OPK-10
H01164019	19	-12	3/4"	27.1	1.07	29.3	1.15	320	4,640	1,280	18,560	120	4.72	1,070	0.72	MF+M00120-12	OPK-12
H01164025	25	-16	1"	33.7	1.33	35.9	1.41	225	3,263	900	13,050	160	6.30	1,340	0.90	MF+M00130-16	OPK-16

### KEY FEATURES

- The Hi-Performance solution for toughest OEM specifications
- Performance far exceeds EN 857-2SC
- Extended service life and resistance to fatigue
- High temperature and environmental resistance
- Enhanced flex impulse resistance with M00120 skive ferrule
- Wide chemical compatibility with hydraulic fluids

### APPLICATIONS & FLUIDS

- Hydraulics: high pressure lines with installation constraints in severe OEM applications
- Mineral oils, vegetable oils and synthetic ester based oils (up to 100°C/212°F), glycols and polyglycols, mineral oils in aqueous emulsion, water

### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F  
121 °C, 250 °F

### TUBE

Oil resistant synthetic rubber

### REINFORCEMENT

Two high tensile steel braids

### COVER

STRONG - TYPE "SC"  
Synthetic rubber with high abrasion, ozone, weather and heat resistance and an extended operational temperature range

### APPLICABLE SPECS

Exceed EN 857 2SC, SAE 100R16, ISO 11237-2SC

### TYPE APPROVALS

MSHA; CU-TR; FRAS; B

# DIAMONDSPIR

VERY HIGH PRESSURE



HOSES 62

TECHNICAL DATA																	
PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H10018019*	19	-12	3/4"	29.1	1.15	32.1	1.26	560	8,120	2,240	32,480	280	11.02	1,660	1.12	IP+M01850-12	
H10018025*	25	-16	1"	38.2	1.50	41.2	1.62	560	8,120	2,240	32,480	350	13.78	2,910	1.96	IP+M01850-16	
H10018032*	31	-20	1.1/4"	47.7	1.88	50.9	2.00	525	7,610	2,100	30,450	420	16.54	4,210	2.83	IP+M01850-20	
H10018038*	38	-24	1.1/2"	55.2	2.17	58.7	2.31	475	6,880	1,900	27,550	500	19.69	5,230	3.51	IS+M02700-24	
H10018051*	51	-32	2"	68.4	2.69	71.9	2.83	420	6,090	1,680	24,360	600	23.62	6,680	4.49	IS+M02700-32	

## KEY FEATURES

- Very high pressure resistance
- Validated for high fatigue resistance
- Superior abrasion resistance
- High ozone and weather resistance
- Flame resistance to a wide range of specs.
- Antistatic and antitoxic cover
- BIO Biological and mineral oils compatibility

## APPLICATIONS & FLUIDS

- Hydraulics: heavy duty power lines, hydrostatic transmissions, in severe environmental conditions, specific installations with tough abrasion conditions, off-shore applications, underground and open pit mining
- Mineral oils, vegetable oils and synthetic ester based oils (up to 100°C/212°F), glycols and polyglycols, mineral oils in aqueous emulsion, water

## CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F

121 °C, 250 °F

## TUBE

Oil resistant synthetic rubber

## REINFORCEMENT

Six high tensile steel spirals (DN 25-76). Four high tensile steel spirals (DN 19)

## COVER

STRONG - TYPE "SD"

Synthetic rubber with high abrasion, ozone, weather and heat resistance

## APPLICABLE SPECS

Manuli® Design exceeds ISO 3862 R15

## TYPE APPROVALS

ABS; FRAS; CU-TR; MSHA; MA

# SYNERGY

## HIGH PRESSURE HYDRAULICS



### TECHNICAL DATA

PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H10137006*	6	-4	1/4"	14,0	0,55	16,6	0,65	450	6525	1800	26100	100	3,94	474	0,32	MF+M00910-04	
H10137010*	10	-6	3/8"	16,2	0,64	18,2	0,72	450	6525	1800	26100	125	4,92	530	0,36	MF+M03500-06	MF+M00910-06
H10137012*	12	-8	1/2"	20,2	0,80	23,8	0,94	420	6090	1680	24360	160	6,30	880	0,59	MF+M03500-08	MF+M00910-08
H10137019*	19	-12	3/4"	28,2	1,11	31,3	1,23	365	5292,5	1460	21170	240	9,45	1340	0,90	SP+M05400-12	MF+M00920-12GX
H10137025*	25	-16	1"	35,2	1,39	37,8	1,49	300	4350	1200	17400	340	13,39	1800	1,21	SP+M05400-16	MF+M00930-16
H10137031*	31	-20	1-1/4"	43,2	1,70	46,2	1,82	210	3045	840	12180	460	18,11	2300	1,54	SP+M05400-20	MF+M00920-20

### KEY FEATURES

- Long life resistance in severe hydraulic applications
- High abrasion resistance
- High ozone and weather resistance
- Flame retardant and antistatic cover
- High flexibility and durability
- Low bend radii
- Compact dimensions

### APPLICATIONS & FLUIDS

- Hydraulics: very high pressure hydraulic lines in severe environmental conditions, specific installations with tough abrasion conditions, marine applications, underground and open pit mining;
- Mineral oils, vegetable oils and synthetic ester based oils, glycols and polyglycols, mineral oils in aqueous emulsion, water.

### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F  
121 °C, 250 °F

### TUBE

Oil resistant synthetic rubber

### REINFORCEMENT

1 wire braid and 2 wire spirals, high tensile steel

### COVER

STRONG - TYPE "SC"  
Synthetic rubber with high abrasion, ozone, weather and heat resistance and an extended operational temperature range

### APPLICABLE SPECS

Manuli® Design, exceeds 4SP performance

### TYPE APPROVALS

MSHA

# XTRAFLOW/2WB

HIGH FLOW RATES, LOW PRESSURE DROPS



HOSES

64

## TECHNICAL DATA

PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H01129063*	63	-40	2.1/2"	75.8	2.98	78.5	3.09	105	1,520	420	6,090	510	20.08	3,531	2.37	SP+M05400-40	
H01129076*	76	-48	3"	89.0	3.50	93.6	3.69	80	1,160	320	4,640	510	20.08	4,976	3.34	SP+M05400-48	
H01129089*	89	-56	3.1/2"	102.2	4.02	107.4	4.23	35	500	140	2,030	710	27.95	5,530	3.72	SP+M05400-56	

### KEY FEATURES

- Low pressure drops even with high flow rates
- Superior abrasion resistance
- High ozone and weather resistance
- Flame resistance and electrical antistatic properties of the cover
- High working pressure associated to high flow rates
- Vacuum resistance with SAE 100 R4 performance

### APPLICATIONS & FLUIDS

- Medium-Low pressure hydraulic lines with high flow rates, specific installations with severe abrasion conditions, marine applications, underground and open pit mining, return and suction lines
- Mineral oils, vegetable and rape seed oils, glycol and polyglycol based oils, synthetic ester based oils, oils in aqueous emulsion, water

### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F

100 °C, 212 °F

### TUBE

Oil resistant synthetic rubber

### REINFORCEMENT

Two high tensile steel wire braids

### COVER

S.H.A.R.C.  
Synthetic rubber with very high abrasion, ozone and weather resistance

### APPLICABLE SPECS

Extension EN 857-2SC, ISO 11237-2SC

### TYPE APPROVALS

CU-TR; MSHA; ABS; DNV-GL; FRAS; MA



# XTRAFLOW/4WS

HIGH FLOW RATES, OUTSTANDING ABRASION RESISTANCE



## TECHNICAL DATA

PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H10091063*	63	-40	2.1/2"	77.5	3.05	81.5	3.21	140	2,030	700	10,150	700	27.56	5,890	3.96	SP+M05400-40	
H10091076*	76	-48	3"	87.8	3.46	92.2	3.63	105	1,520	525	7,610	700	27.56	5,367	3.61	SP+M05400-48	
H10091089*	89	-56	3.1/2"	103.7	4.08	108.7	4.28	80	1,160	400	5,800	800	31.50	8,187	5.50	SP+M05400-56	
H10091102*	102	-64	4"	120.0	4.72	126.0	4.96	35	500	140	2,030	900	35.43	10,210	6.86	SP+M05400-64	

### KEY FEATURES

- Low pressure drops even with high flow rates
- Extreme abrasion resistance
- High ozone and weather resistance
- Flame retardant and antistatic cover
- Superior pressure rating
- Structure robustness for tough handling

### APPLICATIONS & FLUIDS

- General hydraulics with high flow rates, mine hydraulic return lines, long wall water lines
- Mineral oils, vegetable oils and synthetic ester based oils, glycols and polyglycols, mineral oils in aqueous emulsion, water

### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F  
100 °C, 212 °F

### TUBE

Oil resistant synthetic rubber

### REINFORCEMENT

Four high tensile steel wire spirals

### COVER

S.H.A.R.C.  
Synthetic rubber with very high abrasion, ozone and weather resistance

### APPLICABLE SPECS

Manuli® Design

### TYPE APPROVALS

CU-TR; MSHA; ABS; DNV-GL

# XTRAFLOW/HT

HIGH TEMPERATURE SUCTION & RETURN LINES



HOSES

66

## TECHNICAL DATA

PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H01128063*	63	-40	2.1/2"	75.8	2.98	78.5	3.09	35	500	140	2,030	254	10.00	3,589	2.41	MF+M03400-40	
H01128076*	76	-48	3"	87.8	3.46	90.5	3.56	35	500	140	2,030	355	13.98	3,291	2.21	MF+M03400-48	
H01128089*	89	-56	3.1/2"	102.2	4.02	106.0	4.17	35	500	140	2,030	475	18.70	5,708	3.84	MF+M03400-56	

### KEY FEATURES

- Vacuum resistance exceeding SAE 100R4 performance
- Extreme high temperature and heat aging resistance
- High flow rates
- Reduced bend radii compared to SAE 100R4

### APPLICATIONS & FLUIDS

- Suction and return lines in hydraulic systems with high temperature fluids, low pressure hydraulic systems in mining equipment.
- Mineral oils, glycols and polyglycols, transmission fluids, mineral oils in aqueous emulsion (up to 212°F 100°C), air with oil vapours.

### CONTINUOUS SERVICE TEMPERATURE RANGE

-55 °C, -67 °F

135 °C, 275 °F

### TUBE

Oil resistant synthetic rubber

### REINFORCEMENT

Two wire braids of high tensile steel wire

### COVER

STANDARD - TYPE "XT"

Synthetic rubber with high ozone, weather and heat resistance

### APPLICABLE SPECS

Manuli® Design

### TYPE APPROVALS

CU-TR; MSHA; ABS; DNV-GL

# XTRAFLOW/HTEX

## HIGH TEMPERATURE SUCTION & RETURN LINES



TECHNICAL DATA																	
PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H01161063*	63	-40	2.1/2"	73.3	2.89	76.7	3.02	35	500	140	2,030	400	15.75	2,502	1.68	MF+M03400-40	

### KEY FEATURES

- Vacuum resistance exceeding SAE 100R4 performance
- Extreme high temperature and heat aging resistance
- High flow rates
- Reduced bend radii compared to SAE 100R4
- Easier heat dissipation

### APPLICATIONS & FLUIDS

- Suction and return lines in hydraulic systems with high temperature fluids, low pressure hydraulic systems in mining equipment.
- Mineral oils, glycols and polyglycols, transmission fluids, mineral oils in aqueous emulsion (up to 212°F 100°C), air with oil vapours.

### CONTINUOUS SERVICE TEMPERATURE RANGE

-55 °C, -67 °F  
135 °C, 275 °F

### TUBE

Oil resistant synthetic rubber

### REINFORCEMENT

One wire braid of high tensile steel wire

### COVER

Black textile braid with high ozone, weather and heat resistance

### APPLICABLE SPECS

Manuli® Design

# SPIRTEX/HT

HIGH PERFORMANCE R4 SUCTION AND DELIVERY HOSE



HOSES

68

## TECHNICAL DATA

PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H80003019*	19	-12	3/4"	-	-	28.5	1.12	25	360	100	1,450	80	3.15	530	0.36	MF+M00321-12	
H80003025*	25	-16	1"	-	-	35.0	1.38	25	360	100	1,450	100	3.94	672	0.45	MF+M00930-16	
H80003031*	31	-20	1.1/4"	-	-	42.0	1.65	17	250	70	1,010	130	5.12	836	0.56	MF+M00920-20	
H80003038*	38	-24	1.1/2"	-	-	48.5	1.91	17	250	70	1,010	170	6.69	1,098	0.74	MF+M00910-24	
H80003051*	51	-32	2"	-	-	61.5	2.42	10	150	42	600	200	7.87	1,408	0.95	MF+M00910-32	
H80003063*	63	-40	2.1/2"	-	-	75.0	2.95	10	150	42	600	235	9.25	2,250	1.51	MF+M03400-40	
H80003076*	76	-48	3"	-	-	87.5	3.44	7	100	28	400	300	11.81	2,703	1.82	MF+M03400-48	
H80003089*	89	-56	3.1/2"	-	-	103.0	4.06	5	70	21	300	350	13.78	3,683	2.47	MF+M03400-56	
H80003102*	102	-64	4"	-	-	114.5	4.51	5	70	21	300	400	15.75	3,937	2.65	MF+M03400-64	

### KEY FEATURES

- Hardwall hose used for the suction and delivery of hydraulic oils
- Improved minimum bend radius
- Higher working pressure than SAE J517 100R4 spec.
- Long lasting in severe applications
- Resistance to Vacuum
- Special rubber compounds for high aging resistance
- Max. length: 60m

### APPLICATIONS & FLUIDS

- Hydraulics: suction lines, return lines
- Mineral oils, vegetable and rape seed oils, glycol and polyglycol based oils, synthetic ester based oils, oils in aqueous emulsion, water

### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F

135 °C, 275 °F

### TUBE

Special synthetic rubber

### REINFORCEMENT

High tensile synthetic cord, helix body wire

### COVER

Weather and ozone resistant synthetic rubber, flame retardant with high heat resistance

### APPLICABLE SPECS

SAE J517 100 R4, Manuli® Design; two-thirds the SAE J517 100R4 minimum bend radius

### TYPE APPROVALS

CU-TR

# PUSHFIT

## PUSH-ON HOSE



### TECHNICAL DATA

PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H09066006*	6	-4	1/4"	0.0	0.00	12.7	0.50	35	500	140	2,030	76	2.99	130	0.09	PL-04	
H09066008*	8	-5	5/16"	0.0	0.00	14.3	0.56	35	500	140	2,030	76	2.99	155	0.10	PL-05	
H09066010*	10	-6	3/8"	0.0	0.00	15.8	0.62	35	500	140	2,030	76	2.99	175	0.12	PL-06	
H09066012*	12	-8	1/2"	0.0	0.00	19.6	0.77	25	360	100	1,450	127	5.00	235	0.16	PL-08	
H09066016*	16	-10	5/8"	0.0	0.00	23.6	0.93	25	360	100	1,450	150	5.91	320	0.22	PL-10	
H09066019*	19	-12	3/4"	0.0	0.00	26.2	1.03	21	300	84	1,210	180	7.09	340	0.23	PL-12	
H09066025*	25	-16	1"	0.0	0.00	33.0	1.30	14	200	56	810	240	9.45	455	0.31	PL-16	

### KEY FEATURES

- Push-On hose with MF2000® Push-Lock insert Type without ferrule
- High aging resistance
- Robust assemblies (clamps recommended in long lasting mission profiles applications)
- High flexibility and easy routing

### APPLICATIONS & FLUIDS

- Push-on hose for low pressure lines, return lines, drain lines. Used in various industrial applications, stationary and mobile equipment
- Mineral oils, vegetable and rape seed oils, glycol and polyglycol based oils, synthetic ester based oils, oils in aqueous emulsion, water

### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F  
100 °C, 212 °F

### TUBE

Oil resistant synthetic rubber

### REINFORCEMENT

One textile braid

### COVER

Weather resistant synthetic rubber

### APPLICABLE SPECS

Manuli® Design

### TYPE APPROVALS

CU-TR



**GLOBAL STD. ● HI-GRADE ● PREMIUM**

# FOREMASTER/21

OUTSTANDING ABRASION RESISTANCE



## TECHNICAL DATA

PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H01166A06*	6	-4	1/4"	10.2	0.40	12.0	0.47	210	3,040	840	12,180	50	1.97	177	0.12	MF+M00120-04	OPF-04
H01166A08*	8	-5	5/16"	11.5	0.45	13.6	0.54	210	3,040	840	12,180	55	2.17	207	0.14	MF+M00120-05	OPF-05
H01166A10*	10	-6	3/8"	14.4	0.57	16.4	0.65	210	3,040	840	12,180	65	2.56	301	0.20	MF+M00120-06	OPF-06
H01166A12*	12	-8	1/2"	18.1	0.71	20.3	0.80	210	3,040	840	12,180	90	3.54	441	0.30	MF+M00120-08	OPF-08
H01166A16*	16	-10	5/8"	22.2	0.87	24.2	0.95	210	3,040	840	12,180	100	3.94	616	0.41	MF+M00120-10	OPF-10
H01166A19*	19	-12	3/4"	25.6	1.01	27.7	1.09	210	3,040	840	12,180	120	4.72	761	0.51	MF+M00120-12	OPF-12
H01166A25*	25	-16	1"	33.0	1.30	35.2	1.39	210	3,040	840	12,180	150	5.91	1,172	0.79	MF+M00130-16	OPF-16

### KEY FEATURES

- Extreme abrasion resistance
- Impact and scratch resistant cover
- Very low bend radius to suit restricted space installations
- Highly robust and compact hose structure compared to rated pressure
- High resistance to environmental agents
- Vacuum resistance according to SAE 100R4 requirements

### APPLICATIONS & FLUIDS

- Low and medium pressure hydraulic lines with installation constraints, pilot lines, return, drain and suction lines
- Mineral oils, vegetable oils and synthetic ester based oils (up to 100°C/212°F), glycols and polyglycols, mineral oils in aqueous emulsion, water

### CONTINUOUS SERVICE TEMPERATURE RANGE

-46 °C, -50 °F

121 °C, 250 °F

### TUBE

Oil resistant synthetic rubber

### REINFORCEMENT

One wire braid (DN 6-12). Two wire braid (DN 16-25)

### COVER

R.O.C.  
Synthetic rubber with extreme abrasion and ozone resistance

### APPLICABLE SPECS

ISO 18752-C; Exceeds SAE J517 Type 100R17 & ISO 11237-R17

### TYPE APPROVALS

MSHA



# FOREMASTER/28

OUTSTANDING ABRASION RESISTANCE



HOSES 72

TECHNICAL DATA																	
PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H01167A06*	6	-4	1/4"	11.6	0.46	13.2	0.52	280	4,060	1,120	16,240	50	1.97	254	0.17	MF+M00120-04	OPF-04
H01167A08*	8	-5	5/16"	12.9	0.51	14.5	0.57	280	4,060	1,120	16,240	55	2.17	279	0.19	MF+M00120-05	OPF-05
H01167A10*	10	-6	3/8"	15.4	0.61	17.0	0.67	280	4,060	1,120	16,240	63	2.48	374	0.25	MF+M00120-06	OPF-06
H01167A12*	12	-8	1/2"	18.5	0.73	20.3	0.80	280	4,060	1,120	16,240	80	3.15	488	0.33	MF+M00120-08	OPF-08
H01167A16*	16	-10	5/8"	22.7	0.89	24.7	0.97	280	4,060	1,120	16,240	90	3.54	719	0.48	MF+M00120-10	OPF-10
H01167A19*	19	-12	3/4"	27.1	1.07	29.3	1.15	280	4,060	1,120	16,240	120	4.72	1,040	0.70	MF+M00120-12	OPK-12

## KEY FEATURES

- Extreme abrasion resistance
- Impact and scratch resistant cover
- Very low bend radius to suit restricted space installations
- Highly robust and compact hose structure compared to rated pressure
- High resistance to environmental agents
- Vacuum resistance according to SAE 100R4 requirements

## APPLICATIONS & FLUIDS

- Medium and high pressure hydraulic lines with installation constraints, pilot lines, return, drain and suction lines
- Mineral oils, vegetable oils and synthetic ester based oils (up to 100°C/212°F), glycols and polyglycols, mineral oils in aqueous emulsion, water

## CONTINUOUS SERVICE TEMPERATURE RANGE

-46 °C, -50 °F

121 °C, 250 °F

## TUBE

Oil resistant synthetic rubber

## REINFORCEMENT

Two high tensile wire braids

## COVER

R.O.C.

Synthetic rubber with extreme abrasion and ozone resistance

## APPLICABLE SPECS

ISO 18752-C; Exceeds SAE J517 Type 100R19 & ISO 11237-R19

## TYPE APPROVALS

MSHA

# FOREMASTER/35

EXTREME SCRATCHING RESISTANCE



## TECHNICAL DATA

PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H10133019*	19	-12	3/4"	27.5	1.08	31.7	1.25	350	5,070	1,400	20,300	140	5.51	1,251	0.84	IP+M01500-12	SP+M05400-12
H10133025*	25	-16	1"	34.6	1.36	38.8	1.53	350	5,070	1,400	20,300	190	7.48	1,843	1.24	IP+M01500-16	SP+M05400-16
H10133031*	31	-20	1.1/4"	42.1	1.66	47.1	1.85	350	5,070	1,400	20,300	230	9.06	2,484	1.67	IP+M01500-20	
H10133038*	38	-24	1.1/2"	52.9	2.08	57.9	2.28	350	5,070	1,400	20,300	300	11.81	4,268	2.87	IP+M01600-24	
H10133051*	51	-32	2"	66.8	2.63	72.2	2.84	350	5,070	1,400	20,300	360	14.17	6,278	4.22	IP+M01800-32	

### KEY FEATURES

- Extremely high abrasion resistance, long life before reinforcement scratching
- Special composite cover layer with textile reinforcement for maximum resistance in harsh environments
- Very low bend radius to suit restricted space installations
- Good flexibility across the whole temperature range
- Easy mounting in any installation
- Highly robust and compact hose structure compared to rated pressure
- High resistance to environmental agents
- High impulse resistance according to ISO 18752 requirements

### APPLICATIONS & FLUIDS

- High pressure power lines for general hydraulics
- Designed for forestry machines, booms and harvester heads, harsh environments and severe abrasion
- Mineral oils, vegetable oils and synthetic ester based oils (up to 100°C/212°F), glycols and polyglycols, mineral oils in aqueous emulsion, water

### CONTINUOUS SERVICE TEMPERATURE RANGE

-46 °C, -50 °F  
121 °C, 250 °F

### TUBE

Oil resistant synthetic rubber

### REINFORCEMENT

Four high tensile steel spirals

### COVER

ARMOURED  
Synthetic rubber composite cover with textile reinforcement, high abrasion and very high scratch resistance

### APPLICABLE SPECS

Manuli® Design, ref. ISO 18752-C

### TYPE APPROVALS

MSHA; CU-TR

# FOREMASTER/42

EXTREME SCRATCHING RESISTANCE



HOSES  
74

TECHNICAL DATA																	
PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H10134019*	19	-12	3/4"	27.7	1.09	31.9	1.26	420	6,090	1,680	24,360	150	5.91	1,356	0.91	IP+M01500-12	
H10134025*	25	-16	1"	34.8	1.37	39.0	1.54	420	6,090	1,680	24,360	210	8.27	2,079	1.40	IP+M01500-16	
H10134038*	38	-24	1.1/2"	53.2	2.09	58.2	2.29	420	6,090	1,680	24,360	310	12.20	4,536	1.40	IP+M01600-24	
H10134051*	51	-32	2"	68.9	2.71	73.5	2.89	420	6,090	1,680	24,360	500	19.69	7,325	4.92	IS+M02700-32	SPGX+M05500-32GX

## KEY FEATURES

- Extremely high abrasion resistance, long life before reinforcement scratching
- Special composite cover layer with textile reinforcement for maximum resistance in harsh environments
- Very low bend radius to suit restricted space installations
- Good flexibility across the whole temperature range
- Easy mounting in any installation
- Highly robust and compact hose structure compared to rated pressure
- High resistance to environmental agents
- High impulse resistance according to ISO 18752 requirements

## APPLICATIONS & FLUIDS

- High pressure power lines for general hydraulics
- Designed for forestry machines, booms and harvester heads, harsh environments and severe abrasion
- Mineral oils, vegetable oils and synthetic ester based oils (up to 100°C/212°F), glycols and polyglycols, mineral oils in aqueous emulsion, water

## CONTINUOUS SERVICE TEMPERATURE RANGE

-46 °C, -50 °F

121 °C, 250 °F

## TUBE

Oil resistant synthetic rubber

## REINFORCEMENT

Four high tensile steel spirals

## COVER

### ARMOURED

Synthetic rubber composite cover with textile reinforcement, high abrasion and very high scratch resistance

## APPLICABLE SPECS

Manuli® Design, ref. ISO 18752-C

## TYPE APPROVALS

MSHA; CU-TR

# CRYOFLEX/21

EXTREME COLD ENVIRONMENTS



## TECHNICAL DATA

PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H01158016*	16	-10	5/8"	22.2	0,87	24.0	0.94	210	3,040	840	12,180	100	3.94	609	0.41	MF+M00120-10	OPF-10
H01158019*	19	-12	3/4"	25.6	1.01	27.7	1.09	210	3,040	840	12,180	120	4.72	765	0.51	MF+M00120-12	OPF-12
H01158025*	25	-16	1"	33.0	1.30	35.2	1.39	210	3,040	840	12,180	150	5.91	1,188	0.80	MF+M00130-16	OPF-16

### KEY FEATURES

- Good flexibility at very low temperatures
- Reduced bend radius, according to compact hoses standard requirements
- Easy mounting in any installation
- High impulse resistance according to ISO 18752
- Weight saving vs. traditional hose construction
- No-skive fitting solution available
- Isobaric pressure rating for easy selection and product management

### APPLICATIONS & FLUIDS

- Medium pressure hydraulic lines for general hydraulics in extreme cold environment
- Applications with installation constraints (short assemblies, compact spaces, low bend radii etc.)
- Mineral oils, vegetable oils and synthetic ester based oils (up to 100°C/212°F), glycols and polyglycols, mineral oils in aqueous emulsion, water

### CONTINUOUS SERVICE TEMPERATURE RANGE

-60 °C, -76 °F  
100 °C, 212 °F

### TUBE

Oil resistant synthetic rubber

### REINFORCEMENT

2 high tensile steel braids

### COVER

STRONG - TYPE "SC"  
Synthetic rubber with high abrasion, ozone, weather and heat resistance and an extended operational temperature range

### APPLICABLE SPECS

ISO 18752-B Ext.

### TYPE APPROVALS

MSHA; CU-TR

# CRYOFLEX/35

EXTREME COLD ENVIRONMENTS



HOSES 76

TECHNICAL DATA																	
PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H01159006*	6	-4	1/4"	11.3	0.44	13.1	0.52	350	5,070	1,400	20,300	45	1.77	285	0.19	MF+M00120-04	OPF-04
H01159006*	8	-5	5/16"	12.9	0.51	14.7	0.58	350	5,070	1,400	20,300	55	2.17	320	0.22	MF+M00120-05	OPF-05
H01159010*	10	-6	3/8"	15.0	0.59	16.8	0.66	350	5,070	1,400	20,300	65	2.56	390	0.26	MF+M00120-06	OPF-06
H01159012*	12	-8	1/2"	18.6	0.73	20.4	0.80	350	5,070	1,400	20,300	80	3.15	553	0.37	MF+M00120-08	OPF-08
H01159019*	19	-12	3/4"	27.5	1.08	29.9	1.18	350	5,070	1,400	20,300	120	4.72	1,212	0.81	IP+M01500-12	SP+M05400-12
H01159025*	25	-16	1"	34.6	1.36	37.0	1.46	350	5,070	1,400	20,300	150	5.91	1,773	1.19	IP+M01500-16	SP+M05400-16
H01159031*	31	-20	1.1/4"	42.1	1.66	44.9	1.77	350	5,070	1,400	20,300	230	9.06	2,335	1.57	IP+M01500-20	SP+M05400-20

## KEY FEATURES

- Good flexibility at very low temperatures
- Bend radius which exceeds the standard requirements by -30% to -50%
- Easy mounting in any installation
- High impulse resistance according to ISO 18752
- Weight saving of 20% vs. traditional R13 hose construction
- No-skive fitting solution available
- Isobaric pressure rating for easy selection and product management

## APPLICATIONS & FLUIDS

- High pressure hydraulic lines for general hydraulics in extreme cold environment
- Applications with installation constraints (short assemblies, compact spaces, low bend radii etc.)
- Mineral oils, vegetable oils and synthetic ester based oils (up to 100°C/212°F), glycols and polyglycols, mineral oils in aqueous emulsion, water

## CONTINUOUS SERVICE TEMPERATURE RANGE

-60 °C, -76 °F

100 °C, 212 °F

## TUBE

Oil resistant synthetic rubber

## REINFORCEMENT

2 high tensile steel braids (DN 6-12). High tensile steel spirals (DN 19-31)

## COVER

STRONG - TYPE "SC"

Synthetic rubber with high abrasion, ozone, weather and heat resistance and an extended operational temperature range

## APPLICABLE SPECS

ISO 18752-B Ext.

## TYPE APPROVALS

MSHA; CU-TR

# CRYOFLEX/42

EXTREME COLD ENVIRONMENTS



## TECHNICAL DATA

PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H10123019*	19	-12	3/4"	27.7	1.09	30.2	1.19	420	6,090	1,680	24,360	150	5.91	1,281	0.86	IP+M01500-12	SP+M05400-12
H10123025*	25	-16	1"	35.0	1.38	37.5	1.48	420	6,090	1,680	24,360	210	8.27	2,004	1.35	IP+M01500-16	SP+M05400-16
H10123031*	31	-20	1.1/4"	46.3	1.82	49.5	1.95	420	6,090	1,680	24,360	260	10.24	3,665	2.46	IP+M01600-20	
H10123051*	51	-32	2"	68.9	2.71	72.4	2.85	420	6,090	1,680	24,360	500	19.69	7,302	4.91	IS+M02700-32	

### KEY FEATURES

- Good flexibility at very low temperatures
- Bend radius which exceeds the standard requirements by -30% to -50%
- Easy mounting in any installation
- High impulse resistance according to ISO 18752
- Weight saving of 20% vs. traditional R15 hose construction
- No-skive fitting solution available
- Isobaric pressure rating for easy selection and product management

### APPLICATIONS & FLUIDS

- High pressure hydraulic lines for general hydraulics in extreme cold environment
- Applications with installation constraints (short assemblies, compact spaces, low bend radii etc.)
- Mineral oils, vegetable oils and synthetic ester based oils (up to 100°C/212°F), glycols and polyglycols, mineral oils in aqueous emulsion, water

### CONTINUOUS SERVICE TEMPERATURE RANGE

-60 °C, -76 °F

100 °C, 212 °F

### TUBE

Oil resistant synthetic rubber

### REINFORCEMENT

Four high tensile steel spirals (DN 19-25). Six high tensile steel spirals (DN 31-51)

### COVER

STRONG - TYPE "SC"

Synthetic rubber with high abrasion, ozone, weather and heat resistance and an extended operational temperature range

### APPLICABLE SPECS

ISO 18752-B Ext.

### TYPE APPROVALS

MSHA; CU-TR

# ANACONDA

HEAVY DUTY, LOW BENDING FORCE



HOSES 78

TECHNICAL DATA																	
PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H10132019*	19	-12	3/4"	27.7	1.09	30.2	1.19	420	6,090	1,680	24,360	150	5.91	1,288	0.87	IP+M01500-12	SP+M05400-12
H10132025*	25	-16	1"	35.3	1.39	37.7	1.48	420	6,090	1,680	24,360	210	8.27	2,012	1.35	IP+M01500-16	SP+M05400-16
H10132031*	31	-20	1.1/4"	42.2	1.66	45.5	1.79	420	6,090	1,680	24,360	260	10.24	2,453	1.65	IP+M01500-20	SP+M05400-20
H10132038*	38	-24	1.1/2"	52.5	2.07	55.5	2.19	420	6,090	1,680	24,360	300	11.81	4,076	2.74	IP+M01600-24	
H10132A38* †	38	-24	1.1/2"	50.4	1.98	53.4	2.10	350	5,070	1,400	20,300	300	11.81	3,269	2.19	IP+M01600-24	

† Compact hose

## KEY FEATURES

- Low bending force to suit difficult undercarriage installations
- Bend radius which exceeds the standard requirements
- Good flexibility across the whole temperature range
- Easy mounting in static configurations
- High impulse resistance according to ISO 18752
- No-skive fitting solution available
- Isobaric pressure rating for easy selection and product management

## APPLICATIONS & FLUIDS

- High pressure hydraulic lines in hydrostatic transmissions
- Applications with installation constraints, short assemblies in static configurations, low bend radii in undercarriage applications
- Mineral oils, vegetable oils and synthetic ester based oils (up to 100°C/212°F), glycols and polyglycols, mineral oils in aqueous emulsion, water

## CONTINUOUS SERVICE TEMPERATURE RANGE

-46 °C, -50 °F

121 °C, 250 °F

## TUBE

Oil resistant synthetic rubber

## REINFORCEMENT

Four high tensile steel spirals (six high tensile steel spirals DN 38 standard version)

## COVER

STRONG - TYPE "SC"

Synthetic rubber with high abrasion, ozone, weather and heat resistance and an extended operational temperature range

## APPLICABLE SPECS

ISO 18752 Grade C, exceeds SAE J517 R15, ISO 3862 R15

## TYPE APPROVALS

MSHA; CU-TR



# HERCULES/HT

HEAVY DUTY FOR GIANT EQUIPMENT



## TECHNICAL DATA

PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H10125031*	31	-20	1,1/4"	47.7	1.88	50.9	2.00	420	6,090	1,680	24,360	400	15.75	4,175	2.81	IP+M01850-20	
H10125038*	38	-24	1.1/2"	55.2	2.17	58.7	2.31	420	6,090	1,680	24,360	450	17.72	5,195	3.49	IS+M02700-24	
H10125051*	51	-32	2"	68.9	2.71	72.4	2.85	420	6,090	1,680	24,360	500	19.69	7,265	4.88	IS+M02700-32	

### KEY FEATURES

- Robustness and durability - longer than 1 year on "hump hose" applications
- Bend radius exceeds standard requirements by -30% to -50%
- Good flexibility across the whole temperature range
- Easy mounting in any installation
- High impulse resistance according to ISO 18752
- Isobaric pressure rating for easy selection and product management

### APPLICATIONS & FLUIDS

- High pressure power lines for general hydraulics
- Heavy duty power lines
- Hump hoses on giant excavators
- Long durability due to special tube compound
- Applications with long assemblies with self-standing capacity
- Applications with installation constraints (short assemblies, compact spaces, low bend radii etc.)
- Mineral oils, vegetable oils and synthetic ester based oils (up to 100°C/212°F), glycols and polyglycols, mineral oils in aqueous emulsion, water

### CONTINUOUS SERVICE TEMPERATURE RANGE

-46 °C, -50 °F  
135 °C, 275 °F

### TUBE

Oil resistant synthetic rubber

### REINFORCEMENT

Six high tensile steel wire spirals

### COVER

STRONG - TYPE "SC"  
Synthetic rubber with high abrasion, ozone, weather and heat resistance and an extended operational temperature range

### APPLICABLE SPECS

ISO 18752-D Ext., exceeds SAE J517 R15

### TYPE APPROVALS

MSHA; CU-TR

### REMARKS



- Hercules/HT is enhanced by new HSSL heat shrinkable sleeves (optional). These heat shrinkable sleeves protect the ferrule from dirt inclusion and moisture ingress under the ferrule. Sleeves are made with heat shrinkable material, which is self-extinguishing and provides low voltage electrical insulation, provide the best possible protection with high abrasion resistance.

# HYDROROPE

## OUTSTANDING TENSILE STRENGTH



HOSES 80

TECHNICAL DATA																	
PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H10136025*	25	-16	1	38.2	1.50	41.4	1.63	420	6,090	1,680	24,360	350	13.78	2,910	1.95	IP+M01850-16	
H10136031*	31	-20	1.1/4"	46.9	1.85	50.1	1.97	420	6,090	1,680	24,360	400	15.51	3,749	2.52	IP+M01600-20	
H10136A38*†	38	-24	1.1/2"	53.2	2.09	56.5	2.22	350	5,076	1,400	20,305	450	17.72	4,256	2.86	IP+M01600-24	
H10136038*	38	-24	1.1/2"	54.7	2.15	57.3	2.26	420	6,090	1,680	24,360	450	17.72	4,650	3.12	IS+M02700-24	
H10136051*	51	-32	2"	69.2	2.72	72.4	2.85	420	6,090	1,680	24,360	550	21.65	6,590	4.42	IS+M02700-32	
H10136063*	63	-40	2.1/2"	84.1	3.31	87.3	3.44	380	5,511	1,520	22,045	800	31.50	9,405	6.31	IP+M01900-40	
H10136076*	76	-48	3"	97.1	3.82	100.2	3.94	350	5,076	1,400	20,305	1000	39.37	11,106	7.46	IS+M02700-48	

† Compact hose

### KEY FEATURES

- Designed to resist pulling force
- High pressure resistance
- Superior abrasion resistance
- High ozone and weather resistance
- Flame resistance to a wide range of specs
- Anti-static and anti-toxic cover

### APPLICATIONS & FLUIDS

- Heavy duty power lines in severe environmental conditions
- Specific installations with tough abrasion conditions
- Off-shore applications, underground and open-pit mining, special machines where hose high pulling resistance is required (grabs, etc.)
- Mineral oils, vegetable oils and synthetic ester based oils (up to 100°C/212°F), glycols and polyglycols, mineral oils in aqueous emulsion, water

### CONTINUOUS SERVICE TEMPERATURE RANGE

-46 °C, -50 °F

121 °C, 250 °F

### TUBE

Oil resistant synthetic rubber

### REINFORCEMENT

Four (DN 25, DN 38 Compact) and six (DN 38, DN 76) high tensile steel spirals + One high

### COVER

STRONG - TYPE "SC"

Synthetic rubber with high abrasion, ozone, weather and heat resistance and an extended operational temperature range

### APPLICABLE SPECS

Manuli® Design

### TYPE APPROVALS

MSHA; CU-TR;

# DIAMONDSPIR/62

VERY HIGH PRESSURE HYDRAULICS & JET GROUTING



TECHNICAL DATA																	
PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H10118031*	31	-20	1.1/4"	51.2	2.02	54.4	2.14	621	9,005	2,484	36,018	600	23.62	5,638	3.79	IP+M01900-20	
H10118038*	38	-24	1.1/2"	59.3	2.33	63.2	2.49	621	9,005	2,484	36,018	800	31.50	7,100	4.77	IS+M02900-24	

## KEY FEATURES

- Extremely robust structure for liquid concrete high pressure pumping, with safety factor 4:1
- Double-skive reliable fittings, also available in stainless steel
- Approved for very high pressure hydraulics with ISO 6803 fatigue test (200,000 cycles, T=100°C, WP)

## APPLICATIONS & FLUIDS

- Liquid concrete, bentonite, for jet grouting (very high pressure)
- Hydraulic oils (heavy duty, high pressure)
- Water-based hydraulic oils, water

## CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F

100 °C, 212 °F

## TUBE

Oil resistant synthetic rubber

## REINFORCEMENT

Multiple high tensile wire spirals

## COVER

STRONG - TYPE "SC"

Synthetic rubber with high abrasion, ozone, weather and heat resistance and an extended operational temperature range

## APPLICABLE SPECS

ISO 18752 Grade A Ext., EN 16228-6: safety factor 4:1

## TYPE APPROVALS

MSHA; CU-TR

# GOLDENGUARD/3000

EMERGENCY HYDRAULIC SYSTEMS & BOP



HOSES 82

TECHNICAL DATA																	
PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H11022019*	19	-12	3/4"	26.9	1.06	32.3	1.27	207	3,000	828	12,000	180	7.09	1,288	0.87	OPK-12	
H11022025*	25	-16	1"	34.1	1.34	40.1	1.58	207	3,000	828	12,000	230	9.06	1,876	1.26	OPK-16	

## KEY FEATURES

- Highly robust hose structure
- Thermal insulation of the hose with a special cover material
- Long lasting resistance of the cover layer
- Cover has flame retardant properties
- High ozone and weather resistance

## APPLICATIONS & FLUIDS

- Hydraulics: designed for use in areas where the continuous hydraulic function is required to drive the emergency systems (industrial, marine, off-shore and refineries, defence, mining)
- Flexible hose for hydraulic systems of Blow Out Preventer control lines on drilling rigs
- Mineral oils, glycols and polyglycols, mineral oils in aqueous emulsion

## CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F

121 °C, 250 °F

## TUBE

High grade NBR oil resistant synthetic rubber

## REINFORCEMENT

Four high tensile steel wire spirals

## COVER

Red insulant and flame retardant synthetic rubber

## APPLICABLE SPECS

API 16D Fire Test (pr.10.1.2), ISO 18752-C

## TYPE APPROVALS

DNV-GL; CU-TR; MSHA; API 16D Fire Test (DNV); LR; CCS; ABS

## REMARKS



- Refer to GoldenGuard assembling instructions and crimp chart for correct assembling (partial skive required)

# GOLDENGUARD/5000

EMERGENCY HYDRAULIC SYSTEMS & BOP



HOSES 83

TECHNICAL DATA																	
PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H11020010*	10	-6	3/8"	16.7	0.66	20.7	0.81	345	5,000	1,380	20,010	127	5.00	651	0.44	MF+M00910-06	OPK-06
H11020012*	12	-8	1/2"	20.1	0.79	24.1	0.95	345	5,000	1,380	20,010	150	5.91	820	0.55	MF+M00910-08	OPK-08
H11020016*	16	-10	5/8"	25.5	1.00	30.9	1.22	345	5,000	1,380	20,010	180	7.09	1,490	1.00	IP+M01500-10	
H11020019*	19	-12	3/4"	29.0	1.14	36.2	1.43	345	5,000	1,380	20,010	240	9.45	2,024	1.36	IP+M01500-12	SP+M05400-12
H11020025*	25	-16	1"	36.0	1.42	44.0	1.73	345	5,000	1,380	20,010	300	11.81	2,742	1.84	IP+M01500-16	SP+M05400-16
H11020031*	31	-20	1.1/4"	47.0	1.85	55.0	2.17	345	5,000	1,380	20,010	420	16.54	4,293	2.88	IP+M01600-20	SP+M05500-20
H11020038*	28	-24	1.1/2"	54.6	2.15	62.6	2.46	345	5,000	1,380	20,010	500	19.69	5,531	3.72	IP+M01600-24	SP+M05500-24
H11020051*	51	-32	2"	68.4	2.69	76.4	3.01	345	5,000	1,380	20,010	630	24.80	7,712	5.18	IP+M01800-32	SP+M05500-32

## KEY FEATURES

- Highly robust hose structure
- Thermal insulation of the hose with a special cover material
- Long lasting resistance of the cover layer
- Cover has flame retardant properties
- High ozone and weather resistance

## APPLICATIONS & FLUIDS

- Hydraulics: designed for use in areas where the continuous hydraulic function is required to drive the emergency systems (industrial, marine, off-shore and refineries, defence, mining)
- Flexible hose for hydraulic systems of Blow Out Preventer control lines on drilling rigs
- Mineral oils, glycols and polyglycols, mineral oils in aqueous emulsion

## CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F

121 °C, 250 °F

## TUBE

High grade NBR oil resistant synthetic rubber

## REINFORCEMENT

Multiple plies of high tensile steel wire spirals (DN 16-25); 2 wire braids (DN 10-12)

## COVER

Red insulant and flame retardant synthetic rubber

## APPLICABLE SPECS

API 16D Fire Test (pr.10.1.2), DN 10-12: ISO 18752-A; DN 16-51: ISO 18752-C (STD2 fitting) and Type C "Plus" (STD1 fitting), ISO 3862 & SAE J517-100R13 performance

## TYPE APPROVALS

DNV-GL; CU-TR; MSHA; API 16D Fire Test (DNV); LR; CCS; ABS

## REMARKS



- Refer to GoldenGuard assembling instructions and crimp chart for the use of accessories when required:
  - STD1 fitting solution: Fire sleeve & metal sleeve over the fitting area required
  - STD2 fitting solution: No accessories required
- The STD1 fitting solution has been selected for the most demanding applications
- DN 10 & 12: Max. continuous temperature 100 °C for these wire braided references

# GOLDENARMOUR

EMERGENCY HYDRAULIC SYSTEMS & BOP



HOSES 84

TECHNICAL DATA												
									PROOF TEST			
PART REF.	HOSE TYPE	HOSE SIZE			MAX. W.P		BURST		TEST		FITTINGS	ACCESSORIES
		DN	dash	inch	bar	psi	bar	psi	bar	psi		Armour Guard
H01101010*	ROCKMASTER/2PLUS	10	-6	3/8"	345	5,000	1,380	20,000	690	10,000	MF+IM00910-06	JP45G090280099
H01101012*	ROCKMASTER/2PLUS	12	-8	1/2"	345	5,000	1,380	20,000	690	10,000	MF+IM00910-08	JP45G090320099
H10044016*	ROCKMASTER/4SH	16	-10	5/8"	345	5,000	1,380	20,000	690	10,000	IP+IM01500-10	JP45G090400099
H10035019*	ROCKMASTER/13	19	-12	3/4"	345	5,000	1,380	20,000	690	10,000	IP+IM01500-12	JP45G090450099
H10035025*	ROCKMASTER/13	25	-16	1"	345	5,000	1,380	20,000	690	10,000	IP+IM01500-16	JP45G090500099
H10035032*	ROCKMASTER/13	31	-20	1.1/4"	345	5,000	1,380	20,000	690	10,000	IP+IM01600-20	JP45G090650099
H10035040*	ROCKMASTER/13	38	-24	1.1/2"	345	5,000	1,380	20,000	690	10,000	IP+IM01600-24	JP45G090750099
H10035051*	ROCKMASTER/13	51	-32	2"	345	5,000	1,380	20,000	690	10,000	IP+IM01800-32	JP45G090900099

## KEY FEATURES

- Highly robust hose structure
- Thermal insulation of the hose with a stainless steel armour cover
- Long lasting resistance of the cover layer
- Flame retardant properties
- High ozone and weather resistance

## APPLICATIONS & FLUIDS

- Hydraulics: designed for use in areas where the continuous hydraulic function is required to drive the emergency systems (industrial, marine, off-shore and refineries, defence, mining)
- Flexible hose for hydraulic systems of Blow Out Preventer control lines on drilling rigs
- Mineral oils, glycol and polyglycol based oils, mineral oils in aqueous emulsion

## CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F

100 °C, 212 °F (DN 10-12); 121 °C, 250 °F DN 16-51

## TUBE

High grade NBR oil resistant synthetic rubber

## REINFORCEMENT

Two high tensile steel braids (DN 10-12); Multiple plies of high tensile steel spirals (DN 16-51)

## COVER

STRONG - TYPE "SD"

Synthetic rubber with high abrasion, ozone, weather and heat resistance

## APPLICABLE SPECS

API 16D Fire Test (pr.10.1.2);  
 ISO 18752-A (DN 10-12);  
 ISO 18752-C, ISO 3862, SAE J517 Type 100R13 performance (DN 16-51)

## TYPE APPROVALS

DNV-GL; LR; API 16D Fire Test (DNV); ABS; CCS; CU-TR

## REMARKS

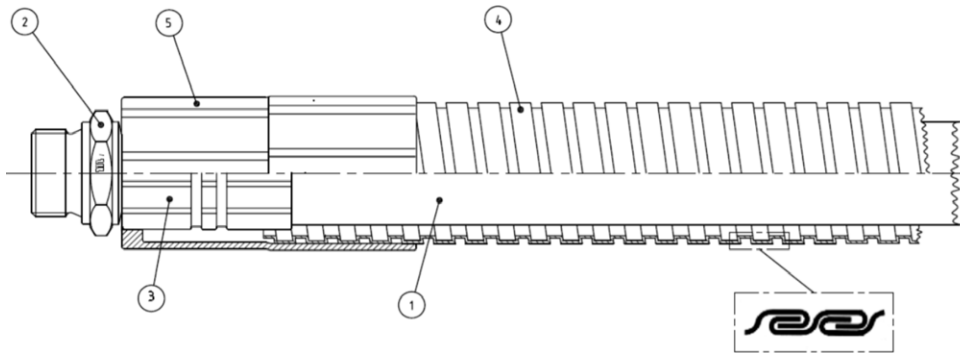


- Refer to Golden Armour assembling instructions and crimp chart for the correct assembly of the hose
- Hose Assembly Branding: The Golden Armour assembly must report at least the following information in the hose brand:
  - - inch size - WP 5,000 psi (on the metal sleeve)
  - assembling date - assembler identification (additional tag or on the metal sleeve)

# GOLDENARMOUR

## EMERGENCY HYDRAULIC SYSTEMS & BOP

### GOLDENARMOUR MAKE-UP



1. Hydraulic hose
2. Hydraulic MF2000 insert type, with additional tail o-ring only for IP fitting solution
3. Hydraulic MF2000 ferrule type
4. External flexible Metal Armour (interlocked flexible metal hose)
5. Metal Sleeve

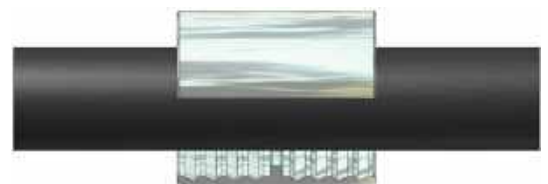
### ACCESSORIES TECHNICAL DATA

ARMOUR PART REF.	TO SUIT HOSE SIZE		ARMOUR SIZE				MIN. BEND		WEIGHT		METAL SLEEVE			ARMOUR JOINT			
			d		D						PART REF.	D	L	PART REF.	D	L	
			mm	inch	mm	inch											mm
DN	dash	inch	mm	inch	mm	inch	mm	inch	g/m	lb/ft	mm	mm	mm	mm			
JP45G090280099	10	-6	3/8"	25	1"	32.0	1.26	127	5.00	565	0.38	IO2110-06GA	40.5	60	IO84210-06	40.5	65
JP45G090320099	12	-8	1/2"	31	1.1/4"	36.5	1.44	150	5.91	703	0.47	IO2110-08GA	46.8	75	IO84210-08	46.8	65
JP45G090400099	16	-10	5/8"	38	1.1/2"	44.5	1.75	180	7.09	939	0.63	IO2110-10GA	53.2	90	IO84210-10	53.2	65
JP45G090450099	19	-12	3/4"	46	1.3/4"	51.0	2.01	240	9.45	1,118	0.75	IO2110-12GA	59.5	105	IO84210-12	59.5	70
JP45G090500099	25	-16	1"	51	2"	57.5	2.26	300	11.81	1,301	0.87	IO2110-16GA	66.0	120	IO84210-16	66.0	75
JP45G090650099	31	-20	1.1/4"	63	2.1/2"	70.0	2.76	420	16.54	1,636	1.10	IO2110-20GA	78.6	135	IO84210-20	78.6	95
JP45G090750099	38	-24	1.1/2"	76	3"	82.5	3.27	500	19.69	1,920	1.29	IO2110-24GA	91.5	150	IO84210-24	91.5	105
JP45G090900099	51	-32	2"	89	3.1/2"	96.0	3.78	630	24.80	2,386	1.60	IO2110-32GA	106.5	165	IO84210-32	106.5	115

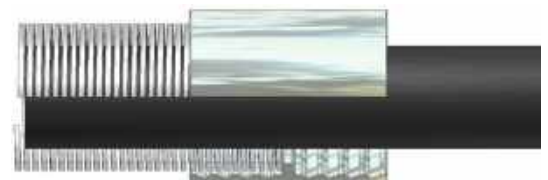
### ARMOUR JOINING PROCEDURE

Individual pieces of the Golden Armour metal sleeve can be joined using a dedicated Armour Joint. The procedure for joining the pieces of flexible armour is as follows:

1. Slide the Armour Joint onto the hose.



2. Insert the first piece of flexible armour into the Armour Joint until it reaches the internal stop.



3. Insert the second piece of flexible armour into the other side of the Armour Joint until it also reaches the internal stop.





# SAFEMASTER/2SC

RAILWAY - EN 45545-2



HOSES 86

TECHNICAL DATA																	
PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H01162006*	6	-4	1/4"	11.3	0.44	13.1	0.52	400	5800	1850	26830	45	1.77	290	0.19	MF+M03300-04	OPF-04
H01162008*	8	-5	5/16"	12.9	0.51	14.7	0.58	350	5070	1700	24650	55	2.17	322	0.22	MF+M03300-05	OPF-05
H01162010*	10	-6	3/8"	15.0	0.59	16.8	0.66	330	4780	1500	21750	65	2.56	388	0.26	MF+M03300-06	OPF-06
H01162012*	12	-8	1/2"	18.5	0.73	20.3	0.80	275	3980	1220	17690	80	3.15	496	0.33	MF+M03300-08	OPF-08
H01162016*	16	-10	5/8"	21.8	0.86	23.6	0.93	250	3620	1050	15220	90	3.54	615	0.41	MF+M03400-10	OPF-10
H01162019*	19	-12	3/4"	25.6	1.01	27.6	1.09	245	3550	980	14210	120	4.72	788	0.53	MF+M03400-12	OPF-12
H01162025*	25	-16	1"	33.0	1.30	35.2	1.39	210	3040	840	12180	150	5.91	1188	0.80	MF+M03400-16	OPF-16

## KEY FEATURES

- Compactness and flexibility
- Good abrasion resistance
- High ozone and weather resistance
- Cover has flame retardant properties
- Cover has low density smoke when burning (EN 45545-2)
- Over-standard working pressures

## APPLICATIONS & FLUIDS

- Hydraulics: medium-high pressure lines in severe environmental conditions, specific installations with tough abrasion conditions, railway hydraulic applications
- Mineral oils, vegetable and rape seed oils and synthetic ester based oils, glycols and polyglycols, oils in aqueous emulsion, water

## CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F

100 °C, 212 °F

## TUBE

Oil resistant synthetic rubber

## REINFORCEMENT

Two high tensile steel wire braids

## COVER

Synthetic rubber with high ozone, weather and heat resistance and flame retardant properties

## APPLICABLE SPECS

Exceeds EN 857 2SC; SAE 100R16; ISO 11237 2SC/R16

## TYPE APPROVALS

EN 45545-2; CU-TR

# SAFEMASTER/2SN

RAILWAY - EN 45545-2



## TECHNICAL DATA

PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H01165006*	6	-4	1/4"	12.7	0.50	14.7	0.58	400	5800	1750	25380	50	1.97	356	0.24	MF+M03400-04	OPF-04
H01165008*	8	-5	5/16"	14.3	0.56	16.3	0.64	350	5070	1480	21460	60	2.36	394	0.26	MF+M03400-05	OPF-05
H01165010*	10	-6	3/8"	16.7	0.66	18.7	0.74	350	5070	1400	20300	70	2.76	520	0.35	MF+M03400-06	OPF-06
H01165012*	12	-8	1/2"	19.8	0.78	21.8	0.86	350	5070	1400	20300	89	3.50	651	0.44	MF+M03450-08	OPF-08
H01165016*	16	-10	5/8"	23.0	0.91	25.0	0.98	250	3620	1020	14790	100	3.94	713	0.48	MF+M03400-10	OPF-10
H01165019*	19	-12	3/4"	27.0	1.06	29.0	1.14	215	3110	900	13050	130	5.12	910	0.61	MF+M03400-12	OPF-12
H01165025*	25	-16	1"	34.8	1.37	36.8	1.45	175	2530	670	9710	160	6.30	1256	0.84	MF+M03400-16	OPF-16
H01165031*	31	-20	1.1/4"	44.3	1.74	47.0	1.85	140	2030	600	8700	419	16.50	1898	1.28	MF+M03400-20	OPK-20
H01165038*	38	-24	1.1/2"	50.7	2.00	53.4	2.10	100	1450	500	7250	500	19.69	2227	1.50	MF+M03400-24	OPK-24

### KEY FEATURES

- Good abrasion resistance
- High ozone and weather resistance
- Cover has flame retardant properties
- Cover has low density smoke when burning (EN 45545-2)
- Over-standard working pressures

### APPLICATIONS & FLUIDS

- Hydraulics: medium-high pressure lines in severe environmental conditions, specific installations with tough abrasion conditions, railway hydraulic applications
- Mineral oils, vegetable and rape seed oils and synthetic ester based oils, glycols and polyglycols, oils in aqueous emulsion, water

### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F  
100 °C, 212 °F

### TUBE

Oil resistant synthetic rubber

### REINFORCEMENT

Two high tensile steel wire braids

### COVER

Synthetic rubber with high ozone, weather and heat resistance and flame retardant properties

### APPLICABLE SPECS

Exceeds EN 853 2SN; SAE 100 R2AT; ISO 1436 2SN/R2AT

### TYPE APPROVALS

EN 45545-2; CU-TR

# T°REX

## EXTREME TEMPERATURE



HOSES 88

TECHNICAL DATA																	
PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H01127031*	31	-20	1.1/4"	0.0	0.00	40.7	1.60	43	620	172	2,490	203	7.99	925	0.62	MF+M00110-20TX	

### KEY FEATURES

- Extreme high temperature and aging resistance
- High flexibility
- Long service duration

### APPLICATIONS & FLUIDS

- Oil cooling systems, automatic transmissions with very high temperature of the oil, low pressure high temperature applications in hydraulic systems.
- Mineral oils, Synthetic Hydrocarbons oils, glycols and polyglycols (up to 121°C, 250°F)

### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F

160 °C, 320 °F

### TUBE

Oil resistant synthetic rubber

### REINFORCEMENT

One high tensile steel wire braid

### COVER

Synthetic rubber with extremely high heat resistance

### APPLICABLE SPECS

Manuli® Design

### TYPE APPROVALS

CU-TR

# TWINPOWER 4000

EASY INSTALLATION FOR OEMS



TECHNICAL DATA																	
PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H01119010*	10	-6	3/8"	15.4	0.61	18.0	0.71	280	4,060	1,120	16,240	65	2.56	830	0.56	MF+M00120-06	
H01119012*	12	-8	1/2"	18.5	0.73	21.5	0.85	280	4,060	1,120	16,240	80	3.15	1,100	0.74	MF+M00120-08	

## KEY FEATURES

- Compact hose structure and reduced bend radius
- Isobaric rating for easy selection
- Smooth cover hose ensuring user friendly installation inside the booms
- Unique hose assembly solution for pressure and discharge line on the same body valve
- Reduced installation time compared to two separated assembly hose solutions
- Reduced risk of abrasion of the line inside the booms due to twin hose alignment
- Elimination of clamps to connect the two hose lines, with consequent easiness of insertion
- Warehouse/logistic optimization with reduced codes in stock

## APPLICATIONS & FLUIDS

- Hydraulics: hose range dedicated to aerial lifts, platforms, forklift trucks and telescopic booms applications
- Mineral oils, vegetable oils and synthetic ester based oils, glycols and polyglycols, mineral oils in aqueous emulsion, water

## CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F  
100 °C, 212 °F

## TUBE

Synthetic rubber

## REINFORCEMENT

Two high tensile steel wire braids

## COVER

Weather resistant synthetic rubber

## APPLICABLE SPECS

DN 10: ISO 11237 R19; SAE J517 Type100R19. DN 12: ISO 11237 2SC; EN 857 2SC, SAE J517 Type 100R16

## TYPE APPROVALS

CU-TR

# TWINPOWER 5000

EASY INSTALLATION FOR OEMS



HOSES 90

TECHNICAL DATA																	
PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H01120008*	8	-5	5/16"	12.9	0.51	15.3	0.60	350	5,070	1,400	20,300	55	2.17	682	0.46	MF+M00120-05	
H01120010*	10	-6	3/8"	15.0	0.59	17.6	0.69	350	5,070	1,400	20,300	65	2.56	830	0.56	MF+M00120-06	
H01120012*	12	-8	1/2"	18.6	0.73	21.6	0.85	350	5,070	1,400	20,300	80	3.15	1,190	0.80	MF+M00120-08	

## KEY FEATURES

- Compact hose structure and reduced bend radius
- Isobaric rating exceeding international specifications
- Smooth cover hose ensuring user friendly installation inside the booms
- Unique hose assembly solution for pressure and discharge line on the same body valve
- Reduced installation time compared to two separated assembly hose solutions
- Reduced risk of abrasion of the line inside the booms due to twin hose alignment
- Elimination of clamps to connect the two hose lines, with consequent easiness of insertion
- Higher abrasion resistant and flame retardant MSHA approved cover
- Warehouse/logistic optimization with reduced codes in stock

## APPLICATIONS & FLUIDS

- Hydraulics: hose range dedicated to aerial lifts, platforms, forklift trucks and telescopic booms applications
- Mineral oils, vegetable oils and synthetic ester based oils, glycols and polyglycols, mineral oils in aqueous emulsion, water

## CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F

100 °C, 212 °F

## TUBE

Synthetic rubber

## REINFORCEMENT

Two high tensile steel wire braids

## COVER

STRONG - TYPE "SD"

Synthetic rubber with high abrasion, ozone, weather and heat resistance

## APPLICABLE SPECS

Exceeds ISO 11237 2SC/R16; EN 857 2SC; SAE J517 Type 100R16

## TYPE APPROVALS

CU-TR; MSHA

# TWINPOWER/PLUS

EASY INSTALLATION FOR OEMS



## TECHNICAL DATA

PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H01112A12*	12	-8	1/2"	18.5	0.73	22.5	0.89	310	4,490	1,240	17,980	80	3.15	1,220	0.82	MF+M00120-08	
H01112016*	16	-10	5/8"	22.7	0.89	26.3	1.04	280	4,060	1,120	16,240	90	3.54	1,640	1.10	MF+M00120-10	

### KEY FEATURES

- Compact hose structure and reduced bend radius
- Approved with 500.000 flexing impulse cycles (1,33 WP), 125.000 flexing cycles (Manuli® testing method)
- Smooth hose cover ensuring user friendly installation inside the booms
- Unique hose assembly solution for pressure and discharge line on the same body valve
- Reduced installation time compared to two separated assembly hose solutions
- Reduced risk of abrasion of the line inside the booms due to twin hose alignment
- Elimination of clamps to connect the two hose lines, with consequent easiness of insertion
- Higher abrasion resistant and flame retardant MSHA approved cover
- Warehouse/logistic optimization with reduced codes in stock

### APPLICATIONS & FLUIDS

- Hydraulics: hose range dedicated to aerial lifts, platforms, forklift trucks and telescopic booms applications
- Mineral oils, vegetable oils and synthetic ester based oils, glycols and polyglycols, mineral oils in aqueous emulsion, water

### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F

121 °C, 250 °F

### TUBE

Synthetic rubber

### REINFORCEMENT

Two high tensile steel braids

### COVER

STRONG - TYPE "SD"

Synthetic rubber with high abrasion, ozone, weather and heat resistance

### APPLICABLE SPECS

Exceeds ISO 11237 2SC/R16; EN 857 2SC; SAE J517 Type 100R16

### TYPE APPROVALS

CU-TR; MSHA

# FIREEND

## FIRE SUPPRESSION SYSTEMS



HOSES

92

### TECHNICAL DATA

PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H01124006*	6	-4	1/4"	11.0	0.43	13.0	0.51	225	3,260	900	13,050	100	3.94	220	0.15	MF+M03400-04	OPF-04
H01124010*	10	-6	3/8"	15.0	0.59	17.0	0.67	180	2,610	720	10,440	127	5.00	325	0.22	MF+M03400-06	OPF-06
H01124012*	12	-8	1/2"	18.1	0.71	20.1	0.79	160	2,320	640	9,280	178	7.01	410	0.28	MF+M03400-08	OPF-08
H01124019*	19	-12	3/4"	25.3	1.00	27.9	1.10	105	1,520	420	6,090	240	9.45	660	0.44	MF+M03400-12	OPF-12
H01124025*	25	-16	1"	33.1	1.30	35.7	1.41	88	1,270	350	5,070	300	11.81	980	0.66	MF+M03400-16	

### KEY FEATURES

- SAE 100R1AT and ISO-1SN rated working pressures
- Flame retardant red cover
- Excellent performance for standard hydraulic applications
- Embossed indelible branding
- No skive MF2000 (two-pieces) and MF3000 (one-piece) fittings

### APPLICATIONS & FLUIDS

- Use in fire suppression systems of off-road vehicles, mining equipment, stationary engines. The hose present red cover for easy identification in the fire suppression system
- Mineral oils, vegetable oils and synthetic ester based oils, glycols and polyglycols, mineral oils in aqueous emulsion, water, water based fire extinguishing agents

### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F

100 °C, 212 °F

### TUBE

Oil resistant synthetic rubber

### REINFORCEMENT

One high tensile steel wire braid

### COVER

Red synthetic rubber with high ozone, abrasion and weather resistance

### APPLICABLE SPECS

ISO 1436-1SN; SAE J517 Type 100R1AT; EN 853-1SN

### TYPE APPROVALS

MSHA; CU-TR



# LUBEMASTER

## LUBRICATION LINE



### TECHNICAL DATA

PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H01135006*	6	-4	1/4"	10.2	0.40	12.0	0.47	210	3,040	840	12,180	50	1.97	180	0.12	MF+M03300-04	OPF-04
H01135010*	10	-6	3/8"	14.4	0.57	16.2	0.64	210	3,040	840	12,180	65	2.56	300	0.20	MF+M03300-06	OPF-06

### KEY FEATURES

- Designed for applications with lubrication and transmission fluids
- Compact hose structures for installations in narrow spaces
- Isobaric pressure rating

### APPLICATIONS & FLUIDS

- Lubrication lines, auxiliary systems with transmission oils
- Mineral oils, glycols and polyglycols, transmission fluids (ATF), mineral based greases and lubrication oils.

### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F  
100 °C, 212 °F

### TUBE

Synthetic rubber

### REINFORCEMENT

One high tensile steel braid

### COVER

Weather resistant synthetic rubber

### APPLICABLE SPECS

Manuli® Design

### TYPE APPROVALS

CU-TR

# JACKMASTER/70

EXTREME STATIC PRESSURE



HOSES

94

## TECHNICAL DATA

PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H01168006*	6	-4	1/4"	12.7	0.50	14.7	0.58	700	10,510	1,750	25,380	100	3.94	370	0.25	MF+M03400-04	OPF-04
H01168010*	10	-6	3/8"	16.4	0.64	18.2	0.71	700	10,510	1,750	25,380	127	5.00	517	0.35	MF+M03400-06	OPF-06

### KEY FEATURES

- Robust structure
- ISO 16301 Class 70, Grade 1
- Extreme static pressures in remote locations
- Test certificate available upon request
- Skive and no-skive fittings available

### APPLICATIONS & FLUIDS

- Manually operated hydraulic jacking systems
- Mineral oils, vegetable oils, glycol and polyglycol based oils, synthetic ester based oils (up to 100°C/212°F)

### CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F

100 °C, 212 °F

### TUBE

Oil resistant synthetic rubber

### REINFORCEMENT

Two high tensile steel braids

### COVER

Weather resistant synthetic rubber

### APPLICABLE SPECS

ISO 16301 Class 70, Grade 1

### TYPE APPROVALS

CU-TR

### REMARKS



- Product designed for jacking applications.
- Any different use may reduce service life. Please contact Manuli Hydraulics for more information.

# GOLDENMINE

CHINA COAL MINE HYDRAULICS



## TECHNICAL DATA

PART REF.	HOSE SIZE			R.O.D		O.D		MAX. W.P		BURST		MIN. BEND		WEIGHT		FITTINGS	
	DN	dash	inch	mm	inch	mm	inch	bar	psi	bar	psi	mm	inch	g/m	lb/ft	Std 1	Std 2
H10116063*	63	-40	2.1/2"	80.6	3.17	84.8	3.34	350	5,070	1,400	20,300	800	31.50	8,105	5.45	IP+M01810-40	

### KEY FEATURES

- Very high flow rates in high pressure
- Extreme robustness of the hose structures
- Hose compact dimensions
- Approved with severe fatigue tests
- Superior abrasion resistance
- High ozone and weather resistance
- Flame retardant (MSHA) and antistatic properties
- Biological and mineral oils compatibility
- Crimped InterLock Plus fitting structure

### APPLICATIONS & FLUIDS

- Hydraulics: heavy duty power lines in China coal mines, hydrostatic transmissions in severe environmental conditions, specific installations with tough abrasion conditions, underground and open pit mining.
- Mineral oils, vegetable oils and synthetic ester based oils (up to 100°C/212°F), glycols and polyglycols, mineral oils in aqueous emulsion, water

### CONTINUOUS SERVICE TEMPERATURE RANGE

-46 °C, -50 °F  
121 °C, 250 °F

### TUBE

Oil resistant synthetic rubber

### REINFORCEMENT

Six high tensile steel spirals

### COVER

STRONG - TYPE "SC"  
Synthetic rubber with high abrasion, ozone, weather and heat resistance and an extended operational temperature range

### APPLICABLE SPECS

MT/T 98

### TYPE APPROVALS

MA; MSHA; CU-TR

### REMARKS



- The brand of the hose reports Allowable Working Pressure (AWP) 50.0 MPa (500 bar) , Safety Factor 2.8:1 according to the China Norm MT/T 98





# HYDRAULIC FITTINGS



## INTRODUCTION

Manuli Hydraulics is globally respected for the breadth and versatility of our hydraulic fittings range. Comprising over 6,000 references, we have fittings to suit most of the common international standards as well as the specific requirements of several of our important OEM customers.

The Manuli Hydraulics fittings range is made up of 3 families: MF2000, MF3000 and Smart Connectors.

The **MF2000** range comprises our core range of two-piece fitting solutions and has over 4,000 references:

**Multifit (MF)** - Simple and cost effective universal solution for wire spiral and wire braid hoses

**Minifit (MN)** - Extremely compact fittings for braided hose (DN6 to DN10)

**Interlock Plus (IP)** - Maximum reliability for very high pressure wire spiral hoses in heavy-duty applications

**Interlock Super (IS)** - High-tech swaged fittings for very large bore wire spiral hose

**Spiralfit (SP)** - No-skive insert for wire spiral hoses and large bore hose

**Spiralfit GX (SPGX)** - No-skive insert for wire spiral hoses and large bore hoses

**Pushlock (PL)** - Insert solution for low pressure applications without the need for a swaged ferrule

The **MF3000** range is made up of one-piece fittings for hoses at medium/high pressures:

**One-Piece Flat (OPF)** - No-skive, compact and flat-crimp fittings for wire braid hoses up to 1½"

**One-Piece Kompact (OPK)** - No-skive, compact and flat-crimp fittings for wire spiral and wire braid high pressure hoses up to 2½"

There are also several types of **Smart Connectors** available:

**RotoFit** - A well-known and patented Manuli Hydraulics solution designed to eliminate hose twist under external torques, which can be a major contributor to premature hose failure. The additional advantage of RotoFit is that it is a "Direct-to-Hose" and "Direct-to-Port" solution. By eliminating the need for adaptors, the number of possible leak points is reduced.

**EasyFit** - The Manuli "threadless" fittings solution for quick and easy installation of assemblies.

This innovative termination end is fitted with a simple axial push, allowing the hose to self-align and thus improve service life. Maintenance and repair time is also drastically reduced and installation / disconnection in restricted spaces is far easier. Moreover the "Direct-to-Port" concept eliminates the need for adaptors and the possibility of related leakages. All EasyFit fittings have an eco-friendly coating treatment for superior corrosion performance.







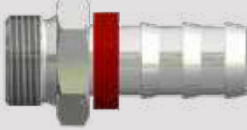
**FastFit / FastFit Disconnectable** - A "one plug" connection consisting of a male half integrated onto the hose and then inserted into the female cartridge. This easy and safe operation does not require any tools for assembly and allows easy installation in restricted areas or in complex configurations. FastFit comes in a wide range of cartridges with direct connection on most standard ports, including BSP, SAE METRIC and NPTF. In addition, the new FastFit Disconnectable range offers all the benefits of standard FastFit technology, but with the ability to disconnect the plug from the cartridge if required.

**Adjustable Flange** - A new and innovative product which allows the body of the flange fitting to rotate even after being installed and tightened, making installation simpler and also ensuring that the hose is oriented in its most natural way, reducing the likelihood of premature fatigue failures due to poor hose orientation.





## TWO PIECE TECHNOLOGY

### OVERVIEW

<p><b>MINIFIT</b></p>  <p>p107 - p112</p>	<p><b>MULTIFIT</b></p>  <p>p113 - p175</p>	<p><b>INTERLOCK PLUS</b></p>  <p>p176 - p221</p>	<p><b>INTERLOCK SUPER</b></p>  <p>p222 - p225</p>
<p><b>SPIRALFIT</b></p>  <p>p226 - p247</p>	<p><b>SPIRALFIT GX</b></p>  <p>p248 - p249</p>	<p><b>PUSH-LOCK</b></p>  <p>p250 - p251</p>	<p><a href="#">ACCESSORIES</a></p> <p>p252 - p255</p>

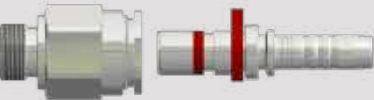


## ONE PIECE TECHNOLOGY

### OVERVIEW

<p><b>OPK</b></p>  <p>p256 - p280</p>	<p><b>OPF</b></p>  <p>p281 - p307</p>
--	--

## SMART FITTINGS

### OVERVIEW

<p><b>EASYFIT</b></p>  <p>p308 - p311</p>	<p><b>FASTFIT</b></p>  <p>p312 - p321</p>	<p><b>ROTOFIT</b></p>  <p>p322 - p332</p>
--	--	--

Fitting	Maximum Working Pressure (bar)														
	Hose Size / Dash														
	3/16"	1/4"	5/16"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	3 1/2"	4"
	03	04	05	06	08	10	12	16	20	24	32	40	48	56	64
BSP 60° CONE BS5200 / ISO 8434-6	1/8"-28 350	1/4"-19 500		3/8"-19 460	1/2"-14 430	5/8"-14 350	3/4"-14 350	1"-11 350	1 1/4"-11 350	1 1/2"-11 300	2"-11 300	2 1/2"-11 140	3"-11 105		
BSP 60° CONE DOUBLE THRUST-WIRE NUT BS5200 / ISO 8434-6							3/4"-14 650	1"-11 650	1 1/4"-11 650	1 1/2"-11 560					
JIC 37° CONE ISO 8434-2 / SAE J514		7/16"-20 350	1/2"-20 350	9/16"-18 350	3/4"-16 350	7/8"-14 350	1 1/16"-12 350	1 5/16"-12 280	1 5/8"-12 210	1 7/8"-12 160	2 1/2"-12 125				
JIC 37° CONE DOUBLE THRUST-WIRE NUT ISO 8434-2 / SAE J514							1 1/16"-12 420	1 5/16"-12 420	1 5/8"-12 420	1 7/8"-12 420	2 1/2"-12 420				
ORFS ISO 8434-3 / SAE J1453		9/16"-18 460		11/16"-16 460	13/16"-16 420	1"-14 420	1 3/16"-12 420	1 7/16"-12 420	1 11/16"-12 420	2"-12 350					
NPTF MALE SAE J514 / ASME B1.20.3	1/8"-27 350	1/4"-18 350		3/8"-18 280	1/2"-14 245		3/4"-14 210	1"-11.5 175	1 1/4"-11.5 145	1 1/2"-11.5 145	2"-11.5 145				
NPSM FEMALE SAE J514	1/8"-27 350	1/4"-18 350		3/8"-18 280	1/2"-14 245		3/4"-14 210	1"-11.5 175	1 1/4"-11.5 145	1 1/2"-11.5 145	2"-11.5 145				
SAE 45° CONE SAE J512		7/16"-20 350	1/2"-20 350	5/8"-18 350	3/4"-16 310	7/8"-14 240	1 1/16"-14 240	1 3/8"-12 210							
ISO/SAE CODE 61 FLANGE ISO 6162-1 / SAE J518-1					1/2" 350		3/4" 350	1" 350	1-1/4" 280	1-1/2" 210	2" 210	2-1/2" 175	3" 160	3-1/2" 35	4" 35
ISO/SAE CODE 62 FLANGE ISO 6162-2 / SAE J518-2					1/2" 420		3/4" 420	1" 420	1-1/4" 420	1-1/2" 420	2" 420	2-1/2" 420	3" 420		
XTRAF LANGE/61 ISO 6162-1 / SAE J518-1 PORT COMPATIBLE								1" 420	1-1/4" 420	1-1/2" 420	2" 420	2-1/2" 420			
XTRAF LANGE/62 ISO 6162-2 / SAE J518-2 PORT COMPATIBLE							3/4" 560	1" 560	1-1/4" 560	1-1/2" 560	2" 450	2-1/2" 420	3" 420		
FLANGE/PLUS ISO 6162-2 / SAE J518-2 PORT COMPATIBLE							3/4" 420	1" 420	1-1/4" 420						
CAT FLANGE ISO 6162-2 / SAE J518-2 PORT COMPATIBLE							3/4" 420	1" 420	1-1/4" 420	1-1/2" 420	2" 420				
METRIC CONE 24° L SERIES ISO 8434-1 / DIN 3865	M12x1.5 415	M14x1.5 400	M16x1.5 350	M18x1.5 330	M22x1.5 275	M26x1.5 250	M30x2 245	M36x2 245	M45x2 220	M52x2 100					
METRIC CONE 24° S SERIES ISO 8434-1 / DIN 3865	M16x1.5 630	M18x1.5 630	M20x1.5 630	M20x1.5 630	M24x1.5 450	M30x2 420	M36x2 420	M42x2 420	M52x2 420						
METRIC CONE 60° LL SERIES DIN 20066							M30x2 63	M38x1.5 63	M45x1.5 63	M52x1.5 63	M65x2 40				
METRIC MULTISEAL DIN 20066	M12x1.5 250	M14x1.5 250	M16x1.5 250	M18x1.5 250	M22x1.5 250	M26x1.5 160									
FRENCH METRIC MILLIMETRIC NF E48-064							M27x1.5 420	M30x1.5 420	M33x1.5 420						
FRENCH GAZ MILLIMETRIC NF E48-064				M20x1.5 630	M24x1.5 630	M30x1.5 420	M36x1.5 420	M45x1.5 420							
JIS METRIC FEMALE 60° CONE (KOMATSU) JIS B8363		M14x1.5 350	M16x1.5 350	M18x1.5 350	M22x1.5 350	M24x1.5 280	M30x1.5 280	M33x1.5 280	M36x1.5 175	M42x2 105					
JIS GAS FEMALE 60° CONE (TOYOTA) JIS B8363		1/4"-19 350		3/8"-19 350	1/2"-14 350		3/4"-14 280	1"-11 280	1 1/4"-11 175	1 1/2"-11 105	2"-11 105				
SAE MALE O-RING BOSS TYPE SAE J516 / ISO 11926		7/16"-20 420		9/16"-18 420	3/4"-16 350	7/8"-14 280	1 1/16"-12 280	1 5/16"-12 210	1 5/8"-12 210						
METRIC STANDPIPE LIGHT DUTY DIN 2353 / ISO 8434-1	6 mm 250	8 mm 250	10 mm 250	12 mm 250	15 mm 250	18 mm 160	22 mm 160	28 mm 100	35 mm 100	42 mm 100					
METRIC STANDPIPE HEAVY DUTY DIN 2353 / ISO 8434-1	8 mm 630	10 mm 630	12 mm 630	14 mm 400	16 mm 400	20 mm 400	25 mm 400	30 mm 250	38 mm 250						
BSP BANJO		1/4"-19 210	3/8"-19 210	3/8"-19 210	1/2"-14 210	5/8"-14 210	3/4"-14 210	1"-11 210							
METRIC BANJO DIN 7642		M12x1.5 210	M14x1.5 210	M16x1.5 210	M22x1.5 210	M22x1.5 210	M26x1.5 210								
WASHCLEANER				M22x1.5 420											

FITTING CODE	Page
A523H95	318
A52013H	315
A52014H	321
A52032H	310
A52053H	315
A52192H	311
A52193H	318
A52194H	320
A52283H	316
A52302H	310
A52323H	316
A52324H	320
A54363H	317
A57363H	317
AR520504	331
AR580504	332
IM01500	211
IM01600	211
IM01800 / IM01810	211
IM01900	212
IM30510	212
IM31210	219
IM32510	213
IM32810	216
IM40812	212
IM40842	213
IM40892	213
IM41612 / IM41613	219
IM41642 / IM41643	220
IM41692 / IM41693	220
IM42412	215
IM42442	215
IM42492	216
IM42512	214
IM42542	214
IM42592	215
IM43310	217
IM43310	220
IM43340	217
IM43390	217
IM43610	218
IM43640	218
IM43690	219
IM43910	221
IM43940	221
IM43990	221
IO821GA	255
IO84210	255
JO29	210
JO29	225
L10510	250
L20513	250
L20543	251
L20593	251
M...IP..	173
M00110 / M00120 / M00130	113
M00310 / M00321	114
M00820 / M00830	114
M00910 / M00920 / M00930	113
M01500	176
M01600	176
M01800 / M01810 / M01850	176

FITTING CODE	Page
M01900	177
M02400	107
M02700	222
M02800	222
M03300	115
M03400 / M03450	115
M03500	116
M4364A	333
M4369A	333
M05400	226
M05500	226
M05500-GX	248
M10050	173
M10510	117
M10610	125
M10710	116
M11010	154
M11110	157
M11190	158
M11210	161
M11290	161
M11710	164
M11810	165
M12410	133
M12510	126
M12810	141
M12H10	308
M12H40	308
M12H90	309
M13010	138
M13H10	313
M13H40	313
M13H90	313
M14110R	141
M14310	138
M14390	139
M14H10	320
M20511KR	118
M20512 / M20513	118
M20514	119
M20541KR	120
M20542 / M20543	119
M20591KR	121
M20592 / M20593	120
M20594	121
M20612 / M20613	126
M20711 / M20712	168
M20811HKR	122
M20812 / M20813	122
M20841KR	123
M20842 / M20843	123
M20882F	125
M20891KR	124
M20892 / M20893	124
M21012 / M21013	154
M21043	155
M21093	155
M21312 / M21313	156
M21342 / M21343	156
M21392 / M21393	157
M21512 / M21513	158
M21542 / M21543	159

FITTING CODE	Page
M21592 / M21593	160
M21612 / M21613	162
M21642 / M21643	163
M21692 / M21693	164
M21713	165
M21813	166
M21893	166
M22010	151
M22040	152
M22090	153
M22110	151
M22140	152
M22190	153
M22411	134
M22441KR	136
M22441 / M22443	135
M22491KR	137
M22491 / M22493	136
M22512 / M22513	127
M22541KR	130
M22542 / M22543	130
M22582F	133
M22591KR	131
M22592 / M22593	131
M22612	139
M22642	140
M22692	140
M22711 / M22711KR	129
M22712	128
M22812	142
M22H10	309
M23301P	147
M23301S	148
M23301T	148
M23311	142
M23321	143
M23331	143
M23341	144
M23361	145
M23371	145
M23391	146
M23391 LONG DROP	147
M23611	149
M23641	149
M23691	150
M23811	168
M23911	170
M23911CT	170
M23941	171
M23941CT	171
M23991	172
M23991CT	172
M24011 / M24012	167
M24091	167
M24111	169
M24141	169
M24191	169
M24491 LONG DROP	137
M24791KR	132
M24792 / M24793	132
M27411	134
M27411KR	135

FITTING CODE	Page
M30050	209
M30510	177
M30710	177
M31110	197
M31210	198
M31240	198
M31290	198
M32410	183
M32510	181
M32810	188
M33010	188
M33H10	314
M33H40	314
M33H90	314
M40512	178
M40514	178
M40542	178
M40592	179
M40812	179
M40842	180
M40892	180
M41243 LONG DROP	201
M41293 LONG DROP	201
M41612 / M41613	199
M41642 / M41643	199
M41663	200
M41692 / M41693	200
M42411	184
M42412	184
M42431	185
M42441	185
M42442	185
M42443	186
M42461	186
M42491	186
M42492	187
M42493	187
M42512	181
M42542	182
M42592	183
M42714	182
M43310	189
M43320	189
M43330	190
M43340	190
M43360	191
M43370	191
M43390	192
M43610	192
M43620	193
M43630	193
M43640	194
M43660	194
M43670	195
M43690	195
M43710	201
M43740	202
M43790	202
M43910	203
M43910CT	203
M43920	204
M43930	204

FITTING CODE	Page
M43930CT	205
M43940	205
M43940CT	206
M43960	206
M43960CT	207
M43970	207
M43970CT	207
M43990	208
M43990CT	209
M43990CT LONG DROP	209
M43990 LONG DROP	208
M44492 LONG DROP	187
M48410	196
M48490	196
M48510	196
M48540	197
M48590	197
M49510WL	210
M70050	247
M70510	227
M71210	240
M72410	231
M72510	229
M72810	233
M73010	233
M73H10	315
M80812	227
M80842	228
M80892	228
M81612	240
M81642 / M81643	241
M81692 / M81693	241
M82412	231
M82442	232
M82492	232
M82542	230
M82592	230
M82712	229
M83301...P	235
M83311	234
M83341	234
M83391	235
M83611	236
M83611-GX	248
M83621	236
M83631	237
M83641	237
M83641-GX	248
M83661	238
M83691	238
M83691-GX	249
M83711	242
M83741	242
M83791	243
M83911	243
M83921	244
M83931	244
M83941	245
M83961	245
M83971	246
M83991	246
M83991 LONG DROP	247
M84492	232

FITTING CODE	Page
M84792	231
M88511	239
M88541	239
M88591	239
M89510WL	247
MB0514	222
MB3610	223
MB3640	223
MB3690	223
MB3910	224
MB3940	225
MB3990	225
MB8510	224
MB8590	224
MR10510	323
MR11210	327
MR11910	327
MR12410	325
MR12810	325
MR20812	323
MR20892RT	324
MR21512	327
MR21612	328
MR22411	325
MR22510	324
MR22711	324
MR23311FK	326
MR23341FK	326
MR23361FK	326
MR30510	328
MR32810	329
MR40812	328
MR42410	329
MR42510	329
MR43310	330
MR43610	330
MR43690	330
MR83611	331
MR83691	331
MS0511KR	107
MS0513	107
MS0541KR	108
MS0543	108
MS0591KR	109
MS0593	108
MS0811HKR	109
MS0813	109
MS0841KR	110
MS0843	110
MS0882F	111
MS0891KR	111
MS0893	110
MS1513	112
MS1593	112
MT0710	111
O82H10	311
O820	252
O20310	174
O20910	174
O80210	175
O80810	175
O83308	252
O83607	253

FITTING CODE	Page
O83609	253
O88407	254
O88507	254
OPF10510	281
OPF10710	281
OPF11110	301
OPF11210	303
OPF12410	292
OPF12510	286
OPF12810	296
OPF13010	294
OPF14110R	297
OPF14310	295
OPF14390	295
OPF20512 / OPF20513	282
OPF20542 / OPF20543	282
OPF20592 / OPF20593	283
OPF20612 / OPF20613	285
OPF20711	306
OPF20812 / OPF20813	283
OPF20842 / OPF20843	284
OPF20882F	285
OPF20892 / OPF20893	284
OPF21312 / OPF21313	300
OPF21392 / OPF21393	301
OPF21512 / OPF21513	302
OPF21542 / OPF21543	302
OPF21592 / OPF21593	303
OPF21612 / OPF21613	304
OPF21642 / OPF21643	304
OPF21692 / OPF21693	305
OPF22010	300
OPF22411 / OPF22412	292
OPF22441 / OPF22443	293
OPF22491 / OPF22493	293
OPF22541KR	288
OPF22542 / OPF22543	288
OPF22582F	291
OPF22591KR	290
OPF22592 / OPF22593	289
OPF22612	296
OPF22711K	287
OPF22711 / OPF22711KR /	287
OPF22712	286
OPF22812	297
OPF23311	298
OPF23321	298
OPF23331	298
OPF23341	299
OPF23361	299
OPF23371	299
OPF23391	300
OPF23811	306
OPF24011	305
OPF24111	306
OPF24141	307
OPF24191	307
OPF24491	294
OPF24791KR	291
OPF24792 / OPF24793	290
OPK10510	256
OPK11110	273
OPK11210	275

FITTING CODE	Page
OPK11710	277
OPK11810	277
OPK12410	264
OPK12510	259
OPK12810	267
OPK13010	266
OPK14110R	267
OPK14310	266
OPK20512 / OPK20513	256
OPK20542 / OPK20543	257
OPK20592 / OPK20593	257
OPK20812 / OPK20813	258
OPK20842 / OPK20843	258
OPK20892 / OPK20893	259
OPK21512 / OPK21513	274
OPK21542 / OPK21543	274
OPK21592 / OPK21593	275
OPK21612 / OPK21613	276
OPK21642 / OPK21643	276
OPK21692 / OPK21693	277
OPK21813	278
OPK22411	264
OPK22441 / OPK22443	265
OPK22491 / OPK22493	265
OPK22541KR	261
OPK22542 / OPK22543	261
OPK22591KR	262
OPK22592 / OPK22593	262
OPK22711 / OPK22711KR	260
OPK22712	260
OPK22812	268
OPK23311	268
OPK23321	269
OPK23331	269
OPK23341	270
OPK23361	270
OPK23371	271
OPK23391	271
OPK23611	272
OPK23641	272
OPK23691	273
OPK23911	279
OPK23941	280
OPK23991	280
OPK24011 / OPK24012	278
OPK24111	278
OPK24141	279
OPK24191	279
OPK24491	266
OPK24791KR	263
OPK24792 / OPK24793	263

**MINIFIT**

DN	5	6	8	10	12	16	19	25	31	38	51	60	63	76
Inch	3/16"	1/4"	5/16"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"	1 1/2"	2"	2 3/8"	2 1/2"	3"
Size	-03	-04	-05	-06	-08	-10	-12	-16	-20	-24	-32	-38	-40	-48

**FERRULES**

M02400															
--------	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

**FITTINGS**

BSP															
DIN METRIC 24° CONE LIGHT TYPE															

**MULTIFIT**

DN	5	6	8	10	12	16	19	25	31	38	51	60	63	76	89	102
Inch	3/16"	1/4"	5/16"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"	1 1/2"	2"	2 3/8"	2 1/2"	3"	3 1/2"	4"
Size	-03	-04	-05	-06	-08	-10	-12	-16	-20	-24	-32	-38	-40	-48	-56	-64

**FERRULES**

M00110 / M00120 / M00130																
M00910 / M00920																
M03300																
M03400																
M03500																
M00310 / M00320																
M00820 / M00830																

**FITTINGS**

BSP																
SAE (JIC)																
SAE (ORFS)																
SAE (O-RING BOSS)																
SAE (NPTF-NPSM)																
SAE FLANGE CODE 61																
SAE FLANGE CODE 62																
DIN STANDPIPE																
DIN METRIC 60° CONE																
DIN METRIC MULTISEAL																
DIN METRIC 24° CONE LIGHT TYPE																
DIN METRIC 24° CONE HEAVY TYPE																
NF (FRENCH MILLIMERIC TYPE)																
NF (FRENCH GAZ TYPE)																
JIS																
ORIGINAL EQUIPMENT CONNECTIONS																
BANJO CONNECTIONS																
SAE (45° CONE)																

**INTERLOCK PLUS**

DN	5	6	8	10	12	16	19	25	31	38	51	60	63	76	89	102
Inch	3/16"	1/4"	5/16"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"	1 1/2"	2"	2 3/8"	2 1/2"	3"	3 1/2"	4"
Size	-03	-04	-05	-06	-08	-10	-12	-16	-20	-24	-32	-38	-40	-48	-56	-64

FERRULES																	
M01500																	
M01600																	
M01800 / M01810 / M01850																	
M01900																	

FITTINGS																	
BSP																	
SAE (JIC)																	
SAE (ORFS)																	
SAE (O-RING COSS)																	
SAE (NPTF-NPSM)																	
SAE FLANGE CODE 61																	
SAE FLANGE CODE 62																	
DIN METRIC 24° CONE HEAVY TYPE																	
ORIGINAL EQUIPMENT CONNECTIONS																	
XTRAFLLANGE/61																	
XTRAFLLANGE/62																	

**INTERLOCK PLUS STAINLESS STEEL**

DN	5	6	8	10	12	16	19	25	31	38	51	60	63	76	89	102
Inch	3/16"	1/4"	5/16"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"	1 1/2"	2"	2 3/8"	2 1/2"	3"	3 1/2"	4"
Size	-03	-04	-05	-06	-08	-10	-12	-16	-20	-24	-32	-38	-40	-48	-56	-64

FERRULES																	
IM01500																	
IM01600																	
IM01800 / IM01810																	
IM01900																	

FITTINGS																	
BSP																	
SAE (JIC)																	
SAE (ORFS)																	
SAE (NPTF)																	
SAE FLANGE CODE 61																	
SAE FLANGE CODE 62																	
DIN METRIC 24° CONE HEAVY TYPE																	
ORIGINAL EQUIPMENT CONNECTIONS																	

### INTERLOCK SUPER

DN	5	6	8	10	12	16	19	25	31	38	51	60	63	76	89	102
Inch	3/16"	1/4"	5/16"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"	1 1/2"	2"	2 3/8"	2 1/2"	3"	3 1/2"	4"
Size	-03	-04	-05	-06	-08	-10	-12	-16	-20	-24	-32	-38	-40	-48	-56	-64

#### FERRULES

M02700																	
M02800																	

#### FITTINGS

SAE FLANGE CODE 62																	
XTRAFRANGE/62																	
BSP																	
ORIGINAL EQUIPMENT CONNECTIONS																	

### SPIRALFIT

DN	5	6	8	10	12	16	19	25	31	38	51	60	63	76	89	102
Inch	3/16"	1/4"	5/16"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"	1 1/2"	2"	2 3/8"	2 1/2"	3"	3 1/2"	4"
Size	-03	-04	-05	-06	-08	-10	-12	-16	-20	-24	-32	-38	-40	-48	-56	-64

#### FERRULES

M05400																	
M05500																	

#### FITTINGS

BSP																	
SAE (JIC)																	
SAE (ORFS)																	
SAE (O-RING BOSS)																	
SAE (NPTF-NPSM)																	
SAE FLANGE CODE 61																	
SAE FLANGE CODE 62																	
DIN METRIC 24° CONE HEAVY TYPE																	
ORIGINAL EQUIPMENT CONNECTIONS																	
XTRAFRANGE/62																	

### SPIRALFIT GX

DN	5	6	8	10	12	16	19	25	31	38	51	60	63	76	89	102
Inch	3/16"	1/4"	5/16"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"	1 1/2"	2"	2 3/8"	2 1/2"	3"	3 1/2"	4"
Size	-03	-04	-05	-06	-08	-10	-12	-16	-20	-24	-32	-38	-40	-48	-56	-64

#### FERRULES

M05500-GX																	
-----------	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

#### FITTINGS

SAE FLANGE CODE 62																	
--------------------	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--



**PUSHLOCK**

DN	5	6	8	10	12	16	19	25	31	38	51	60	63	76	89	102
Inch	3/16"	1/4"	5/16"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"	1 1/2"	2"	2 3/8"	2 1/2"	3"	3 1/2"	4"
Size	-03	-04	-05	-06	-08	-10	-12	-16	-20	-24	-32	-38	-40	-48	-56	-64

FITTINGS																	
BSP																	

**OPF**

DN	5	6	8	10	12	16	19	25	31	38	51
Inch	3/16"	1/4"	5/16"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"	1 1/2"	2"
Size	-03	-04	-05	-06	-08	-10	-12	-16	-20	-24	-32

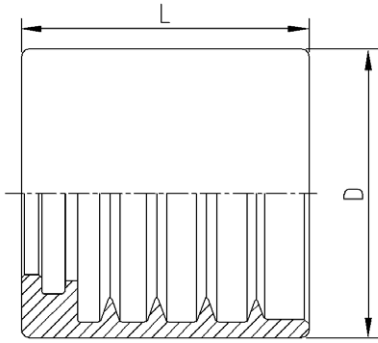
FITTINGS												
BSP												
SAE (JIC)												
SAE (ORFS)												
SAE (O-RING BOSS)												
SAE (NPTF-NPSM)												
SAE FLANGE CODE 61												
DIN STANDPIPE												
DIN METRIC MULTISEAL												
DIN METRIC 24° CONE LIGHT TYPE												
DIN METRIC 24° CONE HEAVY TYPE												
JIS												
ORIGINAL EQUIPMENT CONNECTIONS												

OPK

DN	5	6	8	10	12	16	19	25	31	38	51
Inch	3/16"	1/4"	5/16"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"	1 1/2"	2"
Size	-03	-04	-05	-06	-08	-10	-12	-16	-20	-24	-32

FITTINGS

BSP											
SAE (JIC)											
SAE (ORFS)											
SAE (O-RING BOSS)											
SAE (NPTF-NPSM)											
SAE FLANGE CODE 61											
SAE FLANGE CODE 62											
DIN METRIC 24° CONE LIGHT TYPE											
DIN METRIC 24° CONE HEAVY TYPE											
NF (FRENCH MILLIMETRIC TYPE)											
NF (FRENCH GAZ TYPE)											
JIS											
ORIGINAL EQUIPMENT CONNECTIONS											



FERRULE

# M02400

NO-SKIVE FERRULE FOR COMPACT HOSES

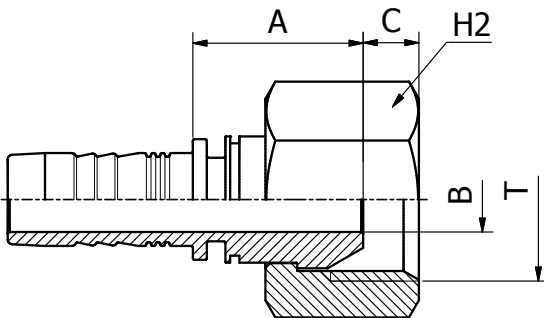
PART. REF.	HOSE BORE			DIMENSIONS mm							
	DN	Dash	inch			D	L				
M02400-04	6	- 4	1/4"			18.5	18.5				
M02400-05	8	- 5	5/16"			21.3	19.6				
M02400-06	10	- 6	3/8"			23.8	21.2				

107 FITTINGS

BS STANDARD CONNECTIONS

# MS0513

BSP  
FEMALE 60° CONE  
BS5200 / ISO 8434-6

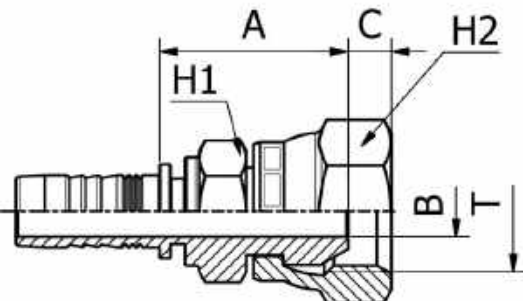


PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch	T		B	A	C	H2			
MS0513-04-04	6	- 4	1/4"	1/4" - 19		4.0	15.7	5.4	19.0			
MS0513-06-06	10	- 6	3/8"	3/8" - 19		7.0	18.3	6.0	22.0			

BS STANDARD CONNECTIONS

# MS0511KR

BSP FEMALE 60° CONE  
BS5200 / ISO 8434-6

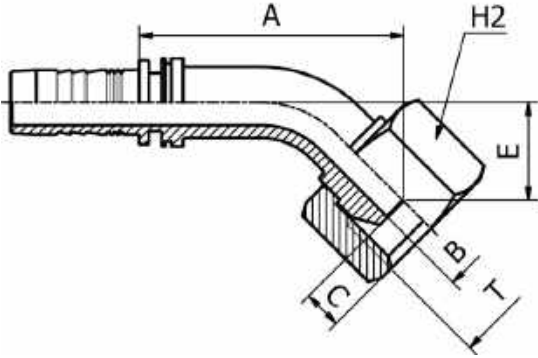


PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch	T		B	A	C	H2			
MS0511-04-04H12KR	6	- 4	1/4"	1/4" - 19		4.0	23.5	5.2	19.0			
MS0511-06-06H17KR	10	- 6	3/8"	3/8" - 19		7.0	26.0	6.0	22.0			

BS STANDARD CONNECTIONS

# MS0543

45° BSP  
FEMALE 60° CONE  
BS5200 / ISO 8434-6



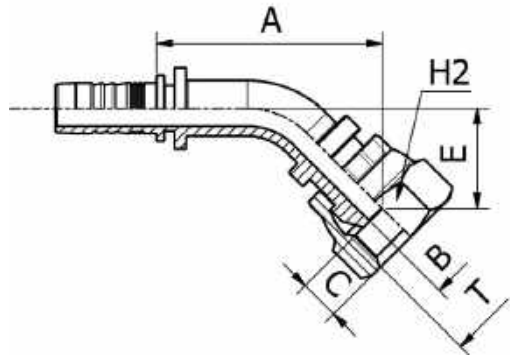
PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	B	A	C	E	H2	
MS0543-04-04	6	- 4	1/4"	1/4" - 19	4.0	34.7	5.4	14.7	19.0		
MS0543-06-06	10	- 6	3/8"	3/8" - 19	7.0	41.0	6.0	15.3	22.0		

FITTINGS 108

BS STANDARD CONNECTIONS

# MS0541KR

BSP  
FEMALE 60° CONE  
BS5200 / ISO 8434-6

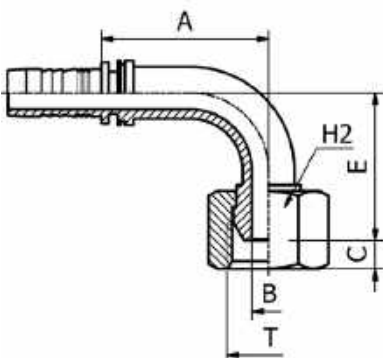


PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	B	A	C	E	H2	
MS0541-04-04KR	6	- 4	1/4"	1/4" - 19	4.2	36.5	5.2	16.6	19.0		
MS0541-06-06KR	10	- 6	3/8"	3/8" - 19	7.0	44.5	6.0	20.0	22.0		

BS STANDARD CONNECTIONS

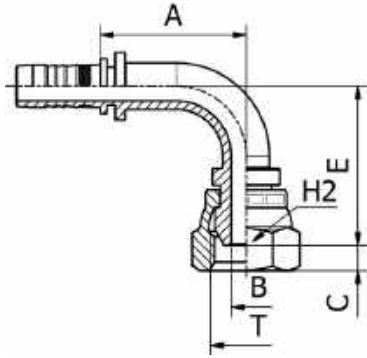
# MS0593

90° BSP  
FEMALE 60° CONE  
BS5200 / ISO 8434-6



PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	B	A	C	E	H2	
MS0593-04-04	6	- 4	1/4"	1/4" - 19	4.0	28.2	5.4	29.0	19.0		
MS0593-06-06	10	- 6	3/8"	3/8" - 19	7.0	35.3	6.0	31.5	22.0		

BS STANDARD CONNECTIONS

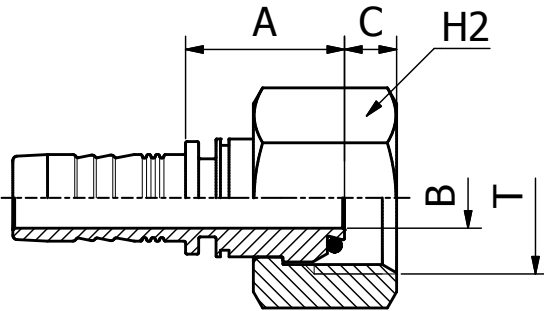


# MS0591KR

90° BSP  
FEMALE SWEPT ELBOW 60° CONE  
BS5200 / ISO 8434-6

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	E	H2		
MS0591-04-04KR	6	- 4	1/4"	1/4" - 19	4.2	27.0	5.2	30.5	19.0		
MS0591-06-06KR	10	- 6	3/8"	3/8" - 19	7.0	34.5	6.0	37.5	22.0		

BS STANDARD CONNECTIONS

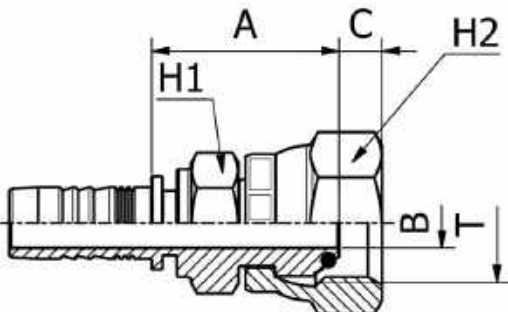


# MS0813

BSP  
O-RING FEMALE 60° CONE  
BS5200 / ISO 8434-6

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	H2			
MS0813-04-04	6	- 4	1/4"	1/4" - 19	4.0	15.7	5.4	19.0			
MS0813-05-06	8	- 5	5/16"	3/8" - 19	7.0	18.0	6.0	22.0			
MS0813-06-06	10	- 6	3/8"	3/8" - 19	7.0	18.3	6.0	22.0			

BS STANDARD CONNECTIONS



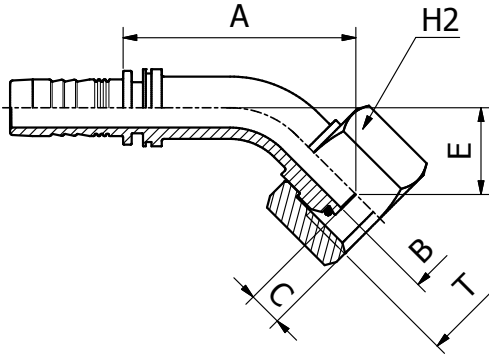
# MS0811HKR

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	H1	H2		
MS0811-04-04H12KR	6	- 4	1/4"	1/4" - 19	4.0	23.5	5.2	12.0	19.0		
MS0811-06-06H17KR	10	- 6	3/8"	3/8" - 19	7.0	26.0	6.0	17.0	22.0		

BS STANDARD CONNECTIONS

# MS0843

45° BSP  
O-RING FEMALE 60° CONE  
BS5200 / ISO 8434-6



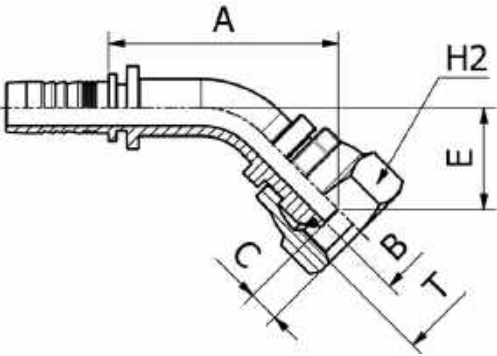
PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	B	A	C	E	H2	
MS0843-04-04	6	- 4	1/4"	1/4" - 19	4.0	34.7	5.4	14.7	19.0		
MS0843-05-06	8	- 5	5/16"	3/8" - 19	7.0	40.5	6.0	17.0	22.0		
MS0843-06-06	10	- 6	3/8"	3/8" - 19	7.0	41.0	6.0	15.3	22.0		

FITTINGS 110

BS STANDARD CONNECTIONS

# MS0841KR

45° BSP  
O-RING FEMALE 60° CONE  
BS5200 / ISO 8434-6

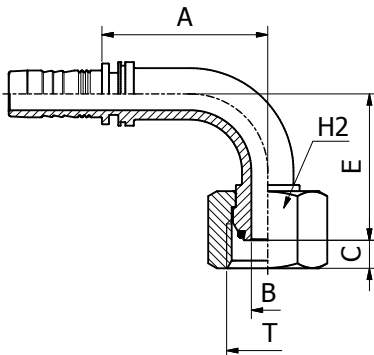


PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	B	A	C	E	H2	
MS0841-04-04KR	6	- 4	1/4"	1/4" - 19	4.2	36.5	5.2	16.5	19.0		
MS0841-06-06KR	10	- 6	3/8"	3/8" - 19	7.0	44.5	6.0	20.0	22.0		

BS STANDARD CONNECTIONS

# MS0893

90° BSP  
O-RING FEMALE 60° CONE  
BS5200 / ISO 8434-6

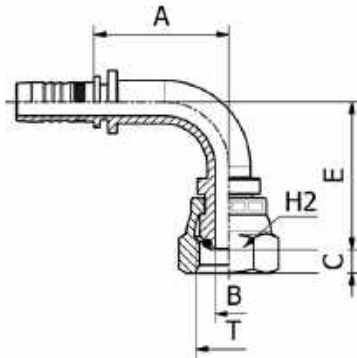


PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	B	A	C	E	H2	
MS0893-04-04	6	- 4	1/4"	1/4" - 19	4.0	28.2	5.4	29.0	19.0		
MS0893-05-06	8	- 5	5/16"	3/8" - 19	7.0	31.0	6.0	32.5	22.0		
MS0893-06-06	10	- 6	3/8"	3/8" - 19	7.0	35.3	6.0	31.5	22.0		

BS STANDARD CONNECTIONS

# MS0891KR

90° BSP  
O-RING FEMALE 60° CONE  
BS5200 / ISO 8434-6

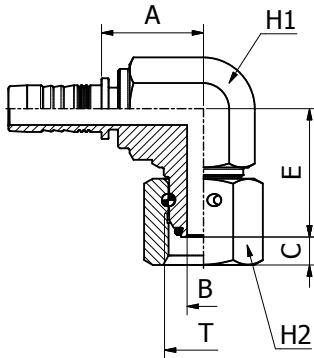


PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	E	H2		
MS0891-04-04KR	6	-4	1/4"	1/4" - 19	4.2	27.0	5.2	30.5	19.0		
MS0891-06-06KR	10	-6	3/8"	3/8" - 19	7.0	34.5	6.0	37.5	22.0		

FITTINGS  
111

BS STANDARD CONNECTIONS

# MS0882F

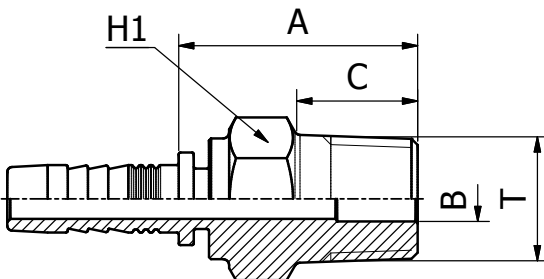


PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	E	H1	H2	
MS0882-04-04F	6	-4	1/4"	1/4" - 19	4	18,7	4,1	22	14	19	
MS0882-06-06F	10	-6	3/8"	3/8" - 19	7	21,8	6	27,5	19	22	

BS STANDARD CONNECTIONS

# MT0710

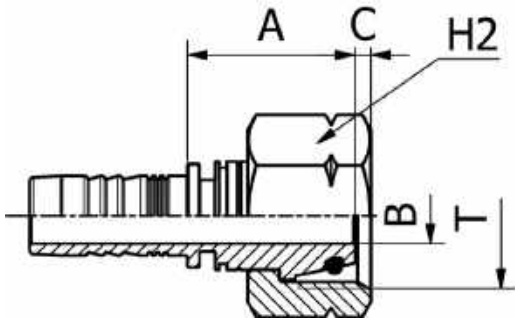
BSP MALE TAPERED



PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	H1			
MT0710-04-04	6	-4	1/4"	1/4" - 19	4.5	23.5	12.0	14.0			



DIN STANDARD CONNECTIONS

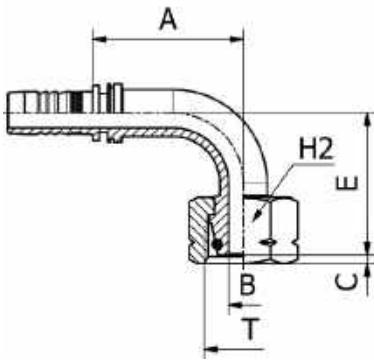


# MS1513

**METRIC**  
**O-RING FEMALE 24° CONE LIGHT DUTY**  
**ISO 8434-1 / DIN 3865**

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	B	A	C	H2		
MS1513-04-14	6	- 4	1/4"	M14 X 1.5		4.0	21.0	1.3	17.0		
MS1513-05-16	8	- 5	5/16"	M16 X 1.5		6.0	21.5	1.8	19.0		
MS1513-05-18	8	- 5	5/16"	M18 X 1.5		7.0	20.9	2.0	22.0		
MS1513-06-18	10	- 6	3/8"	M18 X 1.5		7.0	21.1	2.0	22.0		

FITTINGS 112

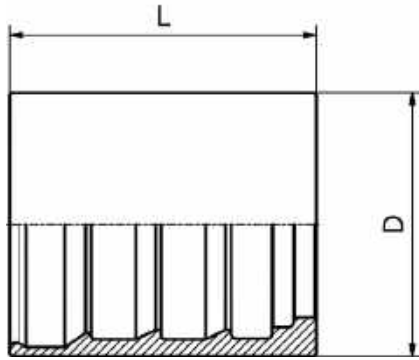


DIN STANDARD CONNECTIONS

# MS1593

**90° METRIC**  
**O-RING FEMALE 24° CONE LIGHT DUTY**  
**ISO 8434-1 / DIN 3865**

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm					
	DN	Dash	inch		T	B	A	C	E	H2
MS1593-04-14	6	- 4	1/4"	M14 X 1.5		4.0	28.0	1.3	31.5	17.0
MS1593-05-16	8	- 5	5/16"	M16 X 1.5		6.0	31.0	1.8	32.5	19.0
MS1593-06-18	10	- 6	3/8"	M18 X 1.5		7.0	35.5	2.5	33.5	22.0

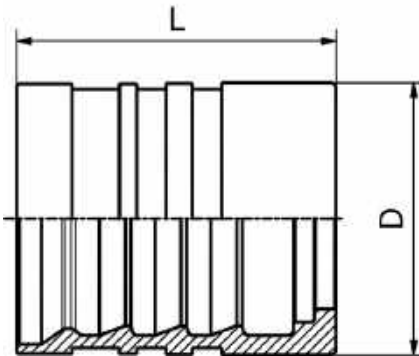


FERRULE

# M00110/M00120/M00130

**SKIVE FERRULE  
FOR WIRE BRAID HOSES**

PART. REF.	HOSE BORE			DIMENSIONS mm							
	DN	Dash	inch			D	L				
M00120-03	5	- 3	3/16"			17.0	23.9				
M00120-04	6	- 4	1/4"			19.5	28.0				
M00120-05	8	- 5	5/16"			20.0	28.6				
M00120-06	10	- 6	3/8"			23.0	30.0				
M00120-08	12	- 8	1/2"			26.7	32.0				
M00120-10	16	- 10	5/8"			32.0	38.0				
M00120-12	19	- 12	3/4"			35.8	41.7				
M00130-16	25	- 16	1"			43.0	47.0				
M00110-20	31	- 20	1.1/4"			50.5	59.0				
M00110-24	38	- 24	1.1/2"			57.0	70.0				
M00110-32	51	- 32	2"			70.0	72.0				



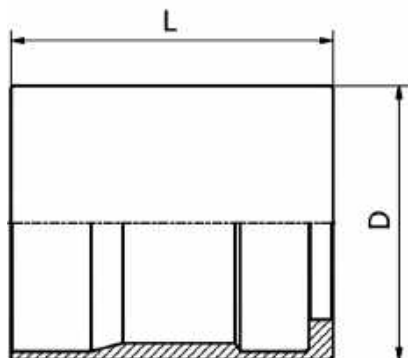
FERRULE

# M00910/M00920/M00930

**SKIVE FERRULE  
FOR WIRE BRAID  
AND SPIRAL HOSES**

PART. REF.	HOSE BORE			DIMENSIONS mm							
	DN	Dash	inch			D	L				
M00910-03	5	- 3	3/16"			20.6	26.0				
M00910-04	6	- 4	1/4"			22.0	30.0				
M00910-05	8	- 5	5/16"			24.0	31.0				
M00910-06	10	- 6	3/8"			26.0	33.0				
M00920-06	10	- 6	3/8"			26.7	33.0				
M00910-08	12	- 8	1/2"			30.0	34.0				
M00910-10	16	- 10	5/8"			33.0	39.0				
M00920-12	19	- 12	3/4"			38.0	40.0				
M00930-16	25	- 16	1"			46.0	54.0				
M00920-20	31	- 20	1.1/4"			57.0	60.0				
M00910-24	38	- 24	1.1/2"			65.0	70.0				
M00910-32	51	- 32	2"			79.0	72.0				

FERRULE



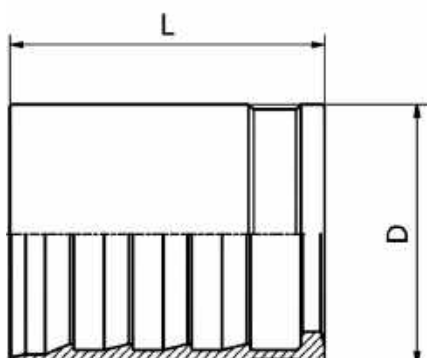
# M00310/M00321

**NO-SKIVE FERRULE  
FOR TEXTILE BRAID HOSES**

FITTINGS 114

PART. REF.	HOSE BORE			DIMENSIONS mm							
	DN	Dash	inch			D	L				
M00310-03	5	- 3	3/16"			17.5	27.0				
M00310-04	6	- 4	1/4"			19.3	30.0				
M00310-05	8	- 5	5/16"			21.0	32.0				
M00310-06	10	- 6	3/8"			24.0	32.0				
M00310-08	12	- 8	1/2"			28.4	34.0				
M00310-10	16	- 10	5/8"			33.0	37.0				
M00321-12	19	- 12	3/4"			37.0	43.0				
M00310-16	25	- 16	1"			43.5	51.0				
M00310-20	31	- 20	1.1/4"			50.0	59.0				

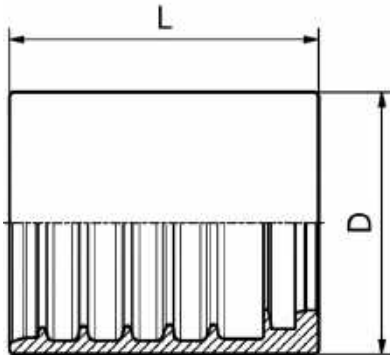
FERRULE



# M00820/M00830

**NO-SKIVE FERRULE  
FOR COMPACT HOSES**

PART. REF.	HOSE BORE			DIMENSIONS mm							
	DN	Dash	inch			D	L				
M00820-03	5	- 3	3/16"			14.0	26.4				
M00830-04	6	- 4	1/4"			18.0	29.6				
M00830-05	8	- 5	5/16"			19.0	31.9				
M00820-06	10	- 6	3/8"			22.0	32.9				
M00820-08	12	- 8	1/2"			26.0	33.9				
M00820-10	16	- 10	5/8"			29.0	35.9				
M00820-12	19	- 12	3/4"			33.0	41.7				
M00820-16	25	- 16	1"			41.0	49.7				
M00820-20	31	- 20	1.1/4"			48.0	57.0				
M00820-24	38	- 24	1.1/2"			55.5	66.0				
M00820-32	51	- 32	2"			68.6	70.0				

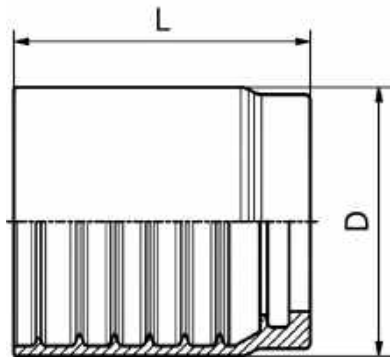


FERRULE

# M03300

**NO-SKIVE FERRULE  
FOR WIRE BRAID HOSES**

PART. REF.	HOSE BORE			DIMENSIONS mm							
	DN	Dash	inch			D	L				
M03300-03	5	- 3	3/16"			19.2	22.0				
M03300-04	6	- 4	1/4"			20.5	27.5				
M03300-05	8	- 5	5/16"			22.8	28.5				
M03300-06	10	- 6	3/8"			25.0	30.0				
M03300-08	12	- 8	1/2"			28.0	33.0				



FERRULE

# M03400/M03450

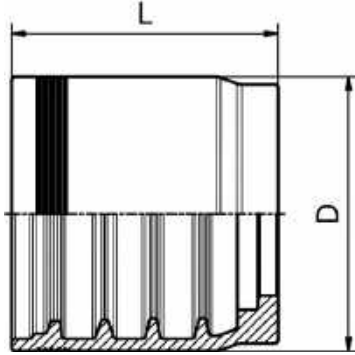
**NO-SKIVE FERRULE  
FOR WIRE BRAID HOSES**

PART. REF.	HOSE BORE			DIMENSIONS mm							
	DN	Dash	inch			D	L				
M03400-03	5	- 3	3/16"			21.0	23.0				
M03400-04	6	- 4	1/4"			23.0	30.1				
M03400-05	8	- 5	5/16"			24.0	30.0				
M03400-06	10	- 6	3/8"			26.0	31.1				
M03400-08	12	- 8	1/2"			29.0	34.0				
M03450-08	12	- 8	1/2"			30.3	31.0				
M03400-10	16	- 10	5/8"			33.0	37.0				
M03400-12	19	- 12	3/4"			37.0	42.0				
M03400-16	25	- 16	1"			46.0	50.7				
M03400-20	31	- 20	1.1/4"			59.0	57.2				
M03400-24	38	- 24	1.1/2"			67.0	64.8				
M03400-32	51	- 32	2"			80.0	68.3				
M03400-38	60	- 38	2.3/8"			82.5	69.0				
M03400-40	63	- 40	2.1/2"			88.2	68.8				
M03400-48	76	- 48	3"			103.0	75.0				
M03400-56	89	- 56	3.1/2"			123.4	91.0				

FERRULE

# M03500

**NO SKIVE FERRULE  
FOR WIRE SPIRAL HOSES**



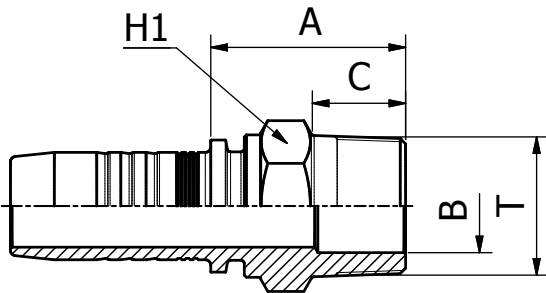
PART. REF.	HOSE BORE			DIMENSIONS mm							
	DN	Dash	inch			D	L				
M03500-06	10	- 6	3/8"			29.5	30.7				
M03500-08	12	- 8	1/2"			33.4	32.0				
M03500-10	16	- 10	5/8"			37.2	34.8				
M03500-12	19	- 12	3/4"			41.3	40.0				
M03500-16	25	- 16	1"			49.1	51.0				
M03500-20	31	- 20	1.1/4"			59.3	54.5				

FITTINGS  
116

BS STANDARD CONNECTIONS

# M10710

**BSP MALE TAPERED - ISO 7**

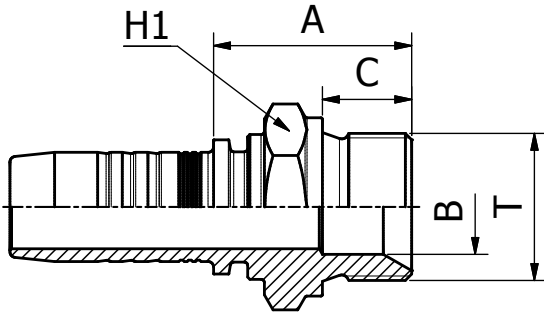


PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch	T	B	A	C	H1				
M10710-03-02	5	- 3	3/16"	1/8" - 28	4.5	20.5	8.0	12.0				
M10710-03-04	5	- 3	3/16"	1/4" - 19	4.5	24.5	12.0	14.0				
M10710-04-02	6	- 4	1/4"	1/8" - 28	4.5	21.0	8.0	12.0				
M10710-04-04	6	- 4	1/4"	1/4" - 19	4.5	25.0	12.0	14.0				
M10710-04-06	6	- 4	1/4"	3/8" - 19	7.0	26.0	12.0	19.0				
M10710-04-08	6	- 4	1/4"	1/2" - 14	10.0	29.5	15.0	22.0				
M10710-05-04	8	- 5	5/16"	1/4" - 19	5.5	25.0	12.0	14.0				
M10710-05-06	8	- 5	5/16"	3/8" - 19	7.0	26.5	12.0	19.0				
M10710-05-08	8	- 5	5/16"	1/2" - 14	10.0	30.0	15.0	22.0				
M10710-06-06	10	- 6	3/8"	3/8" - 19	7.0	27.0	12.0	19.0				
M10710-06-08	10	- 6	3/8"	1/2" - 14	10.0	30.5	15.0	22.0				
M10710-08-04	12	- 8	1/2"	1/4" - 19	4.5	26.0	12.0	19.0				
M10710-08-08	12	- 8	1/2"	1/2" - 14	10.0	31.0	15.0	22.0				
M10710-10-08	16	- 10	5/8"	1/2" - 14	10.0	31.0	15.0	22.0				
M10710-10-12	16	- 10	5/8"	3/4" - 14	17.0	34.0	17.0	27.0				
M10710-12-12	19	- 12	3/4"	3/4" - 14	17.0	35.5	17.0	27.0				
M10710-16-12	25	- 16	1"	3/4" - 14	17.0	38.0	17.0	32.0				
M10710-16-16	25	- 16	1"	1" - 11	22.5	42.0	21.0	36.0				
M10710-20-20	31	- 20	1.1/4"	1.1/4" - 11	28.5	47.5	23.0	46.0				
M10710-24-24	38	- 24	1.1/2"	1.1/2" - 11	32.0	50.0	23.0	50.0				
M10710-32-32	51	- 32	2"	2" - 11	44.0	55.5	27.0	65.0				

BS STANDARD CONNECTIONS

# M10510

**BSP MALE PARALLEL 60° CONE SEAT  
BS5200 / ISO 8434-6**

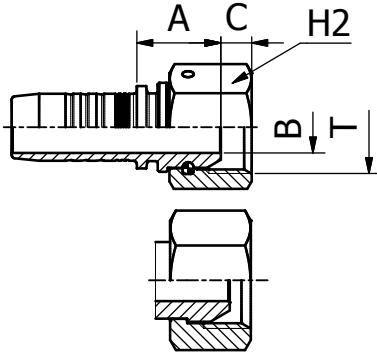


PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch		T	B	A	C	H1			
M10510-03-02	5	- 3	3/16"	1/8" - 28		3.5	22.5	10.0	14.0			
M10510-03-04	5	- 3	3/16"	1/4" - 19		5.0	25.0	11.0	19.0			
M10510-04-02	6	- 4	1/4"	1/8" - 28		3.5	22.5	10.0	14.0			
M10510-04-04	6	- 4	1/4"	1/4" - 19		5.0	25.5	11.0	19.0			
M10510-04-06	6	- 4	1/4"	3/8" - 19		8.0	27.0	12.0	22.0			
M10510-04-08	6	- 4	1/4"	1/2" - 14		11.0	30.0	14.0	27.0			
M10510-05-04	8	- 5	5/16"	1/4" - 19		5.0	26.0	11.0	19.0			
M10510-05-06	8	- 5	5/16"	3/8" - 19		8.0	27.5	12.0	22.0			
M10510-06-04	10	- 6	3/8"	1/4" - 19		5.0	26.0	11.0	19.0			
M10510-06-06	10	- 6	3/8"	3/8" - 19		8.0	28.0	12.0	22.0			
M10510-06-08	10	- 6	3/8"	1/2" - 14		11.0	30.5	14.0	27.0			
M10510-08-06	12	- 8	1/2"	3/8" - 19		8.0	28.0	12.0	22.0			
M10510-08-08	12	- 8	1/2"	1/2" - 14		11.0	31.0	14.0	27.0			
M10510-08-10	12	- 8	1/2"	5/8" - 14		14.5	33.0	16.0	30.0			
M10510-08-12	12	- 8	1/2"	3/4" - 14		17.0	34.0	16.0	32.0			
M10510-10-10	16	- 10	5/8"	5/8" - 14		14.5	33.0	16.0	30.0			
M10510-10-12	16	- 10	5/8"	3/4" - 14		17.0	35.5	16.0	32.0			
M10510-12-08	19	- 12	3/4"	1/2" - 14		11.0	32.0	14.0	27.0			
M10510-12-12	19	- 12	3/4"	3/4" - 14		17.0	35.5	16.0	32.0			
M10510-12-16	19	- 12	3/4"	1" - 11		22.5	39.5	19.0	41.0			
M10510-16-12	25	- 16	1"	3/4" - 14		17.0	36.5	16.0	32.0			
M10510-16-16	25	- 16	1"	1" - 11		22.5	41.0	19.0	41.0			
M10510-16-20	25	- 16	1"	1.1/4" - 11		28.5	45.0	20.0	50.0			
M10510-20-20	31	- 20	1.1/4"	1.1/4" - 11		28.5	46.5	20.0	50.0			
M10510-20-24	31	- 20	1.1/4"	1.1/2" - 11		33.5	48.5	22.0	55.0			
M10510-24-24	38	- 24	1.1/2"	1.1/2" - 11		33.5	49.5	22.0	55.0			
M10510-32-32	51	- 32	2"	2" - 11		46.0	54.0	25.0	70.0			

BS STANDARD CONNECTIONS

# M20512/M20513

**BSP FEMALE 60° CONE**  
**BS5200 / ISO 12151-6**



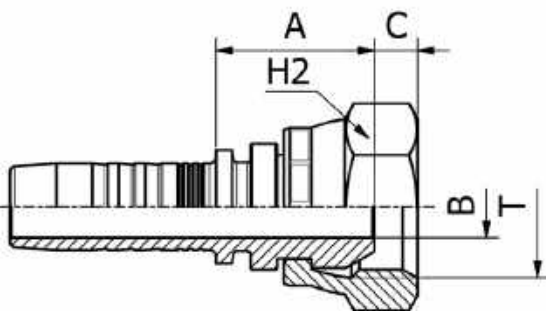
FITTINGS 118

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	B	A	C	H2		
M20512-03-02	5	- 3	3/16"	1/8" - 28	3.0	16.0	4.4	14.0			
M20512-04-02	6	- 4	1/4"	1/8" - 28	3.1	16.5	4.4	14.0			
M20512-05-04	8	- 5	5/16"	1/4" - 19	4.1	17.5	4.2	19.0			
M20512-06-04	10	- 6	3/8"	1/4" - 19	4.1	18.0	4.2	19.0			
M20512-08-06	12	- 8	1/2"	3/8" - 19	7.1	21.0	6.0	22.0			
M20512-08-10	12	- 8	1/2"	5/8" - 14	12.1	22.0	10.2	28.0			
M20512-08-12	12	- 8	1/2"	3/4" - 14	15.0	24.5	9.0	32.0			
M20512-10-08	16	- 10	5/8"	1/2" - 14	9.8	24.0	6.5	27.0			
M20512-10-10	16	- 10	5/8"	5/8" - 14	12.5	21.5	10.2	28.0			
M20512-10-12	16	- 10	5/8"	3/4" - 14	15.0	23.0	9.0	32.0			
M20512-12-08	19	- 12	3/4"	1/2" - 14	9.8	25.0	6.5	27.0			
M20512-12-12	19	- 12	3/4"	3/4" - 14	15.0	24.5	9.0	32.0			
M20512-12-16	19	- 12	3/4"	1" - 11	19.8	26.0	10.5	38.0			
M20512-16-12	25	- 16	1"	3/4" - 14	15.0	25.5	9.0	32.0			
M20512-16-16	25	- 16	1"	1" - 11	19.8	27.5	10.5	38.0			
M20513-03-04	5	- 3	3/16"	1/4" - 19	4.0	16.5	5.4	19.0			
M20513-04-04	6	- 4	1/4"	1/4" - 19	4.0	17.0	5.4	19.0			
M20513-04-06	6	- 4	1/4"	3/8" - 19	7.0	19.0	6.0	22.0			
M20513-04-08	6	- 4	1/4"	1/2" - 14	9.5	19.5	6.3	27.0			
M20513-05-06	8	- 5	5/16"	3/8" - 19	7.0	19.0	6.0	22.0			
M20513-05-08	8	- 5	5/16"	1/2" - 14	9.3	20.5	6.3	27.0			
M20513-06-06	10	- 6	3/8"	3/8" - 19	7.0	19.5	6.0	22.0			
M20513-06-08	10	- 6	3/8"	1/2" - 14	9.3	20.0	6.3	27.0			
M20513-08-08	12	- 8	1/2"	1/2" - 14	9.3	20.5	6.3	27.0			

BS STANDARD CONNECTIONS

# M20511KR

**BSP FEMALE 60° CONE**  
**BS5200 / ISO 12151-6**



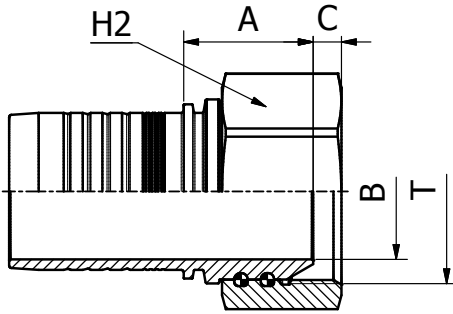
PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	B	A	C	H2		
M20511-04-04KR	6	- 4	1/4"	1/4" - 19	4.0	20.0	5.2	19.0			
M20511-06-06KR	10	- 6	3/8"	3/8" - 19	7.0	22.0	6.0	22.0			
M20511-08-08KR	12	- 8	1/2"	1/2" - 14	9.3	24.0	6.5	27.0			



BS STANDARD CONNECTIONS

# M20514

BSP FEMALE 60° CONE  
BS5200 / ISO 12151-6

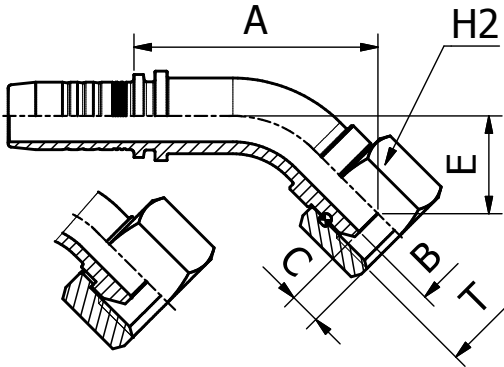


PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	H2			
M20514-40-40	63	- 40	2.1/2"	2.1/2"	55.4	52.5	11.5	85.0			
M20514-48-48	76	- 48	3"	3"	65.0	57.0	10.9	100.0			

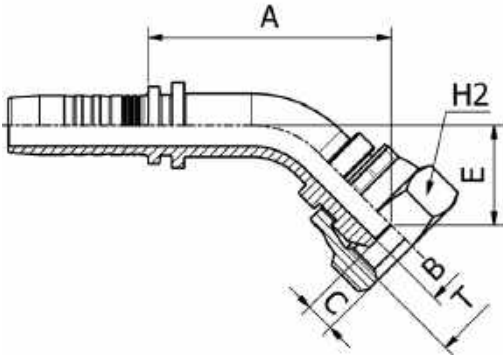
BS STANDARD CONNECTIONS

# M20542/M20543

45° BSP FEMALE SWEPT ELBOW 60° CONE  
BS5200 / ISO 12151-6



PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	E	H2		
M20542-03-02	5	- 3	3/16"	1/8" - 28	3.0	31.0	4.4	15.0	14.0		
M20542-04-02	6	- 4	1/4"	1/8" - 28	3.1	35.5	4.4	14.5	14.0		
M20542-05-04	8	- 5	5/16"	1/4" - 19	4.0	35.5	4.1	16.0	19.0		
M20542-08-06	12	- 8	1/2"	3/8" - 19	7.1	52.0	6.0	20.0	22.0		
M20542-08-10	12	- 8	1/2"	5/8" - 14	12.1	54.5	10.2	22.5	28.0		
M20542-08-12	12	- 8	1/2"	3/4" - 14	15.0	57.0	9.0	25.0	32.0		
M20542-10-08	16	- 10	5/8"	1/2" - 14	9.3	63.5	6.5	26.5	27.0		
M20542-10-10	16	- 10	5/8"	5/8" - 14	12.5	63.0	10.2	26.0	28.0		
M20542-10-12	16	- 10	5/8"	3/4" - 14	15.0	64.0	9.0	27.0	32.0		
M20542-12-08	19	- 12	3/4"	1/2" - 14	9.3	55.5	6.5	22.5	27.0		
M20542-12-12	19	- 12	3/4"	3/4" - 14	15.0	70.5	9.0	28.5	32.0		
M20542-12-16	19	- 12	3/4"	1" - 11	19.8	72.5	10.5	30.0	38.0		
M20542-16-16	25	- 16	1"	1" - 11	19.8	91.0	10.5	36.5	38.0		
M20543-03-04	5	- 3	3/16"	1/4" - 19	4.0	35.5	5.4	14.5	19.0		
M20543-04-04	6	- 4	1/4"	1/4" - 19	4.0	36.0	5.4	15.0	19.0		
M20543-04-06	6	- 4	1/4"	3/8" - 19	7.0	37.5	6.0	16.0	22.0		
M20543-05-06	8	- 5	5/16"	3/8" - 19	7.0	38.0	6.0	13.5	22.0		
M20543-06-06	10	- 6	3/8"	3/8" - 19	7.0	42.0	6.0	15.5	22.0		
M20543-06-08	10	- 6	3/8"	1/2" - 14	9.3	42.5	6.3	16.0	27.0		
M20543-08-08	12	- 8	1/2"	1/2" - 14	9.3	49.5	6.3	17.0	27.0		



BS STANDARD CONNECTIONS

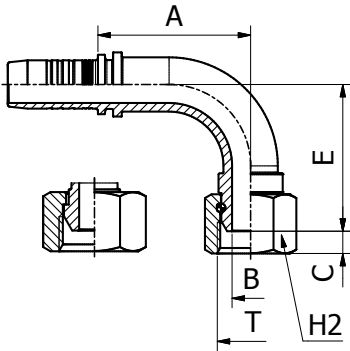
# M20541KR

45° BSP FEMALE SWEPT ELBOW 60° CONE  
BS5200 / ISO 12151-6

FITTINGS

120

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	B	A	C	E	H2	
M20541-04-04KR	6	- 4	1/4"	1/4" - 19	4.2	38.0	5.2	16.6	19.0		
M20541-06-06KR	10	- 6	3/8"	3/8" - 19	7.0	45.5	6.0	20.0	22.0		
M20541-08-08KR	12	- 8	1/2"	1/2" - 14	9.3	54.0	6.5	22.0	27.0		



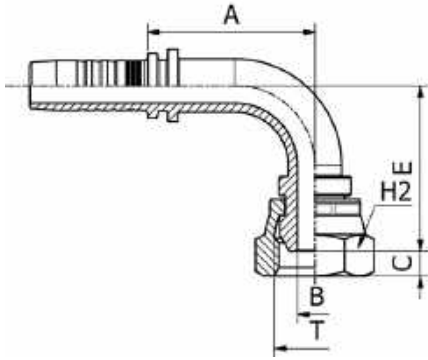
BS STANDARD CONNECTIONS

# M20592/M20593

90° BSP FEMALE SWEPT ELBOW  
60° CONE - BS5200 / ISO 12151-6

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	B	A	C	E	H2	
M20592-03-02	5	- 3	3/16"	1/8" - 28	3.0	21.5	4.4	26.0	14.0		
M20592-04-02	6	- 4	1/4"	1/8" - 28	3.1	28.5	4.4	27.0	14.0		
M20592-05-04	8	- 5	5/16"	1/4" - 19	4.0	26.5	4.1	29.5	19.0		
M20592-06-04	10	- 6	3/8"	1/4" - 19	4.0	27.0	4.1	29.5	19.0		
M20592-08-06	12	- 8	1/2"	3/8" - 19	7.1	45.0	6.0	41.0	22.0		
M20592-08-10	12	- 8	1/2"	5/8" - 14	12.1	44.0	10.2	44.0	28.0		
M20592-08-12	12	- 8	1/2"	3/4" - 14	15.0	44.0	9.0	45.5	32.0		
M20592-10-08	16	- 10	5/8"	1/2" - 14	9.3	53.5	6.5	54.5	27.0		
M20592-10-10	16	- 10	5/8"	5/8" - 14	12.5	53.5	10.2	53.5	28.0		
M20592-10-12	16	- 10	5/8"	3/4" - 14	15.0	53.5	9.0	55.0	32.0		
M20592-12-08	19	- 12	3/4"	1/2" - 14	9.3	45.5	6.5	44.0	27.0		
M20592-12-12	19	- 12	3/4"	3/4" - 14	15.0	61.5	9.0	59.5	32.0		
M20592-12-16	19	- 12	3/4"	1" - 11	19.8	61.5	10.5	62.0	38.0		
M20592-16-12	25	- 16	1"	3/4" - 14	15.0	64.5	9.0	59.5	32.0		
M20592-16-16	25	- 16	1"	1" - 11	19.8	79.5	10.5	76.0	38.0		
M20593-03-04	5	- 3	3/16"	1/4" - 19	4.0	29.0	5.4	29.0	19.0		
M20593-04-04	6	- 4	1/4"	1/4" - 19	4.0	29.5	5.4	29.0	19.0		
M20593-04-06	6	- 4	1/4"	3/8" - 19	7.0	29.5	6.0	31.0	22.0		
M20593-05-06	8	- 5	5/16"	3/8" - 19	7.0	32.0	6.0	27.5	22.0		
M20593-05-08	8	- 5	5/16"	1/2" - 14	9.3	36.5	6.3	32.0	27.0		
M20593-06-06	10	- 6	3/8"	3/8" - 19	7.0	36.5	6.0	31.5	22.0		
M20593-06-08	10	- 6	3/8"	1/2" - 14	9.3	36.5	6.3	32.0	27.0		
M20593-08-08	12	- 8	1/2"	1/2" - 14	9.3	45.0	6.3	36.5	27.0		

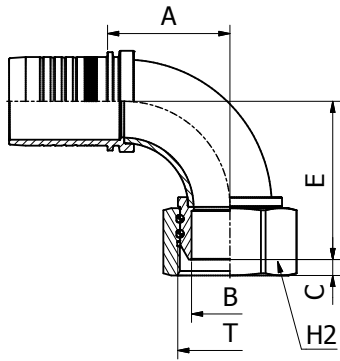
BS STANDARD CONNECTIONS



# M20591KR

90° BSP FEMALE SWEPT ELBOW 60° CONE  
BS5200 / ISO 12151-6

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	B	A	C	E	H2	
M20591-04-04KR	6	- 4	1/4"	1/4" - 19	4.2	28.5	5.2	30.5	19.0		
M20591-04-06KR	6	- 4	1/4"	3/8" - 19	7.0	28.5	6.0	32.0	22.0		
M20591-06-06KR	10	- 6	3/8"	3/8" - 19	7.0	35.5	6.0	37.5	22.0		
M20591-06-08KR	10	- 6	3/8"	1/2" - 14	9.3	35.5	6.5	39.0	27.0		
M20591-08-06KR	12	- 8	1/2"	3/8" - 19	7.0	44.0	6.0	42.0	22.0		
M20591-08-08KR	12	- 8	1/2"	1/2" - 14	9.3	44.0	6.5	43.5	27.0		



BS STANDARD CONNECTIONS

# M20594

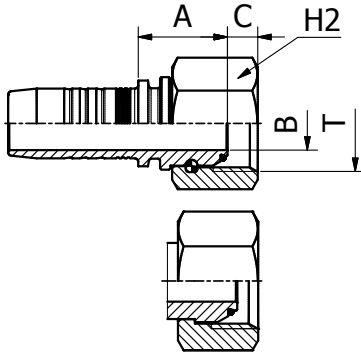
90° BSP FEMALE SWEPT ELBOW 60° CONE  
BS5200 / ISO 12151-6

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	B	A	C	E	H2	
M20594-40-40	63	- 40	2.1/2"	2.1/2"	55.4	88.0	11.5	114.0	85.0		
M20594-48-48	76	- 48	3"	3"	65.0	123.0	10.9	135.0	100.0		

BS STANDARD CONNECTIONS

# M20812/M20813

**BSP O-RING FEMALE 60° CONE  
BS5200 / ISO 12151-6**

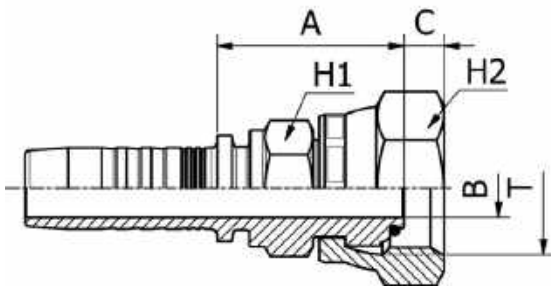


PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	H2			
M20812-06-04	10	- 6	3/8"	1/4" - 19	4.1	18.0	4.1	19.0			
M20812-10-10	16	- 10	5/8"	5/8" - 14	12.5	22.0	9.7	28.0			
M20812-12-12	19	- 12	3/4"	3/4" - 14	15.0	25.0	8.5	32.0			
M20812-16-12	25	- 16	1"	3/4" - 14	15.0	26.0	8.5	32.0			
M20812-16-16	25	- 16	1"	1" - 11	19.8	27.5	10.6	38.0			
M20812-16-20	25	- 16	1"	1.1/4" - 11	26.1	31.0	10.5	50.0			
M20812-20-16	31	- 20	1.1/4"	1" - 11	19.8	29.0	10.5	38.0			
M20812-20-20	31	- 20	1.1/4"	1.1/4" - 11	26.0	31.5	10.5	50.0			
M20812-20-24	31	- 20	1.1/4"	1.1/2" - 11	32.1	29.5	12.5	60.0			
M20812-24-20	38	- 24	1.1/2"	1.1/4" - 11	26.0	31.5	10.5	50.0			
M20812-24-24	38	- 24	1.1/2"	1.1/2" - 11	32.0	30.5	12.5	60.0			
M20812-24-32	38	- 24	1.1/2"	2" - 11	42.1	30.0	16.1	70.0			
M20812-32-32	51	- 32	2"	2" - 11	42.0	32.0	16.1	70.0			
M20813-03-04	5	- 3	3/16"	1/4" - 19	4.0	16.5	5.4	19.0			
M20813-04-04	6	- 4	1/4"	1/4" - 19	4.0	17.0	5.4	19.0			
M20813-04-06	6	- 4	1/4"	3/8" - 19	7.0	19.0	6.0	22.0			
M20813-06-06	10	- 6	3/8"	3/8" - 19	7.0	19.5	6.0	22.0			
M20813-06-08	10	- 6	3/8"	1/2" - 14	9.3	21.0	6.3	27.0			
M20813-08-08	12	- 8	1/2"	1/2" - 14	9.3	20.5	6.3	27.0			

BS STANDARD CONNECTIONS

# M20811HKR

**BSP O-RING FEMALE 60° CONE  
BS5200 / ISO 12151-6**

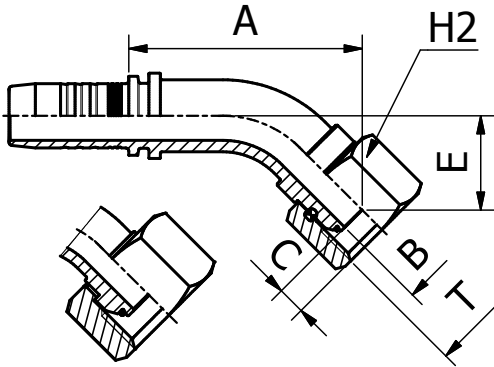


PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	H1	H2		
M20811-04-04H12KR	6	- 4	1/4"	1/4" - 19	4.0	25.0	5.2	12.0	19.0		
M20811-04-06H17KR	6	- 4	1/4"	3/8" - 19	7.0	27.0	6.0	17.0	22.0		
M20811-06-04H17KR	10	- 6	3/8"	1/4" - 19	4.0	26.0	5.2	17.0	19.0		
M20811-06-06H17KR	10	- 6	3/8"	3/8" - 19	7.0	27.5	6.0	17.0	22.0		
M20811-06-08H19KR	10	- 6	3/8"	1/2" - 14	9.3	29.5	6.5	19.0	27.0		
M20811-08-06H19KR	12	- 8	1/2"	3/8" - 19	7.0	29.5	6.0	19.0	22.0		
M20811-08-08H19KR	12	- 8	1/2"	1/2" - 14	9.3	30.0	5.5	19.0	22.0		

BS STANDARD CONNECTIONS

# M20842/M20843

45° BSP O-RING FEMALE SWEPT ELBOW 60° CONE  
BS5200 / ISO 12151-6



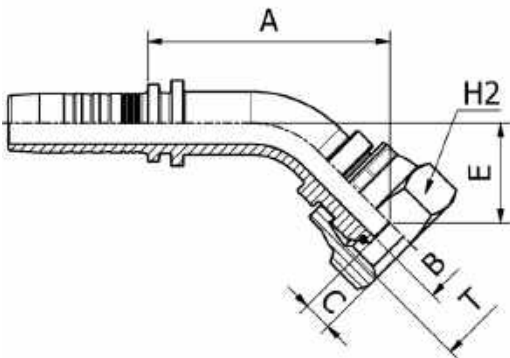
PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	E	H2		
M20842-10-10	16	- 10	5/8"	5/8" - 14	12.5	63.5	9.7	27.5	28.0		
M20842-12-12	19	- 12	3/4"	3/4" - 14	15.0	71.0	8.5	29.0	32.0		
M20842-16-12	25	- 16	1"	3/4" - 14	15.0	79.5	8.5	29.0	32.0		
M20842-16-16	25	- 16	1"	1" - 11	19.8	90.5	10.6	35.5	38.0		
M20842-16-20	25	- 16	1"	1.1/4" - 11	26.1	93.0	10.5	38.0	50.0		
M20842-20-20	31	- 20	1.1/4"	1.1/4" - 11	26.0	101.5	10.5	39.0	50.0		
M20842-20-24	31	- 20	1.1/4"	1.1/2" - 11	32.1	118.5	12.5	40.5	60.0		
M20842-24-20	38	- 24	1.1/2"	1.1/4" - 11	26.0	106.0	10.5	42.0	50.0		
M20842-24-24	38	- 24	1.1/2"	1.1/2" - 11	32.0	118.0	12.5	45.0	60.0		
M20842-24-32	38	- 24	1.1/2"	2" - 11	42.1	117.5	16.1	44.5	70.0		
M20842-32-32	51	- 32	2"	2" - 11	42.0	134.0	16.1	47.0	70.0		
M20843-04-04	6	- 4	1/4"	1/4" - 19	4.0	36.0	5.4	14.5	19.0		
M20843-06-06	10	- 6	3/8"	3/8" - 19	7.0	42.0	6.0	15.5	22.0		
M20843-08-08	12	- 8	1/2"	1/2" - 14	9.3	49.5	6.3	17.0	27.0		

123 FITTINGS

BS STANDARD CONNECTIONS

# M20841KR

45° BSP O-RING FEMALE 60° CONE  
BS5200 / ISO 12151-6

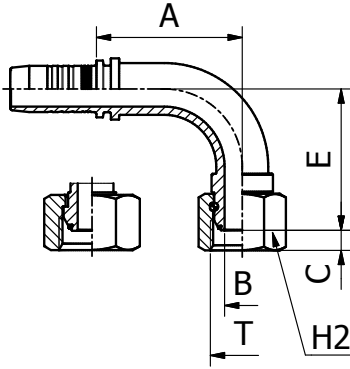


PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	E	H2		
M20841-04-04KR	6	- 4	1/4"	1/4" - 19	4.2	38.0	5.2	16.6	19.0		
M20841-06-06KR	10	- 6	3/8"	3/8" - 19	7.0	45.5	6.0	16.5	22.0		
M20841-08-08KR	12	- 8	1/2"	1/2" - 14	9.3	54.0	6.5	22.0	27.0		

BS STANDARD CONNECTIONS

# M20892/M20893

90° BSP O-RING FEMALE SWEPT ELBOW 60° CONE  
BS5200 / ISO 12151-6



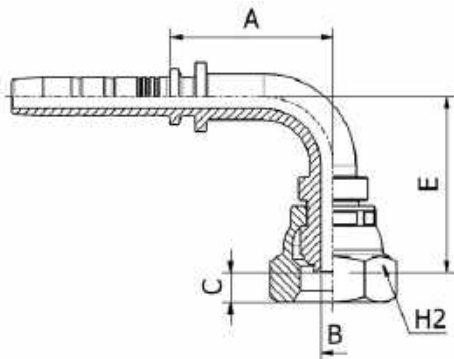
PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	E	H2		
M20892-06-04	10	- 6	3/8"	1/4" - 19	4.1	35.5	4.1	33.0	19.0		
M20892-10-10	16	- 10	5/8"	5/8" - 14	12.5	53.0	9.7	55.0	28.0		
M20892-12-12	19	- 12	3/4"	3/4" - 14	15.0	61.5	8.5	60.0	32.0		
M20892-12-16	19	- 12	3/4"	1" - 11	19.8	61.5	10.6	62.0	38.0		
M20892-16-12	25	- 16	1"	3/4" - 14	15.0	79.5	8.5	60.0	32.0		
M20892-16-16	25	- 16	1"	1" - 11	19.8	79.5	10.6	76.0	38.0		
M20892-16-20	25	- 16	1"	1.1/4" - 11	26.1	79.5	10.5	78.5	50.0		
M20892-20-16	31	- 20	1.1/4"	1" - 11	19.8	79.5	10.6	76.0	38.0		
M20892-20-20	31	- 20	1.1/4"	1.1/4" - 11	26.0	90.5	10.5	83.5	50.0		
M20892-20-24	31	- 20	1.1/4"	1.1/2" - 11	32.1	90.5	12.5	84.5	60.0		
M20892-24-20	38	- 24	1.1/2"	1.1/4" - 11	26.0	95.0	10.5	90.5	50.0		
M20892-24-24	38	- 24	1.1/2"	1.1/2" - 11	32.0	108.0	12.5	98.5	60.0		
M20892-24-32	38	- 24	1.1/2"	2" - 11	42.1	108.0	16.1	98.0	70.0		
M20892-32-32	51	- 32	2"	2" - 11	42.0	131.0	16.1	110.5	70.0		
M20893-03-04	5	- 3	3/16"	1/4" - 19	4.0	29.0	5.4	29.0	19.0		
M20893-04-04	6	- 4	1/4"	1/4" - 19	4.0	29.5	5.4	29.0	19.0		
M20893-06-06	10	- 6	3/8"	3/8" - 19	7.0	36.5	6.0	31.5	22.0		
M20893-08-08	12	- 8	1/2"	1/2" - 14	9.3	45.0	6.3	36.5	27.0		

FITTINGS 124

BS STANDARD CONNECTIONS

# M20891KR

90° BSP O-RING FEMALE 60° CONE  
BS5200 / ISO 12151-6



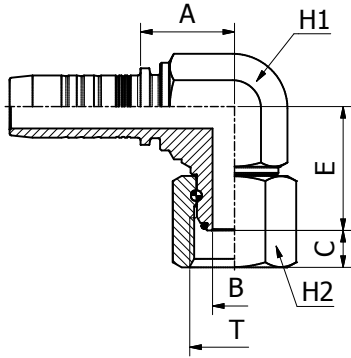
PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	E	H2		
M20891-04-04KR	6	- 4	1/4"	1/4" - 19	4.2	28.5	5.2	30.5	19.0		
M20891-04-06KR	6	- 4	1/4"	3/8" - 19	7.0	28.5	6.0	32.0	22.0		
M20891-06-04KR	10	- 6	3/8"	1/4" - 19	4.0	37.5	5.2	36.0	19.0		
M20891-06-06KR	10	- 6	3/8"	3/8" - 19	7.0	35.5	6.0	37.5	22.0		
M20891-06-08KR	10	- 6	3/8"	1/2" - 14	9.3	35.5	6.5	39.0	27.0		
M20891-08-06KR	12	- 8	1/2"	3/8" - 19	7.0	44.0	6.0	42.0	22.0		
M20891-08-08KR	12	- 8	1/2"	1/2" - 14	9.3	44.0	5.5	43.5	22.0		

BS STANDARD CONNECTIONS

# M20882F

90° BSP O-RING FEMALE  
COMPACT ELBOW 60° CONE

BS5200 / ISO 12151-6 (THRUST-WIRE NUT)

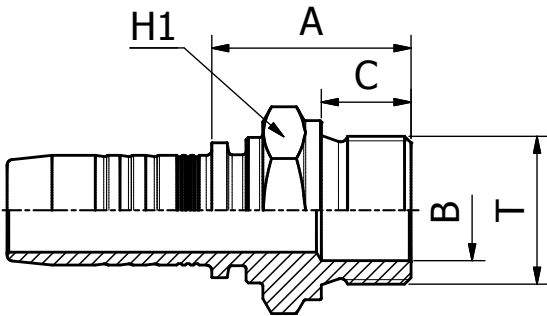


PART. REF.	HOSE BORE			Thread	T	DIMENSIONS mm						
	DN	Dash	inch			B	A	C	E	H1	H2	
M20882-04-04F	6	- 4	1/4"	1/4" - 19		4.0	20.0	4.1	22.0	14.0	19.0	
M20882-06-06F	10	- 6	3/8"	3/8" - 19		7.0	23.0	6.0	27.5	19.0	22.0	
M20882-08-08F	12	- 8	1/2"	1/2" - 14		9.3	25.0	6.5	31.0	22.0	27.0	
M20882-10-10F	16	- 10	5/8"	5/8" - 14		12.5	24.5	9.7	32.5	24.0	28.0	
M20882-12-12F	19	- 12	3/4"	3/4" - 14		15.0	37.5	8.5	36.0	27.0	32.0	
M20882-16-16F	25	- 16	1"	1" - 11		20.0	52.0	10.6	44.0	36.0	38.0	

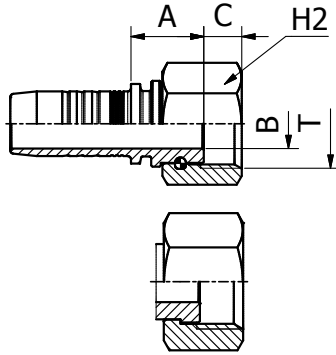
BS STANDARD CONNECTIONS

# M10610

BSP MALE FLAT SEAT



PART. REF.	HOSE BORE			Thread	T	DIMENSIONS mm					
	DN	Dash	inch			B	A	C	H1		
M10610-04-04	6	- 4	1/4"	1/4" - 19		6.0	25.5	11.0	19.0		
M10610-06-06	10	- 6	3/8"	3/8" - 19		9.5	28.0	12.0	22.0		
M10610-06-08	10	- 6	3/8"	1/2" - 14		13.0	30.5	14.0	27.0		
M10610-08-08	12	- 8	1/2"	1/2" - 14		13.0	31.0	14.0	27.0		
M10610-10-08	16	- 10	5/8"	1/2" - 14		13.0	31.0	14.0	27.0		
M10610-12-12	19	- 12	3/4"	3/4" - 14		18.0	35.5	16.0	32.0		

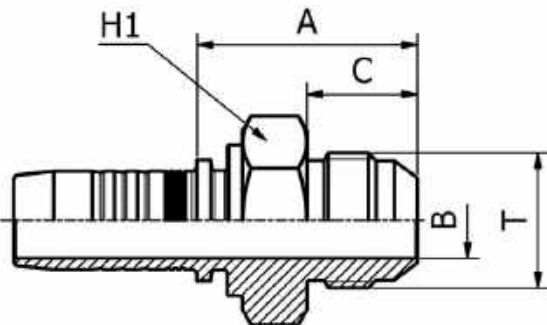


BS STANDARD CONNECTIONS

# M20612/M20613

BSP FEMALE FLAT SEAT

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	H2			
M20612-08-12	12	- 8	1/2"	3/4" - 14	15.0	21.0	11.5	32.0			
M20612-10-12	16	- 10	5/8"	3/4" - 14	15.0	20.5	11.5	32.0			
M20612-12-12	19	- 12	3/4"	3/4" - 14	15.0	22.0	11.5	32.0			
M20612-12-16	19	- 12	3/4"	1" - 11	19.8	23.5	13.0	38.0			
M20612-16-16	25	- 16	1"	1" - 11	19.8	25.0	13.0	38.0			
M20612-20-20	31	- 20	1.1/4"	1.1/4" - 11	26.0	26.0	15.0	50.0			
M20613-04-04	6	- 4	1/4"	1/4" - 19	4.0	14.5	7.9	19.0			
M20613-05-06	8	- 5	5/16"	3/8" - 19	7.0	16.0	9.0	22.0			
M20613-06-06	10	- 6	3/8"	3/8" - 19	7.0	16.5	9.0	22.0			
M20613-06-08	10	- 6	3/8"	1/2" - 14	9.3	17.5	9.8	27.0			
M20613-08-08	12	- 8	1/2"	1/2" - 14	9.3	18.0	9.8	27.0			



SAE STANDARD CONNECTIONS

# M12510

JIC MALE 37° CONE  
SAE J516 / ISO 12151-5

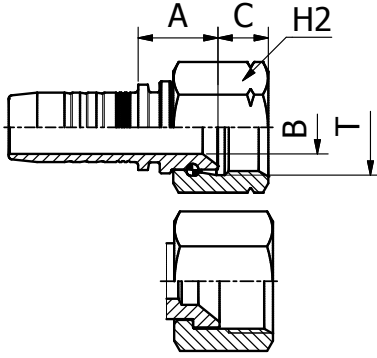
PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	H1			
M12510-04-04	6	- 4	1/4"	7/16" - 20	4.0	28.0	14.0	12.0			
M12510-04-05	6	- 4	1/4"	1/2" - 20	5.5	29.0	14.0	14.0			
M12510-04-06	6	- 4	1/4"	9/16" - 18	7.0	29.0	14.0	17.0			
M12510-05-04	8	- 5	5/16"	7/16" - 20	4.0	29.0	14.0	14.0			
M12510-05-05	8	- 5	5/16"	1/2" - 20	5.5	29.0	14.0	14.0			
M12510-05-06	8	- 5	5/16"	9/16" - 18	7.0	29.0	14.0	17.0			
M12510-06-05	10	- 6	3/8"	1/2" - 20	5.5	29.5	14.0	17.0			
M12510-06-06	10	- 6	3/8"	9/16" - 18	7.0	29.5	14.0	17.0			
M12510-06-08	10	- 6	3/8"	3/4" - 16	9.3	34.0	16.5	19.0			
M12510-06-10	10	- 6	3/8"	7/8" - 14	12.5	38.5	19.5	24.0			
M12510-08-06	12	- 8	1/2"	9/16" - 18	7.0	32.0	14.0	19.0			
M12510-08-08	12	- 8	1/2"	3/4" - 16	9.3	34.5	16.5	19.0			
M12510-08-10	12	- 8	1/2"	7/8" - 14	12.5	39.0	19.5	24.0			
M12510-08-12	12	- 8	1/2"	1.1/16" - 12	15.0	43.0	22.0	27.0			
M12510-10-10	16	- 10	5/8"	7/8" - 14	12.5	39.0	19.5	24.0			
M12510-10-12	16	- 10	5/8"	1.1/16" - 12	15.0	42.5	22.0	27.0			
M12510-12-10	19	- 12	3/4"	7/8" - 14	12.5	41.5	19.5	27.0			
M12510-12-12	19	- 12	3/4"	1.1/16" - 12	15.0	44.0	22.0	27.0			
M12510-12-14	19	- 12	3/4"	1.3/16" - 12	15.0	44.5	22.5	32.0			
M12510-12-16	19	- 12	3/4"	1.5/16" - 12	19.8	47.0	23.0	34.0			
M12510-16-12	25	- 16	1"	1.1/16" - 12	15.0	45.0	22.0	32.0			
M12510-16-16	25	- 16	1"	1.5/16" - 12	19.8	48.0	23.0	34.0			
M12510-16-20	25	- 16	1"	1.5/8" - 12	26.0	53.0	24.3	42.0			
M12510-20-20	31	- 20	1.1/4"	1.5/8" - 12	26.0	53.5	24.3	42.0			
M12510-20-24	31	- 20	1.1/4"	1.7/8" - 12	32.0	60.5	27.5	50.0			
M12510-24-24	38	- 24	1.1/2"	1.7/8" - 12	32.0	60.5	27.5	50.0			
M12510-32-32	51	- 32	2"	2.1/2" - 12	42.0	72.0	34.0	65.0			



SAE STANDARD CONNECTIONS

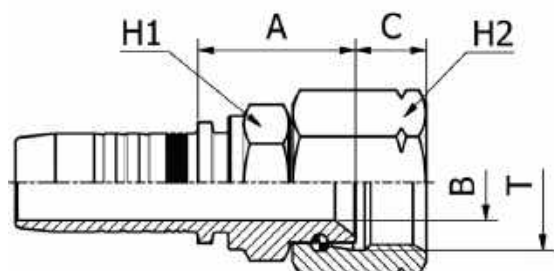
# M22512/M22513

JIC FEMALE 37° CONE SEAT  
SAE J516 / ISO 12151-5



PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	B	A	C	H2		
M22512-03-05	5	- 3	3/16"	1/2" - 20	4.0	15.5	9.1	17.0			
M22512-04-04	6	- 4	1/4"	7/16" - 20	4.0	15.5	8.7	17.0			
M22512-04-05	6	- 4	1/4"	1/2" - 20	4.0	16.0	9.1	17.0			
M22512-05-04	8	- 5	5/16"	7/16" - 20	4.0	15.5	8.7	17.0			
M22512-05-05	8	- 5	5/16"	1/2" - 20	5.5	16.0	9.1	17.0			
M22512-05-06	8	- 5	5/16"	9/16" - 18	7.0	15.5	9.2	19.0			
M22512-06-05	10	- 6	3/8"	1/2" - 20	5.5	16.5	9.1	17.0			
M22512-06-06	10	- 6	3/8"	9/16" - 18	7.0	16.0	9.2	19.0			
M22512-08-08	12	- 8	1/2"	3/4" - 16	9.3	20.0	10.2	22.0			
M22512-10-10	16	- 10	5/8"	7/8" - 14	12.5	20.0	12.3	27.0			
M22512-12-08	19	- 12	3/4"	3/4" - 16	9.3	21.5	10.2	22.0			
M22512-12-10	19	- 12	3/4"	7/8" - 14	12.5	21.5	12.3	27.0			
M22512-12-12	19	- 12	3/4"	1.1/16" - 12	15.0	22.5	14.2	32.0			
M22512-12-14	19	- 12	3/4"	1.3/16" - 12	15.0	23.0	14.3	36.0			
M22512-12-16	19	- 12	3/4"	1.5/16" - 12	19.8	23.0	15.0	38.0			
M22512-16-12	25	- 16	1"	1.1/16" - 12	15.0	23.5	14.2	32.0			
M22512-16-16	25	- 16	1"	1.5/16" - 12	19.8	24.0	15.0	38.0			
M22512-16-20	25	- 16	1"	1.5/8" - 12	26.0	30.0	16.2	50.0			
M22512-20-20	31	- 20	1.1/4"	1.5/8" - 12	26.0	30.0	16.2	50.0			
M22512-20-24	31	- 20	1.1/4"	1.7/8" - 12	32.0	35.0	18.8	60.0			
M22512-24-24	38	- 24	1.1/2"	1.7/8" - 12	32.0	35.0	18.8	60.0			
M22512-32-24	51	- 32	2"	1.7/8" - 12	32.0	37.0	18.8	60.0			
M22512-32-32	51	- 32	2"	2.1/2" - 12	44.0	35.5	24.0	75.0			
M22513-03-04	5	- 3	3/16"	7/16" - 20	3.0	15.0	8.0	15.0			
M22513-04-06	6	- 4	1/4"	9/16" - 18	4.0	16.5	9.8	19.0			
M22513-05-08	8	- 5	5/16"	3/4" - 16	5.5	17.0	10.1	22.0			
M22513-06-08	10	- 6	3/8"	3/4" - 16	7.0	17.5	10.1	22.0			
M22513-06-10	10	- 6	3/8"	7/8" - 14	9.3	18.0	12.4	27.0			
M22513-08-10	12	- 8	1/2"	7/8" - 14	9.3	18.5	12.4	27.0			
M22513-08-12	12	- 8	1/2"	1.1/16" - 12	12.5	22.0	14.1	32.0			
M22513-10-12	16	- 10	5/8"	1.1/16" - 12	12.5	21.5	14.1	32.0			

# M22712



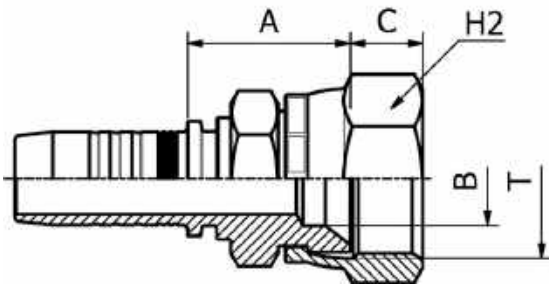
**JIC FEMALE 37° CONE SEAT DOUBLE HEXAGON  
SAE J516 / ISO 12151-5 (THRUST-WIRE NUT)**

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	H1	H2		
M22712-03-04	5	- 3	3/16"	7/16" - 20	4.0	20.5	8.7	12.0	17.0		
M22712-04-04	6	- 4	1/4"	7/16" - 20	4.0	21.0	8.7	12.0	17.0		
M22712-04-05	6	- 4	1/4"	1/2" - 20	4.0	21.5	9.1	12.0	17.0		
M22712-04-06	6	- 4	1/4"	9/16" - 18	7.0	24.0	9.2	14.0	19.0		
M22712-05-05	8	- 5	5/16"	1/2" - 20	5.5	21.5	9.1	14.0	17.0		
M22712-05-06	8	- 5	5/16"	9/16" - 18	7.0	24.0	9.2	14.0	19.0		
M22712-05-08	8	- 5	5/16"	3/4" - 16	9.3	26.0	10.2	19.0	22.0		
M22712-06-04	10	- 6	3/8"	7/16" - 20	4.0	24.5	8.7	17.0	17.0		
M22712-06-05	10	- 6	3/8"	1/2" - 20	5.5	25.0	9.1	17.0	17.0		
M22712-06-06	10	- 6	3/8"	9/16" - 18	7.0	24.5	9.2	17.0	19.0		
M22712-06-08	10	- 6	3/8"	3/4" - 16	9.3	27.0	10.2	19.0	22.0		
M22712-06-10	10	- 6	3/8"	7/8" - 14	12.5	28.0	12.3	22.0	27.0		
M22712-08-06	12	- 8	1/2"	9/16" - 18	7.0	24.5	9.2	19.0	19.0		
M22712-08-08	12	- 8	1/2"	3/4" - 16	9.3	27.5	10.2	19.0	22.0		
M22712-08-10	12	- 8	1/2"	7/8" - 14	12.5	28.5	12.3	22.0	27.0		
M22712-08-12	12	- 8	1/2"	1.1/16" - 12	14.0	30.0	14.2	27.0	32.0		
M22712-10-08	16	- 10	5/8"	3/4" - 16	9.3	28.5	10.2	22.0	22.0		
M22712-10-10	16	- 10	5/8"	7/8" - 14	12.5	28.5	12.3	22.0	27.0		
M22712-10-12	16	- 10	5/8"	1.1/16" - 12	15.0	30.0	14.2	27.0	32.0		
M22712-12-08	19	- 12	3/4"	3/4" - 16	9.3	30.0	10.2	27.0	22.0		
M22712-12-10	19	- 12	3/4"	7/8" - 14	12.5	30.0	12.3	27.0	27.0		
M22712-12-12	19	- 12	3/4"	1.1/16" - 12	15.0	31.5	14.2	27.0	32.0		
M22712-12-14	19	- 12	3/4"	1.3/16" - 12	15.0	33.0	14.3	30.0	36.0		
M22712-12-16	19	- 12	3/4"	1.5/16" - 12	19.8	32.5	15.0	32.0	38.0		
M22712-16-12	25	- 16	1"	1.1/16" - 12	12.5	34.0	14.2	32.0	32.0		
M22712-16-16	25	- 16	1"	1.5/16" - 12	19.8	34.5	15.0	32.0	38.0		
M22712-16-20	25	- 16	1"	1.5/8" - 12	26.0	43.0	16.2	41.0	50.0		
M22712-20-16	31	- 20	1.1/4"	1.5/16" - 12	19.8	36.0	15.0	38.0	38.0		
M22712-20-20	31	- 20	1.1/4"	1.5/8" - 12	26.0	43.5	16.2	41.0	50.0		
M22712-24-24	38	- 24	1.1/2"	1.7/8" - 12	32.0	51.0	18.8	50.0	60.0		
M22712-32-32	51	- 32	2"	2.1/2" - 12	44.0	51.5	24.0	65.0	75.0		

SAE STANDARD CONNECTIONS

# M22711/M22711KR

JIC FEMALE  
37° CONE SEAT DOUBLE HEXAGON  
SAE J516 / ISO 12151-5

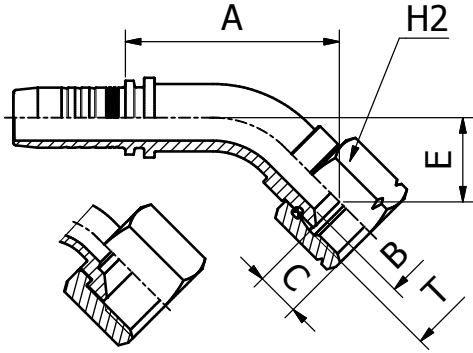


PART. REF.	HOSE BORE			Thread	T	DIMENSIONS mm						
	DN	Dash	inch			B	A	C	H1	H2		
M22711-12-16	19	- 12	3/4"	1.5/16" - 12		19.8	34.5	15.3	32.0	38.0		
M22711-16-16	25	- 16	1"	1.5/16" - 12		19.8	35.5	15.3	32.0	38.0		
M22711-20-20	31	- 20	1.1/4"	1.5/8" - 12		26.0	42.0	16.1	41.0	50.0		
M22711-24-24	38	- 24	1.1/2"	1.7/8" - 12		32.0	46.5	18.6	50.0	60.0		
M22711-32-32	51	- 32	2"	2.1/2" - 12		42.0	50.5	23.5	65.0	75.0		
M22711-04-04KR	6	- 4	1/4"	7/16" - 20		4.0	20.5	8.9	12.0	15.0		
M22711-04-05KR	6	- 4	1/4"	1/2" - 20		4.0	21.0	9.4	14.0	17.0		
M22711-04-06KR	6	- 4	1/4"	9/16" - 18		7.0	21.5	9.5	14.0	17.0		
M22711-06-04KR	10	- 6	3/8"	7/16" - 20		4.0	21.5	8.9	17.0	15.0		
M22711-06-05KR	10	- 6	3/8"	1/2" - 20		4.0	22.0	9.4	17.0	17.0		
M22711-06-06KR	10	- 6	3/8"	9/16" - 18		7.0	22.0	9.5	17.0	17.0		
M22711-06-08KR	10	- 6	3/8"	3/4" - 16		9.3	26.5	10.7	19.0	22.0		
M22711-08-08KR	12	- 8	1/2"	3/4" - 16		9.3	27.0	10.7	19.0	22.0		
M22711-08-10KR	12	- 8	1/2"	7/8" - 14		9.3	29.5	12.5	22.0	25.0		
M22711-08-12KR	12	- 8	1/2"	1.1/16" - 12		15.0	28.5	14.1	27.0	32.0		
M22711-10-08KR	16	- 10	5/8"	3/4" - 16		9.3	28.5	10.7	22.0	22.0		
M22711-10-10KR	16	- 10	5/8"	7/8" - 14		12.5	29.5	12.5	22.0	25.0		
M22711-10-12KR	16	- 10	5/8"	1.1/16" - 12		15.0	29.0	14.1	27.0	32.0		
M22711-12-08KR	19	- 12	3/4"	3/4" - 16		9.3	29.5	10.7	27.0	22.0		
M22711-12-10KR	19	- 12	3/4"	7/8" - 14		12.5	30.5	12.5	27.0	25.0		
M22711-12-12KR	19	- 12	3/4"	1.1/16" - 12		15.0	30.0	14.1	27.0	32.0		
M22711-16-12KR	25	- 16	1"	1.1/16" - 12		15.0	32.5	14.1	32.0	32.0		

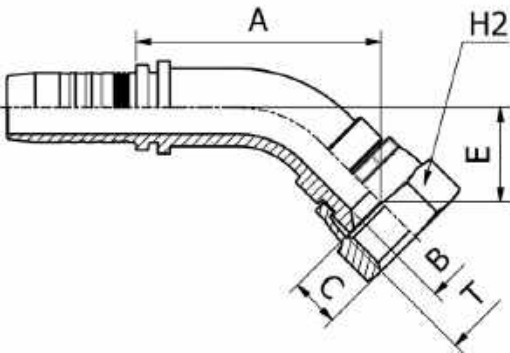
SAE STANDARD CONNECTIONS

# M22542/M22543

45° JIC FEMALE SWEPT ELBOW  
37° CONE SEAT  
SAE J516 / ISO 12151-5



PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	E	H2		
M22542-03-04	5	- 3	3/16"	7/16" - 20	4.0	35.0	8.7	14.5	17.0		
M22542-04-04	6	- 4	1/4"	7/16" - 20	4.0	35.5	8.7	14.5	17.0		
M22542-04-05	6	- 4	1/4"	1/2" - 20	4.0	35.5	9.1	14.5	17.0		
M22542-05-05	8	- 5	5/16"	1/2" - 20	5.5	37.5	9.1	14.0	17.0		
M22542-05-06	8	- 5	5/16"	9/16" - 18	7.0	38.0	9.2	14.5	19.0		
M22542-06-06	10	- 6	3/8"	9/16" - 18	7.0	42.0	9.2	16.5	19.0		
M22542-08-06	12	- 8	1/2"	9/16" - 18	7.0	43.0	9.2	16.5	19.0		
M22542-08-08	12	- 8	1/2"	3/4" - 16	9.3	52.0	10.2	20.0	22.0		
M22542-10-10	16	- 10	5/8"	7/8" - 14	12.5	62.0	12.3	25.5	27.0		
M22542-12-08	19	- 12	3/4"	3/4" - 16	9.3	53.5	10.2	20.0	22.0		
M22542-12-10	19	- 12	3/4"	7/8" - 14	12.5	63.5	12.3	25.0	27.0		
M22542-12-12	19	- 12	3/4"	1.1/16" - 12	15.0	70.0	14.2	27.5	32.0		
M22542-12-14	19	- 12	3/4"	1.3/16" - 12	15.0	69.5	14.3	27.5	36.0		
M22542-12-16	19	- 12	3/4"	1.5/16" - 12	19.8	70.0	15.0	27.5	38.0		
M22542-16-12	25	- 16	1"	1.1/16" - 12	15.0	72.5	14.2	27.5	32.0		
M22542-16-16	25	- 16	1"	1.5/16" - 12	19.8	84.0	15.0	32.0	38.0		
M22542-16-20	25	- 16	1"	1.5/8" - 12	26.0	90.0	16.2	36.0	50.0		
M22542-20-20	31	- 20	1.1/4"	1.5/8" - 12	26.0	103.5	16.2	41.5	50.0		
M22542-20-24	31	- 20	1.1/4"	1.7/8" - 12	32.0	106.5	18.8	44.5	60.0		
M22542-24-24	38	- 24	1.1/2"	1.7/8" - 12	32.0	119.0	18.8	46.5	60.0		
M22542-32-32	51	- 32	2"	2.1/2" - 12	44.0	163.0	24.0	68.0	75.0		
M22543-04-06	6	- 4	1/4"	9/16" - 18	4.0	35.5	9.8	14.0	19.0		
M22543-06-08	10	- 6	3/8"	3/4" - 16	7.0	41.0	10.1	14.0	22.0		
M22543-06-10	10	- 6	3/8"	7/8" - 14	9.3	42.5	12.4	15.5	27.0		
M22543-08-10	12	- 8	1/2"	7/8" - 14	9.3	49.5	12.4	17.0	27.0		
M22543-08-12	12	- 8	1/2"	1.1/16" - 12	12.5	49.5	14.1	17.0	32.0		
M22543-10-12	16	- 10	5/8"	1.1/16" - 12	12.5	60.0	14.1	24.0	32.0		



SAE STANDARD CONNECTIONS

# M22541KR

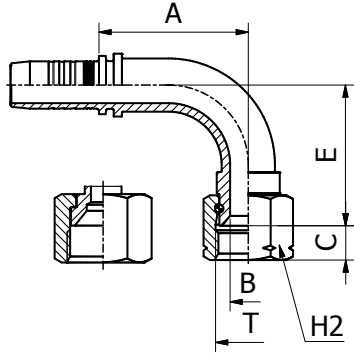
45° JIC FEMALE SWEPT ELBOW  
37° CONE SEAT  
SAE J516 / ISO 12151-5

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	E	H2		
M22541-04-04KR	6	- 4	1/4"	7/16" - 20	4.2	34.5	8.9	13.5	15.0		
M22541-04-05KR	6	- 4	1/4"	1/2" - 20	4.0	35.0	9.4	14.0	17.0		
M22541-06-06KR	10	- 6	3/8"	9/16" - 18	7.0	42.0	9.5	16.0	17.0		
M22541-08-08KR	12	- 8	1/2"	3/4" - 16	9.3	52.0	10.7	20.0	22.0		
M22541-10-10KR	16	- 10	5/8"	7/8" - 14	12.5	61.0	12.5	22.5	25.0		
M22541-12-12KR	19	- 12	3/4"	1.1/16" - 12	15.0	69.0	14.1	26.5	32.0		

SAE STANDARD CONNECTIONS

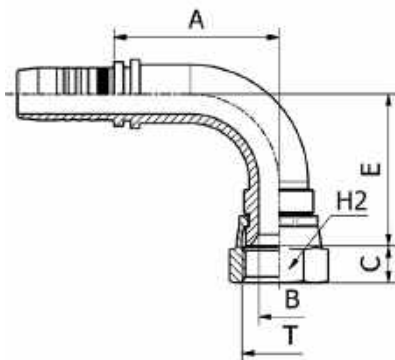
# M22592/M22593

90° JIC FEMALE SWEPT ELBOW 37° CONE SEAT  
SAE J516 / ISO 12151-5



PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	E	H2		
M22592-04-04	6	- 4	1/4"	7/16" - 20	4.0	28.5	8.7	27.0	17.0		
M22592-04-05	6	- 4	1/4"	1/2" - 20	4.0	28.5	9.1	27.5	17.0		
M22592-05-05	8	- 5	5/16"	1/2" - 20	5.5	31.0	9.1	28.0	17.0		
M22592-05-06	8	- 5	5/16"	9/16" - 18	7.0	31.0	9.2	28.5	19.0		
M22592-06-05	10	- 6	3/8"	1/2" - 20	5.5	30.0	9.1	26.5	17.0		
M22592-06-06	10	- 6	3/8"	9/16" - 18	7.0	35.5	9.2	32.5	19.0		
M22592-08-06	12	- 8	1/2"	9/16" - 18	7.0	37.0	9.2	33.0	19.0		
M22592-08-08	12	- 8	1/2"	3/4" - 16	9.3	44.0	10.2	41.0	22.0		
M22592-10-10	16	- 10	5/8"	7/8" - 14	12.5	53.5	12.3	52.5	27.0		
M22592-12-10	19	- 12	3/4"	7/8" - 14	12.5	55.0	12.3	52.5	27.0		
M22592-12-12	19	- 12	3/4"	1.1/16" - 12	15.0	62.0	14.2	58.0	32.0		
M22592-12-14	19	- 12	3/4"	1.3/16" - 12	15.0	63.0	14.3	58.0	36.0		
M22592-12-16	19	- 12	3/4"	1.5/16" - 12	19.8	63.0	15.0	57.5	38.0		
M22592-16-16	25	- 16	1"	1.5/16" - 12	19.8	77.0	15.0	68.5	38.0		
M22592-16-20	25	- 16	1"	1.5/8" - 12	26.0	77.5	16.2	74.5	50.0		
M22592-20-20	31	- 20	1.1/4"	1.5/8" - 12	26.0	90.5	16.2	86.5	50.0		
M22592-20-24	31	- 20	1.1/4"	1.7/8" - 12	32.0	90.5	18.8	90.5	60.0		
M22592-24-24	38	- 24	1.1/2"	1.7/8" - 12	32.0	108.0	18.8	100.5	60.0		
M22592-32-32	51	- 32	2"	2.1/2" - 12	44.0	142.0	24.0	137.0	75.0		
M22593-03-04	5	- 3	3/16"	7/16" - 20	3.0	26.0	8.5	23.5	15.0		
M22593-04-06	6	- 4	1/4"	9/16" - 18	4.0	29.5	9.8	28.0	19.0		
M22593-04-08	6	- 4	1/4"	3/4" - 16	7.0	29.5	10.0	30.5	22.0		
M22593-06-08	10	- 6	3/8"	3/4" - 16	7.0	36.5	10.1	29.5	22.0		
M22593-06-10	10	- 6	3/8"	7/8" - 14	9.3	36.5	12.4	31.5	27.0		
M22593-08-10	12	- 8	1/2"	7/8" - 14	9.3	45.0	12.4	36.0	27.0		
M22593-08-12	12	- 8	1/2"	1.1/16" - 12	12.5	45.0	14.1	36.0	32.0		
M22593-10-12	16	- 10	5/8"	1.1/16" - 12	12.5	51.5	14.1	50.0	32.0		

131 FITTINGS

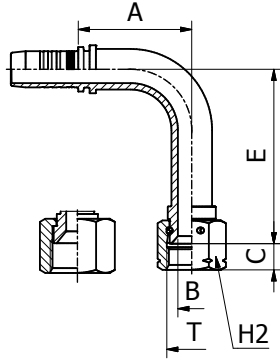


SAE STANDARD CONNECTIONS

# M22591KR

90° JIC FEMALE SWEPT ELBOW 37° CONE SEAT  
SAE J516 / ISO 12151-5

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	E	H2		
M22591-04-04KR	6	- 4	1/4"	7/16" - 20	4.2	28.5	8.9	26.0	15.0		
M22591-04-05KR	6	- 4	1/4"	1/2" - 20	4.0	28.5	9.4	26.5	17.0		
M22591-06-06KR	10	- 6	3/8"	9/16" - 18	7.0	35.5	9.5	32.0	17.0		
M22591-08-08KR	12	- 8	1/2"	3/4" - 16	9.3	44.0	10.7	40.5	22.0		
M22591-10-10KR	16	- 10	5/8"	7/8" - 14	12.5	53.5	12.5	47.0	25.0		
M22591-12-12KR	19	- 12	3/4"	1.1/16" - 12	15.0	62.0	14.1	57.0	32.0		
M22591-16-12KR	25	- 16	1"	1.1/16" - 12	15.0	62.0	14.1	57.0	32.0		



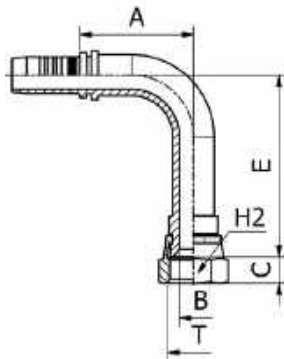
SAE STANDARD CONNECTIONS

# M24792/M24793

90° JIC FEMALE LONG DROP ELBOW  
37° CONE SEAT  
SAE J516 / ISO 12151-5

FITTINGS 132

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	E	H2		
M24792-04-04	6	- 4	1/4"	7/16" - 20	4.0	28.5	8.7	45.0	17.0		
M24792-04-05	6	- 4	1/4"	1/2" - 20	4.0	28.5	9.1	45.0	17.0		
M24792-06-06	10	- 6	3/8"	9/16" - 18	7.0	35.5	9.2	55.0	19.0		
M24792-08-08	12	- 8	1/2"	3/4" - 16	9.3	44.0	10.2	61.0	22.0		
M24792-10-10	16	- 10	5/8"	7/8" - 14	12.5	53.5	12.3	65.5	27.0		
M24792-12-12	19	- 12	3/4"	1.1/16" - 12	15.0	62.0	14.2	94.5	32.0		
M24792-16-16	25	- 16	1"	1.5/16" - 12	19.8	77.5	15.0	110.0	38.0		
M24792-20-20	31	- 20	1.1/4"	1.5/8" - 12	26.0	90.5	16.2	129.0	50.0		
M24793-04-06	6	- 4	1/4"	9/16" - 18	4.0	29.5	9.8	55.5	19.0		
M24793-06-08	10	- 6	3/8"	3/4" - 16	7.0	36.5	10.1	61.5	22.0		
M24793-08-10	12	- 8	1/2"	7/8" - 14	9.3	45.0	12.4	65.0	27.0		



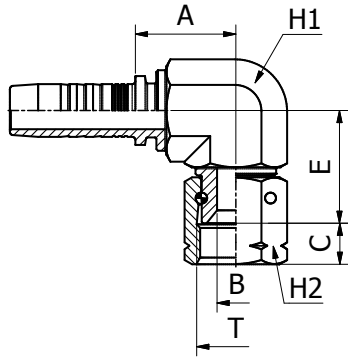
SAE STANDARD CONNECTIONS

# M24791KR

90° JIC FEMALE LONG DROP ELBOW  
37° CONE SEAT  
SAE J516 / ISO 12151-5

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	E	H2		
M24791-04-04KR	6	- 4	1/4"	7/16" - 20	4.2	28.5	8.9	45.0	15.0		
M24791-06-06KR	10	- 6	3/8"	9/16" - 18	7.0	35.5	9.5	55.0	17.0		
M24791-08-08KR	12	- 8	1/2"	3/4" - 16	9.3	44.0	10.7	64.0	22.0		
M24791-10-10KR	16	- 10	5/8"	7/8" - 14	12.5	53.5	12.5	70.0	25.0		
M24791-12-12KR	19	- 12	3/4"	1.1/16" - 12	15.0	62.0	14.1	96.0	32.0		

SAE STANDARD CONNECTIONS



# M22582F

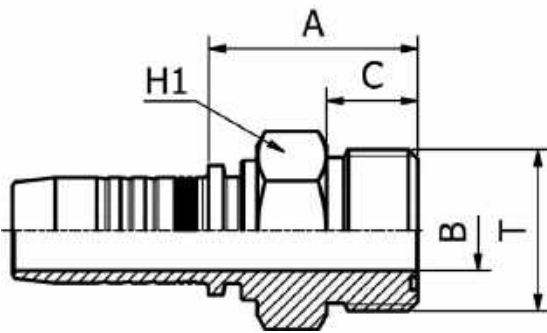
90° JIC FEMALE COMPACT ELBOW  
37° CONE SEAT

SAE J516 / ISO 12151-5 (THRUST-WIRE NUT)

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	E	H1	H2	
M22582-04-04F	6	- 4	1/4"	7/16" - 20	4.0	20.0	8.7	20.5	14.0	17.0	
M22582-04-06F	6	- 4	1/4"	9/16" - 18	7.0	20.0	9.2	21.5	14.0	19.0	
M22582-06-06F	10	- 6	3/8"	9/16" - 18	7.0	23.0	9.2	24.0	19.0	19.0	
M22582-06-08F	10	- 6	3/8"	3/4" - 16	9.3	26.5	10.2	28.0	22.0	22.0	
M22582-08-08F	12	- 8	1/2"	3/4" - 16	9.3	25.0	10.2	28.0	22.0	22.0	
M22582-08-10F	12	- 8	1/2"	7/8" - 14	12.5	25.0	12.3	29.0	22.0	27.0	
M22582-12-12F	19	- 12	3/4"	1.1/16" - 12	15.0	37.5	14.2	33.0	27.0	32.0	
M22582-16-16F	25	- 16	1"	1.5/16" - 12	20.0	52.0	15.0	40.0	36.0	38.0	

133 FITTINGS

SAE STANDARD CONNECTIONS

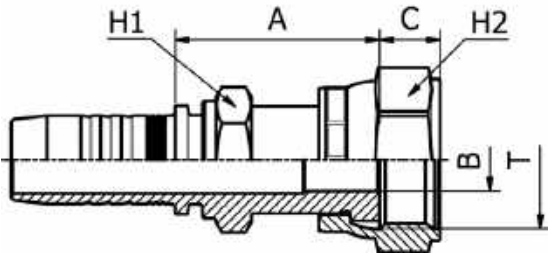


# M12410

ORFS MALE  
SAE J516 / ISO 12151-1

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm				
	DN	Dash	inch	T	B	A	C	H1	
M12410-04-04	6	- 4	1/4"	9/16" - 18	4.0	24.0	9.8	16.0	
M12410-04-06	6	- 4	1/4"	11/16" - 16	6.7	26.5	11.2	19.0	
M12410-05-06	8	- 5	5/16"	11/16" - 16	6.7	27.0	11.2	19.0	
M12410-06-06	10	- 6	3/8"	11/16" - 16	6.7	27.5	11.2	19.0	
M12410-06-08	10	- 6	3/8"	13/16" - 16	9.3	30.0	12.8	22.0	
M12410-08-06	12	- 8	1/2"	11/16" - 16	6.7	29.0	11.2	22.0	
M12410-08-08	12	- 8	1/2"	13/16" - 16	9.3	30.5	12.8	22.0	
M12410-08-10	12	- 8	1/2"	1" - 14	12.5	35.0	15.5	27.0	
M12410-08-12	12	- 8	1/2"	1.3/16" - 12	15.0	37.5	17.0	32.0	
M12410-10-08	16	- 10	5/8"	13/16" - 16	9.3	30.5	12.8	22.0	
M12410-10-10	16	- 10	5/8"	1" - 14	12.5	34.5	15.5	27.0	
M12410-10-12	16	- 10	5/8"	1.3/16" - 12	15.0	37.5	17.0	32.0	
M12410-12-12	19	- 12	3/4"	1.3/16" - 12	15.0	39.0	17.0	32.0	
M12410-12-16	19	- 12	3/4"	1.7/16" - 12	19.8	40.5	17.5	38.0	
M12410-16-16	25	- 16	1"	1.7/16" - 12	19.8	42.0	17.5	38.0	
M12410-16-20	25	- 16	1"	1.11/16" - 12	26.0	44.0	17.5	46.0	
M12410-20-20	31	- 20	1.1/4"	1.11/16" - 12	26.0	46.5	17.5	46.0	
M12410-24-24	38	- 24	1.1/2"	2" - 12	32.0	48.5	17.5	55.0	

SAE STANDARD CONNECTIONS



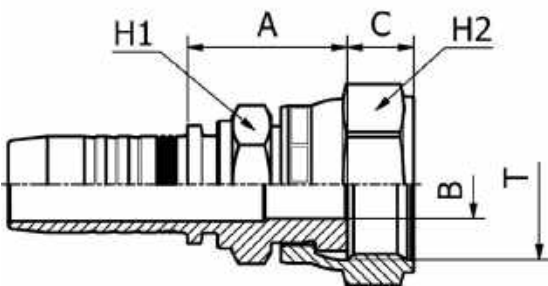
# M22411

ORFS FEMALE  
SAE J516 / ISO 12151-1 PULLBACK TYPE  
(CRIMPED BACK-NUT)

FITTINGS 134

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	H1	H2		
M22411-04-04	6	- 4	1/4"	9/16" - 18	4.0	27.5	8.0	13.0	19.0		
M22411-04-06	6	- 4	1/4"	11/16" - 16	7.0	30.0	9.5	16.0	22.0		
M22411-04-08	6	- 4	1/4"	13/16" - 16	9.3	35.5	11.0	19.0	24.0		
M22411-05-04	8	- 5	5/16"	9/16" - 18	4.0	28.5	8.0	16.0	19.0		
M22411-05-06	8	- 5	5/16"	11/16" - 16	7.0	30.5	9.5	16.0	22.0		
M22411-06-04	10	- 6	3/8"	9/16" - 18	4.0	29.0	8.0	16.0	19.0		
M22411-06-06	10	- 6	3/8"	11/16" - 16	7.0	31.0	9.5	16.0	22.0		
M22411-06-08	10	- 6	3/8"	13/16" - 16	9.3	36.5	11.0	19.0	24.0		
M22411-08-06	12	- 8	1/2"	11/16" - 16	7.0	32.0	9.5	19.0	22.0		
M22411-08-08	12	- 8	1/2"	13/16" - 16	9.3	37.0	11.0	19.0	24.0		
M22411-08-10	12	- 8	1/2"	1" - 14	11.5	39.0	13.5	24.0	30.0		
M22411-08-12	12	- 8	1/2"	1.3/16" - 12	13.9	44.0	14.5	28.0	36.0		
M22411-10-08	16	- 10	5/8"	13/16" - 16	9.3	37.0	11.0	24.0	24.0		
M22411-10-10	16	- 10	5/8"	1" - 14	11.5	39.0	13.5	24.0	30.0		
M22411-10-12	16	- 10	5/8"	1.3/16" - 12	13.9	44.0	14.5	28.0	36.0		
M22411-12-10	19	- 12	3/4"	1" - 14	11.5	41.5	13.5	28.0	30.0		
M22411-12-12	19	- 12	3/4"	1.3/16" - 12	13.9	45.5	14.5	28.0	36.0		
M22411-12-16	19	- 12	3/4"	1.7/16" - 12	19.8	48.5	15.0	36.0	41.0		
M22411-16-12	25	- 16	1"	1.3/16" - 12	13.9	48.0	13.5	36.0	36.0		
M22411-16-16	25	- 16	1"	1.7/16" - 12	19.8	49.5	15.0	36.0	41.0		
M22411-16-20	25	- 16	1"	1.11/16" - 12	26.0	52.0	13.6	41.0	50.0		
M22411-20-20	31	- 20	1.1/4"	1.11/16" - 12	26.0	52.0	14.8	41.0	50.0		
M22411-20-24	31	- 20	1.1/4"	2" - 12	32.0	56.5	14.2	50.0	60.0		
M22411-24-24	38	- 24	1.1/2"	2" - 12	32.0	56.5	14.2	50.0	60.0		

SAE STANDARD CONNECTIONS



# M27411

ORFS FEMALE  
SAE J516 / ISO 12151-1 SHORT TYPE  
(CRIMPED BACK-NUT)

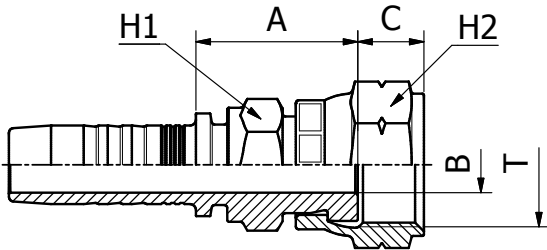
PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	H1	H2		
M27411-04-04	6	- 4	1/4"	9/16" - 18	4.0	20.5	8.0	13.0	19.0		
M27411-04-06	6	- 4	1/4"	11/16" - 16	7.0	22.0	9.5	16.0	22.0		
M27411-05-06	8	- 5	5/16"	11/16" - 16	7.0	25.5	9.5	16.0	22.0		
M27411-06-06	10	- 6	3/8"	11/16" - 16	7.0	26.0	9.5	16.0	22.0		
M27411-06-08	10	- 6	3/8"	13/16" - 16	9.3	26.5	11.0	19.0	24.0		
M27411-08-08	12	- 8	1/2"	13/16" - 16	9.3	26.5	11.0	19.0	24.0		
M27411-08-10	12	- 8	1/2"	1" - 14	11.5	27.5	12.5	24.0	30.0		
M27411-08-12	12	- 8	1/2"	1.3/16" - 12	13.9	31.0	13.5	28.0	36.0		
M27411-10-10	16	- 10	5/8"	1" - 14	11.5	28.0	12.5	24.0	30.0		
M27411-10-12	16	- 10	5/8"	1.3/16" - 12	13.9	31.0	13.5	28.0	36.0		
M27411-12-12	19	- 12	3/4"	1.3/16" - 12	13.9	32.5	13.5	28.0	36.0		
M27411-16-16	25	- 16	1"	1.7/16" - 12	19.8	36.5	13.5	36.0	41.0		



SAE STANDARD CONNECTIONS

# M27411KR

ORFS FEMALE  
SAE J516 / ISO 12151-1 SHORT TYPE  
(CRIMPED BACK-NUT)

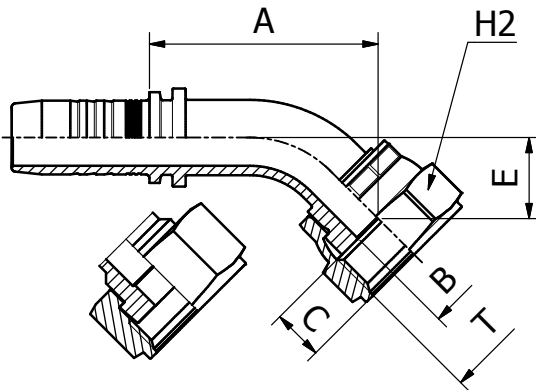


PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	B	A	C	H1	H2	
M27411-04-04KR	6	- 4	1/4"	9/16" - 18	4.0	20.5	8.0	14.0	17.0		
M27411-06-06KR	10	- 6	3/8"	11/16" - 16	7.0	23.0	9.5	17.0	22.0		
M27411-08-08KR	12	- 8	1/2"	13/16" - 16	9.3	27.0	11.0	19.0	24.0		

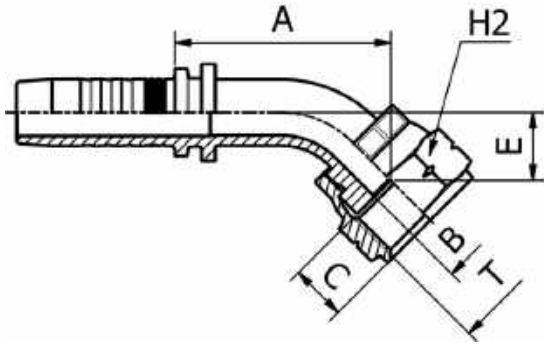
SAE STANDARD CONNECTIONS

# M22441/M22443

45° ORFS FEMALE SWEPT ELBOW  
SAE J516 / ISO 12151-1



PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	B	A	C	E	H2	
M22441-08-06	12	- 8	1/2"	11/16" - 16	7.0	32.5	9.5	11.0	22.0		
M22441-12-10	19	- 12	3/4"	1" - 14	11.5	51.0	12.5	16.5	30.0		
M22441-16-12	25	- 16	1"	1.3/16" - 12	13.9	66.0	13.5	21.5	36.0		
M22443-04-04	6	- 4	1/4"	9/16" - 18	4.0	31.0	8.2	10.5	17.0		
M22443-04-06	6	- 4	1/4"	11/16" - 16	7.0	31.0	9.5	10.5	22.0		
M22443-05-06	8	- 5	5/16"	11/16" - 16	7.0	34.0	9.5	10.5	22.0		
M22443-06-06	10	- 6	3/8"	11/16" - 16	6.0	32.5	9.5	11.0	22.0		
M22443-06-08	10	- 6	3/8"	13/16" - 16	9.3	34.0	11.0	12.5	24.0		
M22443-08-08	12	- 8	1/2"	13/16" - 16	9.0	42.0	11.0	13.0	24.0		
M22443-08-10	12	- 8	1/2"	1" - 14	11.5	42.0	13.5	13.5	30.0		
M22443-08-12	12	- 8	1/2"	1.3/16" - 12	13.9	46.5	14.5	18.5	36.0		
M22443-10-10	16	- 10	5/8"	1" - 14	11.5	49.0	13.5	16.0	30.0		
M22443-10-12	16	- 10	5/8"	1.3/16" - 12	13.9	51.5	14.5	18.5	36.0		
M22443-12-12	19	- 12	3/4"	1.3/16" - 12	13.9	60.5	14.5	21.5	36.0		
M22443-12-16	19	- 12	3/4"	1.7/16" - 12	19.8	60.0	14.8	21.0	41.0		
M22443-16-16	25	- 16	1"	1.7/16" - 12	19.8	72.0	14.8	23.5	41.0		
M22443-16-20	25	- 16	1"	1.11/16" - 12	26.0	74.0	14.8	25.0	50.0		
M22443-20-20	31	- 20	1.1/4"	1.11/16" - 12	26.0	82.0	14.8	27.0	50.0		
M22443-24-24	38	- 24	1.1/2"	2" - 12	32.0	98.0	14.8	31.5	60.0		



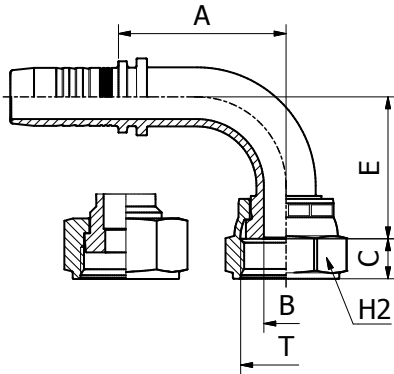
SAE STANDARD CONNECTIONS

## M22441KR

**45° ORFS FEMALE SWEPT ELBOW**  
SAE J516 / ISO 12151-1

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	E	H2		
M22441-04-04KR	6	- 4	1/4"	9/16" - 18	4.2	30.0	8.0	10.5	17.0		
M22441-06-06KR	10	- 6	3/8"	11/16" - 16	6.0	31.5	9.5	11.0	22.0		
M22441-08-08KR	12	- 8	1/2"	13/16" - 16	9.0	42.5	11.0	13.5	24.0		

FITTINGS  
136



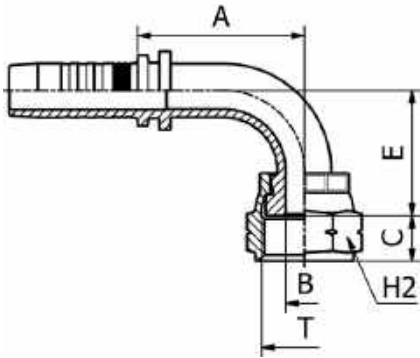
SAE STANDARD CONNECTIONS

## M22491/M22493

**90° ORFS FEMALE SWEPT ELBOW**  
SAE J516 / ISO 12151-1

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	E	H2		
M22491-10-10032	16	- 10	5/8"	1" - 14	11.0	42.0	7.5	32.0	30.0		
M22491-06-04	10	- 6	3/8"	9/16" - 18	4.0	28.0	8.0	23.0	19.0		
M22491-08-06	12	- 8	1/2"	11/16" - 16	7.0	30.0	9.5	24.5	22.0		
M22491-10-08	16	- 10	5/8"	13/16" - 16	9.3	41.0	11.0	34.0	24.0		
M22491-12-10	19	- 12	3/4"	1" - 14	11.5	49.0	12.5	38.5	30.0		
M22491-16-12	25	- 16	1"	1.3/16" - 12	13.9	57.5	13.5	48.0	36.0		
M22493-04-04	6	- 4	1/4"	9/16" - 18	4.0	27.5	8.2	22.0	17.0		
M22493-04-06	6	- 4	1/4"	11/16" - 16	7.0	27.5	9.5	22.0	22.0		
M22493-05-06	8	- 5	5/16"	11/16" - 16	7.0	32.0	9.5	23.0	22.0		
M22493-06-06	10	- 6	3/8"	11/16" - 16	6.0	30.0	9.5	24.0	22.0		
M22493-06-08	10	- 6	3/8"	13/16" - 16	9.3	30.0	11.0	26.5	24.0		
M22493-08-08	12	- 8	1/2"	13/16" - 16	9.0	40.5	11.0	30.0	24.0		
M22493-08-10	12	- 8	1/2"	1" - 14	11.5	40.0	13.5	30.5	30.0		
M22493-08-12	12	- 8	1/2"	1.3/16" - 12	13.9	39.5	14.5	37.5	36.0		
M22493-10-10	16	- 10	5/8"	1" - 14	11.5	48.0	13.5	37.5	30.0		
M22493-10-12	16	- 10	5/8"	1.3/16" - 12	13.9	48.0	14.5	41.0	36.0		
M22493-12-12	19	- 12	3/4"	1.3/16" - 12	13.9	56.5	14.5	48.0	36.0		
M22493-12-16	19	- 12	3/4"	1.7/16" - 12	19.8	56.5	14.8	47.5	41.0		
M22493-16-16	25	- 16	1"	1.7/16" - 12	19.8	71.5	14.8	56.0	41.0		
M22493-16-20	25	- 16	1"	1.11/16" - 12	26.0	71.5	14.8	58.5	50.0		
M22493-20-20	31	- 20	1.1/4"	1.11/16" - 12	26.0	83.0	14.8	66.0	50.0		
M22493-24-24	38	- 24	1.1/2"	2" - 12	32.0	102.0	14.8	79.5	60.0		

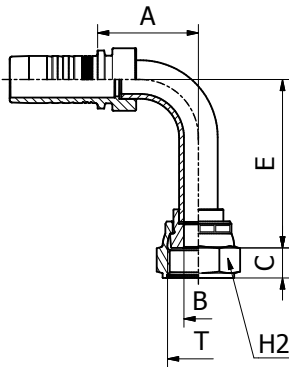
SAE STANDARD CONNECTIONS



# M22491KR

90° ORFS FEMALE SWEPT ELBOW  
SAE J516 / ISO 12151-1

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	E	H2		
M22491-04-04KR	6	- 4	1/4"	9/16" - 18	4.2	26.5	8.0	22.0	17.0		
M22491-04-06KR	6	- 4	1/4"	11/16" - 16	6.0	26.3	9.5	22.0	22.0		
M22491-06-06KR	10	- 6	3/8"	11/16" - 16	6.0	29.0	9.5	24.0	22.0		
M22491-06-08KR	10	- 6	3/8"	13/16" - 16	9.0	35.5	11.0	28.5	24.0		
M22491-08-08KR	12	- 8	1/2"	13/16" - 16	9.0	40.5	11.0	30.5	24.0		



SAE STANDARD CONNECTIONS

# M24491 LONG DROP

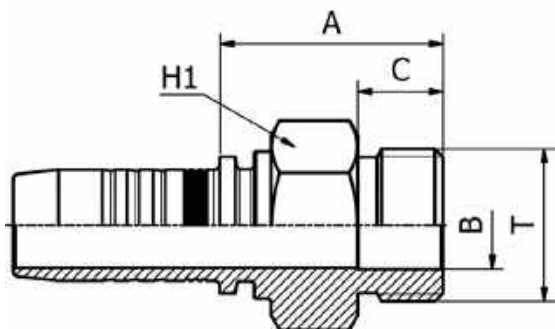
90° ORFS FEMALE LONG DROP ELBOW  
SAE J516 / ISO 12151-1  
(CRIMPED-BACK NUT)

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	E	H2		
M24491-04-04	6	- 4	1/4"	9/16" - 18	4.4	25.0	8.0	46.0	17.0		
M24491-04-06	6	- 4	1/4"	11/16" - 16	7.0	26.5	9.5	53.5	22.0		
M24491-05-06	8	- 5	5/16"	11/16" - 16	6.7	31.5	9.5	54.0	22.0		
M24491-06-06	10	- 6	3/8"	11/16" - 16	6.7	32.0	9.5	54.0	22.0		
M24491-06-08	10	- 6	3/8"	13/16" - 16	6.7	32.0	11.0	54.0	24.0		
M24491-08-08	12	- 8	1/2"	13/16" - 16	9.6	37.0	11.0	64.0	24.0		
M24491-08-10	12	- 8	1/2"	1" - 14	9.6	37.0	12.5	64.5	30.0		
M24491-10-10	16	- 10	5/8"	1" - 14	12.0	41.0	13.0	70.0	30.0		
M24491-10-12	16	- 10	5/8"	1.3/16" - 12	12.7	41.0	13.5	73.0	36.0		
M24491-12-12	19	- 12	3/4"	1.3/16" - 12	15.0	58.5	13.5	96.0	36.0		
M24491-16-16	25	- 16	1"	1.7/16" - 12	19.8	71.5	13.5	114.0	41.0		
M24491-20-20	31	- 20	1.1/4"	1.11/16" - 12	26.0	82.5	13.6	129.0	50.0		

SAE STANDARD CONNECTIONS

# M13010

SAE MALE O-RING BOSS TYPE  
SAE J516 / ISO 11926

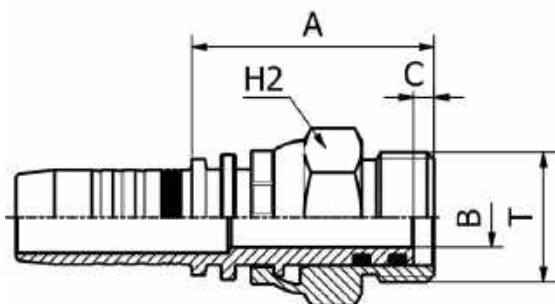


PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	H1			
M13010-04-04	6	- 4	1/4"	7/16" - 20	4.4	24.0	9.1	14.0			
M13010-04-06	6	- 4	1/4"	9/16" - 18	7.5	24.5	9.9	17.0			
M13010-06-06	10	- 6	3/8"	9/16" - 18	7.5	25.5	9.9	17.0			
M13010-06-08	10	- 6	3/8"	3/4" - 16	9.9	28.5	11.1	22.0			
M13010-06-10	10	- 6	3/8"	7/8" - 14	12.3	31.5	12.7	25.0			
M13010-08-08	12	- 8	1/2"	3/4" - 16	9.9	29.0	11.1	22.0			
M13010-08-10	12	- 8	1/2"	7/8" - 14	12.3	32.0	12.7	25.0			
M13010-08-12	12	- 8	1/2"	1.1/16" - 12	15.5	38.5	15.1	32.0			
M13010-10-10	16	- 10	5/8"	7/8" - 14	12.5	32.0	12.7	25.0			
M13010-10-12	16	- 10	5/8"	1.1/16" - 12	15.5	37.5	15.1	32.0			
M13010-12-12	19	- 12	3/4"	1.1/16" - 12	15.5	39.5	15.1	32.0			
M13010-12-16	19	- 12	3/4"	1.5/16" - 12	21.5	40.0	15.1	38.0			
M13010-16-16	25	- 16	1"	1.5/16" - 12	21.5	41.0	15.1	38.0			
M13010-20-20	31	- 20	1.1/4"	1.5/8" - 12	27.5	43.5	15.1	46.0			

SAE STANDARD CONNECTIONS

# M14310

SAE SWIVEL MALE O-RING BOSS TYPE  
SAE J516 / ISO 11926

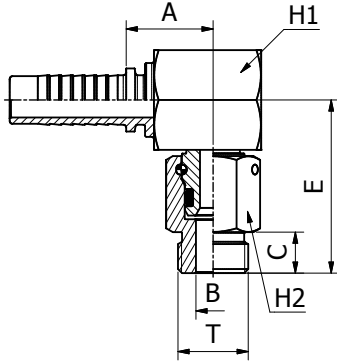


PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	H2			
M14310-04-04	6	- 4	1/4"	7/16" - 20	4.0	43.0	9.1	17.0			
M14310-04-06	6	- 4	1/4"	9/16" - 18	7.0	44.0	9.9	22.0			
M14310-06-06	10	- 6	3/8"	9/16" - 18	7.0	48.0	9.9	22.0			
M14310-06-08	10	- 6	3/8"	3/4" - 16	9.3	47.0	11.1	22.0			
M14310-08-08	12	- 8	1/2"	3/4" - 16	9.3	53.0	11.1	27.0			
M14310-08-10	12	- 8	1/2"	7/8" - 14	9.3	41.5	13.0	27.0			
M14310-08-12	12	- 8	1/2"	1.1/16" - 12	12.5	49.5	15.0	32.0			
M14310-10-10	16	- 10	5/8"	7/8" - 14	9.3	41.5	13.0	27.0			
M14310-12-12	19	- 12	3/4"	1.1/16" - 12	12.5	50.5	15.0	32.0			

SAE STANDARD CONNECTIONS

# M14390

90° SAE SWIVEL MALE O-RING BOSS TYPE  
SAE J516 / ISO 11926

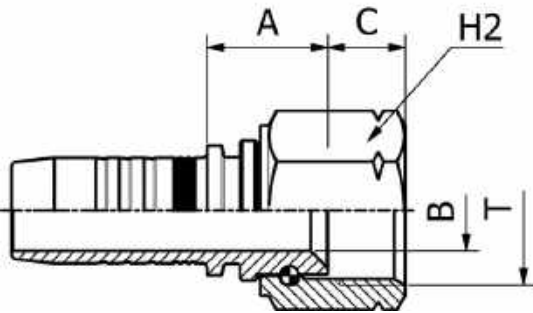


PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	B	A	C	E	H1	H2
M14390-06-06	10	- 6	3/8"	9/16" - 18	5.7	20.0	9.9	40.0	22.0	17.0	
M14390-06-08	10	- 6	3/8"	3/4" - 16	9.3	20.0	11.1	44.5	22.0	22.0	
M14390-08-08	12	- 8	1/2"	3/4" - 16	9.3	23.5	11.1	47.0	27.0	22.0	
M14390-08-10	12	- 8	1/2"	7/8" - 14	9.8	23.5	13.0	47.0	27.0	27.0	
M14390-10-10	16	- 10	5/8"	7/8" - 14	9.8	23.5	13.0	47.0	27.0	27.0	
M14390-12-12	19	- 12	3/4"	1.1/16" - 12	13.0	28.0	15.0	58.5	34.0	32.0	

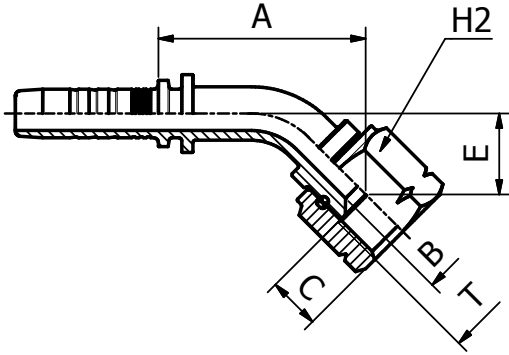
SAE STANDARD CONNECTIONS

# M22612

SAE FEMALE 45° CONE SEAT  
SAE J516/J512  
(THRUST-WIRE NUT)



PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	B	A	C	H2		
M22612-04-04	6	- 4	1/4"	7/16" - 20	4.0	15.5	8.7	17.0			
M22612-05-06	8	- 5	5/16"	5/8" - 18	7.0	16.0	10.8	22.0			
M22612-06-06	10	- 6	3/8"	5/8" - 18	7.0	16.5	10.8	22.0			
M22612-12-12	19	- 12	3/4"	1.1/16" - 14	15.0	22.5	14.4	32.0			



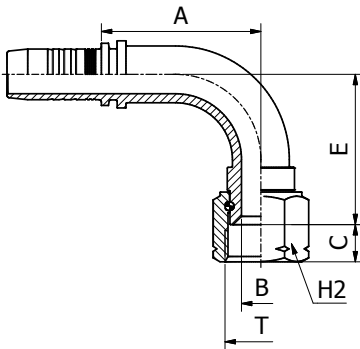
SAE STANDARD CONNECTIONS

# M22642

**45° SAE FEMALE SWEPT ELBOW 45° CONE SEAT  
SAE J516/J512  
(THRUST-WIRE NUT)**

FITTINGS 140

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	B	A	C	E	H2	
M22642-06-06	10	- 6	3/8"	5/8" - 18	7.0	42.5	10.8	16.5	22.0		



SAE STANDARD CONNECTIONS

# M22692

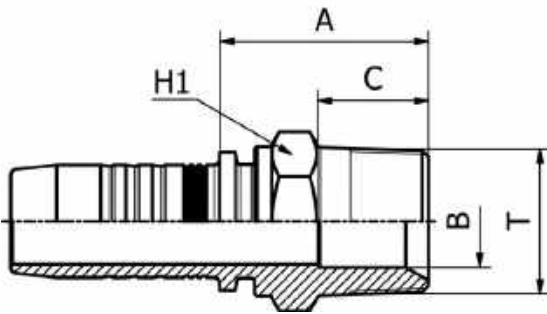
**90° SAE FEMALE SWEPT ELBOW 45° CONE SEAT  
SAE J516/J512  
(THRUST-WIRE NUT)**

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	B	A	C	E	H2	
M22692-04-04	6	- 4	1/4"	7/16" - 20	4.0	28.5	8.7	27.0	17.0		
M22692-06-06	10	- 6	3/8"	5/8" - 18	7.0	35.5	10.8	33.0	22.0		
M22692-12-12	19	- 12	3/4"	1.1/16" - 14	15.0	62.0	14.4	58.0	32.0		

SAE STANDARD CONNECTIONS

# M12810

NPTF MALE 60° CONE SEAT  
SAE J516/J514



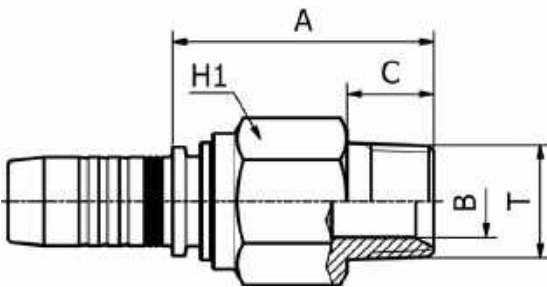
PART. REF.	HOSE BORE			Thread	DIMENSIONS mm				
	DN	Dash	inch	T	B	A	C	H1	
M12810-03-02	5	- 3	3/16"	1/8" - 27	3.0	23.5	10.0	12.0	
M12810-03-04	5	- 3	3/16"	1/4" - 18	5.5	29.0	14.5	14.0	
M12810-04-02	6	- 4	1/4"	1/8" - 27	4.0	24.0	10.0	12.0	
M12810-04-04	6	- 4	1/4"	1/4" - 18	5.5	29.0	14.5	14.0	
M12810-04-06	6	- 4	1/4"	3/8" - 18	9.3	27.5	14.5	19.0	
M12810-04-08	6	- 4	1/4"	1/2" - 14	9.3	33.5	19.2	24.0	
M12810-05-04	8	- 5	5/16"	1/4" - 18	5.5	29.5	14.5	14.0	
M12810-05-06	8	- 5	5/16"	3/8" - 18	9.3	32.0	14.5	19.0	
M12810-06-04	10	- 6	3/8"	1/4" - 18	5.5	30.0	14.5	14.0	
M12810-06-06	10	- 6	3/8"	3/8" - 18	9.3	28.5	14.5	19.0	
M12810-06-08	10	- 6	3/8"	1/2" - 14	12.5	34.5	19.2	24.0	
M12810-08-06	12	- 8	1/2"	3/8" - 18	9.3	29.0	14.5	19.0	
M12810-08-08	12	- 8	1/2"	1/2" - 14	12.5	35.0	19.2	24.0	
M12810-08-12	12	- 8	1/2"	3/4" - 14	15.5	35.5	19.2	27.0	
M12810-10-08	16	- 10	5/8"	1/2" - 14	12.5	38.5	19.2	24.0	
M12810-10-12	16	- 10	5/8"	3/4" - 14	16.0	40.0	19.2	27.0	
M12810-12-08	19	- 12	3/4"	1/2" - 14	12.5	36.5	19.2	27.0	
M12810-12-12	19	- 12	3/4"	3/4" - 14	16.0	36.5	19.2	27.0	
M12810-12-16	19	- 12	3/4"	1" - 11.5	19.8	46.0	24.2	36.0	
M12810-16-12	25	- 16	1"	3/4" - 14	15.5	39.0	19.2	32.0	
M12810-16-16	25	- 16	1"	1" - 11.5	19.8	44.0	24.2	36.0	
M12810-16-20	25	- 16	1"	1.1/4" - 11.5	26.0	56.5	25.0	46.0	
M12810-20-20	31	- 20	1.1/4"	1.1/4" - 11.5	26.0	56.5	25.0	46.0	
M12810-24-24	38	- 24	1.1/2"	1.1/2" - 11.5	32.0	57.5	26.0	50.0	
M12810-32-32	51	- 32	2"	2" - 11.5	45.0	64.5	26.5	65.0	
M12810-40-40	63	- 40	2.1/2"	2.1/2" - 8	55.4	78.0	39.9	80.0	
M12810-48-48	76	- 48	3"	3" - 8	68.9	86.0	41.5	100.0	

141 FITTINGS

SAE STANDARD CONNECTIONS

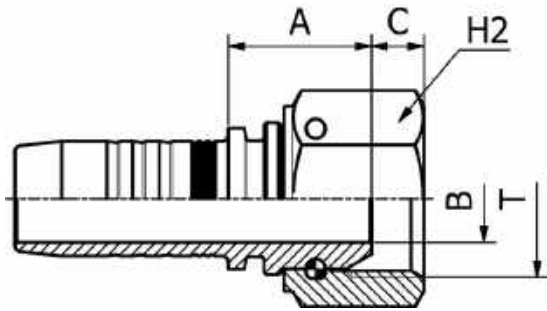
# M14110R

NPTF SWIVEL MALE 60° CONE SEAT  
SAE J516/J514



PART. REF.	HOSE BORE			Thread	DIMENSIONS mm				
	DN	Dash	inch	T	B	A	C	H1	
M14110-04-02R	6	- 4	1/4"	1/8" - 27	3.0	42.0	10.0	17.0	
M14110-04-04R	6	- 4	1/4"	1/4" - 18	4.0	46.5	14.5	17.0	
M14110-04-06R	6	- 4	1/4"	3/8" - 18	7.0	46.5	14.5	19.0	
M14110-06-04R	10	- 6	3/8"	1/4" - 18	4.0	50.5	14.5	22.0	
M14110-06-06R	10	- 6	3/8"	3/8" - 18	7.0	50.5	14.5	22.0	
M14110-06-08R	10	- 6	3/8"	1/2" - 14	9.3	55.0	19.2	24.0	
M14110-08-06R	12	- 8	1/2"	3/8" - 18	7.0	54.5	14.5	27.0	
M14110-08-08R	12	- 8	1/2"	1/2" - 14	9.3	59.0	19.2	27.0	
M14110-12-12R	19	- 12	3/4"	3/4" - 14	16.0	58.0	19.2	32.0	
M14110-16-16R	25	- 16	1"	1" - 11.5	19.8	66.0	24.2	38.0	

SAE STANDARD CONNECTIONS



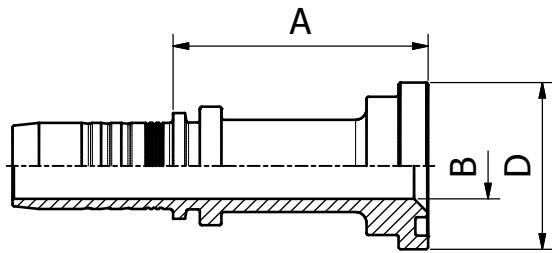
# M22812

**NPSM FEMALE 60° CONE  
SAE J516/J514  
(THRUST-WIRE NUT)**

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	H2			
M22812-04-04	6	- 4	1/4"	1/4" - 18	4.0	17.5	4.2	19.0			
M22812-06-04	10	- 6	3/8"	1/4" - 18	4.1	18.0	4.2	19.0			
M22812-06-06	10	- 6	3/8"	3/8" - 18	7.0	21.0	6.0	22.0			
M22812-08-08	12	- 8	1/2"	1/2" - 14	9.3	23.0	6.5	27.0			
M22812-12-12	19	- 12	3/4"	3/4" - 14	15.0	24.5	9.0	32.0			
M22812-16-16	25	- 16	1"	1" - 11.5	19.8	27.5	10.5	38.0			

FITTINGS 142

SAE STANDARD CONNECTIONS



# M23311

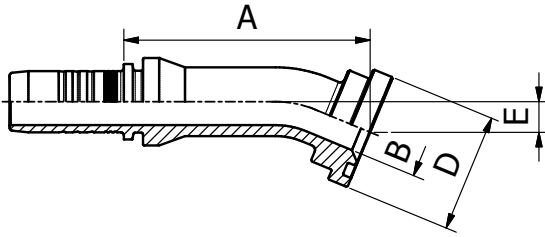
**ISO/SAE CODE 61 FLANGE  
SAE J516 / ISO 12151-3**

PART. REF.	HOSE BORE			FLANGE	DIMENSIONS mm					
	DN	Dash	inch	inch	B	A	D			
M23311-08-08	12	-8	1/2"	1/2"	9.3	51.0	30.3			
M23311-08-12	12	-8	1/2"	3/4"	15.1	58.0	38.0			
M23311-10-08	16	-10	5/8"	1/2"	9.3	51.0	30.3			
M23311-10-12	16	-10	5/8"	3/4"	15.0	65.5	38.0			
M23311-10-24	16	-10	5/8"	1.1/2"	32.0	69.5	60.5			
M23311-12-12	19	-12	3/4"	3/4"	15.0	58.0	38.0			
M23311-12-16	19	-12	3/4"	1"	20.0	58.0	44.6			
M23311-12-20	19	-12	3/4"	1.1/4"	26.0	69.5	51.0			
M23311-16-12	25	-16	1"	3/4"	15.0	60.5	38.0			
M23311-16-16	25	-16	1"	1"	19.8	64.5	44.6			
M23311-16-20	25	-16	1"	1.1/4"	26.0	70.5	51.0			
M23311-20-12	31	-20	1.1/4"	3/4"	15.0	61.0	38.0			
M23311-20-16	31	-20	1.1/4"	1"	19.8	64.5	44.6			
M23311-20-20	31	-20	1.1/4"	1.1/4"	26.0	70.5	51.0			
M23311-20-24	31	-20	1.1/4"	1.1/2"	32.0	72.5	60.5			
M23311-20-32	31	-20	1.1/4"	2"	42.0	75.5	71.6			
M23311-24-24	38	-24	1.1/2"	1.1/2"	32.0	75.5	60.5			
M23311-24-32	38	-24	1.1/2"	2"	42.0	75.5	71.6			
M23311-32-32	51	-32	2"	2"	42.0	79.0	71.6			
M23311-32-40	51	-32	2"	2.1/2"	56.0	81.0	84.3			
M23311-38-40	60	-38	2.3/8"	2.1/2"	50.5	84.0	84.3			
M23311-40-32	63	-40	2.1/2"	2"	42.0	78.5	71.6			
M23311-40-40	63	-40	2.1/2"	2.1/2"	55.4	84.0	84.3			
M23311-40-48	63	-40	2.1/2"	3"	68.9	79.0	101.6			
M23311-40-56	63	-40	2.1/2"	3.1/2"	79.0	90.5	114.3			
M23311-40-64	63	-40	2.1/2"	4"	90.0	96.5	127.0			
M23311-48-48	76	-48	3"	3"	68.9	85.5	101.6			
M23311-56-56	89	-56	3.1/2"	3.1/2"	79.0	94.5	114.3			
M23311-64-64	102	-64	4"	4"	90.0	100.5	127.0			



SAE STANDARD CONNECTIONS

# M23321



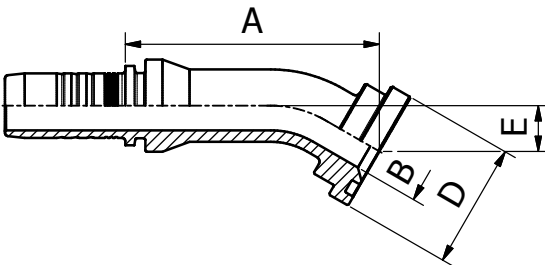
22.5° ISO/SAE CODE 61 FLANGE  
SAE J516 / ISO 12151-3

PART. REF.	HOSE BORE			FLANGE		DIMENSIONS mm						
	DN	Dash	inch	inch		B	A	D	E			
M23321-08-08	12	-8	1/2"	1/2"		9.3	64.0	30.3	8.0			
M23321-12-12	19	-12	3/4"	3/4"		15.0	74.5	38.0	10.0			
M23321-12-16	19	-12	3/4"	1"		20.0	74.5	44.6	10.0			
M23321-16-16	25	-16	1"	1"		19.8	89.0	44.6	11.5			
M23321-16-20	25	-16	1"	1.1/4"		26.0	88.5	51.0	11.5			
M23321-16-24	25	-16	1"	1.1/2"		32.0	88.5	60.5	12.0			
M23321-20-20	31	-20	1.1/4"	1.1/4"		26.0	100.0	51.0	12.0			
M23321-20-20018	31	-20	1.1/4"	1.1/4"		26.0	99.0	51.0	18.0			
M23321-20-24	31	-20	1.1/4"	1.1/2"		32.0	102.0	60.5	13.0			
M23321-24-24	38	-24	1.1/2"	1.1/2"		32.0	116.5	60.5	14.0			
M23321-24-24023	38	-24	1.1/2"	1.1/2"		32.0	115.0	60.5	23.0			
M23321-24-32	38	-24	1.1/2"	2"		42.0	116.5	71.6	14.0			
M23321-32-32	51	-32	2"	2"		42.0	134.5	71.6	15.0			
M23321-40-40	63	-40	2.1/2"	2.1/2"		52.0	80.0	84.3	16.5			
M23321-40-48	63	-40	2.1/2"	3"		61.0	107.5	101.6	20.5			
M23321-48-48	76	-48	3"	3"		61.0	111.0	101.6	20.5			

All items are made from solid with the exception of M23321-40-40, M23321-40-48, M23321-48-48

SAE STANDARD CONNECTIONS

# M23331



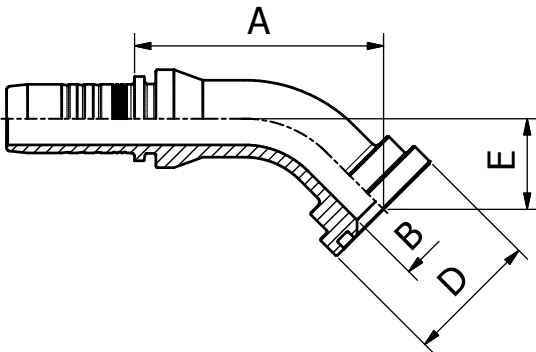
30° ISO/SAE CODE 61 FLANGE  
SAE J516 / ISO 12151-3

PART. REF.	HOSE BORE			FLANGE		DIMENSIONS mm						
	DN	Dash	inch	inch		B	A	D	E			
M23331-08-08	12	-8	1/2"	1/2"		9.3	62.5	30.3	11.0			
M23331-08-12	12	-8	1/2"	3/4"		15.0	63.5	38.0	11.5			
M23331-12-12	19	-12	3/4"	3/4"		15.0	73.0	38.0	14.0			
M23331-12-16	19	-12	3/4"	1"		20.0	73.0	44.6	14.0			
M23331-16-16	25	-16	1"	1"		19.8	87.0	44.6	16.5			
M23331-16-20	25	-16	1"	1.1/4"		26.0	87.0	51.0	16.5			
M23331-20-20	31	-20	1.1/4"	1.1/4"		26.0	98.0	51.0	17.5			
M23331-20-24	31	-20	1.1/4"	1.1/2"		32.0	100.0	60.5	18.5			
M23331-20-24044	31	-20	1.1/4"	1.1/2"		32.0	131.5	60.5	44.0			
M23331-24-24	38	-24	1.1/2"	1.1/2"		32.0	114.5	60.5	20.0			
M23331-24-32	38	-24	1.1/2"	2"		42.0	114.5	71.6	20.0			
M23331-32-32	51	-32	2"	2"		42.0	132.0	71.6	22.0			
M23331-40-40	63	-40	2.1/2"	2.1/2"		52.0	87.5	84.3	24.0			
M23331-40-48	63	-40	2.1/2"	3"		52.0	85.0	101.6	24.5			
M23331-48-48	76	-48	3"	3"		61.0	117.5	101.6	31.5			

All items are made from solid with the exception of M23331-40-40, M23331-40-48, M23331-48-48

# M23341

45° ISO/SAE CODE 61 FLANGE  
SAE J516 / ISO 12151-3



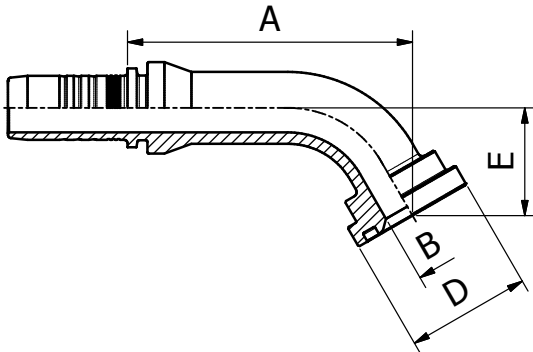
PART. REF.	HOSE BORE			FLANGE		DIMENSIONS mm					
	DN	Dash	inch	inch		B	A	D	E		
M23341-06-08	10	-6	3/8"	1/2"		9.3	52.5	30.0	17.5		
M23341-08-08	12	-8	1/2"	1/2"		9.3	58.5	30.3	18.5		
M23341-08-12	12	-8	1/2"	3/4"		15.0	59.5	38.0	19.0		
M23341-08-16	12	-8	1/2"	1"		19.8	59.5	44.6	19.0		
M23341-10-12	16	-10	5/8"	3/4"		15.0	61.0	38.0	22.0		
M23341-12-12	19	-12	3/4"	3/4"		15.0	71.0	38.0	26.0		
M23341-12-16	19	-12	3/4"	1"		20.0	68.5	44.6	23.0		
M23341-16-12	25	-16	1"	3/4"		15.0	74.5	38.0	23.0		
M23341-16-16	25	-16	1"	1"		19.8	81.5	44.6	27.5		
M23341-16-16032	25	-16	1"	1"		19.8	86.0	44.5	32.0		
M23341-16-20	25	-16	1"	1.1/4"		26.0	81.5	51.0	27.5		
M23341-20-16	31	-20	1.1/4"	1"		19.8	84.5	44.6	29.5		
M23341-20-20	31	-20	1.1/4"	1.1/4"		26.0	92.0	51.0	29.5		
M23341-20-20038	31	-20	1.1/4"	1.1/4"		26.0	100.5	50.9	38.0		
M23341-20-24	31	-20	1.1/4"	1.1/2"		32.0	93.5	60.5	31.0		
M23341-24-24	38	-24	1.1/2"	1.1/2"		32.0	107.5	60.5	34.5		
M23341-24-24044	38	-24	1.1/2"	1.1/2"		32.0	117.0	60.5	44.0		
M23341-24-32	38	-24	1.1/2"	2"		42.0	107.5	71.6	34.5		
M23341-32-20	51	-32	2"	1.1/4"		26.0	128.5	51.0	32.0		
M23341-32-32	51	-32	2"	2"		42.0	124.0	71.6	39.0		
M23341-32-32056	51	-32	2"	2"		42.0	141.0	71.5	56.0		
M23341-32-40	51	-32	2"	2.1/2"		56.0	136.5	84.3	49.5		
M23341-40-32	63	-40	2.1/2"	2"		42.0	152.0	71.6	48.5		
M23341-40-40	63	-40	2.1/2"	2.1/2"		52.0	95.0	84.3	48.5		
M23341-40-48	63	-40	2.1/2"	3"		61.0	117.5	101.6	53.5		
M23341-48-48	76	-48	3"	3"		58.0	125.5	101.6	53.5		
M23341-56-56	89	-56	3.1/2"	3.1/2"		79.0	139.0	114.3	68.0		
M23341-56-64	89	-56	3.1/2"	4"		79.0	124.5	127.0	53.5		
M23341-64-64	102	-64	4"	4"		90.0	132.0	127.0	56.5		

All items are made from solid with the exception of M23341-40-40, M23341-40-48, M23341-48-48, M23341-56-56, M23341-56-64, M23341-64-64.

SAE STANDARD CONNECTIONS

# M23361

60° ISO/SAE CODE 61 FLANGE  
SAE J516 / ISO 12151-3



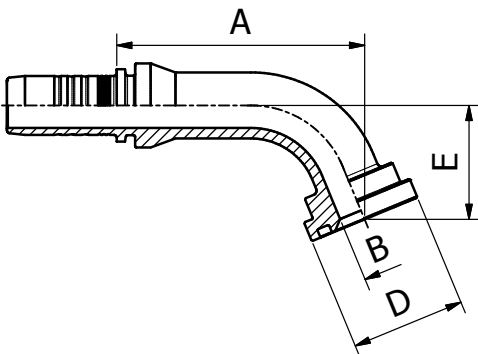
PART. REF.	HOSE BORE			FLANGE		DIMENSIONS mm						
	DN	Dash	inch	inch		B	A	D	E			
M23361-08-08	12	-8	1/2"	1/2"		9.3	71.5	30.3	26.0			
M23361-08-12	12	-8	1/2"	3/4"		15.0	72.0	38.0	26.5			
M23361-12-12	19	-12	3/4"	3/4"		15.0	87.0	38.0	33.0			
M23361-12-16	19	-12	3/4"	1"		20.0	87.0	44.6	33.0			
M23361-16-16	25	-16	1"	1"		19.8	104.0	44.6	39.0			
M23361-16-20	25	-16	1"	1.1/4"		26.0	104.0	51.0	39.0			
M23361-20-20	31	-20	1.1/4"	1.1/4"		26.0	120.0	51.0	43.0			
M23361-20-20065	31	-20	1.1/4"	1.1/4"		26.0	107.5	51.0	65.0			
M23361-20-24	31	-20	1.1/4"	1.1/2"		32.0	121.0	60.5	44.5			
M23361-24-20	38	-24	1.1/2"	1.1/4"		26.0	136.5	51.0	46.5			
M23361-24-24	38	-24	1.1/2"	1.1/2"		32.0	143.5	60.5	50.5			
M23361-24-32	38	-24	1.1/2"	2"		42.0	143.5	71.6	51.0			
M23361-32-32	51	-32	2"	2"		42.0	129.0	71.6	58.0			
M23361-40-40	63	-40	2.1/2"	2.1/2"		52.0	94.5	84.3	67.0			
M23361-40-48	63	-40	2.1/2"	3"		52.0	87.5	101.6	54.5			
M23361-48-48	76	-48	3"	3"		61.0	128.5	101.6	79.0			

All items are made from solid with the exception of M23361-40-40, M23361-40-48, M23361-48-48.

SAE STANDARD CONNECTIONS

# M23371

67.5° ISO/SAE CODE 61 FLANGE  
SAE J516 / ISO 12151-3



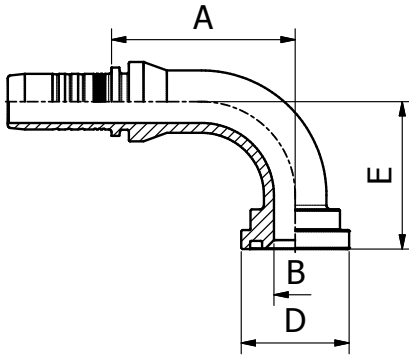
PART. REF.	HOSE BORE			FLANGE		DIMENSIONS mm						
	DN	Dash	inch	inch		B	A	D	E			
M23371-08-08	12	-8	1/2"	1/2"		9.3	68.0	30.3	29.5			
M23371-08-12	12	-8	1/2"	3/4"		15.0	68.5	38.0	30.5			
M23371-08-16	12	-8	1/2"	1"		19.8	68.5	44.6	30.5			
M23371-12-12	19	-12	3/4"	3/4"		15.0	82.0	38.0	38.0			
M23371-12-16	19	-12	3/4"	1"		20.0	82.0	44.6	38.0			
M23371-12-20	19	-12	3/4"	1.1/4"		26.0	82.0	51.0	38.0			
M23371-16-16	25	-16	1"	1"		19.8	98.5	44.6	45.0			
M23371-16-20	25	-16	1"	1.1/4"		26.0	98.5	51.0	45.0			
M23371-20-20	31	-20	1.1/4"	1.1/4"		26.0	114.0	51.0	50.0			
M23371-20-24	31	-20	1.1/4"	1.1/2"		32.0	115.0	60.5	52.0			
M23371-24-24	38	-24	1.1/2"	1.1/2"		32.0	136.5	60.5	59.0			
M23371-24-32	38	-24	1.1/2"	2"		42.0	136.5	71.6	59.0			
M23371-32-32	51	-32	2"	2"		42.0	162.0	71.6	68.5			
M23371-32-32085	51	-32	2"	2"		42.0	150.5	71.6	85.0			
M23371-32-40	51	-32	2"	2.1/2"		56.0	171.5	84.3	83.5			
M23371-40-40	63	-40	2.1/2"	2.1/2"		52.0	95.0	84.3	78.0			
M23371-40-48	63	-40	2.1/2"	3"		52.0	90.5	101.6	64.5			

All items are made from solid with the exception of M23371-40-40, M23371-40-48.

SAE STANDARD CONNECTIONS

# M23391

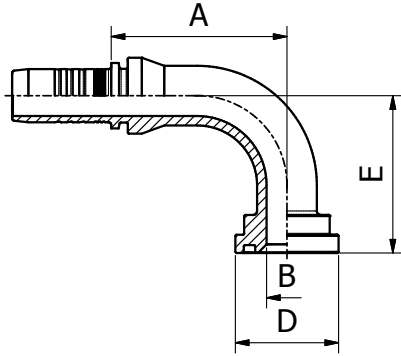
90° ISO/SAE CODE 61 FLANGE  
SAE J516 / ISO 12151-3



PART. REF.	HOSE BORE			FLANGE		DIMENSIONS mm						
	DN	Dash	inch	inch		B	A	D	E			
M23391-06-08	10	-6	3/8"	1/2"		9.3	44.5	30.0	34.5			
M23391-08-08	12	-8	1/2"	1/2"		9.3	54.5	30.3	40.0			
M23391-08-12	12	-8	1/2"	3/4"		15.0	54.5	38.0	41.0			
M23391-08-16	12	-8	1/2"	1"		19.8	54.5	44.6	66.0			
M23391-10-08	16	-10	5/8"	1/2"		9.3	56.0	30.3	46.5			
M23391-10-12	16	-10	5/8"	3/4"		15.0	56.0	38.0	47.5			
M23391-12-12	19	-12	3/4"	3/4"		15.0	64.5	38.0	52.0			
M23391-12-16	19	-12	3/4"	1"		20.0	64.5	44.6	52.0			
M23391-12-20	19	-12	3/4"	1.1/4"		26.0	64.5	51.0	52.0			
M23391-16-12	25	-16	1"	3/4"		15.0	71.0	38.0	52.0			
M23391-16-16	25	-16	1"	1"		19.8	77.5	44.6	62.0			
M23391-16-20	25	-16	1"	1.1/4"		26.0	77.5	51.0	62.0			
M23391-16-24	25	-16	1"	1.1/2"		32.0	77.0	60.5	64.0			
M23391-20-16	31	-20	1.1/4"	1"		19.8	80.0	44.6	66.0			
M23391-20-20	31	-20	1.1/4"	1.1/4"		26.0	90.5	51.0	70.0			
M23391-20-24	31	-20	1.1/4"	1.1/2"		32.0	90.5	60.5	72.0			
M23391-20-32	31	-20	1.1/4"	2"		42.0	93.5	71.6	76.0			
M23391-24-20	38	-24	1.1/2"	1.1/4"		26.0	104.5	51.0	75.0			
M23391-24-24	38	-24	1.1/2"	1.1/2"		32.0	108.0	60.5	84.0			
M23391-24-32	38	-24	1.1/2"	2"		42.0	108.0	71.6	84.0			
M23391-32-24	51	-32	2"	1.1/2"		32.0	136.0	60.5	89.0			
M23391-32-32	51	-32	2"	2"		42.0	129.0	71.6	99.0			
M23391-32-40	51	-32	2"	2.1/2"		56.0	132.5	84.3	116.0			
M23391-40-32	63	-40	2.1/2"	2"		42.0	149.5	71.6	114.0			
M23391-40-40	63	-40	2.1/2"	2.1/2"		52.0	88.0	84.3	119.0			
M23391-40-48	63	-40	2.1/2"	3"		61.0	120.0	101.6	140.0			
M23391-48-48	76	-48	3"	3"		58.0	123.0	101.6	140.0			
M23391-48-56	76	-48	3"	3.1/2"		61.0	123.0	114.3	115.0			
M23391-56-56	89	-56	3.1/2"	3.1/2"		79.0	134.5	114.3	160.0			
M23391-64-64	102	-64	4"	4"		90.0	153.5	127.0	158.5			

All items are made from solid with the exception of M23391-40-40, M23391-40-48, M23391-48-48, M23391-48-56, M23391-56-56, M23391-64-64.

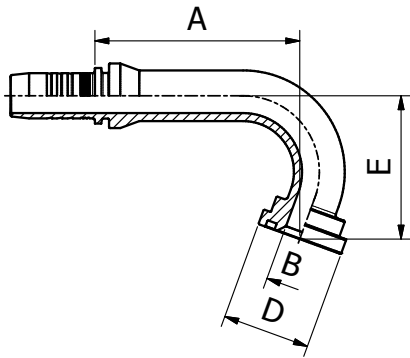
SAE STANDARD CONNECTIONS



# M23391 LONG DROP

90° LONG DROP ISO/SAE CODE 61 FLANGE  
SAE J516 / ISO 12151-3

PART. REF.	HOSE BORE			FLANGE		DIMENSIONS mm						
	DN	Dash	inch	inch		B	A	D	E			
M23391-06-08041	10	-6	3/8"	1/2"		9.3	44.5	30.0	41.0			
M23391-12-12058	19	-12	3/4"	3/4"		15.0	64.5	38.0	58.0			
M23391-16-16070	25	-16	1"	1"		19.8	77.5	44.5	70.0			
M23391-16-20117	25	-16	1"	1.1/4"		26.0	77.5	51.0	117.0			
M23391-16-24107	25	-16	1"	1.1/2"		32.0	77.0	60.5	107.0			
M23391-20-20091	31	-20	1.1/4"	1.1/4"		26.0	90.5	51.0	91.0			
M23391-20-20100	31	-20	1.1/4"	1.1/4"		26.0	90.5	51.0	100.0			
M23391-20-20112	31	-20	1.1/4"	1.1/4"		26.0	90.5	51.0	112.0			
M23391-20-20130	31	-20	1.1/4"	1.1/4"		26.0	90.5	51.0	130.0			
M23391-20-20168	31	-20	1.1/4"	1.1/4"		26.0	90.5	51.0	168.0			
M23391-20-24118	31	-20	1.1/4"	1.1/2"		32.0	90.5	60.5	118.0			
M23391-20-24130	31	-20	1.1/4"	1.1/2"		32.0	90.5	60.5	130.0			
M23391-24-24104	38	-24	1.1/2"	1.1/2"		32.0	108.0	60.5	104.0			
M23391-24-24148	38	-24	1.1/2"	1.1/2"		32.0	108.0	60.5	148.0			
M23391-24-24172	38	-24	1.1/2"	1.1/2"		32.0	108.0	60.5	172.0			
M23391-24-32115	38	-24	1.1/2"	2"		42.0	108.0	71.6	115.0			
M23391-24-32172	38	-24	1.1/2"	2"		42.0	108.0	71.6	172.0			
M23391-32-32138	51	-32	2"	2"		42.0	129.0	71.5	138.0			
M23391-32-32203	51	-32	2"	2"		42.0	129.0	71.6	203.0			

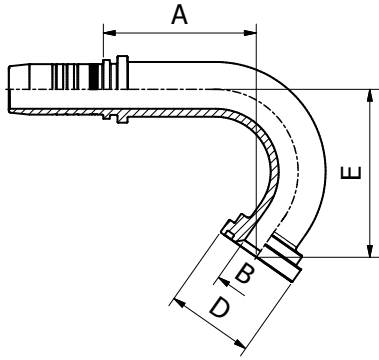


SAE STANDARD CONNECTIONS

# M23301P

110° ISO/SAE CODE 61 FLANGE  
SAE J516 / ISO 12151-3

PART. REF.	HOSE BORE			FLANGE		DIMENSIONS mm						
	DN	Dash	inch	inch		B	A	D	E			
M23301-08-12P	12	-8	1/2"	3/4"		15.0	53.0	38.0	48.0			
M23301-12-12P	19	-12	3/4"	3/4"		15.0	89.0	38.0	62.0			
M23301-12-16P	19	-12	3/4"	1"		20.0	89.0	44.6	62.0			
M23301-16-16P	25	-16	1"	1"		19.8	88.5	44.6	79.0			
M23301-16-20133P	25	-16	1"	1.1/4"		26.0	69.0	51.0	133.0			
M23301-20-20P	31	-20	1.1/4"	1.1/4"		26.0	102.0	51.0	91.0			
M23301-20-24P	31	-20	1.1/4"	1.1/2"		32.0	96.5	60.5	93.0			
M23301-24-24119P	38	-24	1.1/2"	1.1/2"		32.0	105.5	60.5	119.0			
M23301-32-32P	51	-32	2"	2"		42.0	142.0	71.6	123.0			



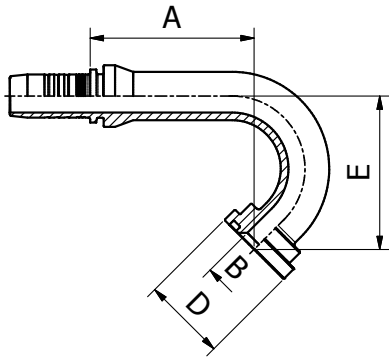
SAE STANDARD CONNECTIONS

# M23301S

**125° ISO/SAE CODE 61 FLANGE**  
**SAE J516 / ISO 12151-3**

FITTINGS 148

PART. REF.	HOSE BORE			FLANGE		DIMENSIONS mm						
	DN	Dash	inch	inch		B	A	D	E			
M23301-32-32151S	51	-32	2"	2"		42.0	118.5	71.6	151.0			



SAE STANDARD CONNECTIONS

# M23301T

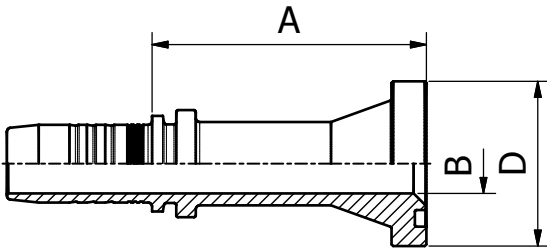
**135° ISO/SAE CODE 61 FLANGE**  
**SAE J516 / ISO 12151-3**

PART. REF.	HOSE BORE			FLANGE		DIMENSIONS mm						
	DN	Dash	inch	inch		B	A	D	E			
M23301-12-12T	19	-12	3/4"	3/4"		15.0	74.5	38.0	70.0			
M23301-12-16T	19	-12	3/4"	1"		20.0	74.5	44.6	70.0			
M23301-16-16T	25	-16	1"	1"		19.8	70.0	44.6	88.5			

SAE STANDARD CONNECTIONS

# M23611

ISO/SAE CODE 62 FLANGE  
SAE J516 / ISO 12151-3



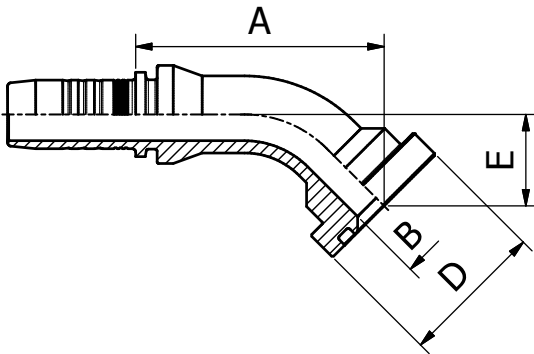
PART. REF.	HOSE BORE			FLANGE		DIMENSIONS mm						
	DN	Dash	inch	inch		B	A	D				
M23611-08-08	12	-8	1/2"	1/2"		9.3	52.0	31.8				
M23611-08-12	12	-8	1/2"	3/4"		15.0	68.5	41.5				
M23611-10-08	16	-10	5/8"	1/2"		9.3	52.0	31.8				
M23611-10-12	16	-10	5/8"	3/4"		15.0	70.0	41.5				
M23611-10-16	16	-10	5/8"	1"		20.0	80.0	47.7				
M23611-12-12	19	-12	3/4"	3/4"		15.0	69.0	41.5				
M23611-12-16	19	-12	3/4"	1"		20.0	81.0	47.7				
M23611-16-16	25	-16	1"	1"		19.8	82.5	47.7				
M23611-16-20	25	-16	1"	1.1/4"		26.0	90.0	54.2				
M23611-20-16	31	-20	1.1/4"	1"		19.8	82.5	47.7				
M23611-20-20	31	-20	1.1/4"	1.1/4"		26.0	84.5	54.2				
M23611-20-24	31	-20	1.1/4"	1.1/2"		32.0	90.5	63.7				
M23611-24-24	38	-24	1.1/2"	1.1/2"		32.0	92.5	63.6				
M23611-32-32	51	-32	2"	2"		42.0	109.0	79.5				

149 FITTINGS

SAE STANDARD CONNECTIONS

# M23641

45° ISO/SAE CODE 62 FLANGE  
SAE J516 / ISO 12151-3

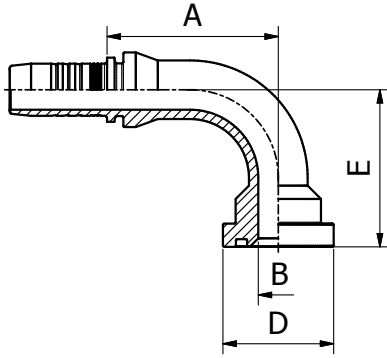


PART. REF.	HOSE BORE			FLANGE		DIMENSIONS mm						
	DN	Dash	inch	inch		B	A	D	E			
M23641-08-08	12	-8	1/2"	1/2"		9.3	59.0	31.7	19.0			
M23641-08-12	12	-8	1/2"	3/4"		15.0	68.0	41.5	27.5			
M23641-10-08	16	-10	5/8"	1/2"		9.3	62.5	31.8	23.5			
M23641-10-12	16	-10	5/8"	3/4"		15.0	67.5	41.5	31.0			
M23641-12-12	19	-12	3/4"	3/4"		15.0	72.5	41.5	28.0			
M23641-12-16	19	-12	3/4"	1"		20.0	77.0	47.7	32.5			
M23641-16-12	25	-16	1"	3/4"		15.0	80.0	41.5	30.0			
M23641-16-16	25	-16	1"	1"		19.8	83.5	47.7	32.5			
M23641-16-20	25	-16	1"	1.1/4"		26.0	88.5	54.2	37.5			
M23641-20-20	31	-20	1.1/4"	1.1/4"		26.0	95.0	54.2	37.5			
M23641-20-24	31	-20	1.1/4"	1.1/2"		32.0	102.5	63.7	45.0			
M23641-24-24	38	-24	1.1/2"	1.1/2"		32.0	118.0	63.7	44.0			
M23641-24-32	38	-24	1.1/2"	2"		42.0	129.0	79.6	55.5			
M23641-32-32	51	-32	2"	2"		42.0	151.5	79.6	60.5			
M23641-32-32056	51	-32	2"	2"		42.0	147.5	79.6	56.5			

SAE STANDARD CONNECTIONS

# M23691

90° ISO/SAE CODE 62 FLANGE  
SAE J516 / ISO 12151-3



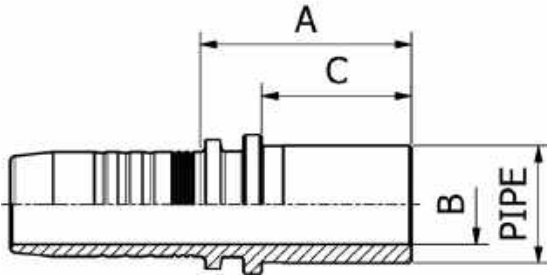
PART. REF.	HOSE BORE			FLANGE		DIMENSIONS mm						
	DN	Dash	inch	inch		B	A	C	H2			
M23691-08-08	12	-8	1/2"	1/2"		9.3	54.5	31.8	45.0			
M23691-08-08040	12	-8	1/2"	1/2"		9.3	54.5	31.7	41.0			
M23691-08-12	12	-8	1/2"	3/4"		15.0	54.5	41.5	53.0			
M23691-10-08	16	-10	5/8"	1/2"		9.3	57.5	31.8	45.0			
M23691-10-12	16	-10	5/8"	3/4"		15.0	53.5	41.5	60.5			
M23691-10-16	16	-10	5/8"	1"		19.8	56.0	47.7	64.0			
M23691-12-08	19	-12	3/4"	1/2"		9.3	60.6	31.8	57.5			
M23691-12-12	19	-12	3/4"	3/4"		15.0	64.0	41.5	59.0			
M23691-12-16	19	-12	3/4"	1"		20.0	64.5	47.7	65.0			
M23691-16-12	25	-16	1"	3/4"		15.0	74.5	41.5	67.0			
M23691-16-16	25	-16	1"	1"		19.8	73.5	47.7	68.0			
M23691-16-20	25	-16	1"	1.1/4"		26.0	73.5	54.2	75.0			
M23691-20-16	31	-20	1.1/4"	1"		19.8	82.5	47.7	68.0			
M23691-20-20	31	-20	1.1/4"	1.1/4"		26.0	85.5	54.2	81.0			
M23691-20-20090	31	-20	1.1/4"	1.1/4"		26.0	85.5	54.1	90.0			
M23691-20-24	31	-20	1.1/4"	1.1/2"		32.0	85.5	63.7	91.5			
M23691-24-20	38	-24	1.1/2"	1.1/4"		26.0	105.0	54.2	91.0			
M23691-24-24	38	-24	1.1/2"	1.1/2"		32.0	106.0	63.7	94.5			
M23691-24-24104	38	-24	1.1/2"	1.1/2"		32.0	106.0	63.7	104.0			
M23691-24-32	38	-24	1.1/2"	2"		42.0	106.0	79.6	110.5			
M23691-32-32	51	-32	2"	2"		42.0	138.0	79.6	132.0			
M23691-32-32138	51	-32	2"	2"		42.0	138.0	79.6	138.0			



DIN STANDARD CONNECTIONS

# M22010

METRIC STANDPIPE LIGHT DUTY  
DIN 2353 / ISO 8434-1

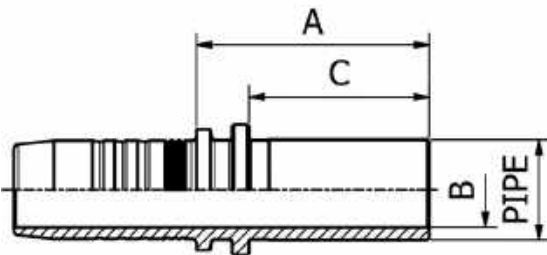


PART. REF.	HOSE BORE			Pipe	DIMENSIONS mm								
	DN	Dash	inch		mm	B	A	C					
M22010-03-04	5	- 3	3/16"	4.0		2.0	29.5	22.0					
M22010-03-06	5	- 3	3/16"	6.0		3.0	29.5	22.0					
M22010-04-06	6	- 4	1/4"	6.0		3.0	30.0	22.0					
M22010-05-08	8	- 5	5/16"	8.0		5.5	30.0	22.0					
M22010-05-10	8	- 5	5/16"	10.0		7.0	31.0	23.0					
M22010-06-10	10	- 6	3/8"	10.0		7.0	31.5	23.0					
M22010-06-12	10	- 6	3/8"	12.0		8.0	31.5	23.0					
M22010-06-15	10	- 6	3/8"	15.0		10.5	33.5	25.0					
M22010-08-12	12	- 8	1/2"	12.0		8.0	32.0	23.0					
M22010-08-15	12	- 8	1/2"	15.0		10.5	34.0	25.0					
M22010-08-18	12	- 8	1/2"	18.0		12.5	35.0	26.0					
M22010-10-18	16	- 10	5/8"	18.0		12.5	35.0	26.0					
M22010-10-22	16	- 10	5/8"	22.0		15.0	37.0	28.0					
M22010-12-18	19	- 12	3/4"	18.0		12.5	36.5	26.0					
M22010-12-22	19	- 12	3/4"	22.0		15.0	38.5	28.0					
M22010-16-28	25	- 16	1"	28.0		19.8	41.5	30.0					
M22010-20-35	31	- 20	1.1/4"	35.0		26.0	48.5	36.0					
M22010-24-42	38	- 24	1.1/2"	42.0		32.0	52.5	40.0					

DIN STANDARD CONNECTIONS

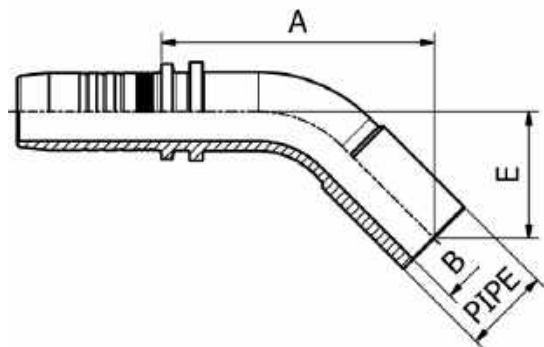
# M22110

METRIC STANDPIPE HEAVY DUTY  
DIN 2353 / ISO 8434-1



PART. REF.	HOSE BORE			Pipe	DIMENSIONS mm								
	DN	Dash	inch		mm	B	A	C					
M22110-03-08	5	- 3	3/16"	8.0		3.0	31.0	24.0					
M22110-03-10	5	- 3	3/16"	10.0		3.0	29.5	22.0					
M22110-04-08	6	- 4	1/4"	8.0		4.0	32.0	24.0					
M22110-04-10	6	- 4	1/4"	10.0		4.0	34.0	26.0					
M22110-04-12	6	- 4	1/4"	12.0		7.0	34.0	26.0					
M22110-05-12	8	- 5	5/16"	12.0		7.0	34.0	26.0					
M22110-06-14	10	- 6	3/8"	14.0		8.0	37.5	29.0					
M22110-08-14	12	- 8	1/2"	14.0		9.3	38.0	29.0					
M22110-08-16	12	- 8	1/2"	16.0		10.5	39.0	30.0					
M22110-10-20	16	- 10	5/8"	20.0		12.5	45.0	36.0					
M22110-12-20	19	- 12	3/4"	20.0		15.0	46.5	36.0					
M22110-12-25	19	- 12	3/4"	25.0		15.0	50.5	40.0					
M22110-16-25	25	- 16	1"	25.0		15.0	51.5	40.0					
M22110-16-30	25	- 16	1"	30.0		19.8	55.5	44.0					
M22110-16-38	25	- 16	1"	38.0		26.0	61.5	50.0					
M22110-20-30	31	- 20	1.1/4"	30.0		20.5	56.5	44.0					
M22110-20-38	31	- 20	1.1/4"	38.0		26.0	62.5	50.0					
M22110-24-38	38	- 24	1.1/2"	38.0		26.0	62.5	50.0					

DIN STANDARD CONNECTIONS

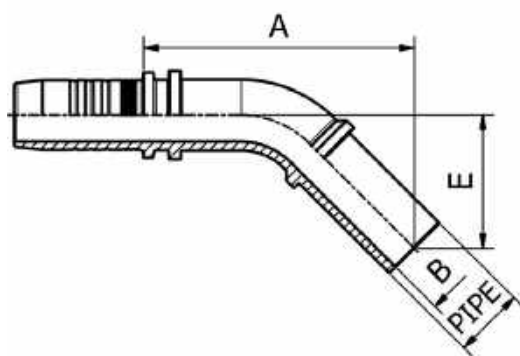


# M22040

45° METRIC STANDPIPE LIGHT DUTY  
DIN 2353 / ISO 8434-1

PART. REF.	HOSE BORE			Pipe		DIMENSIONS mm					
	DN	Dash	inch			mm	B	A	E		
M22040-03-06	5	- 3	3/16"	6.0		3.0	37.5	20.5			
M22040-04-06	6	- 4	1/4"	6.0		3.0	38.0	20.5			
M22040-05-10	8	- 5	5/16"	10.0		7.0	44.5	22.5			
M22040-06-10	10	- 6	3/8"	10.0		7.0	47.5	23.0			
M22040-06-12	10	- 6	3/8"	12.0		8.0	49.5	25.0			
M22040-08-15	12	- 8	1/2"	15.0		10.5	58.0	28.0			
M22040-10-18	16	- 10	5/8"	18.0		12.5	63.5	30.5			
M22040-12-22	19	- 12	3/4"	22.0		15.0	69.0	32.0			
M22040-16-28	25	- 16	1"	28.0		19.8	81.5	37.0			

FITTINGS 152



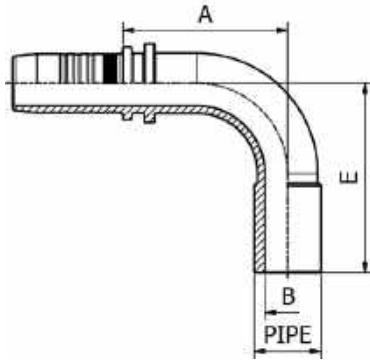
DIN STANDARD CONNECTIONS

# M22140

45° METRIC STANDPIPE HEAVY DUTY  
DIN 2353 / ISO 8434-1

PART. REF.	HOSE BORE			Pipe		DIMENSIONS mm					
	DN	Dash	inch			mm	B	A	E		
M22140-04-08	6	- 4	1/4"	8.0		4.0	42.0	22.0			
M22140-04-10	6	- 4	1/4"	10.0		6.0	44.0	24.0			
M22140-06-14	10	- 6	3/8"	14.0		9.3	54.5	29.0			
M22140-08-16	12	- 8	1/2"	16.0		10.5	61.0	30.0			
M22140-10-20	16	- 10	5/8"	20.0		12.5	69.0	36.0			
M22140-12-25	19	- 12	3/4"	25.0		15.0	80.5	40.5			
M22140-16-25	25	- 16	1"	25.0		15.0	82.0	41.0			

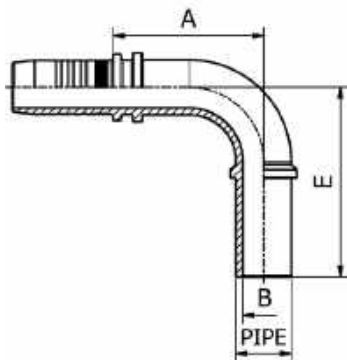
DIN STANDARD CONNECTIONS



# M22090

90° METRIC STANDPIPE LIGHT DUTY  
DIN 2353 / ISO 8434-1

PART. REF.	HOSE BORE			Pipe	DIMENSIONS mm							
	DN	Dash	inch		mm	B	A	E				
M22090-03-06	5	- 3	3/16"	6.0		3.0	22.5	34.0				
M22090-04-06	6	- 4	1/4"	6.0		3.0	23.0	34.0				
M22090-05-10	8	- 5	5/16"	10.0		7.0	29.5	40.0				
M22090-06-10	10	- 6	3/8"	10.0		7.0	33.0	42.5				
M22090-06-12	10	- 6	3/8"	12.0		8.0	34.0	45.0				
M22090-08-12	12	- 8	1/2"	12.0		8.0	34.5	45.0				
M22090-08-15	12	- 8	1/2"	15.0		10.5	42.0	52.0				
M22090-08-18	12	- 8	1/2"	18.0		12.5	42.0	55.0				
M22090-10-18	16	- 10	5/8"	18.0		12.5	49.0	59.0				
M22090-10-22	16	- 10	5/8"	22.0		15.0	53.5	63.0				
M22090-12-22	19	- 12	3/4"	22.0		15.0	54.5	63.0				
M22090-16-28	25	- 16	1"	28.0		19.8	67.5	75.0				
M22090-20-35	31	- 20	1.1/4"	35.0		26.0	80.5	94.0				



DIN STANDARD CONNECTIONS

# M22190

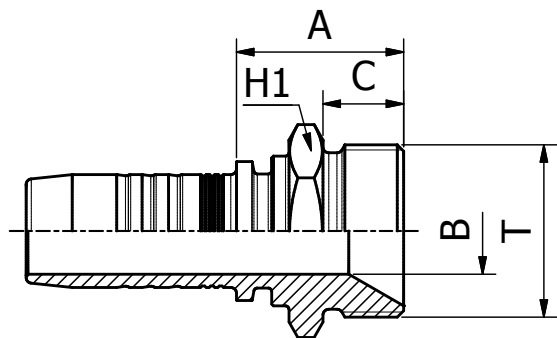
90° METRIC STANDPIPE HEAVY DUTY  
DIN 2353 / ISO 8434-1

PART. REF.	HOSE BORE			Pipe	DIMENSIONS mm							
	DN	Dash	inch		mm	B	A	E				
M22190-04-08	6	- 4	1/4"	8.0		4.0	27.0	38.0				
M22190-04-10	6	- 4	1/4"	10.0		6.0	27.0	41.0				
M22190-04-12	6	- 4	1/4"	12.0		7.0	27.0	44.0				
M22190-05-12	8	- 5	5/16"	12.0		7.0	30.5	44.0				
M22190-06-14	10	- 6	3/8"	14.0		9.3	35.0	51.0				
M22190-08-14	12	- 8	1/2"	14.0		9.3	42.0	53.5				
M22190-08-16	12	- 8	1/2"	16.0		10.5	43.0	55.0				
M22190-10-20	16	- 10	5/8"	20.0		12.5	49.0	66.5				
M22190-12-20	19	- 12	3/4"	20.0		15.0	54.5	69.0				
M22190-12-25	19	- 12	3/4"	25.0		15.0	57.5	75.0				
M22190-16-25	25	- 16	1"	25.0		15.0	61.5	76.5				
M22190-16-30	25	- 16	1"	30.0		19.8	69.5	87.0				

DIN STANDARD CONNECTIONS

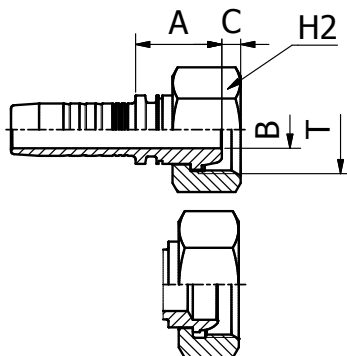
# M11010

METRIC MALE 60° CONE SEAT  
SUPER LIGHT - DIN 3863



PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	B	A	C	H1		
M11010-04-12	6	- 4	1/4"	M12 X 1.5	4.0	19.5	8.0	14.0			
M11010-04-16	6	- 4	1/4"	M16 X 1.5	4.0	23.5	11.0	19.0			
M11010-05-16	8	- 5	5/16"	M16 X 1.5	5.5	23.5	11.0	19.0			
M11010-10-26	16	- 10	5/8"	M26 X 1.5	12.5	25.5	12.0	27.0			

FITTINGS 154



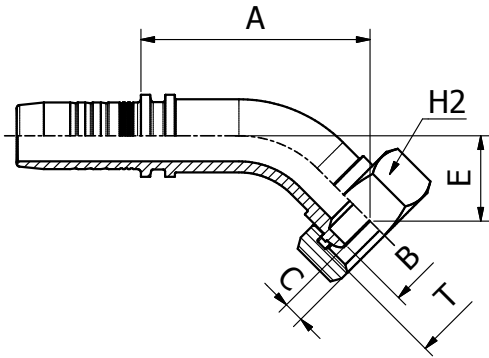
DIN STANDARD CONNECTIONS

# M21012/M21013

METRIC FEMALE 60° CONE  
DIN 20078/3863

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	B	A	C	H2		
M21012-03-10	5	-3	3/16"	M10 X1	3.0	18.5	1.8	14.0			
M21012-04-12	6	-4	1/4"	M12 X 1.5	4.0	19.5	3.9	17.0			
M21012-06-14	10	-6	3/8"	M14 X 1.5	6.0	19.5	3.9	17.0			
M21012-06-16	10	-6	3/8"	M16 X 1.5	8.0	21.5	3.8	19.0			
M21013-06-18	10	-6	3/8"	M18 X 1.5	10.0	19.5	4.5	22.0			
M21013-10-26	16	-10	5/8"	M26 X 1.5	12.5	22.0	2.0	32.0			
M21013-10-30	16	-10	5/8"	M30 X 1.5	20.0	20.0	6.0	36.0			
M21013-12-30	19	-12	3/4"	M30 X 1.5	20.0	21.0	6.0	36.0			
M21013-16-38	25	-16	1"	M38 X 1.5	26.0	23.0	7.5	46.0			
M21013-20-45	31	-20	1.1/4"	M45 X 1.5	33.0	23.5	8.0	50.0			
M21013-24-52	38	-24	1.1/2"	M52 X 1.5	40.0	25.0	8.0	60.0			
M21013-32-65	51	-32	2"	M65 X 2	42.0	35.0	5.2	75.0			

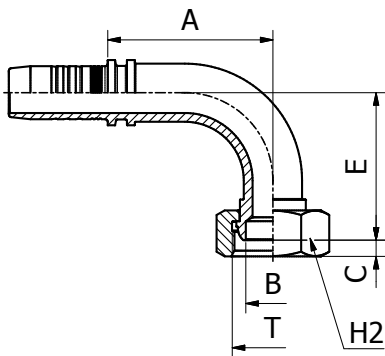
DIN STANDARD CONNECTIONS



# M21043

**45° METRIC FEMALE SWEPT ELBOW 60° CONE  
DIN 20078/3863**

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	B	A	C	E	H2	
M21043-12-30	19	- 12	3/4"	M30 X 1.5	20.0	67.5	7.0	25.0	36.0		
M21043-16-38	25	- 16	1"	M38 X 1.5	26.0	81.0	7.5	28.0	46.0		

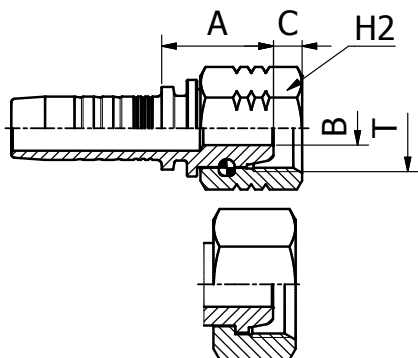


DIN STANDARD CONNECTIONS

# M21093

**90° METRIC FEMALE SWEPT ELBOW 60° CONE  
DIN 20078/3863**

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	B	A	C	E	H2	
M21093-12-30	19	- 12	3/4"	M 30X1.5	20.0	61.0	6.0	54.5	36.0		
M21093-16-38	25	- 16	1"	M 38X1.5	26.0	76.5	7.5	63.0	46.0		
M21093-20-45	31	- 20	1.1/4"	M 45X1.5	33.0	92.0	8.0	81.0	50.0		

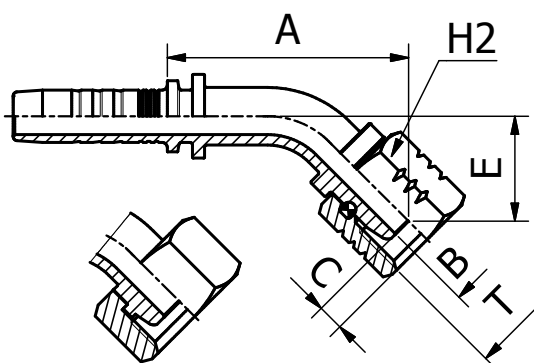


DIN STANDARD CONNECTIONS

# M21312/M21313

METRIC FEMALE MULTISEAL  
DIN 20078/3868

PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm					
	DN	Dash	inch			T	mm	B	A	C	H2
M21312-04-12	6	- 4	1/4"	M 12X1.5	6.0	4.0	19.5	4.0	17.0		
M21312-06-14	10	- 6	3/8"	M 14X1.5	8.0	4.0	19.5	3.9	17.0		
M21312-06-16	10	- 6	3/8"	M 16X1.5	10.0	7.0	21.5	5.0	19.0		
M21312-08-18	12	- 8	1/2"	M 18X1.5	12.0	7.0	23.0	5.9	22.0		
M21312-10-22	16	- 10	5/8"	M 22X1.5	15.0	9.3	23.5	5.5	27.0		
M21313-03-12	5	- 3	3/16"	M 12X1.5	6.0	3.0	18.5	3.2	14.0		
M21313-04-14	6	- 4	1/4"	M 14X1.5	8.0	4.0	19.5	3.0	17.0		
M21313-04-16	6	- 4	1/4"	M 16X1.5	10.0	4.0	19.5	4.0	19.0		
M21313-05-16	8	- 5	5/16"	M 16X1.5	10.0	5.5	19.5	4.0	19.0		
M21313-05-18	8	- 5	5/16"	M 18X1.5	12.0	5.5	19.5	4.0	22.0		
M21313-06-18	10	- 6	3/8"	M 18X1.5	12.0	7.0	20.0	4.0	22.0		
M21313-06-22	10	- 6	3/8"	M 22X1.5	15.0	7.0	21.0	4.7	27.0		
M21313-08-22	12	- 8	1/2"	M 22X1.5	15.0	9.3	21.5	4.7	27.0		
M21313-10-26	16	- 10	5/8"	M 26X1.5	18.0	12.5	22.0	5.0	32.0		



DIN STANDARD CONNECTIONS

# M21342/M21343

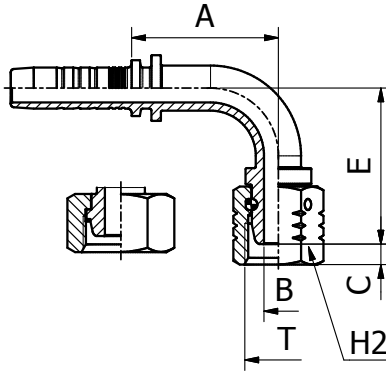
45° METRIC FEMALE SWEPT ELBOW MULTISEAL  
DIN 20078/3868

PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm					
	DN	Dash	inch			T	mm	B	A	C	E
M21342-05-14	8	- 5	5/16"	M 14X1.5	8.0	4.0	40.0	3.9	19.5	17.0	
M21342-06-16	10	- 6	3/8"	M 16X1.5	10.0	7.0	46.0	5.0	20.0	19.0	
M21343-04-14	6	- 4	1/4"	M 14X1.5	8.0	4.0	36.5	3.0	15.0	17.0	
M21343-04-16	6	- 4	1/4"	M 16X1.5	10.0	4.0	36.5	4.0	15.0	19.0	
M21343-05-16	8	- 5	5/16"	M 16X1.5	10.0	5.5	39.0	4.0	15.0	19.0	
M21343-06-18	10	- 6	3/8"	M 18X1.5	12.0	7.0	42.0	4.0	15.5	22.0	
M21343-06-22	10	- 6	3/8"	M 22X1.5	15.0	7.0	42.5	4.7	15.5	27.0	
M21343-08-22	12	- 8	1/2"	M 22X1.5	15.0	9.3	49.5	4.7	17.0	27.0	
M21343-10-26	16	- 10	5/8"	M 26X1.5	18.0	12.5	60.0	5.0	24.0	32.0	

DIN STANDARD CONNECTIONS

# M21392/M21393

90° METRIC FEMALE SWEPT ELBOW MULTISEAL  
DIN 20078/3868

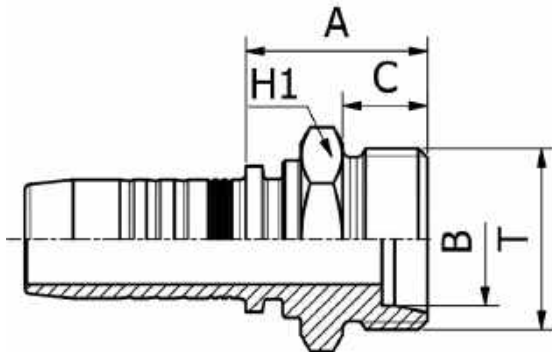


PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm				
	DN	Dash	inch	T	mm	B	A	C	E	H2
M21392-04-12	6	- 4	1/4"	M 12X1.5	6.0	4.0	28.0	4.0	30.5	17.0
M21392-06-16	10	- 6	3/8"	M 16X1.5	10.0	7.0	35.5	5.0	38.0	19.0
M21392-12-26	19	- 12	3/4"	M 26X1.5	18.0	15.0	61.5	2.3	63.0	32.0
M21393-03-12	5	- 3	3/16"	M 12X1.5	6.0	3.0	26.0	3.2	27.0	14.0
M21393-04-14	6	- 4	1/4"	M 14X1.5	8.0	4.0	29.5	3.0	29.5	17.0
M21393-04-16	6	- 4	1/4"	M 16X1.5	10.0	4.0	29.5	4.0	29.5	19.0
M21393-05-16	8	- 5	5/16"	M 16X1.5	10.0	5.5	32.0	4.0	29.0	19.0
M21393-05-18	8	- 5	5/16"	M 18X1.5	12.0	7.0	32.0	4.0	30.5	22.0
M21393-06-18	10	- 6	3/8"	M 18X1.5	12.0	7.0	36.5	4.0	31.5	22.0
M21393-06-22	10	- 6	3/8"	M 22X1.5	15.0	7.0	36.5	4.7	32.0	27.0
M21393-08-22	12	- 8	1/2"	M 22X1.5	15.0	9.3	45.0	4.7	36.5	27.0
M21393-10-26	16	- 10	5/8"	M 26X1.5	18.0	12.5	51.5	5.0	50.0	32.0

DIN STANDARD CONNECTIONS

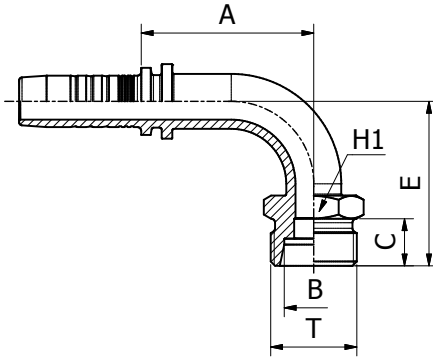
# M11110

METRIC MALE 24° CONE SEAT LIGHT DUTY  
DIN 20066 / ISO 12151-2



PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm			
	DN	Dash	inch	T	mm	B	A	C	H1
M11110-03-12	5	- 3	3/16"	M 12X1.5	6.0	3.0	21.0	10.0	14.0
M11110-04-12	6	- 4	1/4"	M 12X1.5	6.0	4.0	21.5	10.0	14.0
M11110-04-14	6	- 4	1/4"	M 14X1.5	8.0	4.0	21.5	10.0	14.0
M11110-04-16	6	- 4	1/4"	M 16X1.5	10.0	7.0	23.5	11.0	17.0
M11110-04-18	6	- 4	1/4"	M 18X1.5	12.0	9.0	23.5	11.0	19.0
M11110-05-16	8	- 5	5/16"	M 16X1.5	10.0	7.0	24.0	11.0	17.0
M11110-05-18	8	- 5	5/16"	M 18X1.5	12.0	9.0	24.0	11.0	19.0
M11110-06-16	10	- 6	3/8"	M 16X1.5	10.0	7.0	24.0	11.0	17.0
M11110-06-18	10	- 6	3/8"	M 18X1.5	12.0	9.0	24.5	11.0	19.0
M11110-06-22	10	- 6	3/8"	M 22X1.5	15.0	10.0	25.5	12.0	22.0
M11110-06-26	10	- 6	3/8"	M 26X1.5	18.0	12.5	26.5	12.0	27.0
M11110-08-16	12	- 8	1/2"	M 16X1.5	10.0	7.0	24.5	11.0	22.0
M11110-08-18	12	- 8	1/2"	M 18X1.5	12.0	9.3	24.5	11.0	22.0
M11110-08-22	12	- 8	1/2"	M 22X1.5	15.0	10.0	25.5	12.0	22.0
M11110-08-26	12	- 8	1/2"	M 26X1.5	18.0	12.5	26.5	12.0	27.0
M11110-10-22	16	- 10	5/8"	M 22X1.5	15.0	10.0	25.5	12.0	22.0
M11110-10-26	16	- 10	5/8"	M 26X1.5	18.0	12.5	26.5	12.0	27.0
M11110-10-30	16	- 10	5/8"	M 30X2	22.0	15.0	28.5	14.0	30.0
M11110-12-26	19	- 12	3/4"	M 26X1.5	18.0	15.0	28.0	12.0	27.0
M11110-12-30	19	- 12	3/4"	M 30X2	22.0	15.0	30.0	14.0	30.0
M11110-12-36	19	- 12	3/4"	M 36X2	28.0	19.8	31.0	14.0	36.0
M11110-16-36	25	- 16	1"	M 36X2	28.0	19.8	32.5	14.0	36.0
M11110-20-45	31	- 20	1.1/4"	M 45X2	35.0	26.0	40.5	16.0	46.0
M11110-24-52	38	- 24	1.1/2"	M 52X2	42.0	32.0	43.0	16.0	55.0

DIN STANDARD CONNECTIONS

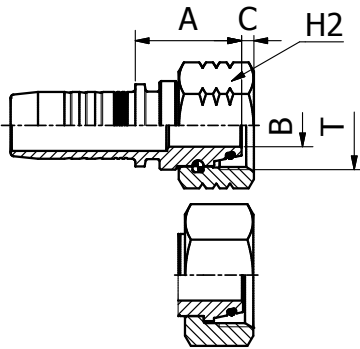


# M11190

**90° METRIC MALE 24° CONE SEAT LIGHT DUTY  
DIN 20066 / ISO 12151-2**

PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch			T	mm	B	A	C	E	H1
M11190-04-14	6	- 4	1/4"	M 14X1.5	8.0	4.0	27.0	10.0	33.0	14.0		
M11190-06-18	10	- 6	3/8"	M 18X1.5	12.0	9.0	32.0	11.0	35.5	19.0		

FITTINGS 158



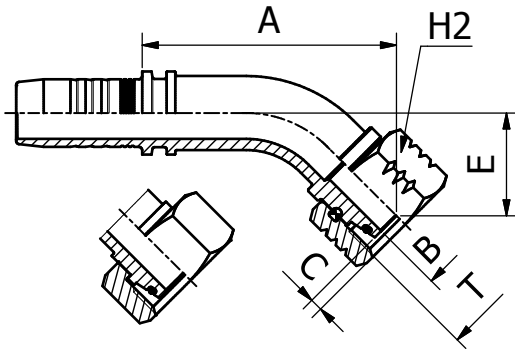
DIN STANDARD CONNECTIONS

# M21512/M21513

**METRIC O-RING FEMALE  
24° CONE LIGHT DUTY  
DIN 20066 / ISO 12151-2**

PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch			T	mm	B	A	C	H2	
M21512-04-12	6	- 4	1/4"	M 12X1.5	6.0	3.0	21.0	2.2	17.0			
M21512-05-14	8	- 5	5/16"	M 14X1.5	8.0	4.0	20.0	2.9	17.0			
M21512-06-16	10	- 6	3/8"	M 16X1.5	10.0	6.0	23.0	3.0	19.0			
M21512-08-18	12	- 8	1/2"	M 18X1.5	12.0	7.0	29.0	2.9	22.0			
M21512-10-18	16	- 10	5/8"	M 18X1.5	12.0	7.0	29.0	2.9	22.0			
M21512-10-22	16	- 10	5/8"	M 22X1.5	15.0	9.5	26.5	2.4	27.0			
M21512-12-22	19	- 12	3/4"	M 22X1.5	15.0	9.5	31.0	2.4	27.0			
M21512-12-26	19	- 12	3/4"	M 26X1.5	18.0	12.5	31.0	2.3	32.0			
M21512-16-30	25	- 16	1"	M 30X2	22.0	15.0	34.0	4.2	36.0			
M21512-20-36	31	- 20	1.1/4"	M 36X2	28.0	19.8	35.5	5.0	41.0			
M21512-24-45	38	- 24	1.1/2"	M 45X2	35.0	26.0	42.5	5.8	50.0			
M21512-32-52	51	- 32	2"	M 52X2	42.0	32.0	50.5	5.6	60.0			
M21513-03-12	5	- 3	3/16"	M 12X1.5	6.0	3.0	22.0	0.7	14.0			
M21513-03-14	5	- 3	3/16"	M 14X1.5	8.0	4.0	24.5	1.3	17.0			
M21513-04-14	6	- 4	1/4"	M 14X1.5	8.0	4.0	22.0	1.3	17.0			
M21513-04-16	6	- 4	1/4"	M 16X1.5	10.0	6.0	22.5	1.8	19.0			
M21513-04-18	6	- 4	1/4"	M 18X1.5	12.0	7.0	22.0	2.0	22.0			
M21513-05-16	8	- 5	5/16"	M 16X1.5	10.0	6.0	22.5	1.8	19.0			
M21513-05-18	8	- 5	5/16"	M 18X1.5	12.0	7.0	22.0	2.0	22.0			
M21513-06-18	10	- 6	3/8"	M 18X1.5	12.0	7.0	22.5	2.0	22.0			
M21513-06-22	10	- 6	3/8"	M 22X1.5	15.0	9.3	25.0	1.5	27.0			
M21513-08-22	12	- 8	1/2"	M 22X1.5	15.0	9.3	25.5	1.5	27.0			
M21513-08-26	12	- 8	1/2"	M 26X1.5	18.0	12.5	26.0	2.0	32.0			
M21513-10-26	16	- 10	5/8"	M 26X1.5	18.0	12.5	26.0	2.0	32.0			
M21513-10-30	16	- 10	5/8"	M 30X2	22.0	15.0	34.0	3.0	36.0			
M21513-10-36	16	- 10	5/8"	M 36X2	28.0	20.0	30.5	3.7	41.0			
M21513-12-30	19	- 12	3/4"	M 30X2	22.0	15.0	28.0	3.0	36.0			
M21513-12-36	19	- 12	3/4"	M 36X2	28.0	20.0	28.5	3.7	41.0			
M21513-16-36	25	- 16	1"	M 36X2	28.0	19.8	29.5	3.7	41.0			
M21513-16-45	25	- 16	1"	M 45X2	35.0	26.0	39.0	4.0	50.0			
M21513-20-45	31	- 20	1.1/4"	M 45X2	35.0	26.0	33.0	4.0	50.0			
M21513-20-52	31	- 20	1.1/4"	M 52X2	42.0	32.0	32.5	4.5	60.0			
M21513-24-52	38	- 24	1.1/2"	M 52X2	42.0	32.0	33.0	4.5	60.0			





# M21542/M21543

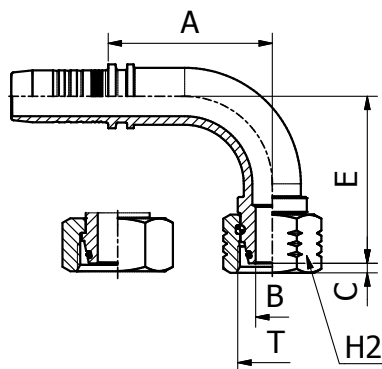
**45° METRIC O-RING FEMALE SWEPT ELBOW  
24° CONE LIGHT DUTY  
DIN 20066 / ISO 12151-2**

PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch	T	mm	B	A	C	E	H2		
M21542-04-12	6	- 4	1/4"	M 12X1.5	6.0	3.0	39.0	2.2	18.0	17.0		
M21542-06-16	10	- 6	3/8"	M 16X1.5	10.0	6.0	47.5	3.0	21.5	19.0		
M21542-08-18	12	- 8	1/2"	M 18X1.5	12.0	7.0	56.5	2.9	25.0	22.0		
M21542-10-22	16	- 10	5/8"	M 22X1.5	15.0	9.3	65.5	3.0	29.0	27.0		
M21542-12-26	19	- 12	3/4"	M 26X1.5	18.0	12.5	73.0	2.3	31.0	32.0		
M21542-20-36	31	- 20	1.1/4"	M 36X2	28.0	19.8	107.5	5.0	44.0	41.0		
M21542-24-36	38	- 24	1.1/2"	M 36X2	28.0	19.8	113.0	5.0	34.5	41.0		
M21543-03-12	5	- 3	3/16"	M 12X1.5	6.0	3.0	35.0	0.7	16.0	14.0		
M21543-04-14	6	- 4	1/4"	M 14X1.5	8.0	4.0	38.0	1.3	16.5	17.0		
M21543-04-16	6	- 4	1/4"	M 16X1.5	10.0	6.0	38.0	1.8	17.0	19.0		
M21543-04-18	6	- 4	1/4"	M 18X1.5	12.0	7.0	38.5	2.0	17.5	22.0		
M21543-05-16	8	- 5	5/16"	M 16X1.5	10.0	6.0	41.5	1.8	17.5	19.0		
M21543-05-18	8	- 5	5/16"	M 18X1.5	12.0	7.0	41.5	2.0	17.0	22.0		
M21543-06-18	10	- 6	3/8"	M 18X1.5	12.0	7.0	43.5	2.0	16.5	22.0		
M21543-06-22	10	- 6	3/8"	M 22X1.5	15.0	9.3	45.0	1.5	18.0	27.0		
M21543-08-22	12	- 8	1/2"	M 22X1.5	15.0	9.3	52.0	1.5	19.0	27.0		
M21543-08-26	12	- 8	1/2"	M 26X1.5	18.0	12.5	52.5	2.0	19.5	32.0		
M21543-10-26	16	- 10	5/8"	M 26X1.5	18.0	12.5	62.0	2.0	26.5	32.0		
M21543-12-30	19	- 12	3/4"	M 30X2	22.0	15.0	71.0	3.0	28.5	36.0		
M21543-12-36	19	- 12	3/4"	M 36X2	28.0	19.8	72.0	3.7	30.0	41.0		
M21543-16-36	25	- 16	1"	M 36X2	28.0	19.8	85.0	3.7	32.0	41.0		
M21543-20-45	31	- 20	1.1/4"	M 45X2	35.0	26.0	100.0	4.0	36.0	50.0		
M21543-20-52	31	- 20	1.1/4"	M 52X2	42.0	32.0	100.0	4.5	42.0	60.0		
M21543-24-52	38	- 24	1.1/2"	M 52X2	42.0	32.0	117.0	4.5	44.5	60.0		

DIN STANDARD CONNECTIONS

# M21592/M21593

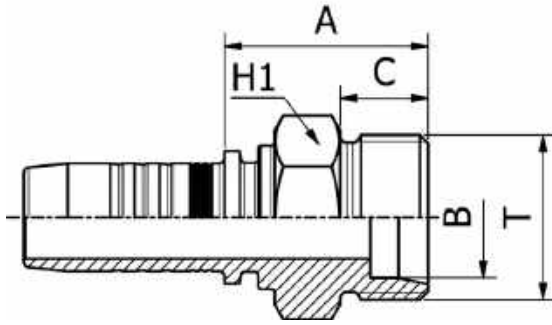
**90° METRIC O-RING FEMALE SWEPT ELBOW  
24° CONE LIGHT DUTY  
DIN 20066 / ISO 12151-2**



PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch	T	mm	B	A	C	E	H2		
M21592-04-12	6	- 4	1/4"	M 12X1.5	6.0	3.0	28.5	2.2	32.5	17.0		
M21592-05-14	8	- 5	5/16"	M 14X1.5	8.0	4.0	31.0	2.9	33.0	17.0		
M21592-06-16	10	- 6	3/8"	M 16X1.5	10.0	6.0	35.5	3.0	40.0	19.0		
M21592-08-18	12	- 8	1/2"	M 18X1.5	12.0	7.0	44.0	2.9	48.0	22.0		
M21592-10-22	16	- 10	5/8"	M 22X1.5	15.0	9.3	53.5	3.0	57.5	27.0		
M21592-12-26	19	- 12	3/4"	M 26X1.5	18.0	12.5	61.5	2.3	63.0	32.0		
M21592-16-30	25	- 16	1"	M 30X2	22.0	15.0	79.5	4.2	80.5	36.0		
M21592-20-36	31	- 20	1.1/4"	M 36X2	28.0	19.8	93.5	5.0	92.0	41.0		
M21592-24-36	38	- 24	1.1/2"	M 36X2	28.0	19.8	97.0	5.0	68.0	41.0		
M21592-32-52	51	- 32	2"	M 52X2	42.0	32.0	131.0	5.6	119.0	60.0		
M21593-03-12	5	- 3	3/16"	M 12X1.5	6.0	3.0	26.0	0.7	30.0	14.0		
M21593-03-14	5	- 3	3/16"	M 14X1.5	8.0	4.0	29.0	1.3	31.5	17.0		
M21593-04-14	6	- 4	1/4"	M 14X1.5	8.0	4.0	29.5	1.3	31.5	17.0		
M21593-04-16	6	- 4	1/4"	M 16X1.5	10.0	6.0	29.5	1.8	32.0	19.0		
M21593-04-18	6	- 4	1/4"	M 18X1.5	12.0	7.0	29.5	2.0	33.0	22.0		
M21593-05-16	8	- 5	5/16"	M 16X1.5	10.0	6.0	32.0	1.8	32.5	19.0		
M21593-05-18	8	- 5	5/16"	M 18X1.5	12.0	7.0	32.0	2.0	32.5	22.0		
M21593-05-22	8	- 5	5/16"	M 22X1.5	15.0	9.3	36.0	1.5	35.0	27.0		
M21593-06-18	10	- 6	3/8"	M 18X1.5	12.0	7.0	36.5	2.0	33.5	22.0		
M21593-06-22	10	- 6	3/8"	M 22X1.5	15.0	9.3	36.5	1.5	35.0	27.0		
M21593-08-22	12	- 8	1/2"	M 22X1.5	15.0	9.3	45.0	1.5	39.5	27.0		
M21593-08-26	12	- 8	1/2"	M 26X1.5	18.0	12.5	45.0	2.0	40.0	32.0		
M21593-10-26	16	- 10	5/8"	M 26X1.5	18.0	12.5	51.5	2.0	53.0	32.0		
M21593-10-30	16	- 10	5/8"	M 30X2	22.0	15.0	51.5	3.0	54.0	36.0		
M21593-12-30	19	- 12	3/4"	M 30X2	22.0	15.0	61.5	3.0	59.5	36.0		
M21593-12-36	19	- 12	3/4"	M 36X2	28.0	19.8	61.5	3.7	61.0	41.0		
M21593-16-36	25	- 16	1"	M 36X2	28.0	19.8	76.5	3.7	69.5	41.0		
M21593-16-45	25	- 16	1"	M 45X2	35.0	26.0	79.0	4.0	72.0	50.0		
M21593-20-45	31	- 20	1.1/4"	M 45X2	35.0	26.0	93.5	4.0	81.0	50.0		
M21593-24-52	38	- 24	1.1/2"	M 52X2	42.0	32.0	107.5	4.5	98.0	60.0		

DIN STANDARD CONNECTIONS

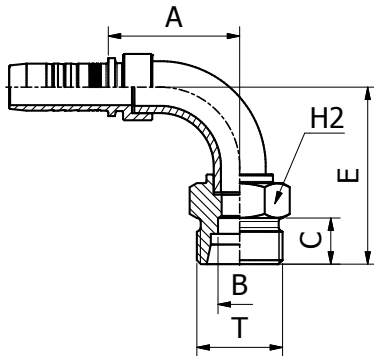
# M11210



**METRIC MALE 24° CONE SEAT HEAVY DUTY  
DIN 20066 / ISO 12151-2**

PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm					
	DN	Dash	inch			T	mm	B	A	C	H1
M11210-04-16	6	- 4	1/4"	M 16X1.5	8.0	5.5	25.5	12.0	17.0		
M11210-04-18	6	- 4	1/4"	M 18X1.5	10.0	6.0	26.5	12.0	19.0		
M11210-04-20	6	- 4	1/4"	M 20X1.5	12.0	7.0	29.0	12.0	22.0		
M11210-05-16	8	- 5	5/16"	M 16X1.5	8.0	5.5	26.0	12.0	17.0		
M11210-05-18	8	- 5	5/16"	M 18X1.5	10.0	7.0	26.5	12.0	19.0		
M11210-05-20	8	- 5	5/16"	M 20X1.5	12.0	7.0	29.0	12.0	22.0		
M11210-06-18	10	- 6	3/8"	M 18X1.5	10.0	7.0	27.0	12.0	19.0		
M11210-06-20	10	- 6	3/8"	M 20X1.5	12.0	7.0	29.0	12.0	22.0		
M11210-06-22	10	- 6	3/8"	M 22X1.5	14.0	8.0	31.0	14.0	22.0		
M11210-08-20	12	- 8	1/2"	M 20X1.5	12.0	9.3	29.5	12.0	22.0		
M11210-08-22	12	- 8	1/2"	M 22X1.5	14.0	9.3	31.5	14.0	22.0		
M11210-08-24	12	- 8	1/2"	M 24X1.5	16.0	9.3	31.5	14.0	24.0		
M11210-10-30	16	- 10	5/8"	M 30X2	20.0	15.0	35.5	16.0	30.0		
M11210-10-36	16	- 10	5/8"	M 36X2	25.0	19.8	40.0	18.0	36.0		
M11210-12-30	19	- 12	3/4"	M 30X2	20.0	15.0	37.0	16.0	30.0		
M11210-12-36	19	- 12	3/4"	M 36X2	25.0	19.8	41.0	18.0	36.0		
M11210-16-36	25	- 16	1"	M 36X2	25.0	19.8	42.5	18.0	36.0		
M11210-16-42	25	- 16	1"	M 42X2	30.0	25.0	44.5	20.0	46.0		
M11210-20-52	31	- 20	1.1/4"	M 52X2	38.0	30.0	51.0	22.0	55.0		

161 FITTINGS



DIN STANDARD CONNECTIONS

# M11290

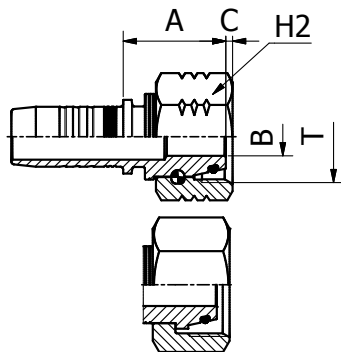
**90° METRIC MALE 24° CONE SEAT HEAVY DUTY  
DIN 20066 / ISO 12151-2**

PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm					
	DN	Dash	inch			T	mm	B	A	C	E
M11290-05-20	8	- 5	5/16"	M 20X1.5	12.0	7.0	29.0	12.0	36.5	22.0	
M11290-10-30	16	- 10	5/8"	M 30X2	20.0	15.0	45.5	16.0	61.5	30.0	

DIN STANDARD CONNECTIONS

# M21612/M21613

**METRIC O-RING FEMALE  
24° CONE HEAVY DUTY  
DIN 20066 / ISO 12151-2**



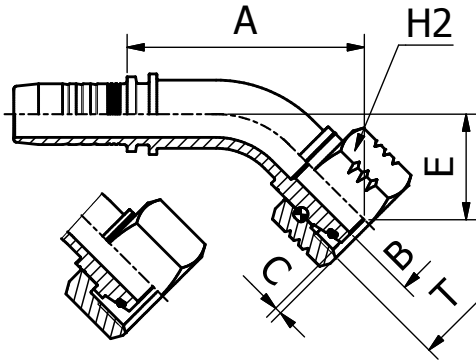
FITTINGS 162

PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch			T	B	A	C			
M21612-08-20	12	- 8	1/2"	M 20X1.5	12.0	7.0	29.0	2.5	24.0			
M21612-08-22	12	- 8	1/2"	M 22X1.5	14.0	7.0	27.0	2.5	27.0			
M21612-10-24	16	- 10	5/8"	M 24X1.5	16.0	9.3	29.5	4.0	30.0			
M21612-12-24	19	- 12	3/4"	M 24X1.5	16.0	9.3	30.5	4.0	30.0			
M21612-12-30	19	- 12	3/4"	M 30X2	20.0	12.5	33.5	2.2	36.0			
M21612-16-30	25	- 16	1"	M 30X2	20.0	12.5	34.5	2.2	36.0			
M21612-16-36	25	- 16	1"	M 36X2	25.0	15.0	35.5	1.7	41.0			
M21613-03-14	5	- 3	3/16"	M 14X1.5	6.0	2.5	25.5	3.5	17.0			
M21613-03-16	5	- 3	3/16"	M 16X1.5	8.0	3.0	21.5	3.4	19.0			
M21613-04-14	6	- 4	1/4"	M 14X1.5	6.0	3.0	23.5	1.9	17.0			
M21613-04-16	6	- 4	1/4"	M 16X1.5	8.0	4.0	22.0	3.4	19.0			
M21613-04-18	6	- 4	1/4"	M 18X1.5	10.0	4.0	28.0	2.5	22.0			
M21613-04-20	6	- 4	1/4"	M 20X1.5	12.0	7.0	26.0	2.0	24.0			
M21613-05-18	8	- 5	5/16"	M 18X1.5	10.0	5.5	28.0	2.5	22.0			
M21613-05-20	8	- 5	5/16"	M 20X1.5	12.0	5.5	25.0	2.0	24.0			
M21613-06-18	10	- 6	3/8"	M 18X1.5	10.0	7.0	28.5	2.5	22.0			
M21613-06-20	10	- 6	3/8"	M 20X1.5	12.0	7.0	25.5	2.0	24.0			
M21613-06-22	10	- 6	3/8"	M 22X1.5	14.0	7.0	32.5	3.0	27.0			
M21613-06-24	10	- 6	3/8"	M 24X1.5	16.0	7.0	32.0	4.0	30.0			
M21613-08-24	12	- 8	1/2"	M 24X1.5	16.0	9.3	26.5	4.0	30.0			
M21613-08-30	12	- 8	1/2"	M 30X2	20.0	12.5	37.0	3.5	36.0			
M21613-10-30	16	- 10	5/8"	M 30X2	20.0	12.5	30.5	3.5	36.0			
M21613-10-36	16	- 10	5/8"	M 36X2	25.0	15.0	40.0	4.5	41.0			
M21613-12-36	19	- 12	3/4"	M 36X2	25.0	15.0	34.0	4.5	41.0			
M21613-16-42	25	- 16	1"	M 42X2	30.0	19.8	35.5	6.3	50.0			
M21613-20-52	31	- 20	1.1/4"	M 52X2	38.0	26.0	37.5	8.0	60.0			
M21613-24-52	38	- 24	1.1/2"	M 52X2	38.0	26.0	49.5	8.0	60.0			

DIN STANDARD CONNECTIONS

# M21642/M21643

45° METRIC O-RING FEMALE SWEPT ELBOW  
 24° CONE HEAVY DUTY  
 DIN 20066 / ISO 12151-2

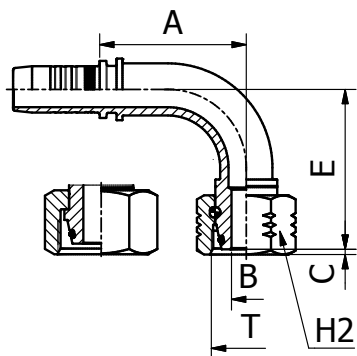


PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch			T	mm	B	A	C	E	H2
M21642-06-18	10	- 6	3/8"	M 18X1.5	10.0	4.0	49.0	3.9	23.0	22.0		
M21642-08-22	12	- 8	1/2"	M 22X1.5	14.0	7.0	57.5	2.5	25.5	27.0		
M21642-12-30	19	- 12	3/4"	M 30X2	20.0	12.5	76.5	2.2	34.0	36.0		
M21642-16-36	25	- 16	1"	M 36X2	25.0	15.0	98.0	1.7	43.5	41.0		
M21642-24-52	38	- 24	1.1/2"	M 52X2	38.0	24.7	111.0	8.8	48.0	60.0		
M21643-04-14	6	- 4	1/4"	M 14X1.5	6.0	3.0	38.5	1.9	17.5	17.0		
M21643-04-16	6	- 4	1/4"	M 16X1.5	8.0	4.0	36.5	3.4	15.0	19.0		
M21643-04-18	6	- 4	1/4"	M 18X1.5	10.0	4.0	37.5	2.5	16.5	22.0		
M21643-05-18	8	- 5	5/16"	M 18X1.5	10.0	4.0	42.5	2.5	18.0	22.0		
M21643-05-20	8	- 5	5/16"	M 20X1.5	12.0	5.5	42.0	2.0	18.5	24.0		
M21643-06-20	10	- 6	3/8"	M 20X1.5	12.0	7.0	45.0	2.5	18.0	24.0		
M21643-06-22	10	- 6	3/8"	M 22X1.5	14.0	7.0	45.5	3.0	18.5	27.0		
M21643-08-24	12	- 8	1/2"	M 24X1.5	16.0	9.3	52.5	4.0	20.0	30.0		
M21643-10-30	16	- 10	5/8"	M 30X2	20.0	12.5	65.5	3.5	29.5	36.0		
M21643-12-36	19	- 12	3/4"	M 36X2	25.0	15.0	75.0	4.5	32.5	41.0		
M21643-16-42	25	- 16	1"	M 42X2	30.0	19.8	90.0	6.3	35.5	50.0		
M21643-20-52	31	- 20	1.1/4"	M 52X2	38.0	26.0	103.0	8.0	39.5	60.0		

DIN STANDARD CONNECTIONS

# M21692/M21693

90° METRIC O-RING FEMALE SWEPT ELBOW  
24° CONE HEAVY DUTY  
DIN 20066 / ISO 12151-2



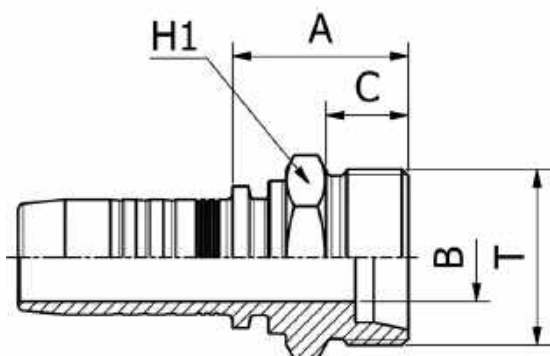
PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch			T	mm	B	A	C	E	H2
M21692-06-18	10	- 6	3/8"	M 18X1.5	10.0	4.0	35.5	3.9	42.5	22.0		
M21692-08-22	12	- 8	1/2"	M 22X1.5	14.0	7.0	44.0	2.5	48.5	27.0		
M21692-10-24	16	- 10	5/8"	M 24X1.5	16.0	9.3	53.5	4.0	58.5	30.0		
M21692-12-30	19	- 12	3/4"	M 30X2	20.0	12.5	61.5	2.2	67.5	36.0		
M21692-16-36	25	- 16	1"	M 36X2	25.0	15.0	79.5	1.7	86.0	41.0		
M21692-24-52	38	- 24	1.1/2"	M 52X2	38.0	24.7	91.5	8.8	95.5	60.0		
M21693-03-14	5	- 3	3/16"	M 14X1.5	6.0	3.0	26.0	3.5	30.0	17.0		
M21693-03-16	5	- 3	3/16"	M 16X1.5	8.0	3.0	26.0	3.4	29.5	19.0		
M21693-04-14	6	- 4	1/4"	M 14X1.5	6.0	3.0	29.5	1.9	32.5	17.0		
M21693-04-16	6	- 4	1/4"	M 16X1.5	8.0	4.0	29.5	3.4	29.5	19.0		
M21693-04-18	6	- 4	1/4"	M 18X1.5	10.0	4.0	29.5	2.5	31.0	22.0		
M21693-04-20	6	- 4	1/4"	M 20X1.5	12.0	5.5	29.5	2.0	34.5	24.0		
M21693-05-18	8	- 5	5/16"	M 18X1.5	10.0	4.0	32.0	2.5	33.5	22.0		
M21693-05-20	8	- 5	5/16"	M 20X1.5	12.0	5.5	32.0	2.0	34.0	24.0		
M21693-06-20	10	- 6	3/8"	M 20X1.5	12.0	7.0	36.5	2.0	35.0	24.0		
M21693-06-22	10	- 6	3/8"	M 22X1.5	14.0	7.0	36.5	3.0	37.0	27.0		
M21693-06-24	10	- 6	3/8"	M 24X1.5	16.0	9.3	36.5	4.0	36.0	30.0		
M21693-08-24	12	- 8	1/2"	M 24X1.5	16.0	9.3	45.0	4.0	40.5	30.0		
M21693-08-30	12	- 8	1/2"	M 30X2	20.0	12.5	45.0	3.5	44.5	36.0		
M21693-10-30	16	- 10	5/8"	M 30X2	20.0	12.5	51.5	3.5	57.5	36.0		
M21693-12-36	19	- 12	3/4"	M 36X2	25.0	15.0	61.5	4.5	64.5	41.0		
M21693-16-42	25	- 16	1"	M 42X2	30.0	19.8	79.0	6.3	74.5	50.0		
M21693-20-52	31	- 20	1.1/4"	M 52X2	38.0	26.0	93.5	8.0	85.5	60.0		

FITTINGS 164

NF STANDARD CONNECTIONS

# M11710

FRENCH METRIC MALE  
24° CONE SEAT MILLIMETRIC TYPE

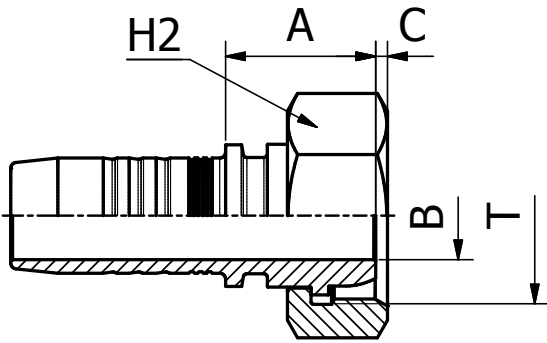


PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch			T	mm	B	A	C	H1	
M11710-10-2718	16	- 10	5/8"	M 27X1.5	18.0	12.5	28.5	14.0	28.0			
M11710-10-2720	16	- 10	5/8"	M 27X1.5	20.0	12.5	28.5	14.0	28.0			
M11710-12-30	19	- 12	3/4"	M 30X1.5	22.0	15.0	30.0	14.0	30.0			
M11710-12-33	19	- 12	3/4"	M 33X1.5	25.0	15.0	31.0	14.0	34.0			

NF STANDARD CONNECTIONS

# M21713

FRENCH METRIC FEMALE  
MILLIMETRIC TYPE (SLIP-ON NUT)

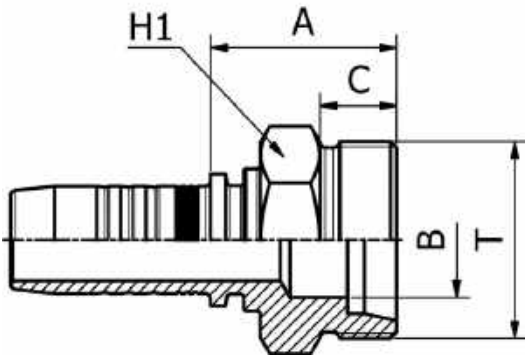


PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch			T	B	A	C	H2		
M21713-10-2718	16	-10	5/8"	M 27X1.5	18	12.5	21.5	5.0	32.0			
M21713-10-2720	16	-10	5/8"	M 27X1.5	20	12.5	21.5	5.0	32.0			
M21713-12-30	19	-12	3/4"	M 30X1.5	22	15.0	25.5	2.0	36.0			
M21713-12-33	19	-12	3/4"	M 33X1.5	25	15.0	25.5	2.0	38.0			
M21713-16-36	25	-16	1"	M 36X1.5	28	19.8	28.0	4.7	41.0			
M21713-16-39	25	-16	1"	M 39X1.5	30	19.8	28.5	4.2	46.0			

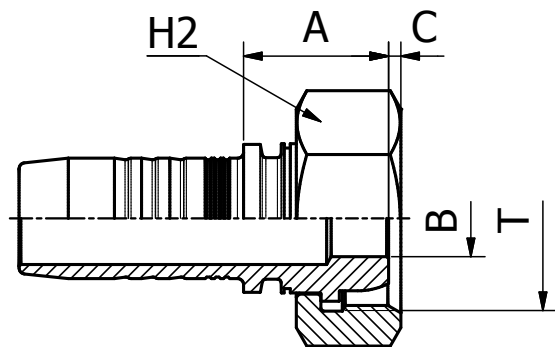
NF STANDARD CONNECTIONS

# M11810

FRENCH METRIC MALE  
24° CONE SEAT GAZ TYPE



PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch			T	B	A	C	H1		
M11810-05-20	8	- 5	5/16"	M 20X1.5	13.25	8.0	27.0	12.0	22.0			
M11810-06-20	10	- 6	3/8"	M 20X1.5	13.25	8.0	27.5	12.0	22.0			
M11810-06-24	10	- 6	3/8"	M 24X1.5	16.75	12.0	28.0	12.0	24.0			
M11810-08-24	12	- 8	1/2"	M 24X1.5	16.75	12.0	28.5	12.0	24.0			
M11810-10-30	16	- 10	5/8"	M 30X1.5	21.25	15.0	31.5	14.0	30.0			
M11810-12-36	19	- 12	3/4"	M 36X1.5	26.75	21.0	34.0	14.0	36.0			
M11810-16-45	25	- 16	1"	M 45X1.5	33.5	26.0	39.5	16.0	46.0			



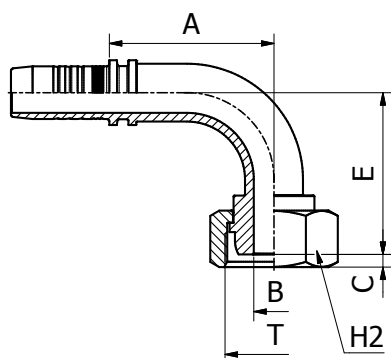
NF STANDARD CONNECTIONS

# M21813

**FRENCH METRIC FEMALE  
GAZ TYPE (SLIP-ON NUT)**

PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch			T	B	A	C	H2		
M21813-04-20	6	-4	1/4"	M 20X1.5	13.25	7.0	22.0	4.0	24.0			
M21813-05-20	8	-5	5/16"	M 20X1.5	13.25	7.0	22.0	4.0	24.0			
M21813-06-20	10	-6	3/8"	M 20X1.5	13.25	7.0	22.5	4.0	24.0			
M21813-06-24	10	-6	3/8"	M 24X1.5	16.75	9.3	25.5	3.5	30.0			
M21813-08-24	12	-8	1/2"	M 24X1.5	16.75	9.3	26.0	3.5	30.0			
M21813-08-30	12	-8	1/2"	M 30X1.5	21.25	12.5	23.5	2.0	36.0			
M21813-10-30	16	-10	5/8"	M 30X1.5	21.25	12.5	23.5	2.0	36.0			
M21813-12-36	19	-12	3/4"	M 36X1.5	26.75	15.0	27.0	4.7	41.0			
M21813-16-45	25	-16	1"	M 45X1.5	33.5	19.8	27.0	4.5	50.0			

FITTINGS 166



NF STANDARD CONNECTIONS

# M21893

**90° FRENCH METRIC FEMALE  
GAZ TYPE (SLIP-ON NUT)**

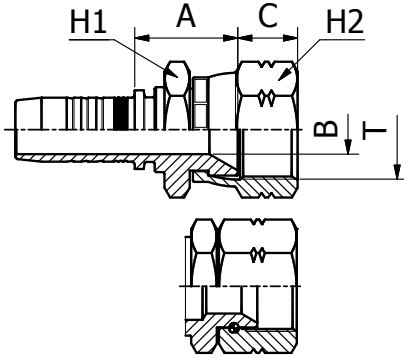
PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch			T	B	A	C	E	H2	
M21893-05-20	8	-5	5/16"	M 20X1.5	13.25	7.0	32.0	4.0	29.5	24.0		
M21893-06-20	10	-6	3/8"	M 20X1.5	13.25	7.0	36.5	4.0	33.5	24.0		
M21893-08-24	12	-8	1/2"	M 24X1.5	16.75	12.0	45.0	3.5	41.0	30.0		
M21893-10-30	16	-10	5/8"	M 30X1.5	21.25	12.5	51.5	2.0	53.5	36.0		
M21893-12-36	19	-12	3/4"	M 36X1.5	26.75	15.0	61.5	4.7	60.0	41.0		



JIS STANDARD CONNECTIONS

# M24011/M24012

JIS METRIC FEMALE 60° CONE SEAT  
(KOMATSU) JIS B 8363

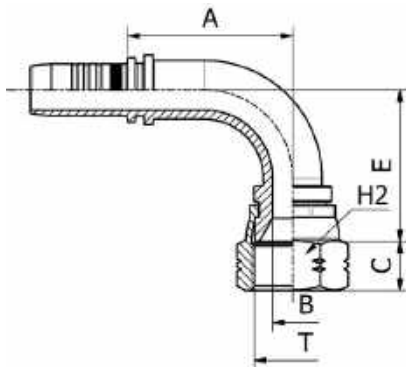


PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	B	A	C	H1	H2	
M24011-04-14	6	- 4	1/4"	M 14X1.5	4.0	23.0	10.5	19.0	19.0		
M24011-04-18	6	- 4	1/4"	M 18X1.5	7.0	22.5	11.5	24.0	24.0		
M24011-05-16	8	- 5	5/16"	M 16X1.5	5.5	22.5	9.3	21.0	21.0		
M24011-06-14	10	- 6	3/8"	M 14X1.5	4.0	23.5	10.5	19.0	19.0		
M24011-06-18	10	- 6	3/8"	M 18X1.5	7.0	23.5	11.5	24.0	24.0		
M24011-08-22	12	- 8	1/2"	M 22X1.5	9.3	25.0	13.0	27.0	27.0		
M24011-10-24	16	- 10	5/8"	M 24X1.5	12.5	26.5	15.1	32.0	32.0		
M24011-12-30	19	- 12	3/4"	M 30X1.5	15.0	31.5	18.3	36.0	36.0		
M24011-16-33	25	- 16	1"	M 33X1.5	19.8	33.5	21.3	41.0	41.0		
M24011-20-36	31	- 20	1.1/4"	M 36X1.5	19.8	41.0	20.0	46.0	46.0		
M24012-24-42	38	- 24	1.1/2"	M 42X1.5	26.0	44.0	18.8	55.0	55.0		

JIS STANDARD CONNECTIONS

# M24091

90° JIS METRIC FEMALE 60° CONE SEAT

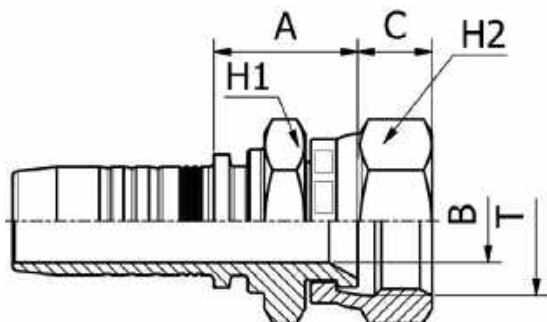


PART. REF.	HOSE BORE			Thread	DIMENSIONS mm					
	DN	Dash	inch		T	B	A	C	E	H2
M24091-04-14	6	- 4	1/4"	M 14X1.5	4.0	29.0	10.5	28.5	19.0	
M24091-06-18	10	- 6	3/8"	M 18X1.5	7.0	35.5	11.5	34.0	24.0	
M24091-08-22	12	- 8	1/2"	M 22X1.5	9.3	44.0	13.0	40.0	27.0	
M24091-10-24	16	- 10	5/8"	M 24X1.5	12.5	53.5	15.2	47.0	32.0	
M24091-12-30	19	- 12	3/4"	M 30X1.5	15.0	61.5	18.3	56.5	36.0	

JIS STANDARD CONNECTIONS

# M23811

JIS BSP FEMALE 60° CONE SEAT  
(TOYOTA) - JIS B 8363  
(CRIMPED-BACK NUT)

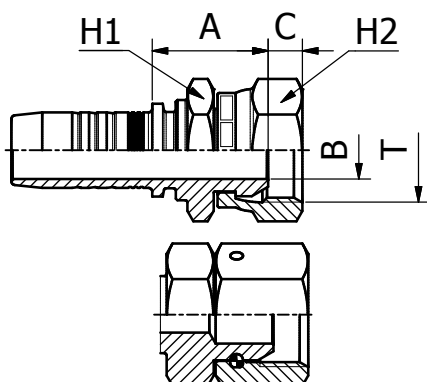


PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	B	A	C	H1	H2	
M23811-04-04	6	- 4	1/4"	1/4" - 19	4.0	18.5	8.3	19.0	19.0		
M23811-06-06	10	- 6	3/8"	3/8" - 19	7.0	23.0	10.0	22.0	22.0		
M23811-08-08	12	- 8	1/2"	1/2" - 14	9.3	22.0	11.5	27.0	27.0		
M23811-12-12	19	- 12	3/4"	3/4" - 14	15.0	26.0	13.5	32.0	32.0		
M23811-16-16	25	- 16	1"	1" - 11	19.8	30.5	14.5	38.0	38.0		

JIS STANDARD CONNECTIONS

# M20711/M20712

JIS BSP FEMALE 60° CONE  
(NISSAN) - JIS B 8363

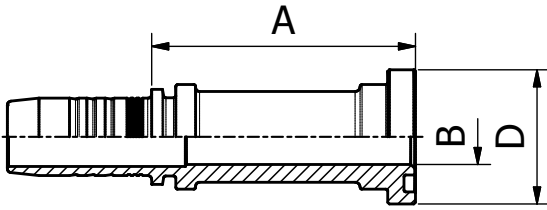


PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	B	A	C	H1	H2	
M20711-04-04	6	- 4	1/4"	1/4" - 19	4.0	22.5	4.5	19.0	19.0		
M20711-06-06	10	- 6	3/8"	3/8" - 19	7.0	24.5	6.4	22.0	22.0		
M20711-08-08	12	- 8	1/2"	1/2" - 14	9.3	26.5	6.7	27.0	27.0		
M20711-12-12	19	- 12	3/4"	3/4" - 14	15.0	30.0	8.9	32.0	32.0		
M20712-10-08	16	- 10	5/8"	1/2" - 14	9.3	29.0	6.5	27.0	27.0		
M20712-10-12	16	- 10	5/8"	3/4" - 14	15.0	30.5	9.0	32.0	32.0		
M20712-16-16	25	- 16	1"	1" - 11	19.8	35.5	10.5	38.0	38.0		
M20712-20-20	31	- 20	1.1/4"	1.1/4" - 11	26.0	44.5	12.5	50.0	50.0		

ORIGINAL EQUIPMENT CONNECTIONS

# M24111

STRAIGHT KOMATSU FLANGE

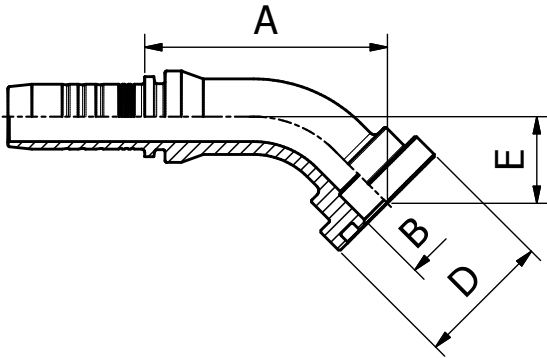


PART. REF.	HOSE BORE			FLANGE		DIMENSIONS mm						
	DN	Dash	inch			inch	B	A	D			
M24111-08-10	12	-8	1/2"	5/8"		14.0	66.0	34.0				
M24111-10-10	16	-10	5/8"	5/8"		14.0	65.5	34.0				
M24111-12-10	19	-12	3/4"	5/8"		14.0	66.5	34.0				

ORIGINAL EQUIPMENT CONNECTIONS

# M24141

45° KOMATSU FLANGE

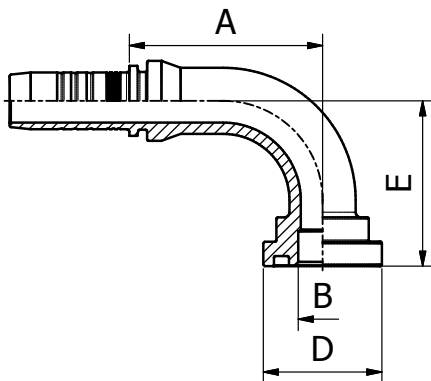


PART. REF.	HOSE BORE			FLANGE		DIMENSIONS mm						
	DN	Dash	inch			inch	B	A	C	H1	H2	
M24141-10-10	16	-10	5/8"	5/8"		14.0	61.0	34.0	22.0			

ORIGINAL EQUIPMENT CONNECTIONS

# M24191

90° KOMATSU FLANGE

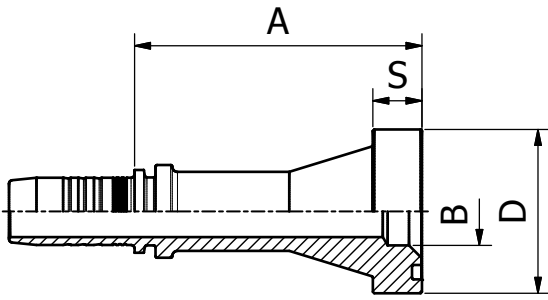


PART. REF.	HOSE BORE			FLANGE		DIMENSIONS mm						
	DN	Dash	inch			inch	B	A	C	H1	H2	
M24191-10-10	16	-10	5/8"	5/8"		14.0	56.0	34.0	47.5			
M24191-12-10	19	-12	3/4"	5/8"		14.0	56.0	34.0	47.5			

ORIGINAL EQUIPMENT CONNECTIONS

# M23911

## STRAIGHT SUPERCAT FLANGE

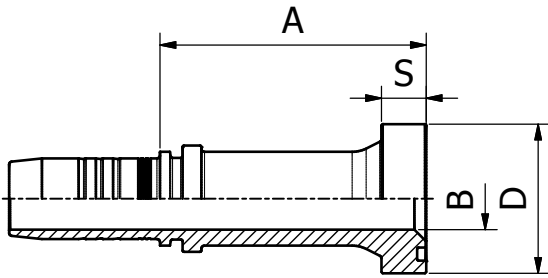


PART. REF.	HOSE BORE			FLANGE	DIMENSIONS mm						
	DN	Dash	inch	inch	B	A	D	S			
M23911-12-12	19	-12	3/4"	3/4"	15.0	74.5	41.5	14.3			
M23911-12-16	19	-12	3/4"	1"	19.8	83.5	47.7	14.3			
M23911-16-16	25	-16	1"	1"	19.8	87.0	47.7	14.3			
M23911-16-20	25	-16	1"	1.1/4"	26.0	92.5	54.0	14.3			
M23911-20-20	31	-20	1.1/4"	1.1/4"	26.0	86.0	54.0	14.3			
M23911-24-24	38	-24	1.1/2"	1.1/2"	32.0	94.0	63.6	14.3			

ORIGINAL EQUIPMENT CONNECTIONS

# M23911CT

## STRAIGHT REALCAT FLANGE

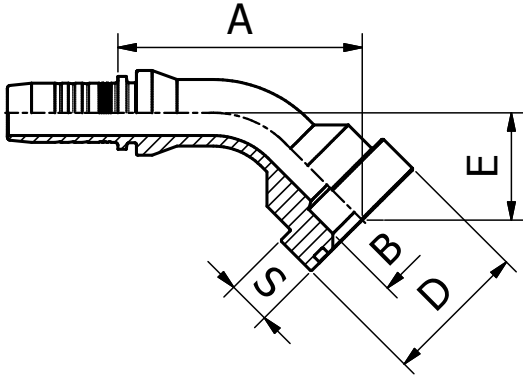


PART. REF.	HOSE BORE			FLANGE	DIMENSIONS mm						
	DN	Dash	inch	inch	B	A	D	S			
M23911-16-16CT	25	-16	1"	1"	19.8	85.0	47.7	14.3			
M23911-20-20CT	31	-20	1.1/4"	1.1/4"	26.0	88.5	54.0	14.3			
M23911-24-24CT	38	-24	1.1/2"	1.1/2"	32.0	93.0	63.6	14.3			

ORIGINAL EQUIPMENT CONNECTIONS

# M23941

45° SUPERCAT FLANGE

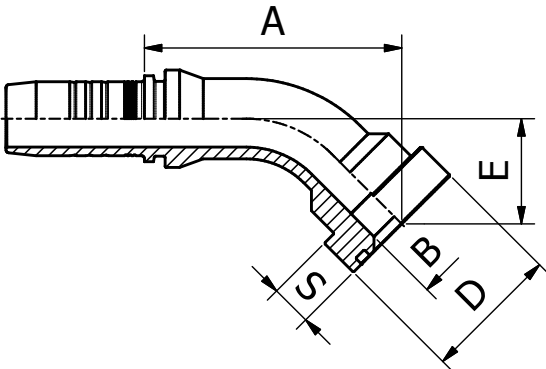


PART. REF.	HOSE BORE			FLANGE	DIMENSIONS mm						
	DN	Dash	inch	inch	B	A	D	E	S		
M23941-12-12	19	-12	3/4"	3/4"	15.0	77.0	41.5	32.0	14.3		
M23941-16-16	25	-16	1"	1"	19.8	89.5	47.7	36.5	14.3		
M23941-16-20	25	-16	1"	1"	26.0	92.5	54.0	40.5	14.3		
M23941-20-20	31	-20	1.1/4"	1.1/4"	26.0	99.0	54.0	41.5	14.3		
M23941-24-24	38	-24	1.1/2"	1.1/2"	32.0	119.0	63.6	45.5	14.3		

ORIGINAL EQUIPMENT CONNECTIONS

# M23941CT

45° REALCAT FLANGE

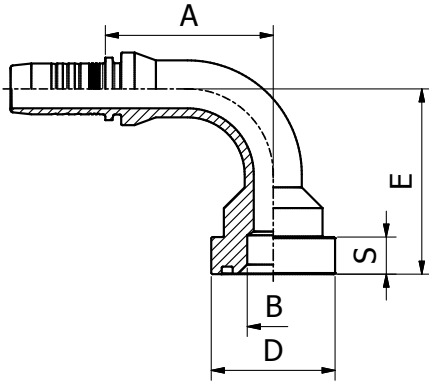


PART. REF.	HOSE BORE			FLANGE	DIMENSIONS mm						
	DN	Dash	inch	inch	B	A	D	E	S		
M23941-16-16CT	25	-16	1"	1"	19.8	89.5	47.7	36.5	14.3		
M23941-16-20CT	25	-16	1"	1.1/4"	26.0	93.0	54.0	40.5	14.3		
M23941-20-20CT	31	-20	1.1/4"	1.1/4"	26.0	99.0	54.0	41.5	14.3		
M23941-24-24CT	38	-24	1.1/2"	1.1/2"	32.0	119.0	63.7	45.0	14.3		

ORIGINAL EQUIPMENT CONNECTIONS

# M23991

90° SUPERCAT FLANGE



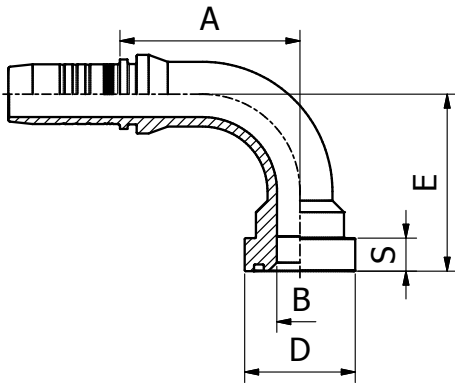
PART. REF.	HOSE BORE			FLANGE	DIMENSIONS mm						
	DN	Dash	inch	inch	B	A	D	E	S		
M23991-12-12	19	-12	3/4"	3/4"	15.0	64.5	41.5	64.5	14.3		
M23991-16-16	25	-16	1"	1"	19.8	77.5	47.7	76.5	14.3		
M23991-16-20	25	-16	1"	1.1/4"	26.0	75.5	54.0	80.5	14.3		
M23991-20-20	31	-20	1.1/4"	1.1/4"	26.0	85.5	54.0	87.0	14.3		
M23991-20-24	31	-20	1.1/4"	1.1/2"	32.0	85.5	63.7	93.0	14.3		

FITTINGS 172

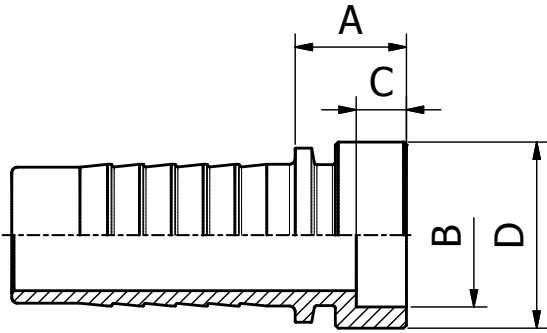
ORIGINAL EQUIPMENT CONNECTIONS

# M23991CT

90° REALCAT FLANGE



PART. REF.	HOSE BORE			FLANGE	DIMENSIONS mm						
	DN	Dash	inch	inch	B	A	D	E	S		
M23991-16-16CT	25	-16	1"	1"	19.8	77.5	47.7	76.5	14.3		
M23991-16-20CT	25	-16	1"	1.1/4"	26.0	75.5	54.0	80.5	14.3		
M23991-20-20CT	31	-20	1.1/4"	1.1/4"	26.0	85.5	54.0	87.0	14.3		
M23991-24-24CT	38	-24	1.1/2"	1.1/2"	32.0	106.0	63.7	96.0	14.3		



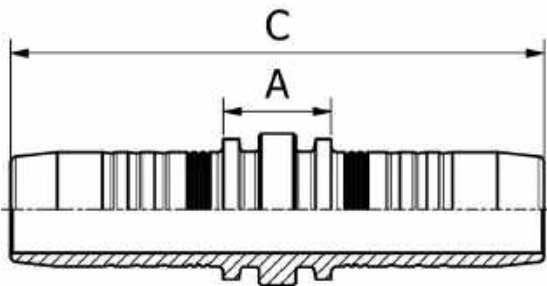
TAIL

M..IP..

BRAZING TAIL

PART. REF.	HOSE BORE			DIMENSIONS mm							
	DN	Dash	inch	B	A	C	D				
M03IP06	5	- 3	3/16"	6.0	11.5	5.0	10.0				
M04IP08	6	- 4	1/4"	8.0	13.0	5.0	12.0				
M05IP10	8	- 5	5/16"	10.0	13.5	6.0	14.0				
M06IP12	10	- 6	3/8"	12.0	13.5	6.0	16.0				
M06IP14	10	- 6	3/8"	14.0	13.5	6.0	18.0				
M08IP15	12	- 8	1/2"	15.0	14.0	6.0	20.0				
M08IP16	12	- 8	1/2"	16.0	14.0	6.0	20.0				
M10IP18	16	- 10	5/8"	18.0	15.0	7.0	23.0				
M12IP22	19	- 12	3/4"	22.0	16.0	7.0	26.0				
M16IP28	25	- 16	1"	28.0	18.5	8.0	34.0				
M20IP35	31	- 20	1.1/4"	35.0	20.5	9.0	40.0				
M24IP40	38	- 24	1.1/2"	40.0	21.5	9.0	50.0				
M32IP50	51	- 32	2"	50.0	23.0	10.0	60.0				
M40IP60	63	- 40	2.1/2"	61.0	19.0	7.0	73.0				
M48IP70	76	- 48	3"	70.0	38.0	10.0	89.0				

173 FITTINGS



DOUBLE CONNECTOR

M10050

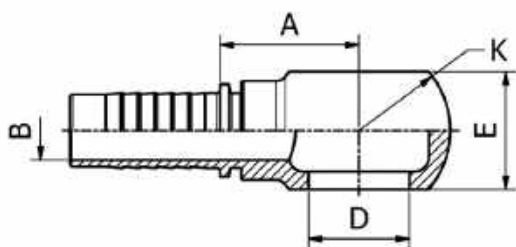
DOUBLE CONNECTOR

PART. REF.	HOSE BORE			DIMENSIONS mm							
	DN	Dash	inch	B	A	C					
M10050-03-03	5	- 3	3/16"	3.0	15.5	58.2					
M10050-04-04	6	- 4	1/4"	4.0	14.0	69.0					
M10050-05-05	8	- 5	5/16"	5.5	14.0	70.0					
M10050-06-06	10	- 6	3/8"	7.0	14.5	73.5					
M10050-08-08	12	- 8	1/2"	9.3	15.5	77.9					
M10050-10-10	16	- 10	5/8"	12.5	15.5	84.0					
M10050-12-12	19	- 12	3/4"	15.0	18.5	91.5					
M10050-16-16	25	- 16	1"	19.8	22.5	119.0					
M10050-20-20	31	- 20	1.1/4"	26.0	23.0	128.1					
M10050-24-24	38	- 24	1.1/2"	32.0	23.5	147.5					

BANJO CONNECTIONS

# O20310

## BSP BANJO

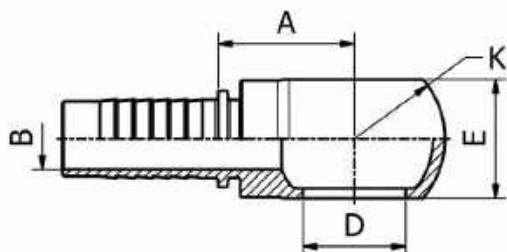


PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	B	A	D	E	K	
O20310-04-04	6	- 4	1/4"	1/4" - 19	4.4	22.0	13.25	15.0	24.0		
O20310-04-06	6	- 4	1/4"	3/8" - 19	4.4	23.5	16.7	18.0	28.0		
O20310-05-04	8	- 5	5/16"	1/4" - 19	5.0	23.0	13.2	14.0	24.0		
O20310-05-06	8	- 5	5/16"	3/8" - 19	5.6	23.0	16.7	20.0	29.0		
O20310-06-06	10	- 6	3/8"	3/8" - 19	7.0	24.5	16.7	20.0	29.0		
O20310-06-08	10	- 6	3/8"	1/2" - 19	7.1	27.0	21.0	25.0	38.0		
O20310-08-08	12	- 8	1/2"	1/2" - 14	9.8	27.5	21.0	25.0	38.0		
O20310-10-10	16	- 10	5/8"	5/8" - 14	12.7	29.5	23.0	27.0	40.0		
O20310-12-12	19	- 12	3/4"	3/4" - 14	15.5	36.5	26.5	31.0	48.0		
O20310-16-16	25	- 16	1"	1" - 11	20.5	40.5	33.3	42.0	60.0		

BANJO CONNECTIONS

# O20910

## METRIC BANJO DIN 7642



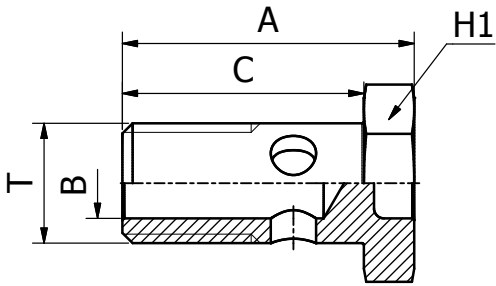
PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	B	A	D	E	K	
O20910-04-12	6	- 4	1/4"	M 12X1.5	4.4	22.5	12.0	12.0	20.0		
O20910-04-14	6	- 4	1/4"	M 14X1.5	4.4	23.5	14.0	14.0	24.0		
O20910-05-14	8	- 5	5/16"	M 14X1.5	5.6	23.5	14.0	14.0	24.0		
O20910-06-14	10	- 6	3/8"	M 14X1.5	7.1	25.0	14.0	14.0	24.0		
O20910-06-16	10	- 6	3/8"	M 16X1.5	7.1	25.0	16.0	16.0	28.0		
O20910-06-18	10	- 6	3/8"	M 18X1.5	7.1	27.0	18.0	20.0	32.0		
O20910-08-18	12	- 8	1/2"	M 18X1.5	9.8	28.0	18.0	20.0	32.0		
O20910-08-22	12	- 8	1/2"	M 22X1.5	9.8	31.0	22.0	25.0	39.0		
O20910-10-22	16	- 10	5/8"	M 22X1.5	12.7	31.0	22.0	25.0	39.0		
O20910-12-26	19	- 12	3/4"	M 26X1.5	15.5	34.5	26.0	30.0	46.0		



BOLT

**080810**

METRIC BOLT - DIN 7643



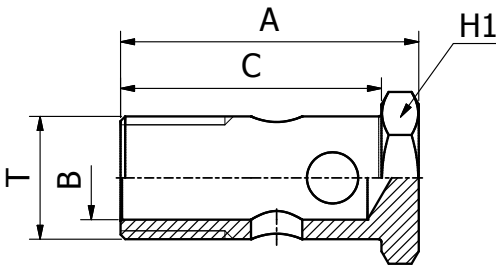
PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch		T	B	A	C	H1			
O80810-12				M 12X1.5		7.0	29.0	24.0	17.0			
O80810-14				M 14X1.5		9.0	31.0	26.0	19.0			
O80810-16				M 16X1.5		11.0	33.0	28.0	22.0			
O80810-18				M 18X1.5		13.0	37.0	32.0	24.0			
O80810-22				M 22X1.5		16.0	45.0	39.0	27.0			
O80810-26				M 26X1.5		20.0	51.0	45.0	32.0			

175 FITTINGS

BOLT

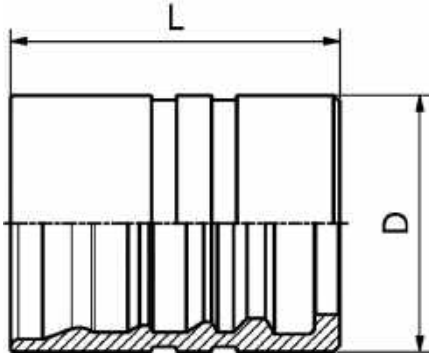
**080210**

BSP BOLT



PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch		T	B	A	C	H1			
O80210-04				1/4" - 19		6.0	34.5	28.5	17.0			
O80210-06				3/8" - 19		9.0	45.5	38.5	22.0			
O80210-08				1/2" - 14		13.0	52.0	44.0	27.0			
O80210-10				5/8" - 14		15.0	56.5	48.5	30.0			
O80210-12				3/4" - 14		18.0	64.0	54.0	32.0			
O80210-16				1" - 11		24.0	77.5	68.5	41.0			

FERRULE



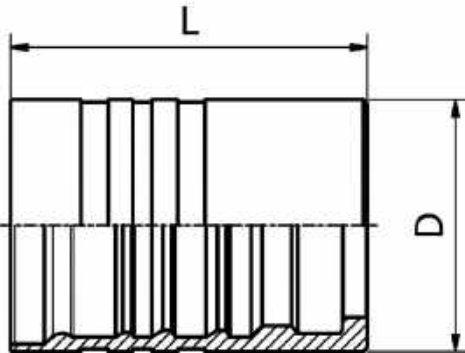
# M01500

**DOUBLE SKIVE FERRULE FOR HEAVY DUTY SPIRAL HOSES (4 PLY)**

PART. REF.	HOSE BORE			DIMENSIONS mm							
	DN	Dash	inch			D	L				
M01500-10	16	- 10	5/8"			35.0	40.9				
M01500-12	19	- 12	3/4"			40.0	51.4				
M01500-16	25	- 16	1"			48.0	64.5				
M01500-20	31	- 20	1.1/4"			57.0	84.0				
M01500-24	38	- 24	1.1/2"			64.3	94.0				
M01500-32	51	- 32	2"			83.5	107.0				
M01500-40	63	- 40	2.1/2"			100.0	135.0				
M01500-48	76	- 48	3"			107.0	125.0				

FITTINGS 176

FERRULE

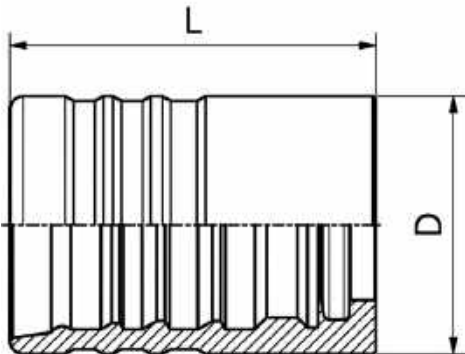


# M01600

**DOUBLE SKIVE FERRULE FOR HEAVY DUTY SPIRAL HOSES (6 PLY)**

PART. REF.	HOSE BORE			DIMENSIONS mm							
	DN	Dash	inch			D	L				
M01600-20	31	- 20	1.1/4"			60.0	85.0				
M01600-24	38	- 24	1.1/2"			69.0	96.0				

FERRULE



# M01800/M01810/M01850

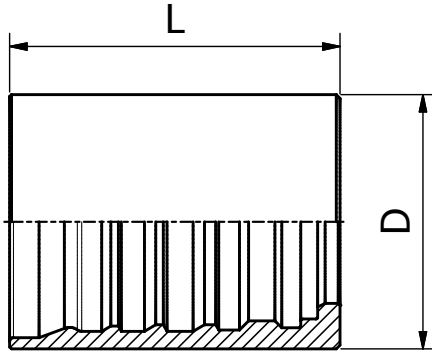
**DOUBLE SKIVE FERRULE FOR EXTRA DUTY SPIRAL HOSES (6 PLY)**

PART. REF.	HOSE BORE			DIMENSIONS mm							
	DN	Dash	inch			D	L				
M01850-12	19	-12	3/4"			45.1	51.4				
M01850-16	25	-16	1"			53.5	64.5				
M01850-20	31	- 20	1.1/4"			65.0	88.2				
M01800-32	51	- 32	2"			86.5	108.0				
M01810-40	63	- 40	2.1/2"			103.0	135.0				
M01810-48	76	- 48	3"			113.5	125.0				

FERRULE

# M01900

DOUBLE SKIVE FERRULE

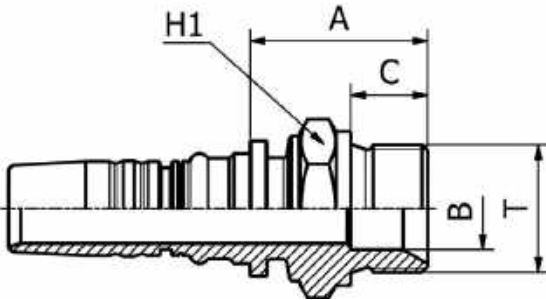


PART. REF.	HOSE BORE			DIMENSIONS mm							
	DN	Dash	inch			D	L				
M01900-20	31	-20	1.1/4"			68	88,2				
M01900-40	63	-40	2.1/2"			109	135				

BS STANDARD CONNECTIONS

# M30510

BSP MALE  
PARALLEL 60° CONE SEAT  
BS5200 / ISO 8434-6

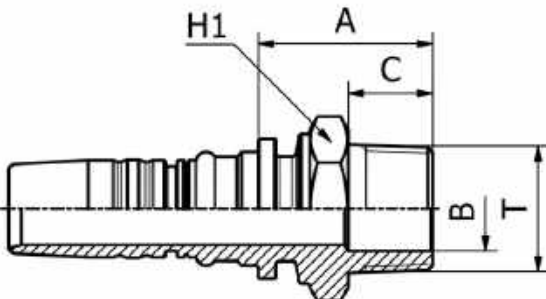


PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch	T	B	A	C	H1				
M30510-12-12	19	- 12	3/4"	3/4" - 14	17.0	37.0	16.0	32.0				
M30510-12-16	19	- 12	3/4"	1" - 11	22.5	43.0	19.0	41.0				
M30510-16-16	25	- 16	1"	1" - 11	22.5	43.0	19.0	41.0				
M30510-16-20	25	- 16	1"	1.1/4" - 11	28.5	48.0	20.0	50.0				
M30510-20-20	31	- 20	1.1/4"	1.1/4" - 11	28.5	50.5	20.0	50.0				
M30510-24-24	38	- 24	1.1/2"	1.1/2" - 11	33.5	54.5	22.0	55.0				
M30510-32-32	51	- 32	2"	2" - 11	42.0	58.0	25.0	70.0				

BS STANDARD CONNECTIONS

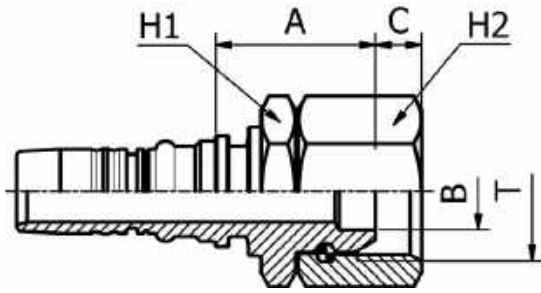
# M30710

BSP  
MALE (TAPERED)



PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch	T	B	A	C	H1				
M30710-12-12	19	- 12	3/4"	3/4" BSPT	17.0	35.0	17.0	32.0				
M30710-16-16	25	- 16	1"	1" BSPT	22.5	41.5	21.0	41.0				
M30710-20-20	31	- 20	1.1/4"	1.1/4" BSPT	28.5	82.0	23.0	46.0				
M30710-24-24	38	- 24	1.1/2"	1.1/2" - 11	33.5	52.0	23.0	55.0				
M30710-32-32	51	- 32	2"	2" - 11	42.0	56.1	27.0	70.0				

BS STANDARD CONNECTIONS



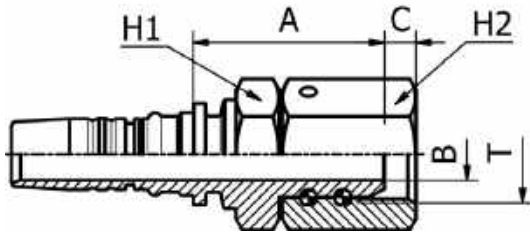
# M40512

**BSP  
FEMALE 60° CONE  
BS5200 / ISO 12151-6  
(THRUST-WIRE NUT)**

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch		T	B	A	C	H1	H2		
M40512-10-12H32	16	- 10	5/8"	3/4" - 14		15.0	31.0	9.0	32.0	32.0		

FITTINGS 178

BS STANDARD CONNECTIONS

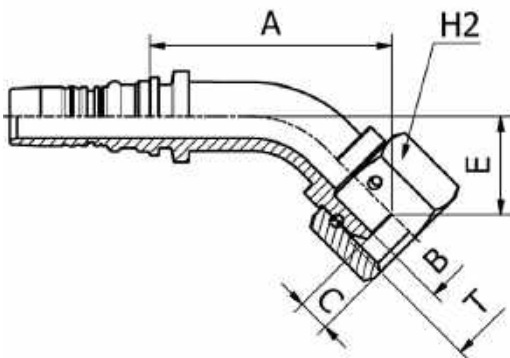


# M40514

**BSP  
FEMALE 60° CONE  
BS5200 / ISO 12151-6  
(DOUBLE THRUST-WIRE)**

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch		T	B	A	C	H1	H2		
M40514-12-12	19	- 12	3/4"	3/4" - 14		14.5	53.0	8.7	36.0	36.0		
M40514-16-16	25	- 16	1"	1" - 11		18.0	58.0	11.1	41.0	41.0		
M40514-20-20	31	- 20	1.1/4"	1.1/4" - 11		23.0	75.0	10.1	50.0	55.0		
M40514-24-24	38	- 24	1.1/2"	1.1/2" - 11		27.0	76.0	12.5	55.0	60.0		

BS STANDARD CONNECTIONS

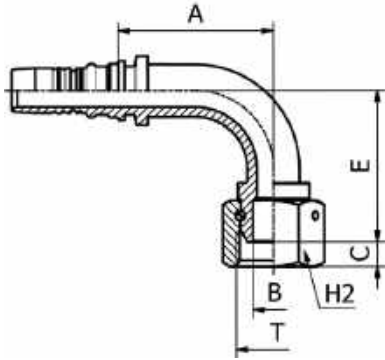


# M40542

**45° BSP  
FEMALE SWEPT ELBOW 60° CONE  
BS5200 / ISO 12151-6  
(THRUST-WIRE NUT)**

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch		T	B	A	C	E	H2		
M40542-10-12	16	- 10	5/8"	3/4" - 14		15.0	67.0	9.0	27.0	32.0		

BS STANDARD CONNECTIONS

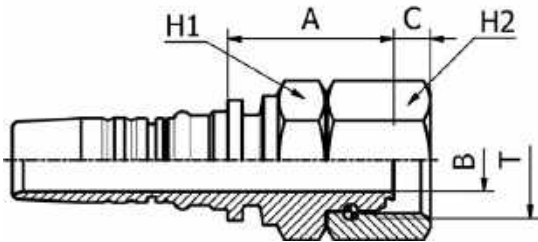


# M40592

90° BSP  
FEMALE SWEPT ELBOW 60° CONE  
BS5200 / ISO 12151-6  
(THRUST-WIRE NUT)

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	E	H2		
M40592-10-12	16	- 10	5/8"	3/4" - 14	15.0	56.5	9.0	55.0	32.0		

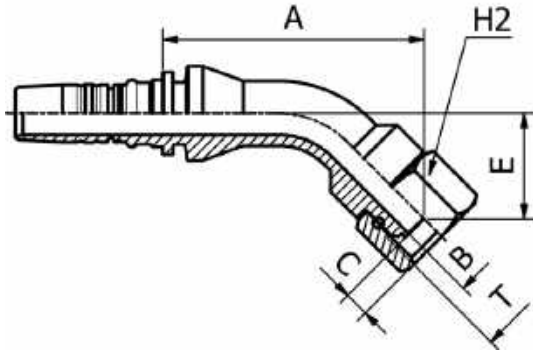
BS STANDARD CONNECTIONS



# M40812

BSP O-RING  
FEMALE 60° CONE  
BS5200 / ISO 12151-6  
(THRUST-WIRE NUT)

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	H1	H2		
M40812-12-12	19	- 12	3/4"	3/4" - 14	14.5	39.0	8.5	32.0	32.0		
M40812-12-16	19	- 12	3/4"	1" - 11	19.0	36.5	10.6	32.0	41.0		
M40812-16-12	25	- 16	1"	3/4" - 14	15.0	35.0	8.5	41.0	32.0		
M40812-16-16	25	- 16	1"	1" - 11	19.5	44.5	10.6	41.0	41.0		
M40812-16-20	25	- 16	1"	1.1/4" - 11	26.1	41.0	10.5	41.0	50.0		
M40812-20-16	31	- 20	1.1/4"	1" - 11	19.0	44.5	10.6	50.0	41.0		
M40812-20-20	31	- 20	1.1/4"	1.1/4" - 11	26.1	52.5	10.5	50.0	50.0		
M40812-20-24	31	- 20	1.1/4"	1.1/2" - 11	32.1	46.0	12.5	50.0	60.0		
M40812-24-20	38	- 24	1.1/2"	1.1/4" - 11	26.1	48.5	10.5	60.0	50.0		
M40812-24-24	38	- 24	1.1/2"	1.1/2" - 11	32.1	51.5	12.5	60.0	60.0		
M40812-32-32	51	- 32	2"	2" - 11	42.0	51.5	16.1	70.0	70.0		



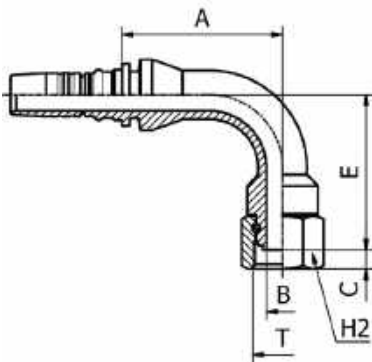
BS STANDARD CONNECTIONS

# M40842

45° BSP  
O-RING FEMALE SWEPT ELBOW 60° CONE  
BS5200 / ISO 12151-6  
(THRUST-WIRE NUT)

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	E	H2		
M40842-12-12	19	- 12	3/4"	3/4" - 14	14.5	88.0	8.5	35.0	32.0		
M40842-12-16	19	- 12	3/4"	1" - 11	19.0	89.5	10.6	36.5	41.0		
M40842-16-12	25	- 16	1"	3/4" - 14	15.0	105.5	8.5	36.0	32.0		
M40842-16-16	25	- 16	1"	1" - 11	19.5	97.0	10.6	40.0	41.0		
M40842-16-20	25	- 16	1"	1.1/4" - 11	26.1	108.5	10.5	38.0	50.0		
M40842-20-16	31	- 20	1.1/4"	1" - 11	19.0	118.0	10.6	47.5	41.0		
M40842-20-20	31	- 20	1.1/4"	1.1/4" - 11	26.1	120.0	10.5	49.5	50.0		
M40842-20-24	31	- 20	1.1/4"	1.1/2" - 11	32.1	114.5	12.5	40.0	60.0		
M40842-24-24	38	- 24	1.1/2"	1.1/2" - 11	32.1	126.5	12.5	50.0	60.0		
M40842-32-32	51	- 32	2"	2" - 11	42.0	162.5	16.1	66.5	70.0		

FITTINGS 180



BS STANDARD CONNECTIONS

# M40892

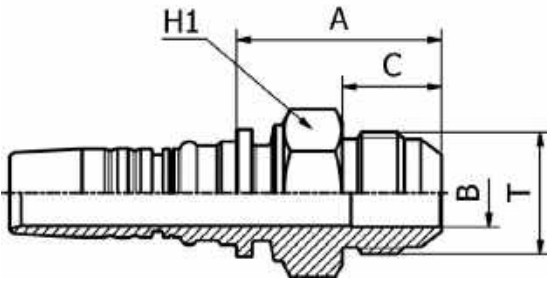
90° BSP  
O-RING FEMALE SWEPT ELBOW 60° CONE  
BS5200 / ISO 12151-6  
(THRUST-WIRE NUT)

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	E	H2		
M40892-12-12	19	- 12	3/4"	3/4" - 14	14.5	72.5	8.5	70.0	32.0		
M40892-12-16	19	- 12	3/4"	1" - 11	19.0	72.5	10.6	71.0	41.0		
M40892-16-16	25	- 16	1"	1" - 11	19.5	82.0	10.6	80.5	41.0		
M40892-16-20	25	- 16	1"	1.1/4" - 11	26.1	95.0	10.5	78.5	50.0		
M40892-20-20	31	- 20	1.1/4"	1.1/4" - 11	26.1	98.5	10.5	98.0	50.0		
M40892-20-24	31	- 20	1.1/4"	1.1/2" - 11	32.1	98.5	12.5	84.5	60.0		
M40892-24-24	38	- 24	1.1/2"	1.1/2" - 11	32.1	111.5	12.5	109.0	60.0		
M40892-32-32	51	- 32	2"	2" - 11	42.0	143.0	16.1	140.5	70.0		

SAE STANDARD CONNECTIONS

# M32510

JIC  
 MALE 37° CONE  
 SAE J516 / ISO 12151-5

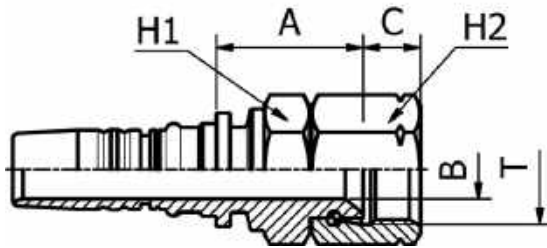


PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	H1			
M32510-10-10	16	- 10	5/8"	7/8" - 14	12.0	41.0	19.5	27.0			
M32510-12-12	19	- 12	3/4"	1.1/16" - 12	15.0	45.5	22.0	32.0			
M32510-16-16	25	- 16	1"	1.5/16" - 12	20.0	50.5	23.0	38.0			
M32510-16-20	25	- 16	1"	1.5/8" - 12	26.0	57.0	24.3	42.0			
M32510-20-20	31	- 20	1.1/4"	1.5/8" - 12	26.1	66.0	24.3	46.0			
M32510-24-24	38	- 24	1.1/2"	1.7/8" - 12	32.1	64.0	27.5	50.0			
M32510-32-32	51	- 32	2"	2.1/2" - 12	42.0	81.0	34.0	70.0			

SAE STANDARD CONNECTIONS

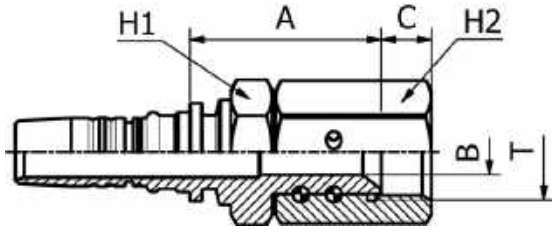
# M42512

JIC  
 FEMALE 37° CONE SEAT  
 SAE J516 / ISO 12151-5  
 (THRUST-WIRE NUT)



PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	H1	H2		
M42512-12-12	19	- 12	3/4"	1.1/16" - 12	15.0	36.0	14.2	32.0	32.0		
M42512-12-16	19	- 12	3/4"	1.5/16" - 12	21.7	32.5	15.2	41.0	41.0		
M42512-16-16	25	- 16	1"	1.5/16" - 12	21.7	40.5	15.2	41.0	41.0		
M42512-16-20	25	- 16	1"	1.5/8" - 12	26.1	44.0	16.2	50.0	50.0		
M42512-20-20	31	- 20	1.1/4"	1.5/8" - 12	26.1	51.5	16.2	50.0	50.0		
M42512-20-24	31	- 20	1.1/4"	1.7/8" - 12	30.5	51.0	18.8	55.0	60.0		
M42512-24-24	38	- 24	1.1/2"	1.7/8" - 12	31.0	54.5	18.8	55.0	60.0		
M42512-32-32	51	- 32	2"	2.1/2" - 12	42.0	54.0	24.0	70.0	75.0		

SAE STANDARD CONNECTIONS

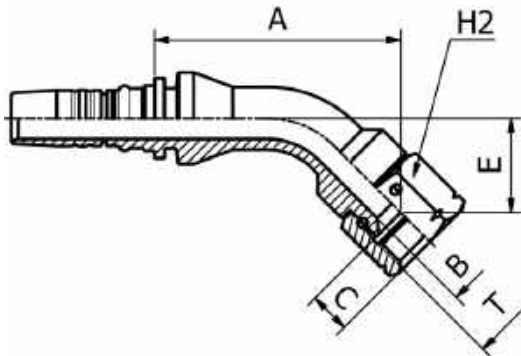


# M42714

JIC  
 FEMALE 37° CONE SEAT  
 SAE J516 / ISO 12151-5  
 (DOUBLE THRUST-WIRE NUT)

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch		T	B	A	C	H1	H2		
M42714-12-12	19	- 12	3/4"	1.1/16" - 12		13.0	55.0	14.4	36.0	36.0		
M42714-16-16	25	- 16	1"	1.5/16" - 12		18.0	60.5	15.1	41.0	41.0		
M42714-20-20	31	- 20	1.1/4"	1.5/8" - 12		23.0	71.0	15.9	50.0	55.0		
M42714-24-24	38	- 24	1.1/2"	1.7/8" - 12		27.0	71.0	18.6	55.0	60.0		
M42714-32-32	51	- 32	2"	2.1/2" - 12		37.0	77.5	23.8	70.0	75.0		

FITTINGS 182



SAE STANDARD CONNECTIONS

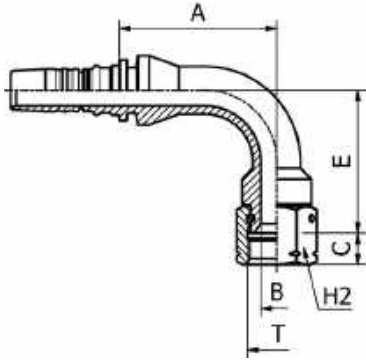
# M42542

45° JIC  
 FEMALE SWEPT ELBOW 37° CONE SEAT  
 SAE J516 / ISO 12151-5  
 (THRUST-WIRE NUT)

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch		T	B	A	C	E	H2		
M42542-12-12	19	- 12	3/4"	1.1/16" - 12		15.0	86.0	14.2	33.0	32.0		
M42542-16-16	25	- 16	1"	1.5/16" - 12		21.7	95.0	15.2	37.0	41.0		
M42542-16-20	25	- 16	1"	1.5/8" - 12		26.1	102.5	16.2	36.5	50.0		
M42542-20-20	31	- 20	1.1/4"	1.5/8" - 12		26.1	115.5	16.2	45.0	50.0		
M42542-24-24	38	- 24	1.1/2"	1.7/8" - 12		32.1	126.5	18.8	50.0	60.0		
M42542-32-32	51	- 32	2"	2.1/2" - 12		42.0	161.5	24.0	63.5	75.0		



SAE STANDARD CONNECTIONS



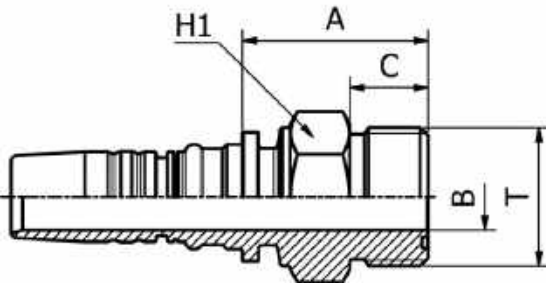
# M42592

90° JIC  
 FEMALE SWEPT ELBOW 37° CONE SEAT  
 SAE J516 / ISO 12151-5  
 (THRUST-WIRE NUT)

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	E	H2		
M42592-12-12	19	- 12	3/4"	1.1/16" - 12	15.0	72.5	14.2	66.0	32.0		
M42592-12-16	19	- 12	3/4"	1.5/16" - 12	21.7	72.5	15.2	71.5	41.0		
M42592-16-16	25	- 16	1"	1.5/16" - 12	21.7	82.5	15.2	77.5	41.0		
M42592-16-20	25	- 16	1"	1.5/8" - 12	26.1	90.5	16.2	76.5	50.0		
M42592-20-20	31	- 20	1.1/4"	1.5/8" - 12	26.1	98.5	16.2	92.0	50.0		
M42592-20-24	31	- 20	1.1/4"	1.7/8" - 12	32.1	101.5	18.8	108.0	60.0		
M42592-24-24	38	- 24	1.1/2"	1.7/8" - 12	32.1	111.5	18.8	106.0	60.0		
M42592-32-32	51	- 32	2"	2.1/2" - 12	42.0	144.5	24.0	137.0	75.0		

183 FITTINGS

SAE STANDARD CONNECTIONS

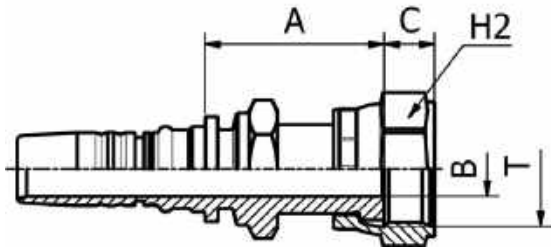


# M32410

ORFS  
 MALE  
 SAE J516 / ISO 12151-1

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	H1			
M32410-10-08	16	- 10	5/8"	13/16" - 16	9.3	33.0	12.8	27.0			
M32410-10-10	16	- 10	5/8"	1" - 14	12.0	36.0	15.5	27.0			
M32410-10-12	16	- 10	5/8"	1.3/16" - 12	15.0	39.0	17.0	32.0			
M32410-12-12	19	- 12	3/4"	1.3/16" - 12	14.5	40.5	17.0	32.0			
M32410-12-16	19	- 12	3/4"	1.7/16" - 12	19.8	42.5	17.5	38.0			
M32410-16-16	25	- 16	1"	1.7/16" - 12	19.5	45.0	17.5	41.0			
M32410-16-20	25	- 16	1"	1.11/16" - 12	25.0	48.0	17.5	46.0			
M32410-20-16	31	- 20	1.1/4"	1.7/16" - 12	19.5	47.0	17.5	50.0			
M32410-20-20	31	- 20	1.1/4"	1.11/16" - 12	25.0	50.5	17.5	46.0			
M32410-24-24	38	- 24	1.1/2"	2" - 12	31.0	53.0	17.5	55.0			
M32410-32-24	51	- 32	2"	2" - 12	31.0	53.0	17.5	70.0			

SAE STANDARD CONNECTIONS



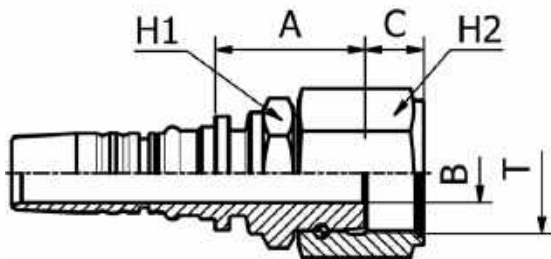
# M42411

ORFS  
FEMALE

SAE J516 / ISO 12151-1  
PULLBACK TYPE (CRIMPED BACK-NUT)

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	H1	H2		
M42411-10-10	16	- 10	5/8"	1" - 14	11.5	40.5	12.5	24.0	30.0		
M42411-12-12	19	- 12	3/4"	1.3/16" - 12	14.5	48.0	13.5	32.0	36.0		
M42411-12-16	19	- 12	3/4"	1.7/16" - 12	19.0	50.0	13.5	36.0	41.0		
M42411-16-12	25	- 16	1"	1.3/16" - 12	14.3	50.0	13.5	41.0	36.0		
M42411-16-16	25	- 16	1"	1.7/16" - 12	19.5	51.5	13.5	41.0	41.0		
M42411-16-20	25	- 16	1"	1.11/16" - 12	26.0	51.5	13.6	41.0	50.0		
M42411-20-20	31	- 20	1.1/4"	1.11/16" - 12	25.0	58.0	13.6	50.0	50.0		
M42411-24-24	38	- 24	1.1/2"	2" - 12	31.0	60.5	14.2	60.0	60.0		

SAE STANDARD CONNECTIONS



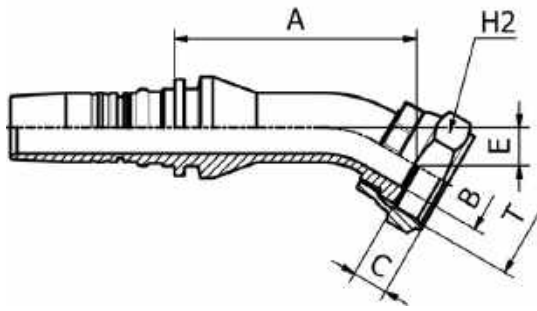
# M42412

ORFS  
FEMALE

SAE J516 / ISO 12151-1  
HEAVY TYPE (THRUST-WIRE NUT)

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	H1	H2		
M42412-12-12	19	- 12	3/4"	1.3/16" - 12	14.5	37.0	14.1	32.0	36.0		
M42412-12-16	19	- 12	3/4"	1.7/16" - 12	19.8	41.0	15.0	41.0	46.0		
M42412-16-16	25	- 16	1"	1.7/16" - 12	19.5	42.0	15.0	41.0	46.0		
M42412-16-20	25	- 16	1"	1.11/16" - 12	26.0	50.0	15.1	46.0	55.0		
M42412-20-20	31	- 20	1.1/4"	1.11/16" - 12	25.0	52.0	15.1	50.0	55.0		
M42412-20-24	31	- 20	1.1/4"	2" - 12	31.0	53.0	15.0	55.0	60.0		
M42412-24-24	38	- 24	1.1/2"	2" - 12	31.0	55.0	15.0	60.0	60.0		

SAE STANDARD CONNECTIONS

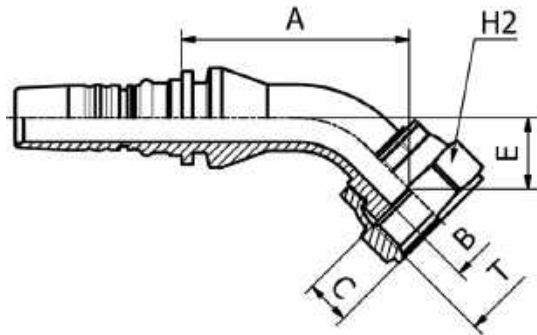


# M42431

**30° ORFS  
FEMALE SWEPT ELBOW  
SAE J516 / ISO 12151-1  
(CRIMPED BACK-NUT)**

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	B	A	C	E	H2	
M42431-16-16	25	- 16	1"	1.7/16", 25.4 MM, 1"	19.5	91.0	10.3	14.0	41.0		

SAE STANDARD CONNECTIONS

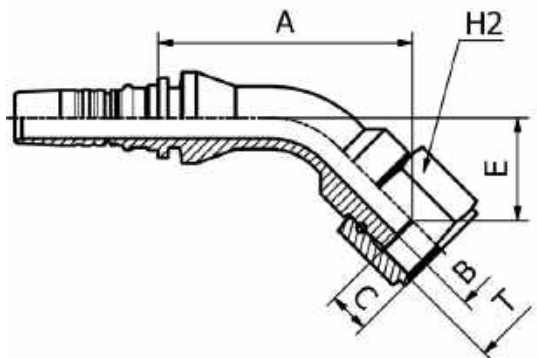


# M42441

**45° ORFS  
FEMALE SWEPT ELBOW  
SAE J516 / ISO 12151-1  
(CRIMPED BACK-NUT)**

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	B	A	C	E	H2	
M42441-10-12	16	- 10	5/8"	1.3/16" - 12	14.3	56.0	13.5	21.5	36.0		
M42441-12-12	19	- 12	3/4"	1.3/16" - 12	14.5	69.0	13.5	21.5	36.0		
M42441-12-16	19	- 12	3/4"	1.7/16" - 12	19.0	77.5	13.5	25.0	41.0		
M42441-16-16	25	- 16	1"	1.7/16" - 12	19.5	86.0	13.5	24.0	41.0		
M42441-20-20	31	- 20	1.1/4"	1.11/16" - 12	25.0	97.0	13.6	27.0	50.0		
M42441-24-24	38	- 24	1.1/2"	2" - 12	31.0	112.0	14.2	31.5	60.0		

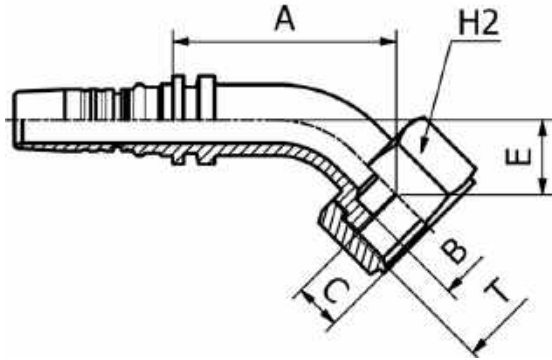
SAE STANDARD CONNECTIONS



# M42442

**45° ORFS  
FEMALE SWEPT ELBOW  
SAE J516 / ISO 12151-1  
HEAVY TYPE (THRUST-WIRE NUT)**

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	B	A	C	E	H2	
M42442-12-12	19	- 12	3/4"	1.3/16" - 12	14.5	89.0	14.0	36.0	36.0		
M42442-16-16	25	- 16	1"	1.7/16" - 12	19.5	100.0	15.0	42.5	46.0		
M42442-20-20	31	- 20	1.1/4"	1.11/16" - 12	25.0	119.5	15.1	49.5	55.0		
M42442-24-24	38	- 24	1.1/2"	2" - 12	31.0	128.5	15.0	52.0	60.0		



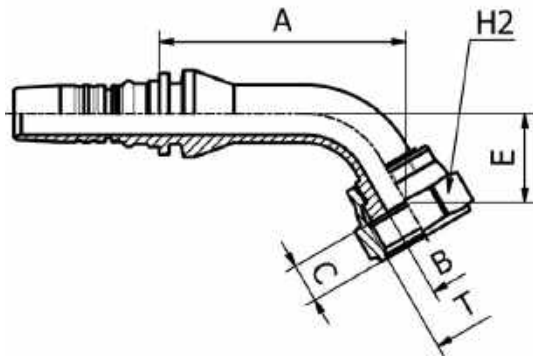
SAE STANDARD CONNECTIONS

# M42443

**45° ORFS  
FEMALE SWEPT ELBOW  
SAE J516 / ISO 12151-1  
(SLIP-ON NUT)**

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	B	A	C	E	H2	
M42443-12-16	19	- 12	3/4"	1.7/16" - 12	19.8	71.0	14.8	23.5	41.0		
M42443-16-20	25	- 16	1"	1.11/16" - 12	26.0	81.0	14.8	24.0	50.0		
M42443-20-24	31	- 20	1.1/4"	2" - 12	32.0	99.0	14.8	29.0	60.0		

FITTINGS 186

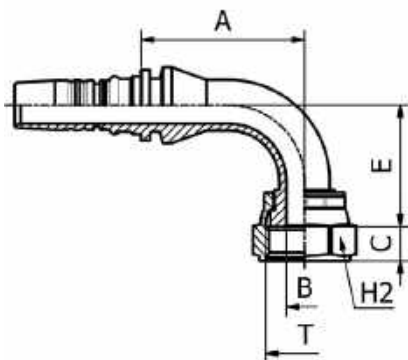


SAE STANDARD CONNECTIONS

# M42461

**60° ORFS  
FEMALE SWEPT ELBOW  
SAE J516 / ISO 12151-1  
(CRIMPED BACK-NUT)**

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	B	A	C	E	H2	
M42461-12-12	19	- 12	3/4"	1.3/16" - 12	14.5	85.5	13.5	30.5	36.0		

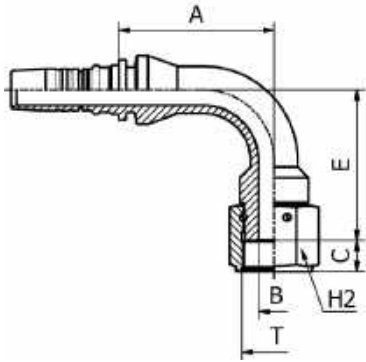


SAE STANDARD CONNECTIONS

# M42491

**90° ORFS  
FEMALE SWEPT ELBOW  
SAE J516 / ISO 12151-1  
(CRIMPED BACK-NUT)**

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	B	A	C	E	H2	
M42491-10-12	16	- 10	5/8"	1.3/16" - 12	14.3	51.0	13.5	47.0	36.0		
M42491-12-12	19	- 12	3/4"	1.3/16" - 12	14.5	65.0	13.5	48.0	36.0		
M42491-12-12109	19	- 12	3/4"	1.3/16" - 12	14.5	65.0	13.5	109.0	36.0		
M42491-12-16	19	- 12	3/4"	1.7/16" - 12	19.0	70.0	13.5	53.0	41.0		
M42491-16-16	25	- 16	1"	1.7/16" - 12	19.5	85.0	13.5	57.0	41.0		
M42491-16-16128	25	- 16	1"	1.7/16" - 12	19.5	85.0	13.5	128.0	41.0		
M42491-16-20	25	- 16	1"	1.11/16" - 12	24.0	84.5	13.6	61.0	50.0		
M42491-20-20	31	- 20	1.1/4"	1.11/16" - 12	25.0	98.5	13.6	66.0	50.0		
M42491-24-24	38	- 24	1.1/2"	2" - 12	31.0	116.0	14.2	79.5	60.0		

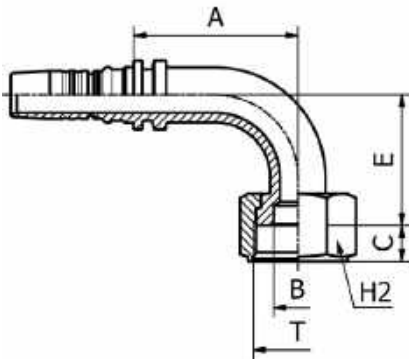


SAE STANDARD CONNECTIONS

# M42492

90° ORFS  
FEMALE SWEPT ELBOW  
SAE J516 / ISO 12151-1  
HEAVY TYPE (THRUST-WIRE-NUT)

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	E	H2		
M42492-12-12	19	- 12	3/4"	1.3/16" - 12	14.5	72.5	14.1	70.5	36.0		
M42492-16-16	25	- 16	1"	1.7/16" - 12	19.5	82.5	15.0	84.5	46.0		
M42492-20-20	31	- 20	1.1/4"	1.11/16" - 12	25.0	98.5	15.1	98.0	55.0		
M42492-24-24	38	- 24	1.1/2"	2" - 12	31.0	111.5	15.0	109.0	60.0		

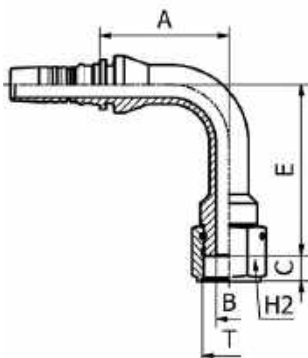


SAE STANDARD CONNECTIONS

# M42493

90° ORFS FEMALE SWEPT ELBOW  
SAE J516 / ISO 12151-1  
(SLIP-ON NUT)

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	E	H2		
M42493-12-16	19	- 12	3/4"	1.7/16" - 12	19.8	67.0	14.8	53.0	41.0		
M42493-16-20	25	- 16	1"	1.11/16" - 12	26.0	81.5	14.8	58.5	50.0		
M42493-20-24	31	- 20	1.1/4"	2" - 12	32.0	100.0	14.8	70.5	60.0		



SAE STANDARD CONNECTIONS

# M44492 LONG DROP

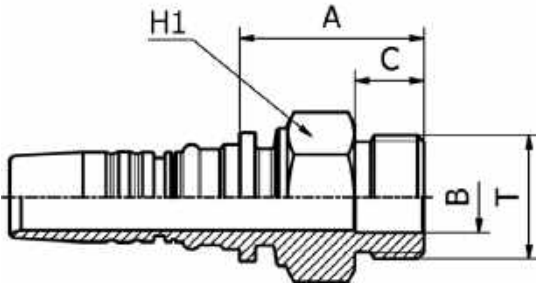
90° ORFS  
FEMALE LONG DROP ELBOW  
SAE J516 / ISO 12151-1  
(THRUST-WIRE NUT)

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	E	H2		
M44492-12-12	19	- 12	3/4"	1.3/16" - 12	14.5	72.5	14.1	96.0	36.0		
M44492-20-20	31	- 20	1.1/4"	1.11/16" - 12	25.0	98.5	15.1	129.0	55.0		

SAE STANDARD CONNECTIONS

# M33010

SAE  
MALE O-RING BOSS TYPE  
SAE J516 / ISO 11926



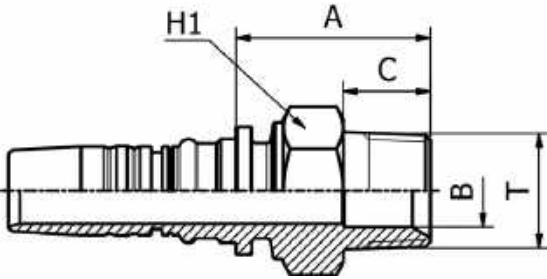
PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	H1			
M33010-12-12	19	- 12	3/4"	1.1/16" - 12	15.5	42.0	15.1	32.0			
M33010-16-16	25	- 16	1"	1.5/16" - 12	21.5	43.5	15.1	38.0			
M33010-20-20	31	- 20	1.1/4"	1.5/8" - 12	27.5	47.5	15.1	46.0			

FITTINGS 188

SAE STANDARD CONNECTIONS

# M32810

NPTF  
MALE 60° CONE SEAT  
SAE J516/J514



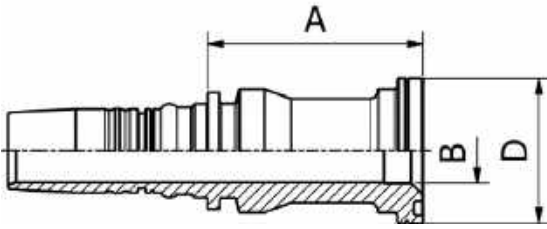
PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	H1			
M32810-10-12	16	- 10	5/8"	3/4" - 14	16.0	40.7	19.2	27.0			
M32810-12-12	19	- 12	3/4"	3/4" - 14	16.0	42.9	19.2	32.0			
M32810-16-16	25	- 16	1"	1" - 11,5	19.5	50.5	24.2	38.0			
M32810-20-20	31	- 20	1.1/4"	1.1/4" - 11,5	26.1	61.0	25.0	46.0			
M32810-24-24	38	- 24	1.1/2"	1.1/2" - 11,5	32.1	62.5	26.0	50.0			
M32810-24-32	38	- 24	1.1/2"	2" - 11,5	42.0	67.0	26.5	70.0			
M32810-32-32	51	- 32	2"	2" - 11,5	42.0	67.0	26.5	70.0			
M32810-40-40	63	- 40	2.1/2"	2.1/2" - 8	51.5	94.5	43.0	80.0			
M32810-48-48	76	- 48	3"	3" - 8	62.5	123.5	51.5	100.0			

SAE STANDARD CONNECTIONS

# M43310

ISO / SAE  
CODE 61 FLANGE

SAE J516 / ISO 12151-3



PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch	inch		B	A	D				
M43310-10-16	16	- 10	5/8"	1"		20.0	64.0	44.6				
M43310-12-12	19	- 12	3/4"	3/4"		16.0	60.0	38.0				
M43310-12-16	19	- 12	3/4"	1"		20.0	65.5	44.6				
M43310-16-12	25	- 16	1"	3/4"		16.0	67.0	38.0				
M43310-16-16	25	- 16	1"	1"		20.0	66.5	44.6				
M43310-16-20	25	- 16	1"	1.1/4"		26.1	73.0	51.0				
M43310-20-20	31	- 20	1.1/4"	1.1/4"		26.1	75.0	51.0				
M43310-20-24	31	- 20	1.1/4"	1.1/2"		32.1	80.0	60.5				
M43310-24-24	38	- 24	1.1/2"	1.1/2"		32.1	80.5	60.5				
M43310-24-32	38	- 24	1.1/2"	2"		42.0	88.5	71.6				
M43310-32-24	38	- 24	1.1/2"	2"		32.1	104.0	60.5				
M43310-32-32	51	- 32	2"	2"		42.0	82.5	71.6				
M43310-40-40	63	- 40	2.1/2"	2.1/2"		51.5	92.5	84.3				
M43310-48-48	76	- 48	3"	3"		62.5	101.0	101.6				

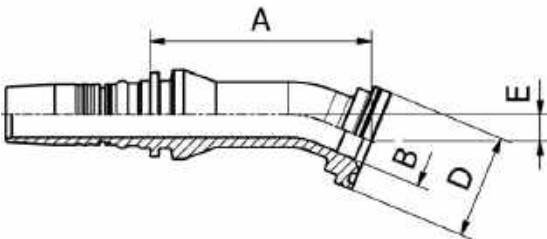
189 FITTINGS

SAE STANDARD CONNECTIONS

# M43320

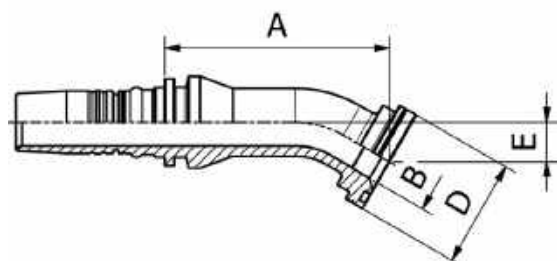
22,5° ISO / SAE  
CODE 61 FLANGE

SAE J516 / ISO 12151-3



PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch	inch		B	A	D	E			
M43320-16-16	25	- 16	1"	1"		20.0	94.5	44.6	11.5			

SAE STANDARD CONNECTIONS

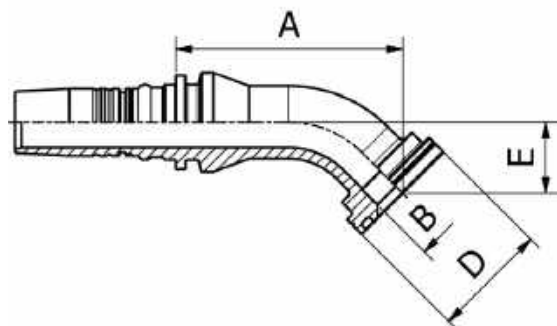


# M43330

30° ISO / SAE  
CODE 61 FLANGE  
SAE J516 / ISO 12151-3

PART. REF.	HOSE BORE			Flange	DIMENSIONS mm						
	DN	Dash	inch	inch	B	A	D	E			
M43330-16-16	25	- 16	1"	1"	20.0	93.0	44.6	16.5			
M43330-20-20	31	- 20	1.1/4"	1.1/4"	26.1	106.5	51.0	17.5			
M43330-24-24	38	- 24	1.1/2"	1.1/2"	32.1	118.0	60.5	20.0			
M43330-32-32	51	- 32	2"	2"	42.0	137.0	71.6	22.0			

FITTINGS 190



SAE STANDARD CONNECTIONS

# M43340

45° ISO / SAE  
CODE 61 FLANGE  
SAE J516 / ISO 12151-3

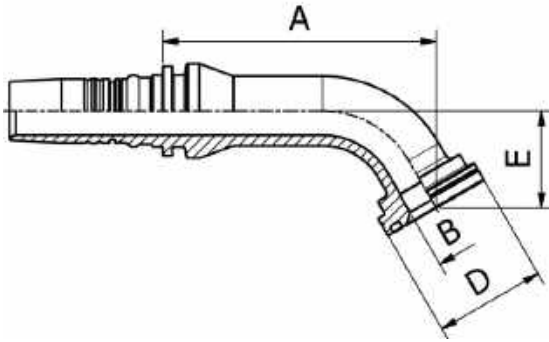
PART. REF.	HOSE BORE			Flange	DIMENSIONS mm						
	DN	Dash	inch	inch	B	A	D	E			
M43340-12-12	19	- 12	3/4"	3/4"	16.0	75.5	38.0	26.0			
M43340-12-16	19	- 12	3/4"	1"	20.0	76.0	44.6	23.0			
M43340-16-16	25	- 16	1"	1"	20.0	87.0	44.6	27.5			
M43340-16-16032	25	- 16	1"	1"	20.0	92.0	44.5	32.0			
M43340-16-20	25	- 16	1"	1.1/4"	26.0	87.5	51.0	27.5			
M43340-20-20	31	- 20	1.1/4"	1.1/4"	26.1	100.5	51.0	29.5			
M43340-20-20038	31	- 20	1.1/4"	1.1/4"	26.1	109.0	50.9	38.0			
M43340-20-24	31	- 20	1.1/4"	1.1/2"	32.1	101.5	60.5	31.0			
M43340-24-24	38	- 24	1.1/2"	1.1/2"	32.1	111.0	60.5	34.5			
M43340-24-24044	38	- 24	1.1/2"	1.1/2"	32.1	120.0	60.5	44.0			
M43340-24-32	38	- 24	1.1/2"	2"	42.0	113.0	71.6	34.5			
M43340-32-32	51	- 32	2"	2"	42.0	128.5	71.6	39.0			
M43340-32-32056	51	- 32	2"	2"	42.0	146.0	71.6	56.0			
M43340-48-48	76	- 48	3"	3"	59.0	147.5	101.6	53.0			



SAE STANDARD CONNECTIONS

# M43360

**60° ISO / SAE  
CODE 61 FLANGE  
SAE J516 / ISO 12151-3**

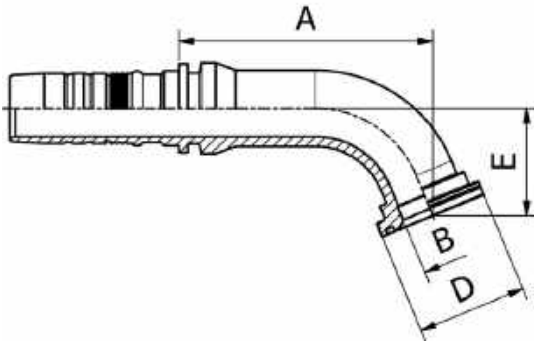


PART. REF.	HOSE BORE			Flange	DIMENSIONS mm							
	DN	Dash	inch		inch	B	A	D	E			
M43360-16-16	25	- 16	1"	1"	20.0	110.0	44.6	39.0				
M43360-20-24	31	- 20	1.1/4"	1.1/2"	32.1	219.0	60.6	45.0				
M43360-24-24	38	- 24	1.1/2"	1.1/2"	32.1	147.0	60.5	51.0				
M43360-24-32	38	- 24	1.1/2"	2"	42.0	147.0	71.6	51.0				
M43360-32-32	51	- 32	2"	2"	42.0	175.0	71.6	58.5				

SAE STANDARD CONNECTIONS

# M43370

**67.5° ISO / SAE  
FLANGE 3000 PSI  
SAE J516 / ISO 12151-3**



PART. REF.	HOSE BORE			Flange	DIMENSIONS mm							
	DN	Dash	inch		inch	B	A	D	E			
M43370-24-24	38	- 24	1.1/2"	1.1/2"	32.1	139.5	60.5	59.0				
M43370-24-32	38	- 24	1.1/2"	2"	42.0	130.0	71.6	59.0				
M43370-32-32	51	- 32	2"	2"	42.0	167.0	71.5	68.5				

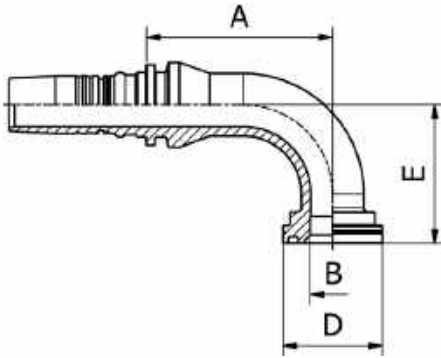
SAE STANDARD CONNECTIONS

# M43390

90° ISO / SAE

CODE 61 FLANGE

SAE J516 / ISO 12151-3



PART. REF.	HOSE BORE			Flange	DIMENSIONS mm						
	DN	Dash	inch	inch	B	A	D	E			
M43390-10-16	16	- 10	5/8"	1"	20.0	71.0	44.6	52.0			
M43390-12-12	19	- 12	3/4"	3/4"	16.0	72.0	38.0	52.0			
M43390-12-12058	19	- 12	3/4"	3/4"	16.0	72.0	38.0	58.0			
M43390-12-16	19	- 12	3/4"	1"	20.0	72.5	44.6	52.0			
M43390-16-16	25	- 16	1"	1"	20.0	83.5	44.6	62.0			
M43390-16-16070	25	- 16	1"	1"	20.0	83.5	44.5	70.0			
M43390-16-20	25	- 16	1"	1.1/4"	26.0	83.5	51.0	62.0			
M43390-20-20	31	- 20	1.1/4"	1.1/4"	26.1	99.0	51.0	70.0			
M43390-20-20090	31	- 20	1.1/4"	1.1/4"	26.1	99.0	50.9	90.0			
M43390-20-16	31	- 20	1.1/4"	1"	19.8	96.5	44.6	66.0			
M43390-20-24	31	- 20	1.1/4"	1.1/2"	32.1	98.5	60.5	72.0			
M43390-24-24	38	- 24	1.1/2"	1.1/2"	32.1	111.5	60.5	84.0			
M43390-24-24104	38	- 24	1.1/2"	1.1/2"	32.1	111.5	60.5	104.0			
M43390-24-32	38	- 24	1.1/2"	2"	42.0	111.5	71.6	84.0			
M43390-32-32	51	- 32	2"	2"	42.0	133.5	71.6	99.0			
M43390-32-32138	51	- 32	2"	2"	42.0	133.5	71.5	138.0			
M43390-48-48	76	- 48	3"	3"	59.0	145.0	101.6	140.0			

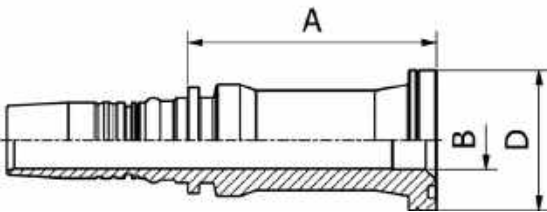
SAE STANDARD CONNECTIONS

# M43610

ISO / SAE

CODE 62 FLANGE

SAE J516 / ISO 12151-3

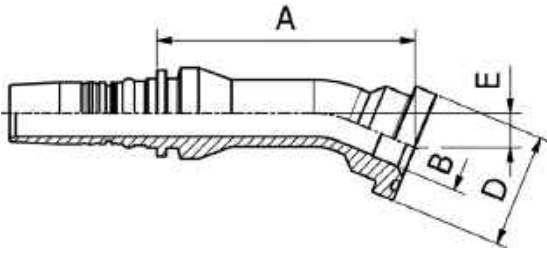


PART. REF.	HOSE BORE			Flange	DIMENSIONS mm						
	DN	Dash	inch	inch	B	A	D				
M43610-10-12	16	- 10	5/8"	3/4"	16.0	65.0	41.5				
M43610-10-16	16	- 10	5/8"	1"	20.0	81.5	47.7				
M43610-12-12	19	- 12	3/4"	3/4"	16.0	71.5	41.4				
M43610-12-16	19	- 12	3/4"	1"	20.0	83.5	47.7				
M43610-16-12	25	- 16	1"	3/4"	16.0	80.5	41.4				
M43610-16-16	25	- 16	1"	1"	20.0	84.5	47.7				
M43610-16-20	25	- 16	1"	1.1/4"	26.0	89.0	54.2				
M43610-20-16	31	- 20	1.1/4"	1"	20.0	87.0	47.7				
M43610-20-20	31	- 20	1.1/4"	1.1/4"	26.1	91.0	54.2				
M43610-20-24	31	- 20	1.1/4"	1.1/2"	32.1	97.0	63.7				
M43610-24-20	38	- 24	1.1/2"	1.1/4"	26.0	101.0	54.2				
M43610-24-24	38	- 24	1.1/2"	1.1/2"	32.1	97.5	63.7				
M43610-24-32	38	- 24	1.1/2"	2"	42.0	113.0	79.6				
M43610-32-24	51	- 32	2"	1.1/2"	32.1	117.0	63.7				
M43610-32-32	51	- 32	2"	2"	42.0	112.5	79.6				
M43610-40-40	63	- 40	2.1/2"	2.1/2"	51.5	126.5	107.9				
M43610-48-48	76	- 48	3"	3"	62.5	167.0	131.9				

SAE STANDARD CONNECTIONS

# M43620

**22.5° ISO / SAE  
FLANGE 6000 PSI  
SAE J516 / ISO 12151-3**

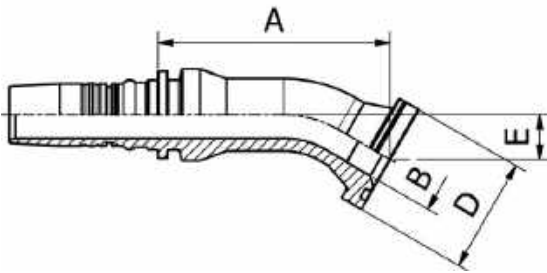


PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch	inch		B	A	D	E			
M43620-12-12	19	- 12	3/4"	3/4"		16.0	89.0	41.3	12.5			
M43620-16-16	25	- 16	1"	1"		20.0	100.5	47.7	14.5			
M43620-16-16023	25	- 16	1"	1"		20.0	106.5	47.7	23.0			
M43620-20-20	31	- 20	1.1/4"	1.1/4"		26.0	118.3	54.1	16.5			
M43620-20-20030	31	- 20	1.1/4"	1.1/4"		26.0	132.5	54.2	30.0			
M43620-24-24	38	- 24	1.1/2"	1.1/2"		32.0	136.5	63.7	19.0			
M43620-32-32	51	- 32	2"	2"		42.0	171.0	79.6	26.0			

SAE STANDARD CONNECTIONS

# M43630

**30° ISO / SAE  
CODE 62 FLANGE  
SAE J516 / ISO 12151-3**

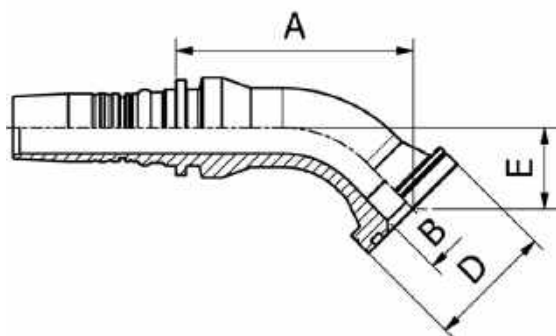


PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch	inch		B	A	D	E			
M43630-12-12	19	- 12	3/4"	3/4"		16.0	87.0	41.4	17.5			
M43630-16-12	25	- 16	1"	3/4"		16.0	93.0	41.4	17.0			
M43630-16-16	25	- 16	1"	1"		20.0	98.5	47.7	20.0			
M43630-20-20	31	- 20	1.1/4"	1.1/4"		26.1	115.5	54.2	23.0			
M43630-24-24	38	- 24	1.1/2"	1.1/2"		32.0	133.5	63.7	27.0			
M43630-32-32	51	- 32	2"	2"		42.0	167.0	79.6	36.5			

SAE STANDARD CONNECTIONS

# M43640

45° ISO / SAE  
CODE 62 FLANGE  
SAE J516 / ISO 12151-3



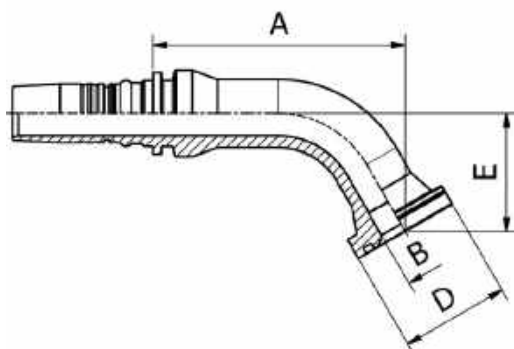
PART. REF.	HOSE BORE			Flange	DIMENSIONS mm							
	DN	Dash	inch	inch	B	A	D	E				
M43640-10-12	16	- 10	5/8"	3/4"	16.0	71.0	41.4	31.0				
M43640-10-16	16	- 10	5/8"	1"	20.0	83.5	47.7	32.5				
M43640-12-12	19	- 12	3/4"	3/4"	16.0	79.0	41.4	26.0				
M43640-12-16	19	- 12	3/4"	1"	20.0	85.5	47.7	32.5				
M43640-16-12	25	- 16	1"	3/4"	16.0	87.0	41.4	28.0				
M43640-16-16	25	- 16	1"	1"	20.0	91.5	47.7	32.5				
M43640-16-20	25	- 16	1"	1.1/4"	26.0	93.5	54.2	37.5				
M43640-20-16	31	- 20	1.1/4"	1"	20.0	106.5	47.7	36.0				
M43640-20-20	31	- 20	1.1/4"	1.1/4"	26.1	108.0	54.2	37.5				
M43640-20-24	31	- 20	1.1/4"	1.1/2"	32.1	115.0	63.7	45.0				
M43640-24-20	38	- 24	1.1/2"	1.1/4"	26.0	124.5	54.2	43.0				
M43640-24-24	38	- 24	1.1/2"	1.1/2"	32.0	124.5	63.7	44.0				
M43640-24-32	38	- 24	1.1/2"	2"	42.0	135.5	79.6	55.5				
M43640-32-32	51	- 32	2"	2"	42.0	154.0	79.6	60.5				
M43640-32-32056	51	- 32	2"	2"	42.0	150.0	79.6	56.5				

FITTINGS 194

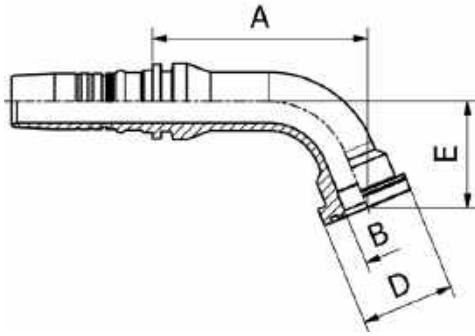
SAE STANDARD CONNECTIONS

# M43660

60° ISO / SAE  
CODE 62 FLANGE  
SAE J516 / ISO 12151-3



PART. REF.	HOSE BORE			Flange	DIMENSIONS mm							
	DN	Dash	inch	inch	B	A	D	E				
M43660-12-12	19	- 12	3/4"	3/4"	16.0	98.5	41.4	39.0				
M43660-12-16	19	- 12	3/4"	1"	20.0	101.0	47.7	44.0				
M43660-16-16	25	- 16	1"	1"	20.0	107.0	47.7	52.0				
M43660-20-20	31	- 20	1.1/4"	1.1/4"	26.1	130.0	54.2	59.0				
M43660-20-24	31	- 20	1.1/4"	1.1/2"	32.1	136.5	63.7	66.0				
M43660-24-24	38	- 24	1.1/2"	1.1/2"	32.0	154.0	63.7	61.5				
M43660-32-32	51	- 32	2"	2"	42.0	197.5	79.6	85.0				

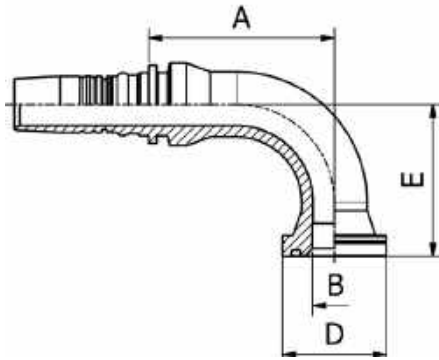


SAE STANDARD CONNECTIONS

# M43670

**67.5° ISO / SAE  
CODE 62 FLANGE  
SAE J516 / ISO 12151-3**

PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch	inch		B	A	D	E			
M43670-16-20	25	- 16	1"	1.1/4"		26.0	105.0	54.1	58.5			
M43670-20-16T34	31	- 20	1.1/4"	1"		26.0	125.3	47.7	58.2			
M43670-20-20	31	- 20	1.1/4"	1.1/4"		26.1	125.5	54.2	62.0			
M43670-24-16	38	- 24	1.1/2"	1"		19.0	125.5	47.7	51.0			
M43670-24-20	38	- 24	1.1/2"	1.1/4"		26.0	142.5	54.1	54.1			
M43670-24-20T40	38	- 24	1.1/2"	1.1/4"		31.0	145.0	54.2	71.0			



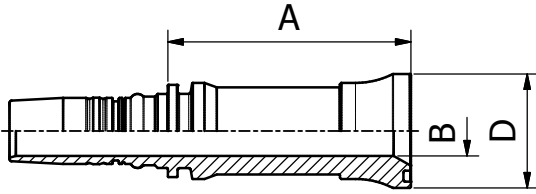
SAE STANDARD CONNECTIONS

# M43690

**90° ISO / SAE  
CODE 62 FLANGE  
SAE J516 / ISO 12151-3**

PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch	inch		B	A	D	E			
M43690-10-12	16	- 10	5/8"	3/4"		16.0	56.5	41.4	60.5			
M43690-12-12	19	- 12	3/4"	3/4"		16.0	72.5	41.4	59.0			
M43690-12-16	19	- 12	3/4"	1"		20.0	72.5	47.7	65.0			
M43690-16-12	25	- 16	1"	3/4"		16.0	81.5	41.4	62.0			
M43690-16-16	25	- 16	1"	1"		20.0	81.0	47.7	68.0			
M43690-16-20	25	- 16	1"	1.1/4"		26.0	78.5	54.2	76.0			
M43690-20-16	31	- 20	1.1/4"	1"		20.0	98.5	47.7	79.0			
M43690-20-20	31	- 20	1.1/4"	1.1/4"		26.1	98.5	54.2	81.0			
M43690-20-20090	31	- 20	1.1/4"	1.1/4"		26.1	98.5	54.1	90.0			
M43690-20-24	31	- 20	1.1/4"	1.1/2"		32.1	98.5	63.7	91.5			
M43690-24-20	38	- 24	1.1/2"	1.1/4"		26.0	111.0	54.2	91.0			
M43690-24-24	38	- 24	1.1/2"	1.1/2"		32.0	112.5	63.7	94.5			
M43690-24-24104	38	- 24	1.1/2"	1.1/2"		32.0	112.5	63.7	104.0			
M43690-24-32	38	- 24	1.1/2"	2"		42.0	112.5	79.6	110.5			
M43690-32-32	51	- 32	2"	2"		42.0	140.5	79.6	132.0			
M43690-32-32138	51	- 32	2"	2"		42.0	140.5	79.6	138.0			

**195 FITTINGS**



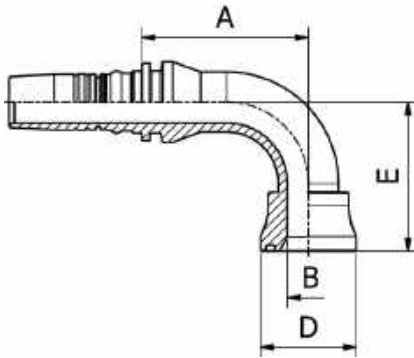
XTRAFRANGE

# M48410

**XTRAFRANGE/61**  
**(ISO 6162-1/SAE J518 CODE 61**  
**PORT COMPATIBLE)**

PART. REF.	HOSE BORE			Flange	DIMENSIONS mm								
	DN	Dash	inch		inch	B	A	D					
M48410-16-16	25	- 16	1"	1"	19.5	94.5	44.5						
M48410-20-20	31	- 20	1.1/4"	1.1/4"	25.0	103.5	50.5						
M48410-24-24	38	- 24	1.1/2"	1.1/2"	31.0	116.0	60.5						
M48410-32-32	51	- 32	2"	2"	41.0	101.0	71.6						
M48410-40-40	63	- 40	2.1/2"	2.1/2"	51.5	103.0	84.4						

FITTINGS 196



XTRAFRANGE

# M48490

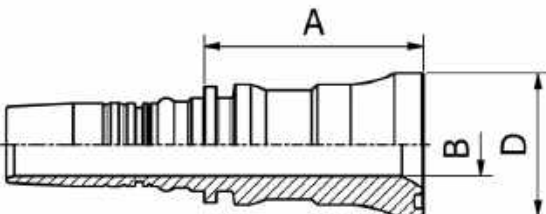
**90° XTRAFRANGE/61**  
**(ISO 6162-1/SAE J518 CODE 61**  
**PORT COMPATIBLE)**

PART. REF.	HOSE BORE			Flange	DIMENSIONS mm								
	DN	Dash	inch		inch	B	A	D	E				
M48490-16-16	25	- 16	1"	1"	19.5	77.5	44.5	69.5					
M48490-20-20	31	- 20	1.1/4"	1.1/4"	25.0	107.0	50.5	90.0					
M48490-24-24	38	- 24	1.1/2"	1.1/2"	31.0	112.0	60.5	104.0					
M48490-32-32	51	- 32	2"	2"	41.0	145.0	71.6	138.0					

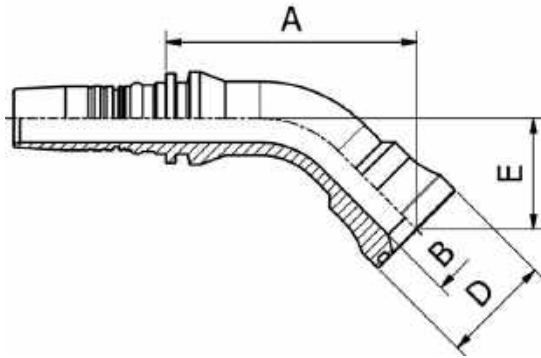
XTRAFRANGE

# M48510

**XTRAFRANGE/62**  
**(SAE J518 CODE 62 - ISO 6162-2**  
**PORT COMPATIBLE)**



PART. REF.	HOSE BORE			Flange	DIMENSIONS mm								
	DN	Dash	inch		inch	B	A	D					
M48510-12-12	19	- 12	3/4"	3/4"	14.5	64.0	41.4						
M48510-16-16	25	- 16	1"	1"	19.5	68.5	47.7						
M48510-20-20	31	- 20	1.1/4"	1.1/4"	25.0	88.0	54.4						
M48510-24-24	38	- 24	1.1/2"	1.1/2"	31.0	102.0	63.7						
M48510-32-32	51	- 32	2"	2"	41.0	128.5	79.6						
M48510-40-40	63	- 40	2.1/2"	2.1/2"	51.5	148.5	99.2						

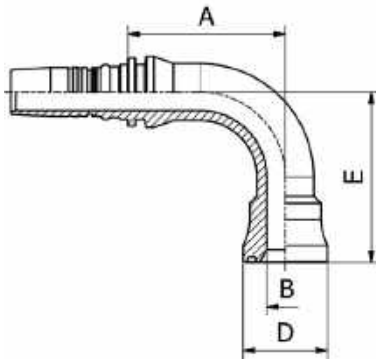


XTRAFRANGE

# M48540

**45° XTRAFRANGE/62**  
**(SAE J518 CODE 62 - ISO 6162-2**  
**PORT COMPATIBLE)**

PART. REF.	HOSE BORE			Flange	DIMENSIONS mm							
	DN	Dash	inch	inch	B	A	D	E				
M48540-12-12	19	- 12	3/4"	3/4"	14.5	92.5	41.4	38.0				
M48540-16-16	25	- 16	1"	1"	19.5	101.5	47.7	45.0				
M48540-20-20	31	- 20	1.1/4"	1.1/4"	25.0	138.0	54.4	62.5				
M48540-24-24	38	- 24	1.1/2"	1.1/2"	31.0	155.0	63.7	71.5				
M48540-32-32	51	- 32	2"	2"	39.0	193.5	79.6	92.5				



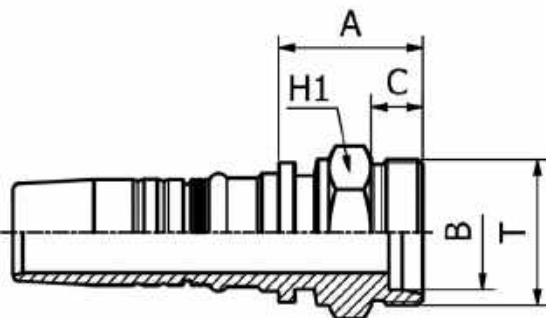
XTRAFRANGE

# M48590

**90° XTRAFRANGE/62**  
**(SAE J518 CODE 62 - ISO 6162-2**  
**PORT COMPATIBLE)**

PART. REF.	HOSE BORE			Flange	DIMENSIONS mm							
	DN	Dash	inch	inch	B	A	D	E				
M48590-12-12	19	- 12	3/4"	3/4"	14.5	75.5	41.4	75.0				
M48590-16-16	25	- 16	1"	1"	19.5	83.5	47.7	90.0				
M48590-20-20	31	- 20	1.1/4"	1.1/4"	25.0	107.0	54.4	120.0				
M48590-24-24	38	- 24	1.1/2"	1.1/2"	31.0	122.0	63.7	140.0				
M48590-32-32	51	- 32	2"	2"	39.0	147.5	79.6	178.0				

DIN STANDARD CONNECTIONS

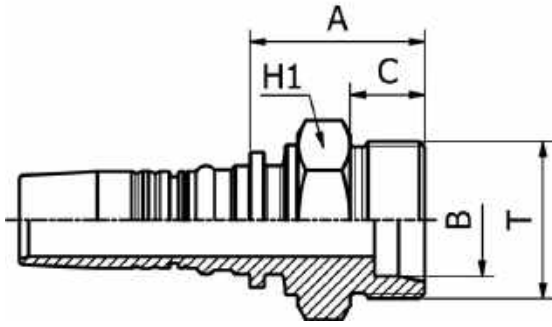


# M31110

**METRIC**  
**MALE 24° CONE SEAT LIGHT DUTY**  
**DIN 20066 / ISO 12151-2**

PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm							
	DN	Dash	inch	T	mm	B	A	C	H1				
M31110-20-45	31	- 20	1.1/4"	M 45X2	35.0	35.3	44.5	16.0	46.0				

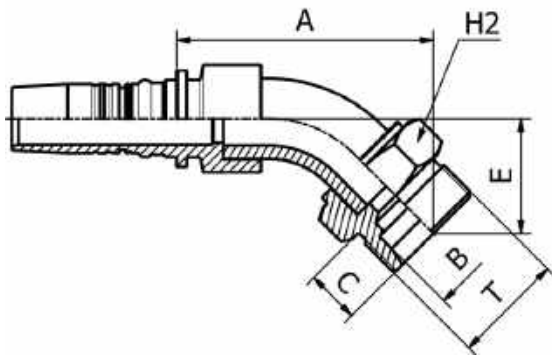
DIN STANDARD CONNECTIONS



# M31210

**METRIC**  
**MALE 24° CONE SEAT HEAVY DUTY**  
**DIN 20066 / ISO 12151-2**

PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm					
	DN	Dash	inch			T	B	A	C	H1	
M31210-10-30	16	- 10	5/8"	M 30X2	20.0	12.0	37.0	16.0	30.0		
M31210-12-30	19	- 12	3/4"	M 30X2	20.0	14.5	38.5	16.0	32.0		
M31210-12-36	19	- 12	3/4"	M 36X2	25.0	14.5	43.5	18.0	36.0		
M31210-16-36	25	- 16	1"	M 36X2	25.0	19.5	45.0	18.0	36.0		
M31210-16-42	25	- 16	1"	M 42X2	30.0	19.5	47.0	20.0	46.0		
M31210-20-52	31	- 20	1.1/4"	M 52X2	38.0	25.0	55.0	22.0	55.0		
M31210-24-52	38	- 24	1.1/2"	M 52X2	38.0	31.0	55.5	22.0	55.0		



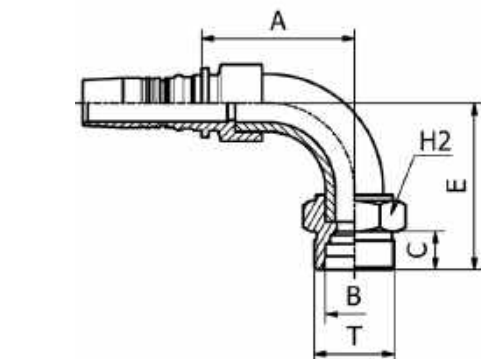
DIN STANDARD CONNECTIONS

# M31240

**45° METRIC**  
**MALE 24° CONE SEAT HEAVY DUTY**  
**DIN 20066 / ISO 12151-2**

PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm					
	DN	Dash	inch			T	B	A	C	E	H2
M31240-16-42	25	- 16	1"	M 42X2	30.0	25.0	96.0	20.0	43.0	46.0	
M31240-20-52	31	- 20	1.1/4"	M 52X2	38.0	25.0	110.0	22.0	49.5	55.0	

\*All items are made from brazing



DIN STANDARD CONNECTIONS

# M31290

**90° METRIC**  
**MALE 24° CONE SEAT HEAVY DUTY**  
**DIN 20066 / ISO 12151-2**

PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm					
	DN	Dash	inch			T	B	A	C	E	H2
M31290-10-30	16	- 10	5/8"	M 30X2	20.0	15.0	64.5	29.0	64.0	32.0	
M31290-16-42	25	- 16	1"	M 42X2	30.0	20.0	79.5	20.0	87.0	46.0	
M31290-20-52	31	- 20	1.1/4"	M 52X2	38.0	25.0	96.0	22.0	105.0	55.0	

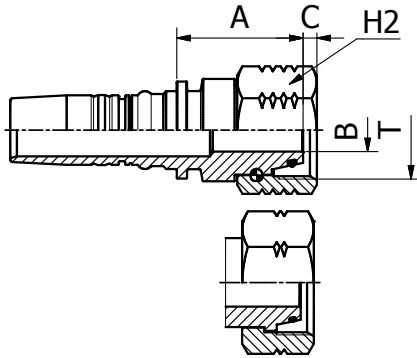
\*All items are made from brazing



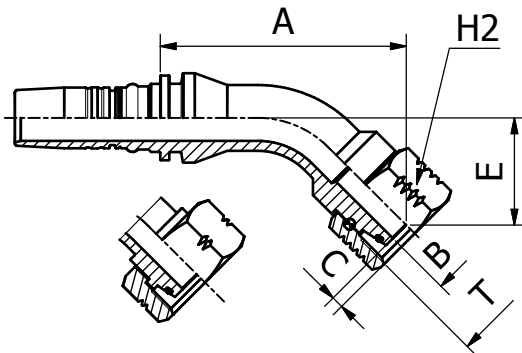
DIN STANDARD CONNECTIONS

# M41612/M41613

METRIC  
O-RING FEMALE 24° CONE HEAVY DUTY  
DIN 20066 / ISO 12151-2



PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm					
	DN	Dash	inch	T	mm	B	A	C	H2		
M41612-10-24	16	- 10	5/8"	M 24X1,5	16.0	9.3	31.0	4.0	30.0		
M41613-10-30	16	- 10	5/8"	M 30X2	20.0	12.0	37.0	3.5	36.0		
M41612-12-30	19	- 12	3/4"	M 30X2	20.0	12.5	44.0	3.2	36.0		
M41613-12-36	19	- 12	3/4"	M 36X2	25.0	14.5	42.0	3.4	41.0		
M41613-12-42	19	- 12	3/4"	M 42X2	30.0	19.0	36.0	6.3	50.0		
M41612-16-36	25	- 16	1"	M 36X2	25.0	16.0	47.0	4.1	41.0		
M41613-16-42	25	- 16	1"	M 42X2	30.0	19.5	46.5	5.3	50.0		
M41613-16-52	25	- 16	1"	M 52X2	38.0	26.1	49.5	8.0	60.0		
M41612-20-42	31	- 20	1.1/4"	M 42X2	30.0	19.0	47.5	6.0	50.0		
M41613-20-52	31	- 20	1.1/4"	M 52X2	38.0	26.1	41.5	8.0	60.0		
M41612-24-52	38	- 24	1.1/2"	M 52X2	38.0	29.0	52.5	8.8	60.0		



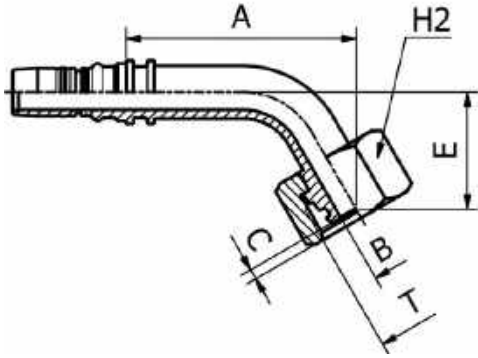
DIN STANDARD CONNECTIONS

# M41642/M41643

45° METRIC  
O-RING FEMALE SWEEP ELBOW 24° CONE  
HEAVY DUTY  
DIN 20066 / ISO 12151-2

PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm					
	DN	Dash	inch	T	mm	B	A	C	E	H2	
M41643-10-30	16	- 10	5/8"	M 30X2	20.0	12.0	66.5	3.5	29.5	36.0	
M41642-12-30	19	- 12	3/4"	M 30X2	20.0	12.5	79.0	3.2	35.0	36.0	
M41643-12-36	19	- 12	3/4"	M 36X2	25.0	14.5	81.0	3.4	33.5	41.0	
M41642-16-36	25	- 16	1"	M 36X2	25.0	16.0	103.0	4.1	45.5	41.0	
M41643-16-42	25	- 16	1"	M 42X2	30.0	19.5	93.0	5.3	36.0	50.0	
M41642-20-42	31	- 20	1.1/4"	M 42X2	30.0	19.1	116.5	6.0	44.5	50.0	
M41643-20-52	31	- 20	1.1/4"	M 52X2	38.0	26.1	110.0	8.0	40.0	60.0	
M41642-24-52	38	- 24	1.1/2"	M 52X2	38.0	29.0	128.0	8.8	51.5	60.0	

DIN STANDARD CONNECTIONS

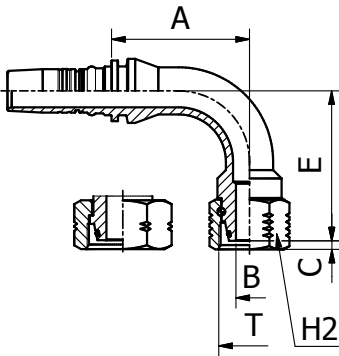


# M41663

**60° METRIC  
O-RING FEMALE SWEPT ELBOW 24° CONE  
HEAVY DUTY  
DIN 20066 / ISO 12151-2**

PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch	T	mm	B	A	C	E	H2		
M41663-10-30	16	- 10	5/8"	M30X2	20.0	12.0	78.4	3.5	40.0	36		

FITTINGS 200

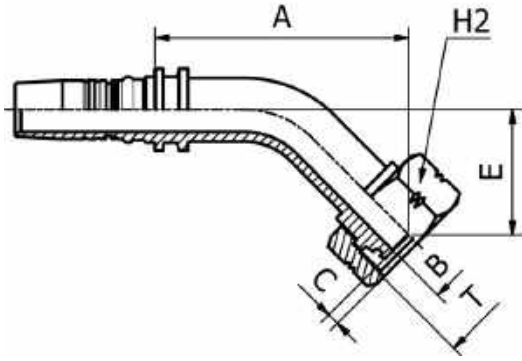


DIN STANDARD CONNECTIONS

# M41692/M41693

**90° METRIC  
O-RING FEMALE SWEPT ELBOW 24° CONE  
HEAVY DUTY  
DIN 20066 / ISO 12151-2**

PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch	T	mm	B	A	C	E	H2		
M41693-10-30	16	- 10	5/8"	M 30X2	20.0	12.0	52.5	3.5	57.5	36.0		
M41692-12-30	19	- 12	3/4"	M 30X2	25.0	12.5	64.0	3.2	68.5	36.0		
M41693-12-36	19	- 12	3/4"	M 36X2	25.0	14.5	67.0	3.4	67.5	41.0		
M41692-16-36	25	- 16	1"	M 36X2	25.0	16.0	81.5	4.1	89.0	41.0		
M41693-16-42	25	- 16	1"	M 42X2	30.0	19.5	81.5	5.3	75.5	50.0		
M41692-20-42	31	- 20	1.1/4"	M 42X2	30.0	19.1	103.5	6.0	90.0	50.0		
M41693-20-52	31	- 20	1.1/4"	M 52X2	38.0	26.1	100.0	8.0	86.5	60.0		

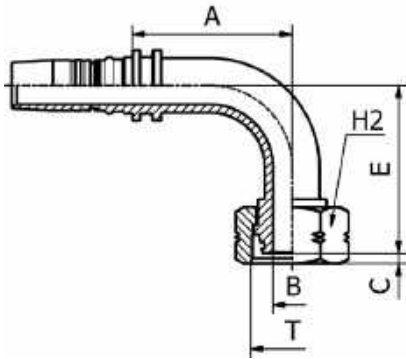


DIN STANDARD CONNECTIONS

# M41243 LONG DROP

45° METRIC  
O-RING FEMALE  
MEDIUM/LONG DROP ELBOW 24° CONE  
HEAVY DUTY  
DIN 20066/ ISO 12151-2 (SLIP-ON NUT)

PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch			T	B	A	C	E	H2	
M41243-10-30	16	- 10	5/8"	M 30X2	20.0	12.0	77.5	3.5	35.0	36.0		
M41243-12-36	19	- 12	3/4"	M 36X2	25.0	14.5	101.0	3.4	45.0	41.0		
M41243-16-42	25	- 16	1"	M 42X2	30.0	19.5	112.0	5.3	55.0	50.0		
M41243-20-52	31	- 20	1.1/4"	M 52X2	38.0	26.1	133.0	8.0	63.0	60.0		



DIN STANDARD CONNECTIONS

# M41293 LONG DROP

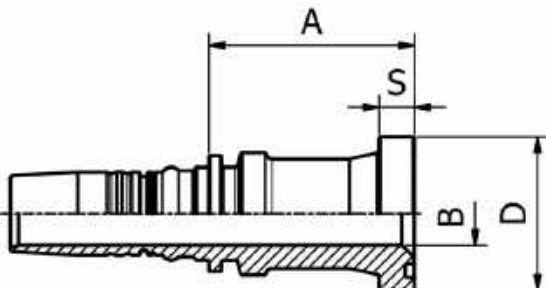
90° METRIC  
O-RING FEMALE  
MEDIUM/LONG DROP ELBOW 24° CONE  
HEAVY DUTY  
DIN 20066 / ISO 12151-2 (SLIP-ON NUT)

PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch			T	B	A	C	E	H2	
M41293-10-30	16	- 10	5/8"	M 30X2	20.0	12.0	53.0	3.5	60.0	36.0		
M41293-12-36	19	- 12	3/4"	M 36X2	25.0	14.5	67.0	3.4	67.5	41.0		
M41293-16-42	25	- 16	1"	M 42X2	30.0	19.5	81.5	5.3	86.0	50.0		
M41293-20-52	31	- 20	1.1/4"	M 52X2	38.0	26.1	100.0	8.0	92.0	60.0		

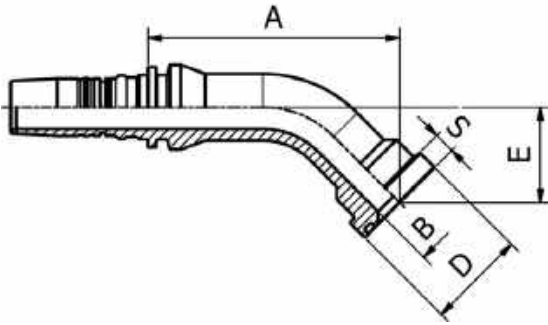
ORIGINAL EQUIPMENT CONNECTIONS

# M43710

FLANGE PLUS  
(SAE J518 CODE 62 - ISO 6162-2  
PORT COMPATIBLE)



PART. REF.	HOSE BORE			Flange	DIMENSIONS mm						
	DN	Dash	inch		inch	B	A	D	S		
M43710-10-12	16	- 10	5/8"	3/4"	16.0	51.5	41.5	9.0			
M43710-12-12	19	- 12	3/4"	3/4"	14.5	71.5	41.4	10.0			
M43710-16-16	25	- 16	1"	1"	19.5	64.0	47.7	11.0			
M43710-20-20	31	- 20	1.1/4"	1.1/4"	25.0	81.0	54.2	12.0			



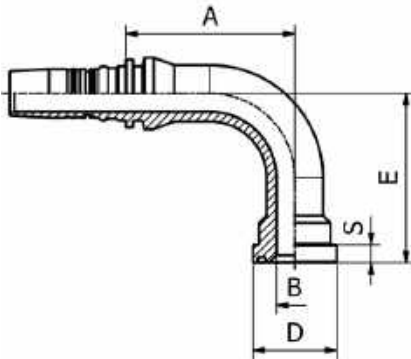
ORIGINAL EQUIPMENT CONNECTIONS

# M43740

**45° FLANGE PLUS**  
 (SAE J518 CODE 62 - ISO 6162-2  
 PORT COMPATIBLE)

PART. REF.	HOSE BORE			Flange	DIMENSIONS mm						
	DN	Dash	inch		inch	B	A	D	E	S	
M43740-10-12	16	- 10	5/8"	3/4"	16.0	72.5	41.4	31.0	9.0		
M43740-12-12	19	- 12	3/4"	3/4"	14.5	113.0	41.4	40.0	10.0		
M43740-16-16	25	- 16	1"	1"	19.5	113.5	47.7	43.0	11.0		
M43740-20-20	31	- 20	1.1/4"	1.1/4"	25.0	133.5	54.2	50.0	12.0		

FITTINGS 202



ORIGINAL EQUIPMENT CONNECTIONS

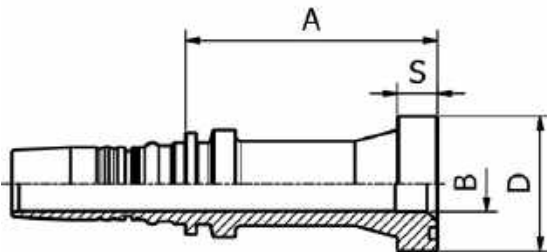
# M43790

**90° FLANGE PLUS**  
 (SAE J518 CODE 62 - ISO 6162-2  
 PORT COMPATIBLE)

PART. REF.	HOSE BORE			Flange	DIMENSIONS mm						
	DN	Dash	inch		inch	B	A	D	E	S	
M43790-10-12	16	- 10	5/8"	3/4"	16.0	61.5	41.4	60.5	9.0		
M43790-12-12	19	- 12	3/4"	3/4"	14.5	93.0	41.4	75.0	10.0		
M43790-16-16	25	- 16	1"	1"	19.5	90.0	47.7	90.0	11.0		
M43790-20-20	31	- 20	1.1/4"	1.1/4"	25.0	115.0	54.2	110.0	12.0		

ORIGINAL EQUIPMENT CONNECTIONS

# M43910



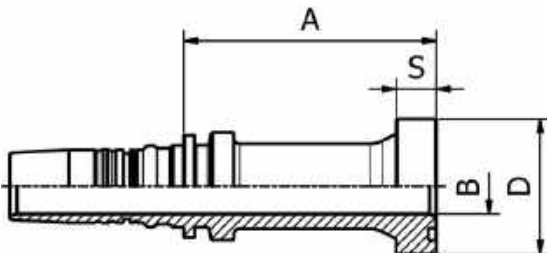
## STRAIGHT SUPERCAT SERIES FLANGE

PART. REF.	HOSE BORE			Flange	DIMENSIONS mm			
	DN	Dash	inch		B	A	D	S
M43910-12-12	19	- 12	3/4"	3/4"	16.0	77.0	41.5	14.3
M43910-12-16	19	- 12	3/4"	1"	20.0	88.5	47.7	14.3
M43910-16-16	25	- 16	1"	1"	20.0	89.5	47.7	14.3
M43910-16-20	25	- 16	1"	1.1/4"	26.0	93.5	54.0	14.3
M43910-20-20	31	- 20	1.1/4"	1.1/4"	26.1	95.0	54.0	14.3
M43910-20-24	31	- 20	1.1/4"	1.1/2"	32.1	98.5	63.6	14.3
M43910-24-24	38	- 24	1.1/2"	1.1/2"	32.1	99.0	63.6	14.3
M43910-24-32	38	- 24	1.1/2"	2"	42.0	115.0	79.3	14.3
M43910-32-24	51	- 32	2"	1.1/2"	32.1	119.5	63.6	14.3
M43910-32-32	51	- 32	2"	2"	42.0	114.5	79.3	14.3

203 FITTINGS

ORIGINAL EQUIPMENT CONNECTIONS

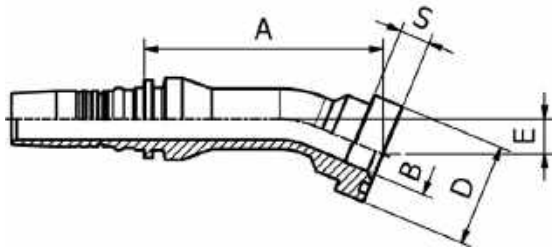
# M43910CT



## STRAIGHT REALCAT FLANGE

PART. REF.	HOSE BORE			Flange	DIMENSIONS mm			
	DN	Dash	inch		B	A	D	S
M43910-16-16CT	25	- 16	1"	1"	19.5	89.5	47.7	14.3
M43910-20-20CT	31	- 20	1.1/4"	1.1/4"	25.0	95.0	54.0	14.3
M43910-20-24CT	31	- 20	1.1/4"	1.1/2"	31.0	98.0	63.6	14.3
M43910-24-24CT	38	- 24	1.1/2"	1.1/2"	31.0	99.0	63.6	14.3

ORIGINAL EQUIPMENT CONNECTIONS



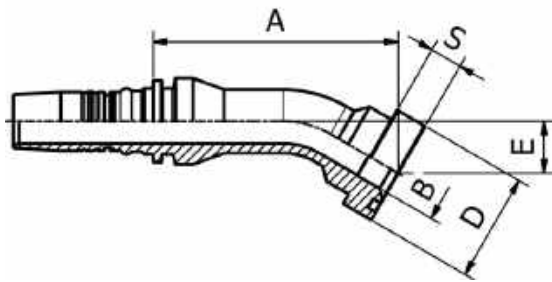
# M43920

22,5° SUPERCAT SERIES FLANGE

PART. REF.	HOSE BORE			Flange	DIMENSIONS mm						
	DN	Dash	inch		inch	B	A	D	E	S	
M43920-12-12	19	- 12	3/4"	3/4"	16.0	94.0	41.5	14.5	14.3		
M43920-12-16	19	- 12	3/4"	1"	20.0	101.5	47.7	16.5	14.3		
M43920-16-16	25	- 16	1"	1"	20.0	110.5	47.7	16.5	14.3		
M43920-16-20	25	- 16	1"	1.1/4"	26.1	115.5	54.0	19.0	14.3		
M43920-20-20	31	- 20	1.1/4"	1.1/4"	26.1	122.0	54.0	18.0	14.3		
M43920-20-24	31	- 20	1.1/4"	1.1/2"	32.0	139.0	63.7	23.0	14.3		
M43920-24-24	38	- 24	1.1/2"	1.1/2"	32.0	138.0	63.7	20.0	14.3		

FITTINGS 204

ORIGINAL EQUIPMENT CONNECTIONS



# M43930

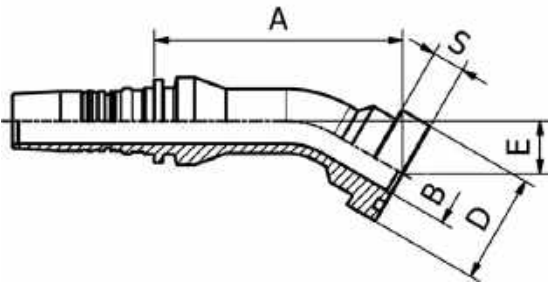
30° SUPERCAT SERIES FLANGE

PART. REF.	HOSE BORE			Flange	DIMENSIONS mm						
	DN	Dash	inch		inch	B	A	D	E	S	
M43930-12-12	19	- 12	3/4"	3/4"	16.0	92.0	41.5	20.0	14.3		
M43930-12-16	19	- 12	3/4"	1"	20.0	99.0	47.7	22.5	14.3		
M43930-16-16	25	- 16	1"	1"	20.0	108.0	47.7	23.0	14.3		
M43930-16-20	25	- 16	1"	1.1/4"	26.1	112.5	54.0	26.0	14.3		
M43930-20-20	31	- 20	1.1/4"	1.1/4"	26.1	119.5	54.0	25.0	14.3		
M43930-20-24	31	- 20	1.1/4"	1.1/2"	32.0	135.5	63.7	32.0	14.3		
M43930-24-24	38	- 24	1.1/2"	1.1/2"	32.0	135.0	63.7	28.0	14.3		
M43930-24-32	38	- 24	1.1/2"	2"	42.0	151.5	79.3	36.0	14.3		
M43930-32-32	51	- 32	2"	2"	42.0	171.5	79.3	37.5	14.3		

ORIGINAL EQUIPMENT CONNECTIONS

# M43930CT

30° REALCAT SERIES FLANGE

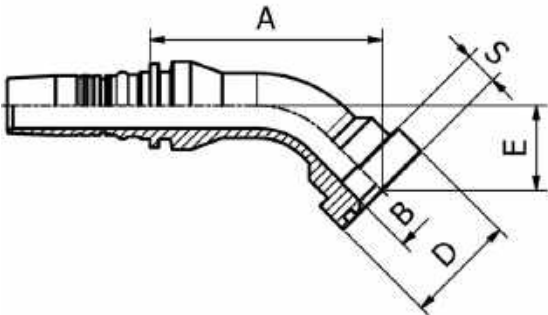


PART. REF.	HOSE BORE			Flange	DIMENSIONS mm						
	DN	Dash	inch		inch	B	A	D	E	S	
M43930-12-12CT	19	- 12	3/4"	3/4"	14.5	92.0	41.5	20.0	14.3		
M43930-16-16CT	25	- 16	1"	1"	19.5	108.0	47.7	23.0	14.3		
M43930-20-20CT	31	- 20	1.1/4"	1.1/4"	25.0	119.5	54.0	25.0	14.3		
M43930-24-24CT	38	- 24	1.1/2"	1.1/2"	31.0	135.0	63.7	28.0	14.3		

ORIGINAL EQUIPMENT CONNECTIONS

# M43940

45° SUPERCAT SERIES FLANGE

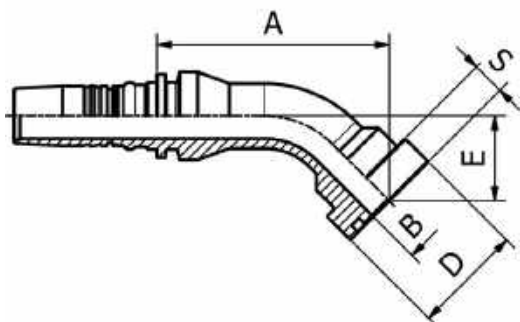


PART. REF.	HOSE BORE			Flange	DIMENSIONS mm						
	DN	Dash	inch		inch	B	A	D	E	S	
M43940-12-12	19	- 12	3/4"	3/4"	16.0	85.0	41.5	32.0	14.3		
M43940-12-16	19	- 12	3/4"	1"	20.0	91.5	47.7	35.5	14.3		
M43940-16-16	25	- 16	1"	1"	20.0	100.5	47.7	36.5	14.3		
M43940-16-20	25	- 16	1"	1.1/4"	26.1	103.5	54.0	40.5	14.3		
M43940-20-20	31	- 20	1.1/4"	1.1/4"	26.1	110.5	54.0	40.5	14.3		
M43940-20-24	31	- 20	1.1/4"	1.1/2"	32.0	124.5	63.7	50.5	14.3		
M43940-24-24	38	- 24	1.1/2"	1.1/2"	32.0	125.5	63.7	45.5	14.3		
M43940-24-32	38	- 24	1.1/2"	2"	42.0	139.5	79.3	56.5	14.3		
M43940-32-32	51	- 32	2"	2"	42.0	158.5	79.3	61.5	14.3		

ORIGINAL EQUIPMENT CONNECTIONS

# M43940CT

45° REALCAT FLANGE



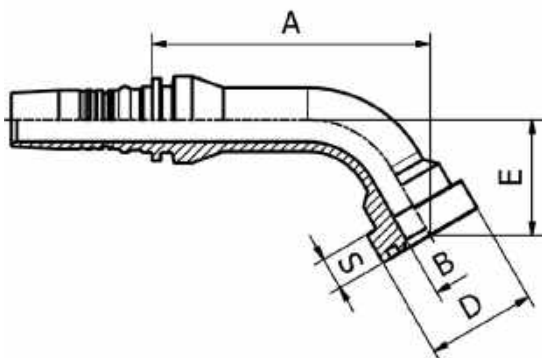
PART. REF.	HOSE BORE			Flange	DIMENSIONS mm						
	DN	Dash	inch		inch	B	A	D	E	S	
M43940-16-16CT	25	- 16	1"	1"	19.5	100.5	47.7	36.5	14.3		
M43940-16-20CT	25	- 16	1"	1.1/4"	25.0	103.5	54.0	40.5	14.3		
M43940-20-24CT	31	- 20	1.1/4"	1.1/2"	31.0	124.5	63.7	50.5	14.3		
M43940-20-20CT	31	- 20	1.1/4"	1.1/4"	25.0	110.5	54.0	40.5	14.3		
M43940-24-24CT	38	- 24	1.1/2"	1.1/2"	31.0	125.5	63.7	45.0	14.3		

FITTINGS 206

ORIGINAL EQUIPMENT CONNECTIONS

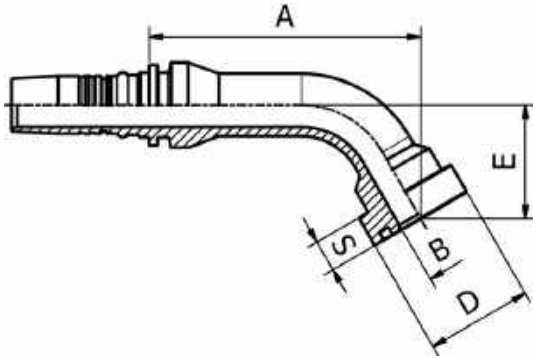
# M43960

60° SUPERCAT SERIES FLANGE



PART. REF.	HOSE BORE			Flange	DIMENSIONS mm						
	DN	Dash	inch		inch	B	A	D	E	S	
M43960-12-16	19	- 12	3/4"	1"	20.0	106.0	47.7	48.0	14.3		
M43960-12-12	19	- 12	3/4"	3/4"	16.0	101.0	41.5	44.0	14.3		
M43960-16-16	25	- 16	1"	1"	20.0	122.0	47.7	51.0	14.3		
M43960-16-16055	25	- 16	1"	1"	20.0	102.5	47.7	55.0	14.3		
M43960-16-20	25	- 16	1"	1.1/4"	26.1	122.0	54.0	55.0	14.3		
M43960-20-20	31	- 20	1.1/4"	1.1/4"	26.1	136.0	54.0	56.0	14.3		
M43960-20-24	31	- 20	1.1/4"	1.1/2"	32.0	149.0	63.7	69.0	14.3		
M43960-24-24	38	- 24	1.1/2"	1.1/2"	32.0	154.5	63.7	63.0	14.3		
M43960-32-32	51	- 32	2"	2"	42.0	202.0	79.3	86.5	14.3		
M43960-32-32150	51	- 32	2"	2"	42.0	196.5	79.3	150.0	14.3		



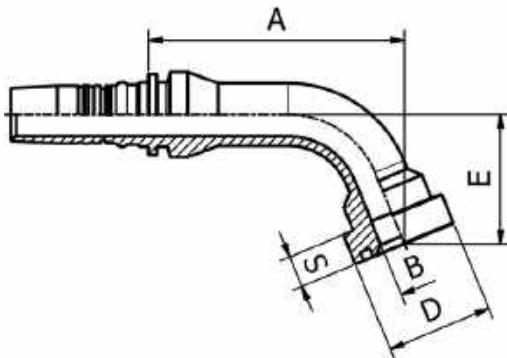


ORIGINAL EQUIPMENT CONNECTIONS

# M43960CT

60° REALCAT SERIES FLANGE

PART. REF.	HOSE BORE			Flange	DIMENSIONS mm						
	DN	Dash	inch	inch	B	A	D	E	S		
M43960-16-16CT	25	- 16	1"	1"	19.5	122.0	47.7	51.0	14.3		
M43960-16-20CT	25	- 16	1"	1.1/4"	25.0	122.0	54.0	55.0	14.3		
M43960-24-24CT	38	- 24	1.1/2"	1.1/2"	31.0	154.5	63.7	63.5	14.3		

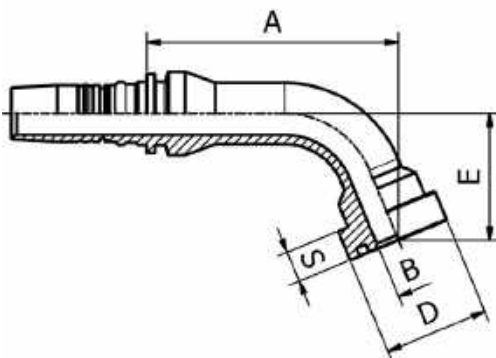


ORIGINAL EQUIPMENT CONNECTIONS

# M43970

67,5° SUPERCAT SERIES FLANGE

PART. REF.	HOSE BORE			Flange	DIMENSIONS mm						
	DN	Dash	inch	inch	B	A	D	E	S		
M43970-12-12	19	- 12	3/4"	3/4"	16.0	95.0	41.5	49.5	14.3		
M43970-12-16	19	- 12	3/4"	1"	20.0	99.5	47.7	54.0	14.3		
M43970-16-16	25	- 16	1"	1"	20.0	115.0	47.7	58.0	14.3		
M43970-16-20	25	- 16	1"	1.1/4"	26.1	114.5	54.0	62.0	14.3		
M43970-20-20	31	- 20	1.1/4"	1.1/4"	26.1	128.0	54.0	64.0	14.3		
M43970-20-24	31	- 20	1.1/4"	1.1/2"	32.0	139.5	63.7	78.0	14.3		
M43970-24-24	38	- 24	1.1/2"	1.1/2"	32.0	146.0	63.7	72.0	14.3		
M43970-32-32	51	- 32	2"	2"	42.0	189.5	79.3	99.0	14.3		

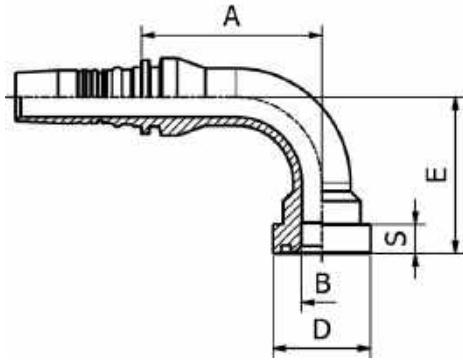


ORIGINAL EQUIPMENT CONNECTIONS

# M43970CT

67,5° REALCAT SERIES FLANGE

PART. REF.	HOSE BORE			Flange	DIMENSIONS mm						
	DN	Dash	inch	inch	B	A	D	E	S		
M43970-16-16CT	25	- 16	1"	1"	19.5	115.0	47.7	58.0	14.3		
M43970-16-20CT	25	- 16	1"	1.1/4"	25.0	114.5	64.0	62.0	14.3		



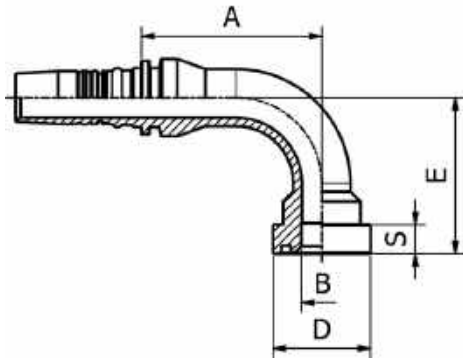
ORIGINAL EQUIPMENT CONNECTIONS

# M43990

90° SUPERCAT SERIES FLANGE

PART. REF.	HOSE BORE			Flange	DIMENSIONS mm						
	DN	Dash	inch		inch	B	A	D	E	S	
M43990-12-12	19	- 12	3/4"	3/4"	16.0	72.5	41.5	64.5	14.3		
M43990-12-16	19	- 12	3/4"	1"	20.0	75.0	47.7	69.5	14.3		
M43990-16-16	25	- 16	1"	1"	20.0	88.5	47.7	76.5	14.3		
M43990-16-20	25	- 16	1"	1.1/4"	26.1	86.5	54.0	80.5	14.3		
M43990-20-20	31	- 20	1.1/4"	1.1/4"	26.1	98.5	54.0	85.0	14.3		
M43990-20-24	31	- 20	1.1/4"	1.1/2"	32.0	104.0	63.7	101.0	14.3		
M43990-24-24	38	- 24	1.1/2"	1.1/2"	32.0	112.5	63.7	96.0	14.3		
M43990-24-32	38	- 24	1.1/2"	2"	42.0	115.0	79.3	112.0	14.3		
M43990-32-32	51	- 32	2"	2"	42.0	144.0	79.3	133.5	14.3		

FITTINGS 208



ORIGINAL EQUIPMENT CONNECTIONS

# M43990 LONG DROP

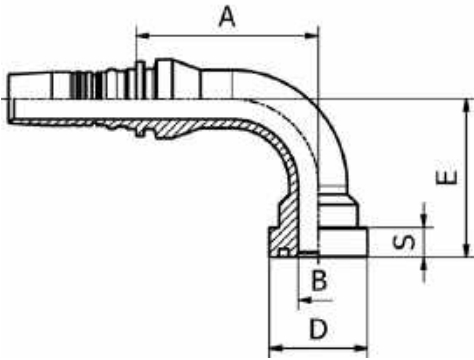
90° LONG DROP SUPERCAT SERIES FLANGE

PART. REF.	HOSE BORE			Flange	DIMENSIONS mm						
	DN	Dash	inch		inch	B	A	D	E	S	
M43990-16-16150	25	- 16	1"	1"	20.0	88.5	47.7	150.0	14.3		
M43990-16-16132	25	- 16	1"	1"	20.0	88.5	47.7	132.0	14.3		
M43990-16-20150	25	- 16	1"	1.1/4"	26.1	88.5	54.0	150.0	14.3		
M43990-20-24135	31	- 20	1.1/4"	1.1/2"	32.0	98.5	63.7	135.0	14.3		
M43990-20-20150	31	- 20	1.1/4"	1.1/4"	26.1	98.5	54.0	150.0	14.3		
M43990-20-20092	31	- 20	1.1/4"	1.1/4"	26.1	98.5	54.0	92.0	14.3		
M43990-24-24106	38	- 24	1.1/2"	1.1/2"	32.0	112.5	63.7	106.0	14.3		

ORIGINAL EQUIPMENT CONNECTIONS

# M43990CT

90° REALCAT FLANGE

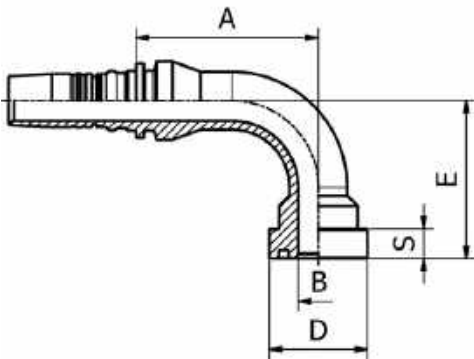


PART. REF.	HOSE BORE			Flange	DIMENSIONS mm						
	DN	Dash	inch		inch	B	A	D	E	S	
M43990-16-16CT	25	- 16	1"	1"	19.5	88.5	47.7	76.5	14.3		
M43990-16-20CT	25	- 16	1"	1.1/4"	25.0	86.5	54.0	80.5	14.3		
M43990-20-20CT	31	- 20	1.1/4"	1.1/4"	25.0	98.5	54.0	85.0	14.3		
M43990-24-24CT	38	- 24	1.1/2"	1.1/2"	31.0	112.5	63.7	96.0	14.3		

ORIGINAL EQUIPMENT CONNECTIONS

# M43990CT LONG DROP

90° LONG DROP REALCAT FLANGE

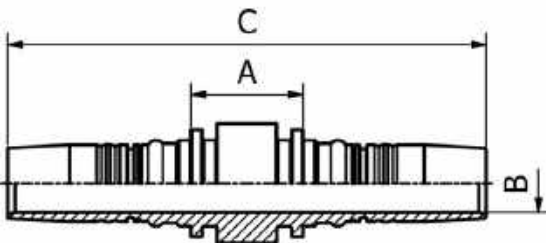


PART. REF.	HOSE BORE			Flange	DIMENSIONS mm						
	DN	Dash	inch		inch	B	A	D	E	S	
M43990-16-16132CT	25	- 16	1"	1"	19.5	88.5	47.7	132.0	14.3		
M43990-20-20150CT	25	- 16	1"	1.1/4"	25.0	98.5	54.0	150.0	14.3		
M43990-24-24106CT	31	- 20	1.1/4"	1.1/2"	31.0	112.5	63.7	106.0	14.3		

DOUBLE CONNECTOR

# M30050

DOUBLE CONNECTOR

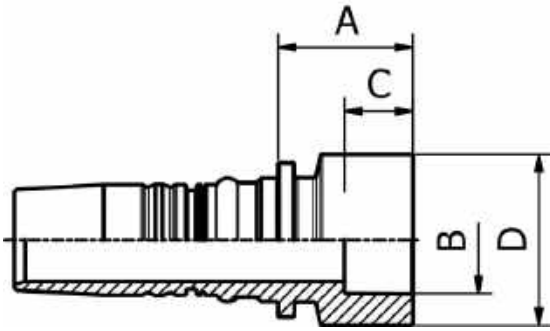


PART. REF.	HOSE BORE			DIMENSIONS mm					
	DN	Dash	inch	B	A	C			
M30050-20-20	31	- 20	1.1/4"	25.0	42.0	206.0			
M30050-24-24	38	- 24	1.1/2"	31.0	43.1	229.1			
M30050-32-32	51	- 32	2"	41.0	43.0	244.7			

TAIL

# M49510WL

WELDING TAIL

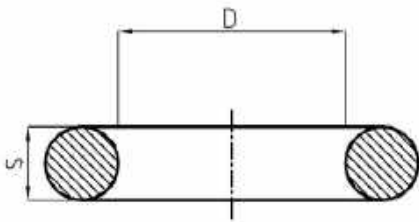


PART. REF.	HOSE BORE			DIMENSIONS mm							
	DN	Dash	inch	B	A	C	D				
M49510-10-18WL	16	- 10	5/8"	18.1	20.5	10.0	26.0				
M49510-12-22WL	19	- 12	3/4"	22.1	27.5	12.0	34.0				
M49510-16-28WL	25	- 16	1"	28.1	31.5	14.0	40.0				
M49510-20-35WL	31	- 20	1.1/4"	35.1	33.0	14.0	49.0				

FITTINGS 210

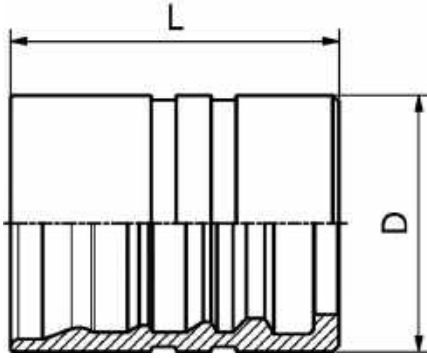
O-RING

# JO29



OPTIONAL INTERLOCK PLUS O-RING

PART. REF.	HOSE BORE			DIMENSIONS mm							
	DN	Dash	inch	D	S						
JO29161218	16	- 10	5/8"	12.42	1.78						
JO29191618	19	- 12	3/4"	15.6	1.78						
JO29262218	25	- 16	1"	21.95	1.78						
JO29322818	31	- 20	1.1/4"	28.3	1.78						
JO29383518	38	- 24	1.1/2"	34.65	1.78						
JO29514718	51	- 32	2"	47.35	1.78						
JO29605718	63	- 40	2.1/2"	56.87	1.78						
JO29737018	76	- 48	3"	69.57	1.78						



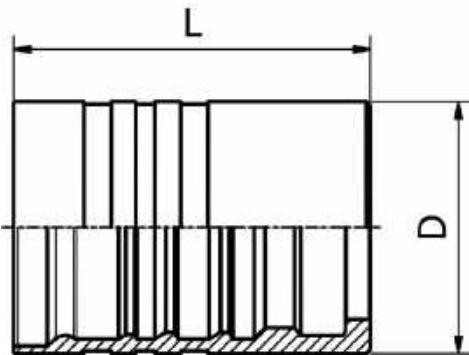
FERRULE

# IM01500

**DOUBLE SKIVE FERRULE  
FOR HEAVY DUTY SPIRAL HOSES (4 PLY)  
STAINLESS STEEL**

PART. REF.	HOSE BORE			DIMENSIONS mm							
	DN	Dash	inch			D	L				
IM01500-10	16	- 10	5/8"			35.0	40.9				
IM01500-12	19	- 12	3/4"			40.0	51.4				
IM01500-16	25	- 16	1"			48.0	64.5				
IM01500-20	31	- 20	1.1/4"			57.0	84.0				
IM01500-24	38	- 24	1.1/2"			64.3	94.0				
IM01500-32	51	- 32	2"			83.5	107.0				
IM01500-40	63	- 40	2.1/2"			100.0	135.0				
IM01500-48	76	- 48	3"			107.0	125.0				

211 FITTINGS

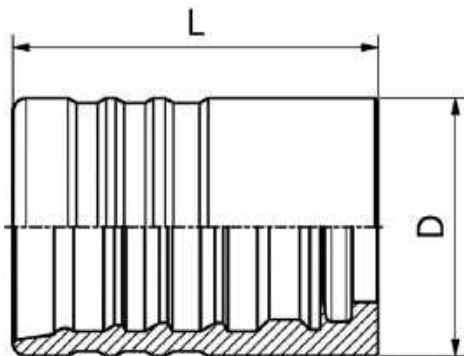


FERRULE

# IM01600

**DOUBLE SKIVE FERRULE  
FOR HEAVY DUTY SPIRAL HOSES (6 PLY)  
STAINLESS STEEL**

PART. REF.	HOSE BORE			DIMENSIONS mm							
	DN	Dash	inch			D	L				
IM01600-20	31	- 20	1.1/4"			60.0	85.0				
IM01600-24	38	- 24	1.1/2"			69.0	96.0				



FERRULE

# IM01800/IM01810

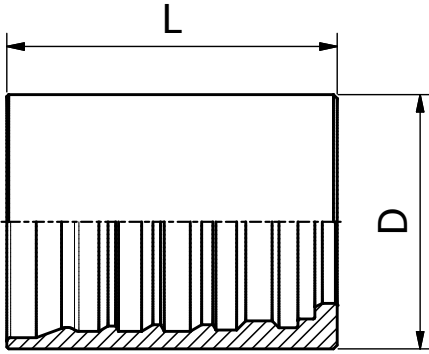
**DOUBLE SKIVE FERRULE  
FOR EXTRA DUTY SPIRAL HOSES (6 PLY)  
STAINLESS STEEL**

PART. REF.	HOSE BORE			DIMENSIONS mm							
	DN	Dash	inch			D	L				
IM01800-32	51	- 32	2"			86.5	108.0				
IM01810-40	63	- 40	2.1/2"			103.0	135.0				
IM01810-48	76	- 48	3"			113.5	125.0				

FERRULE

# IM01900

DOUBLE SKIVE FERRULE



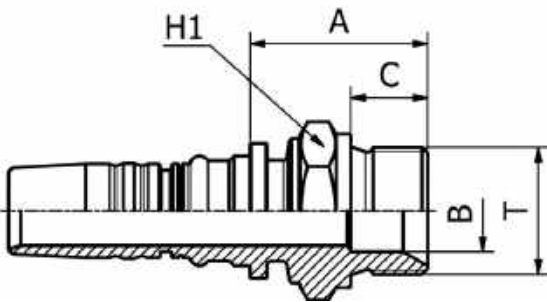
PART. REF.	HOSE BORE			DIMENSIONS mm							
	DN	Dash	inch			D	L				
IM01900-20	31	-20	1.1/4"			68	88,2				

FITTINGS 212

BS STANDARD CONNECTIONS

# IM30510

BSP  
MALE PARALLEL 60° CONE SEAT  
BS5200 / ISO 8434-6  
(STAINLESS STEEL)

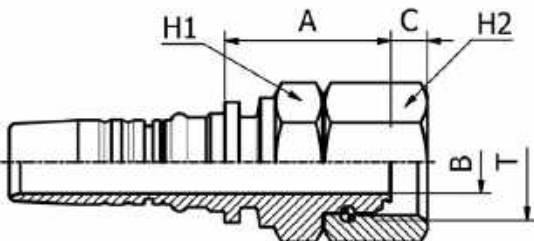


PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	H1			
IM30510-12-12	19	- 12	3/4"	3/4" - 14	17.0	37.0	16.0	32.0			
IM30510-16-16	25	- 16	1"	1" - 11	22.5	43.0	19.0	41.0			
IM30510-20-20	31	- 20	1.1/4"	1.1/4" - 11	28.5	50.5	20.0	50.0			
IM30510-24-24	38	- 24	1.1/2"	1.1/2" - 11	33.5	54.5	22.0	55.0			
IM30510-32-32	51	- 32	2"	2" - 11	42.0	58.0	25.0	70.0			

BS STANDARD CONNECTIONS

# IM40812

BSP  
O-RING FEMALE 60° CONE  
BS5200 / ISO 12151-6  
(THRUST-WIRE NUT) STAINLESS STEEL

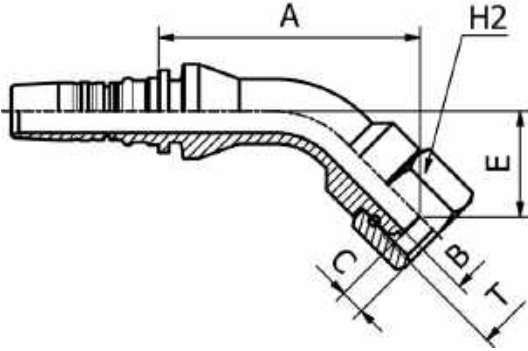


PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	H1	H2		
IM40812-12-12	19	- 12	3/4"	3/4" - 14	14.5	39.0	8.5	32.0	32.0		
IM40812-16-16	25	- 16	1"	1" - 11	19.5	44.5	10.6	41.0	41.0		
IM40812-20-20	31	- 20	1.1/4"	1.1/4" - 11	26.1	52.5	10.5	50.0	50.0		
IM40812-24-24	38	- 24	1.1/2"	1.1/2" - 11	32.1	51.5	12.5	60.0	60.0		
IM40812-32-32	38	- 24	1.1/2"	1.1/2" - 11	42.0	51.5	16.1	70.0	70.0		

BS STANDARD CONNECTIONS

# IM40842

45° BSP  
O-RING FEMALE SWEPT ELBOW 60° CONE  
BS5200 / ISO 12151-6  
(THRUST-WIRE NUT) STAINLESS STEEL

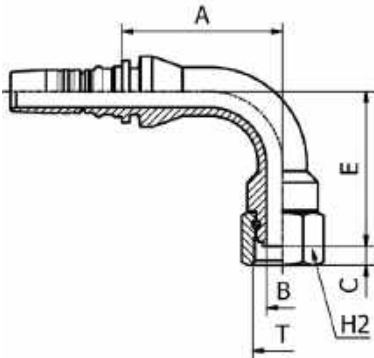


PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	E	H2		
IM40842-12-12	19	- 12	3/4"	3/4" - 14	14.5	88.0	8.5	35.0	32.0		
IM40842-16-16	25	- 16	1"	1" - 11	19.5	97.0	10.6	40.0	41.0		
IM40842-20-20	31	- 20	1.1/4"	1.1/4" - 11	26.1	120.0	10.5	49.5	50.0		
IM40842-24-24	38	- 24	1.1/2"	1.1/2" - 11	32.1	126.5	12.5	50.0	60.0		
IM40842-32-32	51	- 32	2"	2" - 11,5	42.0	162.5	16.1	66.5	70.0		

BS STANDARD CONNECTIONS

# IM40892

90° BSP  
O-RING FEMALE SWEPT ELBOW 60° CONE  
BS5200 / ISO 12151-6  
(THRUST-WIRE NUT) STAINLESS STEEL

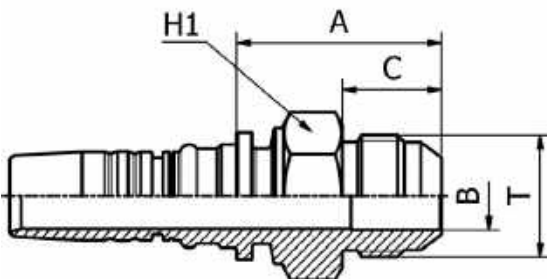


PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	E	H2		
IM40892-12-12	19	- 12	3/4"	3/4" - 14	14.5	72.5	8.5	70.0	32.0		
IM40892-16-16	25	- 16	1"	1" - 11	19.5	82.0	10.6	80.5	41.0		
IM40892-20-20	31	- 20	1.1/4"	1.1/4" - 11	26.1	98.5	10.5	98.0	50.0		
IM40892-24-24	38	- 24	1.1/2"	1.1/2" - 11	32.1	111.5	12.5	109.0	60.0		
IM40892-32-32	51	- 32	2"	2" - 11,5	42.0	143.0	16.1	140.5	70.0		

SAE STANDARD CONNECTIONS

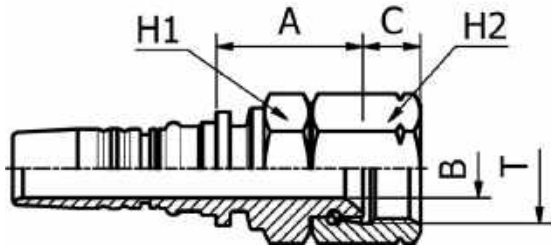
# IM32510

JIC  
MALE 37° CONE  
SAE J516 / ISO 12151-5  
STAINLESS STEEL



PART. REF.	HOSE BORE			Thread	DIMENSIONS mm					
	DN	Dash	inch	T	B	A	C	H1		
IM32510-10-10	16	- 10	5/8"	7/8" - 14	12.0	41.0	19.5	27.0		
IM32510-12-12	19	- 12	3/4"	1.1/16" - 12	15.0	45.5	22.0	32.0		
IM32510-16-16	25	- 16	1"	1.5/16" - 12	20.0	50.5	23.0	38.0		
IM32510-20-20	31	- 20	1.1/4"	1.5/8" - 12	26.1	66.0	24.3	46.0		
IM32510-24-24	38	- 24	1.1/2"	1.7/8" - 12	32.1	64.0	27.5	50.0		
IM32510-32-32	51	- 32	2"	2.1/2" - 12	42.0	81.0	34.0	70.0		

SAE STANDARD CONNECTIONS

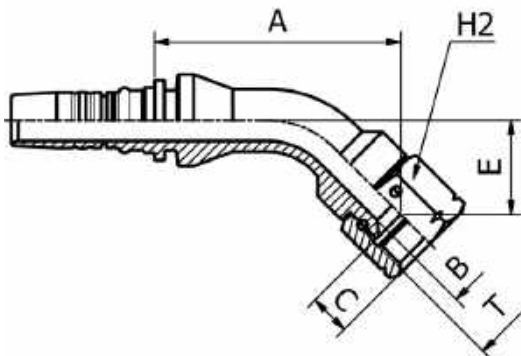


# IM42512

JIC  
 FEMALE 37° CONE SEAT  
 SAE J516 / ISO 12151-5  
 (THRUST-WIRE NUT) STAINLESS STEEL

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	H1	H2		
IM42512-12-12	19	- 12	3/4"	1.1/16" - 12	15.0	36.0	16.0	32.0	32.0		
IM42512-16-16	25	- 16	1"	1.5/16" - 12	21.7	40.5	15.2	41.0	41.0		
IM42512-20-20	31	- 20	1.1/4"	1.5/8" - 12	26.1	51.5	16.2	50.0	50.0		
IM42512-24-24	38	- 24	1.1/2"	1.7/8" - 12	31.0	54.5	18.8	55.0	60.0		
IM42512-32-32	51	- 32	2"	2.1/2" - 8	42.0	54.0	24.0	70.0	75.0		

FITTINGS 214



SAE STANDARD CONNECTIONS

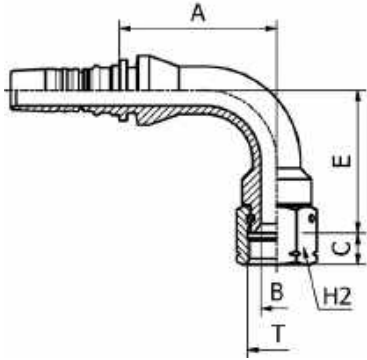
# IM42542

45° JIC  
 FEMALE SWEPT ELBOW 37° CONE SEAT  
 SAE J516 / ISO 12151-5  
 (THRUST-WIRE NUT) STAINLESS STEEL

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	E	H2		
IM42542-12-12	19	- 12	3/4"	1.1/16" - 12	15.0	86.0	16.0	33.0	32.0		
IM42542-16-16	25	- 16	1"	1.5/16" - 12	21.7	95.0	15.2	37.0	41.0		
IM42542-20-20	31	- 20	1.1/4"	1.5/8" - 12	26.1	115.5	16.2	45.0	50.0		
IM42542-24-24	38	- 24	1.1/2"	1.7/8" - 12	32.1	126.5	18.8	50.0	60.0		



SAE STANDARD CONNECTIONS

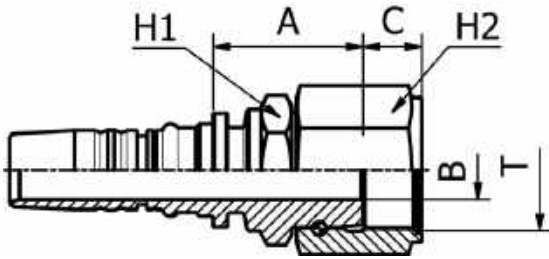


# IM42592

90° JIC  
FEMALE SWEPT ELBOW 37° CONE SEAT  
SAE J516 / ISO 12151-5  
(THRUST-WIRE NUT) STAINLESS STEEL

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	E	H2		
IM42592-12-12	19	- 12	3/4"	1.1/16" - 12	15.0	72.5	16.0	66.0	32.0		
IM42592-12-16	19	- 12	3/4"	1.5/16" - 12	21.7	72.5	15.2	71.5	41.0		
IM42592-16-16	25	- 16	1"	1.5/16" - 12	21.7	82.5	15.2	77.5	41.0		
IM42592-20-20	31	- 20	1.1/4"	1.5/8" - 12	26.1	98.5	16.2	92.0	50.0		
IM42592-24-24	38	- 24	1.1/2"	1.7/8" - 12	32.1	111.5	18.8	106.0	60.0		
IM42592-32-32	51	- 32	2"	2.1/2" - 8	42.0	144.5	24.0	137.0	75.0		

SAE STANDARD CONNECTIONS

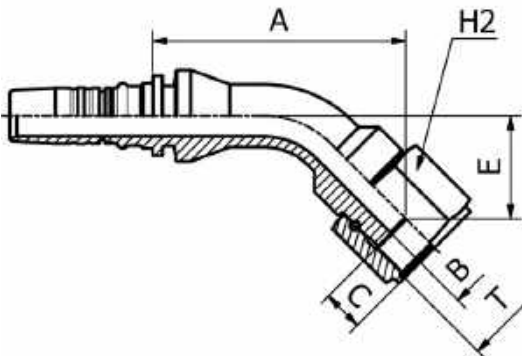


# IM42412

ORFS  
FEMALE  
SAE J516 / ISO 12151-1 HEAVY TYPE  
(THRUST-WIRE NUT) STAINLESS STEEL

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	H1	H2			
IM42412-12-12	19	- 12	3/4"	1.3/16" - 12	14.5	37.0	32.0	36.0			
IM42412-16-16	25	- 16	1"	1.7/16" - 12	19.5	42.0	15.0	41.0	46.0		
IM42412-20-20	31	- 20	1.1/4"	1.11/16" - 12	25.0	52.0	15.1	50.0	55.0		
IM42412-24-24	38	- 24	1.1/2"	2" - 12	31.0	55.0	15.0	60.0	60.0		

SAE STANDARD CONNECTIONS



# IM42442

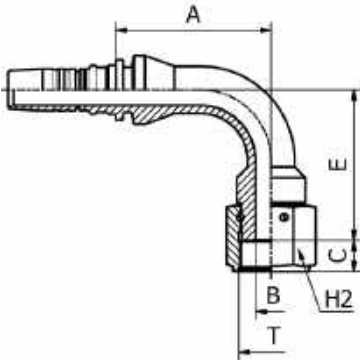
45° ORFS  
FEMALE SWEPT ELBOW  
SAE J516 / ISO 12151-1 HEAVY TYPE  
(THRUST-WIRE-NUT) STAINLESS STEEL

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	E	H2		
IM42442-12-12	19	- 12	3/4"	1.3/16" - 12	14.5	89.0	13.9	36.0	36.0		
IM42442-16-16	25	- 16	1"	1.7/16" - 12	19.5	100.0	15.0	42.5	46.0		
IM42442-20-20	31	- 20	1.1/4"	1.11/16" - 12	25.0	119.5	15.1	49.5	55.0		
IM42442-24-24	38	- 24	1.1/2"	2" - 12	31.0	128.5	15.0	52.0	60.0		

SAE STANDARD CONNECTIONS

# IM42492

90° ORFS  
 FEMALE SWEEP ELBOW  
 SAE J516 / ISO 12151-1 HEAVY TYPE  
 (THRUST-WIRE-NUT) STAINLESS STEEL



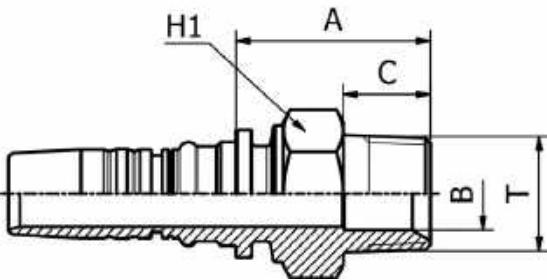
PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	E	H2		
IM42492-12-12	19	- 12	3/4"	1.3/16" - 12	14.5	72.5	13.9	70.5	36.0		
IM42492-16-16	25	- 16	1"	1.7/16" - 12	19.5	82.5	15.0	84.5	46.0		
IM42492-20-20	31	- 20	1.1/4"	1.11/16" - 12	25.0	98.5	15.1	98.0	55.0		
IM42492-24-24	38	- 24	1.1/2"	2" - 12	31.0	111.5	15.0	109.0	60.0		

FITTINGS 216

SAE STANDARD CONNECTIONS

# IM32810

NPTF  
 MALE 60° CONE SEAT  
 SAE J516/J514  
 (STAINLESS STEEL)

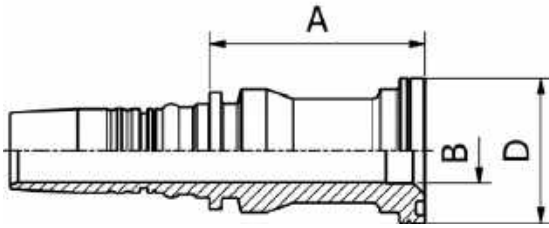


PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	H1			
IM32810-10-08	16	- 10	5/8"	1/2" - 14	12.0	39.5	19.2	24.0			
IM32810-10-12	16	- 10	5/8"	3/4" - 14	16.0	40.5	19.2	27.0			
IM32810-12-12	19	- 12	3/4"	3/4" - 14	16.0	43.0	19.2	32.0			
IM32810-16-16	25	- 16	1"	1" - 11,5	19.5	50.5	24.2	38.0			
IM32810-20-20	31	- 20	1.1/4"	1.1/4" - 11,5	26.1	61.0	25.0	46.0			
IM32810-24-24	38	- 24	1.1/2"	1.1/2" - 11,5	32.1	62.5	26.0	50.0			
IM32810-32-32	51	- 32	2"	2" - 11	42.0	67.0	26.5	70.0			
IM32810-40-40	63	- 40	2.1/2"	2.1/2" - 8	51.5	94.5	43.0	80.0			
IM32810-48-48	76	- 48	3"	3" - 8	62.5	123.5	51.5	100.0			

SAE STANDARD CONNECTIONS

# IM43310

ISO / SAE  
CODE 61 FLANGE  
SAE J516 / ISO 12151-3  
(STAINLESS STEEL)

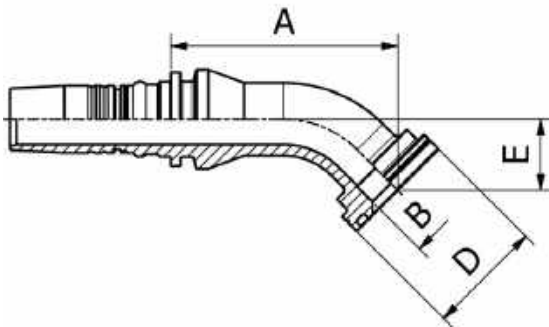


PART. REF.	HOSE BORE			Flange	DIMENSIONS mm							
	DN	Dash	inch		inch	B	A	D				
IM43310-12-12	19	- 12	3/4"	3/4"		16.0	60.0	38.0				
IM43310-16-16	25	- 16	1"	1"		20.0	66.5	44.6				
IM43310-20-20	31	- 20	1.1/4"	1.1/4"		26.1	75.0	51.0				
IM43310-24-24	38	- 24	1.1/2"	1.1/2"		32.1	80.5	60.5				
IM43310-32-32	51	- 32	2"	2"		42.0	83.0	71.6				

SAE STANDARD CONNECTIONS

# IM43340

45° ISO / SAE  
CODE 61 FLANGE  
SAE J516 / ISO 12151-3  
(STAINLESS STEEL)

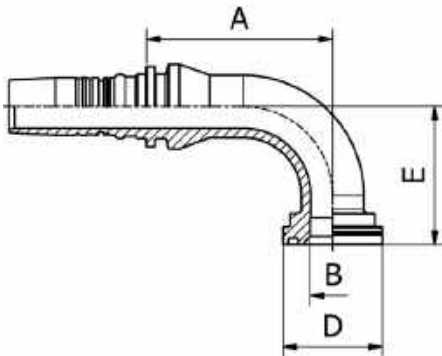


PART. REF.	HOSE BORE			Flange	DIMENSIONS mm							
	DN	Dash	inch		inch	B	A	D	E			
IM43340-12-12	19	- 12	3/4"	3/4"		16.0	75.5	38.0	23.0			
IM43340-16-16	25	- 16	1"	1"		20.0	87.0	44.6	27.3			
IM43340-20-20	31	- 20	1.1/4"	1.1/4"		26.1	100.5	51.0	29.5			
IM43340-24-24	38	- 24	1.1/2"	1.1/2"		32.1	111.0	60.5	34.5			
IM43340-32-32	51	- 32	2"	2"		42.0	128.5	71.6	39.0			

SAE STANDARD CONNECTIONS

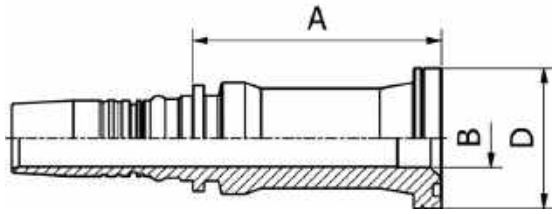
# IM43390

90° ISO / SAE  
CODE 61 FLANGE  
SAE J516 / ISO 12151-3  
(STAINLESS STEEL)



PART. REF.	HOSE BORE			Flange	DIMENSIONS mm							
	DN	Dash	inch		inch	B	A	D	E			
IM43390-12-12	19	- 12	3/4"	3/4"		16.0	72.0	38.0	52.0			
IM43390-16-16	25	- 16	1"	1"		20.0	83.5	44.6	62.0			
IM43390-20-20	31	- 20	1.1/4"	1.1/4"		26.1	99.0	51.0	70.0			
IM43390-24-24	38	- 24	1.1/2"	1.1/2"		32.1	111.5	60.5	84.0			
IM43390-32-32	51	- 32	2"	2"		42.0	133.5	71.6	99.0			

SAE STANDARD CONNECTIONS



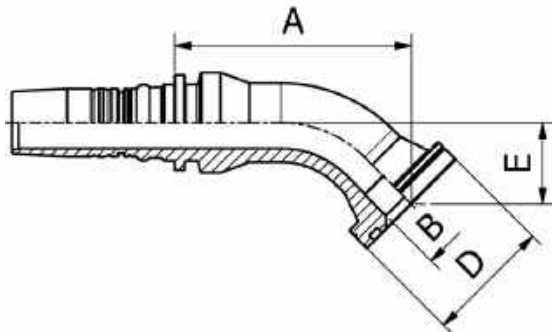
# IM43610

ISO / SAE  
CODE 62 FLANGE  
SAE J516 / ISO 12151-3  
(STAINLESS STEEL)

FITTINGS 218

PART. REF.	HOSE BORE			Flange	DIMENSIONS mm							
	DN	Dash	inch		inch	B	A	D				
IM43610-10-12	16	- 10	5/8"	3/4"		16.0	65.0	41.5				
IM43610-10-16	16	- 10	5/8"	1"		20.0	81.5	47.7				
IM43610-12-12	19	- 12	3/4"	3/4"		16.0	71.5	41.4				
IM43610-12-16	19	- 12	3/4"	1"		20.0	83.5	47.7				
IM43610-16-12	25	- 16	1"	3/4"		16.0	80.3	41.4				
IM43610-16-16	25	- 16	1"	1"		20.0	84.5	47.7				
IM43610-16-20	25	- 16	1"	1.1/4"		26.0	89.0	54.2				
IM43610-20-16	31	- 20	1.1/4"	1"		20.0	87.0	47.7				
IM43610-20-20	31	- 20	1.1/4"	1.1/4"		26.1	91.0	54.2				
IM43610-20-24	31	- 20	1.1/4"	1.1/2"		32.1	97.0	63.7				
IM43610-24-20	38	- 24	1.1/2"	1.1/4"		26.0	101.0	54.2				
IM43610-24-24	38	- 24	1.1/2"	1.1/2"		32.1	97.5	63.7				
IM43610-24-32	38	- 24	1.1/2"	2"		42.0	113.0	79.6				
IM43610-32-24	51	- 32	2"	1.1/2"		32.1	117.0	63.7				
IM43610-32-32	51	- 32	2"	2"		42.0	113.0	79.6				
IM43610-40-40	63	- 40	2.1/2"	2.1/2"		51.5	126.5	107.9				
IM43610-48-48	76	- 48	3"	3"		62.5	167.0	131.9				

SAE STANDARD CONNECTIONS

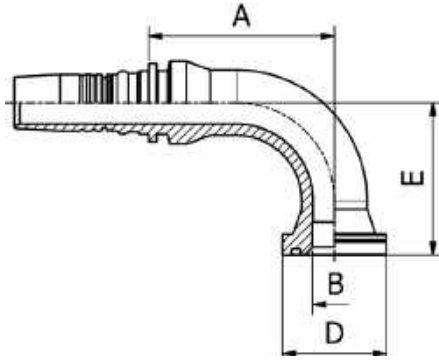


# IM43640

45° ISO / SAE  
CODE 62 FLANGE  
SAE J516 / ISO 12151-3  
(STAINLESS STEEL)

PART. REF.	HOSE BORE			Flange	DIMENSIONS mm							
	DN	Dash	inch		inch	B	A	D	E			
IM43640-12-12	19	- 12	3/4"	3/4"		16.0	81.0	41.4	28.0			
IM43640-16-16	25	- 16	1"	1"		20.0	91.5	47.7	32.5			
IM43640-20-20	31	- 20	1.1/4"	1.1/4"		26.0	108.0	54.2	37.5			
IM43640-24-24	38	- 24	1.1/2"	1.1/2"		32.0	124.5	63.7	44.0			
IM43640-32-32	51	- 32	2"	2"		42.0	154.0	79.6	60.5			

SAE STANDARD CONNECTIONS



# IM43690

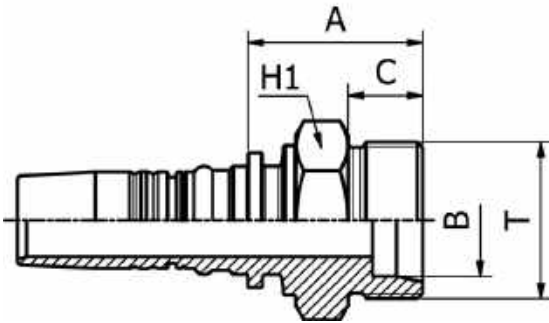
90° ISO / SAE  
CODE 62 FLANGE  
SAE J516 / ISO 12151-3  
(STAINLESS STEEL)

PART. REF.	HOSE BORE			Flange	DIMENSIONS mm							
	DN	Dash	inch	inch	B	A	D	E				
IM43690-10-12	16	- 10	5/8"	3/4"	16.0	57.5	41.4	60.5				
IM43690-12-12	19	- 12	3/4"	3/4"	16.0	72.4	41.4	59.0				
IM43690-16-16	25	- 16	1"	1"	20.0	81.0	47.7	68.0				
IM43690-20-20	31	- 20	1.1/4"	1.1/4"	26.0	98.5	54.2	81.0				
IM43690-24-24	38	- 24	1.1/2"	1.1/2"	32.0	112.5	63.7	94.5				
IM43690-32-32	51	- 32	2"	2"	42.0	140.5	79.6	132.0				

DIN STANDARD CONNECTIONS

# IM31210

METRIC  
MALE 24° CONE SEAT HEAVY DUTY  
DIN 20066 / ISO 12151-2  
(STAINLESS STEEL)

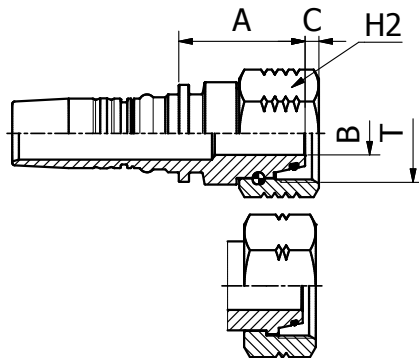


PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm					
	DN	Dash	inch	T	mm	B	A	C	H1		
IM31210-10-30	16	- 10	5/8"	M 30X2	20.0	12.0	37.0	16.0	30.0		
IM31210-12-36	19	- 12	3/4"	M 36X2	25.0	14.5	43.5	18.0	36.0		
IM31210-16-42	25	- 16	1"	M 42X2	30.0	19.5	46.8	20.0	46.0		
IM31210-20-52	31	- 20	1.1/4"	M 52X2	38.0	25.0	55.0	22.0	55.0		

DIN STANDARD CONNECTIONS

# IM41612/IM41613

METRIC  
O-RING FEMALE 24° CONE HEAVY DUTY  
DIN 20066 / ISO 12151-2  
(STAINLESS STEEL)

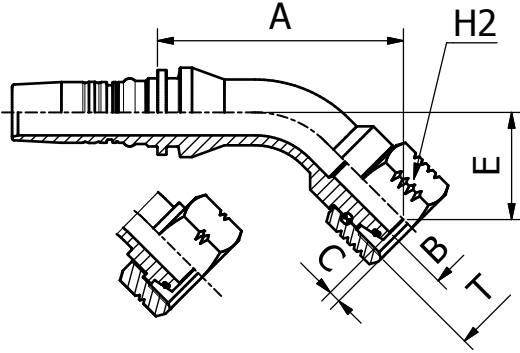


PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm					
	DN	Dash	inch	T	mm	B	A	C	H2		
IM41613-10-30	16	- 10	5/8"	M 30X2	20.0	12.0	37.0	3.5	36.0		
IM41613-12-36	19	- 12	3/4"	M 36X2	25.0	14.5	42.0	3.4	41.0		
IM41613-16-42	25	- 16	1"	M 42X2	30.0	19.5	46.5	5.3	50.0		
IM41613-20-52	31	- 20	1.1/4"	M 52X2	38.0	26.1	41.5	8.0	60.0		

DIN STANDARD CONNECTIONS

# IM41642/IM41643

**45° METRIC  
O-RING FEMALE SWEPT ELBOW 24° CONE  
HEAVY DUTY  
DIN 20066 / ISO 12151-2 (STAINLESS STEEL)**



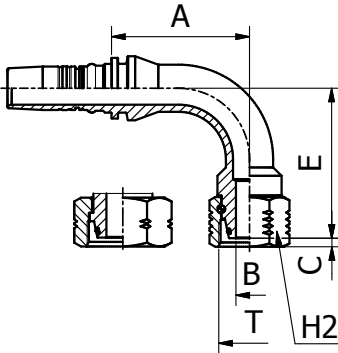
PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch	T	mm	B	A	C	E	H2		
IM41643-10-30	16	- 10	5/8"	M 30X2	20.0	12.0	66.5	3.5	29.5	36.0		
IM41643-12-36	19	- 12	3/4"	M 36X2	25.0	14.5	81.0	3.4	33.5	41.0		
IM41643-16-42	25	- 16	1"	M 42X2	30.0	19.5	93.0	5.3	36.0	50.0		
IM41643-20-52	31	- 20	1.1/4"	M 52X2	38.0	26.1	110.0	8.0	40.0	60.0		

FITTINGS 220

DIN STANDARD CONNECTIONS

# IM41692/IM41693

**90° METRIC  
O-RING FEMALE SWEPT ELBOW 24° CONE  
HEAVY DUTY  
DIN 20066 / ISO 12151-2 (STAINLESS STEEL)**

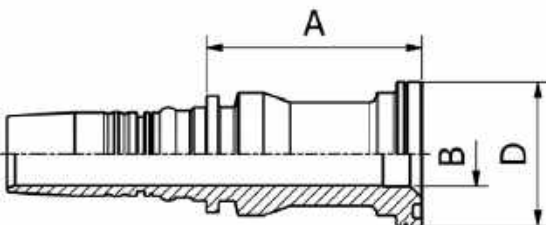


PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch	T	mm	B	A	C	E	H2		
IM41693-10-30	16	- 10	5/8"	M 30X2	20.0	12.0	52.5	3.5	57.5	36.0		
IM41693-12-36	19	- 12	3/4"	M 36X2	25.0	14.5	67.0	3.4	67.5	41.0		
IM41693-16-42	25	- 16	1"	M 42X2	30.0	19.5	81.5	5.3	75.5	50.0		
IM41692-20-42	31	- 20	1.1/4"	M 42X2	30.0	19.1	103.5	6.1	90.0	50.0		
IM41693-20-52	31	- 20	1.1/4"	M 52X2	38.0	26.0	100.0	8.0	86.5	60.0		

SAE STANDARD CONNECTIONS

# IM43310

**ISO / SAE  
CODE 61 FLANGE  
SAE J516 / ISO 12151-3  
(STAINLESS STEEL)**

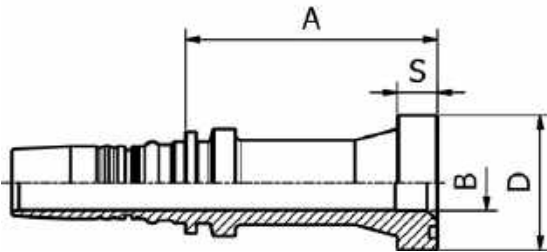


PART. REF.	HOSE BORE			Flange	DIMENSIONS mm					
	DN	Dash	inch	inch	B	A	D			
IM43310-12-12	19	- 12	3/4"	3/4"	16.0	60.0	38.0			
IM43310-16-16	25	- 16	1"	1"	20.0	66.5	44.6			
IM43310-20-20	31	- 20	1.1/4"	1.1/4"	26.1	75.0	51.0			
IM43310-24-24	38	- 24	1.1/2"	1.1/2"	32.1	80.5	60.5			
IM43310-32-32	51	- 32	2"	2"	42.0	83.0	71.6			

ORIGINAL EQUIPMENT CONNECTIONS

# IM43910

## STRAIGHT SUPERCAT SERIES FLANGE (STAINLESS STEEL)

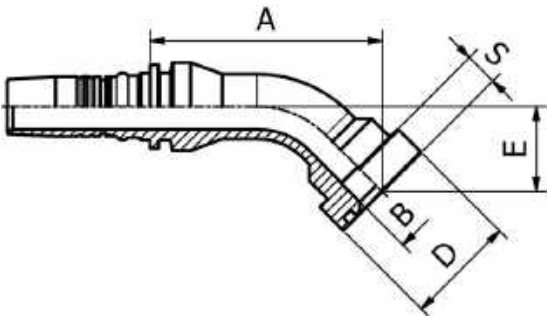


PART. REF.	HOSE BORE			Flange	DIMENSIONS mm						
	DN	Dash	inch		inch	B	A	D	S		
IM43910-12-12	19	- 12	3/4"	3/4"	16.0	77.0	41.5	14.3			
IM43910-16-16	25	- 16	1"	1"	20.0	89.5	47.7	14.3			
IM43910-20-20	31	- 20	1.1/4"	1.1/4"	26.0	95.0	54.0	14.3			
IM43910-24-24	38	- 24	1.1/2"	1.1/2"	32.1	99.0	63.6	14.3			
IM43910-32-32	51	- 32	2"	2"	42.0	114.0	79.3	14.3			

ORIGINAL EQUIPMENT CONNECTIONS

# IM43940

## 45° SUPERCAT SERIES FLANGE (STAINLESS STEEL)

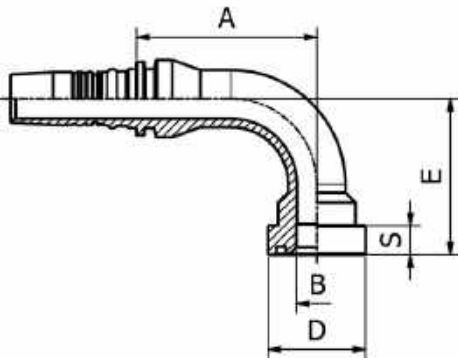


PART. REF.	HOSE BORE			Flange	DIMENSIONS mm						
	DN	Dash	inch		inch	B	A	D	E	S	
IM43940-12-12	19	- 12	3/4"	3/4"	16.0	85.0	41.5	32.0	14.3		
IM43940-16-16	25	- 16	1"	1"	20.0	100.5	47.7	36.5	14.3		
IM43940-20-20	31	- 20	1.1/4"	1.1/4"	26.1	110.5	54.0	40.5	14.3		
IM43940-24-24	38	- 24	1.1/2"	1.1/2"	32.0	125.5	63.7	45.5	14.3		
IM43940-32-32	51	- 32	2"	2"	42.0	158.5	79.3	61.5	14.3		

ORIGINAL EQUIPMENT CONNECTIONS

# IM43990

## 90° SUPERCAT SERIES FLANGE (STAINLESS STEEL)

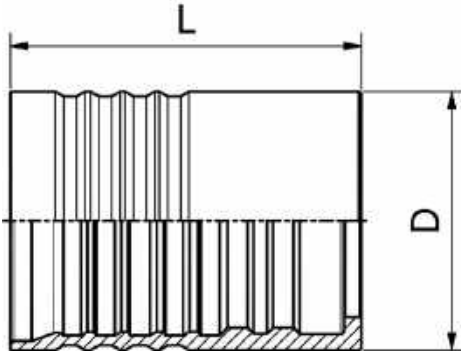


PART. REF.	HOSE BORE			Flange	DIMENSIONS mm						
	DN	Dash	inch		inch	B	A	D	E	S	
IM43990-12-12	19	- 12	3/4"	3/4"	16.0	72.5	41.5	64.5	14.3		
IM43990-16-16	25	- 16	1"	1"	20.0	88.5	47.7	76.5	14.3		
IM43990-20-20	31	- 20	1.1/4"	1.1/4"	26.1	98.5	54.0	85.0	14.3		
IM43990-24-24	38	- 24	1.1/2"	1.1/2"	32.0	112.5	63.7	96.0	14.3		
IM43990-32-32	51	- 32	2"	2"	42.0	144.0	79.3	133.5	14.3		

FERRULE

# M02700

**DOUBLE SKIVE FERRULE  
EXD.8WS**



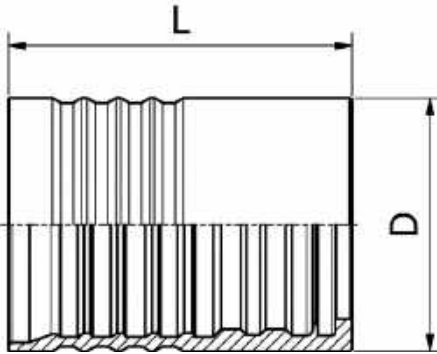
PART. REF.	HOSE BORE			DIMENSIONS mm						
	DN	Dash	inch		D	L				
M02700-24	38	- 24	1.1/2"		74.0	104.2				
M02700-32	51	- 32	2"		89.0	122.0				
M02700-48	76	- 48	3"		122.0	165.0				

FITTINGS 222

FERRULE

# M02800

**DOUBLE SKIVE FERRULE  
FOR HEAVY DUTY SPIRAL HOSES (8 PLY)**

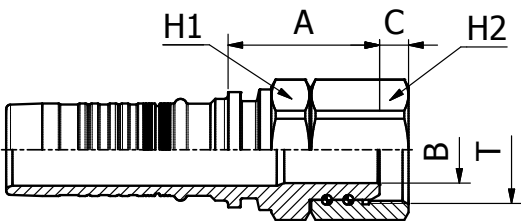


PART. REF.	HOSE BORE			DIMENSIONS mm						
	DN	Dash	inch		D	L				
M02800-48	76	- 48	3"		122.0	165.0				

BS STANDARD CONNECTIONS

# MB0514

**BSP FEMALE 60° CONE  
BS5200 / ISO 12151-6**



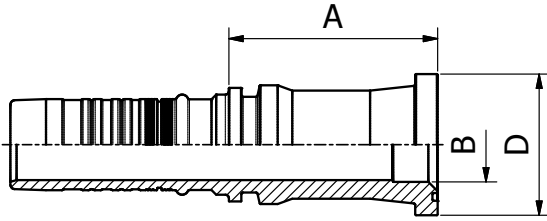
PART. REF.	HOSE BORE			Thread	DIMENSIONS mm					
	DN	Dash	inch	T	B	A	C	H1	H2	
MB0514-24-24	38	-24	1.1/2"	1.1/2" - 11	27	86	12,5	55	60	
MB0514-32-32	51	-32	2"	2" - 11	37	84	16,1	70	70	



SAE STANDARD CONNECTIONS

# MB3610

ISO / SAE  
CODE 62 FLANGE  
SAE J516 / ISO 12151-3

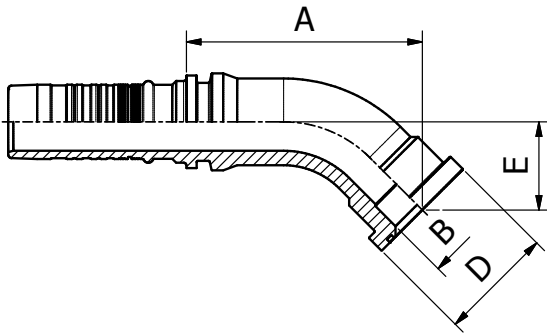


PART. REF.	HOSE BORE			Flange	DIMENSIONS mm								
	DN	Dash	inch		inch	B	A	D					
MB3610-24-24	38	-24	1.1/2"	1.1/2"		32,1	102,5	63,7					
MB3610-32-32	51	-32	2"	2"		42	117,5	79,6					
MB3610-48-48	76	-48	3"	3"		62,5	169	131,9					

SAE STANDARD CONNECTIONS

# MB3640

ISO / SAE  
45° CODE 62 FLANGE  
SAE J516 / ISO 12151-3

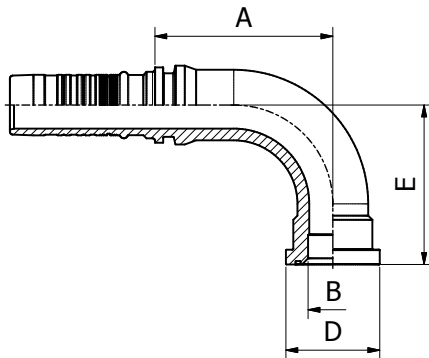


PART. REF.	HOSE BORE			Flange	DIMENSIONS mm								
	DN	Dash	inch		inch	B	A	D	E				
MB3640-24-24	38	-24	1.1/2"	1.1/2"		32,1	126,5	63,7	46				
MB3640-32-32	51	-32	2"	2"		42	163	79,6	61				

SAE STANDARD CONNECTIONS

# MB3690

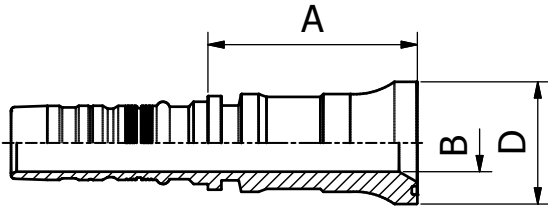
ISO / SAE  
90° CODE 62 FLANGE  
SAE J516 / ISO 12151-3



PART. REF.	HOSE BORE			Flange	DIMENSIONS mm								
	DN	Dash	inch		inch	B	A	D	E				
MB3690-24-24	38	-24	1.1/2"	1.1/2"		32,1	119	63,7	104				
MB3690-32-32	51	-32	2"	2"		42	151	79,6	135,5				

XTRAFLANGE

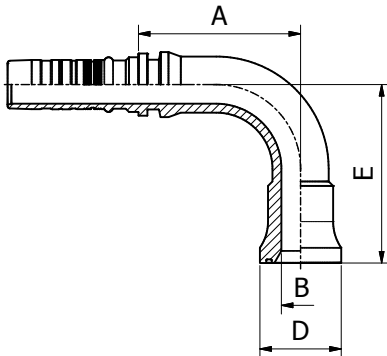
# MB8510



**XTRAFLANGE/62**  
**(SAE J518 CODE 62 ISO 6162-2**  
**PORT COMPATIBLE)**

PART. REF.	HOSE BORE			Flange	DIMENSIONS mm						
	DN	Dash	inch		inch	B	A	D			
MB8510-24-24	38	-24	1.1/2"	1.1/2"	30	109	63,7				
MB8510-32-32	51	-32	2"	2"	40	123	79,6				
MB8510-48-48	76	-48	3"	3"	62,5	152	128				

FITTINGS 224



XTRAFLANGE

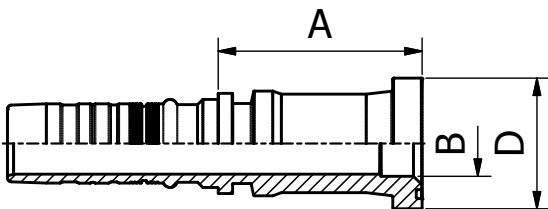
# MB8590

**90° XTRAFLANGE/62**  
**(SAE J518 CODE 62 ISO 6162-2**  
**PORT COMPATIBLE)**

PART. REF.	HOSE BORE			Flange	DIMENSIONS mm						
	DN	Dash	inch		inch	B	A	D	E		
MB8590-24-24	38	-24	1.1/2"	1.1/2"	30	127	63,7	140			
MB8590-32-32	51	-32	2"	2"	39	152	79,6	178			

ORIGINAL EQUIPMENT CONNECTIONS

# MB3910



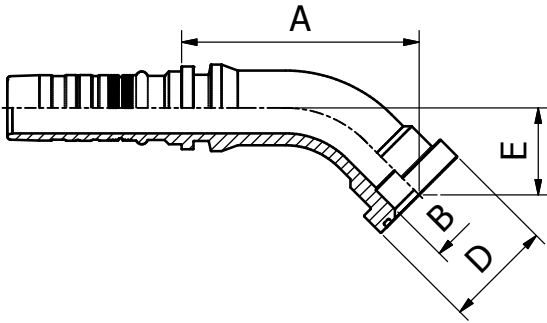
**STRAIGHT SUPERCAT FLANGE**

PART. REF.	HOSE BORE			Flange	DIMENSIONS mm						
	DN	Dash	inch		inch	B	A	D	S		
MB3910-24-24	38	-24	1.1/2"	1.1/2"	32,0	99,0	63,7	14,3			

ORIGINAL EQUIPMENT CONNECTIONS

# MB3940

45° SUPERCAT FLANGE

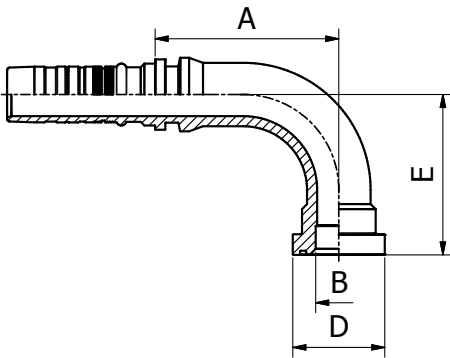


PART. REF.	HOSE BORE			Flange	DIMENSIONS mm						
	DN	Dash	inch		inch	B	A	D	E	S	
MB3940-24-24	38	-24	1.1/2"	1.1/2"	32.0	140.0	63.7	51.5	14.3		

ORIGINAL EQUIPMENT CONNECTIONS

# MB3990

90° SUPERCAT FLANGE

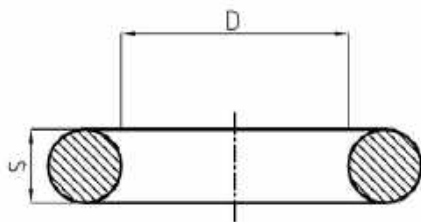


PART. REF.	HOSE BORE			Flange	DIMENSIONS mm						
	DN	Dash	inch		inch	B	A	D	E	S	
MB3990-24-24	38	-24	1.1/2"	1.1/2"	32.0	127.0	63.7	111.0	14.3		

O-RING

# JO29

INTERLOCK SUPER O-RING

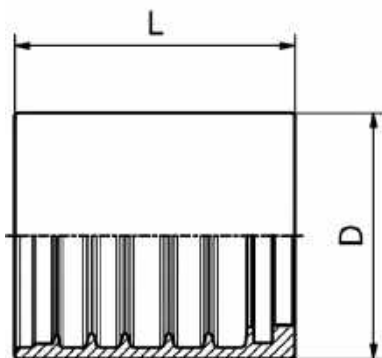


PART. REF.	HOSE BORE			Flange	DIMENSIONS mm					
	DN	Dash	inch		D	S				
JO29757026	76	- 48	3"		69.5	2.6				
JO29878226	89	- 56	3.1/2"		82.2	2.6				
JO291029535	102	-64	4"		94.8	3.5				

FERRULE

# M05400

**NO-SKIVE FERRULE  
FOR HEAVY DUTY SPIRAL HOSES (4 PLY)**



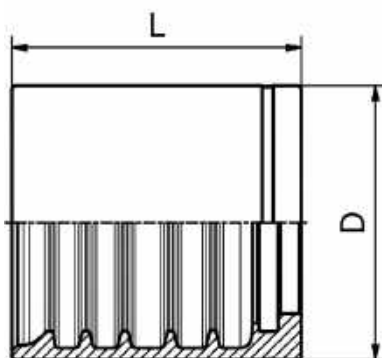
PART. REF.	HOSE BORE			DIMENSIONS mm							
	DN	Dash	inch			D	L				
M05400-10	16	- 10	5/8"			40.0	44.3				
M05400-12	19	- 12	3/4"			43.8	53.3				
M05400-16	25	- 16	1"			52.0	64.3				
M05400-20	31	- 20	1.1/4"			59.3	72.0				
M05400-24	38	- 24	1.1/2"			68.5	78.0				
M05400-32	51	- 32	2"			84.6	97.1				
M05400-40	63	- 40	2.1/2"			97.0	116.0				
M05400-48	76	- 48	3"			109.8	124.0				
M05400-56	89	- 56	3.1/2"			127.7	123.5				
M05400-64	102	- 64	4"			145.0	126.5				

FITTINGS 226

FERRULE

# M05500

**NO-SKIVE FERRULE  
FOR HEAVY DUTY SPIRAL HOSES (4-6 PLY)**

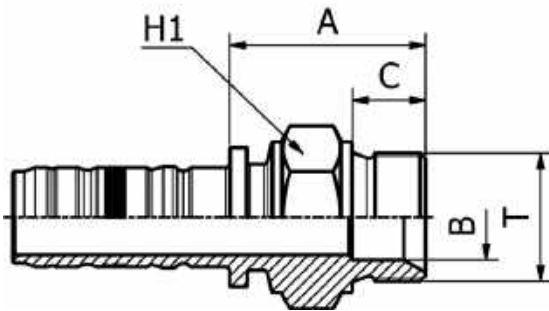


PART. REF.	HOSE BORE			DIMENSIONS mm							
	DN	Dash	inch			D	L				
M05500-24	38	- 24	1.1/2"			75.0	79.0				
M05500-20	31	- 20	1.1/4"			66.0	70.0				
M05500-32	51	- 32	2"			90.0	98.1				

BS STANDARD CONNECTIONS

# M70510

**BSP  
MALE PARALLEL 60° CONE SEAT  
BS5200 / ISO 12151-6**

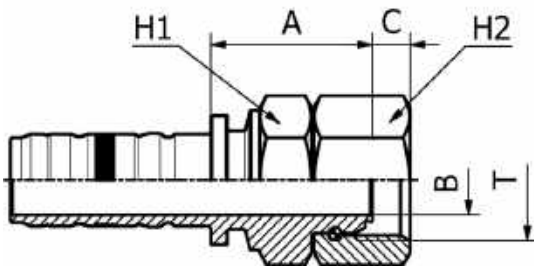


PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	H1			
M70510-12-12	19	- 12	3/4"	3/4" - 14	16.8	43.5	16.0	32.0			
M70510-12-16	19	- 12	3/4"	1" - 11	22.2	49.5	19.0	41.0			
M70510-16-16	25	- 16	1"	1" - 11	22.2	51.0	19.0	41.0			
M70510-16-20	25	- 16	1"	1.1/4" - 11	28.5	56.0	20.0	50.0			
M70510-20-20	31	- 20	1.1/4"	1.1/4" - 11	28.5	56.5	20.0	50.0			
M70510-24-24	38	- 24	1.1/2"	1.1/2" - 11	33.5	60.5	22.0	55.0			
M70510-32-32	51	- 32	2"	2" - 11	42.0	64.0	25.0	70.0			

BS STANDARD CONNECTIONS

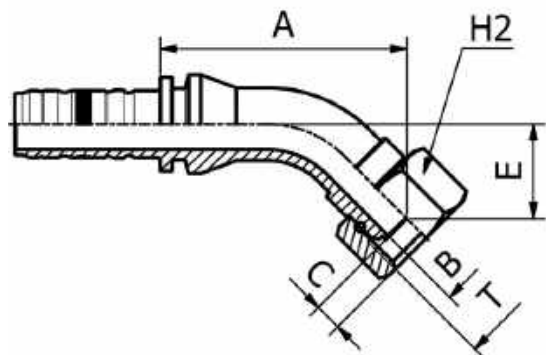
# M80812

**BSP  
O-RING FEMALE 60° CONE  
BS5200 / ISO 12151-6**



PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	H1	H2		
M80812-12-12	19	- 12	3/4"	3/4" - 14	14.5	39.5	8.5	32.0	32.0		
M80812-12-16	19	- 12	3/4"	1" - 11	19.5	44.0	10.6	41.0	41.0		
M80812-16-12	25	- 16	1"	3/4" - 14	15.0	44.5	8.5	41.0	32.0		
M80812-16-16	25	- 16	1"	1" - 11	19.5	45.5	10.6	41.0	41.0		
M80812-16-20	25	- 16	1"	1.1/4" - 11	26.1	50.5	10.5	50.0	50.0		
M80812-20-16	31	- 20	1.1/4"	1" - 11	19.0	48.0	10.6	50.0	41.0		
M80812-20-20	31	- 20	1.1/4"	1.1/4" - 11	26.1	50.5	10.5	50.0	50.0		
M80812-20-24	31	- 20	1.1/4"	1.1/2" - 11	32.1	50.0	12.5	50.0	60.0		
M80812-24-24	38	- 24	1.1/2"	1.1/2" - 11	32.1	52.0	12.5	60.0	60.0		
M80812-24-20	38	- 24	1.1/2"	1.1/4" - 11	26.1	52.0	10.5	55.0	50.0		
M80812-32-32	51	- 32	2"	2" - 11	42.0	53.5	16.1	70.0	70.0		

BS STANDARD CONNECTIONS



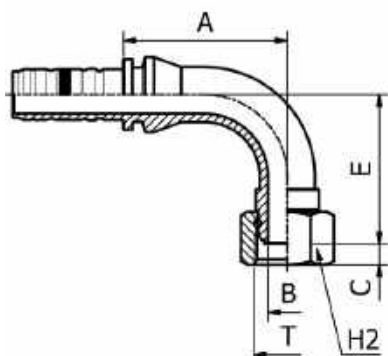
# M80842

45° BSP  
O-RING FEMALE SWEPT ELBOW 60° CONE  
BS5200 / ISO 12151-6

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	E	H2		
M80842-12-12	19	- 12	3/4"	3/4" - 14	14.5	82.5	8.5	29.0	32.0		
M80842-12-16	19	- 12	3/4"	1" - 11	19.5	84.0	10.6	30.0	41.0		
M80842-16-12	25	- 16	1"	3/4" - 14	15.0	106.5	8.5	36.0	32.0		
M80842-16-16	25	- 16	1"	1" - 11	19.5	95.0	10.6	36.5	41.0		
M80842-16-16028	25	- 16	1"	1" - 11	19.5	84.0	10.6	28.0	41.0		
M80842-16-20	25	- 16	1"	1.1/4" - 11	26.1	109.5	10.5	38.0	50.0		
M80842-20-16	31	- 20	1.1/4"	1" - 11	19.5	102.0	10.6	36.5	41.0		
M80842-20-20	31	- 20	1.1/4"	1.1/4" - 11	26.0	99.0	10.5	39.0	50.0		
M80842-20-24	31	- 20	1.1/4"	1.1/2" - 11	32.0	114.0	12.5	54.0	60.0		
M80842-24-24	38	- 24	1.1/2"	1.1/2" - 11	32.0	122.5	12.5	45.0	60.0		
M80842-32-32	51	- 32	2"	2" - 11	42.0	155.0	16.1	66.0	70.0		

FITTINGS 228

BS STANDARD CONNECTIONS



# M80892

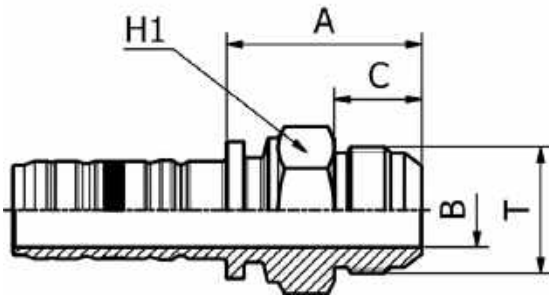
90° BSP  
O-RING FEMALE SWEPT ELBOW 60° CONE  
BS5200 / ISO 12151-6

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	E	H2		
M80892-12-12	19	- 12	3/4"	3/4" - 14	14.5	73.5	8.5	60.0	32.0		
M80892-12-12050	19	- 12	3/4"	3/4" - 14	14.5	67.5	8.5	50.0	32.0		
M80892-12-16	19	- 12	3/4"	1" - 11	19.5	73.5	10.6	62.0	41.0		
M80892-16-12	25	- 16	1"	3/4" - 14	15.0	90.0	8.5	70.0	32.0		
M80892-16-16	25	- 16	1"	1" - 11	19.5	83.0	10.6	76.0	41.0		
M80892-16-16058	25	- 16	1"	1" - 11	19.5	74.5	10.6	58.5	41.0		
M80892-16-20	25	- 16	1"	1.1/4" - 11	26.1	96.0	10.5	78.5	50.0		
M80892-20-16	31	- 20	1.1/4"	1" - 11	19.5	90.0	10.6	76.0	41.0		
M80892-20-20	31	- 20	1.1/4"	1.1/4" - 11	26.0	88.0	10.5	83.5	50.0		
M80892-20-24	31	- 20	1.1/4"	1.1/2" - 11	32.0	88.0	12.5	92.0	60.0		
M80892-24-24	38	- 24	1.1/2"	1.1/2" - 11	32.0	103.0	12.5	98.5	60.0		
M80892-32-32	51	- 32	2"	2" - 11	42.0	135.9	16.1	140.5	70.0		

SAE STANDARD CONNECTIONS

# M72510

JIC  
**MALE 37° CONE**  
 SAE J516 / ISO 12151-5

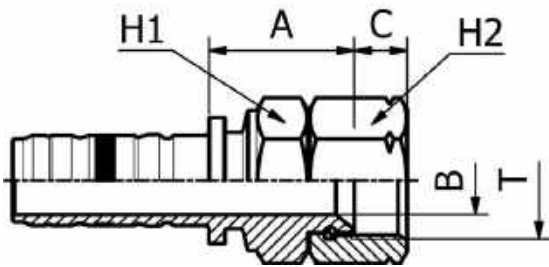


PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	H1			
M72510-12-12	19	- 12	3/4"	1.1/16" - 12	14.5	44.5	22.0	30.0			
M72510-16-16	25	- 16	1"	1.5/16" - 12	19.5	51.5	23.0	38.0			
M72510-24-24	38	- 24	1.1/2"	1.7/8" - 12	32.1	60.0	27.5	50.0			
M72510-20-20	31	- 20	1.1/4"	1.5/8" - 12	26.1	56.0	24.3	46.0			
M72510-32-32	51	- 32	2"	2.1/2" - 12	42.0	75.5	34.0	65.0			

SAE STANDARD CONNECTIONS

# M82712

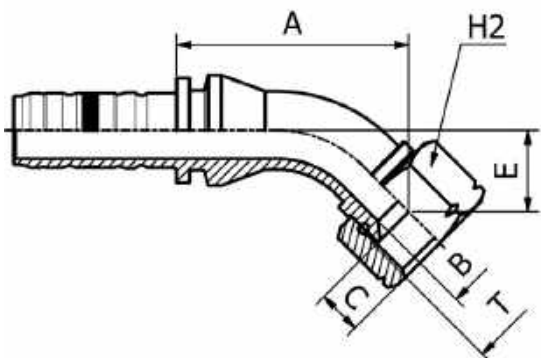
JIC  
**FEMALE 37° CONE SEAT DOUBLE HEXAGON**  
 SAE J516 / ISO 12151-5  
 (THRUST-WIRE NUT)



PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	H1	H2		
M82712-12-12	19	- 12	3/4"	1.1/16" - 12	14.5	36.5	14.2	32.0	32.0		
M82712-12-16	19	- 12	3/4"	1.5/16" - 12	19.5	36.5	15.2	32.0	41.0		
M82712-16-16	25	- 16	1"	1.5/16" - 12	19.5	41.5	15.2	41.0	41.0		
M82712-16-20	25	- 16	1"	1.5/8" - 12	26.1	46.5	16.2	41.0	50.0		
M82712-20-20	31	- 20	1.1/4"	1.5/8" - 12	26.1	51.5	16.2	50.0	50.0		
M82712-20-24	31	- 20	1.1/4"	1.7/8" - 12	32.0	54.5	18.8	55.0	60.0		
M82712-24-24	38	- 24	1.1/2"	1.7/8" - 12	32.1	54.5	18.8	55.0	60.0		
M82712-32-32	51	- 32	2"	2.1/2" - 12	42.0	56.0	24.0	65.0	75.0		

SAE STANDARD CONNECTIONS

# M82542



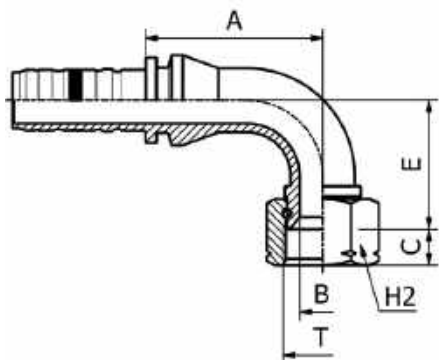
45° JIC  
 FEMALE SWEPT ELBOW 37° CONE SEAT  
 SAE J516 / ISO 12151-5

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	E	H2		
M82542-12-12	19	- 12	3/4"	1.1/16" - 12	14.5	75.0	14.2	22.5	32.0		
M82542-16-16	25	- 16	1"	1.5/16" - 12	19.5	81.5	15.2	26.0	41.0		
M82542-20-20	31	- 20	1.1/4"	1.5/8" - 12	26.0	101.0	16.2	41.5	50.0		
M82542-24-24	38	- 24	1.1/2"	1.7/8" - 12	32.1	121.5	18.8	48.5	60.0		
M82542-32-32	51	- 32	2"	2.1/2" - 12	42.0	162.0	24.0	63.5	75.0		

FITTINGS 230

SAE STANDARD CONNECTIONS

# M82592



90° JIC  
 FEMALE SWEPT ELBOW 37° CONE SEAT  
 SAE J516 / ISO 12151-5

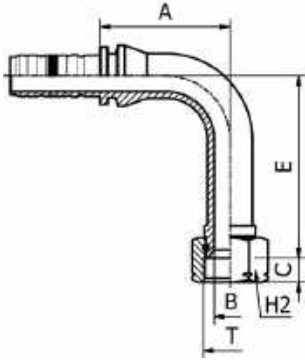
PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	E	H2		
M82592-12-16	19	- 12	3/4"	1.5/16" - 12	19.8	73.5	15.2	57.5	41.0		
M82592-12-12	19	- 12	3/4"	1.1/16" - 12	14.5	67.5	14.2	47.5	32.0		
M82592-16-12	25	- 16	1"	1.1/16" - 12	14.5	76.5	14.2	47.5	32.0		
M82592-16-16	25	- 16	1"	1.5/16" - 12	19.5	74.5	15.2	55.5	41.0		
M82592-20-20	31	- 20	1.1/4"	1.5/8" - 12	26.0	88.0	16.2	86.5	50.0		
M82592-20-24	31	- 20	1.1/4"	1.7/8" - 12	32.0	88.0	18.8	90.5	60.0		
M82592-24-24	38	- 24	1.1/2"	1.7/8" - 12	32.1	105.0	18.8	101.0	60.0		
M82592-32-32	51	- 32	2"	2.1/2" - 12	42.0	145.0	24.0	139.0	75.0		



SAE STANDARD CONNECTIONS

# M84792

90° JIC  
 FEMALE LONG DROP ELBOW 37° CONE SEAT  
 SAE J516 / ISO 12151-5

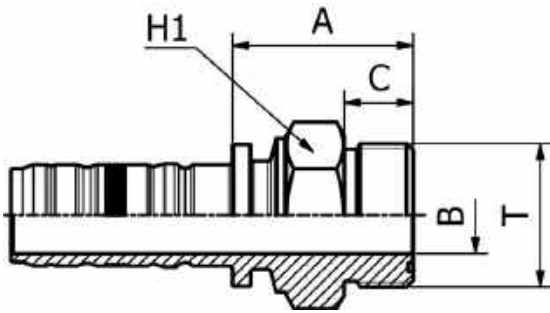


PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	E	H2		
M84792-12-12	19	- 12	3/4"	1.1/16" - 12	14.5	73.5	14.2	94.5	32.0		
M84792-16-16	25	- 16	1"	1.5/16" - 12	19.5	81.0	15.2	114.0	41.0		
M84792-20-20	31	- 20	1.1/4"	1.5/8" - 12	26.0	88.0	16.2	129.0	50.0		
M84792-24-24	38	- 24	1.1/2"	1.7/8" - 12	32.1	105.0	18.8	141.0	60.0		
M84792-32-32	38	- 24	1.1/2"	2.1/2" - 12	42.0	145.0	24.0	222.0	75.0		

SAE STANDARD CONNECTIONS

# M72410

ORFS  
 MALE  
 SAE J516 / ISO 12151-1

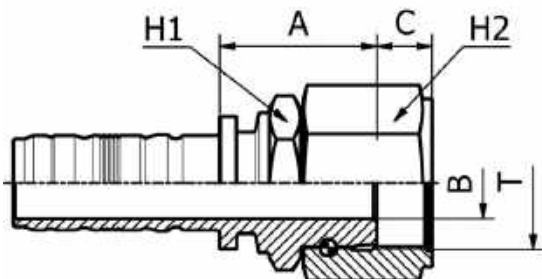


PART. REF.	HOSE BORE			Thread	DIMENSIONS mm					
	DN	Dash	inch	T	B	A	C	H1		
M72410-12-12	19	- 12	3/4"	1.3/16" - 12	14.5	41.0	17.0	32.0		
M72410-16-16	25	- 16	1"	1.7/16" - 12	19.5	46.0	17.5	41.0		
M72410-20-20	31	- 20	1.1/4"	1.11/16" - 12	26.0	50.5	17.5	46.0		
M72410-24-24	38	- 24	1.1/2"	2" - 12	32.0	53.0	17.5	55.0		

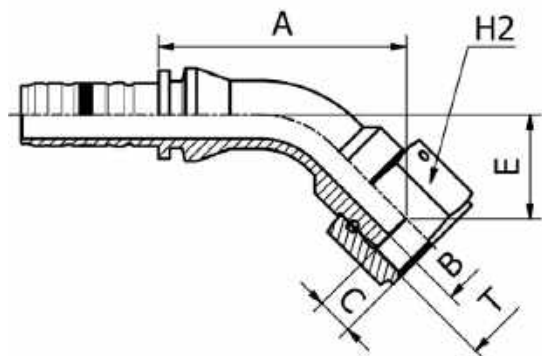
SAE STANDARD CONNECTIONS

# M82412

ORFS  
 FEMALE  
 SAE J516/ISO 12151.1



PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	H1	H2		
M82412-12-12	19	- 12	3/4"	1.3/16" - 12	14.5	38.0	14.1	32.0	36.0		
M82412-12-16	19	- 12	3/4"	1.7/16" - 12	19.5	42.0	15.0	41.0	46.0		
M82412-16-16	25	- 16	1"	1.7/16" - 12	19.5	43.0	15.0	41.0	46.0		
M82412-20-20	31	- 20	1.1/4"	1.11/16" - 12	25.0	52.5	15.1	50.0	55.0		
M82412-24-24	38	- 24	1.1/2"	2" - 12	30.5	55.0	15.0	60.0	60.0		



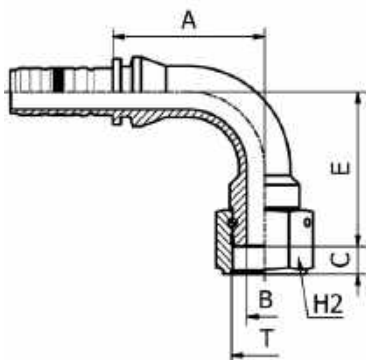
SAE STANDARD CONNECTIONS

# M82442

45° ORFS  
FEMALE SWEPT ELBOW SAE  
J516 / ISO 12151-1

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	E	H2		
M82442-12-12	19	- 12	3/4"	1.3/16" - 12	14.5	90.0	14.1	36.0	36.0		
M82442-12-16	19	- 12	3/4"	1.7/16" - 12	19.5	90.5	15.0	36.5	46.0		
M82442-16-16	25	- 16	1"	1.7/16" - 12	19.5	101.0	15.0	42.5	46.0		
M82442-20-20	31	- 20	1.1/4"	1.11/16" - 12	25.0	120.0	15.1	49.5	55.0		
M82442-24-24	38	- 24	1.1/2"	2" - 12	32.0	123.5	15.0	50.5	60.0		

FITTINGS 232

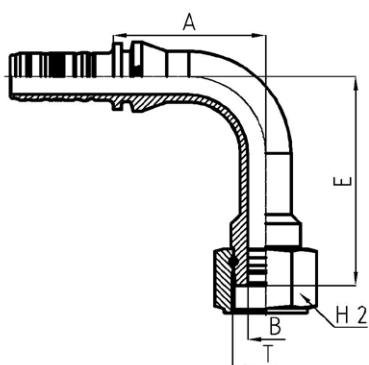


SAE STANDARD CONNECTIONS

# M82492

90° ORFS  
FEMALE SWEPT ELBOW  
SAE J516 / ISO 12151-1

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	E	H2		
M82492-12-12	19	- 12	3/4"	1.3/16" - 12	14.5	73.5	14.1	70.5	36.0		
M82492-12-16	19	- 12	3/4"	1.7/16" - 12	19.5	86.0	15.0	71.0	46.0		
M82492-16-12	25	- 16	1"	1.3/16" - 12	14.5	89.5	14.1	70.5	36.0		
M82492-16-16	25	- 16	1"	1.7/16" - 12	19.5	83.0	15.0	84.5	46.0		
M82492-20-20	31	- 20	1.1/4"	1.11/16" - 12	25.0	99.0	15.1	98.0	55.0		
M82492-24-24	38	- 24	1.1/2"	2" - 12	32.0	105.0	15.0	104.0	60.0		



SAE STANDARD CONNECTIONS

# M84492

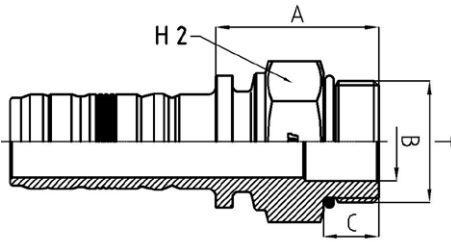
90° ORFS  
FEMALE LONG DROP ELBOW  
SAE J516 / ISO 12151-1  
(THURST- WIRE NUT)

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	E	H2		
M84492-12-12	19	- 12	3/4"	1.3/16" - 12	14.5	73.5	14.1	96.0	36.0		
M84492-16-16	25	- 16	1"	1.7/16" - 12	19.5	83.0	15.0	114.0	46.0		
M84492-20-20	31	- 20	1.1/4"	1.11/16" - 12	25.0	99.0	15.1	129.0	55.0		

SAE STANDARD CONNECTIONS

# M73010

SAE  
MALE O-RING BOSS TYPE  
SAE J516 / ISO 11926

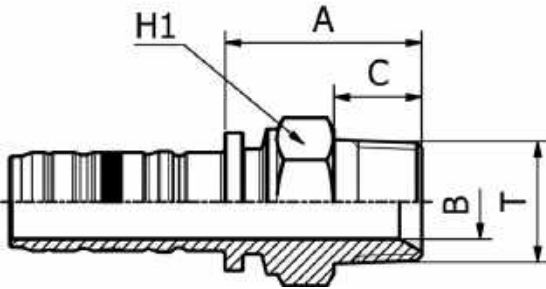


PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	H1			
M73010-12-12	19	- 12	3/4"	1.1/16" - 12	15.5	42.5	15.1	32.0			
M73010-16-16	25	- 16	1"	1.5/16" - 12	21.5	44.5	15.1	38.0			
M73010-20-20	31	- 20	1.1/4"	1.5/8" - 12	27.5	47.5	15.1	46.0			

SAE STANDARD CONNECTIONS

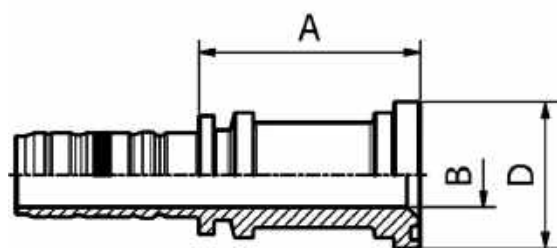
# M72810

NPTF  
MALE 60° CONE SEAT  
SAE J516/J514



PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	H1			
M72810-12-12	19	- 12	3/4"	3/4" - 14	16.0	41.5	19.2	30.0			
M72810-16-16	25	- 16	1"	1" - 11,5	19.5	52.0	24.2	38.0			
M72810-20-20	31	- 20	1.1/4"	1.1/4" - 11,5	25.0	61.5	25.0	46.0			
M72810-24-24	38	- 24	1.1/2"	1.1/2" - 11,5	30.5	60.5	26.0	50.0			
M72810-32-32	51	- 32	2"	2" - 11,5	41.0	67.5	26.5	65.0			
M72810-48-48	76	- 48	3"	3" - 8	62.5	121.5	51.5	100.0			

SAE STANDARD CONNECTIONS

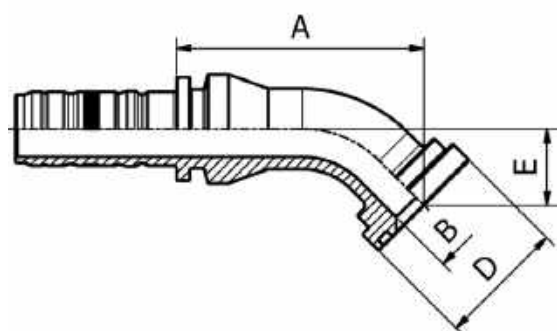


# M83311

ISO / SAE  
CODE 61 FLANGE  
SAE J516 / ISO 12151-3

PART. REF.	HOSE BORE			Flange	DIMENSIONS mm							
	DN	Dash	inch	inch	B	A	D					
M83311-12-12	19	- 12	3/4"	3/4"	14.5	66.5	38.0					
M83311-12-16	19	- 12	3/4"	1"	19.5	52.5	44.6					
M83311-16-12	25	- 16	1"	3/4"	14.5	67.5	38.0					
M83311-16-16	25	- 16	1"	1"	19.5	67.5	44.6					
M83311-16-20	25	- 16	1"	1.1/4"	26.0	53.5	51.0					
M83311-20-16	31	- 20	1.1/4"	1"	19.5	69.0	44.6					
M83311-20-20	31	- 20	1.1/4"	1.1/4"	26.0	75.0	51.0					
M83311-20-24	31	- 20	1.1/4"	1.1/2"	32.0	60.0	60.5					
M83311-24-24	38	- 24	1.1/2"	1.1/2"	32.0	78.5	60.5					
M83311-24-32	38	- 24	1.1/2"	2"	42.0	60.5	71.6					
M83311-32-32	51	- 32	2"	2"	42.0	82.5	71.6					
M83311-40-40	63	- 40	2.1/2"	2.1/2"	51.5	93.0	84.3					
M83311-48-48	76	- 48	3"	3"	62.5	88.5	101.6					
M83311-56-56	89	- 56	3.1/2"	3.1/2"	76.0	98.5	114.3					
M83311-64-64	102	- 64	4"	4"	89.0	105.0	127.0					

FITTINGS 234



SAE STANDARD CONNECTIONS

# M83341

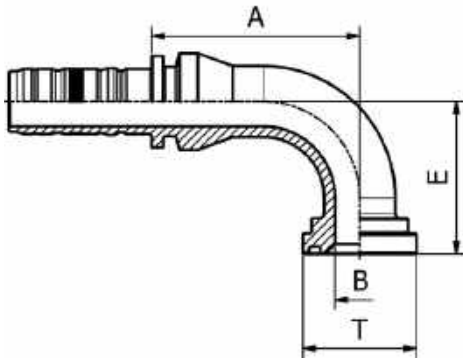
45° ISO / SAE  
CODE 61 FLANGE  
SAE J516 / ISO 12151-3

PART. REF.	HOSE BORE			Flange	DIMENSIONS mm							
	DN	Dash	inch	inch	B	A	D	E				
M83341-12-12	19	- 12	3/4"	3/4"	16.0	78.0	38.0	24.5				
M83341-12-16	19	- 12	3/4"	1"	19.5	78.0	44.6	24.5				
M83341-16-12	25	- 16	1"	3/4"	16.0	90.5	38.0	24.5				
M83341-16-16	25	- 16	1"	1"	19.5	86.5	44.6	26.5				
M83341-16-20	25	- 16	1"	1.1/4"	26.0	92.0	51.0	32.0				
M83341-20-16	31	- 20	1.1/4"	1"	19.5	90.5	44.6	26.5				
M83341-20-20	31	- 20	1.1/4"	1.1/4"	26.0	87.5	51.0	29.0				
M83341-20-24	31	- 20	1.1/4"	1.1/2"	32.0	88.5	60.5	30.0				
M83341-24-24	38	- 24	1.1/2"	1.1/2"	32.0	102.5	60.5	38.0				
M83341-24-32	38	- 24	1.1/2"	2"	42.0	102.5	71.6	38.0				
M83341-32-32	51	- 32	2"	2"	42.0	143.5	71.6	52.0				
M83341-40-40	63	- 40	2.1/2"	2.1/2"	49.2	131.0	84.3	44.5				
M83341-48-48	76	- 48	3"	3"	59.0	147.0	101.6	53.0				

SAE STANDARD CONNECTIONS

# M83391

90° ISO / SAE  
CODE 61 FLANGE  
SAE J516 / ISO 12151-3



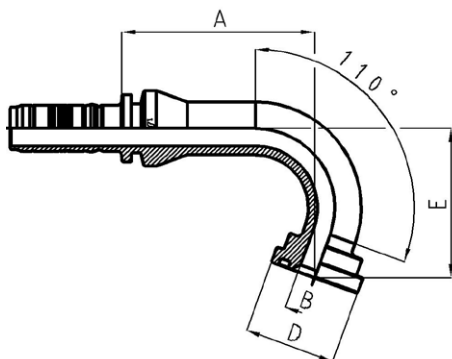
PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch	inch		B	A	D	E			
M83391-12-12	19	- 12	3/4"	3/4"		16.0	72.5	38.0	58.0			
M83391-12-16	19	- 12	3/4"	1"		19.5	72.5	44.6	70.0			
M83391-12-16054	19	- 12	3/4"	1"		19.5	72.5	44.6	54.0			
M83391-16-12	25	- 16	1"	3/4"		16.0	85.0	38.0	58.0			
M83391-16-16	25	- 16	1"	1"		19.5	82.0	44.6	60.0			
M83391-16-20	25	- 16	1"	1.1/4"		26.0	82.0	51.0	68.0			
M83391-20-24	31	- 20	1.1/4"	1.1/2"		32.0	85.0	60.5	69.0			
M83391-20-16	31	- 20	1.1/4"	1"		19.5	86.0	44.6	60.0			
M83391-20-20	31	- 20	1.1/4"	1.1/4"		26.0	85.0	51.0	67.0			
M83391-24-24	38	- 24	1.1/2"	1.1/2"		32.0	96.5	60.5	81.0			
M83391-24-32	38	- 24	1.1/2"	2"		42.0	101.5	71.6	84.0			
M83391-32-32	51	- 32	2"	2"		42.0	135.5	71.6	120.0			
M83391-40-40	63	- 40	2.1/2"	2.1/2"		49.2	128.0	84.3	118.0			
M83391-48-48	76	- 48	3"	3"		59.0	144.5	101.6	140.0			
M83391-56-56	89	- 56	3.1/2"	3.1/2"		73.7	164.0	114.3	160.0			

235 FITTINGS

SAE STANDARD CONNECTIONS

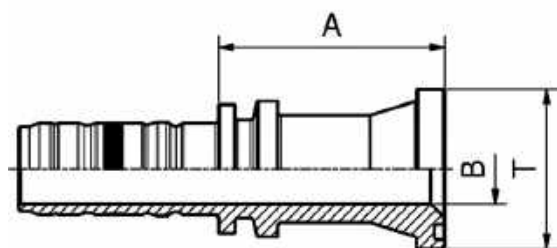
# M83301...P

110° ISO / SAE  
CODE 61 FLANGE



PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch	inch		B	A	D	E			
M83301-12-12P	19	- 12	3/4"	3/4"		16.0	80.0	38.0	62.0			
M83301-16-16P	25	- 16	1"	1"		19.5	91.5	44.6	79.0			
M83301-20-20P	31	- 20	1.1/4"	1.1/4"		26.0	121.5	51.0	91.0			
M83301-24-24P	38	- 24	1.1/2"	1.1/2"		32.0	124.8	60.5	109.0			
M83301-32-32P	51	- 32	2"	2"		42.0	146.5	71.6	140.0			

SAE STANDARD CONNECTIONS



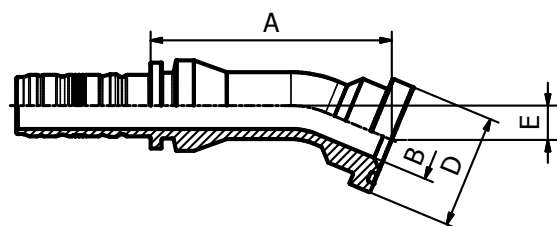
# M83611

ISO / SAE  
CODE 62 FLANGE  
SAE J516 / ISO 12151-3

PART. REF.	HOSE BORE			Flange	DIMENSIONS mm							
	DN	Dash	inch	inch	B	A	D					
M83611-12-12	19	-12	3/4"	3/4"	14.5	53.5	41.4					
M83611-12-16	19	-12	3/4"	1"	19.5	59.5	47.7					
M83611-16-12	25	-16	1"	3/4"	16.0	62.5	41.4					
M83611-16-16	25	-16	1"	1"	19.5	63.5	47.7					
M83611-16-20	25	-16	1"	1.1/4"	26.0	70.0	54.2					
M83611-20-16	31	-20	1.1/4"	1"	19.5	62.0	47.7					
M83611-20-20	31	-20	1.1/4"	1.1/4"	26.0	66.0	54.2					
M83611-20-24	31	-20	1.1/4"	1.1/2"	32.0	74.5	63.7					
M83611-24-24	38	-24	1.1/2"	1.1/2"	32.0	74.5	63.7					
M83611-24-32	38	-24	1.1/2"	2"	42.0	88.5	79.6					
M83611-24-20	38	-24	1.1/2"	1.1/4"	26.0	66.5	54.2					
M83611-32-24	51	-32	2"	1.1/2"	32.0	91.5	63.7					

FITTINGS 236

SAE STANDARD CONNECTIONS



# M83621

22.5° ISO / SAE  
CODE 62 FLANGE  
SAE J516 / ISO 12151-3

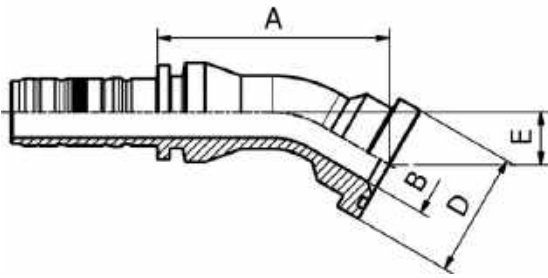
PART. REF.	HOSE BORE			Flange	DIMENSIONS mm							
	DN	Dash	inch	inch	B	A	D	E				
M83621-12-12	19	-12	3/4"	3/4"	16.0	89.5	41.4	12.0				
M83621-16-16	25	-16	1"	1"	19.5	101.0	47.7	14.5				
M83621-20-20	31	-20	1.1/4"	1.1/4"	26.0	107.0	54.2	17.0				
M83621-24-24	38	-24	1.1/2"	1.1/2"	32.0	122.0	63.7	19.5				
M83621-32-32	51	-32	2"	2"	42.0	164.0	79.5	25.0				

SAE STANDARD CONNECTIONS

# M83631

30° ISO / SAE  
CODE 62 FLANGE

SAE J516 / ISO 12151-3



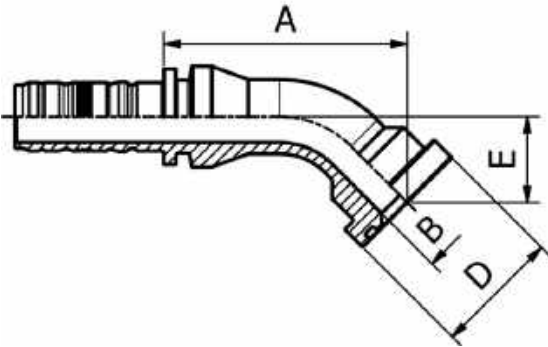
PART. REF.	HOSE BORE			Flange	DIMENSIONS mm							
	DN	Dash	inch		inch	B	A	D	E			
M83631-12-12	19	- 12	3/4"	3/4"	16.0	78.5	41.4	17.5				
M83631-16-16	25	- 16	1"	1"	19.5	89.0	47.7	20.0				
M83631-20-20	31	- 20	1.1/4"	1.1/4"	26.0	90.5	54.2	22.5				
M83631-24-24	38	- 24	1.1/2"	1.1/2"	32.0	104.5	63.7	27.0				

SAE STANDARD CONNECTIONS

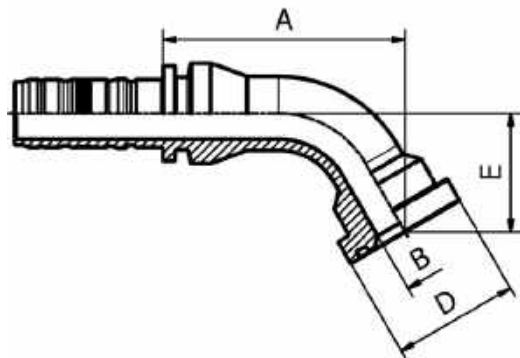
# M83641

45° ISO / SAE  
CODE 62 FLANGE

SAE J516 / ISO 12151-3



PART. REF.	HOSE BORE			Flange	DIMENSIONS mm							
	DN	Dash	inch		inch	B	A	D	E			
M83641-12-12	19	- 12	3/4"	3/4"	16.0	81.5	41.4	28.0				
M83641-12-16	19	- 12	3/4"	1"	19.5	85.5	47.7	32.5				
M83641-16-12	25	- 16	1"	3/4"	16.0	87.5	41.4	28.0				
M83641-16-16	25	- 16	1"	1"	19.5	92.0	47.7	32.5				
M83641-16-20	25	- 16	1"	1.1/4"	26.0	97.0	54.2	37.0				
M83641-20-16	31	- 20	1.1/4"	1"	19.5	95.5	47.7	31.5				
M83641-20-20	31	- 20	1.1/4"	1.1/4"	26.0	96.5	54.2	38.0				
M83641-20-24	31	- 20	1.1/4"	1.1/2"	32.0	104.5	63.7	44.5				
M83641-24-20	38	- 24	1.1/2"	1.1/4"	26.0	110.5	54.2	38.0				
M83641-24-24	38	- 24	1.1/2"	1.1/2"	32.0	109.5	63.7	44.0				
M83641-24-32	38	- 24	1.1/2"	2"	42.0	121.5	79.6	56.0				
M83641-32-32	51	- 32	2"	2"	42.0	148.0	79.6	59.0				



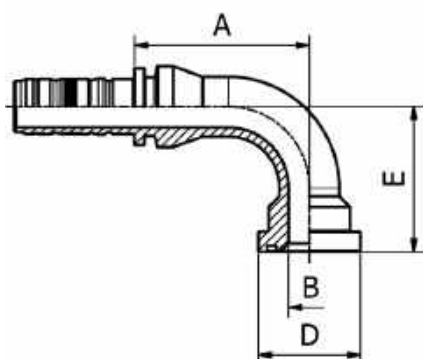
SAE STANDARD CONNECTIONS

# M83661

60° ISO / SAE  
CODE 62 FLANGE  
SAE J516 / ISO 12151-3

PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch	inch		B	A	D	E			
M83661-12-12	19	- 12	3/4"	3/4"		16.0	81.0	41.4	39.0			
M83661-12-16	19	- 12	3/4"	1"		19.5	84.0	47.7	44.0			
M83661-16-16	25	- 16	1"	1"		19.5	92.0	47.7	45.0			
M83661-20-20	31	- 20	1.1/4"	1.1/4"		26.0	97.5	54.2	55.0			
M83661-20-24	31	- 20	1.1/4"	1.1/2"		32.0	101.5	63.7	62.0			
M83661-24-24	38	- 24	1.1/2"	1.1/2"		32.0	110.5	63.7	61.5			
M83661-32-32	51	- 32	2"	2"		42.0	151.0	79.6	85.0			

FITTINGS 238



SAE STANDARD CONNECTIONS

# M83691

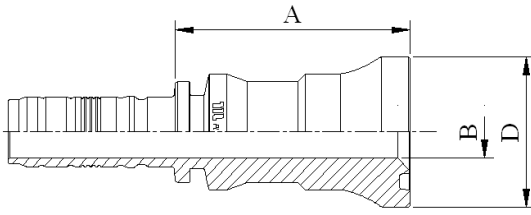
90° ISO / SAE  
CODE 62 FLANGE  
SAE J516 / ISO 12151-3

PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch	inch		B	A	D	E			
M83691-12-12	19	- 12	3/4"	3/4"		16.0	72.5	41.4	59.0			
M83691-12-16	19	- 12	3/4"	1"		19.5	72.6	47.7	65.0			
M83691-16-12	25	- 16	1"	3/4"		16.0	82.0	41.4	62.0			
M83691-16-16	25	- 16	1"	1"		19.5	82.0	47.7	68.0			
M83691-16-20	25	- 16	1"	1.1/4"		26.0	82.0	54.2	90.0			
M83691-16-20075	25	- 16	1"	1.1/4"		26.0	82.0	54.2	75.0			
M83691-20-16	31	- 20	1.1/4"	1"		19.5	86.0	47.7	68.0			
M83691-20-20	31	- 20	1.1/4"	1.1/4"		26.0	85.0	54.2	90.0			
M83691-20-24	31	- 20	1.1/4"	1.1/2"		32.0	85.0	63.7	104.0			
M83691-24-20	38	- 24	1.1/2"	1.1/4"		26.0	99.0	54.2	90.0			
M83691-24-24	38	- 24	1.1/2"	1.1/2"		32.0	98.0	63.7	104.0			
M83691-24-32	38	- 24	1.1/2"	2"		42.0	98.0	79.6	138.0			
M83691-32-32	51	- 32	2"	2"		42.0	136.0	79.6	138.0			



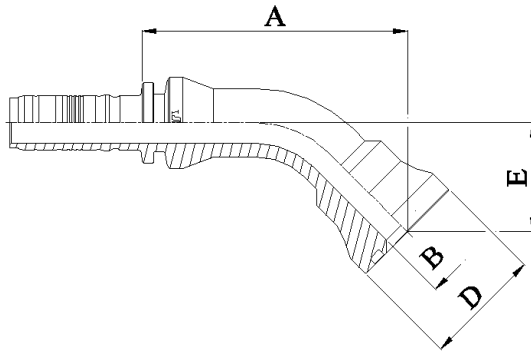
XTRAFRANGE

# M88511



**XTRAFRANGE/62**  
 (SAE J518 -2/ ISO 6162-2  
 PORT COMPATIBLE)

PART. REF.	HOSE BORE			Flange	DIMENSIONS mm								
	DN	Dash	inch	inch	B	A	D						
M88511-12-12	19	- 12	3/4"	3/4"	14.5	65.5	41.4						
M88511-16-16	25	- 16	1"	1"	19.5	69.0	47.7						
M88511-20-20	31	- 20	1.1/4"	1.1/4"	25.0	88.0	54.4						
M88511-24-24	38	- 24	1.1/2"	1.1/2"	30.5	102.0	63.7						
M88511-32-32	51	- 32	2"	2"	41.0	129.5	79.6						

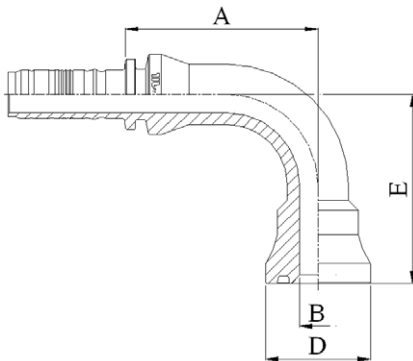


XTRAFRANGE

# M88541

**45° XTRAFRANGE/62**  
 (SAE J518 -2/ ISO 6162-2  
 PORT COMPATIBLE)

PART. REF.	HOSE BORE			Flange	DIMENSIONS mm								
	DN	Dash	inch	inch	B	A	D	E					
M88541-12-12	19	- 12	3/4"	3/4"	14.5	93.5	41.4	38.0					
M88541-16-16	25	- 16	1"	1"	19.5	103.5	47.7	45.0					
M88541-20-20	31	- 20	1.1/4"	1.1/4"	25.0	138.0	54.4	62.5					
M88541-24-24	38	- 24	1.1/2"	1.1/2"	30.5	155.0	63.7	71.5					
M88541-32-32	51	- 32	2"	2"	39.0	194.5	79.6	92.5					



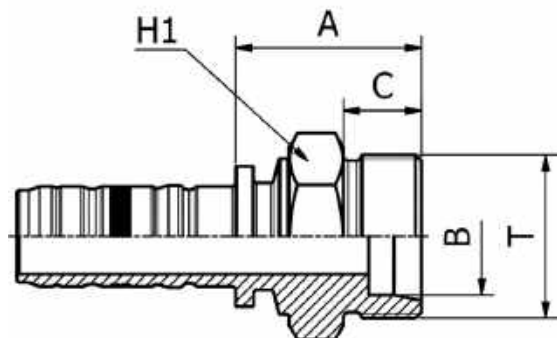
XTRAFRANGE

# M88591

**90° XTRAFRANGE/62**  
 (SAE J518 -2/ ISO 6162-2  
 PORT COMPATIBLE)

PART. REF.	HOSE BORE			Flange	DIMENSIONS mm								
	DN	Dash	inch	inch	B	A	D	E					
M88591-12-12	19	- 12	3/4"	3/4"	14.5	76.5	41.4	75.0					
M88591-16-16	25	- 16	1"	1"	19.5	84.5	47.7	90.0					
M88591-20-20	31	- 20	1.1/4"	1.1/4"	25.0	107.0	54.4	120.0					
M88591-24-24	38	- 24	1.1/2"	1.1/2"	30.5	122.0	63.7	140.0					
M88591-32-32	51	- 32	2"	2"	39.0	148.5	79.6	178.0					

DIN STANDARD CONNECTIONS



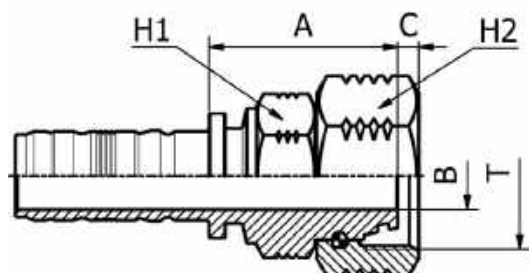
# M71210

**METRIC  
MALE 24° CONE SEAT HEAVY DUTY  
DIN 20066 / ISO 12151-2**

PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch	T	mm	B	A	C	H1			
M71210-12-30	19	- 12	3/4"	M 30X2	20.0	14.5	39.5	16.0	32.0			
M71210-12-36	19	- 12	3/4"	M 36X2	25.0	14.5	44.5	18.0	36.0			
M71210-16-36	25	- 16	1"	M 36X2	25.0	19.5	46.0	18.0	36.0			
M71210-16-42	25	- 16	1"	M 42X2	30.0	19.5	47.5	20.0	46.0			
M71210-20-52	31	- 20	1.1/4"	M 52X2	38.0	25.0	55.0	22.0	55.0			
M71210-24-52	38	- 24	1.1/2"	M 52X2	38.0	30.5	55.5	22.0	55.0			

FITTINGS 240

DIN STANDARD CONNECTIONS



# M81612

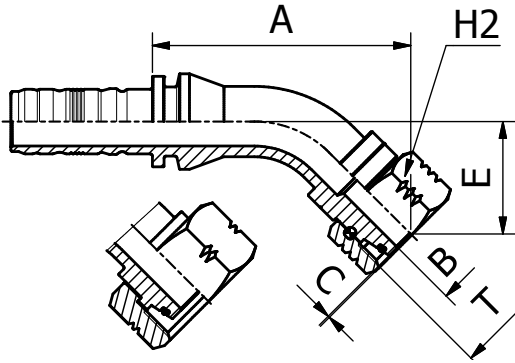
**METRIC  
O-RING FEMALE 24° CONE HEAVY DUTY  
DIN 20066 / ISO 12151-2**

PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch	T	mm	B	A	C	H1	H2		
M81612-16-42	25	- 16	1"	M 42X2	30.0	19.5	54.5	6.0	41.0	50.0		
M81612-12-36	19	- 12	3/4"	M 36X2	25.0	14.5	52.0	4.1	36.0	41.0		
M81612-24-52	38	- 24	1.1/2"	M 52X2	38.0	26.1	58.0	8.8	55.0	60.0		
M81612-12-42	19	- 12	3/4"	M 42X2	30.0	19.5	52.5	6.0	41.0	50.0		
M81612-16-52	25	- 16	1"	M 52X2	38.0	25.0	56.0	8.8	50.0	60.0		
M81612-12-30	19	- 12	3/4"	M 30X2	20.0	12.5	49.5	3.2	32.0	36.0		
M81612-16-36	25	- 16	1"	M 36X2	25.0	16.0	56.0	4.1	41.0	41.0		
M81612-20-52	31	- 20	1.1/4"	M 52X2	38.0	25.0	57.0	8.8	50.0	60.0		
M81612-20-42	31	- 20	1.1/4"	M 42X2	30.0	19.5	56.0	6.1	46.0	50.0		

DIN STANDARD CONNECTIONS

# M81642/M81643

45° METRIC  
O-RING FEMALE SWEPT ELBOW 24° CONE  
HEAVY DUTY  
DIN 20066 / ISO 12151-2



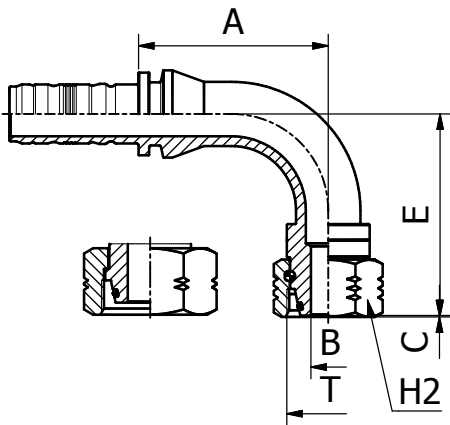
PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch	T	mm	B	A	C	E	H2		
M81642-12-30	19	- 12	3/4"	M 30X2	20.0	12.5	80.0	3.2	35.0	36.0		
M81643-12-36	19	- 12	3/4"	M 36X2	25.0	14.5	82.0	3.4	33.5	41.0		
M81642-16-36	25	- 16	1"	M 36X2	25.0	15.0	103.0	4.1	44.5	41.0		
M81643-16-42	25	- 16	1"	M 42X2	30.0	19.5	94.0	5.3	36.0	50.0		
M81642-20-42	31	- 20	1.1/4"	M 42X2	30.0	19.1	117.5	6.0	44.0	50.0		
M81643-20-52	31	- 20	1.1/4"	M 52X2	38.0	26.1	111.0	8.0	40.0	60.0		

241 FITTINGS

DIN STANDARD CONNECTIONS

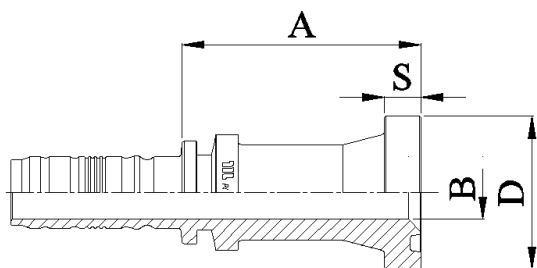
# M81692/M81693

90° METRIC  
O-RING FEMALE SWEPT ELBOW 24° CONE  
HEAVY DUTY  
DIN 20066 / ISO 12151-2



PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch	T	mm	B	A	C	E	H2		
M81692-12-30	19	- 12	3/4"	M 30X2	20.0	12.5	64.5	3.2	68.5	36.0		
M81693-12-36	19	- 12	3/4"	M 36X2	25.0	14.5	68.0	3.4	67.5	41.0		
M81692-16-36	25	- 16	1"	M 36X2	25.0	15.0	83.0	4.1	87.5	41.0		
M81693-16-42	25	- 16	1"	M 42X2	30.0	19.5	82.5	5.3	75.5	50.0		
M81692-20-42	31	- 20	1.1/4"	M 42X2	30.0	19.1	102.0	6.0	90.0	50.0		
M81693-20-52	31	- 20	1.1/4"	M 52X2	38.0	26.1	101.0	8.0	86.5	60.0		

ORIGINAL EQUIPMENT CONNECTIONS

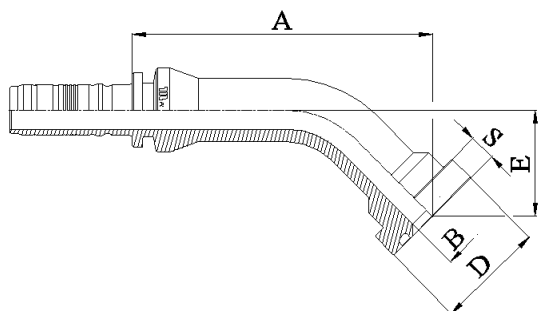


# M83711

**FLANGE PLUS**  
(SAE J518 -2 /ISO 6162-2 P  
ORT COMPATIBLE)

PART. REF.	HOSE BORE			Flange	DIMENSIONS mm					
	DN	Dash	inch		inch	B	A	D	S	
M83711-12-12	19	- 12	3/4"	3/4"	14.5	65.0	41.4	10.0		
M83711-16-16	25	- 16	1"	1"	19.5	65.0	47.7	11.0		
M83711-20-20	31	- 20	1.1/4"	1.1/4"	25.0	81.0	54.2	12.0		

FITTINGS 242



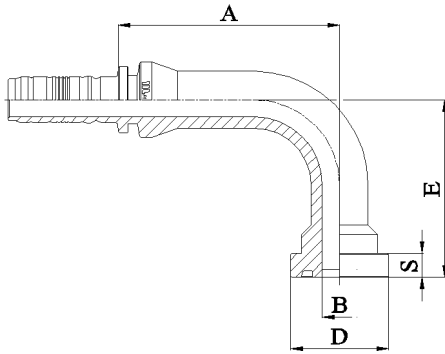
ORIGINAL EQUIPMENT CONNECTIONS

# M83741

**45° FLANGE PLUS**  
(SAE J518-2/ISO 6162-2  
PORT COMPATIBLE)

PART. REF.	HOSE BORE			Flange	DIMENSIONS mm					
	DN	Dash	inch		inch	B	A	D	E	S
M83741-12-12	19	- 12	3/4"	3/4"	14.5	114.0	41.4	40.0	10.0	
M83741-16-16	25	- 16	1"	1"	19.5	107.5	47.7	43.0	11.0	
M83741-20-20	31	- 20	1.1/4"	1.1/4"	25.0	133.5	54.2	50.0	12.0	

ORIGINAL EQUIPMENT CONNECTIONS

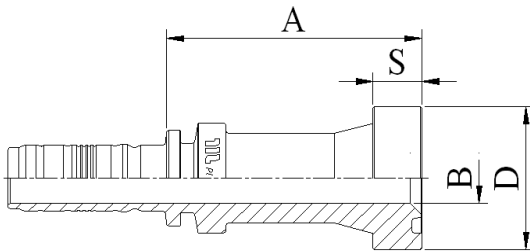


# M83791

**90° FLANGE PLUS  
(SAE J518 -2/ ISO 6162-2  
PORT COMPATIBLE)**

PART. REF.	HOSE BORE			Flange	Flange	DIMENSIONS mm						
	DN	Dash	inch			inch	B	A	D	E	S	
M83791-12-12	19	- 12	3/4"	3/4"		14.5	93.5	41.4	75.0	10.0		
M83791-16-16	25	- 16	1"	1"		19.5	91.0	47.7	90.0	11.0		
M83791-20-20	31	- 20	1.1/4"	1.1/4"		25.0	115.0	54.2	110.0	12.0		

ORIGINAL EQUIPMENT CONNECTIONS



# M83911

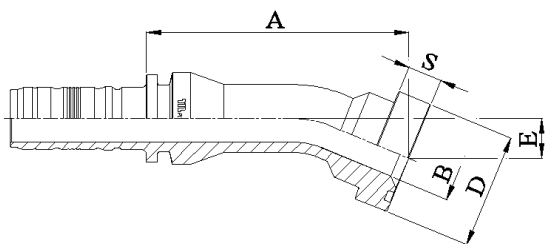
**STRAIGHT SUPERCAT SERIES FLANGE**

PART. REF.	HOSE BORE			Flange	Flange	DIMENSIONS mm			
	DN	Dash	inch			inch	B	A	D
M83911-12-12	19	- 12	3/4"	3/4"		14.5	75.0	41.5	14.3
M83911-12-16	19	- 12	3/4"	1"		19.5	80.5	47.7	14.3
M83911-16-16	25	- 16	1"	1"		19.5	80.0	47.7	14.3
M83911-16-20	25	- 16	1"	1.1/4"		26.0	84.0	54.0	14.3
M83911-20-20	31	- 20	1.1/4"	1.1/4"		26.0	80.5	54.0	14.3
M83911-20-24	31	- 20	1.1/4"	1.1/2"		32.0	84.0	63.6	14.3
M83911-24-24	38	- 24	1.1/2"	1.1/2"		32.0	84.5	63.6	14.3
M83911-24-32	38	- 24	1.1/2"	2"		42.0	107.5	79.3	14.3
M83911-32-24	51	- 32	2"	1.1/2"		32.0	95.5	63.6	14.3
M83911-32-32	51	- 32	2"	2"		42.0	110.5	79.3	14.3

ORIGINAL EQUIPMENT CONNECTIONS

# M83921

22,5° SUPERCAT SERIES FLANGE



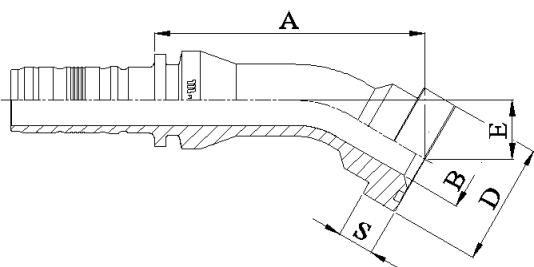
PART. REF.	HOSE BORE			Flange	DIMENSIONS mm						
	DN	Dash	inch		inch	B	A	D	E	S	
M83921-12-12	19	- 12	3/4"	3/4"	16.0	101.5	41.5	16.0	14.3		
M83921-12-16	19	- 12	3/4"	1"	19.5	98.0	47.7	16.5	14.3		
M83921-16-16	25	- 16	1"	1"	19.5	108.5	47.7	16.5	14.3		
M83921-16-20	25	- 16	1"	1.1/4"	26.0	113.0	54.0	18.5	14.3		
M83921-20-20	31	- 20	1.1/4"	1.1/4"	26.0	120.5	54.0	18.0	14.3		
M83921-20-24	31	- 20	1.1/4"	1.1/2"	32.0	119.0	63.7	21.0	14.3		
M83921-24-24	38	- 24	1.1/2"	1.1/2"	32.0	123.5	63.7	20.0	14.3		

FITTINGS 244

ORIGINAL EQUIPMENT CONNECTIONS

# M83931

30° SUPERCAT SERIES FLANGE

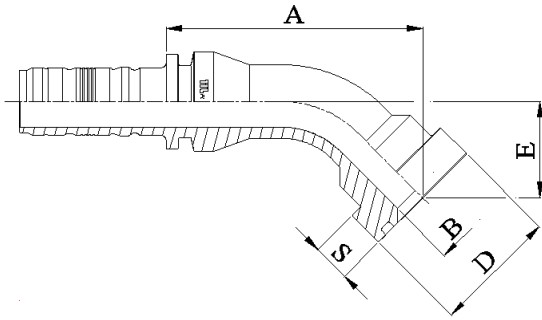


PART. REF.	HOSE BORE			Flange	DIMENSIONS mm						
	DN	Dash	inch		inch	B	A	D	E	S	
M83931-12-12	19	- 12	3/4"	3/4"	16.0	99.0	41.5	22.0	14.3		
M83931-12-16	19	- 12	3/4"	1"	19.5	99.5	47.7	22.5	14.3		
M83931-16-16	25	- 16	1"	1"	19.5	106.0	47.7	23.0	14.3		
M83931-16-20	25	- 16	1"	1.1/4"	26.0	110.0	54.0	26.0	14.3		
M83931-20-20	31	- 20	1.1/4"	1.1/4"	26.0	117.5	54.0	25.0	14.3		
M83931-20-24	31	- 20	1.1/4"	1.1/2"	32.0	115.5	63.7	29.0	14.3		
M83931-24-24	38	- 24	1.1/2"	1.1/2"	32.0	120.5	63.7	28.0	14.3		
M83931-24-32	38	- 24	1.1/2"	2"	42.0	134.5	79.3	36.0	14.3		
M83931-32-32	51	- 32	2"	2"	42.0	163.5	79.3	37.5	14.3		

ORIGINAL EQUIPMENT CONNECTIONS

# M83941

45° SUPERCAT SERIES FLANGE



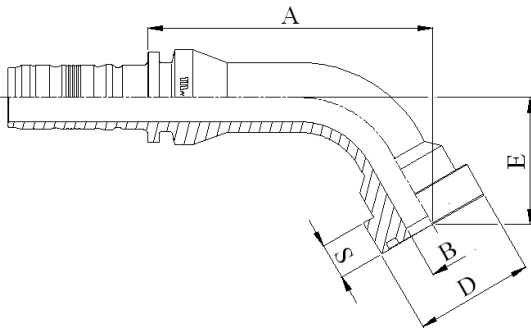
PART. REF.	HOSE BORE			Flange	Flange	DIMENSIONS mm						
	DN	Dash	inch			inch	B	A	D	E	S	
M83941-12-12	19	- 12	3/4"	3/4"		16.0	91.5	41.5	34.5	14.3		
M83941-12-16	19	- 12	3/4"	1"		19.5	92.0	47.7	35.5	14.3		
M83941-16-16	25	- 16	1"	1"		19.5	98.0	47.7	36.5	14.3		
M83941-16-20	25	- 16	1"	1.1/4"		26.0	101.0	54.0	40.5	14.3		
M83941-20-20	31	- 20	1.1/4"	1.1/4"		26.0	109.0	54.0	40.0	14.3		
M83941-20-24	31	- 20	1.1/4"	1.1/2"		32.0	106.0	63.7	46.0	14.3		
M83941-24-24	38	- 24	1.1/2"	1.1/2"		32.0	111.0	63.7	45.5	14.3		
M83941-24-32	38	- 24	1.1/2"	2"		42.0	122.0	79.3	56.5	14.3		
M83941-32-32	51	- 32	2"	2"		42.0	150.5	79.3	61.5	14.3		

245 FITTINGS

ORIGINAL EQUIPMENT CONNECTIONS

# M83961

60° SUPERCAT SERIES FLANGE

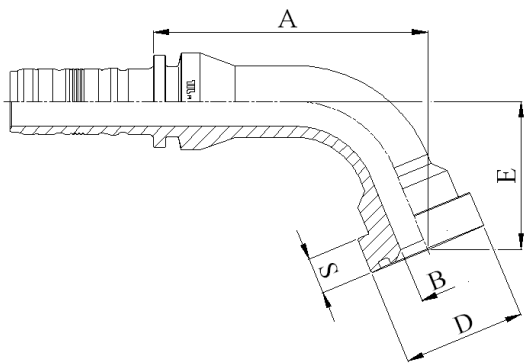


PART. REF.	HOSE BORE			Flange	Flange	DIMENSIONS mm						
	DN	Dash	inch			inch	B	A	D	E	S	
M83961-12-12	19	- 12	3/4"	3/4"		16.0	106.5	41.5	47.0	14.3		
M83961-12-16	19	- 12	3/4"	1"		19.5	107.0	47.7	48.0	14.3		
M83961-16-16	25	- 16	1"	1"		19.5	114.0	47.7	51.0	14.3		
M83961-16-16055	25	- 16	1"	1"		19.5	100.0	47.7	55.0	14.3		
M83961-16-20	25	- 16	1"	1.1/4"		26.0	116.5	54.0	54.0	14.3		
M83961-20-20	31	- 20	1.1/4"	1.1/4"		26.0	130.0	54.0	54.5	14.3		
M83961-20-24	31	- 20	1.1/4"	1.1/2"		32.0	126.0	63.7	63.5	14.3		
M83961-24-24	38	- 24	1.1/2"	1.1/2"		32.0	140.0	63.7	63.0	14.3		
M83961-32-32	51	- 32	2"	2"		42.0	194.0	79.3	86.5	14.3		
M83961-32-32150	51	- 32	2"	2"		42.0	198.0	79.3	150.0	14.3		

ORIGINAL EQUIPMENT CONNECTIONS

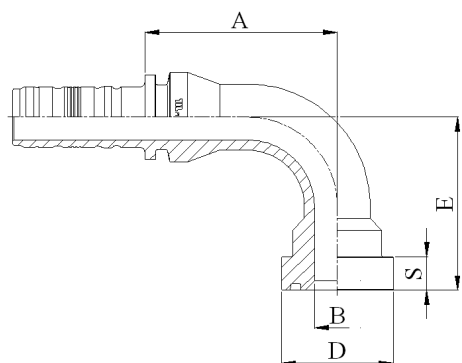
# M83971

67,5° SUPERCAT SERIES FLANGE



PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch			inch	B	A	D	E	S	
M83971-12-12	19	- 12	3/4"	3/4"		16.0	100.0	41.5	53.0	14.3		
M83971-12-16	19	- 12	3/4"	1"		19.5	100.5	47.7	54.0	14.3		
M83971-16-16	25	- 16	1"	1"		19.5	107.0	47.7	58.0	14.3		
M83971-16-20	25	- 16	1"	1.1/4"		26.0	109.0	54.0	62.0	14.3		
M83971-20-20	31	- 20	1.1/4"	1.1/4"		26.0	123.0	54.0	62.0	14.3		
M83971-20-24	31	- 20	1.1/4"	1.1/2"		32.0	117.5	63.7	71.5	14.3		
M83971-24-24	38	- 24	1.1/2"	1.1/2"		32.0	131.0	63.7	72.0	14.3		
M83971-32-32	51	- 32	2"	2"		42.0	181.5	79.3	99.0	14.3		

FITTINGS 246



ORIGINAL EQUIPMENT CONNECTIONS

# M83991

90° SUPERCAT SERIES FLANGE

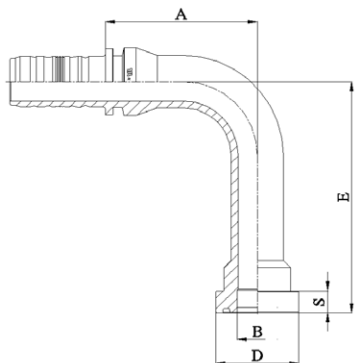
PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch			inch	B	A	D	E	S	
M83991-12-12	19	- 12	3/4"	3/4"		16.0	76.0	41.5	68.5	14.3		
M83991-12-16	19	- 12	3/4"	1"		19.5	76.0	47.7	69.5	14.3		
M83991-16-16	25	- 16	1"	1"		19.5	82.0	47.7	73.5	14.3		
M83991-16-20	25	- 16	1"	1.1/4"		26.0	82.0	54.0	78.5	14.3		
M83991-20-20	31	- 20	1.1/4"	1.1/4"		26.0	94.0	54.0	82.0	14.3		
M83991-20-24	31	- 20	1.1/4"	1.1/2"		32.0	85.0	63.7	92.0	14.3		
M83991-24-24	38	- 24	1.1/2"	1.1/2"		32.0	98.0	63.7	96.0	14.3		
M83991-24-32	38	- 24	1.1/2"	2"		42.0	98.0	79.3	112.0	14.3		
M83991-32-32	51	- 32	2"	2"		42.0	136.0	79.3	133.5	14.3		



ORIGINAL EQUIPMENT CONNECTIONS

# M83991 LONG DROP

90° LONG DROP SUPERCAT SERIES FLANGE

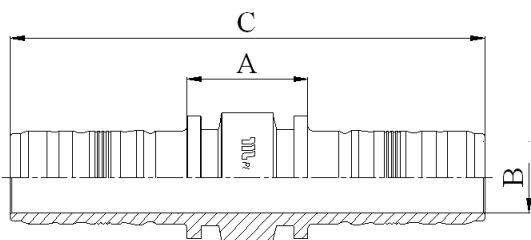


PART. REF.	HOSE BORE			Flange	DIMENSIONS mm						
	DN	Dash	inch		inch	B	A	D	E	S	
M83991-16-16132	25	- 16	1"	1"	19.5	86.0	47.7	132.0	14.3		
M83991-16-16150	25	- 16	1"	1"	19.5	86.0	47.7	150.0	14.3		
M83991-16-20150	25	- 16	1"	1.1/4"	26.0	82.0	54.0	150.0	14.3		
M83991-20-20092	31	- 20	1.1/4"	1.1/4"	26.1	99.0	54.0	92.0	14.3		
M83991-20-20150	31	- 20	1.1/4"	1.1/4"	26.1	99.0	54.0	150.0	14.3		
M83991-20-24135	31	- 20	1.1/4"	1.1/2"	32.0	98.5	63.7	135.0	14.3		
M83991-24-24106	38	- 24	1.1/2"	1.1/2"	32.0	112.5	63.7	106.0	14.3		

DOUBLE CONNECTOR

# M70050

DOUBLE CONNECTOR

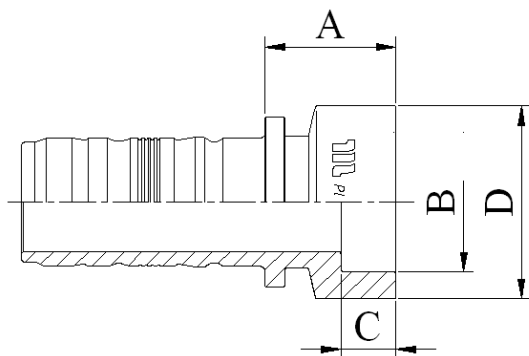


PART. REF.	HOSE BORE			DIMENSIONS mm						
	DN	Dash	inch	B	A	C				
M70050-20-20	31	- 20	1.1/4"	25.0	42.5	166.2				
M70050-24-24	38	- 24	1.1/2"	30.5	43.0	178.9				
M70050-32-32	51	- 32	2"	41.0	45.5	220.8				

TAIL

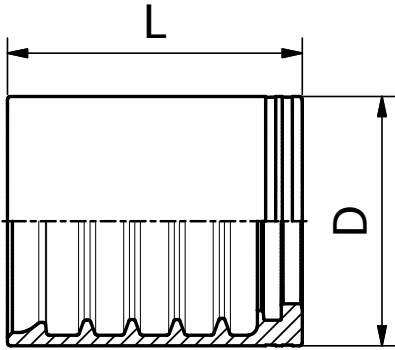
# M89510WL

WELDING TAIL



PART. REF.	HOSE BORE			DIMENSIONS mm						
	DN	Dash	inch	B	A	C	D			
M89510-12-22WL	19	- 12	3/4"	22.1	28.5	12.0	34.0			
M89510-16-28WL	25	- 16	1"	28.1	32.5	14.0	40.0			
M89510-20-35WL	31	- 20	1.1/4"	35.1	33.0	14.0	49.0			

FERRULE



# M05500-GX

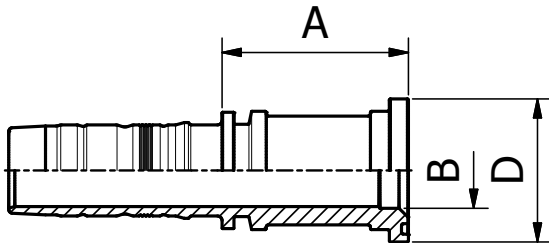
**NO-SKIVE FERRULE FOR  
HEAVY DUTY SPIRAL HOSES  
(4-6 PLY)**

FITTINGS 248

PART. REF.	HOSE BORE			DIMENSIONS mm							
	DN	Dash	inch			D	L				
M05500-24GX	38	- 24	1.1/2"			75.0	88.5				
M05500-32GX	51	- 32	2"			98.0	120.3				

SAE STANDARD CONNECTIONS

# M83611-GX

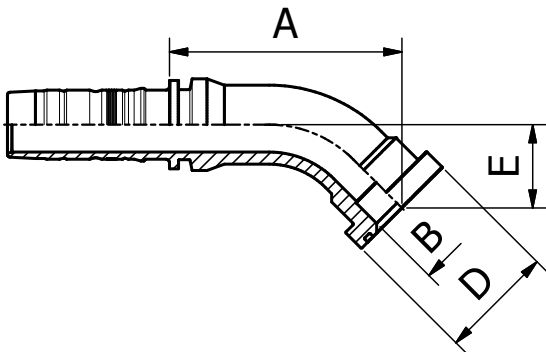


**ISO/SAE CODE 62 FLANGE  
(ISO 6162-2 / SAE J518 CODE 62)**

PART. REF.	HOSE BORE			Flange	DIMENSIONS mm							
	DN	Dash	inch	inch		B	A	D				
M83611-24-24GX	38	- 24	1.1/2"	1.1/2"		32.0	79.0	63.7				
M83611-24-32GX	38	- 24	1.1/2"	2"		42.0	95.0	79.6				
M83611-32-32GX	51	- 32	2"	2"		42.0	98.5	79.6				

SAE STANDARD CONNECTIONS

# M83641-GX



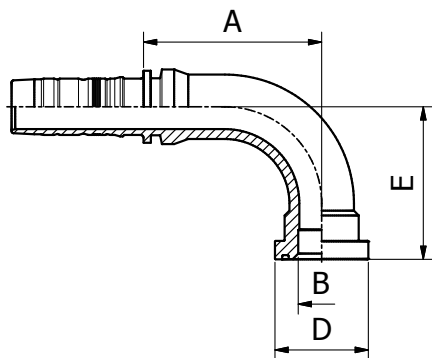
**45° ISO/SAE CODE 62 FLANGE  
(ISO 6162-2 / SAE J518 CODE 62)**

PART. REF.	HOSE BORE			Flange	DIMENSIONS mm							
	DN	Dash	inch	inch		B	A	D	E			
M83641-24-24GX	38	- 24	1.1/2"	1.1/2"		32.0	129.0	63.7	46.5			
M83641-24-32GX	38	- 24	1.1/2"	2"		32.0	138.0	79.6	57.5			
M83641-32-32GX	51	- 32	2"	2"		42.0	149.0	79.6	59.0			

SAE STANDARD CONNECTIONS

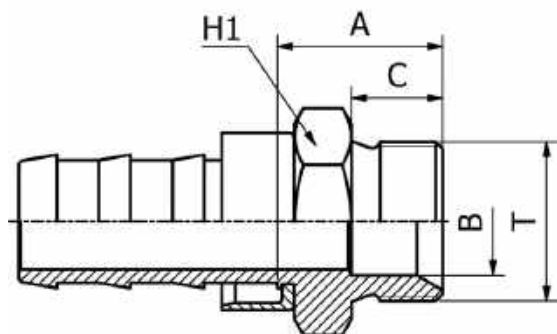
# M83691-GX

90° ISO/SAE CODE 62 FLANGE  
(ISO 6162-2 / SAE J518 CODE 62)



PART. REF.	HOSE BORE			Flange	DIMENSIONS mm						
	DN	Dash	inch	inch	B	A	D	E			
M83691-24-24GX	38	- 24	1.1/2"	1.1/2"	32.0	121.5	63.7	104.5			
M83691-32-32GX	51	- 32	2"	2"	42.0	136.5	79.6	138.0			

BS STANDARD CONNECTIONS



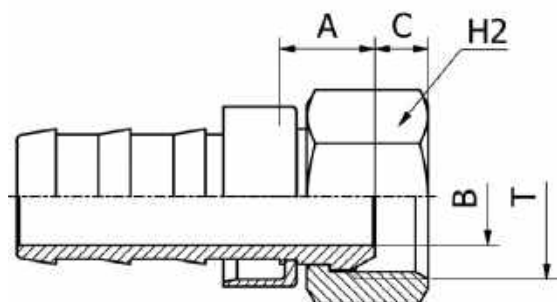
# L10510

**BSP  
MALE PARALLEL 60° CONE SEAT  
BS5200 / ISO 8434-6**

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	H1			
L10510-04-04	6	- 4	1/4"	1/4" - 19	5.0	20.5	11.0	19.0			
L10510-04-06	6	- 4	1/4"	3/8" - 19	8.0	22.5	12.0	22.0			
L10510-06-06	10	- 6	3/8"	3/8" - 19	8.0	23.0	12.0	22.0			
L10510-08-08	12	- 8	1/2"	1/2" - 14	11.0	27.0	14.0	27.0			
L10510-10-10	16	- 10	5/8"	5/8" - 14	14.5	28.5	16.0	30.0			
L10510-12-12	19	- 12	3/4"	3/4" - 14	17.0	30.5	16.0	32.0			
L10510-16-16	25	- 16	1"	1" - 11	22.5	34.5	19.0	41.0			

FITTINGS 250

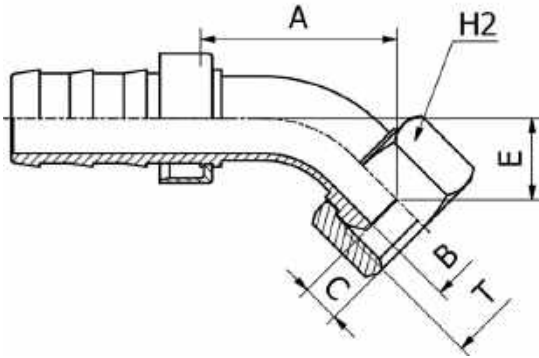
BS STANDARD CONNECTIONS



# L20513

**BSP  
FEMALE 60° CONE  
BS5200 / ISO 12151-6  
(SLIP-ON NUT)**

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	H2			
L20513-04-04	6	- 4	1/4"	1/4" - 19	4.0	12.5	5.8	19.0			
L20513-04-06	6	- 4	1/4"	3/8" - 19	7.0	14.6	6.2	22.0			
L20513-06-06	10	- 6	3/8"	3/8" - 19	7.0	15.0	6.2	22.0			
L20513-08-08	12	- 8	1/2"	1/2" - 14	9.5	16.5	6.5	27.0			
L20513-10-10	16	- 10	5/8"	5/8" - 14	12.0	16.0	9.0	28.0			
L20513-12-12	19	- 12	3/4"	3/4" - 14	16.0	18.0	9.0	32.0			
L20513-12-16	19	- 12	3/4"	1" - 11	19.0	19.5	11.0	38.0			
L20513-16-16	25	- 16	1"	1" - 11	19.0	19.5	11.0	38.0			

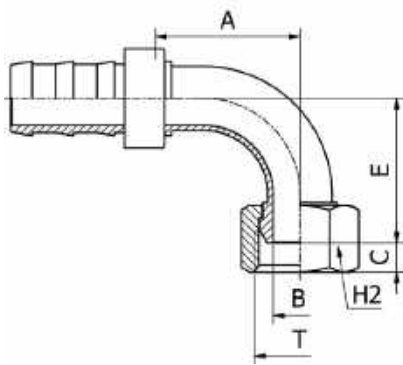


BS STANDARD CONNECTIONS

# L20543

**45° BSP  
FEMALE SWEPT ELBOW 60° CONE  
BS5200/ISO 12151-6  
(SLIP-ON NUT)**

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	E	H2		
L20543-04-04	6	- 4	1/4"	1/4" - 19	4.0	31.0	5.8	12.0	19.0		
L20543-06-06	10	- 6	3/8"	3/8" - 19	7.0	38.5	6.2	14.5	22.0		
L20543-08-08	12	- 8	1/2"	1/2" - 14	9.5	44.0	6.5	18.5	27.0		
L20543-10-10	16	- 10	5/8"	5/8" - 14	12.0	50.5	9.0	19.0	28.0		
L20543-12-12	19	- 12	3/4"	3/4" - 14	16.0	53.0	9.0	21.0	32.0		
L20543-16-16	25	- 16	1"	1" - 11	19.0	56.0	11.0	23.5	38.0		

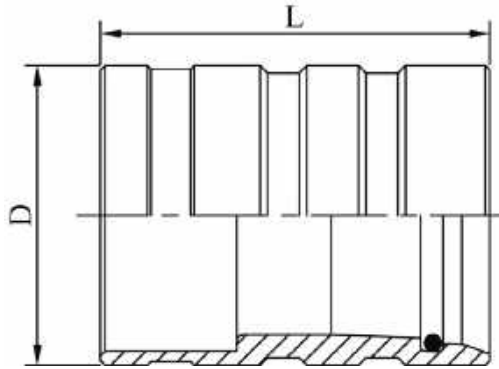


BS STANDARD CONNECTIONS

# L20593

**90° BSP  
FEMALE SWEPT ELBOW 60° CONE  
BS5200/ISO 12151-6  
(SLIP-ON NUT)**

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	E	H2		
L20593-04-04	6	- 4	1/4"	1/4" - 19	4.0	26.0	5.8	24.0	19.0		
L20593-06-06	10	- 6	3/8"	3/8" - 19	7.0	35.0	6.2	30.5	22.0		
L20593-08-08	12	- 8	1/2"	1/2" - 14	9.5	38.0	6.5	38.5	27.0		
L20593-10-10	16	- 10	5/8"	5/8" - 14	12.0	45.5	9.0	41.0	28.0		
L20593-12-16	19	- 12	3/4"	1" - 11	19.0	48.5	11.0	48.5	38.0		
L20593-12-12	19	- 12	3/4"	3/4" - 14	16.0	48.5	9.0	46.5	32.0		
L20593-16-16	25	- 16	1"	1" - 11	19.0	54.0	11.0	54.0	38.0		



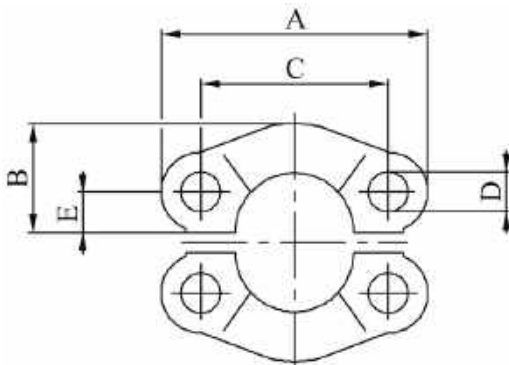
ACCESSORIES

**0820**

**ANTI-KINK SLEEVE**

PART. REF.	HOSE BORE			DIMENSIONS mm							
	DN	Dash	inch			D	L				
O82040-12	19	- 12	3/4"			45.0	67.0				
O82040-16	25	- 16	1"			52.0	81.0				
O82068-16	25	- 16	1"			55.0	75.0				
O82062-20	31	- 20	1.1/4"			64.0	83.0				
O82060-20	31	- 20	1.1/4"			64.0	84.0				
O82068-20	31	- 20	1.1/4"			65.5	83.0				
O82060-24	38	- 24	1.1/2"			72.0	102.0				
O82068-24	38	- 24	1.1/2"			73.0	99.0				
O82068-32	51	- 32	2"			86.5	116.0				
O82068-40	63	- 40	2.1/2"			100.5	148.5				
O82068-48	76	- 48	3"			112.0	158.0				

FITTINGS 252



ACCESSORIES

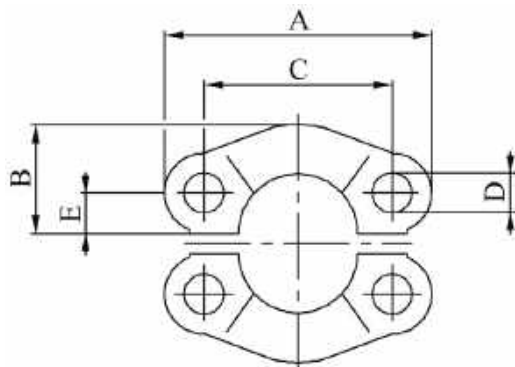
**083308**

**ISO/SAE  
CODE 61 SPLIT FLANGE CLAMPS  
SAE J518 / ISO 6162-1**

PART. REF.	HOSE BORE			DIMENSIONS mm							
	DN	Dash	inch			B	A	C	D	E	
O83308-08						22.8	54.0	38.1	8.75	8.7	
O83308-12						25.9	65.0	47.6	10.75	11.1	
O83308-16						29.2	70.0	52.4	10.75	13.1	
O83308-20						36.3	79.0	58.7	12.0	15.1	
O83308-24						41.1	94.0	69.8	13.5	17.9	
O83308-32						48.2	102.0	77.8	13.5	21.4	
O83308-40						54.1	114.0	88.9	13.5	25.4	
O83308-48						65.3	135.0	106.4	16.75	31.0	
O83308-56						70.0	152.0	120.65	17.0	34.85	
O83308-64						75.0	160.0	130.18	17.0	38.9	

ACCESSORIES

# 083609

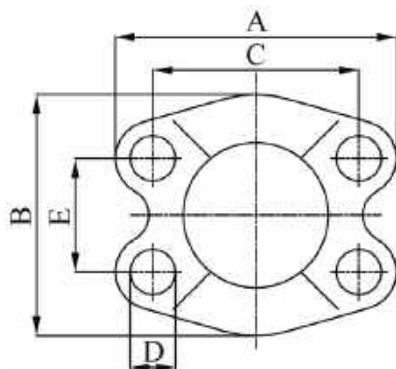


ISO/SAE  
CODE 62 SPLIT FLANGE CLAMPS  
SAE J518 / ISO 6162-2

PART. REF.	HOSE BORE			DIMENSIONS mm							
	DN	Dash	inch	B	A	C	D	E			
O83609-08				23.6	56.0	40.5	8.75	9.1			
O83609-12				30.0	71.0	50.8	11.0	11.9			
O83609-16				34.8	81.0	57.1	13.0	13.9			
O83609-20				38.6	95.0	66.7	15.0	15.9			
O83609-24				47.5	113.0	79.4	17.0	18.3			
O83609-32				56.9	133.0	96.8	21.0	22.2			

ACCESSORIES

# 083607



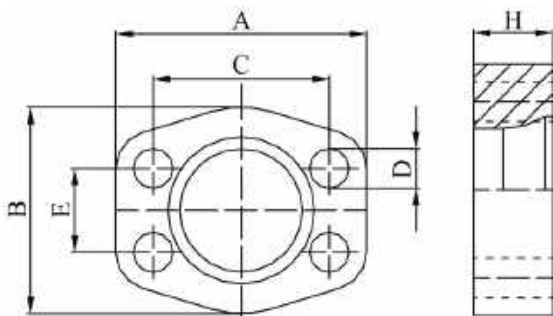
CODE 62 ONE-PIECE FLANGE CLAMP  
ISO 6162-2 / SAE J518

PART. REF.	HOSE BORE			DIMENSIONS mm							
	DN	Dash	inch	B	A	C	D	E			
O83607-12	19	- 12	3/4"	60.0	72.0	50.8	10.5	23.8			
O83607-16	25	- 16	1"	70.0	81.0	57.2	13.0	27.8			
O83607-20	31	- 20	1.1/4"	78.0	96.0	66.7	15.0	31.8			
O83607-24	38	- 24	1.1/2"	96.0	113.0	79.4	17.0	36.5			
O83607-32	51	- 32	2"	114.0	134.0	96.8	21.0	44.4			
O83607-40	63	- 40	2.1/2"	150.0	175.0	123.8	25.0	58.7			
O83607-48	76	- 48	3"	178.0	210.0	152.4	32.0	71.4			

ACCESSORIES

# 088507

**ONE-PIECE CODE 62 XTRAFRANGE CLAMP  
ISO 6162-2 / SAE J518  
PORT COMPATIBLE**



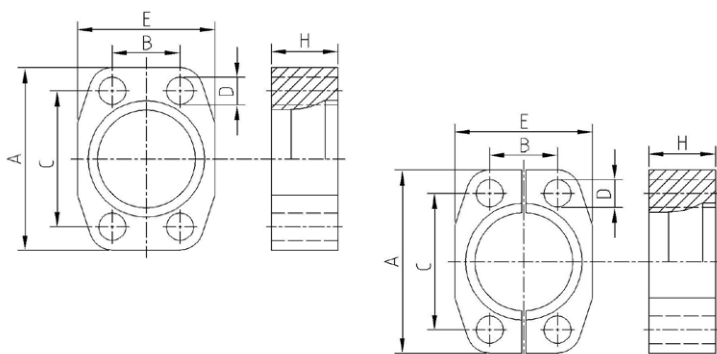
PART. REF.	HOSE BORE			DIMENSIONS mm							
	DN	Dash	inch	B	A	C	D	E	H		
O88507-12				60.0	71.5	50.8	11.0	23.8	21.5		
O88507-16				66.7	80.0	57.2	13.0	27.8	24.0		
O88507-20				78.0	95.0	66.7	15.0	31.7	30.0		
O88507-24				94.0	112.0	79.4	17.0	36.5	36.0		
O88507-32				114.0	133.0	96.8	21.0	44.5	47.0		
O88507-40				150.0	180.0	123.8	26.0	58.8	55.0		
O88507-48				176.0	210.3	152.4	31.0	71.4	60.0		

FITTINGS 254

ACCESSORIES

# 088407

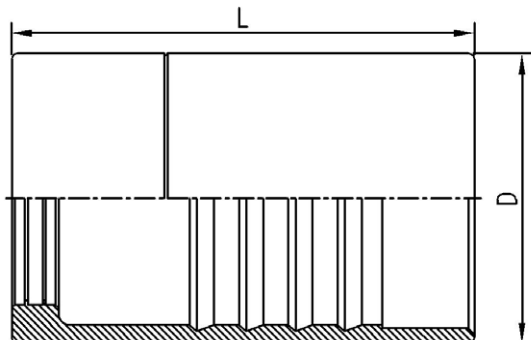
**ONE-PIECE XTRAFRANGE 61 CLAMP /  
SPLIT XTRAFRANGE/61 CLAMP**



PART. REF.	HOSE BORE			Flange	DIMENSIONS mm							
	DN	Dash	inch	inch	B	A	C	D	E	H		
O88407-16				1"	26.2	70.5	52.4	10.6	53.0	25.7		
O88407-20				1.1/4"	30.2	80.0	58.7	12.0	64.0	26.8		
O88407-24				1.1/2"	35.7	94.0	69.9	13.3	77.0	33.6		
O88407-32				2"	42.9	102.0	77.8	13.3	88.0	35.0		
O88407-40				2.1/2"	50.8	114.0	88.9	13.3	102.0	44.3		

O88407-32 and O88407-40: Split XtraFlange/61 Clamp





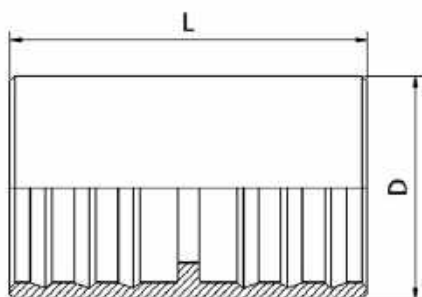
ACCESSORIES

# IO821GA

**METAL SLEEVE FOR ARMOUR  
(STAINLESS STEEL)**

PART. REF.	HOSE BORE			DIMENSIONS mm							
	DN	Dash	inch			D	L				
IO82110-06GA	10	- 6	3/8"			40.5	60.0				
IO82110-08GA	12	- 8	1/2"			46.8	75.0				
IO82110-10GA	16	- 10	5/8"			53.2	90.0				
IO82110-12GA	19	- 12	3/4"			59.5	105.0				
IO82110-16GA	25	- 16	1"			66.0	120.0				
IO82110-20GA	31	- 20	1.1/4"			78.6	135.0				
IO82110-24GA	38	- 24	1.1/2"			91.5	150.0				
IO82110-32GA	51	- 32	2"			106.5	165.0				

255 FITTINGS



ACCESSORIES

# IO84210

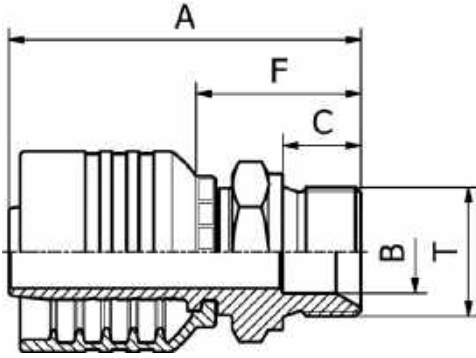
**ARMOUR-JOINT**

PART. REF.	HOSE BORE			DIMENSIONS mm							
	DN	Dash	inch			D	L				
IO84210-06	10	- 6	3/8"			40.5	65.0				
IO84210-08	12	- 8	1/2"			46.8	65.0				
IO84210-10	16	- 10	5/8"			53.2	65.0				
IO84210-12	19	- 12	3/4"			59.5	70.0				
IO84210-16	25	- 16	1"			66.0	75.0				
IO84210-20	31	- 20	1.1/4"			78.6	95.0				
IO84210-24	38	- 24	1.1/2"			91.5	105.0				
IO84210-32	51	- 32	2"			106.5	115.0				

BS STANDARD CONNECTIONS

# OPK10510

**BSP  
MALE PARALLEL 60° CONE SEAT  
BS5200 / ISO 8434-6**



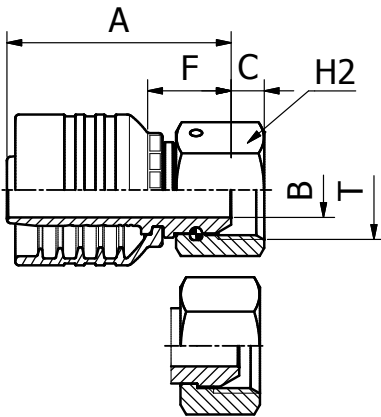
PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	F	H1		
OPK10510-06A04	10	- 6	3/8"	1/4" - 19	5.0	55.5	11.0	26.0	19.0		
OPK10510-06A06	10	- 6	3/8"	3/8" - 19	8.0	57.5	12.0	28.0	22.0		
OPK10510-06A08	10	- 6	3/8"	1/2" - 14	11.0	60.0	14.0	30.5	27.0		
OPK10510-08A06	12	- 8	1/2"	3/8" - 19	8.0	59.0	12.0	28.0	22.0		
OPK10510-08A08	12	- 8	1/2"	1/2" - 14	11.0	62.0	14.0	31.0	27.0		
OPK10510-08A10	12	- 8	1/2"	5/8" - 14	14.5	64.0	16.0	33.0	30.0		
OPK10510-08A12	12	- 8	1/2"	3/4" - 14	17.0	65.0	16.0	34.0	32.0		
OPK10510-10A10	16	- 10	5/8"	5/8" - 14	14.5	67.5	16.0	33.0	30.0		
OPK10510-10A12	16	- 10	5/8"	3/4" - 14	17.0	68.5	16.0	35.5	32.0		
OPK10510-12A12	19	- 12	3/4"	3/4" - 14	17.0	72.0	16.0	35.5	32.0		
OPK10510-12A16	19	- 12	3/4"	1" - 11	22.5	76.0	19.0	39.5	41.0		
OPK10510-16A16	25	- 16	1"	1" - 11	22.5	89.0	19.0	41.0	41.0		
OPK10510-16A20	25	- 16	1"	1.1/4" - 11	28.5	93.0	20.0	45.0	50.0		
OPK10510-20A20	31	- 20	1.1/4"	1.1/4" - 11	28.5	99.0	20.0	46.5	50.0		
OPK10510-24A24	38	- 24	1.1/2"	1.1/2" - 11	33.5	111.5	22.0	49.5	55.0		
OPK10510-32A32	51	- 32	2"	2" - 11	46.0	120.0	25.0	54.0	70.0		

FITTINGS 256

BS STANDARD CONNECTIONS

# OPK20512/OPK20513

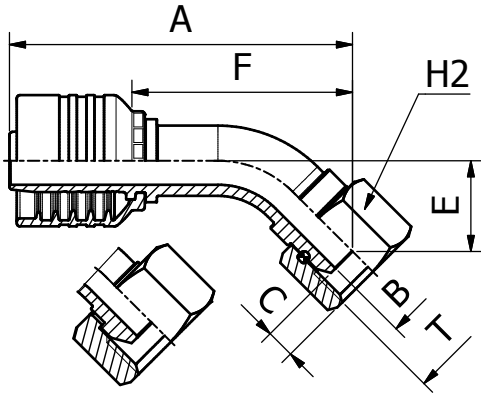
**BSP  
FEMALE 60° CONE  
BS5200 / ISO 12151-6**



PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	F	H2		
OPK20512-06A04	10	- 6	3/8"	1/4" - 19	4.1	47.5	4.2	18.0	19.0		
OPK20513-06A06	10	- 6	3/8"	3/8" - 19	7.0	49.0	6.0	19.5	22.0		
OPK20513-06A08	10	- 6	3/8"	1/2" - 14	9.3	49.5	6.3	20.0	27.0		
OPK20512-08A06	12	- 8	1/2"	3/8" - 19	7.1	52.0	6.0	21.0	22.0		
OPK20513-08A08	12	- 8	1/2"	1/2" - 14	9.3	51.5	6.3	20.5	27.0		
OPK20512-08A10	12	- 8	1/2"	5/8" - 14	12.1	53.0	10.2	22.0	28.0		
OPK20512-08A12	12	- 8	1/2"	3/4" - 14	15.0	56.0	9.0	24.5	32.0		
OPK20512-10A10	16	- 10	5/8"	5/8" - 14	12.5	56.0	10.2	21.5	28.0		
OPK20512-10A12	16	- 10	5/8"	3/4" - 14	15.0	57.5	9.0	23.0	32.0		
OPK20512-12A16	19	- 12	3/4"	1" - 11	19.8	62.5	10.5	26.0	38.0		
OPK20512-12A12	19	- 12	3/4"	3/4" - 14	15.0	61.0	9.0	24.5	32.0		
OPK20512-16A16	25	- 16	1"	1" - 11	19.8	75.5	10.5	27.5	38.0		

OPK20512: THRUST WIRE NUT / OPK20513: SLIP-ON NUT

BS STANDARD CONNECTIONS

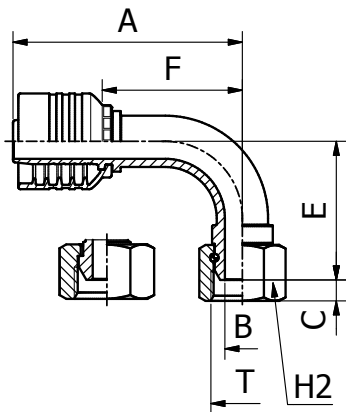


# OPK20542/OPK20543

45° BSP  
FEMALE ELBOW 60° CONE  
BS5200 / ISO 12151-6

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	E	F	H2	
OPK20543-06A06	10	- 6	3/8"	3/8" - 19	7.0	71.5	6.0	15.5	42.0	22.0	
OPK20543-06A08	10	- 6	3/8"	1/2" - 14	9.3	72.0	6.3	16.0	42.5	27.0	
OPK20543-08A08	12	- 8	1/2"	1/2" - 14	9.3	81.0	6.3	17.0	49.5	27.0	
OPK20542-08A10	12	- 8	1/2"	5/8" - 14	12.1	85.5	10.2	22.5	54.5	28.0	
OPK20542-10A10	16	- 10	5/8"	5/8" - 14	12.5	97.5	10.2	26.0	63.0	28.0	
OPK20542-10A12	16	- 10	5/8"	3/4" - 14	15.0	98.0	9.0	27.0	64.0	32.0	
OPK20542-12A12	19	- 12	3/4"	3/4" - 14	15.0	107.0	9.0	28.5	70.5	32.0	
OPK20542-12A16	19	- 12	3/4"	1" - 11	19.8	109.0	10.5	30.0	72.5	38.0	
OPK20542-16A16	25	- 16	1"	1" - 11	19.8	139.5	10.5	36.5	91.0	38.0	

OPK20542: THRUST WIRE NUT / OPK20543: SLIP-ON NUT



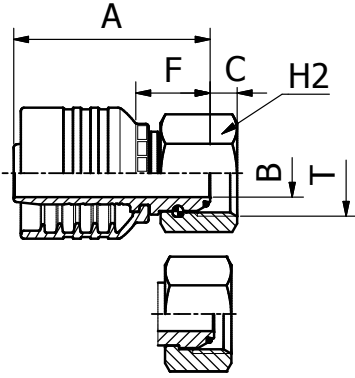
BS STANDARD CONNECTIONS

# OPK20592/OPK20593

90° BSP  
FEMALE ELBOW 60° CONE  
BS5200

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	E	F	H2	
OPK20593-06A06	10	- 6	3/8"	3/8" - 19	7.0	66.0	6.0	31.5	36.5	22.0	
OPK20593-06A08	10	- 6	3/8"	1/2" - 14	9.3	66.0	6.3	32.0	36.5	27.0	
OPK20592-08A06	12	- 8	1/2"	3/8" - 19	7.1	76.0	6.0	41.0	45.0	22.0	
OPK20593-08A08	12	- 8	1/2"	1/2" - 14	9.3	76.0	6.3	36.5	45.0	27.0	
OPK20592-08A10	12	- 8	1/2"	5/8" - 14	12.1	75.5	10.2	44.0	44.0	28.0	
OPK20592-08A12	12	- 8	1/2"	3/4" - 14	15.0	75.5	9.0	45.5	44.0	32.0	
OPK20592-10A10	16	- 10	5/8"	5/8" - 14	12.5	88.0	10.2	53.5	53.5	28.0	
OPK20592-10A12	16	- 10	5/8"	3/4" - 14	15.0	88.0	9.0	55.0	53.5	32.0	
OPK20592-12A12	19	- 12	3/4"	3/4" - 14	15.0	98.0	9.0	59.5	61.5	32.0	
OPK20592-12A16	19	- 12	3/4"	1" - 11	19.8	98.0	10.5	62.0	61.5	38.0	
OPK20592-16A16	25	- 16	1"	1" - 11	19.8	127.5	10.5	76.0	79.5	38.0	

OPK20592: THRUST WIRE NUT / OPK20593: SLIP-ON NUT



BS STANDARD CONNECTIONS

# OPK20812/OPK20813

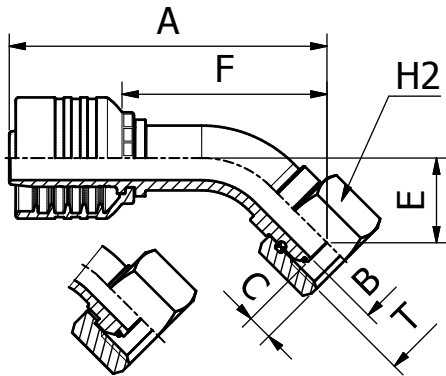
**BSP  
O-RING FEMALE 60° CONE  
BS5200 / ISO 12151-6**

FITTINGS 258

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm					
	DN	Dash	inch		T	B	A	C	F	H2
OPK20812-06A04	10	- 6	3/8"	1/4" - 19	4.1	47.5	4.1	18.0	19.0	
OPK20813-06A06	10	- 6	3/8"	3/8" - 19	7.0	49.0	6.0	19.5	22.0	
OPK20813-08A08	12	- 8	1/2"	1/2" - 14	9.3	51.5	6.3	20.5	27.0	
OPK20812-10A10	16	- 10	5/8"	5/8" - 14	12.5	56.5	9.7	22.0	28.0	
OPK20812-12A12	19	- 12	3/4"	3/4" - 14	15.0	61.5	8.5	25.0	32.0	
OPK20812-16A16	25	- 16	1"	1" - 11	19.8	75.5	10.6	27.5	38.0	
OPK20812-16A20	25	- 16	1"	1.1/4" - 11	26.1	79.0	10.5	31.0	50.0	
OPK20812-20A20	31	- 20	1.1/4"	1.1/4" - 11	26.0	84.0	10.5	31.5	50.0	
OPK20812-20A24	31	- 20	1.1/4"	1.1/2" - 11	32.1	82.0	12.5	29.5	60.0	
OPK20812-24A24	38	- 24	1.1/2"	1.1/2" - 11	32.0	92.5	12.5	30.5	60.0	
OPK20812-24A32	38	- 24	1.1/2"	2"	42.1	92.0	16.1	30.0	70.0	
OPK20812-32A32	51	- 32	2"	2"	42.0	98.0	16.1	32.0	70.0	

OPK20812: THRUST WIRE NUT / OPK20813: SLIP-ON NUT

BS STANDARD CONNECTIONS



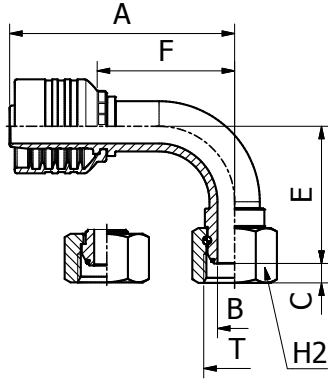
# OPK20842/OPK20843

**45° BSP  
O-RING FEMALE SWEPT ELBOW 60° CONE  
BS5200 / ISO 12151-6**

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm					
	DN	Dash	inch		T	B	A	C	E	F
OPK20843-06A06	10	- 6	3/8"	3/8" - 19	7.0	71.5	6.0	15.5	42.0	22.0
OPK20843-08A08	12	- 8	1/2"	1/2" - 14	9.3	81.0	6.3	17.0	49.5	27.0
OPK20842-10A10	16	- 10	5/8"	5/8" - 14	12.5	98.0	9.7	27.5	63.5	28.0
OPK20842-12A12	19	- 12	3/4"	3/4" - 14	15.0	107.5	8.5	29.0	71.0	32.0
OPK20842-20A20	31	- 20	1.1/4"	1.1/4" - 11	26.0	154.0	10.5	39.0	101.5	50.0
OPK20842-24A24	38	- 24	1.1/2"	1.1/2" - 11	32.0	180.0	12.5	45.0	118.0	60.0
OPK20842-16A16	25	- 16	1"	1" - 11	19.8	138.5	10.6	35.5	90.5	38.0
OPK20842-32A32	51	- 32	2"	2" - 11	42.0	200.0	16.1	47.0	134.0	70.0

OPK20842: THRUST WIRE NUT / OPK20843: SLIP-ON NUT

BS STANDARD CONNECTIONS

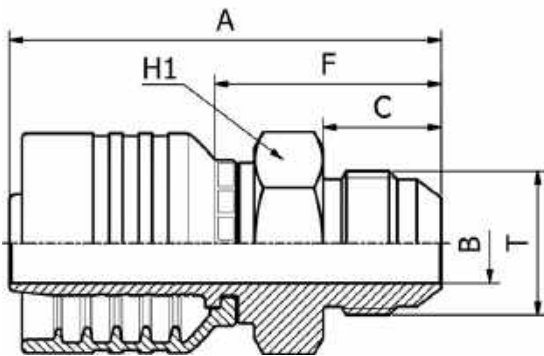


# OPK20892/OPK20893

90° BSP  
O-RING FEMALE SWEPT ELBOW 60° CONE  
BS5200 / ISO 12151-6

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	E	F	H2	
OPK20892-06A04	10	- 6	3/8"	1/4" - 19	4.1	65.0	4.1	33.0	35.5	19.0	
OPK20893-06A06	10	- 6	3/8"	3/8" - 19	7.0	66.0	6.0	31.5	36.5	22.0	
OPK20893-08A08	12	- 8	1/2"	1/2" - 14	9.3	76.0	6.3	36.5	45.0	27.0	
OPK20892-10A10	16	- 10	5/8"	5/8" - 14	12.5	87.5	9.7	55.0	53.0	28.0	
OPK20892-12A12	19	- 12	3/4"	3/4" - 14	15.0	98.0	8.5	60.0	61.5	32.0	
OPK20892-16A20	25	- 16	1"	1.1/4" - 11	26.1	127.5	10.5	78.5	79.5	50.0	
OPK20892-16A16	25	- 16	1"	1" - 11	19.8	127.5	10.6	76.0	79.5	38.0	
OPK20892-20A20	31	- 20	1.1/4"	1.1/4" - 11	26.0	143.0	10.5	83.5	90.5	50.0	
OPK20892-20A24	31	- 20	1.1/4"	1.1/2" - 11	32.1	143.0	12.5	84.5	90.5	60.0	
OPK20892-24A24	38	- 24	1.1/2"	1.1/2" - 11	32.0	170.0	12.5	98.5	108.0	60.0	
OPK20892-32A32	51	- 32	2"	2" - 11	42.0	197.0	16.1	110.5	131.0	70.0	

OPK20892: THRUST WIRE NUT / OPK20893: SLIP-ON NUT



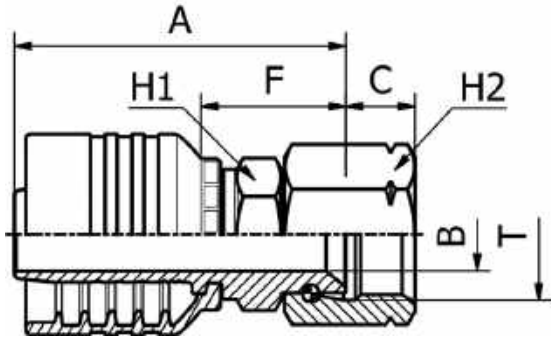
SAE STANDARD CONNECTIONS

# OPK12510

JIC  
MALE 37° CONE  
SAE J516 / ISO 12151-5

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm					
	DN	Dash	inch	T	B	A	C	F	H1	
OPK12510-06A06	10	- 6	3/8"	9/16" - 18	7.0	59.0	14.0	29.5	17.0	
OPK12510-06A08	10	- 6	3/8"	3/4" - 16	9.3	63.5	16.5	34.0	19.0	
OPK12510-06A10	10	- 6	3/8"	7/8" - 14	12.5	68.0	19.5	38.5	24.0	
OPK12510-08A06	12	- 8	1/2"	9/16" - 18	7.0	63.0	14.0	32.0	19.0	
OPK12510-08A08	12	- 8	1/2"	3/4" - 16	9.3	65.5	16.5	34.5	19.0	
OPK12510-08A10	12	- 8	1/2"	7/8" - 14	12.5	70.0	19.5	39.0	24.0	
OPK12510-08A12	12	- 8	1/2"	1.1/16" - 12	15.0	74.0	22.0	43.0	27.0	
OPK12510-10A10	16	- 10	5/8"	7/8" - 14	12.5	73.5	19.5	39.0	24.0	
OPK12510-10A12	16	- 10	5/8"	1.1/16" - 12	15.0	77.0	22.0	42.5	27.0	
OPK12510-12A10	19	- 12	3/4"	7/8" - 14	12.5	78.0	19.5	41.5	27.0	
OPK12510-12A12	19	- 12	3/4"	1.1/16" - 12	15.0	80.5	22.0	44.0	27.0	
OPK12510-12A14	19	- 12	3/4"	1.3/16" - 12	15.0	81.0	22.5	44.5	32.0	
OPK12510-12A16	19	- 12	3/4"	1.5/16" - 12	19.8	83.5	23.0	47.0	34.0	
OPK12510-16A12	25	- 16	1"	1.1/16" - 12	15.0	93.0	22.0	45.0	32.0	
OPK12510-16A16	25	- 16	1"	1.5/16" - 12	19.8	96.0	23.0	48.0	34.0	
OPK12510-16A20	25	- 16	1"	1.5/8" - 12	26.0	101.0	24.3	53.0	42.0	
OPK12510-20A20	31	- 20	1.1/4"	1.5/8" - 12	26.0	106.0	24.3	53.5	42.0	
OPK12510-20A24	31	- 20	1.1/4"	1.7/8" - 12	32.0	113.0	27.5	60.5	50.0	
OPK12510-24A24	38	- 24	1.1/2"	1.7/8" - 12	32.0	122.5	27.5	60.5	50.0	
OPK12510-32A32	51	- 32	2"	2.1/2" - 12	42.0	138.0	34.0	72.0	65.0	

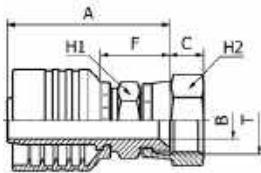
SAE STANDARD CONNECTIONS



# OPK22712

JIC  
 FEMALE 37° CONE SEAT DOUBLE HEXAGON  
 SAE J516 / ISO 12151-5  
 (THRUST-WIRE NUT)

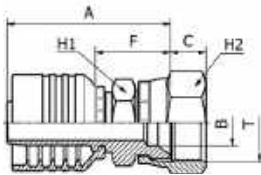
PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	B	A	C	F	H1	H2
OPK22712-12A16	19	- 12	3/4"	1.5/16" - 12	19.8	69.0	15.0	32.5	32.0	38.0	
OPK22712-16A20	25	- 16	1"	1.5/8" - 12	26.0	91.0	16.2	43.0	41.0	50.0	
OPK22712-20A20	31	- 20	1.1/4"	1.5/8" - 12	26.0	96.0	16.2	43.5	41.0	50.0	



SAE STANDARD CONNECTIONS

# OPK22711/OPK22711KR

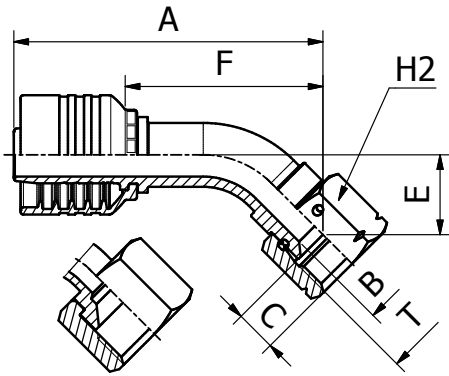
JIC  
 FEMALE 37° CONE SEAT DOUBLE HEXAGON  
 SAE J516 / ISO 12151-5



PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	B	A	C	F	H1	H2
OPK22711-06A06KR	10	- 6	3/8"	9/16" - 18	7.0	51.5	9.5	22.0	17.0	17.0	
OPK22711-06A08KR	10	- 6	3/8"	3/4" - 16	9.3	56.0	10.7	26.5	19.0	22.0	
OPK22711-08A08KR	12	- 8	1/2"	3/4" - 16	9.3	58.0	10.7	27.0	19.0	22.0	
OPK22711-08A10KR	12	- 8	1/2"	7/8" - 14	9.3	60.5	12.5	29.5	22.0	25.0	
OPK22711-08A12KR	12	- 8	1/2"	1.1/16" - 12	15.0	60.0	14.1	28.5	27.0	32.0	
OPK22711-10A08KR	16	- 10	5/8"	3/4" - 16	9.3	62.5	10.7	28.5	22.0	22.0	
OPK22711-10A10KR	16	- 10	5/8"	7/8" - 14	12.5	64.0	12.5	29.5	22.0	25.0	
OPK22711-16A12KR	25	- 16	1"	1.1/16" - 12	15.0	80.5	14.1	32.5	32.0	32.0	
OPK22711-12A08KR	19	- 12	3/4"	3/4" - 16	9.3	66.0	10.7	29.5	27.0	22.0	
OPK22711-12A10KR	19	- 12	3/4"	7/8" - 14	12.5	67.0	12.5	30.5	27.0	25.0	
OPK22711-12A12KR	19	- 12	3/4"	1.1/16" - 12	15.0	66.5	14.1	30.0	27.0	32.0	
OPK22711-12A16	19	- 12	3/4"	1.5/16" - 12	19.8	71.0	15.3	34.5	32.0	38.0	
OPK22711-16A16	25	- 16	1"	1.5/16" - 12	19.8	83.5	15.3	35.5	32.0	38.0	

KR: CRIMPED BACK KOMPACT ROBUST NUT

SAE STANDARD CONNECTIONS

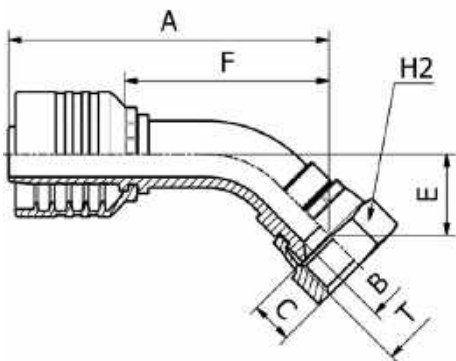


# OPK22542/OPK22543

45° JIC  
FEMALE SWEPT ELBOW 37° CONE SEAT  
SAE J516 / ISO 12151-5

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	B	A	C	E	F	H2
OPK22542-06A06	10	- 6	3/8"	9/16" - 18	7.0	71.5	9.2	16.5	42.0	19.0	
OPK22543-06A08	10	- 6	3/8"	3/4" - 16	7.0	70.5	10.1	14.0	41.0	22.0	
OPK22543-06A10	10	- 6	3/8"	7/8" - 14	9.3	72.0	12.4	15.5	42.5	27.0	
OPK22542-08A08	12	- 8	1/2"	3/4" - 16	9.3	83.0	10.2	20.0	52.0	22.0	
OPK22543-08A10	12	- 8	1/2"	7/8" - 14	9.3	80.5	12.4	17.0	49.5	27.0	
OPK22543-08A12	12	- 8	1/2"	1.1/16" - 12	12.5	80.5	14.1	17.0	49.5	32.0	
OPK22542-10A10	16	- 10	5/8"	7/8" - 14	12.5	96.5	12.3	25.5	62.0	27.0	
OPK22543-10A12	16	- 10	5/8"	1.1/16" - 12	12.5	94.5	14.1	24.0	60.0	32.0	
OPK22542-12A12	19	- 12	3/4"	1.1/16" - 12	15.0	106.0	14.2	27.5	70.0	32.0	
OPK22542-12A14	19	- 12	3/4"	1.3/16" - 12	15.0	106.0	14.3	27.5	69.5	36.0	
OPK22542-12A16	19	- 12	3/4"	1.5/16" - 12	19.8	106.5	15.0	27.5	70.0	38.0	
OPK22542-16A16	25	- 16	1"	1.5/16" - 12	19.8	132.5	15.0	32.0	84.0	38.0	
OPK22542-16A20	25	- 16	1"	1.5/8" - 12	26.0	138.0	16.2	36.0	90.0	50.0	
OPK22542-20A20	31	- 20	1.1/4"	1.5/8" - 12	26.0	156.0	16.2	41.5	103.5	50.0	
OPK22542-20A24	31	- 20	1.1/4"	1.7/8" - 12	32.0	159.0	18.8	44.5	106.5	60.0	
OPK22542-24A24	38	- 24	1.1/2"	1.7/8" - 12	32.0	181.0	18.8	46.5	119.0	60.0	
OPK22542-32A32	51	- 32	2"	2.1/2" - 12	44.0	229.0	24.0	68.0	163.0	75.0	

OPK22542: THRUST WIRE NUT / OPK22543: SLIP-ON NUT



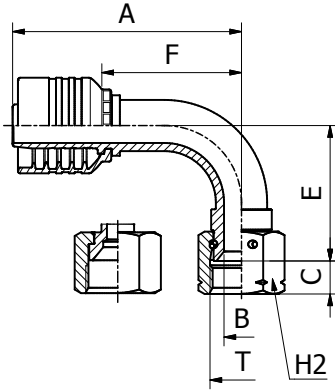
SAE STANDARD CONNECTIONS

# OPK22541KR

45° ELBOW JIC  
FEMALE 37° CONE SEAT  
SAE J516 / ISO 12151-5  
(CRIMPED-BACK NUT)

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	B	A	C	E	F	H2
OPK22541-06A06KR	10	- 6	3/8"	9/16" - 18	7.0	71.5	9.5	16.0	42.0	17.0	
OPK22541-08A08KR	12	- 8	1/2"	3/4" - 16	9.3	83.0	10.7	20.0	52.0	22.0	
OPK22541-10A10KR	16	- 10	5/8"	7/8" - 14	12.5	95.5	12.5	22.5	61.0	25.0	
OPK22541-12A12KR	19	- 12	3/4"	1.1/16" - 12	15.0	105.5	14.1	26.5	69.0	32.0	

SAE STANDARD CONNECTIONS



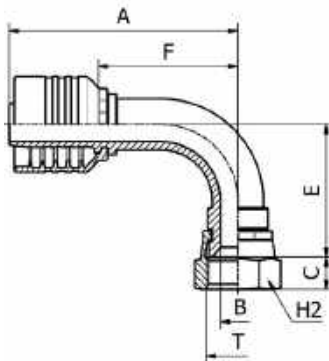
# OPK22592/OPK22593

**90° JIC  
FEMALE SWEPT ELBOW 37° CONE SEAT  
SAE J516 / ISO 12151-5**

FITTINGS 262

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	E	F	H2	
OPK22592-06A05	10	- 6	3/8"	1/2" - 20	5.5	59.5	9.1	26.5	30.0	17.0	
OPK22592-06A06	10	- 6	3/8"	9/16" - 18	7.0	65.0	9.2	32.5	35.5	19.0	
OPK22593-06A08	10	- 6	3/8"	3/4" - 16	7.0	66.0	10.1	29.5	36.5	22.0	
OPK22593-06A10	10	- 6	3/8"	7/8" - 14	9.3	66.0	12.4	31.5	36.5	27.0	
OPK22592-08A06	12	- 8	1/2"	9/16" - 18	7.0	68.0	9.2	33.0	37.0	19.0	
OPK22592-08A08	12	- 8	1/2"	3/4" - 16	9.3	75.5	10.2	41.0	44.0	22.0	
OPK22593-08A10	12	- 8	1/2"	7/8" - 14	9.3	76.0	12.4	36.0	45.0	27.0	
OPK22593-08A12	12	- 8	1/2"	1.1/16" - 12	12.5	76.0	14.1	36.0	45.0	32.0	
OPK22592-10A10	16	- 10	5/8"	7/8" - 14	12.5	88.0	12.3	52.5	53.5	27.0	
OPK22593-10A12	16	- 10	5/8"	1.1/16" - 12	12.5	86.0	14.1	50.0	51.5	32.0	
OPK22592-12A10	19	- 12	3/4"	7/8" - 14	12.5	91.5	12.3	52.5	55.0	27.0	
OPK22592-12A12	19	- 12	3/4"	1.1/16" - 12	15.0	98.0	14.2	58.0	62.0	32.0	
OPK22592-12A14	19	- 12	3/4"	1.3/16" - 12	15.0	99.0	14.3	58.0	63.0	36.0	
OPK22592-12A16	19	- 12	3/4"	1.5/16" - 12	19.8	99.0	15.0	57.5	63.0	38.0	
OPK22592-16A16	25	- 16	1"	1.5/16" - 12	19.8	124.0	15.0	68.5	76.0	38.0	
OPK22592-16A20	25	- 16	1"	1.5/8" - 12	26.0	125.5	16.2	74.5	77.5	50.0	
OPK22592-20A20	31	- 20	1.1/4"	1.5/8" - 12	26.0	143.0	16.2	86.5	90.5	50.0	
OPK22592-20A24	31	- 20	1.1/4"	1.7/8" - 12	32.0	143.0	18.8	90.5	90.5	60.0	
OPK22592-24A24	38	- 24	1.1/2"	1.7/8" - 12	32.0	170.0	18.8	100.5	108.0	60.0	
OPK22592-32A32	51	- 32	2"	2.1/2" - 12	44.0	208.0	24.0	137.0	142.0	75.0	

OPK22592: THRUST WIRE NUT / OPK22593: SLIP-ON NUT



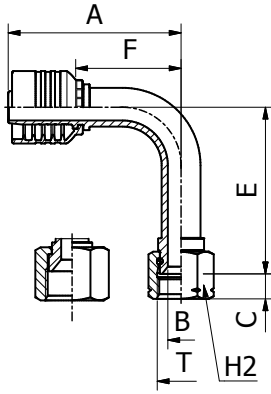
SAE STANDARD CONNECTIONS

# OPK22591KR

**90° ELBOW JIC  
FEMALE 37° CONE SEAT SAE  
J516 / ISO 12151-5  
(CRIMPED-BACK NUT)**

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	E	F	H2	
OPK22591-06A06KR	10	- 6	3/8"	9/16" - 18	7.0	65.0	9.5	32.0	35.5	17.0	
OPK22591-08A08KR	12	- 8	1/2"	3/4" - 16	9.3	75.5	10.7	40.5	44.0	22.0	
OPK22591-10A10KR	16	- 10	5/8"	7/8" - 14	12.5	88.0	12.5	47.0	53.5	25.0	
OPK22591-12A12KR	19	- 12	3/4"	1.1/16" - 12	15.0	98.0	14.1	57.0	62.0	32.0	





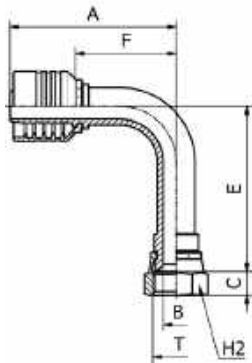
SAE STANDARD CONNECTIONS

# OPK24792/OPK24793

90° JIC  
FEMALE LONG DROP ELBOW 37° CONE SEAT  
SAE J516 / ISO 12151-5

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	E	F	H2	
OPK24792-06A06	10	- 6	3/8"	9/16" - 18	7.0	65.0	9.2	55.0	35.5	19.0	
OPK24793-06A08	10	- 6	3/8"	3/4" - 16	7.0	66.0	10.1	61.5	36.5	22.0	
OPK24793-08A10	12	- 8	1/2"	7/8" - 14	9.3	76.0	12.4	65.0	45.0	27.0	
OPK24792-08A08	12	- 8	1/2"	3/4" - 16	9.3	75.5	10.2	61.0	44.0	22.0	
OPK24792-10A10	16	- 10	5/8"	7/8" - 14	12.5	88.0	12.3	65.5	53.5	27.0	
OPK24792-12A12	19	- 12	3/4"	1.1/16" - 12	15.0	98.0	14.2	94.5	62.0	32.0	
OPK24792-16A16	25	- 16	1"	1.5/16" - 12	19.8	125.5	15.0	110.0	77.5	38.0	

OPK24792: THRUST WIRE NUT / OPK24793: SLIP-ON NUT



SAE STANDARD CONNECTIONS

# OPK24791KR

90° LONG DROP ELBOW JIC  
FEMALE 37° CONE SEAT  
SAE J516 / ISO 12151-5  
(CRIMPED-BACK NUT)

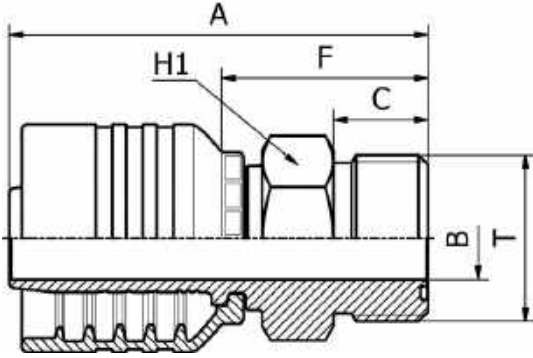
PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	E	F	H2	
OPK24791-06A06KR	10	- 6	3/8"	9/16" - 18	7.0	65.0	9.5	55.0	35.5	17.0	
OPK24791-08A08KR	12	- 8	1/2"	3/4" - 16	9.3	75.5	10.7	64.0	44.0	22.0	
OPK24791-10A10KR	16	- 10	5/8"	7/8" - 14	12.5	88.0	12.5	70.0	53.5	25.0	
OPK24791-12A12KR	19	- 12	3/4"	1.1/16" - 12	15.0	98.0	14.1	96.0	62.0	32.0	

SAE STANDARD CONNECTIONS

# OPK12410

ORFS  
MALE

SAE J516 / ISO 12151-1



PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	F	H1		
OPK12410-06A06	10	- 6	3/8"	11/16" - 16	6.7	57.0	11.2	27.5	19.0		
OPK12410-06A08	10	- 6	3/8"	13/16" - 16	9.3	59.5	12.8	30.0	22.0		
OPK12410-08A08	12	- 8	1/2"	13/16" - 16	9.3	61.5	12.8	30.5	22.0		
OPK12410-08A10	12	- 8	1/2"	1" - 14	12.5	66.0	15.5	35.0	27.0		
OPK12410-10A10	16	- 10	5/8"	1" - 14	12.5	69.0	15.5	34.5	27.0		
OPK12410-10A12	16	- 10	5/8"	1.3/16" - 12	15.0	72.0	17.0	37.5	32.0		
OPK12410-12A12	19	- 12	3/4"	1.3/16" - 12	15.0	75.5	17.0	39.0	32.0		
OPK12410-12A16	19	- 12	3/4"	1.7/16" - 12	19.8	77.0	17.5	40.5	38.0		
OPK12410-16A16	25	- 16	1"	1.7/16" - 12	19.8	90.0	17.5	42.0	38.0		
OPK12410-20A20	31	- 20	1.1/4"	1.11/16" - 12	26.0	99.0	17.5	46.5	46.0		
OPK12410-24A24	38	- 24	1.1/2"	2" - 12	32.0	110.5	17.5	48.5	55.0		

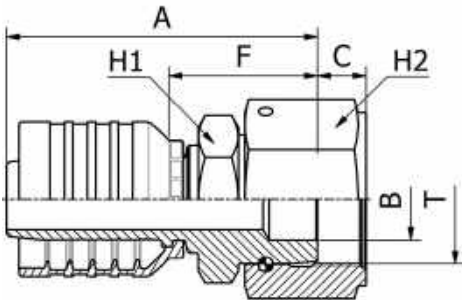
FITTINGS 264

SAE STANDARD CONNECTIONS

# OPK22411

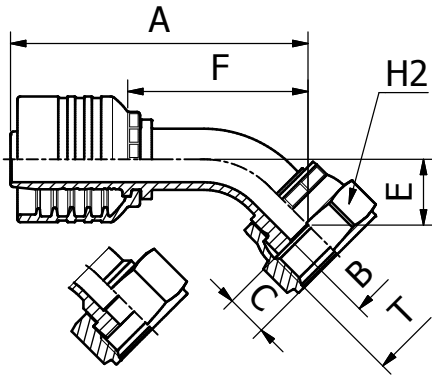
ORFS  
FEMALE

SAE J516 / ISO 12151-1  
PULLBACK TYPE



PART. REF.	HOSE BORE			Thread	DIMENSIONS mm					
	DN	Dash	inch	T	B	A	C	F	H1	H2
OPK22411-06A06	10	- 6	3/8"	11/16" - 16	7.0	60.5	9.5	31.0	16.0	22.0
OPK22411-06A08	10	- 6	3/8"	13/16" - 16	9.3	65.0	11.0	35.5	19.0	24.0
OPK22411-08A06	12	- 8	1/2"	11/16" - 16	7.0	63.0	9.5	32.0	19.0	22.0
OPK22411-08A08	12	- 8	1/2"	13/16" - 16	9.3	67.0	11.0	36.0	19.0	24.0
OPK22411-08A10	12	- 8	1/2"	1" - 14	11.5	69.5	13.5	38.5	24.0	30.0
OPK22411-08A12	12	- 8	1/2"	1.3/16" - 12	13.9	73.0	14.5	42.0	28.0	36.0
OPK22411-10A10	16	- 10	5/8"	1" - 14	11.5	73.0	13.5	38.5	24.0	30.0
OPK22411-10A12	16	- 10	5/8"	1.3/16" - 12	13.9	76.5	14.5	42.0	28.0	36.0
OPK22411-12A10	19	- 12	3/4"	1" - 14	11.5	77.5	13.5	41.0	28.0	30.0
OPK22411-12A12	19	- 12	3/4"	1.3/16" - 12	13.9	80.0	14.5	43.5	28.0	36.0
OPK22411-12A16	19	- 12	3/4"	1.7/16" - 12	19.8	82.0	15.0	45.5	36.0	41.0
OPK22411-16A12	25	- 16	1"	1.3/16" - 12	13.9	94.0	13.5	48.0	36.0	36.0
OPK22411-16A16	25	- 16	1"	1.7/16" - 12	19.8	94.5	15.0	46.5	36.0	41.0
OPK22411-16A20	25	- 16	1"	1.11/16" - 12	26.0	97.5	14.8	49.5	41.0	50.0
OPK22411-20A20	31	- 20	1.1/4"	1.11/16" - 12	26.0	101.5	14.8	49.0	41.0	50.0
OPK22411-24A24	38	- 24	1.1/2"	2" - 12	32.0	116.0	15.8	54.0	50.0	60.0

SAE STANDARD CONNECTIONS

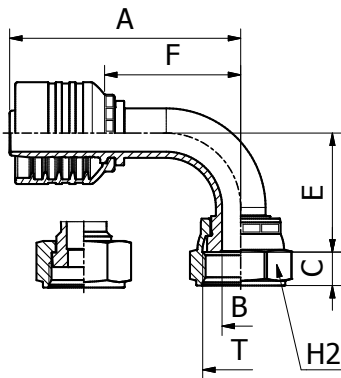


# OPK22441/OPK22443

45° ORFS  
FEMALE ELBOW  
SAE J516 / ISO 12151-1

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	E	F	H2	
OPK22443-06A06	10	- 6	3/8"	11/16" - 16	6.0	61.5	9.5	11.0	32.5	22.0	
OPK22443-06A08	10	- 6	3/8"	13/16" - 16	9.3	63.0	11.0	12.5	34.0	24.0	
OPK22441-08A06	12	- 8	1/2"	11/16" - 16	7.0	63.5	9.5	11.0	32.5	22.0	
OPK22443-08A08	12	- 8	1/2"	13/16" - 16	9.0	73.0	11.0	13.0	42.0	24.0	
OPK22443-08A10	12	- 8	1/2"	1" - 14	11.5	73.0	13.5	13.5	42.0	30.0	
OPK22443-08A12	12	- 8	1/2"	1.3/16" - 12	13.9	78.0	14.5	18.5	46.5	36.0	
OPK22443-10A10	16	- 10	5/8"	1" - 14	11.5	83.5	13.5	16.0	49.0	30.0	
OPK22443-10A12	16	- 10	5/8"	1.3/16" - 12	13.9	86.0	14.5	18.5	51.5	36.0	
OPK22441-12A10	19	- 12	3/4"	1" - 14	11.5	87.0	13.5	16.5	50.5	30.0	
OPK22443-12A12	19	- 12	3/4"	1.3/16" - 12	13.9	97.0	14.5	21.5	60.5	36.0	
OPK22443-12A16	19	- 12	3/4"	1.7/16" - 12	19.8	96.5	14.8	21.0	60.0	41.0	
OPK22443-16A16	25	- 16	1"	1.7/16" - 12	19.8	120.0	14.8	23.5	72.0	41.0	
OPK22443-16A20	25	- 16	1"	1.11/16" - 12	26.0	122.0	14.8	25.0	74.0	50.0	
OPK22443-20A20	31	- 20	1.1/4"	1.11/16" - 12	26.0	134.5	14.8	27.0	82.0	50.0	

OPK22442: THRUST WIRE NUT / OPK22443: SLIP-ON NUT



SAE STANDARD CONNECTIONS

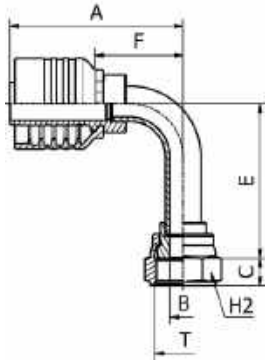
# OPK22491/OPK22493

90° ORFS  
FEMALE ELBOW  
SAE J516 / ISO 12151-1

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	E	F	H2	
OPK22493-06A06	10	- 6	3/8"	11/16" - 16	6.0	59.5	9.5	24.0	30.0	22.0	
OPK22493-06A08	10	- 6	3/8"	13/16" - 16	9.3	59.5	11.0	26.5	30.0	24.0	
OPK22491-08A06	12	- 8	1/2"	11/16" - 16	7.0	61.5	9.5	24.5	30.0	22.0	
OPK22493-08A08	12	- 8	1/2"	13/16" - 16	9.0	71.5	11.0	30.0	40.5	24.0	
OPK22493-08A10	12	- 8	1/2"	1" - 14	11.5	71.0	13.5	30.5	40.0	30.0	
OPK22493-08A12	12	- 8	1/2"	1.3/16" - 12	13.9	71.0	14.5	37.5	39.5	36.0	
OPK22493-10A10	16	- 10	5/8"	1" - 14	11.5	82.5	13.5	37.5	48.0	30.0	
OPK22493-10A12	16	- 10	5/8"	1.3/16" - 12	13.9	82.5	14.5	41.0	48.0	36.0	
OPK22491-12A10	19	- 12	3/4"	1" - 14	11.5	85.5	13.5	38.0	49.0	30.0	
OPK22493-12A12	19	- 12	3/4"	1.3/16" - 12	13.9	93.0	14.5	48.0	56.5	36.0	
OPK22493-12A16	19	- 12	3/4"	1.7/16" - 12	19.8	93.0	14.8	47.5	56.5	41.0	
OPK22491-16A12	25	- 16	1"	1.3/16" - 12	13.9	106.0	13.5	48.0	57.5	36.0	
OPK22493-16A16	25	- 16	1"	1.7/16" - 12	19.8	119.5	14.8	56.0	71.5	41.0	
OPK22493-16A20	25	- 16	1"	1.11/16" - 12	26.0	119.5	14.8	58.5	71.5	50.0	
OPK22493-20A20	31	- 20	1.1/4"	1.11/16" - 12	26.0	135.5	14.8	66.0	83.0	50.0	
OPK22493-24A24	38	- 24	1.1/2"	2" - 12	32.0	164.0	14.8	79.5	102.0	60.0	

OPK22492: THRUST WIRE NUT / OPK22493: SLIP-ON NUT

SAE STANDARD CONNECTIONS

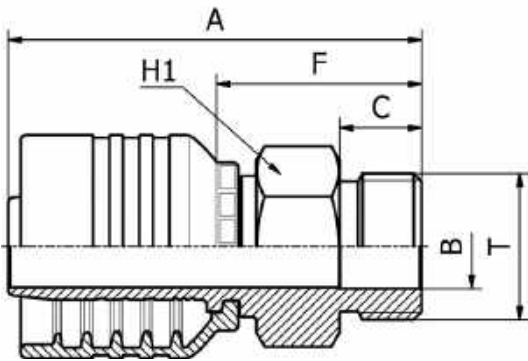


# OPK24491

90° ORFS  
FEMALE LONG DROP ELBOW  
SAE J516 / ISO 12151-1  
(CRIMPED-BACK NUT)

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	E	F	H2	
OPK24491-06A06	10	- 6	3/8"	11/16" - 16	6.7	61.5	9.5	54.0	32.0	22.0	
OPK24491-06A08	10	- 6	3/8"	13/16" - 16	6.7	61.5	11.0	54.0	32.0	24.0	
OPK24491-08A08	12	- 8	1/2"	13/16" - 16	9.6	68.0	11.0	64.0	37.0	24.0	
OPK24491-08A10	12	- 8	1/2"	1" - 14	9.6	68.0	12.5	64.5	37.0	30.0	
OPK24491-10A10	16	- 10	5/8"	1" - 14	12.0	75.5	13.0	70.0	41.0	30.0	
OPK24491-10A12	16	- 10	5/8"	1.3/16" - 12	12.7	75.5	13.5	73.0	41.0	36.0	
OPK24491-12A12	19	- 12	3/4"	1.3/16" - 12	15.0	95.0	13.5	96.0	58.5	36.0	
OPK24491-16A16	25	- 16	1"	1.7/16" - 12	19.8	119.5	13.5	114.0	71.5	41.0	

All items made by brazing with the exception of OPK24491-12-12 and OPK24491-16-16

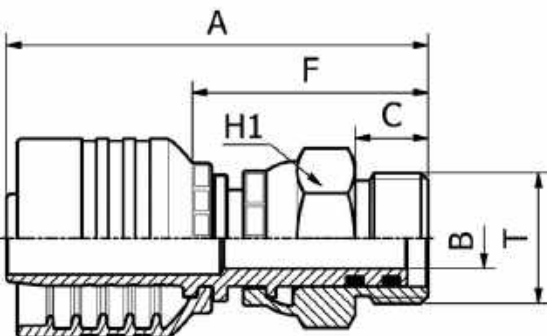


SAE STANDARD CONNECTIONS

# OPK13010

SAE  
MALE O'RING BOSS TYPE

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm					
	DN	Dash	inch	T	B	A	C	F	H1	
OPK13010-08A08	12	- 8	1/2"	3/4" - 16	9.9	60.0	11.1	29.0	22.0	
OPK13010-12A12	19	- 12	3/4"	1.1/16" - 12	15.5	76.0	15.1	39.5	32.0	
OPK13010-16A16	25	- 16	1"	1.5/16" - 12	21.5	89.5	15.1	41.0	38.0	



SAE STANDARD CONNECTIONS

# OPK14310

SAE  
SWIVEL MALE O'RING BOSS TYPE

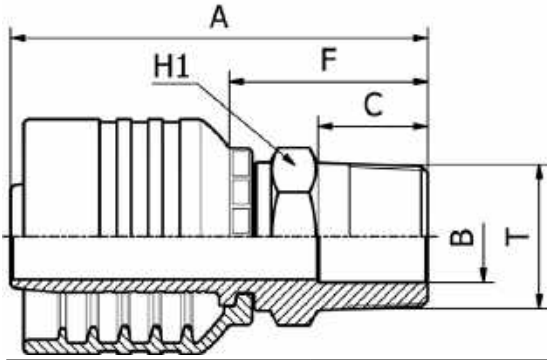
PART. REF.	HOSE BORE			Thread	DIMENSIONS mm					
	DN	Dash	inch	T	B	A	C	F	H2	
OPK14310-08A08	12	- 8	1/2"	3/4" - 16	9.3	84.0	11.1	53.0	27.0	

Not to be used as a live swivel

SAE STANDARD CONNECTIONS

# OPK12810

NPTF  
MALE 60° CONE SEAT  
SAE J516/J514



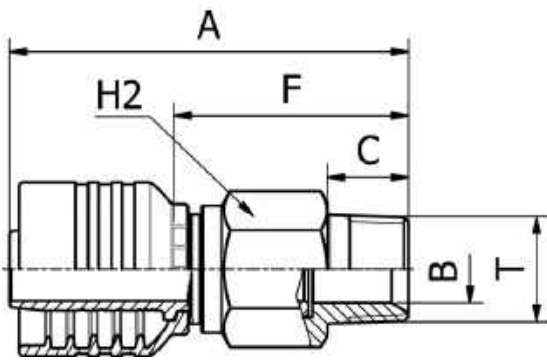
PART. REF.	HOSE BORE			Thread	DIMENSIONS mm					
	DN	Dash	inch	T	B	A	C	F	H1	
OPK12810-06A04	10	- 6	3/8"	1/4" - 18	5.5	59.5	14.5	30.0	14.0	
OPK12810-06A06	10	- 6	3/8"	3/8" - 18	9.3	58.0	14.5	28.5	19.0	
OPK12810-06A08	10	- 6	3/8"	1/2" - 14	12.5	64.0	19.2	34.5	24.0	
OPK12810-08A06	12	- 8	1/2"	3/8" - 18	9.3	60.0	14.5	29.0	19.0	
OPK12810-08A08	12	- 8	1/2"	1/2" - 14	12.5	66.0	19.2	35.0	24.0	
OPK12810-08A12	12	- 8	1/2"	3/4" - 14	15.5	66.5	19.2	35.5	27.0	
OPK12810-10A08	16	- 10	5/8"	1/2" - 14	12.5	73.0	19.2	38.5	24.0	
OPK12810-10A12	16	- 10	5/8"	3/4" - 14	16.0	74.5	19.2	40.0	27.0	
OPK12810-12A08	19	- 12	3/4"	1/2" - 14	12.5	73.0	19.2	36.5	27.0	
OPK12810-12A12	19	- 12	3/4"	3/4" - 14	16.0	73.0	19.2	36.5	27.0	
OPK12810-12A16	19	- 12	3/4"	1" - 11,5	19.8	82.5	24.2	46.0	36.0	
OPK12810-16A20	25	- 16	1"	1.1/4" - 11,5	26.0	104.5	25.0	56.5	46.0	
OPK12810-16A12	25	- 16	1"	3/4" - 14	15.5	87.0	19.2	39.0	32.0	
OPK12810-16A16	25	- 16	1"	1" - 11,5	19.8	92.0	24.2	44.0	36.0	
OPK12810-20A20	31	- 20	1.1/4"	1.1/4" - 11,5	26.0	109.0	25.0	56.5	46.0	
OPK12810-24A24	38	- 24	1.1/2"	1.1/2" - 11,5	32.0	119.5	26.0	57.5	50.0	
OPK12810-32A32	51	- 32	2"	2" - 11,5	45.0	130.5	26.5	64.5	65.0	

267 FITTINGS

SAE STANDARD CONNECTIONS

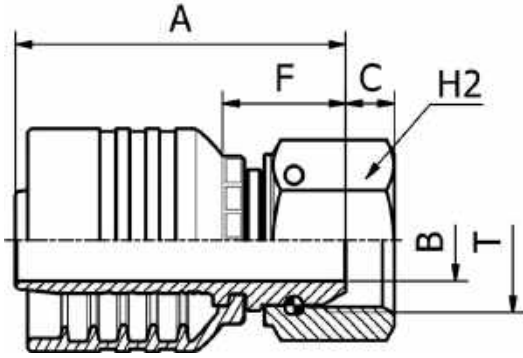
# OPK14110R

NPTF  
SWIVEL MALE 60° CONE SEAT  
SAE J516/J514



PART. REF.	HOSE BORE			Thread	DIMENSIONS mm					
	DN	Dash	inch	T	B	A	C	F	H2	
OPK14110-06A04R	10	- 6	3/8"	1/4" - 18	4.0	80.0	14.5	50.5	22.0	
OPK14110-06A06R	10	- 6	3/8"	3/8" - 18	7.0	80.0	14.5	50.5	22.0	
OPK14110-08A08R	12	- 8	1/2"	1/2" - 14	9.3	90.0	19.2	59.0	27.0	
OPK14110-12A12R	19	- 12	3/4"	3/4" - 14	16.0	94.5	19.2	58.0	32.0	
OPK14110-16A16R	25	- 16	1"	1" - 11,5	19.8	114	24.2	66.0	38.0	

Not to be used as a live swivel



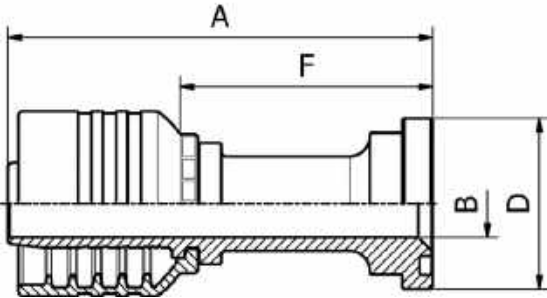
SAE STANDARD CONNECTIONS

# OPK22812

NPSM  
FEMALE 60° CONE  
SAE J516/J514  
(THRUST-WIRE NUT)

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	F	H2		
OPK22812-06A06	10	- 6	3/8"	3/8" - 18	7.0	50.5	6.0	21.0	22.0		
OPK22812-08A08	12	- 8	1/2"	1/2" - 14	9.3	54.0	6.5	23.0	27.0		
OPK22812-12A12	19	- 12	3/4"	3/4" - 14	15.0	61.0	9.0	24.5	32.0		
OPK22812-16A16	25	- 16	1"	1" - 11,5	19.8	75.5	10.5	27.5	38.0		

FITTINGS 268



SAE STANDARD CONNECTIONS

# OPK23311

ISO / SAE  
CODE 61 FLANGE  
SAE J516 / ISO 12151-3

PART. REF.	HOSE BORE			Flange	DIMENSIONS mm						
	DN	Dash	inch	inch	B	A	D	F			
OPK23311-08A08	12	- 8	1/2"	1/2"	9.3	82.0	30.3	51.0			
OPK23311-08A12	12	- 8	1/2"	3/4"	15.1	89.0	38.0	58.0			
OPK23311-10A12	16	- 10	5/8"	3/4"	15.0	100.0	38.0	65.5			
OPK23311-12A12	19	- 12	3/4"	3/4"	15.0	94.5	38.0	58.0			
OPK23311-12A16	19	- 12	3/4"	1"	20.0	94.5	44.6	58.0			
OPK23311-16A16	25	- 16	1"	1"	19.8	112.5	44.6	64.5			
OPK23311-16A20	25	- 16	1"	1.1/4"	26.0	118.5	51.0	70.5			
OPK23311-20A20	31	- 20	1.1/4"	1.1/4"	26.0	123.0	51.0	70.5			
OPK23311-20A24	31	- 20	1.1/4"	1.1/2"	32.0	125.0	60.5	72.5			
OPK23311-24A24	38	- 24	1.1/2"	1.1/2"	32.0	137.5	60.5	75.5			
OPK23311-24A32	38	- 24	1.1/2"	2"	42.0	137.5	71.6	75.5			
OPK23311-32A32	51	- 32	2"	2"	42.0	145.0	71.6	79.0			
OPK23311-32A40	51	- 32	2"	2.1/2"	56.0	147.0	84.3	81.0			

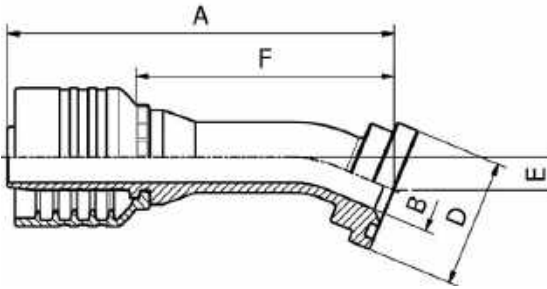
SAE STANDARD CONNECTIONS

# OPK23321

22,5° ISO / SAE

CODE 61 FLANGE

SAE J516 / ISO 12151-3



PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch	inch		B	A	D	E	F		
OPK23321-08A08	12	- 8	1/2"	1/2"		9.3	95.0	30.3	8.0	64.0		
OPK23321-12A12	19	- 12	3/4"	3/4"		15.0	111.0	38.0	10.0	74.5		
OPK23321-12A16	19	- 12	3/4"	1"		20.0	111.0	44.6	10.0	74.5		
OPK23321-16A16	25	- 16	1"	1"		19.8	137.0	44.6	11.5	89.0		
OPK23321-20A20	31	- 20	1.1/4"	1.1/4"		26.0	152.5	51.0	12.0	100.0		
OPK23321-20A24	31	- 20	1.1/4"	1.1/2"		32.0	154.5	60.5	13.0	102.0		

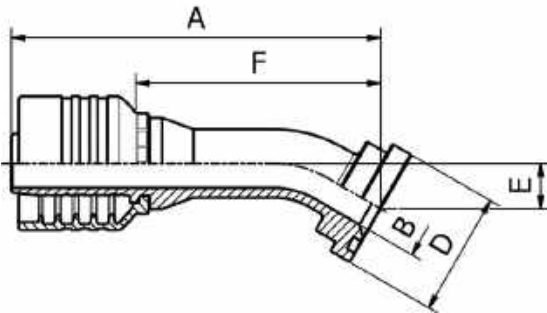
SAE STANDARD CONNECTIONS

# OPK23331

30° ISO / SAE

CODE 61 FLANGE

SAE J516 / ISO 12151-3

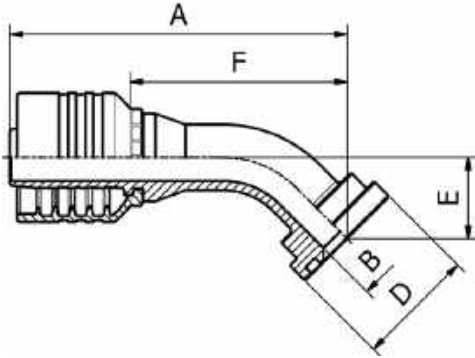


PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch	inch		B	A	D	E	F		
OPK23331-08A08	12	- 8	1/2"	1/2"		9.3	93.5	30.3	11.0	62.5		
OPK23331-12A12	19	- 12	3/4"	3/4"		15.0	109.5	38.0	14.0	73.0		
OPK23331-12A16	19	- 12	3/4"	1"		20.0	109.5	44.6	14.0	73.0		
OPK23331-16A16	25	- 16	1"	1"		19.8	135.0	44.6	16.5	87.0		
OPK23331-20A20	31	- 20	1.1/4"	1.1/4"		26.0	150.5	51.0	17.5	98.0		
OPK23331-24A24	38	- 24	1.1/2"	1.1/2"		32.0	176.5	60.5	20.0	114.5		

SAE STANDARD CONNECTIONS

# OPK23341

45° ISO / SAE  
CODE 61 FLANGE  
SAE J516 / ISO 12151-3



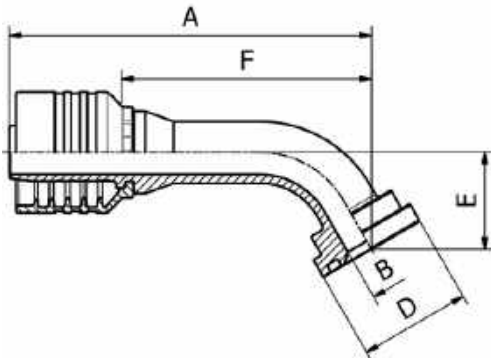
PART. REF.	HOSE BORE			Flange	DIMENSIONS mm						
	DN	Dash	inch	inch	B	A	D	E	F		
OPK23341-08A08	12	- 8	1/2"	1/2"	9.3	90.0	30.3	18.5	58.5		
OPK23341-08A12	12	- 8	1/2"	3/4"	15.0	90.5	38.0	19.0	59.5		
OPK23341-10A12	16	- 10	5/8"	3/4"	15.0	95.0	38.0	22.0	61.0		
OPK23341-12A12	19	- 12	3/4"	3/4"	15.0	104.5	38.0	23.0	68.5		
OPK23341-12A16	19	- 12	3/4"	1"	20.0	104.5	44.6	23.0	68.5		
OPK23341-16A16	25	- 16	1"	1"	19.8	129.5	44.6	27.5	81.5		
OPK23341-16A20	25	- 16	1"	1.1/4"	26.0	129.5	51.0	27.5	81.5		
OPK23341-20A20	31	- 20	1.1/4"	1.1/4"	26.0	144.5	51.0	29.5	92.0		
OPK23341-20A24	31	- 20	1.1/4"	1.1/2"	32.0	146.0	60.5	31.0	93.5		
OPK23341-24A24	38	- 24	1.1/2"	1.1/2"	32.0	169.5	60.5	34.5	107.5		
OPK23341-24A32	38	- 24	1.1/2"	2"	42.0	169.5	71.6	34.5	107.5		
OPK23341-32A32	51	- 32	2"	2"	42.0	190.0	71.6	39.0	124.0		

FITTINGS 270

SAE STANDARD CONNECTIONS

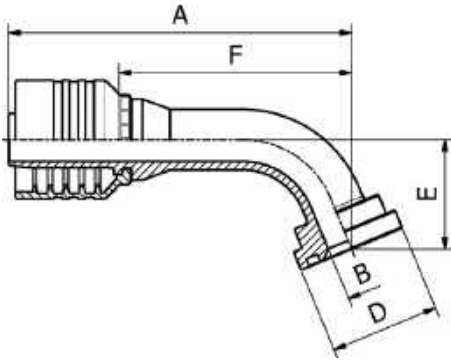
# OPK23361

60° ISO / SAE  
CODE 61 FLANGE  
SAE J516 / ISO 12151-3



PART. REF.	HOSE BORE			Flange	DIMENSIONS mm						
	DN	Dash	inch	inch	B	A	D	E	F		
OPK23361-08A08	12	- 8	1/2"	1/2"	9.3	102.5	30.3	26.0	71.5		
OPK23361-12A12	19	- 12	3/4"	3/4"	15.0	123.5	38.0	33.0	87.0		
OPK23361-16A16	25	- 16	1"	1"	19.8	152.0	44.6	39.0	104.0		
OPK23361-16A20	25	- 16	1"	1.1/4"	26.0	152.0	51.0	39.0	104.0		
OPK23361-20A24	31	- 20	1.1/4"	1.1/2"	32.0	173.5	60.5	44.5	121.0		
OPK23361-20A20	31	- 20	1.1/4"	1.1/4"	26.0	172.5	51.0	43.0	120.0		
OPK23361-24A24	38	- 24	1.1/2"	1.1/2"	32.0	205.5	60.5	50.5	143.5		



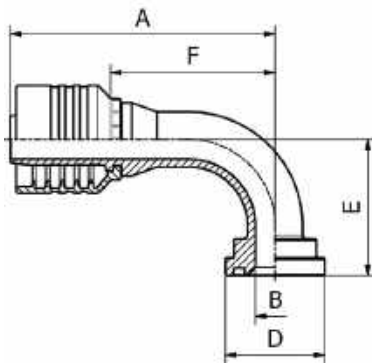


SAE STANDARD CONNECTIONS

# OPK23371

67,5° ISO / SAE  
CODE 61 FLANGE  
SAE J516 / ISO 12151-3

PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch	inch		B	A	D	E	F		
OPK23371-08A08	12	- 8	1/2"	1/2"		9.3	99.0	30.3	29.5	68.0		
OPK23371-12A12	19	- 12	3/4"	3/4"		15.0	118.5	38.0	38.0	82.0		
OPK23371-12A16	19	- 12	3/4"	1"		20.0	118.5	44.6	38.0	82.0		
OPK23371-16A16	25	- 16	1"	1"		19.8	147.0	44.6	45.0	98.5		
OPK23371-20A20	31	- 20	1.1/4"	1.1/4"		26.0	166.5	51.0	50.0	114.0		
OPK23371-24A24	38	- 24	1.1/2"	1.1/2"		32.0	198.5	60.5	59.0	136.5		



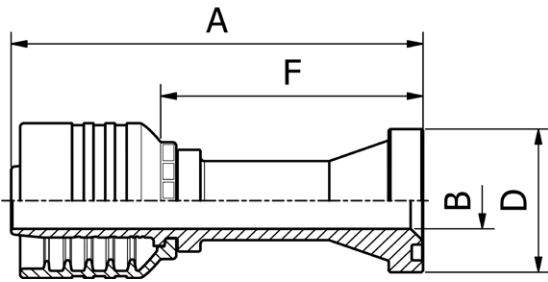
SAE STANDARD CONNECTIONS

# OPK23391

90° ISO / SAE  
CODE 61 FLANGE  
SAE J516 / ISO 12151-3

PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch	inch		B	A	D	E	F		
OPK23391-08A08	12	- 8	1/2"	1/2"		9.3	85.5	30.3	40.0	54.5		
OPK23391-08A12	12	- 8	1/2"	3/4"		15.0	85.5	38.0	41.0	54.5		
OPK23391-10A12	16	- 10	5/8"	3/4"		15.0	90.0	38.0	47.5	56.0		
OPK23391-12A12	19	- 12	3/4"	3/4"		15.0	101.0	38.0	52.0	64.5		
OPK23391-12A16	19	- 12	3/4"	1"		20.0	101.0	44.6	52.0	64.5		
OPK23391-16A16	25	- 16	1"	1"		19.8	125.5	44.6	62.0	77.5		
OPK23391-16A20	25	- 16	1"	1.1/4"		26.0	125.5	51.0	62.0	77.5		
OPK23391-20A20	31	- 20	1.1/4"	1.1/4"		26.0	143.0	51.0	70.0	90.5		
OPK23391-20A24	31	- 20	1.1/4"	1.1/2"		32.0	143.0	60.5	72.0	90.5		
OPK23391-24A24	38	- 24	1.1/2"	1.1/2"		32.0	170.0	60.5	84.0	108.0		
OPK23391-24A32	38	- 24	1.1/2"	2"		42.0	170.0	71.6	84.0	108.0		
OPK23391-32A32	51	- 32	2"	2"		42.0	195.0	71.6	99.0	129.0		

SAE STANDARD CONNECTIONS

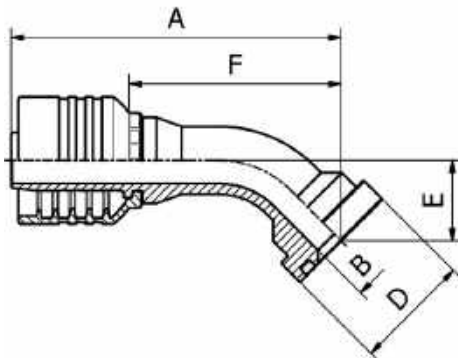


# OPK23611

ISO / SAE  
CODE 62 FLANGE  
SAE J516 / ISO 12151-3

PART. REF.	HOSE BORE			Flange	DIMENSIONS mm						
	DN	Dash	inch		inch	B	A	D	F		
OPK23611-08A08	12	- 8	1/2"	1/2"	9.3	83.0	31.8	52.0			
OPK23611-08A12	12	- 8	1/2"	3/4"	15.0	99.5	41.5	68.5			
OPK23611-10A08	16	- 10	5/8"	1/2"	9.3	86.5	31.8	52.0			
OPK23611-10A12	16	- 10	5/8"	3/4"	15.0	104.5	41.5	70.0			
OPK23611-12A12	19	- 12	3/4"	3/4"	15.0	105.5	41.5	69.0			
OPK23611-12A16	19	- 12	3/4"	1"	20.0	117.5	47.7	81.0			
OPK23611-16A16	25	- 16	1"	1"	19.8	130.5	47.7	82.5			
OPK23611-16A20	25	- 16	1"	1.1/4"	26.0	138.0	54.2	90.0			
OPK23611-20A20	31	- 20	1.1/4"	1.1/4"	26.0	137.0	54.2	84.5			
OPK23611-20A24	31	- 20	1.1/4"	1.1/2"	32.0	143.0	63.7	90.5			
OPK23611-24A24	38	- 24	1.1/2"	1.1/2"	32.0	154.5	63.6	92.5			
OPK23611-32A32	51	- 32	2"	2"	42.0	175.0	79.5	109.0			

FITTINGS 272

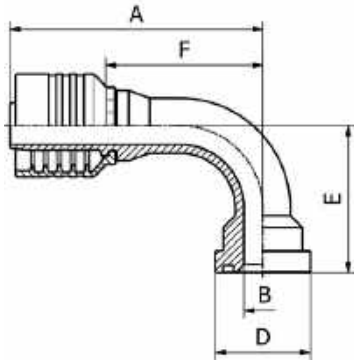


SAE STANDARD CONNECTIONS

# OPK23641

45° ISO / SAE  
CODE 62 FLANGE  
SAE J516 / ISO 12151-3

PART. REF.	HOSE BORE			Flange	DIMENSIONS mm					
	DN	Dash	inch		inch	B	A	D	E	F
OPK23641-08A08	12	- 8	1/2"	1/2"	9.3	93.5	31.8	22.0	62.0	
OPK23641-08A12	12	- 8	1/2"	3/4"	15.0	99.0	41.5	27.5	68.0	
OPK23641-10A12	16	- 10	5/8"	3/4"	15.0	102.0	41.5	31.0	67.5	
OPK23641-12A12	19	- 12	3/4"	3/4"	15.0	109.0	41.5	28.0	72.5	
OPK23641-12A16	19	- 12	3/4"	1"	20.0	114.0	47.7	32.5	77.0	
OPK23641-16A12	25	- 16	1"	3/4"	15.0	128.0	41.5	30.0	80.0	
OPK23641-16A16	25	- 16	1"	1"	19.8	132.0	47.7	32.5	83.5	
OPK23641-16A20	25	- 16	1"	1.1/4"	26.0	136.5	54.2	37.5	88.5	
OPK23641-20A20	31	- 20	1.1/4"	1.1/4"	26.0	147.5	54.2	37.5	95.0	
OPK23641-20A24	31	- 20	1.1/4"	1.1/2"	32.0	155.0	63.7	45.0	102.5	
OPK23641-24A24	38	- 24	1.1/2"	1.1/2"	32.0	180.0	63.7	44.0	118.0	
OPK23641-32A32	51	- 32	2"	2"	42.0	217.5	79.6	60.5	151.5	



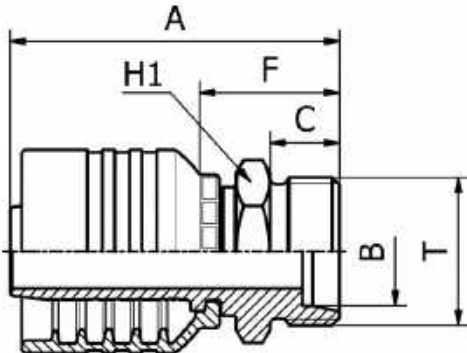
SAE STANDARD CONNECTIONS

# OPK23691

90° ISO / SAE  
CODE 62 FLANGE  
SAE J516 / ISO 12151-3

PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch	inch		B	A	D	E	F		
OPK23691-08A08	12	- 8	1/2"	1/2"		9.3	85.5	31.8	45.0	54.5		
OPK23691-08A12	12	- 8	1/2"	3/4"		15.0	85.5	41.5	53.0	54.5		
OPK23691-10A12	16	- 10	5/8"	3/4"		15.0	87.5	41.5	60.5	53.5		
OPK23691-10A16	16	- 10	5/8"	1"		19.8	90.0	47.7	64.0	56.0		
OPK23691-12A12	19	- 12	3/4"	3/4"		15.0	100.5	41.5	59.0	64.0		
OPK23691-12A16	19	- 12	3/4"	1"		20.0	101.0	47.7	65.0	64.5		
OPK23691-16A16	25	- 16	1"	1"		19.8	121.5	47.7	68.0	73.5		
OPK23691-16A20	25	- 16	1"	1.1/4"		26.0	121.5	54.2	75.0	73.5		
OPK23691-20A20	31	- 20	1.1/4"	1.1/4"		26.0	138.0	54.2	81.0	85.5		
OPK23691-20A24	31	- 20	1.1/4"	1.1/2"		32.0	138.0	63.7	91.5	85.5		
OPK23691-24A24	38	- 24	1.1/2"	1.1/2"		32.0	168.0	63.7	94.5	106.0		
OPK23691-32A32	51	- 32	2"	2"		42.0	204.0	79.6	132.0	138.0		

273 FITTINGS

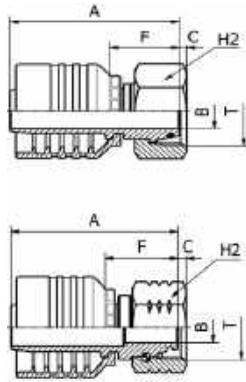


DIN STANDARD CONNECTIONS

# OPK11110

METRIC  
MALE 24° CONE SEAT LIGHT DUTY  
DIN 20066 / ISO 12151-2

PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch	T	mm	B	A	C	F	H1		
OPK11110-06A16	10	- 6	3/8"	M 16X1,5	10.0	7.0	53.5	11.0	24.0	17.0		
OPK11110-06A18	10	- 6	3/8"	M 18X1,5	12.0	9.0	54.0	11.0	24.5	19.0		
OPK11110-06A22	10	- 6	3/8"	M 22X1,5	15.0	10.0	55.0	12.0	25.5	22.0		
OPK11110-08A22	12	- 8	1/2"	M 22X1,5	15.0	10.0	56.5	12.0	25.5	22.0		
OPK11110-08A26	12	- 8	1/2"	M 26X1,5	18.0	12.5	57.5	12.0	26.5	27.0		
OPK11110-10A22	16	- 10	5/8"	M 22X1,5	15.0	10.0	60.0	12.0	25.5	22.0		
OPK11110-10A26	16	- 10	5/8"	M 26X1,5	18.0	12.5	61.0	12.0	26.5	27.0		
OPK11110-12A30	19	- 12	3/4"	M 30X2	22.0	15.0	66.5	14.0	30.0	30.0		
OPK11110-16A36	25	- 16	1"	M 36X2	28.0	19.8	80.5	14.0	32.5	36.0		
OPK11110-20A45	31	- 20	1.1/4"	M 45X2	35.0	26.0	93.0	16.0	40.5	46.0		
OPK11110-24A52	38	- 24	1.1/2"	M 52X2	42.0	32.0	105.0	16.0	43.0	55.0		



DIN STANDARD CONNECTIONS

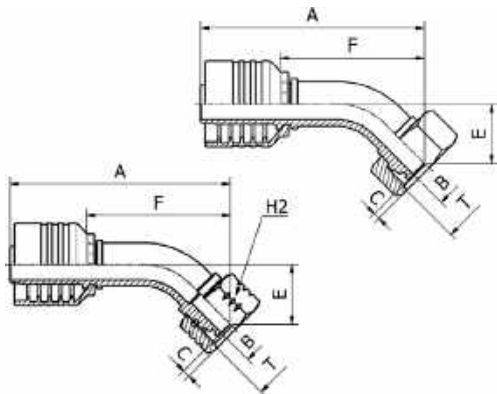
# OPK21512/OPK21513

**METRIC**  
**O-RING FEMALE 24° CONE LIGHT DUTY**  
**DIN 20066 / ISO 12151-2**

FITTINGS 274

PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm					
	DN	Dash	inch			T	mm	B	A	C	F
OPK21512-06A16	10	- 6	3/8"	M 16X1,5	10.0	6.0	52.5	3.0	23.0	19.0	
OPK21513-06A18	10	- 6	3/8"	M 18X1,5	12.0	7.0	52.0	2.0	22.5	22.0	
OPK21513-06A22	10	- 6	3/8"	M 22X1,5	15.0	9.3	54.5	1.5	25.0	27.0	
OPK21512-08A18	12	- 8	1/2"	M 18X1,5	12.0	7.0	60.0	2.9	29.0	22.0	
OPK21513-08A22	12	- 8	1/2"	M 22X1,5	15.0	9.3	56.5	1.5	25.5	27.0	
OPK21513-08A26	12	- 8	1/2"	M 26X1,5	18.0	12.5	57.0	2.0	26.0	32.0	
OPK21513-10A26	16	- 10	5/8"	M 26X1,5	18.0	12.5	60.5	2.0	26.0	32.0	
OPK21513-10A30	16	- 10	5/8"	M 30X2	22.0	15.0	68.5	3.0	34.0	36.0	
OPK21512-12A26	19	- 12	3/4"	M 26X1,5	18.0	12.5	67.5	2.3	31.0	32.0	
OPK21513-12A30	19	- 12	3/4"	M 30X2	22.0	15.0	64.5	3.0	28.0	36.0	
OPK21513-12A36	19	- 12	3/4"	M 36X2	28.0	20.0	65.0	3.7	28.5	41.0	
OPK21513-16A36	25	- 16	1"	M 36X2	28.0	19.8	77.5	3.7	29.5	41.0	
OPK21513-20A45	31	- 20	1.1/4"	M 45X2	35.0	26.0	85.5	4.0	33.0	50.0	
OPK21513-24A52	38	- 24	1.1/2"	M 52X2	42.0	32.0	95.0	4.5	33.0	60.0	

OPK21512: THRUST WIRE NUT / OPK21513: SLIP-ON NUT



DIN STANDARD CONNECTIONS

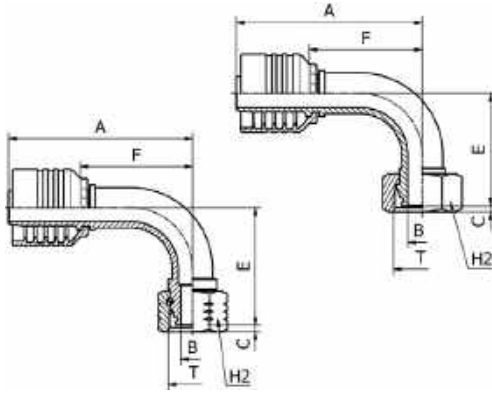
# OPK21542/OPK21543

**45° METRIC**  
**O-RING FEMALE SWEPT ELBOW 24° CONE**  
**LIGHT DUTY**  
**DIN 20066 / ISO 12151-2**

PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm					
	DN	Dash	inch			T	mm	B	A	C	E
OPK21542-06A16	10	- 6	3/8"	M 16X1,5	10.0	6.0	77.0	3.0	21.5	47.5	19.0
OPK21543-06A18	10	- 6	3/8"	M 18X1,5	12.0	7.0	73.0	2.0	16.5	43.5	22.0
OPK21543-06A22	10	- 6	3/8"	M 22X1,5	15.0	9.3	74.0	1.5	18.0	45.0	27.0
OPK21543-08A22	12	- 8	1/2"	M 22X1,5	15.0	9.3	83.0	1.5	19.0	52.0	27.0
OPK21543-10A26	16	- 10	5/8"	M 26X1,5	18.0	12.5	96.5	2.0	26.5	62.0	32.0
OPK21543-12A30	19	- 12	3/4"	M 30X2	22.0	15.0	107.5	3.0	28.5	71.0	36.0
OPK21543-16A36	25	- 16	1"	M 36X2	28.0	19.8	133.0	3.7	32.0	85.0	41.0
OPK21543-20A45	31	- 20	1.1/4"	M 45X2	35.0	26.0	152.5	4.0	36.0	100.0	50.0
OPK21543-24A52	38	- 24	1.1/2"	M 52X2	42.0	32.0	179.0	4.5	44.5	117.0	60.0

OPK21542: THRUST WIRE NUT / OPK21543: SLIP-ON NUT

DIN STANDARD CONNECTIONS

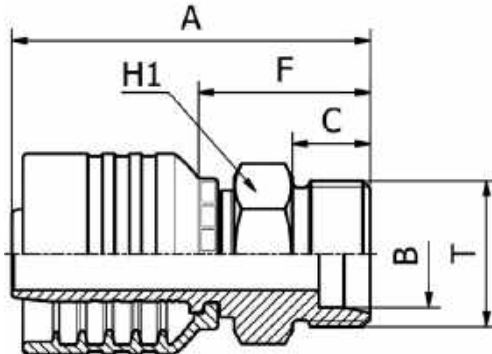


# OPK21592/OPK21593

**90° METRIC  
O-RING FEMALE SWEPT ELBOW 24° CONE  
LIGHT DUTY  
DIN 20066 / ISO 12151-2**

PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm					
	DN	Dash	inch	T	mm	B	A	C	E	F	H2
OPK21592-06A16	10	- 6	3/8"	M 16X1,5	10.0	6.0	65.0	3.0	40.0	35.5	19.0
OPK21593-06A18	10	- 6	3/8"	M 18X1,5	12.0	7.0	66.0	2.0	33.5	36.5	22.0
OPK21593-06A22	10	- 6	3/8"	M 22X1,5	15.0	9.3	66.0	1.5	35.0	36.5	27.0
OPK21592-08A18	12	- 8	1/2"	M 18X1,5	12.0	7.0	75.0	2.9	48.0	44.0	22.0
OPK21593-08A22	12	- 8	1/2"	M 22X1,5	15.0	9.3	76.0	1.5	39.5	45.0	27.0
OPK21593-08A26	12	- 8	1/2"	M 26X1,5	18.0	12.5	76.0	2.0	40.0	45.0	32.0
OPK21593-10A26	16	- 10	5/8"	M 26X1,5	18.0	12.5	86.0	2.0	53.0	51.5	32.0
OPK21593-10A30	16	- 10	5/8"	M 30X2	22.0	15.0	86.0	3.0	54.0	51.5	36.0
OPK21593-12A30	19	- 12	3/4"	M 30X2	22.0	15.0	97.5	3.0	59.5	61.5	36.0
OPK21593-16A36	25	- 16	1"	M 36X2	28.0	19.8	125.0	3.7	69.5	76.5	41.0
OPK21593-20A45	31	- 20	1.1/4"	M 45X2	35.0	26.0	146.0	4.0	81.0	93.5	50.0
OPK21593-24A52	38	- 24	1.1/2"	M 52X2	42.0	32.0	169.5	4.5	98.0	107.5	60.0

OPK21592: THRUST WIRE NUT / OPK21593: SLIP-ON NUT



DIN STANDARD CONNECTIONS

# OPK11210

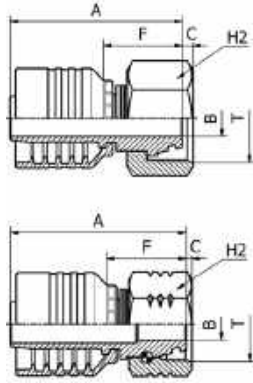
**METRIC  
MALE 24° CONE SEAT HEAVY DUTY  
DIN 20066 / ISO 12151-2**

PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm					
	DN	Dash	inch	T	mm	B	A	C	F	H1	
OPK11210-06A18	10	- 6	3/8"	M 18X1,5	10.0	7.0	56.5	12.0	27.0	19.0	
OPK11210-06A20	10	- 6	3/8"	M 20X1,5	12.0	7.0	58.5	12.0	29.0	22.0	
OPK11210-06A22	10	- 6	3/8"	M 22X1,5	14.0	8.0	60.5	14.0	31.0	22.0	
OPK11210-08A24	12	- 8	1/2"	M 24X1,5	16.0	9.3	62.5	14.0	31.5	24.0	
OPK11210-10A30	16	- 10	5/8"	M 30X2	20.0	15.0	70.0	16.0	35.5	30.0	
OPK11210-12A30	19	- 12	3/4"	M 30X2	20.0	15.0	73.5	16.0	37.0	30.0	
OPK11210-12A36	19	- 12	3/4"	M 36X2	25.0	19.8	77.5	18.0	41.0	36.0	
OPK11210-16A36	25	- 16	1"	M 36X2	25.0	19.8	90.5	18.0	42.5	36.0	
OPK11210-16A42	25	- 16	1"	M 42X2	30.0	25.0	92.5	20.0	44.5	46.0	
OPK11210-20A52	31	- 20	1.1/4"	M 52X2	38.0	30.0	103.5	22.0	51.0	55.0	

DIN STANDARD CONNECTIONS

# OPK21612/OPK21613

METRIC  
O-RING FEMALE 24° CONE HEAVY DUTY  
DIN 20066 / ISO 12151-2



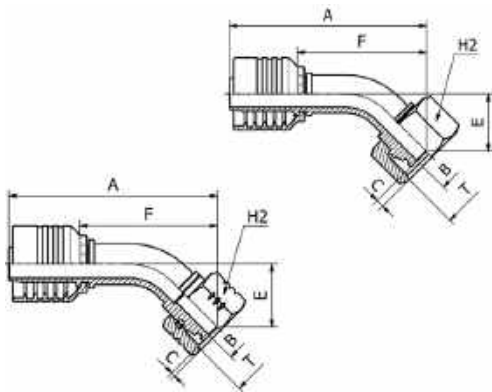
PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm					
	DN	Dash	inch			B	A	C	F	H2	
OPK21613-06A20	10	- 6	3/8"	M 20X1,5	12.0	7.0	54.5	2.0	25.5	24.0	
OPK21613-06A22	10	- 6	3/8"	M 22X1,5	14.0	7.0	62.0	3.0	32.5	27.0	
OPK21613-08A24	12	- 8	1/2"	M 24X1,5	16.0	9.3	58.0	4.0	26.5	30.0	
OPK21613-10A30	16	- 10	5/8"	M 30X2	20.0	12.5	65.0	3.5	30.5	36.0	
OPK21612-12A30	19	- 12	3/4"	M 30X2	20.0	12.5	70.0	2.2	33.5	36.0	
OPK21613-12A36	19	- 12	3/4"	M 36X2	25.0	15.0	70.5	4.5	34.0	41.0	
OPK21612-16A36	25	- 16	1"	M 36X2	25.0	15.0	83.5	1.7	35.5	41.0	
OPK21613-16A42	25	- 16	1"	M 42X2	30.0	19.8	83.5	6.3	35.5	50.0	
OPK21613-20A52	31	- 20	1.1/4"	M 52X2	38.0	26.0	90.0	8.0	37.5	60.0	
OPK21613-24A52	38	- 24	1.1/2"	M 52X2	38.0	26.0	111.5	8.0	49.5	60.0	

OPK21612: THRUST WIRE NUT / OPK21613: SLIP-ON NUT

DIN STANDARD CONNECTIONS

# OPK21642/OPK21643

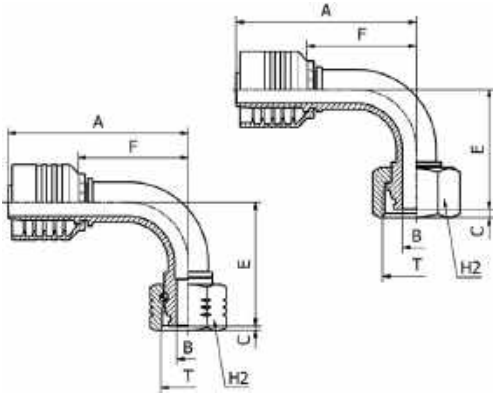
45° METRIC  
O-RING FEMALE SWEEP ELBOW 24° CONE  
HEAVY DUTY  
DIN 20066 / ISO 12151-2



PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm					
	DN	Dash	inch			B	A	C	E	F	H2
OPK21643-06A20	10	- 6	3/8"	M 20X1,5	12.0	7.0	73.5	2.0	17.0	44.0	24.0
OPK21643-06A22	10	- 6	3/8"	M 22X1,5	14.0	7.0	75.0	3.0	18.5	45.5	27.0
OPK21643-08A24	12	- 8	1/2"	M 24X1,5	16.0	9.3	83.5	4.0	20.0	52.5	30.0
OPK21643-10A30	16	- 10	5/8"	M 30X2	20.0	12.5	99.5	3.5	29.5	65.5	36.0
OPK21642-12A30	19	- 12	3/4"	M 30X2	20.0	12.5	113.0	2.2	34.0	76.5	36.0
OPK21643-12A36	19	- 12	3/4"	M 36X2	25.0	15.0	111.5	4.5	32.5	75.0	41.0
OPK21643-16A42	25	- 16	1"	M 42X2	30.0	19.8	138.0	6.3	35.5	90.0	50.0
OPK21643-20A52	31	- 20	1.1/4"	M 52X2	38.0	26.0	155.5	8.0	39.5	103.0	60.0

OPK21642: THRUST WIRE NUT / OPK21643: SLIP-ON NUT

DIN STANDARD CONNECTIONS

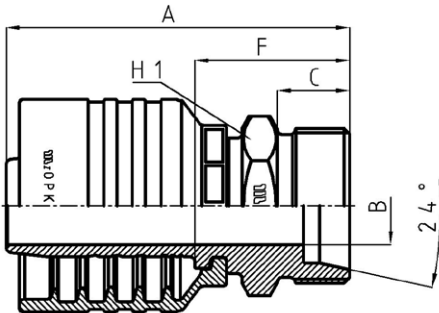


# OPK21692/OPK21693

**90° METRIC  
O-RING FEMALE SWEPT ELBOW 24° CONE  
HEAVY DUTY  
DIN 20066 / ISO 12151-2**

PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm					
	DN	Dash	inch	T	mm	B	A	C	E	F	H2
OPK21693-06A20	10	- 6	3/8"	M 20X1,5	12.0	7.0	66.0	2.0	35.0	36.5	24.0
OPK21693-06A22	10	- 6	3/8"	M 22X1,5	14.0	7.0	66.0	3.0	37.0	36.5	27.0
OPK21693-06A24	10	- 6	3/8"	M 24X1,5	16.0	9.3	66.0	4.0	36.0	36.5	30.0
OPK21693-08A24	12	- 8	1/2"	M 24X1,5	16.0	9.3	76.0	4.0	40.5	45.0	30.0
OPK21693-10A30	16	- 10	5/8"	M 30X2	20.0	12.5	86.0	3.5	57.5	51.5	36.0
OPK21692-12A30	19	- 12	3/4"	M 30X2	20.0	12.5	98.0	2.2	67.5	61.5	36.0
OPK21693-12A36	19	- 12	3/4"	M 36X2	25.0	15.0	97.5	4.5	64.5	61.5	41.0
OPK21692-16A36	25	- 16	1"	M 36X2	25.0	15.0	127.5	1.7	86.0	79.5	41.0
OPK21693-16A42	25	- 16	1"	M 42X2	30.0	19.8	127.5	6.3	74.5	79.0	50.0
OPK21693-20A52	31	- 20	1.1/4"	M 52X2	38.0	26.0	146.0	8.0	85.5	93.5	60.0

OPK21692: THRUST WIRE NUT / OPK21693: SLIP-ON NUT

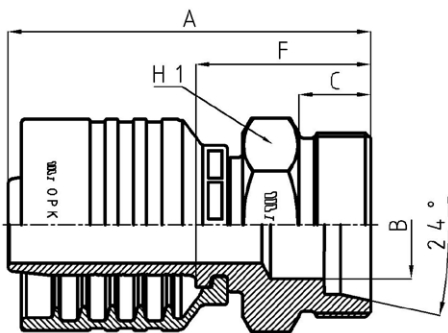


NF STANDARD CONNECTIONS

# OPK11710

**FRENCH METRIC  
MALE 24° CONE SEAT  
MILLIMETRIC TYPE**

PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm				
	DN	Dash	inch	T	mm	B	A	C	F	H1
OPK11710-12A30	19	- 12	3/4"	M 30X1,5	22.0	15.0	66.5	14.0	30.0	30.0



NF STANDARD CONNECTIONS

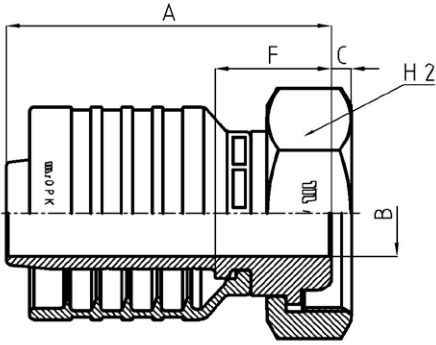
# OPK11810

**FRENCH METRIC  
MALE 24° CONE SEAT  
GAZ TYPE**

PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm				
	DN	Dash	inch	T	mm	B	A	C	F	H1
OPK11810-12A36	19	- 12	3/4"	M 36X1,5	26.8	21.0	70.5	14.0	34.0	36.0



NF STANDARD CONNECTIONS



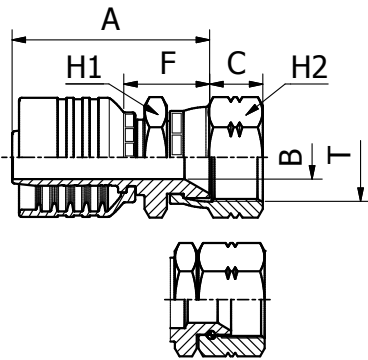
# OPK21813

FRENCH METRIC  
FEMALE  
GAZ TYPE

PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch	T	mm	B	A	C	F	H2		
OPK21813-16A45	25	- 16	1"	M 45X1,5	33.5	19.8	75.0	4.5	27.0	50.0		

FITTINGS 278

JIS STANDARD CONNECTIONS



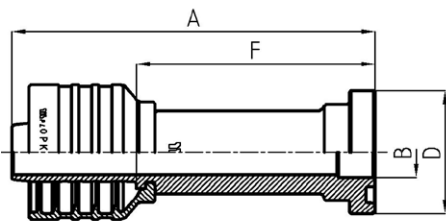
# OPK24011/OPK24012

JIS METRIC  
FEMALE (KOMATSU)

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	F	H1	H2	
OPK24011-06A18	10	- 6	3/8"	M 18X1,5	7.0	53.0	11.5	23.5	24.0	24.0	
OPK24011-08A22	12	- 8	1/2"	M 22X1,5	9.3	56.0	13.0	25.0	27.0	27.0	
OPK24011-10A24	16	- 10	5/8"	M 24X1,5	12.5	61.0	15.1	26.5	32.0	32.0	
OPK24011-12A30	19	- 12	3/4"	M 30X1,5	15.0	68.0	18.3	31.5	36.0	36.0	
OPK24011-16A33	25	- 16	1"	M 33X1,5	19.8	81.5	21.3	33.5	41.0	41.0	
OPK24012-24A42	38	- 24	1.1/2"	M 42X1,5	26.0	106.0	18.8	44.0	55.0	55.0	

OPK24011: CRIMPED BACK-NUT / OPK24012: THRUST WIRE NUT

ORIGINAL EQUIPMENT CONNECTIONS



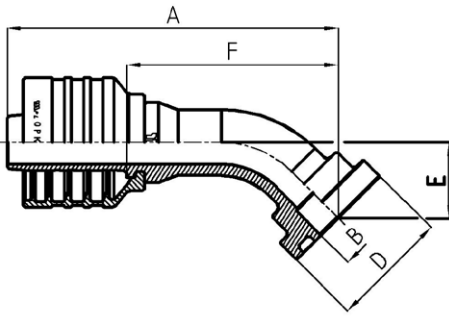
# OPK24111

STRAIGHT KOMATSU FLANGE

PART. REF.	HOSE BORE			Flange	DIMENSIONS mm						
	DN	Dash	inch	inch	B	A	D	F			
OPK24111-10A10	16	- 10	5/8"	5/8"	14.0	100.0	34.0	65.5			



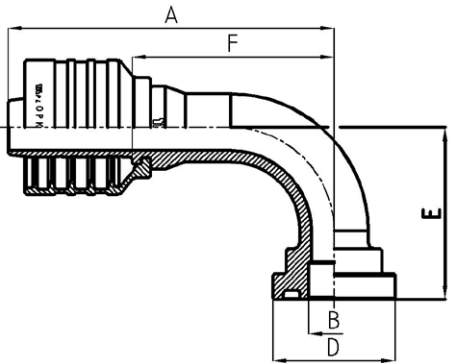
ORIGINAL EQUIPMENT CONNECTIONS



# OPK24141

45° KOMATSU FLANGE

PART. REF.	HOSE BORE			Flange	inch	DIMENSIONS mm						
	DN	Dash	inch			B	A	D	E	F		
OPK24141-10A10	16	- 10	5/8"	5/8"		14.0	95.0	34.0	22.0	61.0		

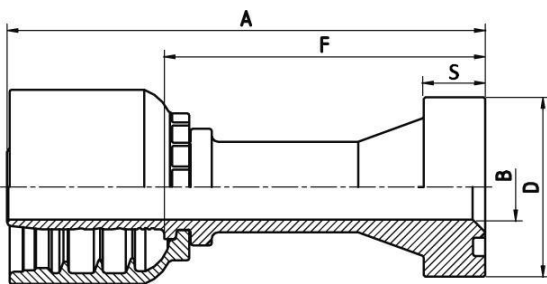


ORIGINAL EQUIPMENT CONNECTIONS

# OPK24191

90° KOMATSU FLANGE

PART. REF.	HOSE BORE			Flange	inch	DIMENSIONS mm						
	DN	Dash	inch			B	A	D	E	F		
OPK24191-10A10	16	- 10	5/8"	5/8"		14.0	90.0	34.0	47.5	56.0		

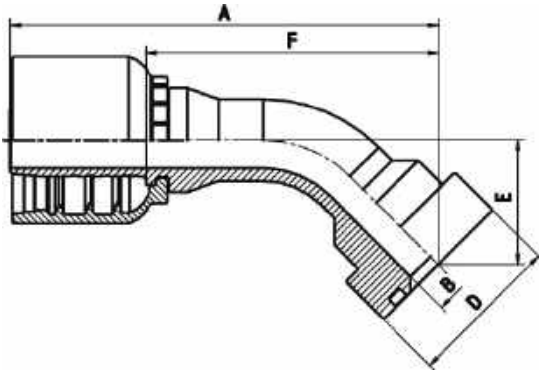


ORIGINAL EQUIPMENT CONNECTIONS

# OPK23911

STRAIGHT SUPERCAT FLANGE

PART. REF.	HOSE BORE			Flange	inch	DIMENSIONS mm				
	DN	Dash	inch			B	A	D	F	S
OPK23911-12A12	19	- 12	3/4"	3/4"		15.0	111.0	41.5	74.5	14.3
OPK23911-16A16	25	- 16	1"	1"		19.8	135.0	47.7	87.0	14.3
OPK23911-16A20	25	- 16	1"	1.1/4"		26.0	140.5	54.0	92.5	14.3
OPK23911-20A20	31	- 20	1.1/4"	1.1/4"		26.0	138.5	54.0	86.0	14.3
OPK23911-24A24	38	- 24	1.1/2"	1.1/2"		32.0	156.0	63.6	94.0	14.3



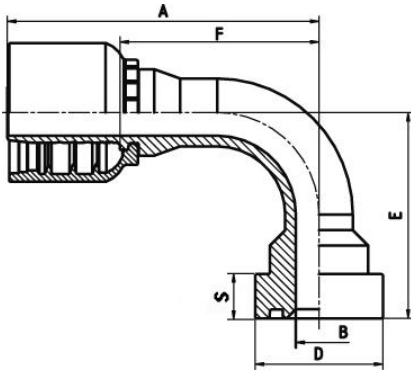
ORIGINAL EQUIPMENT CONNECTIONS

# OPK23941

45° SUPERCAT FLANGE

PART. REF.	HOSE BORE			Flange	DIMENSIONS mm						
	DN	Dash	inch	inch	B	A	D	E	F	S	
OPK23941-12A12	19	- 12	3/4"	3/4"	15.0	114.0	41.5	32.0	77.0	14.3	
OPK23941-16A16	25	- 16	1"	1"	19.8	138.0	47.7	36.5	89.5	14.3	
OPK23941-16A20	25	- 16	1"	1.1/4"	26.0	140.5	54.0	40.5	92.5	14.3	
OPK23941-20A20	31	- 20	1.1/4"	1.1/4"	26.0	151.5	54.0	41.5	99.0	14.3	

FITTINGS 280



ORIGINAL EQUIPMENT CONNECTIONS

# OPK23991

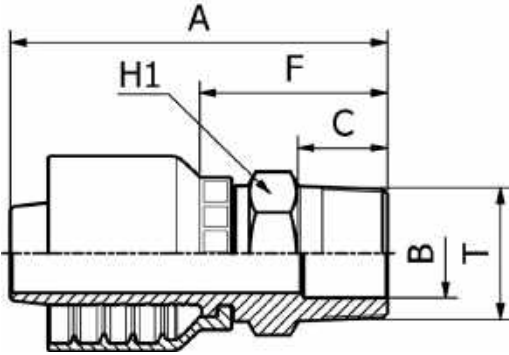
90° SUPERCAT FLANGE

PART. REF.	HOSE BORE			Flange	DIMENSIONS mm						
	DN	Dash	inch	inch	B	A	D	E	F	S	
OPK23991-12A12	19	- 12	3/4"	3/4"	15.0	101.0	41.5	64.5	64.5	14.3	
OPK23991-16A16	25	- 16	1"	1"	19.8	125.5	47.7	76.5	77.5	14.3	
OPK23991-16A20	25	- 16	1"	1.1/4"	26.0	123.5	54.0	80.5	75.5	14.3	
OPK23991-20A20	31	- 20	1.1/4"	1.1/4"	26.0	138.0	54.0	87.0	85.5	14.3	

BS STANDARD CONNECTIONS

# OPF10710

**BSP  
MALE TAPERED**

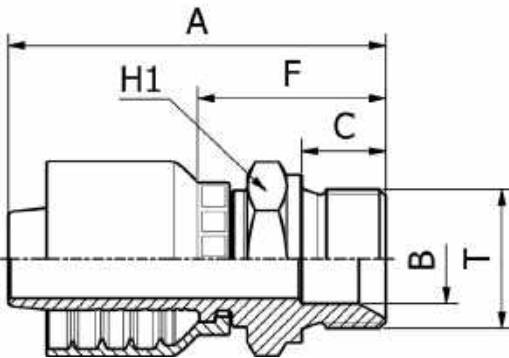


PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch		T	B	A	C	F	H1		
OPF10710-08A08	12	- 8	1/2"	1/2" - 14		10.0	62.0	15.0	31.0	22.0		
OPF10710-10A12	16	- 10	5/8"	3/4" - 14		17.0	68.5	17.0	34.0	27.0		

BS STANDARD CONNECTIONS

# OPF10510

**BSP  
MALE PARALLEL 60° CONE SEAT  
BS5200 / ISO 8434-6**

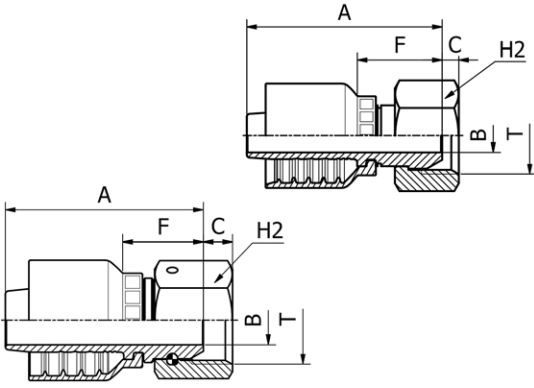


PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch		T	B	A	C	F	H1		
OPF10510-03A02	5	- 3	3/16"	1/8" - 28		3.5	44.0	10.0	22.5	14.0		
OPF10510-04A02	6	- 4	1/4"	1/8" - 28		3.5	50.0	10.0	22.5	14.0		
OPF10510-04A04	6	- 4	1/4"	1/4" - 19		5.0	53.0	11.0	25.5	19.0		
OPF10510-04A06	6	- 4	1/4"	3/8" - 19		8.0	54.5	12.0	27.0	22.0		
OPF10510-05A04	8	- 5	5/16"	1/4" - 19		5.0	54.0	11.0	26.0	19.0		
OPF10510-05A06	8	- 5	5/16"	3/8" - 19		8.0	55.5	12.0	27.5	22.0		
OPF10510-06A04	10	- 6	3/8"	1/4" - 19		5.0	55.5	11.0	26.0	19.0		
OPF10510-06A06	10	- 6	3/8"	3/8" - 19		8.0	57.5	12.0	28.0	22.0		
OPF10510-06A08	10	- 6	3/8"	1/2" - 14		11.0	60.0	14.0	30.5	27.0		
OPF10510-08A06	12	- 8	1/2"	3/8" - 19		8.0	59.0	12.0	28.0	22.0		
OPF10510-08A08	12	- 8	1/2"	1/2" - 14		11.0	62.0	14.0	31.0	27.0		
OPF10510-08A10	12	- 8	1/2"	5/8" - 14		14.5	64.0	16.0	33.0	30.0		
OPF10510-08A12	12	- 8	1/2"	3/4" - 14		17.0	65.0	16.0	34.0	32.0		
OPF10510-10A10	16	- 10	5/8"	5/8" - 14		14.5	67.5	16.0	33.0	30.0		
OPF10510-10A12	16	- 10	5/8"	3/4" - 14		17.0	68.5	16.0	34.0	32.0		
OPF10510-12A12	19	- 12	3/4"	3/4" - 14		17.0	72.0	16.0	35.5	32.0		
OPF10510-12A16	19	- 12	3/4"	1" - 11		22.5	76.0	19.0	39.5	41.0		
OPF10510-16A16	25	- 16	1"	1" - 11		22.5	89.0	19.0	41.0	41.0		
OPF10510-16A20	25	- 16	1"	1.1/4" - 11		28.5	93.0	20.0	45.0	50.0		

BS STANDARD CONNECTIONS

# OPF20512/OPF20513

**BSP  
FEMALE 60° CONE  
BS5200 / ISO 12151-6**



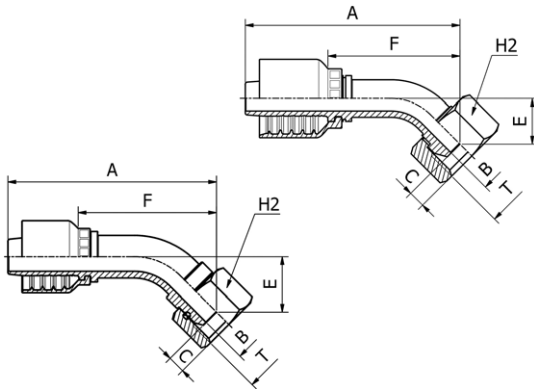
PART. REF.	HOSE BORE			Thread	DIMENSIONS mm					
	DN	Dash	inch		T	B	A	C	F	H2
OPF20512-03A02	5	- 3	3/16"	1/8" - 28	3.0	37.0	4.4	16.0	14.0	
OPF20513-03A04	5	- 3	3/16"	1/4" - 19	4.0	38.0	5.4	16.5	19.0	
OPF20512-04A02	6	- 4	1/4"	1/8" - 28	3.1	44.0	4.4	16.5	14.0	
OPF20513-04A04	6	- 4	1/4"	1/4" - 19	4.0	44.5	5.4	17.0	19.0	
OPF20513-04A06	6	- 4	1/4"	3/8" - 19	7.0	45.5	6.0	19.0	22.0	
OPF20512-05A04	8	- 5	5/16"	1/4" - 19	4.1	45.5	4.2	17.5	19.0	
OPF20513-05A06	8	- 5	5/16"	3/8" - 19	7.0	47.0	6.0	19.0	22.0	
OPF20512-06A04	10	- 6	3/8"	1/4" - 19	4.1	47.5	4.2	18.0	19.0	
OPF20513-06A06	10	- 6	3/8"	3/8" - 19	7.0	49.0	6.0	19.5	22.0	
OPF20513-06A08	10	- 6	3/8"	1/2" - 14	9.3	49.5	6.3	20.0	27.0	
OPF20512-08A06	12	- 8	1/2"	3/8" - 19	7.1	52.0	6.0	21.0	22.0	
OPF20513-08A08	12	- 8	1/2"	1/2" - 14	9.3	51.5	6.3	20.5	27.0	
OPF20512-08A10	12	- 8	1/2"	5/8" - 14	12.1	53.0	10.2	22.0	28.0	
OPF20512-08A12	12	- 8	1/2"	3/4" - 14	15.0	56.0	9.0	24.5	32.0	
OPF20512-10A10	16	- 10	5/8"	5/8" - 14	12.5	56.0	10.2	21.5	28.0	
OPF20512-10A12	16	- 10	5/8"	3/4" - 14	15.0	57.5	9.0	23.0	32.0	
OPF20512-12A12	19	- 12	3/4"	3/4" - 14	15.0	61.0	9.0	24.5	32.0	
OPF20512-12A16	19	- 12	3/4"	1" - 11	19.8	62.5	10.5	26.0	38.0	
OPF20512-16A16	25	- 16	1"	1" - 11	19.8	75.5	10.5	27.5	38.0	

OPF20512: THRUST WIRE NUT / OPF20513: SLIP-ON NUT

BS STANDARD CONNECTIONS

# OPF20542/OPF20543

**45° BSP  
FEMALE ELBOW 60° CONE  
BS5200 / ISO 12151-6**



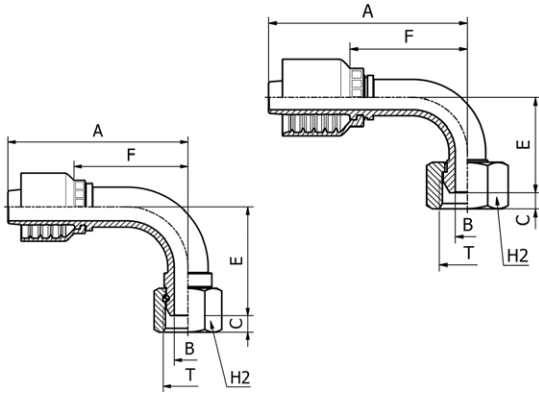
PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	B	A	C	E	F	H2
OPF20543-04A04	6	- 4	1/4"	1/4" - 19	4.0	63.5	5.4	15.0	36.0	19.0	
OPF20543-04A06	6	- 4	1/4"	3/8" - 19	7.0	65.0	6.0	16.0	37.5	22.0	
OPF20543-05A06	8	- 5	5/16"	3/8" - 19	7.0	66.0	6.0	13.5	38.0	22.0	
OPF20543-06A06	10	- 6	3/8"	3/8" - 19	7.0	71.5	6.0	15.5	42.0	22.0	
OPF20543-06A08	10	- 6	3/8"	1/2" - 14	9.3	72.0	6.3	16.0	42.5	27.0	
OPF20543-08A08	12	- 8	1/2"	1/2" - 14	9.3	81.0	6.3	17.0	49.5	27.0	
OPF20542-08A10	12	- 8	1/2"	5/8" - 14	12.1	85.5	10.2	22.5	54.5	28.0	
OPF20542-10A10	16	- 10	5/8"	5/8" - 14	12.5	97.5	10.2	26.0	63.0	28.0	
OPF20542-10A12	16	- 10	5/8"	3/4" - 14	15.0	98.0	9.0	27.0	64.0	32.0	
OPF20542-12A12	19	- 12	3/4"	3/4" - 14	15.0	107.0	9.0	28.5	70.5	32.0	
OPF20542-12A16	19	- 12	3/4"	1" - 11	19.8	109.0	10.5	30.0	72.5	38.0	
OPF20542-16A16	25	- 16	1"	1" - 11	19.8	139.5	10.5	36.5	91.0	38.0	

OPF20542: THRUST WIRE NUT / OPF20543: SLIP-ON NUT

BS STANDARD CONNECTIONS

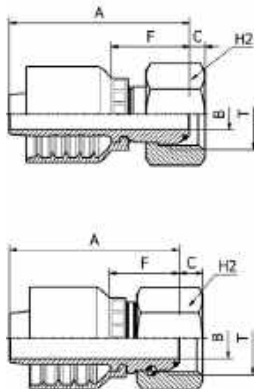
# OPF20592/OPF20593

90° BSP  
FEMALE ELBOW 60° CONE  
BS5200 / ISO 12151-6



PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch		T	B	A	C	E	F	H2	
OPF20592-03A02	5	- 3	3/16"	1/8" - 28		3.0	43.0	4.4	26.0	21.5	14.0	
OPF20592-04A02	6	- 4	1/4"	1/8" - 28		3.1	56.0	4.4	27.0	28.5	14.0	
OPF20593-04A04	6	- 4	1/4"	1/4" - 19		4.0	57.0	5.4	29.0	29.5	19.0	
OPF20593-04A06	6	- 4	1/4"	3/8" - 19		7.0	57.0	6.0	31.0	29.5	22.0	
OPF20593-05A06	8	- 5	5/16"	3/8" - 19		7.0	60.0	6.0	27.5	32.0	22.0	
OPF20592-05A04	8	- 5	5/16"	1/4" - 19		4.0	54.5	4.1	29.5	26.5	19.0	
OPF20593-06A08	10	- 6	3/8"	1/2" - 14		9.3	66.0	6.3	32.0	36.5	27.0	
OPF20593-06A06	10	- 6	3/8"	3/8" - 19		7.0	66.0	6.0	31.5	36.5	22.0	
OPF20592-08A06	12	- 8	1/2"	3/8" - 19		7.1	76.0	6.0	41.0	45.0	22.0	
OPF20593-08A08	12	- 8	1/2"	1/2" - 14		9.3	76.0	6.3	36.5	45.0	27.0	
OPF20592-08A10	12	- 8	1/2"	5/8" - 14		12.1	75.5	10.2	44.0	44.0	28.0	
OPF20592-08A12	12	- 8	1/2"	3/4" - 14		15.0	75.5	9.0	45.5	44.0	32.0	
OPF20592-10A10	16	- 10	5/8"	5/8" - 14		12.5	88.0	10.2	53.5	53.5	28.0	
OPF20592-10A12	16	- 10	5/8"	3/4" - 14		15.0	88.0	9.0	55.0	53.5	32.0	
OPF20592-12A12	19	- 12	3/4"	3/4" - 14		15.0	98.0	9.0	59.5	61.5	32.0	
OPF20592-12A16	19	- 12	3/4"	1" - 11		19.8	98.0	10.5	62.0	61.5	38.0	
OPF20592-16A16	25	- 16	1"	1" - 11		19.8	127.5	10.5	76.0	79.5	38.0	

OPF20592: THRUST WIRE NUT / OPF20593: SLIP-ON NUT



BS STANDARD CONNECTIONS

# OPF20812/OPF20813

BSP  
O-RING FEMALE 60° CONE  
BS5200 / ISO 12151-6

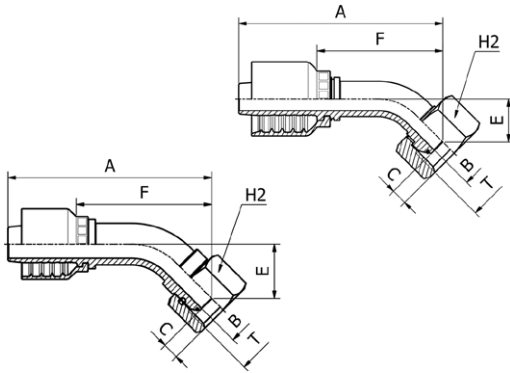
PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch		T	B	A	C	F	H2		
OPF20813-04A04	6	- 4	1/4"	1/4" - 19		4.0	44.5	5.4	17.0	19.0		
OPF20812-06A04	10	- 6	3/8"	1/4" - 19		4.1	47.5	4.1	18.0	19.0		
OPF20813-06A06	10	- 6	3/8"	3/8" - 19		7.0	49.0	6.0	19.5	22.0		
OPF20813-08A08	12	- 8	1/2"	1/2" - 14		9.3	51.5	6.3	20.5	27.0		
OPF20812-10A10	16	- 10	5/8"	5/8" - 14		12.5	56.5	9.7	22.0	28.0		
OPF20812-12A12	19	- 12	3/4"	3/4" - 14		15.0	61.5	8.5	25.0	32.0		
OPF20812-16A16	25	- 16	1"	1" - 11		19.8	75.5	10.6	27.5	38.0		
OPF20812-16A20	25	- 16	1"	1.1/4" - 11		26.1	79.0	10.5	31.0	50.0		

OPF20812: THRUST WIRE NUT / OPF20813: SLIP-ON NUT

BS STANDARD CONNECTIONS

# OPF20842/OPF20843

45° BSP  
O-RING FEMALE ELBOW 60° CONE  
BS5200 / ISO 12151-6



PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	E	F	H2	
OPF20843-04A04	6	- 4	1/4"	1/4" - 19	4.0	63.5	5.4	14.5	36.0	19.0	
OPF20843-06A06	10	- 6	3/8"	3/8" - 19	7.0	71.5	6.0	15.5	42.0	22.0	
OPF20843-08A08	12	- 8	1/2"	1/2" - 14	9.3	81.0	6.3	17.0	49.5	27.0	
OPF20842-10A10	16	- 10	5/8"	5/8" - 14	12.5	98.0	9.7	27.5	63.5	28.0	
OPF20842-12A12	19	- 12	3/4"	3/4" - 14	15.0	107.5	8.5	29.0	71.0	32.0	
OPF20842-16A16	25	- 16	1"	1" - 11	19.8	138.5	10.6	35.5	90.5	38.0	

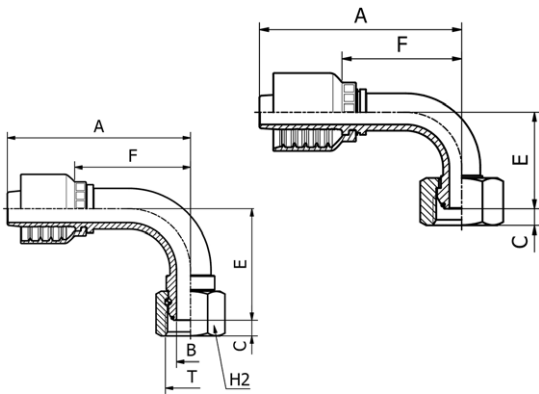
OPF20842: THRUST WIRE NUT / OPF20843: SLIP-ON NUT

FITTINGS 284

BS STANDARD CONNECTIONS

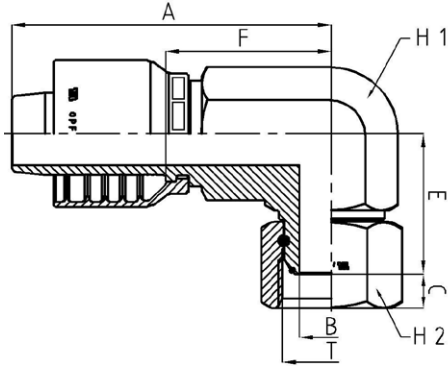
# OPF20892/OPF20893

90° BSP  
O-RING FEMALE SWEPT ELBOW 60° CONE  
BS5200 / ISO 12151-6



PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	E	F	H2	
OPF20893-04A04	6	- 4	1/4"	1/4" - 19	4.0	57.0	5.4	29.0	29.5	19.0	
OPF20892-06A04	10	- 6	3/8"	1/4" - 19	4.1	65.0	4.1	33.0	35.5	19.0	
OPF20893-06A06	10	- 6	3/8"	3/8" - 19	7.0	66.0	6.0	31.5	36.5	22.0	
OPF20893-08A08	12	- 8	1/2"	1/2" - 14	9.3	76.0	6.3	36.5	45.0	27.0	
OPF20892-10A10	16	- 10	5/8"	5/8" - 14	12.5	87.5	9.7	55.0	53.0	28.0	
OPF20892-12A12	19	- 12	3/4"	3/4" - 14	15.0	98.0	8.5	60.0	61.5	32.0	
OPF20892-16A16	25	- 16	1"	1" - 11	19.8	127.5	10.6	76.0	79.5	38.0	
OPF20892-16A20	25	- 16	1"	1.1/4" - 11	26.1	127.5	10.5	78.5	79.5	50.0	

OPF20892: THRUST WIRE NUT / OPF20893: SLIP-ON NUT

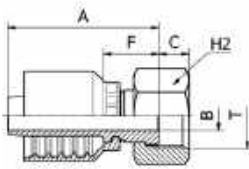


BS STANDARD CONNECTIONS

# OPF20882F

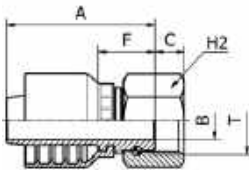
90° BSP  
O-RING FEMALE COMPACT ELBOW 60° CONE  
BS5200 / ISO 12151-6  
(THRUST-WIRE NUT)

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch	T	B	A	C	E	F	H1	H2	
OPF20882-04A04F	6	- 4	1/4"	1/4" - 19	4.0	47.5	4.1	22.0	20.0	14.0	19.0	
OPF20882-06A06F	10	- 6	3/8"	3/8" - 19	7.0	52.5	6.0	27.5	23.0	19.0	22.0	
OPF20882-08A08F	12	- 8	1/2"	1/2" - 14	9.3	56.0	6.5	31.0	25.0	22.0	27.0	
OPF20882-10A10F	16	- 10	5/8"	5/8" - 14	12.5	59.0	9.7	32.5	24.5	24.0	28.0	
OPF20882-12A12F	19	- 12	3/4"	3/4" - 14	15.0	74.0	8.5	36.0	37.5	27.0	32.0	
OPF20882-16A16F	25	- 16	1"	1" - 11	20.0	100.0	10.6	44.0	52.0	36.0	38.0	



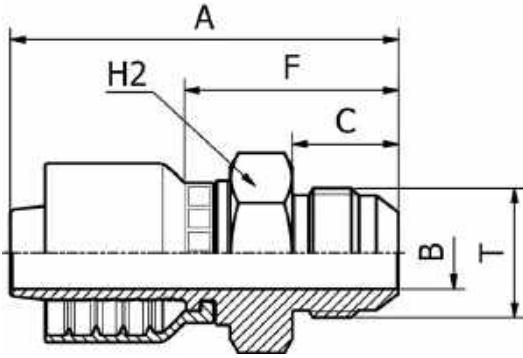
BS STANDARD CONNECTIONS

# OPF20612/OPF20613



BSP  
FEMALE FLAT SEAT  
(SLIP-ON NUT)

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch	T	B	A	C	F	H2			
OPF20613-06A06	10	- 6	3/8"	3/8" - 19	7.0	46.0	9.0	16.5	22.0			
OPF20613-06A08	10	- 6	3/8"	1/2" - 14	9.3	47.0	9.8	17.5	27.0			
OPF20613-08A08	12	- 8	1/2"	1/2" - 14	9.3	49.0	9.8	18.0	27.0			
OPF20612-08A12	12	- 8	1/2"	3/4" - 14	15.0	52.0	11.5	21.0	32.0			



SAE STANDARD CONNECTIONS

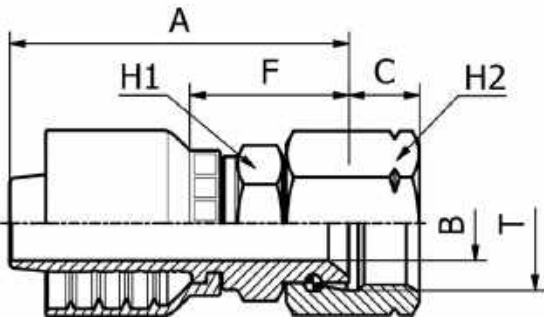
# OPF12510

JIC  
MALE 37° CONE  
SAE J516 / ISO 12151-5

FITTINGS 286

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	F	H1		
OPF12510-04A04	6	- 4	1/4"	7/16" - 20	4.0	55.5	14.0	28.0	12.0		
OPF12510-04A05	6	- 4	1/4"	1/2" - 20	5.5	56.5	14.0	29.0	14.0		
OPF12510-04A06	6	- 4	1/4"	9/16" - 18	7.0	56.5	14.0	29.0	17.0		
OPF12510-05A05	8	- 5	5/16"	1/2" - 20	5.5	57.0	14.0	29.0	14.0		
OPF12510-05A06	8	- 5	5/16"	9/16" - 18	7.0	57.0	14.0	29.0	17.0		
OPF12510-06A06	10	- 6	3/8"	9/16" - 18	7.0	59.0	14.0	29.5	17.0		
OPF12510-06A08	10	- 6	3/8"	3/4" - 16	9.3	63.5	16.5	34.0	19.0		
OPF12510-06A10	10	- 6	3/8"	7/8" - 14	12.5	68.0	19.5	38.5	24.0		
OPF12510-08A06	12	- 8	1/2"	9/16" - 18	7.0	63.0	14.0	32.0	19.0		
OPF12510-08A08	12	- 8	1/2"	3/4" - 16	9.3	65.5	16.5	34.5	19.0		
OPF12510-08A10	12	- 8	1/2"	7/8" - 14	12.5	70.0	19.5	39.0	24.0		
OPF12510-08A12	12	- 8	1/2"	1.1/16" - 12	15.0	74.0	22.0	43.0	27.0		
OPF12510-10A10	16	- 10	5/8"	7/8" - 14	12.5	73.5	19.5	39.0	24.0		
OPF12510-10A12	16	- 10	5/8"	1.1/16" - 12	15.0	77.0	22.0	42.5	27.0		
OPF12510-12A10	19	- 12	3/4"	7/8" - 14	12.5	78.0	19.5	41.5	27.0		
OPF12510-12A12	19	- 12	3/4"	1.1/16" - 12	15.0	80.5	22.0	44.0	27.0		
OPF12510-12A14	19	- 12	3/4"	1.3/16" - 12	15.0	81.0	22.5	44.5	32.0		
OPF12510-12A16	19	- 12	3/4"	1.5/16" - 12	19.8	83.5	23.0	47.0	34.0		
OPF12510-16A12	25	- 16	1"	1.1/16" - 12	15.0	93.0	22.0	45.0	32.0		
OPF12510-16A16	25	- 16	1"	1.5/16" - 12	19.8	96.0	23.0	48.0	34.0		
OPF12510-16A20	25	- 16	1"	1.5/8" - 12	26.0	101.0	24.3	53.0	42.0		

SAE STANDARD CONNECTIONS

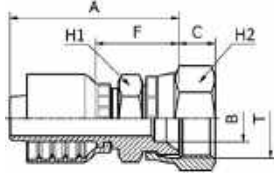
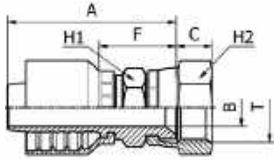


# OPF22712

JIC  
FEMALE 37° CONE SEAT DOUBLE HEXAGON  
SAE J516 / ISO 12151-5  
(THRUST-WIRE NUT)

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	F	H1	H2	
OPF22712-12A14	19	- 12	3/4"	1.3/16" - 12	15.0	69.5	14.3	33.0	30.0	36.0	
OPF22712-16A20	25	- 16	1"	1.5/8" - 12	26.0	91.0	16.2	43.0	41.0	50.0	





SAE STANDARD CONNECTIONS

# OPF22711/OPF22711KR/ OPF22711K

JIC  
FEMALE 37° CONE SEAT DOUBLE HEXAGON  
SAE J516 / ISO 12151-5  
(CRIMPED-BACK NUT)

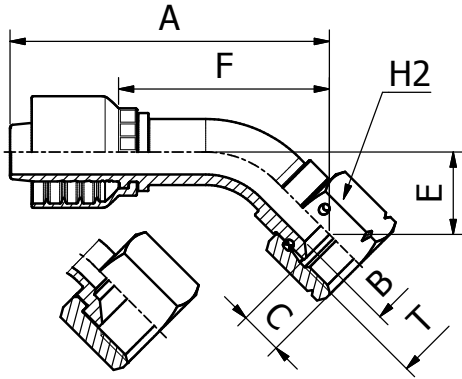
PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	B	A	C	F	H1	H2
OPF22711-03A04K	5	- 3	3/16"	7/16" - 20	4.0	41.5	8.9	20.0	12.0	15.0	
OPF22711-04A04KR	6	- 4	1/4"	7/16" - 20	4.0	48.0	8.9	20.5	12.0	15.0	
OPF22711-04A05KR	6	- 4	1/4"	1/2" - 20	4.0	48.5	9.4	21.0	14.0	17.0	
OPF22711-04A06KR	6	- 4	1/4"	9/16" - 18	7.0	49.0	9.5	21.5	14.0	17.0	
OPF22711-05A05KR	8	- 5	5/16"	1/2" - 20	4.0	49.5	9.4	21.5	17.0	17.0	
OPF22711-06A06KR	10	- 6	3/8"	9/16" - 18	7.0	51.5	9.5	22.0	17.0	17.0	
OPF22711-06A08KR	10	- 6	3/8"	3/4" - 16	9.3	56.0	10.7	26.5	19.0	22.0	
OPF22711-08A12KR	12	- 8	1/2"	1.1/16" - 12	15.0	60.0	14.1	28.5	27.0	32.0	
OPF22711-08A06KR	12	- 8	1/2"	9/16" - 18	7.0	55.5	9.5	24.0	19.0	17.0	
OPF22711-08A08KR	12	- 8	1/2"	3/4" - 16	9.3	58.0	10.7	27.0	19.0	22.0	
OPF22711-08A10KR	12	- 8	1/2"	7/8" - 14	9.3	60.5	12.5	29.5	22.0	25.0	
OPF22711-10A08KR	16	- 10	5/8"	3/4" - 16	9.3	62.5	10.7	28.5	22.0	22.0	
OPF22711-10A10KR	16	- 10	5/8"	7/8" - 14	9.3	64.0	12.5	29.5	22.0	25.0	
OPF22711-10A12KR	16	- 10	5/8"	1.1/16" - 12	15.0	63.5	14.1	29.0	27.0	32.0	
OPF22711-12A08KR	19	- 12	3/4"	3/4" - 16	9.3	66.0	10.7	29.5	27.0	22.0	
OPF22711-12A10KR	19	- 12	3/4"	7/8" - 14	12.5	67.0	12.5	30.5	27.0	25.0	
OPF22711-12A12KR	19	- 12	3/4"	1.1/16" - 12	15.0	66.5	14.1	30.0	27.0	32.0	
OPF22711-12A16	19	- 12	3/4"	1.5/16" - 12	19.8	71.0	15.3	34.5	32.0	38.0	
OPF22711-16A12KR	25	- 16	1"	1.1/16" - 12	15.0	80.5	14.1	32.5	32.0	32.0	
OPF22711-16A16	25	- 16	1"	1.5/16" - 12	19.8	83.5	15.3	35.5	32.0	38.0	

KR: CRIMPED KOMPACT ROBUST BACK-NUT

SAE STANDARD CONNECTIONS

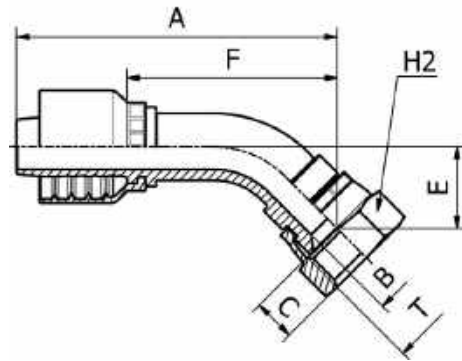
# OPF22542/OPF22543

45° JIC  
FEMALE SWEPT ELBOW 37° CONE SEAT  
SAE J516 / ISO 12151-5



PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	B	A	C	E	F	H2
OPF22542-04A04	6	- 4	1/4"	7/16" - 20	4.0	63.0	8.7	14.5	35.5	17.0	
OPF22542-04A05	6	- 4	1/4"	1/2" - 20	4.0	63.0	9.1	14.5	35.5	17.0	
OPF22543-04A06	6	- 4	1/4"	9/16" - 18	4.0	63.0	9.8	14.0	35.5	19.0	
OPF22542-05A05	8	- 5	5/16"	1/2" - 20	5.5	65.5	9.1	14.0	37.5	17.0	
OPF22542-05A06	8	- 5	5/16"	9/16" - 18	7.0	66.0	9.2	14.5	38.0	19.0	
OPF22542-06A06	10	- 6	3/8"	9/16" - 18	7.0	71.5	9.2	16.5	42.0	19.0	
OPF22543-06A08	10	- 6	3/8"	3/4" - 16	7.0	70.5	10.1	14.0	41.0	22.0	
OPF22543-06A10	10	- 6	3/8"	7/8" - 14	9.3	72.0	12.4	15.5	42.5	27.0	
OPF22542-08A08	12	- 8	1/2"	3/4" - 16	9.3	83.0	10.2	20.0	52.0	22.0	
OPF22543-08A10	12	- 8	1/2"	7/8" - 14	9.3	80.5	12.4	17.0	49.5	27.0	
OPF22543-08A12	12	- 8	1/2"	1.1/16" - 12	12.5	80.5	14.1	17.0	49.5	32.0	
OPF22542-10A10	16	- 10	5/8"	7/8" - 14	12.5	96.5	12.3	25.5	62.0	27.0	
OPF22543-10A12	16	- 10	5/8"	1.1/16" - 12	12.5	94.5	14.1	24.0	60.0	32.0	
OPF22542-12A12	19	- 12	3/4"	1.1/16" - 12	15.0	106.0	14.2	27.5	70.0	32.0	
OPF22542-12A14	19	- 12	3/4"	1.3/16" - 12	15.0	106.0	14.3	27.5	69.5	36.0	
OPF22542-12A16	19	- 12	3/4"	1.5/16" - 12	19.8	106.5	15.0	27.5	70.0	38.0	
OPF22542-16A12	25	- 16	1"	1.1/16" - 12	15.0	120.5	14.2	27.5	72.5	32.0	
OPF22542-16A16	25	- 16	1"	1.5/16" - 12	19.8	132.5	15.0	32.0	84.0	38.0	
OPF22542-16A20	25	- 16	1"	1.5/8" - 12	26.0	138.0	16.2	36.0	90.0	50.0	

OPF22542: THRUST WIRE NUT / OPF22543: SLIP-ON NUT



SAE STANDARD CONNECTIONS

# OPF22541KR

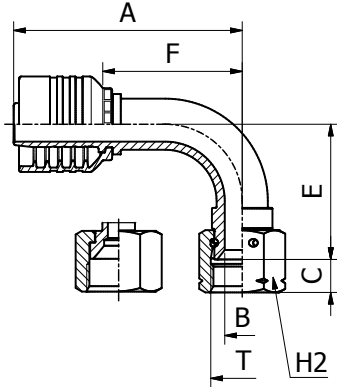
45° ELBOW JIC  
FEMALE 37° CONE SEAT  
SAE J516 / ISO 12151-5  
(CRIMPED-BACK NUT)

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	B	A	C	E	F	H2
OPF22541-04A04KR	6	- 4	1/4"	7/16" - 20	4.2	62.0	8.9	13.5	34.5	15.0	
OPF22541-04A05KR	6	- 4	1/4"	1/2" - 20	4.0	62.5	9.4	14.0	35.0	17.0	
OPF22541-06A06KR	10	- 6	3/8"	9/16" - 18	7.0	71.5	9.5	16.0	42.0	17.0	
OPF22541-08A08KR	12	- 8	1/2"	3/4" - 16	9.3	83.0	10.7	20.0	52.0	22.0	
OPF22541-10A10KR	16	- 10	5/8"	7/8" - 14	12.5	95.5	12.5	22.5	61.0	25.0	
OPF22541-12A12KR	19	- 12	3/4"	1.1/16" - 12	15.0	105.5	14.1	26.5	69.0	32.0	

SAE STANDARD CONNECTIONS

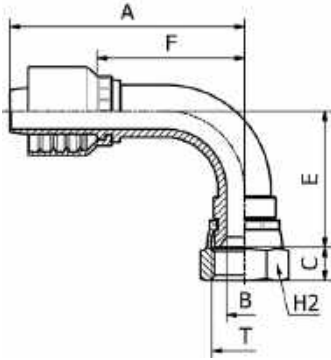
# OPF22592/OPF22593

90° JIC  
FEMALE ELBOW 37° CONE SEAT  
SAE J516 / ISO 12151-5



PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	E	F	H2	
OPF22593-03A04	5	- 3	3/16"	7/16" - 20	3.0	47.5	8.5	23.5	26.0	15.0	
OPF22592-04A04	6	- 4	1/4"	7/16" - 20	4.0	56.0	8.7	27.0	28.5	17.0	
OPF22592-04A05	6	- 4	1/4"	1/2" - 20	4.0	56.0	9.1	27.5	28.5	17.0	
OPF22593-04A06	6	- 4	1/4"	9/16" - 18	4.0	57.0	9.8	28.0	29.5	19.0	
OPF22593-04A08	6	- 4	1/4"	3/4" - 16	7.0	57.0	10.0	30.5	29.5	22.0	
OPF22592-05A05	8	- 5	5/16"	1/2" - 20	5.5	59.0	9.1	28.0	31.0	17.0	
OPF22592-05A06	8	- 5	5/16"	9/16" - 18	7.0	59.0	9.2	28.5	31.0	19.0	
OPF22592-06A05	10	- 6	3/8"	1/2" - 20	5.5	59.5	9.1	26.5	30.0	17.0	
OPF22592-06A06	10	- 6	3/8"	9/16" - 18	7.0	65.0	9.2	32.5	35.5	19.0	
OPF22593-06A08	10	- 6	3/8"	3/4" - 16	7.0	66.0	10.1	29.5	36.5	22.0	
OPF22593-06A10	10	- 6	3/8"	7/8" - 14	9.3	66.0	12.4	31.5	36.5	27.0	
OPF22592-08A06	12	- 8	1/2"	9/16" - 18	7.0	68.0	9.2	33.0	37.0	19.0	
OPF22592-08A08	12	- 8	1/2"	3/4" - 16	9.3	75.5	10.2	41.0	44.0	22.0	
OPF22593-08A10	12	- 8	1/2"	7/8" - 14	9.3	76.0	12.4	36.0	45.0	27.0	
OPF22593-08A12	12	- 8	1/2"	1.1/16" - 12	12.5	76.0	14.1	36.0	45.0	32.0	
OPF22592-10A10	16	- 10	5/8"	7/8" - 14	12.5	88.0	12.3	52.5	53.5	27.0	
OPF22593-10A12	16	- 10	5/8"	1.1/16" - 12	12.5	86.0	14.1	50.0	51.5	32.0	
OPF22592-12A10	19	- 12	3/4"	7/8" - 14	12.5	91.5	12.3	52.5	55.0	27.0	
OPF22592-12A12	19	- 12	3/4"	1.1/16" - 12	15.0	98.0	14.2	58.0	62.0	32.0	
OPF22592-12A14	19	- 12	3/4"	1.3/16" - 12	15.0	99.0	14.3	58.0	63.0	36.0	
OPF22592-12A16	19	- 12	3/4"	1.5/16" - 12	19.8	99.0	15.0	57.5	63.0	38.0	
OPF22592-16A16	25	- 16	1"	1.5/16" - 12	19.8	124.0	15.0	68.5	76.0	38.0	
OPF22592-16A20	25	- 16	1"	1.5/8" - 12	26.0	125.5	16.2	74.5	77.5	50.0	

OPF22592: THRUST WIRE NUT / OPF22593: SLIP-ON NUT



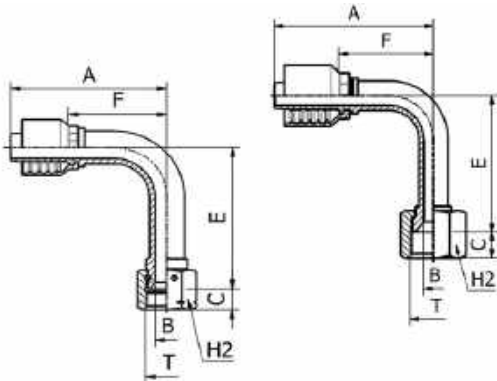
SAE STANDARD CONNECTIONS

# OPF22591KR

**90° ELBOW JIC  
FEMALE 37° CONE SEAT  
SAE J516 / ISO 12151-5  
(CRIMPED-BACK NUT)**

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	E	F	H2	
OPF22591-04A04KR	6	- 4	1/4"	7/16" - 20	4.2	56.0	8.9	26.0	28.5	15.0	
OPF22591-04A05KR	6	- 4	1/4"	1/2" - 20	4.0	56.0	9.4	26.5	28.5	17.0	
OPF22591-06A06KR	10	- 6	3/8"	9/16" - 18	7.0	65.0	9.5	32.0	35.5	17.0	
OPF22591-08A08KR	12	- 8	1/2"	3/4" - 16	9.3	75.5	10.7	40.5	44.0	22.0	
OPF22591-10A10KR	16	- 10	5/8"	7/8" - 14	12.5	88.0	12.5	47.0	53.5	25.0	
OPF22591-12A12KR	19	- 12	3/4"	1.1/16" - 12	15.0	98.0	14.1	57.0	62.0	32.0	

FITTINGS 290



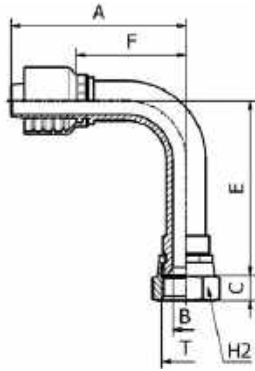
SAE STANDARD CONNECTIONS

# OPF24792/OPF24793

**90° JIC  
FEMALE LONG DROP ELBOW 37° CONE SEAT  
SAE J516 / ISO 12151-5**

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	E	F	H2	
OPF24792-04A04	6	- 4	1/4"	7/16" - 20	4.0	56.0	8.7	45.0	28.5	17.0	
OPF24792-04A05	6	- 4	1/4"	1/2" - 20	4.0	56.0	9.1	45.0	28.5	17.0	
OPF24793-04A06	6	- 4	1/4"	9/16" - 18	4.0	57.0	9.8	55.5	29.5	19.0	
OPF24792-08A08	12	- 8	1/2"	3/4" - 16	9.3	75.5	10.2	61.0	44.0	22.0	
OPF24792-06A06	10	- 6	3/8"	9/16" - 18	7.0	65.0	9.2	55.0	35.5	19.0	
OPF24793-06A08	10	- 6	3/8"	3/4" - 16	7.0	66.0	10.1	61.5	36.5	22.0	
OPF24793-08A10	12	- 8	1/2"	7/8" - 14	9.3	76.0	12.4	65.0	45.0	27.0	
OPF24792-10A10	16	- 10	5/8"	7/8" - 14	12.5	88.0	12.3	65.5	53.5	27.0	
OPF24792-12A12	19	- 12	3/4"	1.1/16" - 12	15.0	98.0	14.2	94.5	62.0	32.0	
OPF24792-16A16	25	- 16	1"	1.5/16" - 12	19.8	125.5	15.0	110.0	77.5	38.0	

OPF24792: THRUST WIRE NUT / OPF24793: SLIP-ON NUT

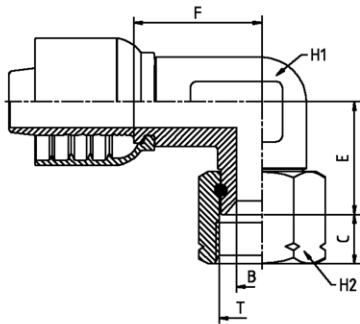


SAE STANDARD CONNECTIONS

# OPF24791KR

**90° LONG DROP ELBOW JIC  
FEMALE 37° CONE SEAT  
SAE J516 / ISO 12151-5  
(CRIMPED-BACK NUT)**

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch	T	B	A	C	E	F	H2		
OPF24791-04A04KR	6	- 4	1/4"	7/16" - 20	4.2	56.0	8.9	45.0	28.5	15.0		
OPF24791-06A06KR	10	- 6	3/8"	9/16" - 18	7.0	65.0	9.5	55.0	35.5	17.0		
OPF24791-08A08KR	12	- 8	1/2"	3/4" - 16	9.3	75.5	10.7	64.0	44.0	22.0		
OPF24791-10A10KR	16	- 10	5/8"	7/8" - 14	12.5	88.0	12.5	70.0	53.5	25.0		
OPF24791-12A12KR	19	- 12	3/4"	1.1/16" - 12	15.0	98.0	14.1	96.0	62.0	32.0		



SAE STANDARD CONNECTIONS

# OPF22582F

**90° JIC  
FEMALE COMPACT ELBOW 37° CONE SEAT  
SAE J516 / ISO 12151-5  
(THRUST-WIRE NUT)**

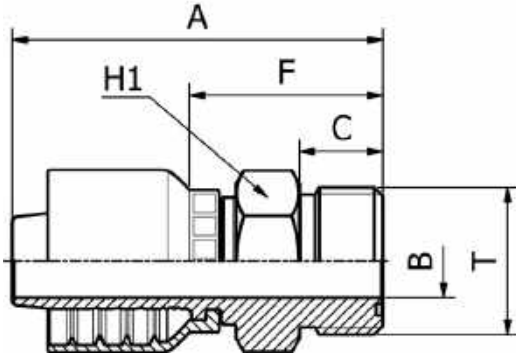
PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch	T	B	A	C	E	F	H1	H2	
OPF22582-04A04F	6	- 4	1/4"	7/16" - 20	4.0	47.5	8.7	20.5	20.0	14.0	17.0	
OPF22582-04A06F	6	- 4	1/4"	9/16" - 18	7.0	47.5	9.2	21.5	20.0	14.0	19.0	
OPF22582-06A06F	10	- 6	3/8"	9/16" - 18	7.0	52.5	9.2	24.0	23.0	19.0	19.0	
OPF22582-06A08F	10	- 6	3/8"	3/4" - 16	9.3	56.0	10.2	28.0	26.5	22.0	22.0	
OPF22582-08A08F	12	- 8	1/2"	3/4" - 16	9.3	56.0	10.2	28.0	25.0	22.0	22.0	
OPF22582-08A10F	12	- 8	1/2"	7/8" - 14	12.5	56.0	12.3	29.0	25.0	22.0	27.0	
OPF22582-12A12F	19	- 12	3/4"	1.1/16" - 12	15.0	74.0	14.2	33.0	37.5	27.0	32.0	
OPF22582-16A16F	25	- 16	1"	1.5/16" - 12	20.0	100.0	15.0	40.0	52.0	36.0	38.0	

SAE STANDARD CONNECTIONS

# OPF12410

ORFS  
MALE

SAE J516 / ISO 12151-1



PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	F	H1		
OPF12410-04A04	6	- 4	1/4"	9/16" - 18	4.0	51.5	9.8	24.0	16.0		
OPF12410-04A06	6	- 4	1/4"	11/16" - 16	6.7	54.0	11.2	26.5	19.0		
OPF12410-05A06	8	- 5	5/16"	11/16" - 16	6.7	55.0	11.2	27.0	19.0		
OPF12410-06A06	10	- 6	3/8"	11/16" - 16	6.7	57.0	11.2	27.5	19.0		
OPF12410-06A08	10	- 6	3/8"	13/16" - 16	9.3	59.5	12.8	30.0	22.0		
OPF12410-08A08	12	- 8	1/2"	13/16" - 16	9.3	61.5	12.8	30.5	22.0		
OPF12410-08A10	12	- 8	1/2"	1" - 14	12.5	66.0	15.5	35.0	27.0		
OPF12410-10A10	16	- 10	5/8"	1" - 14	12.5	69.0	15.5	34.5	27.0		
OPF12410-10A12	16	- 10	5/8"	1.3/16" - 12	15.0	72.0	17.0	37.5	32.0		
OPF12410-12A12	19	- 12	3/4"	1.3/16" - 12	15.0	75.5	17.0	39.0	32.0		
OPF12410-12A16	19	- 12	3/4"	1.7/16" - 12	19.8	77.0	17.5	40.5	38.0		
OPF12410-16A16	25	- 16	1"	1.7/16" - 12	19.8	90.0	17.5	42.0	38.0		

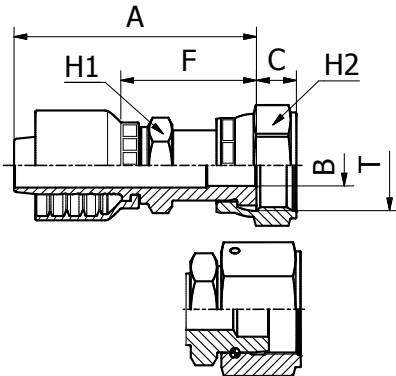
FITTINGS 292

SAE STANDARD CONNECTIONS

# OPF22411 / OPF22412

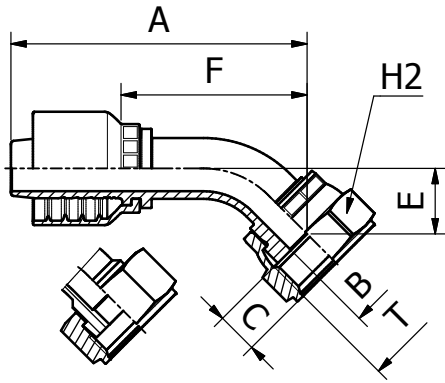
ORFS  
FEMALE

SAE J516 / ISO 12151-1  
PULL-BACK TYPE



PART. REF.	HOSE BORE			Thread	DIMENSIONS mm					
	DN	Dash	inch	T	B	A	C	F	H1	H2
OPF22411-04A04	6	- 4	1/4"	9/16" - 18	4.0	55.0	8.0	27.5	13.0	19.0
OPF22411-04A06	6	- 4	1/4"	11/16" - 16	7.0	57.5	9.5	30.0	16.0	22.0
OPF22411-05A06	8	- 5	5/16"	11/16" - 16	7.0	58.5	9.5	30.5	16.0	22.0
OPF22411-06A06	10	- 6	3/8"	11/16" - 16	7.0	60.5	9.5	31.0	16.0	22.0
OPF22411-06A08	10	- 6	3/8"	13/16" - 16	9.3	65.0	11.0	35.5	19.0	24.0
OPF22411-08A06	12	- 8	1/2"	11/16" - 16	7.0	63.0	9.5	32.0	19.0	22.0
OPF22411-08A08	12	- 8	1/2"	13/16" - 16	9.3	67.0	11.0	36.0	19.0	24.0
OPF22411-08A10	12	- 8	1/2"	1" - 14	11.5	69.5	13.5	38.5	24.0	30.0
OPF22411-08A12	12	- 8	1/2"	1.3/16" - 12	13.9	73.0	14.5	42.0	28.0	36.0
OPF22411-10A10	16	- 10	5/8"	1" - 14	11.5	73.0	13.5	38.5	24.0	30.0
OPF22411-10A12	16	- 10	5/8"	1.3/16" - 12	13.9	76.5	14.5	42.0	28.0	36.0
OPF22411-12A10	19	- 12	3/4"	1" - 14	11.5	77.5	13.5	41.0	28.0	30.0
OPF22411-12A12	19	- 12	3/4"	1.3/16" - 12	13.9	80.0	14.5	43.5	28.0	36.0
OPF22411-12A16	19	- 12	3/4"	1.7/16" - 12	19.8	82.0	15.0	45.5	36.0	41.0
OPF22411-16A12	25	- 16	1"	1.3/16" - 12	13.9	94.0	13.5	48.0	36.0	36.0
OPF22411-16A16	25	- 16	1"	1.7/16" - 12	19.8	94.5	15.0	46.5	36.0	41.0

SAE STANDARD CONNECTIONS



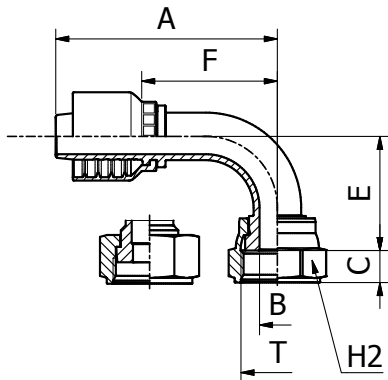
# OPF22441 / OPF22443

**45° ORFS  
FEMALE ELBOW  
SAE J516 / ISO 12151-1**

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	B	A	C	E	F	H2
OPF22443-04A04	6	- 4	1/4"	9/16" - 18	4.0	58.5	8.2	10.5	31.0	17.0	
OPF22443-04A06	6	- 4	1/4"	11/16" - 16	7.0	58.5	9.5	10.5	31.0	22.0	
OPF22443-05A06	8	- 5	5/16"	11/16" - 16	7.0	62.0	9.5	10.5	34.0	22.0	
OPF22443-06A06	10	- 6	3/8"	11/16" - 16	6.0	61.5	9.5	11.0	32.5	22.0	
OPF22443-06A08	10	- 6	3/8"	13/16" - 16	9.3	63.0	11.0	12.5	34.0	24.0	
OPF22441-08A06	12	- 8	1/2"	11/16" - 16	7.0	63.5	9.5	11.0	32.5	22.0	
OPF22443-08A08	12	- 8	1/2"	13/16" - 16	9.0	73.0	11.0	13.0	42.0	24.0	
OPF22443-08A10	12	- 8	1/2"	1" - 14	11.5	73.0	13.5	13.5	42.0	30.0	
OPF22443-08A12	12	- 8	1/2"	1.3/16" - 12	13.9	78.0	14.5	18.5	46.5	36.0	
OPF22443-10A10	16	- 10	5/8"	1" - 14	11.5	83.5	13.5	16.0	49.0	30.0	
OPF22443-10A12	16	- 10	5/8"	1.3/16" - 12	13.9	86.0	14.5	18.5	51.5	36.0	
OPF22441-12A10	19	- 12	3/4"	1" - 14	11.5	87.0	13.5	16.5	50.5	30.0	
OPF22443-12A12	19	- 12	3/4"	1.3/16" - 12	13.9	97.0	14.5	21.5	60.5	36.0	
OPF22443-12A16	19	- 12	3/4"	1.7/16" - 12	19.8	96.5	14.8	21.0	60.0	41.0	
OPF22443-16A16	25	- 16	1"	1.7/16" - 12	19.8	120.0	14.8	23.5	72.0	41.0	
OPF22443-16A20	25	- 16	1"	1.11/16" - 12	26.0	122.0	14.8	25.0	74.0	50.0	

OPF22441: CRIMPED BACK-NUT / OPF22443: SLIP-ON NUT

293 FITTINGS



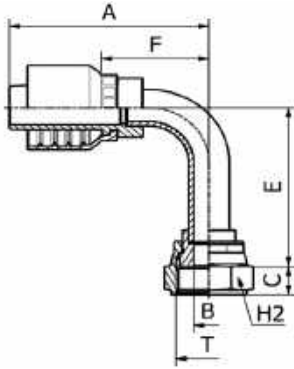
SAE STANDARD CONNECTIONS

# OPF22491 / OPF22493

**90° ORFS  
FEMALE SWEPT ELBOW  
SAE J516 / ISO 12151-1**

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	B	A	C	E	F	H2
OPF22493-04A04	6	- 4	1/4"	9/16" - 18	4.0	55.0	8.2	22.0	27.5	17.0	
OPF22493-04A06	6	- 4	1/4"	11/16" - 16	7.0	55.0	9.5	22.0	27.5	22.0	
OPF22493-05A06	8	- 5	5/16"	11/16" - 16	7.0	60.0	9.5	23.0	32.0	22.0	
OPF22493-06A06	10	- 6	3/8"	11/16" - 16	6.0	59.5	9.5	24.0	30.0	22.0	
OPF22493-06A08	10	- 6	3/8"	13/16" - 16	9.3	59.5	11.0	26.5	30.0	24.0	
OPF22491-08A06	12	- 8	1/2"	11/16" - 16	7.0	61.5	9.5	24.5	30.0	22.0	
OPF22493-08A08	12	- 8	1/2"	13/16" - 16	9.0	71.5	11.0	30.0	40.5	24.0	
OPF22493-08A10	12	- 8	1/2"	1" - 14	11.5	71.0	13.5	30.5	40.0	30.0	
OPF22493-08A12	12	- 8	1/2"	1.3/16" - 12	13.9	71.0	14.5	37.5	39.5	36.0	
OPF22493-10A10	16	- 10	5/8"	1" - 14	11.5	82.5	13.5	37.5	48.0	30.0	
OPF22493-10A12	16	- 10	5/8"	1.3/16" - 12	13.9	82.5	14.5	41.0	48.0	36.0	
OPF22491-12A10	19	- 12	3/4"	1" - 14	11.5	85.5	13.5	38.0	49.0	30.0	
OPF22493-12A12	19	- 12	3/4"	1.3/16" - 12	13.9	93.0	14.5	48.0	56.5	36.0	
OPF22493-12A16	19	- 12	3/4"	1.7/16" - 12	19.8	93.0	14.8	47.5	56.5	41.0	
OPF22491-16A12	25	- 16	1"	1.3/16" - 12	13.9	106.0	13.5	48.0	57.5	36.0	
OPF22493-16A16	25	- 16	1"	1.7/16" - 12	19.8	119.5	14.8	56.0	71.5	41.0	
OPF22493-16A20	25	- 16	1"	1.11/16" - 12	26.0	119.5	14.8	58.5	71.5	50.0	

OPF22491: CRIMPED BACK-NUT / OPF22493: SLIP-ON NUT



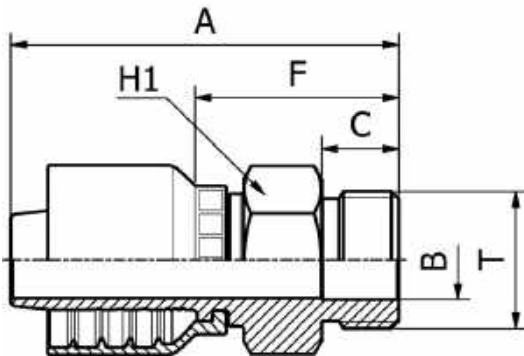
SAE STANDARD CONNECTIONS

# OPF24491

**90° ORFS  
FEMALE LONG DROP ELBOW  
SAE J516 / ISO 12151-1  
(CRIMPED-BACK NUT)**

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	E	F	H2	
OPF24491-04A04	6	- 4	1/4"	9/16" - 18	4.4	52.5	8.0	46.0	25.0	17.0	
OPF24491-06A06	10	- 6	3/8"	11/16" - 16	6.7	61.5	9.5	54.0	32.0	22.0	
OPF24491-06A08	10	- 6	3/8"	13/16" - 16	6.7	61.5	11.0	54.0	32.0	24.0	
OPF24491-08A08	12	- 8	1/2"	13/16" - 16	9.6	68.0	11.0	64.0	37.0	24.0	
OPF24491-08A10	12	- 8	1/2"	1" - 14	9.6	68.0	12.5	64.5	37.0	30.0	
OPF24491-10A10	16	- 10	5/8"	1" - 14	12.0	75.5	13.0	70.0	41.0	30.0	
OPF24491-10A12	16	- 10	5/8"	1.3/16" - 12	12.7	75.5	13.5	73.0	41.0	36.0	
OPF24491-12A12	19	- 12	3/4"	1.3/16" - 12	15.0	95.0	13.5	96.0	58.5	36.0	
OPF24491-16A16	25	- 16	1"	1.7/16" - 12	19.8	119.5	13.5	114.0	71.5	41.0	

All items made by brazing with the exception of OPF24491-12A12 and OPF24491-16A16



SAE STANDARD CONNECTIONS

# OPF13010

**SAE MALE  
O-RING BOSS TYPE  
SAE J516 / ISO 11926**

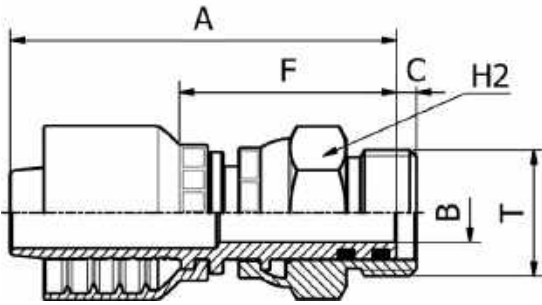
PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	F	H1		
OPF13010-04A04	6	- 4	1/4"	7/16" - 20	4.4	51.5	9.1	24.0	14.0		
OPF13010-04A06	6	- 4	1/4"	9/16" - 18	7.5	52.0	9.9	24.5	17.0		
OPF13010-06A06	10	- 6	3/8"	9/16" - 18	7.5	55.0	9.9	25.5	17.0		
OPF13010-06A08	10	- 6	3/8"	3/4" - 16	9.9	58.0	11.1	28.5	22.0		
OPF13010-08A08	12	- 8	1/2"	3/4" - 16	9.9	60.0	11.1	29.0	22.0		
OPF13010-08A10	12	- 8	1/2"	7/8" - 14	12.3	63.0	12.7	32.0	25.0		
OPF13010-10A10	16	- 10	5/8"	7/8" - 14	12.5	63.0	12.7	32.0	25.0		
OPF13010-10A12	16	- 10	5/8"	1.1/16" - 12	15.5	72.0	15.1	37.5	32.0		
OPF13010-12A12	19	- 12	3/4"	1.1/16" - 12	15.5	76.0	15.1	39.5	32.0		
OPF13010-12A16	19	- 12	3/4"	1.5/16" - 12	21.5	76.5	15.1	40.0	38.0		
OPF13010-16A16	25	- 16	1"	1.5/16" - 12	21.5	89.5	15.1	41.0	38.0		



SAE STANDARD CONNECTIONS

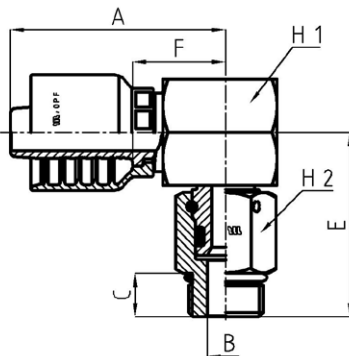
# OPF14310

SAE  
SWIVEL MALE OR. BOSS TYPE



PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	F	H2		
OPF14310-04A04	6	- 4	1/4"	7/16" - 20	4.0	70.5	9.1	43.0	17.0		
OPF14310-04A06	6	- 4	1/4"	9/16" - 18	7.0	71.5	9.9	44.0	22.0		
OPF14310-06A06	10	- 6	3/8"	9/16" - 18	7.0	77.5	9.9	48.0	22.0		
OPF14310-06A08	10	- 6	3/8"	3/4" - 16	9.3	76.5	11.1	47.0	22.0		
OPF14310-08A08	12	- 8	1/2"	3/4" - 16	9.3	84.0	11.1	53.0	27.0		
OPF14310-08A10	12	- 8	1/2"	7/8" - 14	9.3	72.4	13.0	41.5	27.0		
OPF14310-12A12	19	- 12	3/4"	1.1/16" - 12	12.5	87.0	15.0	50.5	32.0		

Not to be used as a live swivel

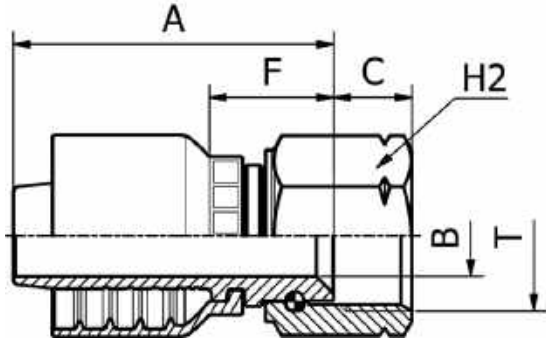


SAE STANDARD CONNECTIONS

# OPF14390

90° SAE  
SWIVEL MALE OR. BOSS

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch	T	B	A	C	E	F	H1	H2	
OPF14390-06A06	10	- 6	3/8"	9/16" - 18	5.7	49.5	9.9	40.0	20.0	22.0	17.0	
OPF14390-06A08	10	- 6	3/8"	3/4" - 16	9.3	49.5	11.1	44.5	20.0	22.0	22.0	
OPF14390-08A08	12	- 8	1/2"	3/4" - 16	9.3	54.5	11.1	47.0	23.5	27.0	22.0	
OPF14390-08A10	12	- 8	1/2"	7/8" - 14	9.8	54.5	13.0	47.0	23.5	27.0	27.0	
OPF14390-10A10	16	- 10	5/8"	7/8" - 14	9.8	58.0	13.0	47.0	23.5	27.0	27.0	
OPF14390-12A12	19	- 12	3/4"	1.1/16" - 12	13.0	64.5	15.0	58.5	28.0	34.0	32.0	



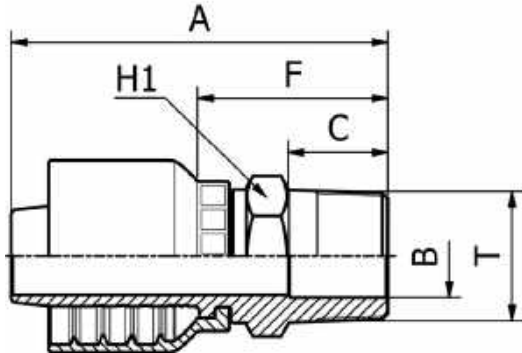
SAE STANDARD CONNECTIONS

# OPF22612

**SAE FEMALE  
45° CONE SEAT  
SAE J516 / J512  
(THRUST-WIRE NUT)**

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	B	A	C	F	H2	
OPF22612-06A06	10	- 6	3/8"	9/16" - 18	7.0	46.0	10.8	16.5	22.0		

FITTINGS 296



SAE STANDARD CONNECTIONS

# OPF12810

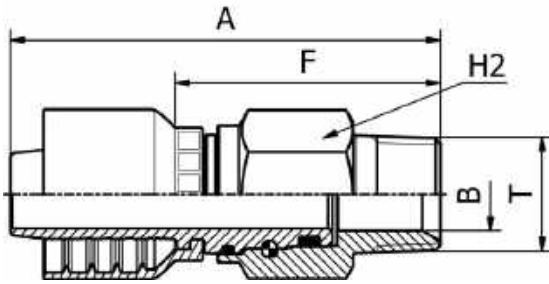
**NPTF  
MALE 60° CONE SEAT  
SAE J516 / J514**

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	B	A	C	F	H1	
OPF12810-03A02	5	- 3	3/16"	1/8" - 27	3.0	45.0	10.0	23.5	12.0		
OPF12810-03A04	5	- 3	3/16"	1/4" - 18	5.5	50.5	14.5	29.0	14.0		
OPF12810-04A02	6	- 4	1/4"	1/8" - 27	4.0	51.5	10.0	24.0	12.0		
OPF12810-04A04	6	- 4	1/4"	1/4" - 18	5.5	56.5	14.5	29.0	14.0		
OPF12810-04A06	6	- 4	1/4"	3/8" - 18	9.3	55.0	14.5	27.5	19.0		
OPF12810-04A08	6	- 4	1/4"	1/2" - 14	9.3	61.0	19.2	33.5	24.0		
OPF12810-05A04	8	- 5	5/16"	1/4" - 18	5.5	57.5	14.5	29.5	14.0		
OPF12810-05A06	8	- 5	5/16"	3/8" - 18	9.3	60.0	14.5	32.0	19.0		
OPF12810-06A04	10	- 6	3/8"	1/4" - 18	5.5	59.5	14.5	30.0	14.0		
OPF12810-06A06	10	- 6	3/8"	3/8" - 18	9.3	58.0	14.5	28.5	19.0		
OPF12810-06A08	10	- 6	3/8"	1/2" - 14	12.5	64.0	19.2	34.5	24.0		
OPF12810-08A06	12	- 8	1/2"	3/8" - 18	9.3	60.0	14.5	29.0	19.0		
OPF12810-08A08	12	- 8	1/2"	1/2" - 14	12.5	66.0	19.2	35.0	24.0		
OPF12810-08A12	12	- 8	1/2"	3/4" - 14	15.5	66.5	19.2	35.5	27.0		
OPF12810-10A08	16	- 10	5/8"	1/2" - 14	12.5	73.0	19.2	38.5	24.0		
OPF12810-10A12	16	- 10	5/8"	3/4" - 14	16.0	74.5	19.2	40.0	27.0		
OPF12810-12A08	19	- 12	3/4"	1/2" - 14	12.5	73.0	19.2	36.5	27.0		
OPF12810-12A12	19	- 12	3/4"	3/4" - 14	16.0	73.0	19.2	36.5	27.0		
OPF12810-12A16	19	- 12	3/4"	1" - 11,5	19.8	82.5	24.2	46.0	36.0		
OPF12810-16A12	25	- 16	1"	3/4" - 14	15.5	87.0	19.2	39.0	32.0		
OPF12810-16A16	25	- 16	1"	1" - 11,5	19.8	92.0	24.2	44.0	36.0		
OPF12810-16A20	25	- 16	1"	1.1/4" - 11,5	26.0	104.5	25.0	56.5	46.0		

SAE STANDARD CONNECTIONS

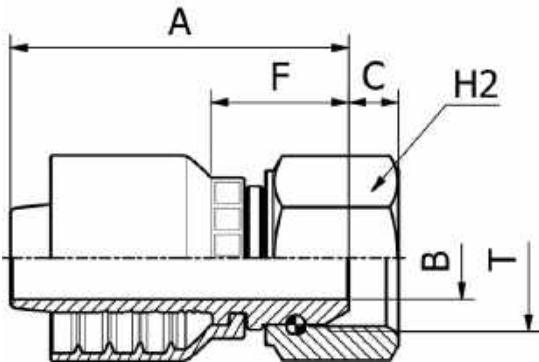
# OPF14110R

**NPTF  
SWIVEL MALE**



PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	F	H1		
OPF14110-04A02R	6	- 4	1/4"	1/8" - 28	3.0	69.5	10.0	42.0	17.0		
OPF14110-04A04R	6	- 4	1/4"	1/4" - 18	4.0	74.0	14.5	46.5	17.0		
OPF14110-04A06R	6	- 4	1/4"	3/8" - 18	7.0	74.0	14.5	46.5	19.0		
OPF14110-06A04R	10	- 6	3/8"	1/4" - 18	4.0	80.0	14.5	50.5	22.0		
OPF14110-06A06R	10	- 6	3/8"	3/8" - 18	7.0	80.0	14.5	50.5	22.0		
OPF14110-06A08R	10	- 6	3/8"	1/2" - 14	9.3	84.5	19.2	55.0	24.0		
OPF14110-08A08R	12	- 8	1/2"	1/2" - 14	9.3	90.0	19.2	59.0	27.0		
OPF14110-12A12R	19	- 12	3/4"	3/4" - 14	16.0	94.5	19.2	58.0	32.0		
OPF14110-16A16R	25	- 16	1"	1" - 11	19.8	114.0	24.2	66.0	38.0		

Not to be used as a live swivel



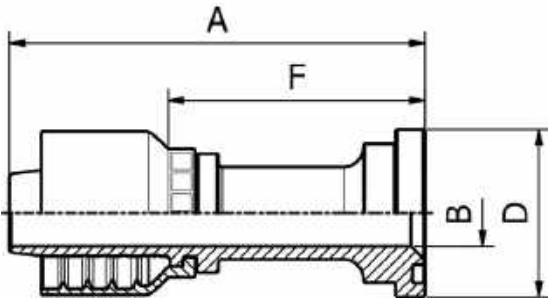
SAE STANDARD CONNECTIONS

# OPF22812

**NPSM  
FEMALE 60° CONE  
SAE J516 / J514  
(THRUST-WIRE NUT)**

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch	T	B	A	C	F	H2		
OPF22812-04A04	6	- 4	1/4"	1/4" - 18	4.0	45.0	4.2	17.5	19.0		
OPF22812-06A06	10	- 6	3/8"	3/8" - 18	7.0	50.5	6.0	21.0	22.0		
OPF22812-08A08	12	- 8	1/2"	1/2" - 14	9.3	54.0	6.5	23.0	27.0		
OPF22812-12A12	19	- 12	3/4"	3/4" - 14	15.0	61.0	9.0	24.5	32.0		
OPF22812-16A16	25	- 16	1"	1" - 11,5	19.8	75.5	10.5	27.5	38.0		

SAE STANDARD CONNECTIONS

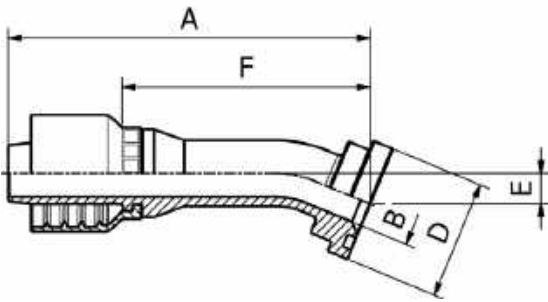


# OPF23311

ISO / SAE  
CODE 61 FLANGE  
SAE J516 / ISO 12151-3

PART. REF.	HOSE BORE			Flange	DIMENSIONS mm						
	DN	Dash	inch		inch	B	A	D	F		
OPF23311-08A08	12	- 8	1/2"	1/2"	9.3	82.0	30.3	51.0			
OPF23311-08A12	12	- 8	1/2"	3/4"	15.1	89.0	38.0	58.0			
OPF23311-10A12	16	- 10	5/8"	3/4"	15.0	100.0	38.0	65.5			
OPF23311-12A12	19	- 12	3/4"	3/4"	15.0	94.5	38.0	58.0			
OPF23311-12A16	19	- 12	3/4"	1"	20.0	94.5	44.6	58.0			
OPF23311-16A16	25	- 16	1"	1"	19.8	112.5	44.6	64.5			
OPF23311-16A20	25	- 16	1"	1.1/4"	26.0	118.5	51.0	70.5			

SAE STANDARD CONNECTIONS

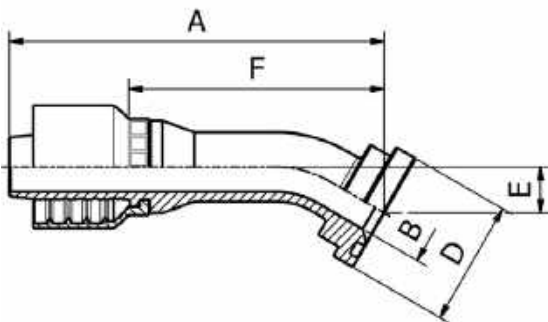


# OPF23321

22,5° ISO / SAE  
CODE 61 FLANGE  
SAE J516 / ISO 12151-3

PART. REF.	HOSE BORE			Flange	DIMENSIONS mm						
	DN	Dash	inch		inch	B	A	D	E	F	
OPF23321-08A08	12	- 8	1/2"	1/2"	9.3	95.0	30.3	8.0	64.0		
OPF23321-12A12	19	- 12	3/4"	3/4"	15.0	111.0	38.0	10.0	74.5		
OPF23321-12A16	19	- 12	3/4"	1"	20.0	111.0	44.6	10.0	74.5		
OPF23321-16A16	25	- 16	1"	1"	19.8	137.0	44.6	11.5	89.0		

SAE STANDARD CONNECTIONS

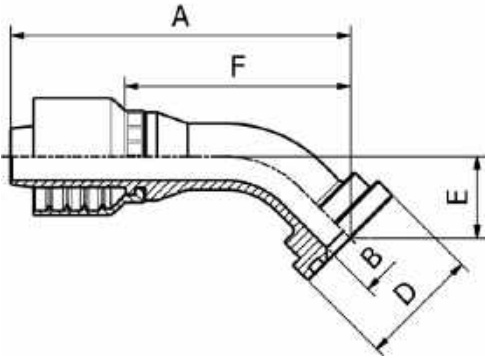


# OPF23331

30° ISO / SAE  
CODE 61 FLANGE  
SAE J516 / ISO 12151-3

PART. REF.	HOSE BORE			Flange	DIMENSIONS mm						
	DN	Dash	inch		inch	B	A	D	E	F	
OPF23331-08A08	12	- 8	1/2"	1/2"	9.3	93.5	30.3	11.0	62.5		
OPF23331-12A12	19	- 12	3/4"	3/4"	15.0	109.5	38.0	14.0	73.0		
OPF23331-12A16	19	- 12	3/4"	1"	20.0	109.5	44.6	14.0	73.0		
OPF23331-16A16	25	- 16	1"	1"	19.8	135.0	44.6	16.5	87.0		

SAE STANDARD CONNECTIONS



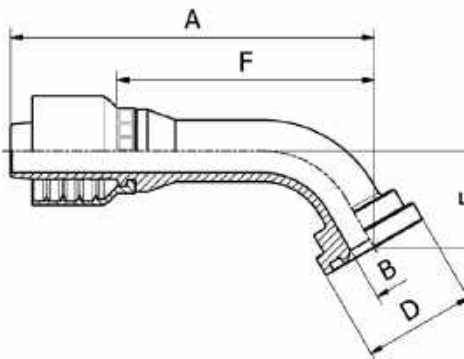
# OPF23341

45° ISO / SAE  
CODE 61 FLANGE  
SAE J516 / ISO 12151-3

PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch	inch		B	A	D	E	F		
OPF23341-08A08	12	- 8	1/2"	1/2"		9.3	90.0	30.3	18.5	58.5		
OPF23341-08A12	12	- 8	1/2"	3/4"		15.0	90.5	38.0	19.0	59.5		
OPF23341-10A12	16	- 10	5/8"	3/4"		15.0	95.0	38.0	22.0	61.0		
OPF23341-12A12	19	- 12	3/4"	3/4"		15.0	104.5	38.0	23.0	68.5		
OPF23341-12A16	19	- 12	3/4"	1"		20.0	104.5	44.6	23.0	68.5		
OPF23341-16A16	25	- 16	1"	1"		19.8	129.5	44.6	27.5	81.5		
OPF23341-16A20	25	- 16	1"	1.1/4"		26.0	129.5	51.0	27.5	81.5		

299 FITTINGS

SAE STANDARD CONNECTIONS

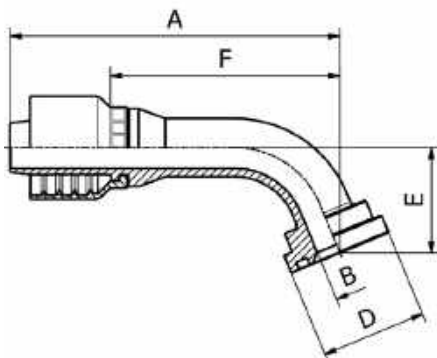


# OPF23361

60° ISO / SAE  
CODE 61 FLANGE  
SAE J516 / ISO 12151-3

PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch	inch		B	A	D	E	F		
OPF23361-08A08	12	- 8	1/2"	1/2"		9.3	102.5	30.3	26.0	71.5		
OPF23361-12A12	19	- 12	3/4"	3/4"		15.0	123.5	38.0	33.0	87.0		
OPF23361-16A16	25	- 16	1"	1"		19.8	152.0	44.6	39.0	104.0		
OPF23361-16A20	25	- 16	1"	1.1/4"		26.0	152.0	51.0	39.0	104.0		

SAE STANDARD CONNECTIONS

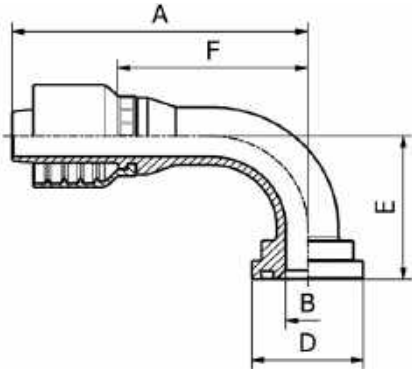


# OPF23371

67,5° ISO / SAE  
CODE 61 FLANGE  
SAE J516 / ISO 12151-3

PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch	inch		B	A	D	E	F		
OPF23371-08A08	12	- 8	1/2"	1/2"		9.3	99.0	30.3	29.5	68.0		
OPF23371-12A12	19	- 12	3/4"	3/4"		15.0	118.5	38.0	38.0	82.0		
OPF23371-12A16	19	- 12	3/4"	1"		20.0	118.5	44.6	38.0	82.0		
OPF23371-16A16	25	- 16	1"	1"		19.8	147.0	44.6	45.0	98.5		

SAE STANDARD CONNECTIONS



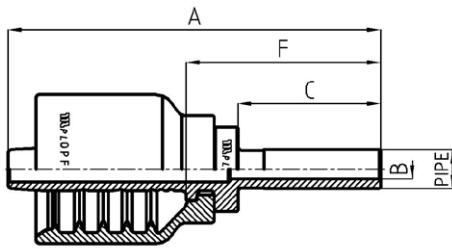
# OPF23391

90° ISO / SAE  
CODE 61 FLANGE  
SAE J516 / ISO 12151-3

PART. REF.	HOSE BORE			Flange	DIMENSIONS mm						
	DN	Dash	inch		B	A	D	E	F		
OPF23391-08A08	12	- 8	1/2"	1/2"	9.3	85.5	30.3	40.0	54.5		
OPF23391-08A12	12	- 8	1/2"	3/4"	15.0	85.5	38.0	41.0	54.5		
OPF23391-10A12	16	- 10	5/8"	3/4"	15.0	90.0	38.0	47.5	56.0		
OPF23391-12A12	19	- 12	3/4"	3/4"	15.0	101.0	38.0	52.0	64.5		
OPF23391-12A16	19	- 12	3/4"	1"	20.0	101.0	44.6	52.0	64.5		
OPF23391-16A16	25	- 16	1"	1"	19.8	125.5	44.6	62.0	77.5		
OPF23391-16A20	25	- 16	1"	1.1/4"	26.0	125.5	51.0	62.0	77.5		

FITTINGS 300

DIN STANDARD CONNECTIONS

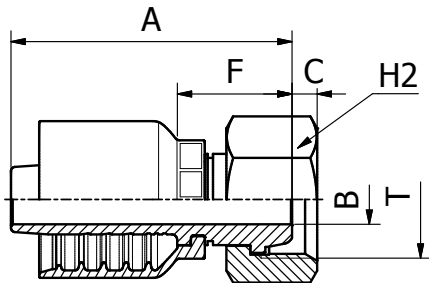


# OPF22010

METRIC  
STANDPIPE STRAIGHT L.T.

PART. REF.	HOSE BORE			Pipe	DIMENSIONS mm						
	DN	Dash	inch		B	A	C	F			
OPF22010-04A06	6	- 4	1/4"	6.0	3.0	57.5	22.0	30.0			
OPF22010-06A10	10	- 6	3/8"	10.0	7.0	61.0	23.0	31.5			

DIN STANDARD CONNECTIONS



# OPF21312/OPF21313

METRIC  
FEMALE  
MULTISEAL

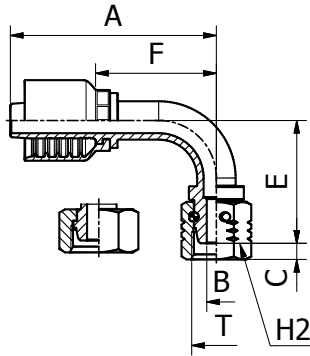
PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm				
	DN	Dash	inch			T	B	A	C	F
OPF21312-06A16	10	- 6	3/8"	M 16X1,5	10.0	7.0	51.0	5.0	21.5	19.0
OPF21313-06A18	10	- 6	3/8"	M 18X1,5	12.0	7.0	49.5	4.0	20.0	22.0
OPF21313-08A22	12	- 8	1/2"	M 22X1,5	15.0	9.3	52.5	4.7	21.5	27.0

OPF21312: THRUST WIRE NUT / OPF21313: SLIP-ON NUT

DIN STANDARD CONNECTIONS

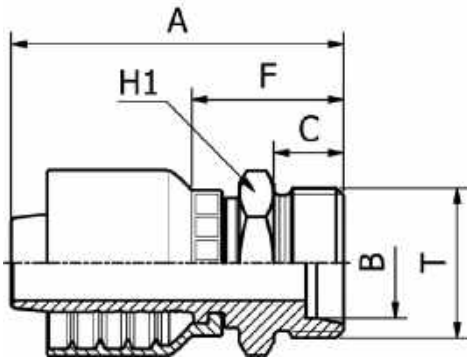
# OPF21392/OPF21393

90° METRIC  
FEMALE  
MULTISEAL



PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch	T	mm	B	A	C	E	F	H2	
OPF21392-06A16	10	- 6	3/8"	M 16X1,5	10.0	7.0	65.0	5.0	38.0	35.5	19.0	
OPF21393-06A18	10	- 6	3/8"	M 18X1,5	12.0	7.0	66.0	4.0	31.5	36.5	22.0	

OPF21392: THRUST WIRE NUT / OPF21393: SLIP-ON NUT



DIN STANDARD CONNECTIONS

# OPF11110

METRIC  
MALE 24° CONE SEAT LIGHT DUTY  
DIN 20066 / ISO 12151-2

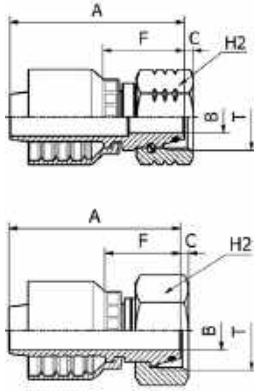
PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm					
	DN	Dash	inch	T	mm	B	A	C	F	H1	
OPF11110-04A12	6	- 4	1/4"	M 12X1,5	6.0	4.0	49.0	10.0	21.5	14.0	
OPF11110-04A14	6	- 4	1/4"	M 14X1,5	8.0	4.0	49.0	10.0	21.5	14.0	
OPF11110-04A16	6	- 4	1/4"	M 16X1,5	10.0	7.0	51.0	11.0	23.5	17.0	
OPF11110-04A18	6	- 4	1/4"	M 18X1,5	12.0	9.0	51.0	11.0	23.5	19.0	
OPF11110-05A16	8	- 5	5/16"	M 16X1,5	10.0	7.0	52.0	11.0	24.0	17.0	
OPF11110-05A18	8	- 5	5/16"	M 18X1,5	12.0	9.0	52.0	11.0	24.0	19.0	
OPF11110-06A16	10	- 6	3/8"	M 16X1,5	10.0	7.0	53.5	11.0	24.0	17.0	
OPF11110-06A18	10	- 6	3/8"	M 18X1,5	12.0	9.0	54.0	11.0	24.5	19.0	
OPF11110-06A22	10	- 6	3/8"	M 22X1,5	15.0	10.0	55.0	12.0	25.5	22.0	
OPF11110-08A22	12	- 8	1/2"	M 22X1,5	15.0	10.0	56.5	12.0	25.5	22.0	
OPF11110-08A26	12	- 8	1/2"	M 26X1,5	18.0	12.5	57.5	12.0	26.5	27.0	
OPF11110-10A22	16	- 10	5/8"	M 22X1,5	15.0	10.0	60.0	12.0	25.5	22.0	
OPF11110-10A26	16	- 10	5/8"	M 26X1,5	18.0	12.5	61.0	12.0	26.5	27.0	
OPF11110-12A30	19	- 12	3/4"	M 30X2	22.0	15.0	66.5	14.0	30.0	30.0	

FITTINGS  
301

DIN STANDARD CONNECTIONS

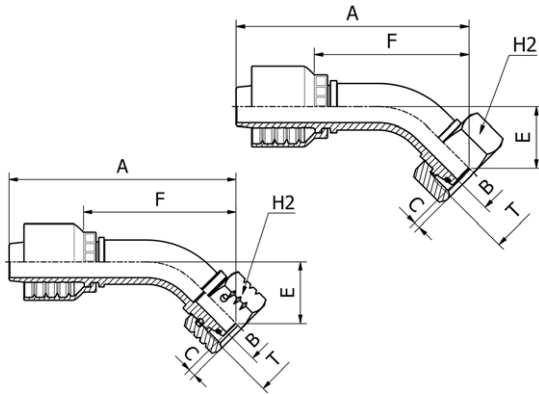
# OPF21512/OPF21513

**METRIC**  
**O-RING FEMALE 24° CONE LIGHT DUTY**  
**DIN 20066 / ISO 12151-2**



PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm					
	DN	Dash	inch			T	mm	B	A	C	F
OPF21512-04A12	6	- 4	1/4"	M 12X1,5	6.0	3.0	48.5	2.2	21.0	17.0	
OPF21513-04A14	6	- 4	1/4"	M 14X1,5	8.0	4.0	49.5	1.3	22.0	17.0	
OPF21513-04A16	6	- 4	1/4"	M 16X1,5	10.0	6.0	50.0	1.8	22.5	19.0	
OPF21513-04A18	6	- 4	1/4"	M 18X1,5	12.0	7.0	49.5	2.0	22.0	22.0	
OPF21512-05A14	8	- 5	5/16"	M 14X1,5	8.0	4.0	48.0	2.9	20.0	17.0	
OPF21513-05A16	8	- 5	5/16"	M 16X1,5	10.0	6.0	50.5	1.8	22.5	19.0	
OPF21513-05A18	8	- 5	5/16"	M 18X1,5	12.0	7.0	50.0	2.0	22.0	22.0	
OPF21512-06A16	10	- 6	3/8"	M 16X1,5	10.0	6.0	52.5	3.0	23.0	19.0	
OPF21513-06A18	10	- 6	3/8"	M 18X1,5	12.0	7.0	52.0	2.0	22.5	22.0	
OPF21513-06A22	10	- 6	3/8"	M 22X1,5	15.0	9.3	54.5	1.5	25.0	27.0	
OPF21512-08A18	12	- 8	1/2"	M 18X1,5	12.0	7.0	60.0	2.9	29.0	22.0	
OPF21513-08A22	12	- 8	1/2"	M 22X1,5	15.0	9.3	56.5	1.5	25.5	27.0	
OPF21513-08A26	12	- 8	1/2"	M 26X1,5	18.0	12.5	57.0	2.0	26.0	32.0	
OPF21513-10A26	16	- 10	5/8"	M 26X1,5	18.0	12.5	60.5	2.0	26.0	32.0	
OPF21513-10A30	16	- 10	5/8"	M 30X2	22.0	15.0	68.5	3.0	34.0	36.0	
OPF21512-12A26	19	- 12	3/4"	M 26X1,5	18.0	12.5	67.5	2.3	31.0	32.0	
OPF21513-12A30	19	- 12	3/4"	M 30X2	22.0	15.0	64.5	3.0	28.0	36.0	
OPF21513-12A36	19	- 12	3/4"	M 36X2	28.0	20.0	65.0	3.7	28.5	41.0	
OPF21513-16A36	25	- 16	1"	M 36X2	28.0	19.8	77.5	3.7	29.5	41.0	

OPF21512: THRUST WIRE NUT / OPF21513: SLIP-ON NUT



DIN STANDARD CONNECTIONS

# OPF21542/OPF21543

**45° METRIC**  
**O-RING FEMALE SWEEP ELBOW 24° CONE**  
**LIGHT DUTY**  
**DIN 20066 / ISO 12151-2**

PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm					
	DN	Dash	inch			T	mm	B	A	C	E
OPF21543-04A14	6	- 4	1/4"	M 14X1,5	8.0	4.0	65.5	1.3	16.5	38.0	17.0
OPF21543-04A16	6	- 4	1/4"	M 16X1,5	10.0	6.0	65.5	1.8	17.0	38.0	19.0
OPF21543-05A16	8	- 5	5/16"	M 16X1,5	10.0	6.0	69.5	1.8	17.5	41.5	19.0
OPF21543-05A18	8	- 5	5/16"	M 18X1,5	12.0	7.0	69.5	2.0	17.0	41.5	22.0
OPF21542-06A16	10	- 6	3/8"	M 16X1,5	10.0	6.0	77.0	3.0	21.5	47.5	19.0
OPF21543-06A18	10	- 6	3/8"	M 18X1,5	12.0	7.0	73.0	2.0	16.5	43.5	22.0
OPF21543-06A22	10	- 6	3/8"	M 22X1,5	15.0	9.3	74.0	1.5	18.0	45.0	27.0
OPF21543-08A22	12	- 8	1/2"	M 22X1,5	15.0	9.3	83.0	1.5	19.0	52.0	27.0
OPF21543-10A26	16	- 10	5/8"	M 26X1,5	18.0	12.5	96.5	2.0	26.5	62.0	32.0
OPF21543-12A30	19	- 12	3/4"	M 30X2	22.0	15.0	107.5	3.0	28.5	71.0	36.0
OPF21543-16A36	25	- 16	1"	M 36X2	28.0	19.8	133.0	3.7	32.0	85.0	41.0

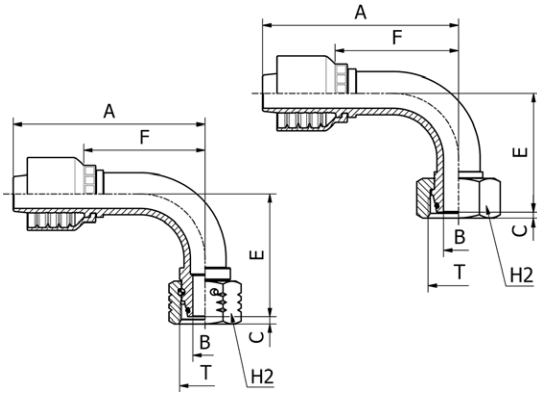
OPF21542: THRUST WIRE NUT / OPF21543: SLIP-ON NUT



DIN STANDARD CONNECTIONS

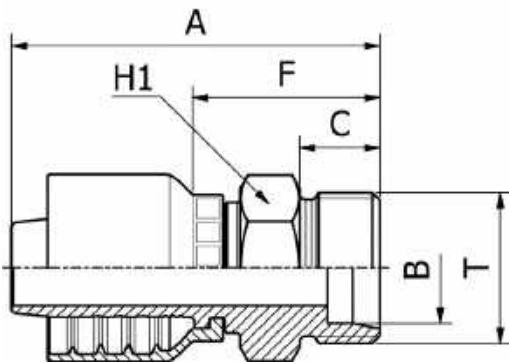
# OPF21592/OPF21593

**90° METRIC  
O-RING FEMALE SWEPT ELBOW 24° CONE  
LIGHT DUTY  
DIN 20066 / ISO 12151-2**



PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch			T	mm	B	A	C	E	F
OPF21593-03A12	5	- 3	3/16"	M 12X1,5	6.0	3.0	47.5	0.7	30.0	26.0	14.0	
OPF21592-04A12	6	- 4	1/4"	M 12X1,5	6.0	3.0	56.0	2.2	32.5	28.5	17.0	
OPF21593-04A14	6	- 4	1/4"	M 14X1,5	8.0	4.0	57.0	1.3	31.5	29.5	17.0	
OPF21593-04A16	6	- 4	1/4"	M 16X1,5	10.0	6.0	57.0	1.8	32.0	29.5	19.0	
OPF21593-04A18	6	- 4	1/4"	M 18X1,5	12.0	7.0	57.0	2.0	33.0	29.5	22.0	
OPF21593-05A16	8	- 5	5/16"	M 16X1,5	10.0	6.0	60.0	1.8	32.5	32.0	19.0	
OPF21593-05A18	8	- 5	5/16"	M 18X1,5	12.0	7.0	60.0	2.0	32.5	32.0	22.0	
OPF21592-06A16	10	- 6	3/8"	M 16X1,5	10.0	6.0	65.0	3.0	40.0	35.5	19.0	
OPF21593-06A18	10	- 6	3/8"	M 18X1,5	12.0	7.0	66.0	2.0	33.5	36.5	22.0	
OPF21593-06A22	10	- 6	3/8"	M 22X1,5	15.0	9.3	66.0	1.5	35.0	36.5	27.0	
OPF21592-08A18	12	- 8	1/2"	M 18X1,5	12.0	7.0	75.0	2.9	48.0	44.0	22.0	
OPF21593-08A26	12	- 8	1/2"	M 26X1,5	18.0	12.5	76.0	2.0	40.0	45.0	32.0	
OPF21593-08A22	12	- 8	1/2"	M 22X1,5	15.0	9.3	76.0	1.5	39.5	45.0	27.0	
OPF21593-10A26	16	- 10	5/8"	M 26X1,5	18.0	12.5	86.0	2.0	53.0	51.5	32.0	
OPF21593-10A30	16	- 10	5/8"	M 30X2	22.0	15.0	86.0	3.0	54.0	51.5	36.0	
OPF21593-12A30	19	- 12	3/4"	M 30X2	22.0	15.0	97.5	3.0	59.5	61.5	36.0	
OPF21593-16A36	25	- 16	1"	M 36X2	28.0	19.8	125.0	3.7	69.5	76.5	41.0	

OPF21592: THRUST WIRE NUT / OPF21593: SLIP-ON NUT

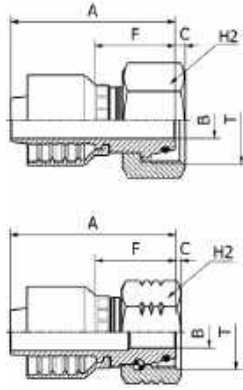


DIN STANDARD CONNECTIONS

# OPF11210

**METRIC  
MALE 24° CONE SEAT HEAVY DUTY  
DIN 20066 / ISO 12151-2**

PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm					
	DN	Dash	inch			T	mm	B	A	C	F
OPF11210-04A16	6	- 4	1/4"	M 16X1,5	8.0	5.5	53.0	12.0	25.5	17.0	
OPF11210-04A18	6	- 4	1/4"	M 18X1,5	10.0	6.0	54.0	12.0	26.5	19.0	
OPF11210-04A20	6	- 4	1/4"	M 20X1,5	12.0	7.0	56.5	12.0	29.0	22.0	
OPF11210-05A20	8	- 5	5/16"	M 20X1,5	12.0	7.0	57.0	12.0	29.0	22.0	
OPF11210-06A18	10	- 6	3/8"	M 18X1,5	10.0	7.0	56.5	12.0	27.0	19.0	
OPF11210-06A20	10	- 6	3/8"	M 20X1,5	12.0	7.0	58.5	12.0	29.0	22.0	
OPF11210-06A22	10	- 6	3/8"	M 22X1,5	14.0	8.0	60.5	14.0	31.0	22.0	
OPF11210-08A24	12	- 8	1/2"	M 24X1,5	16.0	9.3	62.5	14.0	31.5	24.0	
OPF11210-10A30	16	- 10	5/8"	M 30X2	20.0	15.0	70.0	16.0	35.5	30.0	
OPF11210-12A30	19	- 12	3/4"	M 30X2	20.0	15.0	73.5	16.0	37.0	30.0	
OPF11210-12A36	19	- 12	3/4"	M 36X2	25.0	19.8	77.5	18.0	41.0	36.0	
OPF11210-16A36	25	- 16	1"	M 36X2	25.0	19.8	90.5	18.0	42.5	36.0	
OPF11210-16A42	25	- 16	1"	M 42X2	30.0	25.0	92.5	20.0	44.5	46.0	



DIN STANDARD CONNECTIONS

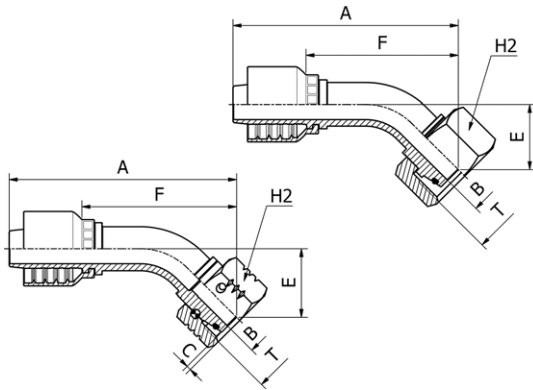
# OPF21612/OPF21613

**METRIC**  
**O-RING FEMALE 24° CONE HEAVY DUTY**  
**DIN 20066 / ISO 12151-2**

FITTINGS 304

PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm					
	DN	Dash	inch			T	mm	B	A	C	F
OPF21613-03A16	5	- 3	3/16"	M 16X1,5	8.0	3.0	43.0	3.4	21.5	19.0	
OPF21613-04A14	6	- 4	1/4"	M 14X1,5	6.0	3.0	51.0	1.9	23.5	17.0	
OPF21613-04A16	6	- 4	1/4"	M 16X1,5	8.0	4.0	49.5	3.4	22.0	19.0	
OPF21613-04A18	6	- 4	1/4"	M 18X1,5	10.0	4.0	55.5	2.5	28.0	22.0	
OPF21613-04A20	6	- 4	1/4"	M 20X1,5	12.0	7.0	53.5	2.0	26.0	24.0	
OPF21613-05A18	8	- 5	5/16"	M 18X1,5	10.0	5.5	56.0	2.5	28.0	22.0	
OPF21613-05A20	8	- 5	5/16"	M 20X1,5	12.0	5.5	53.0	2.0	25.0	24.0	
OPF21613-06A20	10	- 6	3/8"	M 20X1,5	12.0	7.0	54.5	2.0	25.5	24.0	
OPF21613-06A22	10	- 6	3/8"	M 22X1,5	14.0	7.0	62.0	3.0	32.5	27.0	
OPF21613-08A24	12	- 8	1/2"	M 24X1,5	16.0	9.3	58.0	4.0	26.5	30.0	
OPF21613-10A30	16	- 10	5/8"	M 30X2	20.0	12.5	65.0	3.5	30.5	36.0	
OPF21612-12A30	19	- 12	3/4"	M 30X2	20.0	12.5	70.0	2.2	33.5	36.0	
OPF21613-12A36	19	- 12	3/4"	M 36X2	25.0	15.0	70.5	4.5	34.0	41.0	
OPF21612-16A36	25	- 16	1"	M 36X2	25.0	15.0	83.5	1.7	35.5	41.0	
OPF21613-16A42	25	- 16	1"	M 42X2	30.0	19.8	83.5	6.3	35.5	50.0	

OPF21612: THRUST WIRE NUT / OPF21613: SLIP-ON NUT



DIN STANDARD CONNECTIONS

# OPF21642/OPF21643

**45° METRIC**  
**O-RING FEMALE SWEPT ELBOW 24° CONE**  
**HEAVY DUTY**  
**DIN 20066 / ISO 12151-2**

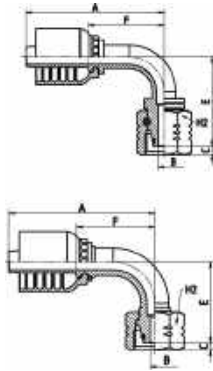
PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm					
	DN	Dash	inch			T	mm	B	A	C	E
OPF21643-04A16	6	- 4	1/4"	M 16X1,5	8.0	4.0	64.0	3.4	15.0	36.5	19.0
OPF21643-04A18	6	- 4	1/4"	M 18X1,5	10.0	4.0	65.0	2.5	16.5	37.5	22.0
OPF21643-05A20	8	- 5	5/16"	M 20X1,5	12.0	5.5	70.0	2.0	18.5	42.0	24.0
OPF21643-06A20	10	- 6	3/8"	M 20X1,5	12.0	7.0	73.5	2.0	17.0	44.0	24.0
OPF21643-06A22	10	- 6	3/8"	M 22X1,5	14.0	7.0	75.0	3.0	18.5	45.5	27.0
OPF21643-08A24	12	- 8	1/2"	M 24X1,5	16.0	9.3	83.5	4.0	20.0	52.5	30.0
OPF21643-10A30	16	- 10	5/8"	M 30X2	20.0	12.5	99.5	3.5	29.5	65.5	36.0
OPF21642-12A30	19	- 12	3/4"	M 30X2	20.0	12.5	113.0	2.2	34.0	76.5	36.0
OPF21643-12A36	19	- 12	3/4"	M 36X2	25.0	15.0	111.5	4.5	32.5	75.0	41.0
OPF21643-16A42	25	- 16	1"	M 42X2	30.0	19.8	138.0	6.3	35.5	90.0	50.0

OPF21642: THRUST WIRE NUT / OPF21643: SLIP-ON NUT

DIN STANDARD CONNECTIONS

# OPF21692/OPF21693

90° METRIC  
O-RING FEMALE SWEPT ELBOW 24° CONE  
HEAVY DUTY  
DIN 20066 / ISO 12151-2



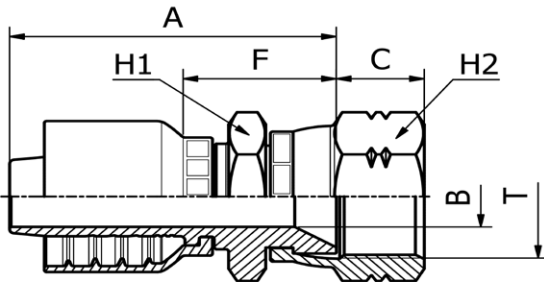
PART. REF.	HOSE BORE			Thread	Pipe	DIMENSIONS mm						
	DN	Dash	inch			T	mm	B	A	C	E	F
OPF21693-04A16	6	- 4	1/4"	M 16X1,5	8.0	4.0	57.0	3.4	29.5	29.5	19.0	
OPF21693-04A18	6	- 4	1/4"	M 18X1,5	10.0	4.0	57.0	2.5	31.0	29.5	22.0	
OPF21693-04A20	6	- 4	1/4"	M 20X1,5	12.0	5.5	57.0	2.0	34.5	29.5	24.0	
OPF21693-05A20	8	- 5	5/16"	M 20X1,5	12.0	5.5	60.0	2.0	34.0	32.0	24.0	
OPF21693-06A20	10	- 6	3/8"	M 20X1,5	12.0	7.0	66.0	2.0	35.0	36.5	24.0	
OPF21693-06A22	10	- 6	3/8"	M 22X1,5	14.0	7.0	66.0	3.0	37.0	36.5	27.0	
OPF21693-06A24	10	- 6	3/8"	M 24X1,5	16.0	9.3	66.0	4.0	36.0	36.5	30.0	
OPF21693-08A24	12	- 8	1/2"	M 24X1,5	16.0	9.3	76.0	4.0	40.5	45.0	30.0	
OPF21693-10A30	16	- 10	5/8"	M 30X2	20.0	12.5	86.0	3.5	57.5	51.5	36.0	
OPF21692-12A30	19	- 12	3/4"	M 30X2	20.0	12.5	98.0	2.2	67.5	61.5	36.0	
OPF21693-12A36	19	- 12	3/4"	M 36X2	25.0	15.0	97.5	4.5	64.5	61.5	41.0	
OPF21692-16A36	25	- 16	1"	M 36X2	25.0	15.0	127.5	1.7	86.0	79.5	41.0	
OPF21693-16A42	25	- 16	1"	M 42X2	30.0	19.8	127.5	6.3	74.5	79.0	50.0	

OPF21692: THRUST WIRE NUT / OPF21693: SLIP-ON NUT

JIS STANDARD CONNECTIONS

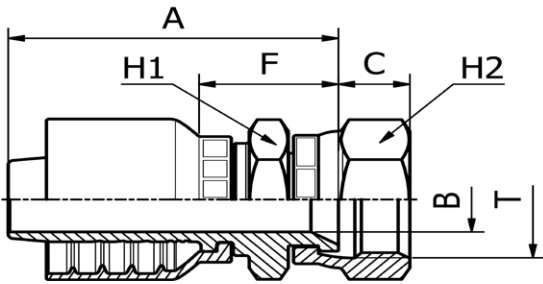
# OPF24011

JIS METRIC  
FEMALE (KOMATSU)



PART. REF.	HOSE BORE			Thread	DIMENSIONS mm							
	DN	Dash	inch		T	mm	B	A	C	F	H1	H2
OPF24011-04A14	6	- 4	1/4"	M 14X1,5		4.0	50.5	10.5	23.0	19.0	19.0	
OPF24011-06A14	10	- 6	3/8"	M 14X1,5		4.0	53.0	10.5	23.5	19.0	19.0	
OPF24011-06A18	10	- 6	3/8"	M 18X1,5		7.0	53.0	11.5	23.5	24.0	24.0	
OPF24011-08A22	12	- 8	1/2"	M 22X1,5		9.3	56.0	13.0	25.0	27.0	27.0	
OPF24011-10A24	16	- 10	5/8"	M 24X1,5		12.5	61.0	15.1	26.5	32.0	32.0	
OPF24011-12A30	19	- 12	3/4"	M 30X1,5		15.0	68.0	18.3	31.5	36.0	36.0	
OPF24011-16A33	25	- 16	1"	M 33X1,5		19.8	81.5	21.3	33.5	41.0	41.0	

JIS STANDARD CONNECTIONS



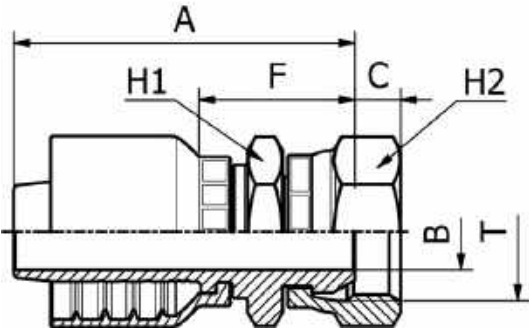
# OPF23811

JIS BSP  
 FEMALE 60° CONE SEAT (TOYOTA)  
 JIS B 8363  
 (CRIMPED-BACK NUT)

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	B	A	C	F	H1	H2
OPF23811-04A04	6	- 4	1/4"	1/4" - 19		4.0	46.0	8.3	18.5	19.0	19.0
OPF23811-06A06	10	- 6	3/8"	3/8" - 19		7.0	52.5	10.0	23.0	22.0	22.0
OPF23811-08A08	12	- 8	1/2"	1/2" - 14		9.3	53.0	11.5	22.0	27.0	27.0
OPF23811-12A12	19	- 12	3/4"	3/4" - 14		15.0	62.5	13.5	26.0	32.0	32.0
OPF23811-16A16	25	- 16	1"	1" - 11		19.8	78.5	14.5	30.5	38.0	38.0

FITTINGS 306

JIS STANDARD CONNECTIONS

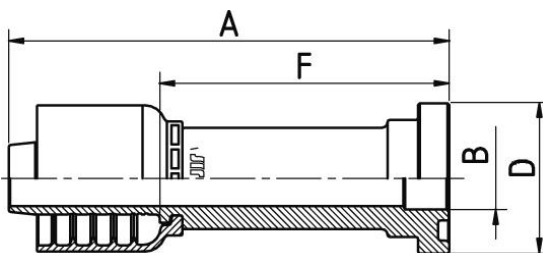


# OPF20711

JIS BSP  
 FEMALE 60° CONE (NISSAN)  
 JIS B 8363

PART. REF.	HOSE BORE			Thread	DIMENSIONS mm						
	DN	Dash	inch		T	B	A	C	F	H1	H2
OPF20711-12A12	19	- 12	3/4"	3/4" - 14		15.0	66.5	8.9	30.0	32.0	32.0

ORIGINAL EQUIPMENT CONNECTIONS



# OPF24111

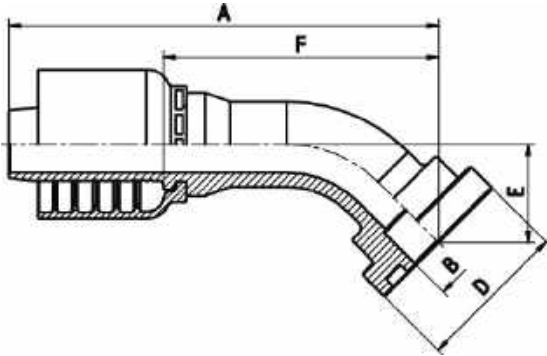
STRAIGHT KOMATSU FLANGE

PART. REF.	HOSE BORE			Flange	DIMENSIONS mm						
	DN	Dash	inch		inch	B	A	D	F		
OPF24111-10A10	16	- 10	5/8"	5/8"		14.0	100.0	34.0	65.5		

ORIGINAL EQUIPMENT CONNECTIONS

# OPF24141

45° KOMATSU FLANGE

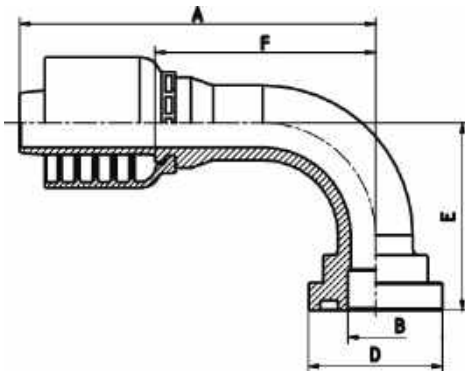


PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch	inch		B	A	D	E	F		
OPF24141-10A10	16	- 10	5/8"	5/8"		14.0	95.0	34.0	22.0	61.0		

ORIGINAL EQUIPMENT CONNECTIONS

# OPF24191

90° KOMATSU FLANGE

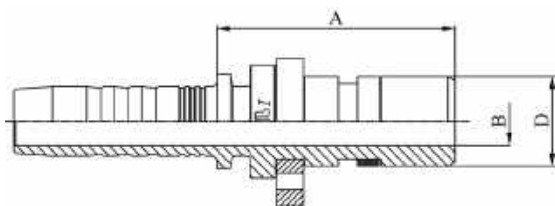


PART. REF.	HOSE BORE			Flange		DIMENSIONS mm						
	DN	Dash	inch	inch		B	A	D	E	F		
OPF24191-10A10	16	- 10	5/8"	5/8"		14.0	90.0	34.0	47.5	56.0		

MULTIFIT INSERT

# M12H10

EF STRAIGHT  
MALE INSERT



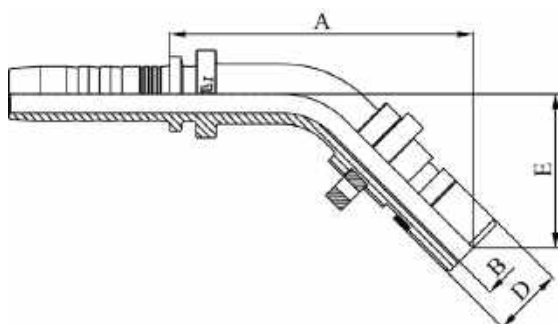
PART. REF.	HOSE BORE			Bar	DIMENSIONS mm						
	DN	Dash	inch		B	A	D				
M12H10-04-04	6	- 4	1/4"	350.0	4.0	30.0	10.0				
M12H10-04-06	6	- 4	1/4"	350.0	7.0	34.0	13.0				
M12H10-05-06	8	- 5	5/16"	350.0	7.0	34.0	13.0				
M12H10-06-04	10	- 6	3/8"	350.0	4.0	30.5	10.0				
M12H10-06-06	10	- 6	3/8"	350.0	7.0	34.5	13.0				
M12H10-06-08	10	- 6	3/8"	350.0	9.3	34.5	16.0				
M12H10-08-06	12	- 8	1/2"	350.0	7.0	35.0	13.0				
M12H10-08-08	12	- 8	1/2"	350.0	9.3	35.0	16.0				
M12H10-10-08	16	- 10	5/8"	350.0	9.3	35.0	16.0				
M12H10-10-12	16	- 10	5/8"	280.0	15.0	44.5	23.0				
M12H10-12-12	19	- 12	3/4"	280.0	15.0	44.5	23.0				

FITTINGS 308

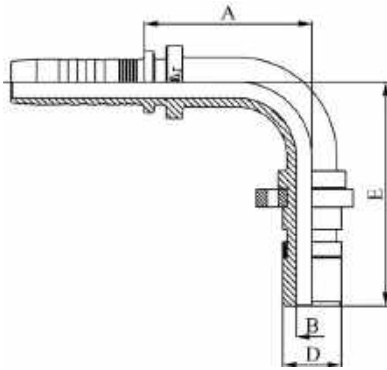
MULTIFIT INSERT

# M12H40

EF 45° ELBOW  
MALE INSERT



PART. REF.	HOSE BORE			Bar	DIMENSIONS mm						
	DN	Dash	inch		B	A	D	E			
M12H40-04-04	6	- 4	1/4"	350.0	4.0	46.0	10.0	23.5			
M12H40-04-06	6	- 4	1/4"	350.0	7.0	52.0	13.0	27.0			
M12H40-05-06	8	- 5	5/16"	350.0	7.0	53.0	13.0	27.5			
M12H40-06-04	10	- 6	3/8"	350.0	4.0	47.0	10.0	23.5			
M12H40-06-06	10	- 6	3/8"	350.0	7.0	55.5	13.0	28.0			
M12H40-08-08	12	- 8	1/2"	350.0	9.3	61.5	16.0	30.0			
M12H40-10-12	16	- 10	5/8"	280.0	15.0	79.0	23.0	41.0			
M12H40-10-08	16	- 10	5/8"	350.0	9.3	65.0	16.0	30.0			
M12H40-12-12	19	- 12	3/4"	280.0	15.0	85.5	23.0	42.5			



MULTIFIT INSERT

# M12H90

EF 90° ELBOW  
MALE INSERT

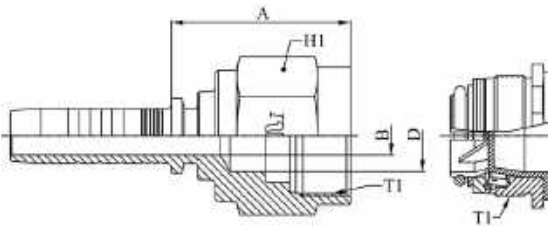
PART. REF.	HOSE BORE			Bar	DIMENSIONS mm					
	DN	Dash	inch		B	A	D	E		
M12H90-04-04	6	- 4	1/4"	350.0	4.0	30.0	10.0	40.0		
M12H90-04-06	6	- 4	1/4"	350.0	7.0	32.0	13.0	45.0		
M12H90-05-06	8	- 5	5/16"	350.0	7.0	33.5	13.0	46.5		
M12H90-06-04	10	- 6	3/8"	350.0	4.0	30.5	10.0	40.0		
M12H90-06-06	10	- 6	3/8"	350.0	7.0	37.0	13.0	49.5		
M12H90-08-06	12	- 8	1/2"	350.0	7.0	37.5	13.0	49.5		
M12H90-08-08	12	- 8	1/2"	350.0	9.3	44.0	16.0	55.0		
M12H90-10-08	16	- 10	5/8"	350.0	9.3	47.0	16.0	55.0		
M12H90-10-12	16	- 10	5/8"	280.0	15.0	55.0	23.0	74.5		
M12H90-12-12	19	- 12	3/4"	280.0	15.0	62.5	23.0	79.0		

309 FITTINGS

MULTIFIT INSERT

# M22H10

EF STRAIGHT  
FEMALE INSERT

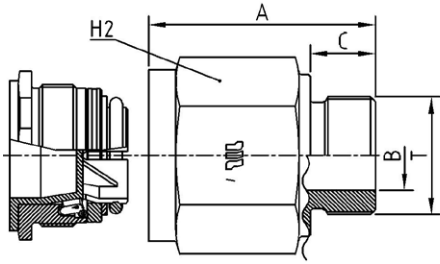


PART. REF.	HOSE BORE			Thread	W.P.	DIMENSIONS mm				
	DN	Dash	inch			T	Bar	B	A	D
M22H10-04-04	6	- 4	1/4"	M 18X1	350.0	4.0	30.0	10.0	22.0	
M22H10-06-06	10	- 6	3/8"	M 22X1	350.0	7.0	33.5	13.0	25.0	
M22H10-08-08	12	- 8	1/2"	M 25X1	350.0	9.3	34.0	16.0	28.0	
M22H10-10-08	16	- 10	5/8"	M 25X1	350.0	12.5	34.0	23.0	28.0	
M22H10-10-12	16	- 10	5/8"	M 33X1,5	280.0	12.5	45.5	23.0	38.0	
M22H10-12-12	19	- 12	3/4"	M 33X1,5	280.0	15.0	46.5	23.0	38.0	

ADAPTORS

# A52032H

**ADAPTOR BSP  
MALE O-RING BOSS TYPE  
ISO 1179  
EF FEMALE**

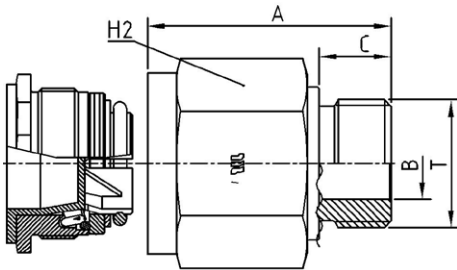


PART. REF.	HOSE BORE			Thread	W.P.	DIMENSIONS mm						
	DN	Dash	inch			T	Bar	B	A	C	D	H2
A52032H-04-04	6	- 4	1/4"	1/4" - 19	350.0	7.5	34.0	11.2	10.0	22.0		
A52032H-06-04	6	- 4	1/4"	3/8" - 19	350.0	9.0	34.0	11.2	10.0	22.0		
A52032H-06-06	10	- 6	3/8"	3/8" - 19	350.0	9.9	36.5	11.2	13.0	25.0		
A52032H-08-06	10	- 6	3/8"	1/2" - 14	350.0	12.3	39.5	14.5	13.0	27.0		
A52032H-08-08	12	- 8	1/2"	1/2" - 14	350.0	12.3	40.0	14.5	16.0	28.0		
A52032H-12-12	19	- 12	3/4"	3/4" - 14	280.0	15.5	50.5	14.5	23.0	38.0		
A52032H-16-12	19	- 12	3/4"	1" - 11	280.0	20.0	53.5	18.6	23.0	46.0		

ADAPTORS

# A52302H

**ADAPTOR SAE  
O-RING BOSS MALE  
ISO 11926  
EF FEMALE**



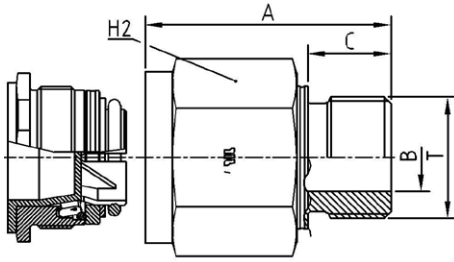
PART. REF.	HOSE BORE			Thread	W.P.	DIMENSIONS mm						
	DN	Dash	inch			T	Bar	B	A	C	D	H2
A52302H-06-04	6	- 4	1/4"	9/16" - 18	350.0	7.0	32.5	9.9	10.0	22.0		
A52302H-06-06	10	- 6	3/8"	9/16" - 18	350.0	7.0	36.0	9.9	13.0	25.0		
A52302H-08-06	10	- 6	3/8"	3/4" - 16	350.0	9.3	37.0	11.1	13.0	25.0		
A52302H-08-08	12	- 8	1/2"	3/4" - 16	350.0	9.3	37.0	11.1	16.0	28.0		
A52302H-10-08	12	- 8	1/2"	7/8" - 14	350.0	12.5	38.5	12.7	16.0	28.0		
A52302H-10-12	19	- 12	3/4"	7/8" - 14	280.0	12.5	49.5	12.7	23.0	38.0		
A52302H-12-12	19	- 12	3/4"	1.1/16" - 12	280.0	15.0	51.0	15.1	23.0	38.0		



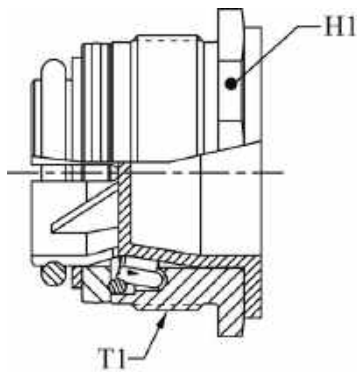
ADAPTORS

# A52192H

**ADAPTOR METRIC  
MALE  
ISO 6149  
EF FEMALE**



PART. REF.	HOSE BORE			Thread	W.P.	DIMENSIONS mm						
	DN	Dash	inch			T	Bar	B	A	C	D	H2
A52192H-14-04	6	- 4	1/4"	M 14X1,5	350.0	6.0	34.0	11.0	10.0	22.0		
A52192H-16-04	6	- 4	1/4"	M 16X1,5	350.0	7.0	35.0	12.5	10.0	22.0		
A52192H-18-06	10	- 6	3/8"	M 18X1,5	350.0	9.0	40.0	14.0	13.0	25.0		
A52192H-22-06	10	- 6	3/8"	M 22X1,5	350.0	12.0	40.0	15.0	13.0	27.0		
A52192H-22-08	12	- 8	1/2"	M 22X1,5	350.0	12.0	40.0	15.0	16.0	28.0		
A52192H-27-08	12	- 8	1/2"	M 27X2	350.0	15.0	43.0	18.5	16.0	32.0		
A52192H-27-12	19	- 12	3/4"	M 27X2	280.0	15.0	55.0	18.5	23.0	38.0		
A52192H-33-12	19	- 12	3/4"	M 33X2	280.0	20.0	54.0	18.5	23.0	41.0		



ADAPTORS

# O82H10

**CARTRIDGE  
EF**



PART. REF.	HOSE BORE			Thread	W.P.	DIMENSIONS mm						
	DN	Dash	inch			T	Bar	D	H1			
O82H10-04	6	- 4	1/4"	M 18X1	350.0	10.0	19.0					
O82H10-06	10	- 6	3/8"	M 22X1	350.0	13.0	23.0					
O82H10-08	12	- 8	1/2"	M 25X1	350.0	16.0	26.0					
O82H10-12	19	- 12	3/4"	M 33X1,5	280.0	23.0	34.0					

311 FITTINGS



# FASTFIT TYPE PUSH-TO-CONNECT

FITTINGS 312

TECHNICAL DATA				
				
SIZE			WORKING PRESSURE [Dynamic]	
DN	Dash	inch	MPa	PSI
10	-06	3/8"	42	6,090
12	-08	1/2"	42	6,090
16	-10	5/8"	42	6,090
19	-12	3/4"	42	6,090
25	-16	1"	42	6,090
31	-20	1.1/4"	42	6,090

## PRODUCT DESCRIPTION

- Push-to-connect design
- No assembly tools required
- Low connection effort
- Reduced assembly time even in hard-to-reach areas
- Disconnection by unscrewing adaptor

## MATERIAL

Adaptor and Insert in steel, with some hardened areas in correspondence to the most stressed points. Seals in NBR. Other materials (VITON, EPDM or any others) on request

## WORKING TEMPERATURE

-22°F up to +230°F (-30°C up to +110°C)  
For different temperature range, the coupling can be assembled with specific seals

## SAFETY FACTOR

4:1 for dynamic pressures

## IMPULSE PRESSURES

500,000 cycles at 120% of the rated one (freq. 1Hz)

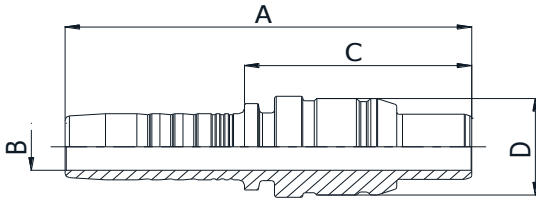
## TEST SPECIFICATIONS

ISO 18879

MULTIFIT INSERT

# M13H10

**FAST-FIT STRAIGHT MALE INSERT**

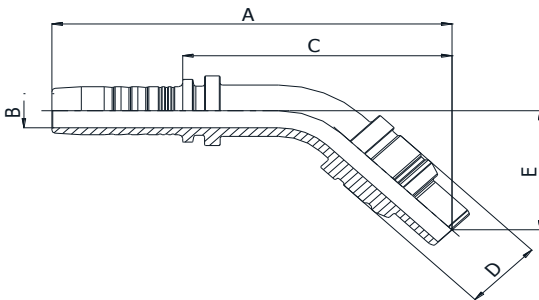


SIZE			PART REF.	SIZE			W.P	DIMENSIONS mm					
DN	Dash	inch		DN	Dash	inch	MPa	A	B	C	D		
10	-06	3/8"	M13H10-04-06	6	-04	1/4"	42	63.0	4.0	35.5	14.8		
10	-06	3/8"	M13H10-06-06	10	-06	3/8"	42	66.5	7.0	37.1	14.8		
12	-08	1/2"	M13H10-08-08	12	-08	1/2"	42	70.5	9.3	39.4	19.1		
16	-10	5/8"	M13H10-10-10	16	-10	5/8"	38	74.8	12.5	40.5	21.5		
19	-12	3/4"	M13H10-12-12	19	-12	3/4"	38	80.5	15.0	44.0	26.1		
25	-16	1"	M13H10-16-16	25	-16	1"	32	96.0	19.8	47.8	31.3		

MULTIFIT INSERT

# M13H40

**FAST-FIT 45° ELBOW MALE INSERT**

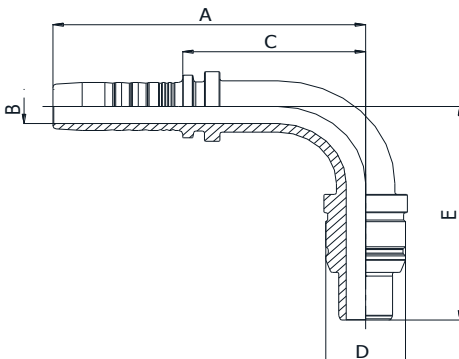


SIZE			PART REF.	SIZE			W.P	DIMENSIONS mm					
DN	Dash	inch		DN	Dash	inch	MPa	A	B	C	D	E	
10	-06	3/8"	M13H40-04-06	6	-04	1/4"	42	77.6	4.0	50.1	14.8	27.0	
10	-06	3/8"	M13H40-06-06	10	-06	3/8"	42	86.1	7.0	56.7	14.8	29.4	
12	-08	1/2"	M13H40-08-08	12	-08	1/2"	42	95.1	9.3	64.0	19.1	32.5	
19	-12	3/4"	M13H40-12-12	19	-12	3/4"	38	120.4	15.0	83.9	26.1	40.7	
25	-16	1"	M13H40-16-16	25	-16	1"	32	152.3	19.8	104.1	31.3	50.2	

MULTIFIT INSERT

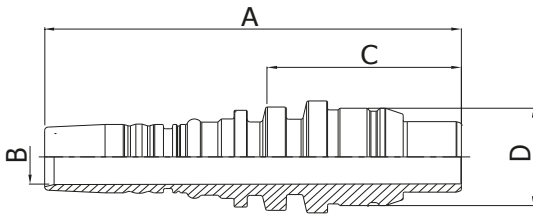
# M13H90

**FAST-FIT 90° ELBOW MALE INSERT**



SIZE			PART REF.	SIZE			W.P	DIMENSIONS mm					
DN	Dash	inch		DN	Dash	inch	MPa	A	B	C	D	E	
10	-06	3/8"	M13H90-04-06	6	-04	1/4"	42	57.6	4.0	30.1	14.8	45.2	
10	-06	3/8"	M13H90-06-06	10	-06	3/8"	42	66.4	7.0	37.0	14.8	51.2	
12	-08	1/2"	M13H90-08-08	12	-08	1/2"	42	74.9	9.3	43.8	19.1	58.3	
19	-12	3/4"	M13H90-12-12	19	-12	3/4"	38	99.0	15.0	62.5	26.1	76.9	
25	-16	1"	M13H90-16-16	25	-16	1"	32	125.5	19.8	77.3	31.3	94.4	

INTERLOCK PLUS INSERT



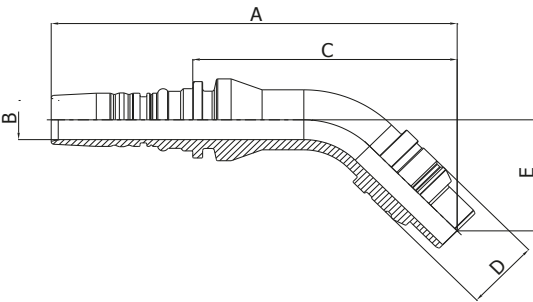
# M33H10

**FAST-FIT STRAIGHT  
MALE INSERT**

SIZE			PART REF.	SIZE			W.P	DIMENSIONS mm					
DN	Dash	inch		DN	Dash	inch	MPa	A	B	C	D		
19	-12	3/4"	M33H10-12-12	19	-12	3/4"	42	96.6	14.5	46.4	26.1		
25	-16	1"	M33H10-16-16	25	-16	1"	42	112.0	19.5	50.3	31.3		

FITTINGS 314

INTERLOCK PLUS INSERT

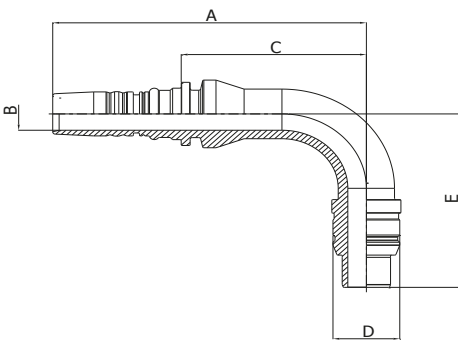


# M33H40

**FAST-FIT 45° ELBOW  
MALE INSERT**

SIZE			PART REF.	SIZE			W.P	DIMENSIONS mm					
DN	Dash	inch		DN	Dash	inch	MPa	A	B	C	D	E	
19	-12	3/4"	M33H40-12-12	19	-12	3/4"	42	143.9	14.5	93.8	26.1	40.7	
25	-16	1"	M33H40-16-16	25	-16	1"	42	174.8	19.5	113.1	31.3	50.2	

INTERLOCK PLUS INSERT



# M33H90

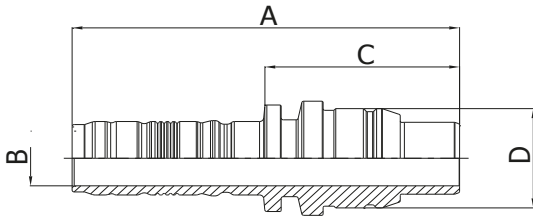
**FAST-FIT 90° ELBOW  
MALE INSERT**

SIZE			PART REF.	SIZE			W.P	DIMENSIONS mm					
DN	Dash	inch		DN	Dash	inch	MPa	A	B	C	D	E	
19	-12	3/4"	M33H90-12-12	19	-12	3/4"	42	122.6	14.5	72.4	26.1	76.9	
25	-16	1"	M33H90-16-16	25	-16	1"	42	148.0	19.5	86.3	31.3	94.4	

SPIRALFIT INSERT

# M73H10

**FAST-FIT STRAIGHT MALE INSERT**

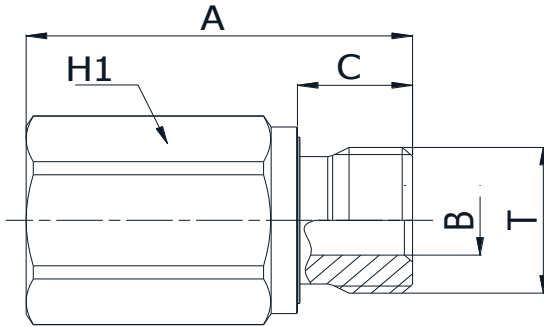


SIZE			PART REF.	SIZE			W.P	DIMENSIONS mm						
DN	Dash	inch		DN	Dash	inch	MPa	A	B	C	D			
19	-12	3/4"	M73H10-12-12	19	-12	3/4"	42	93.4	14.5	46.9	26.1			
25	-16	1"	M73H10-16-16	25	-16	1"	42	107.5	19.5	51.3	31.3			

ADAPTORS

# A52013H

**BSP MALE OR BOSS TYPE TO ISO 1179- 2**

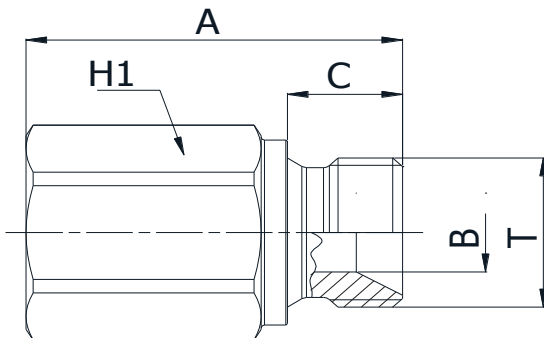


SIZE			PART. REF.	Thread	W.P	DIMENSIONS mm							
DN	Dash	inch		T	MPa	A	B	C	H1				
10	-06	3/8"	A52013H-04-06	1/4"-19	42	45.0	5.0	12.0	19				
10	-06	3/8"	A52013H-06-06	3/8"-19	42	44.5	8.0	12.0	22				
12	-08	1/2"	A52013H-08-08	1/2"-14	42	47.0	10.0	14.0	27				
19	-12	3/4"	A52013H-12-12	3/4"-14	42	53.0	16.0	16.0	32				
25	-16	1"	A52013H-16-16	1"-11	42	60.0	20.0	18.0	41				

ADAPTORS

# A52053H

**BSP MALE 60° CONE (ISO 8434-6 / BS5200)**

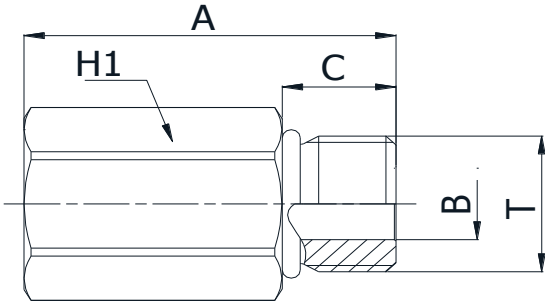


SIZE			PART. REF.	Thread	W.P	DIMENSIONS mm							
DN	Dash	inch		T	MPa	A	B	C	H1				
12	-08	1/2"	A52053H-08-08	1/2"-14	42	45.8	11.0	14.0	27				

ADAPTORS

# A52323H

SAE MALE  
OR BOSS TYPE  
TO SAE J1926-2



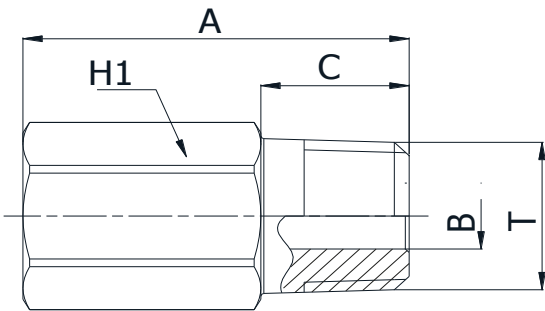
SIZE			PART. REF.	Thread	W.P	DIMENSIONS mm						
DN	Dash	inch		T	MPa	A	B	C	H1			
10	-06	3/8"	A52323H-04-06	7/16"-20	42	42.2	4.5	11.0	19			
10	-06	3/8"	A52323H-06-06	9/16"-18	42	42.4	7.5	12.0	19			
12	-08	1/2"	A52323H-08-08	3/4"-16	42	45.8	10.0	14.0	24			
16	-10	5/8"	A52323H-10-10	7/8"-14	42	49.2	12.5	16.0	27			
19	-12	3/4"	A52323H-12-12	1.1/16"-12	42	53.5	15.5	18.5	32			
25	-16	1"	A52323H-16-16	1.5/16"-12	42	56.0	20.5	18.5	38			

FITTINGS 316

ADAPTORS

# A52283H

STRAIGHT ADAPTOR  
NPTF MALE  
TO ASME B1.20.3

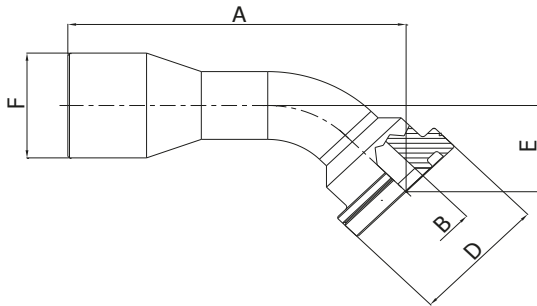


SIZE			PART. REF.	Thread	W.P	DIMENSIONS mm						
DN	Dash	inch		T	MPa	A	B	C	H1			
10	-06	3/8"	A52283H-04-06	1/4"-18	42	44.7	6.0	14.5	19			
10	-06	3/8"	A52283H-06-06	3/8"-18	42	43.7	8.0	14.5	19			
12	-08	1/2"	A52283H-08-08	1/2"-14	42	50.0	9.5	19.2	24			
19	-12	3/4"	A52283H-12-12	3/4"-14	42	54.5	15.0	19.2	32			
25	-16	1"	A52283H-16-16	1"-11.5	42	62.0	19.5	24.2	38			

ADAPTORS

# A54363H

**45° ISO / SAE CODE 62 FLANGE  
SAE J516 / ISO 12151-3**

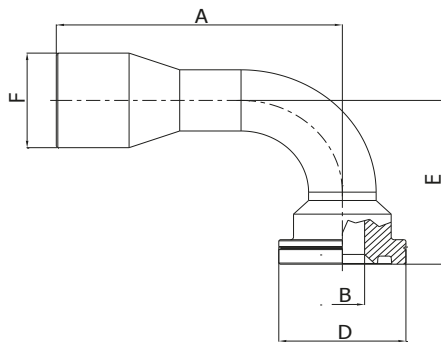


SIZE			PART. REF.	FLANGE	W.P	DIMENSIONS mm						
DN	Dash	inch		inch	MPa	A	B	D	E	F		
12	-08	1/2"	A54363H-08-08	1/2"	42	82.0	9.3	31.8	21.9	25.0		
19	-12	3/4"	A54363H-12-12	3/4"	42	101.8	14.5	41.4	28.0	34.0		
25	-16	1"	A54363H-16-16	1"	42	125.2	19.5	47.7	37.9	41.0		
31	-20	1-1/4"	A54363H-20-20	1-1/4"	42	136.1	25.0	54.2	35.6	55.0		

ADAPTORS

# A57363H

**90° ISO / SAE CODE 62 FLANGE  
SAE J516 / ISO 12151-3**



SIZE			PART. REF.	FLANGE	W.P	DIMENSIONS mm						
DN	Dash	inch		inch	MPa	A	B	D	E	F		
12	-08	1/2"	A57363H-08-08	1/2"	42	74.2	9.3	31.8	45.0	25.0		
19	-12	3/4"	A57363H-12-12	3/4"	42	93.2	14.5	41.4	58.9	34.0		
25	-16	1"	A57363H-16-16	1"	42	113.6	19.5	47.7	80.0	41.0		
31	-20	1-1/4"	A57363H-20-20	1-1/4"	42	132.1	25.0	54.2	82.0	55.0		

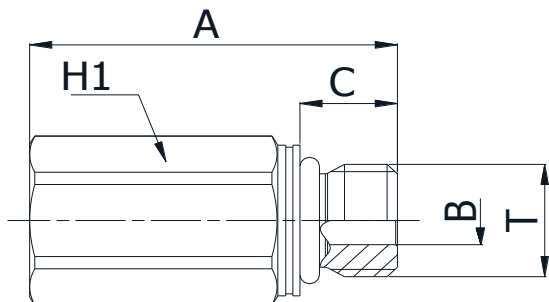
**FITTINGS**

**317**

ADAPTORS

# A52193H

**STRAIGHT ADAPTOR  
METRIC MALE  
ISO 6149-2**



SIZE			PART. REF.	Thread	W.P	DIMENSIONS mm						
DN	Dash	inch		T	MPa	A	B	C	H1			
10	-06	3/8"	A52193H-14-06	M14X1.5	42	41.5	6.0	11.0	19			
10	-06	3/8"	A52193H-18-06	M18X1.5	42	43.5	8.0	14.0	24			
12	-08	1/2"	A52193H-22-08	M22X1.5	42	45.0	10.0	15.0	27			
19	-12	3/4"	A52193H-27-12	M27X2	42	53.5	15.0	18.5	32			
25	-16	1"	A52193H-33-16	M33X2	42	57.0	20.0	18.5	41			

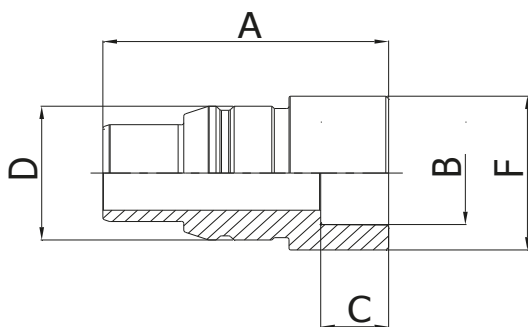
FITTINGS

318

ADAPTORS

# A523H95

**BRAZING SOCKET**



SIZE			PART. REF.		W.P	DIMENSIONS mm						
DN	Dash	inch			MPa	A	B	C	D	F		
19	- 12	3/4"	A523H95-12-20		42	50.5	20.1	12.0	26.1	30.0		
25	- 16	1"	A523H95-16-26		42	58.0	26.1	16.0	31.3	38.0		





# DISCONNECTABLE FASTFIT TYPE PUSH-TO-CONNECT

TECHNICAL DATA				
SIZE			WORKING PRESSURE (Dynamic)	
DN	Dash	inch	MPa	PSI
12	-08	1/2"	42	6,090

## PRODUCT DESCRIPTION

- Push-to-connect design
- No assembly tools required
- Low connection effort
- Reduced assembly time even in hard-to-reach areas
- Disconnection by unlocking male insert by means of a standard tool

## MATERIAL

Adaptor and Insert in steel, with some hardened areas in correspondence to the most stressed points. Seals in NBR. Other materials (VITON, EPDM or any others) on request

## WORKING TEMPERATURE

-22°F up to +230°F (-30°C up to +110°C)  
For different temperature range, the coupling can be assembled with specific seals

## SAFETY FACTOR

4:1 for dynamic pressures

## IMPULSE PRESSURES

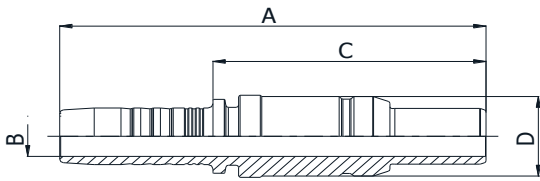
500,000 cycles at 120% of the rated one (freq. 1Hz)

## TEST SPECIFICATIONS

ISO 18879

MULTIFIT INSERT

# M14H10



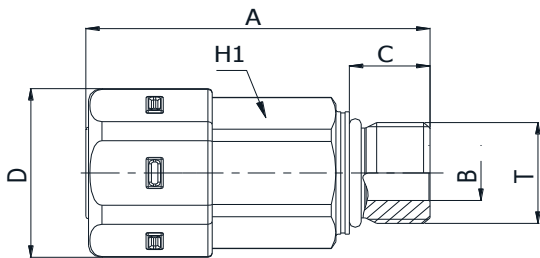
**DISCONNECTABLE FAST-FIT  
STRAIGHT MALE INSERT**

SIZE			PART REF.	SIZE			W.P	DIMENSIONS mm					
DN	Dash	inch		DN	Dash	inch	MPa	A	B	C	D		
12	-08	1/2"	M14H10-08-08	12	-08	1/2"	42	86.5	9.3	55.4	18.4		

**FITTINGS  
320**

ADAPTORS

# A52194H

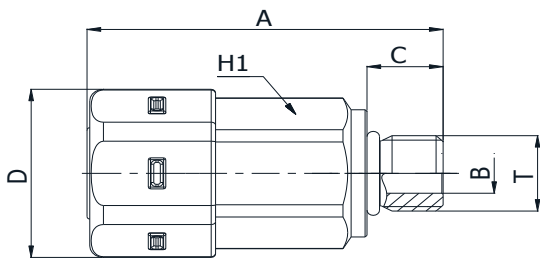


**STRAIGHT ADAPTOR  
METRIC MALE ISO 6149-2**

SIZE			PART. REF.	Thread	W.P	DIMENSIONS mm						
DN	Dash	inch		T	MPa	A	B	C	D	H1		
12	-08	1/2"	A52194H-22-08	M22X1.5	42	64.0	12.0	15.0	37.0	30.0		

ADAPTORS

# A52324H



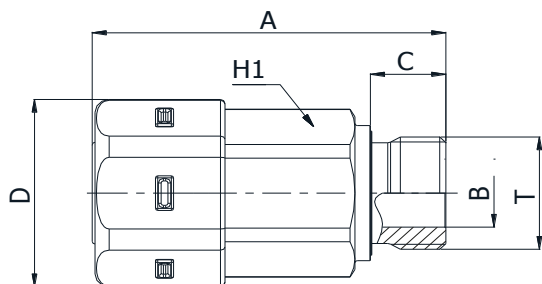
**SAE MALE  
OR BOSS TYPE  
TO SAE J1926-2**

SIZE			PART. REF.	Thread	W.P	DIMENSIONS mm						
DN	Dash	inch		T	MPa	A	B	C	D	H1		
12	-08	1/2"	A52324H-08-08	3/4"-16	42	64.8	10.0	14.0	37.0	30.0		

ADAPTORS

**A52014H**

**BSP MALE  
OR BOSS TYPE  
TO ISO 1179-2**



SIZE			PART. REF.	Thread	W.P	DIMENSIONS mm						
DN	Dash	inch		T	MPa	A	B	C	D	H1		
12	-08	1/2"	A52014H-08-08	1/2"-14	42	66.0	12.0	14.0	37.0	30.0		



# ROTOFIT TYPE SWIVEL JOINT

FITTINGS 322

TECHNICAL DATA										
SIZE			WORKING PRESSURE (Dynamic)							
			MULTIFIT		INTERLOCK PLUS		SPIRALFIT		ADAPTOR	
DN	Dash	inch	MPa	PSI	MPa	PSI	MPa	PSI	MPa	PSI
6	-04	1/4"	42	6,090	-	-	-	-	-	-
10	-06	3/8"	42	6,090	-	-	-	-	42	6,090
12	-08	1/2"	42	6,090	-	-	-	-	-	-
16	-10	5/8"	42	6,090	-	-	-	-	35	5,075
19	-12	3/4"	35	5,075	42	6,090	42	6,090	35	5,075
25	-16	1"	35	5,075	42	6,090	42	6,090	35	5,075
31	-20	1.1/4"	35	5,075	42	6,090	42	6,090	35	5,075
38	-24	1.1/2"	28	4,060	42	6,090	42	6,090	35	5,075
51	-32	2"	21	3,045	-	-	-	-	-	-
63	-40	2.1/2"	14	2,030	-	-	-	-	-	-

## PRODUCT DESCRIPTION

- Swivel joint purposely designed to eliminate torsional stresses due to hose twist under external torque
- Prevents connection unscrewing
- Full flow design to minimize pressure drops
- High number of balls to minimize friction

### ROTATION ANGLE

Up to 40°

### ROTATION FREQUENCY

Up to 15 alternative RPM

## MATERIAL

Body in steel, with some hardened areas in correspondence to the most stressed points. Balls in 100Cr6 quenched and seals in NBR or Polyurethane. Other materials (VITON, EPDM or any others) on request

## WORKING TEMPERATURE

-22°F up to +230°F (-30°C up to +110°C)  
For different temperature range, the coupling can be assembled with specific seals

## SAFETY FACTOR

4:1 for dynamic pressures

## IMPULSE PRESSURES

500,000 cycles at 120% of the rated one (freq. 1Hz)

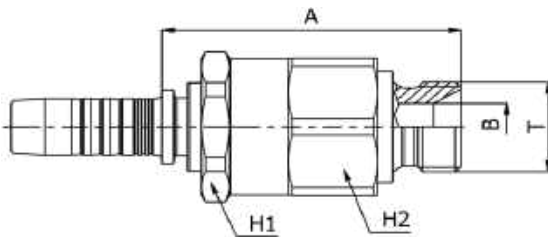
## TEST SPECIFICATIONS

ISO 18879

BS STANDARD CONNECTIONS

# MR10510

**BSP MALE  
PARALLEL 60° CONE SEAT  
BS5200 / ISO 8434-6**

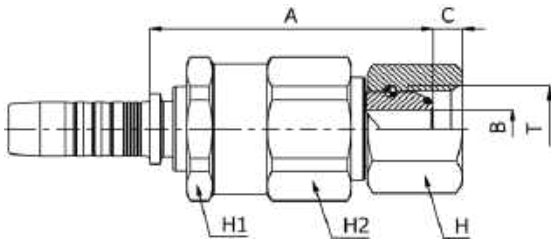


PART. REF.	SIZE			THREAD	W.P.	DIMENSIONS mm						
	DN	Dash	inch			T	MPa	A	B	H1	H2	
MR10510-04-04	6	-04	1/4"	1/4"-19	42	57.7	4.7	24	24			
MR10510-06-06	10	-06	3/8"	3/8"-19	42	58.2	8.0	27	27			
MR10510-08-08	12	-08	1/2"	1/2"-14	42	61.6	11.0	32	32			
MR10510-10-10	16	-10	5/8"	5/8"-14	35	69.3	14.3	36	36			
MR10510-12-12	19	-12	3/4"	3/4"-14	35	71.0	16.7	41	41			
MR10510-16-16	25	-16	1"	1"-11	35	83.0	22.2	50	50			
MR10510-20-20	31	-20	1.1/4"	1.1/4"-11	35	91.9	28.6	60	60			
MR10510-24-24	38	-24	1.1/2"	1.1/2"-11	28	105.1	33.3	70	70			

BS STANDARD CONNECTIONS

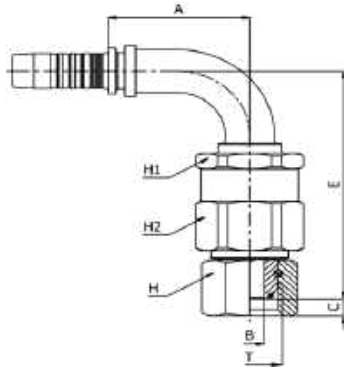
# MR20812

**BSP O-RING  
FEMALE 60° CONE  
BS5200 / ISO 12151-6**



PART. REF.	SIZE			THREAD	W.P.	DIMENSIONS mm						
	DN	Dash	inch			T	MPa	A	B	C	H	H1
MR20812-04-04	6	-04	1/4"	1/4"-19	42	58.0	4.3	4.1	19	24	24	
MR20812-06-06	10	-06	3/8"	3/8"-19	42	59.4	7.0	5.9	22	27	27	
MR20812-08-08	12	-08	1/2"	1/2"-14	42	62.4	9.3	6.5	27	32	32	
MR20812-10-10	16	-10	5/8"	5/8"-14	35	68.0	12.5	9.7	28	36	36	
MR20812-12-12	19	-12	3/4"	3/4"-14	35	70.8	15.0	8.5	32	41	41	
MR20812-16-16	25	-16	1"	1"-11	35	81.0	19.8	10.6	38	50	50	

BS STANDARD CONNECTIONS



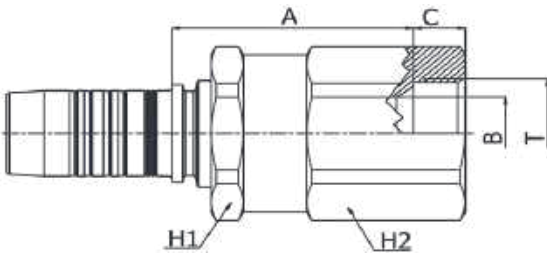
# MR20892RT

90° BSP O-RING FEMALE SWEEP ELBOW  
60° CONE BS5200 / ISO 12151-6

PART. REF.	SIZE			THREAD	W.P.	DIMENSIONS mm						
	DN	Dash	inch			T	A	B	C	E	H	H1
MR20892-08-08RT	12	-08	1/2"	1/2"-14	42	45.9	9.3	6.5	85.3	27	32	32

FITTINGS 324

SAE STANDARD CONNECTIONS

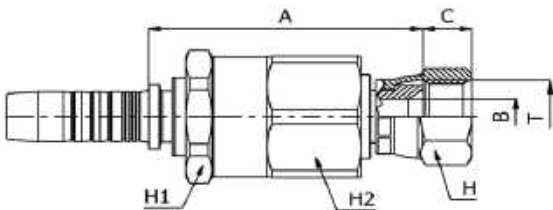


# MR22510

SWIVEL JOINT JIC  
FEMALE 37° CONE SEAT  
SAE J516 / ISO 12151-5

PART. REF.	SIZE			THREAD	W.P.	DIMENSIONS mm						
	DN	Dash	inch			T	A	B	C	H1	H2	
MR22510-20-20	31	-20	1.1/4"	1.5/8"-12	21	76.7	27.5	16.5	60	60		
MR22510-24-24	38	-24	1.1/2"	1.7/8"-12	16	87.5	33.5	19.5	70	70		

SAE STANDARD CONNECTIONS



# MR22711

JIC  
FEMALE DOUBLE HEXAGON 37° CONE SEAT

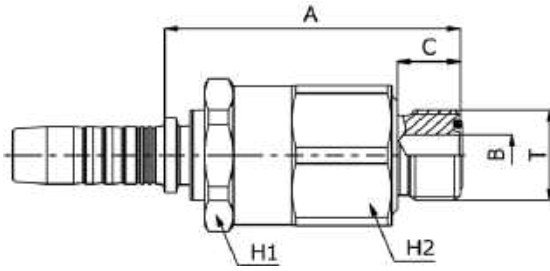
PART. REF.	SIZE			THREAD	W.P.	DIMENSIONS mm						
	DN	Dash	inch			T	A	B	C	H	H1	H2
MR22711-06-06	10	-06	3/8"	9/16"-18	35	56.0	7.0	9.5	17	27	27	
MR22711-08-08	12	-08	1/2"	3/4"-16	35	59.9	9.3	10.7	22	32	32	
MR22711-08-10	12	-08	1/2"	7/8"-14	35	61.9	11.3	12.5	25	32	32	
MR22711-10-10	16	-10	5/8"	7/8"-14	35	66.8	11.3	12.5	25	36	36	
MR22711-12-12	19	-12	3/4"	1.1/16"-12	35	68.3	15.0	14.1	32	41	41	
MR22711-16-16	25	-16	1"	1.5/16"-12	28	79.8	19.8	15.3	38	50	50	

SAE STANDARD CONNECTIONS

# MR12410

ORFS  
MALE

SAE J516 / ISO 12151-1



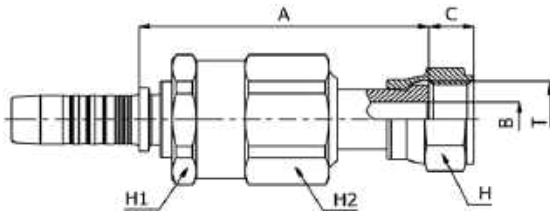
PART. REF.	SIZE			THREAD	W.P.	DIMENSIONS mm						
	DN	Dash	inch			T	A	B	C	H1	H2	
MR12410-08-08	12	-08	1/2"	13/16"-16	42	60.4	9.5	12.8	32	32		
MR12410-10-10	16	-10	5/8"	1"-14	42	68.8	12.5	15.5	36	36		

SAE STANDARD CONNECTIONS

# MR22411

ORFS  
FEMALE

SAE J516 / ISO 12151-1  
PULL BACK TYPE (CRIMPED BACK-NUT)

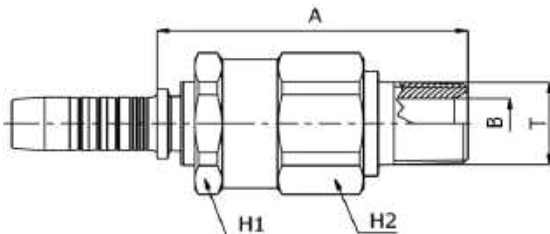


PART. REF.	SIZE			THREAD	W.P.	DIMENSIONS mm						
	DN	Dash	inch			T	A	B	C	H	H1	H2
MR22411-06-06	10	-06	3/8"	11/16"-16	42	64.5	7.0	9.5	22	27	27	
MR22411-08-08	12	-08	1/2"	13/16"-16	42	70.9	9.3	11.0	24	32	32	
MR22411-10-10	16	-10	5/8"	1"-14	42	77.8	11.5	13.5	30	36	36	
MR22411-12-12	19	-12	3/4"	1.3/16"-12	35	83.8	14.0	14.5	36	41	41	
MR22411-16-16	25	-16	1"	1.7/16"-12	35	93.4	19.8	15.0	41	50	50	

SAE STANDARD CONNECTIONS

# MR12810

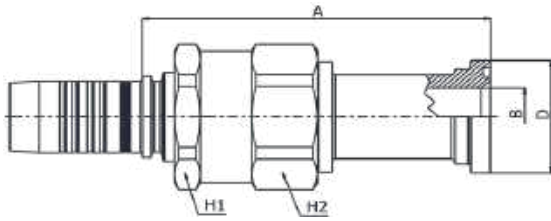
NPTF MALE 60° CONE SEAT - SAE J516/J514



PART. REF.	SIZE			THREAD	W.P.	DIMENSIONS mm						
	DN	Dash	inch			T	A	B	H1	H2		
MR12810-04-04	6	-04	1/4"	1/4"-18	35	61.2	5.5	24	24			
MR12810-06-06	10	-06	3/8"	3/8"-18	28	60.7	9.3	27	27			
MR12810-08-08	12	-08	1/2"	1/2"-14	24.5	66.8	12.5	32	32			
MR12810-12-12	19	-12	3/4"	3/4"-14	21	74.2	16.0	41	41			
MR12810-16-16	25	-16	1"	1"-11.5	17.5	88.2	19.5	50	50			

325 FITTINGS

SAE STANDARD CONNECTIONS



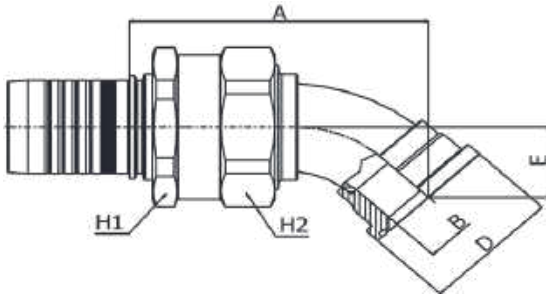
# MR23311FK

ISO / SAE CODE 61 FLANGE  
SAE J516 / ISO 12151-3  
(VITON)

PART. REF.	SIZE			FLANGE	W.P.	DIMENSIONS mm						
	DN	Dash	inch			inch	A	B	D	H1	H2	
MR23311-20-20FK	31	-20	1.1/4"	1.1/4"	28	136.7	26.0	51.0	60	60		
MR23311-20-24FK	31	-20	1.1/4"	1.1/2"	21	134.7	32.0	60.5	60	60		
MR23311-24-24FK	38	-24	1.1/2"	1.1/2"	21	147.9	32.0	60.5	70	70		
MR23311-32-32FK	51	-32	2"	2"	21	154.4	42.0	71.6	90	90		

FITTINGS 326

SAE STANDARD CONNECTIONS

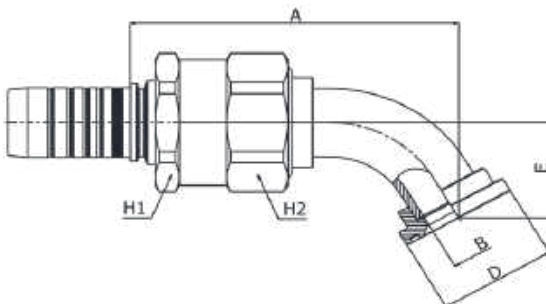


# MR23341FK

45° ISO / SAE CODE 61 FLANGE  
SAE J516 / ISO 12151-3  
(VITON)

PART. REF.	SIZE			FLANGE	W.P.	DIMENSIONS mm						
	DN	Dash	inch			inch	A	B	D	E	H1	H2
MR23341-40-40FK	63	-40	2.1/2"	2.1/2"	14	174.5	52.0	84.3	48.5	100	100	

SAE STANDARD CONNECTIONS



# MR23361FK

60° ISO / SAE CODE 61 FLANGE  
SAE J516 / ISO 12151-3  
(VITON)

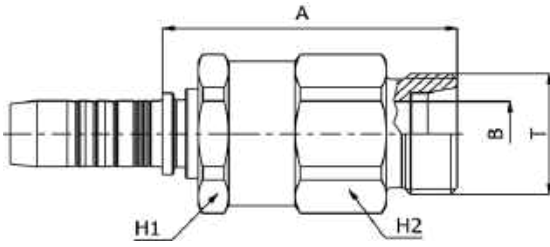
PART. REF.	SIZE			FLANGE	W.P.	DIMENSIONS mm						
	DN	Dash	inch			inch	A	B	D	E	H1	H2
MR23361-24-24FK	38	-24	1.1/2"	1.1/2"	21	166.6	32.0	60.5	52.9	70	70	
MR23361-24-32FK	38	-24	1.1/2"	2"	21	170.1	42.0	71.6	59.0	70	70	



DIN STANDARD CONNECTIONS

# MR11210

METRIC  
MALE 24° CONE SEAT HEAVY DUTY  
DIN 20066 / ISO 12151-2

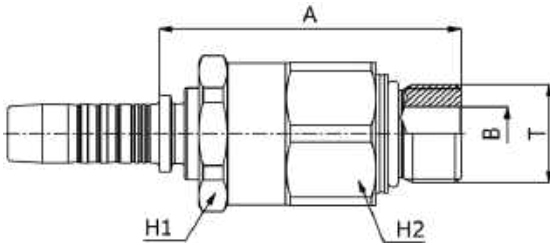


PART. REF.	SIZE			THREAD	PIPE	W.P.	DIMENSIONS mm					
	DN	Dash	inch				T	mm	MPa	A	B	H1
MR11210-10-30	16	-10	5/8"	M30X2	20	42	66.3	16.0	36	36		

DIN STANDARD CONNECTIONS

# MR11910

METRIC  
MALE HEAVY DUTY SERIES  
ISO 6149-2

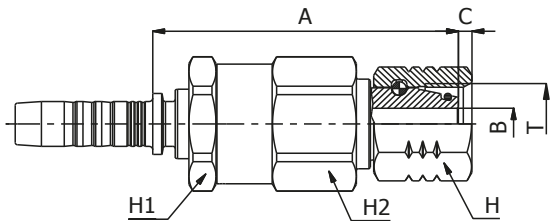


PART. REF.	SIZE			THREAD	W.P.	DIMENSIONS mm					
	DN	Dash	inch			T	MPa	A	B	H1	H2
MR11910-06-18	10	-06	3/8"	M18X1.5	42	60.5	9.0	27	27		
MR11910-08-22	12	-8	1/2"	M22X1.5	42	61.9	12.0	32	32		

DIN STANDARD CONNECTIONS

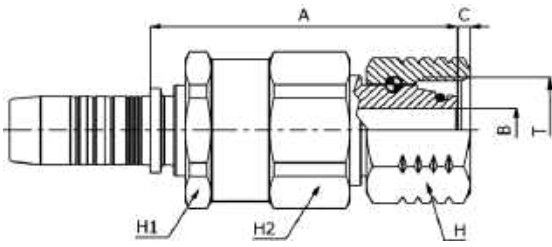
# MR21512

METRIC  
O-RING FEMALE 24° CONE LIGHT DUTY  
DIN 20066 / ISO 12151-2  
(THRUST-WIRE NUT)



PART. REF.	SIZE			THREAD	PIPE	W.P.	DIMENSIONS mm					
	DN	Dash	inch				T	mm	MPa	A	B	C
MR21512-04-16	6	-04	1/4"	M16X1.5	10	35	63.2	6.0	3.0	19	24	24
MR21512-06-18	10	-06	3/8"	M18X1.5	12	33	65.3	7.0	2.9	22	27	27
MR21512-10-26	16	-10	5/8"	M26X1.5	18	25	72.3	12.5	2.3	32	36	36

DIN STANDARD CONNECTIONS



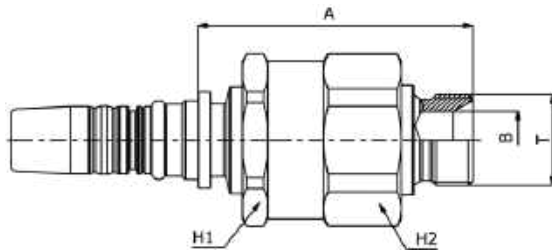
# MR21612

METRIC O-RING FEMALE 24° CONE HEAVY DUTY  
DIN 20066 / ISO 12151-2 (THRUST-WIRE NUT)

PART. REF.	SIZE			THREAD	PIPE	W.P.	DIMENSIONS mm						
	DN	Dash	inch				T	mm	MPa	A	B	C	H
MR21612-12-30	19	-12	3/4"	M30X2	20	35	79.8	12.5	3.2	36	41	41	

FITTINGS 328

BS STANDARD CONNECTIONS

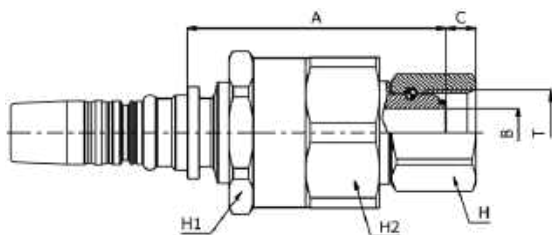


# MR30510

BSP  
MALE 60° CONE SEAT  
BS5200

PART. REF.	SIZE			THREAD	W.P.	DIMENSIONS mm						
	DN	Dash	inch			T	MPa	A	B	H1	H2	
MR30510-12-12	19	-12	3/4"	3/4"-14	35	73.9	16.7	46	46			
MR30510-16-16	25	-16	1"	1"-11	35	85.7	22.2	55	55			
MR30510-20-20	31	-20	1.1/4"	1.1/4"-11	35	95.8	28.6	65	65			
MR30510-24-24	38	-24	1.1/2"	1.1/2"-11	30	109.6	33.3	75	75			

BS STANDARD CONNECTIONS



# MR40812

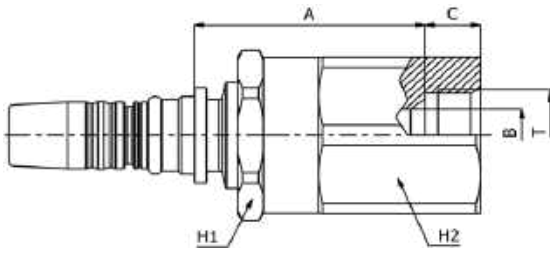
BSP  
O-RING FEMALE 60° CONE  
BS5200/ ISO 8434-6

PART. REF.	SIZE			THREAD	W.P.	DIMENSIONS mm						
	DN	Dash	inch			T	MPa	A	B	C	H	H1
MR40812-12-12	19	-12	3/4"	3/4"-14	35	73.7	15.0	8.5	32	46	46	
MR40812-16-16	25	-16	1"	1"-11	35	83.7	19.8	10.6	41	55	55	

SAE STANDARD CONNECTIONS

# MR42510

JIC  
FEMALE 37 °CONE SEAT  
SAE J514

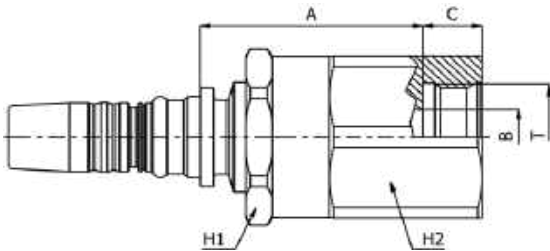


PART. REF.	SIZE			THREAD	W.P.	DIMENSIONS mm						
	DN	Dash	inch			T	MPa	A	B	C	H1	H2
MR42510-12-12	19	-12	3/4"	1.1/16"-12	35	62.7	15.5	15.0	46	46		
MR42510-16-16	25	-16	1"	1.5/16"-12	28	70.0	21.5	16.5	55	55		

SAE STANDARD CONNECTIONS

# MR42410

ORFS  
FEMALE  
ISO 8434-3 / SAE J1453

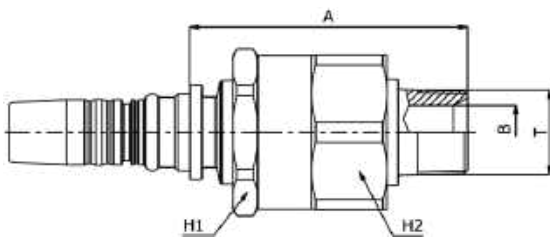


PART. REF.	SIZE			THREAD	W.P.	DIMENSIONS mm						
	DN	Dash	inch			T	MPa	A	B	C	H1	H2
MR42410-12-12	19	-12	3/4"	1.3/16"-12	42	58.2	15.5	15.5	46	46		
MR42410-16-16	25	-16	1"	1.7/16"-12	42	66.0	20.5	16.0	55	55		

SAE STANDARD CONNECTIONS

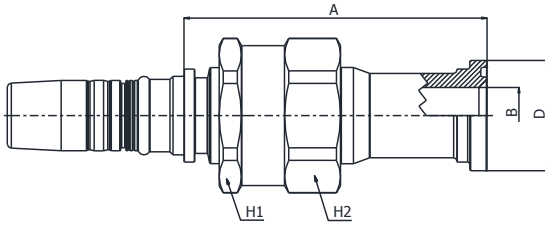
# MR32810

NPTF  
MALE 60° CONE SEAT  
SAE J476A



PART. REF.	SIZE			THREAD	W.P.	DIMENSIONS mm					
	DN	Dash	inch			T	MPa	A	B	H1	H2
MR32810-12-12	19	-12	3/4"	3/4"-14	21	77.1	16.0	46	46		
MR32810-16-16	25	-16	1"	1"-11.5	17.5	90.9	19.5	55	55		

SAE STANDARD CONNECTIONS

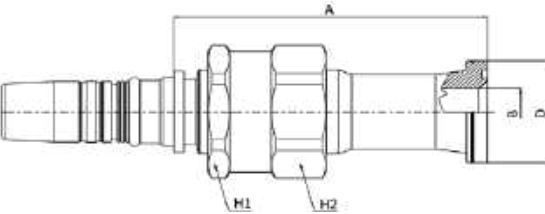


# MR43310

ISO / SAE CODE 61 FLANGE  
SAE J516 / ISO 12151-3

PART. REF.	SIZE			FLANGE	W.P.	DIMENSIONS mm						
	DN	Dash	inch			inch	MPa	A	B	D	H1	H2
MR43310-20-20	31	-20	1.1/4"	1.1/4"	28	140.6	26.0	51.0	65	65		

SAE STANDARD CONNECTIONS

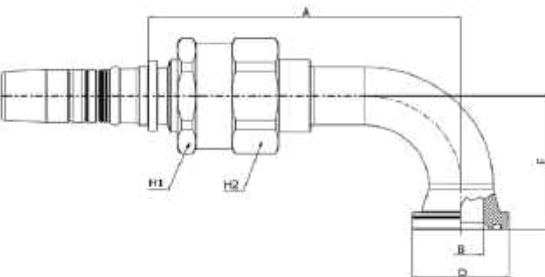


# MR43610

ISO / SAE CODE 62 FLANGE  
SAE J516 / ISO 12151-3

PART. REF.	SIZE			FLANGE	W.P.	DIMENSIONS mm						
	DN	Dash	inch			inch	MPa	A	B	D	H1	H2
MR43610-20-20	31	-20	1.1/4"	1.1/4"	42	149.8	25.0	54.2	65	65		

SAE STANDARD CONNECTIONS



# MR43690

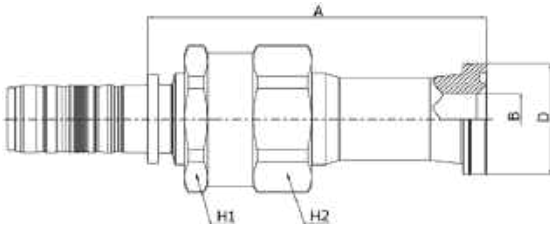
90° ISO / SAE CODE 62 FLANGE  
SAE J516 / ISO 12151-3

PART. REF.	SIZE			FLANGE	W.P.	DIMENSIONS mm						
	DN	Dash	inch			inch	MPa	A	B	D	E	H1
MR43690-20-20	31	-20	1.1/4"	1.1/4"	42	174.6	25.0	54.2	82.0	65	65	

SAE STANDARD CONNECTIONS

# MR83611

ISO / SAE CODE 62 FLANGE  
SAE J516 / ISO 12151-3

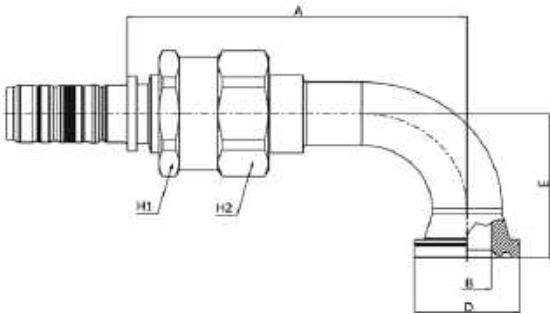


PART. REF.	SIZE			FLANGE	W.P.	DIMENSIONS mm						
	DN	Dash	inch			inch	MPa	A	B	D	H1	H2
MR83611-20-20	31	-20	1.1/4"	1.1/4"	42	149.9	25.0	54.2	65	65		

SAE STANDARD CONNECTIONS

# MR83691

90° ISO / SAE CODE 62 FLANGE  
SAE J516 / ISO 12151-3

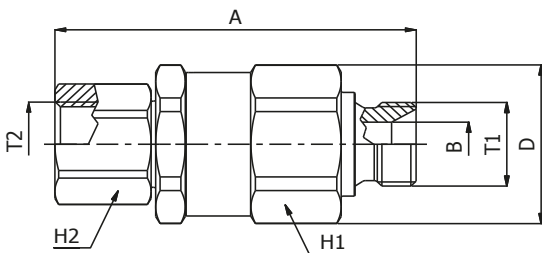


PART. REF.	SIZE			FLANGE	W.P.	DIMENSIONS mm						
	DN	Dash	inch			inch	MPa	A	B	D	E	H1
MR83691-20-20	31	-20	1.1/4"	1.1/4"	42	174.6	25.0	54.2	82.0	65	65	

BS STANDARD CONNECTIONS

# AR520504

SWIVEL JOINT STRAIGHT  
MALE BSP - FEMALE BSP

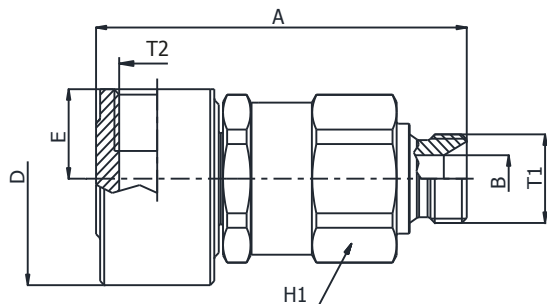


PART. REF.	SIZE			THREAD		W.P.	DIMENSIONS mm					
	DN	Dash	inch	T1	T2		MPa	A	B	D	H1	H2
AR520504-04-04	10	-06	3/8"	1/4"-19	1/4"-19	42	69.9	4.7	30.0	27.0	19.0	
AR520504-06-06	10	-06	3/8"	3/8"-19	3/8"-19	42	69.9	8.0	30.0	27.0	22.0	
AR520504-08-08	16	-10	5/8"	1/2"-14	1/2"-14	35	82.9	11.0	39.5	36.0	27.0	
AR520504-12-12	19	-12	3/4"	3/4"-14	3/4"-14	35	87.6	16.7	45.0	41.0	34.0	
AR520504-16-16	25	-16	1"	1"-11	1"-11	35	101.8	22.2	55.0	50.0	41.0	
AR520504-20-20	31	-20	1.1/4"	1.1/4"-11	1.1/4"-11	35	112.1	28.6	66.0	60.0	55.0	
AR520504-24-24	38	-24	1.1/2"	1.1/2"-11	1.1/2"-11	30	128.3	33.3	77.0	70.0	65.0	

BS STANDARD CONNECTIONS

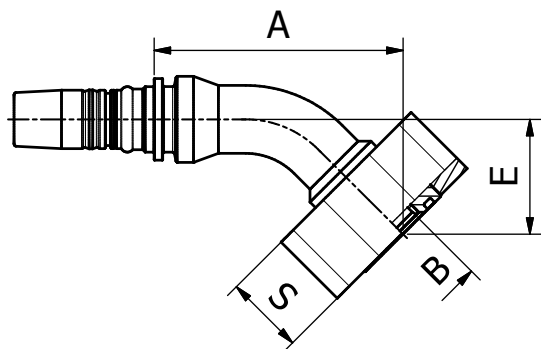
# AR580504

SWIVEL JOINT 90°  
MALE BSP - FEMALE BSP



PART. REF.	SIZE			THREAD		W.P.	DIMENSIONS mm						
	DN	Dash	inch	T1	T2		A	B	D	E	H1		
AR580504-04-04	10	-06	3/8"	1/4"-19	1/4"-19	42	70.4	4.7	36.0	16.0	27.0		
AR580504-06-06	10	-06	3/8"	3/8"-19	3/8"-19	42	75.4	8.0	39.0	16.0	27.0		
AR580504-08-08	16	-10	5/8"	1/2"-14	1/2"-14	35	90.9	11.0	50.0	21.0	36.0		
AR580504-12-12	19	-12	3/4"	3/4"-14	3/4"-14	35	100.1	16.7	60.0	24.0	41.0		
AR580504-16-16	25	-16	1"	1"-11	1"-11	35	117.3	22.2	70.0	28.0	50.0		

FITTINGS 332

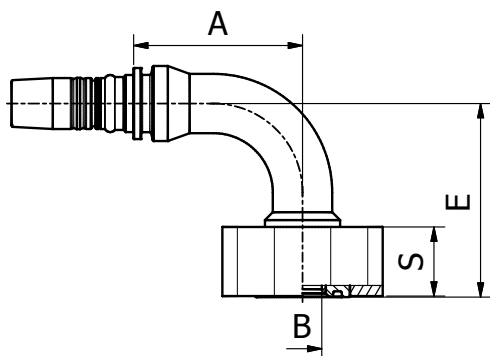


SAE STANDARD CONNECTIONS

# M4364A

45° ADJUSTABLE FLANGE

PART. REF.	HOSE BORE			FLANGE	DIMENSIONS mm						
	DN	Dash	inch	inch	A	B	E	S			
M4364A-12-12	19	- 12	3/4"	3/4"	90.5	14.5	37.5	27.4			
M4364A-16-16	25	- 16	1"	1"	109.5	19.5	50.5	35			
M4364A-20-20	31	- 20	1.1/4"	1.1/4"	136.5	25	56.5	35			



SAE STANDARD CONNECTIONS

# M4369A

90° ADJUSTABLE FLANGE

PART. REF.	HOSE BORE			FLANGE	DIMENSIONS mm						
	DN	Dash	inch	inch	A	B	E	S			
M4369A-12-12	19	- 12	3/4"	3/4"	72.5	14.5	73	27.4			
M4369A-16-16	25	- 16	1"	1"	85.5	19.5	98	35			
M4369A-20-20	31	- 20	1.1/4"	1.1/4"	112	25	111.5	35			







QUICK COUPLINGS



## INTRODUCTION

Q.Safe is the Manuli Hydraulics offering for quick coupling applications. Composed of an ever-expanding range of products, the Q.Safe brand has rapidly become an industry byword for quality and performance. The entire Q.Safe product range is manufactured with our E-Coat 500 treatment which provides an environmentally friendly surface coating (chrome free) far exceeding ISO 4520 requirements (salt spray resistance: 240 hours for white corrosion and 500 for red corrosion). Some Q.Safe products also have the option to upgrade to our new E-Coat 1000 plating which offers 1,000 hours to red corrosion.

Guaranteeing leak-free performance, the Q.Safe brand is suitable for a wide range of different applications and assures total interchangeability with other quick coupling products on the market. All Q.Safe products are manufactured and assembled in our world-class facility, where they are subjected to stringent quality controls including:

- 100% visual check
- 100% functional test
- 100% air sealing test

Manuli Hydraulics Q.Safe are suggested for the following application fields:

### AGRICULTURE AND FORESTRY (TRACTORS, TRAILERS, HARVESTER MACHINES)

- Quick couplings according to ISO 7241-A standard connectable in whatever pressure conditions:
- MQS-A and MQS-AF, MQS-N in case of no pressure in the hydraulic line.
- MQS-AP, MQS-AFP, MQS-AFM, MQS-AFB, MQS-ARM and MQS-ARB in case of pressure in one or both the hydraulic lines.
- Quick couplings for hydraulic braking systems: MQS-VB according to ISO 5676 standard, MQS-VS
- Flat Face Quick couplings according to ISO 16028 standards: MQS-F, MQS-FP, MQS-FS
- Screw-type couplings: MQS-SG, MQS-SGR
- Quick couplings for diagnosis according to ISO 15171-1 standard: MQS-D
- Quick couplings “direct hose integration”: MQS-DHI
- Check valves: MQS-CV, MQS-CVC

### MINING (DRILLS)

- MQS-A, MQS-N,
- MQS-F
- MQS-SG, MQS-SGR
- MQS-SC
- MQS-SH
- MQS-CV, MQS-CVC

### CONSTRUCTION EQUIPMENTS AND UTILITY VEHICLES (EXCAVATORS, SKID STEERS LOADERS, WHEEL-LOADERS, HYDRAULIC TOOLS AND DUMP TRAILERS)

- MQS-A, MQS-AF, MQS-N, MQS-B
- MQS-F, MQS-FP, MQS-FS
- MQS-SG, MQS-SGR
- MQS-D
- Screw type couplings for very high static pressure: MQS-SC
- Screw type couplings for extreme working conditions: MQS-SH
- Wing nut screw type couplings: MQS-ST
- MQS-DHI
- MQS-CV, MQS-CVC

### OIL & GAS

- MQS-SO
- MQS-BOP

### INDUSTRY

- MQS-F
- MQS-SH
- MQS-B
- MQS-D
- MQS-DHI
- MQS-CV, MQS-CVC

### QUICK COUPLING SELECTION

To ensure that you select the correct quick coupling for your needs, Manuli Hydraulics recommends that the following factors be considered:

**Pressure and Flow Rate** - The selected quick coupling must always be suitable for the pressure and flow rate in the system. Always check that the selected quick coupling's maximum working pressure is equal to or greater than the maximum pressure of the system (including pressure spikes).

**Connection Under Pressure** - Many quick couplings can only be connected / disconnected when the line pressure has been reduced to zero. If this is not possible you should select a quick coupling which is connectible under pressure. When disconnecting couplings the line pressure must be reduced to zero. Avoid using tools to connect / disconnect quick couplings.

**Fluid Compatibility** - Always check that the fluids used are compatible with the materials and seals used in the quick couplings.

**Temperature** - Always verify that the maximum working temperature of the system is within the operational limits of the quick coupling selected.

**Environmental Conditions** - Be aware that certain environmental conditions can cause damage or excessive corrosion to the quick couplings. Some specific examples are environments where there are harsh chemicals, UV radiation or salt waters.

### GENERAL PRECAUTIONS

- Before connecting the quick coupling carefully clean the insert in order to prevent excessive wear on seals.
- Use suitable protective components such as plugs and caps when quick couplings are not in use to prevent unnecessary wear or damage.
- Shock impacts, such as falling on the ground, may damage your quick coupling. Take precautions to avoid this kind of impact.
- Replace damaged / worn O-rings and back-up rings as soon as possible using the recommended spare part kits.
- Inspect each quick coupling after every individual application in order to detect any visible cracks, leakage, damage or corrosion.

### **MQS-DHI “DIRECT HOSE INTEGRATION”**

An innovative system to enable direct assembly of the quick-release coupling to the flexible hose, and therefore avoiding intermediate connection elements.

Some of the benefits of this solution are:

- Reduced risk of oil leakage
- Elimination of unscrewing problems in the field
- Reduction in the number of assembly elements leading to reduced assembly cost, minimised risk of assembly operation mistakes and greater safety in severe working conditions, as well as easier maintenance and replacement operations

Design solutions are available for most common series ISO A, ISO B, Push-Pull & Flat-Face

**DHI quick release coupling maintenance is possible without the need to replace the flexible hose.**

### **Q.SAFE FLAT FACE MULTICCONNECTORS**

The Q.Safe quick coupling range is widely renowned for representing the Gold Standard in quick coupling quality and performance. The introduction of the Q.Safe Flat Face Multiconnector range combines this superior performance with the added efficiency and safety related benefits of a multiconnector block system.

- Reduces connection time when multiple connectors are used
- No risk of incorrect connection
- No misalignment between mobile and static blocks
- Compact design for minimal added weight
- Flat face couplings allow high pressures (350 bar) and high flow rates
- Allows hoses to be arranged closer together whilst still allowing easy access
- Industry leading performance with reduced pressure drop
- Almost zero (between 0.007cc and 0.009cc) oil spillage on connection / disconnection
- Connection under residual pressure
- Easy to clean

### Q.SAFE QUICK COUPLINGS

QUICK COUPLINGS SERIES	DESCRIPTION	FEMALE	MALE	SHUT-OFF SYSTEM	SPECIFICATIONS	CONNECTION	SIZE										PAGE No.		
							1/8"	1/4"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"	1 1/2"	2"			
MQS-A	ISO A	Q008	Q002	POPPET VALVE	ISO 7241 SERIES A	LOCKING BALLS													341
			Q004	SHIELDED POPPET															
		Q009	Q003	BALL VALVE															
MQS-AP	ISO A CONNECTABLE UNDER PRESSURE	Q010	Q006	POPPET VALVE	ISO 7241 SERIES A	LOCKING BALLS													352
MQS-AM	ISO A CONNECTABLE WITH MALE UNDER PRESSURE	Q011	-	POPPET VALVE	ISO 7241 SERIES A	LOCKING BALLS													354
MQS-AB	ISO A CONNECTABLE WITH BOTH PARTS UNDER PRESSURE	Q012	-	POPPET VALVE	ISO 7241 SERIES A	LOCKING BALLS													356
MQS-B	ISO B	Q024	Q021	POPPET VALVE	ISO 7241 SERIES B	LOCKING BALLS													358
MQS-BOP	ISO B FOR DRILLING BOP UNIT	Q026 F	Q021 F	POPPET VALVE	ISO 7241 SERIES B + FLAME TEST RES. TO API 16D	LOCKING BALLS													361
MQS-N	STANDARD	Q032	Q029	POPPET VALVE	-	LOCKING BALLS													363
		Q033	Q030	BALL VALVE															
MQS-NL	FREE-FLOW	Q038	Q037	WITHOUT	-	LOCKING BALLS													369
MQS-NF	STANDARD PUSH-PULL	Q036	-	POPPET VALVE	-	LOCKING BALLS													371
MQS-AF	PUSH-PULL	Q013	-	POPPET VALVE	ISO 7421 SERIES A	LOCKING BALLS													373
MQS-AFP	PUSH-PULL CONNECTABLE UNDER PRESSURE	Q015	-	POPPET VALVE	ISO 7421 SERIES A	LOCKING BALLS													380
MQS-AFM	PUSH-PULL, CONNECTABLE WITH MALE UNDER PRESSURE, FLEXIBLE MOUNTING	Q016	-	POPPET VALVE	ISO 7421 SERIES A	LOCKING BALLS													382
MQS-AFB	PUSH-PULL CONNECTABLE WITH MALE UNDER PRESSURE, FLEXIBLE MOUNTING	Q017	-	POPPET VALVE	ISO 7421 SERIES A	LOCKING BALLS													384
MQS-ARM	PUSH-PULL, CONNECTABLE WITH MALE UNDER PRESSURE, RIGID MOUNTING	Q018	-	POPPET VALVE	ISO 7421 SERIES A	LOCKING BALLS													386
MQS-ARB	PUSH-PULL CONNECTABLE WITH BOTH PARTS UNDER PRESSURE, RIGID MOUNTING	Q019	-	POPPET VALVE	ISO 7421 SERIES A	LOCKING BALLS													390
MQS-VB	BRAKING CIRCUIT VALVE	Q048	Q047	FLAT VALVE	ISO 5676	LOCKING BALLS													395
MQS-VS	AGRICULTURAL VALVE	Q050	Q049	FLAT VALVE	-	SCREW-ON SLEEVE													401

Q.SAFE 338



### Q.SAFE MULTICONNECTORS

MULTI-COUPLING SERIES	CONFIGURATION	NO. OF LINES	SIZE			PAGE No.
			DN	inch	Dash	
Q401		2	10	3/8"	-06	472
Q402		2	12.5	□"	-08	473
Q403		4	10	3/8"	-06	474
Q404		4	12.5	□"	-08	475
Q405		2	10	3/8"	-06	476
Q406		2	12.5	□"	-08	477
		2	19	□"	-12	

MULTI-COUPLING SERIES	CONFIGURATION	NO. OF LINES	SIZE			PAGE No.
			DN	inch	Dash	
Q407		6	10	3/8"	-06	478
Q408		6	12.5	□"	-08	479
Q409		8	12.5	□"	-08	480
Q410		4	12.5	□"	-08	481
Q411		4	10	3/8"	-06	482

Q.SAFE 340

### Q.SAFE ACCESSORIES

ACCESSORY TYPE	SIZE										PAGE No.
	1/8"	1/4"	3/8"	1/2"	5/8"	3/4"	1"	1 1/4"	1 1/2"	2"	
PARKING											485
PLUGS & CAPS											487
SPARE PARTS											496

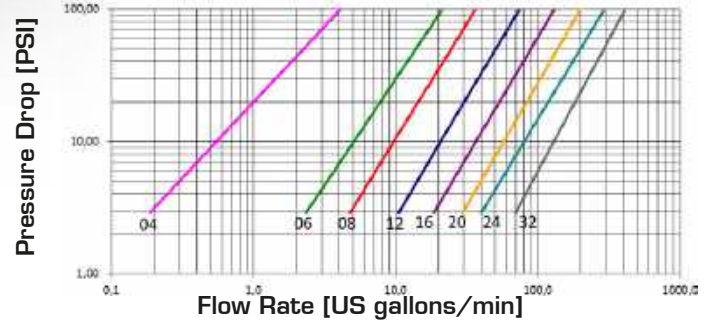
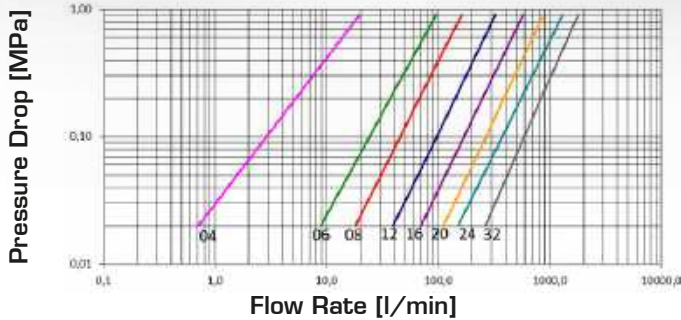




# ISO A POPPET VALVES

Pressure Drop

Pressure Drop



## TECHNICAL DATA

SIZE			MPa		RATED FLOW at 0.2 MPa of pressure drop		N		OIL SPILLAGE Connection/Disconnection		MINIMUM BURST PRESSURE						CONNECTION/DISCONNECTION UNDER PRESSURE
DN	inch	Dash	MPa	PSI	l/min	US GPM	N	lb.	cc.	cubic inch	Male		Female		M & F		Not allowed
										MPa	PSI	MPa	PSI	MPa	PSI		
6.3	¼	04	35	5075	5	1.3	60	13.5	0.7	0.043	200	29000	150	21750	150	21750	Not allowed
10	⅜	06	35	5075	37	9.2	80	18.0	1.4	0.085	140	20300	150	21750	150	21750	Not allowed
12.5	½	08	30	4350	68	19.8	80	18.0	2	0.122	125	18125	150	21750	150	21750	Not allowed
20	¾	12	25	3625	142	38.8	90	20.2	7	0.427	100	14500	120	17400	100	14500	Not allowed
25	1	16	25	3625	250	66.1	90	20.2	11	0.671	100	14500	100	14500	100	14500	Not allowed
31.5	1¼	20	25	3625	390	103.0	90	20.2	15	0.915	100	14500	100	14500	105	15225	Not allowed
40	1½	24	22	3190	553	146.1	100	22.5	21	1.281	90	13050	100	14500	100	14500	Not allowed
51	2	32	15	2175	838	221.4	225	50.6	45	2.746	60	8700	60	8700	90	13050	Not allowed

The rated flow represents the normal operating condition. The maximum recommended flow rate is equal to 1.5 times the rated flow

## PRODUCT DESCRIPTION

- Reference series on the agriculture and industrial market
- Simple connection and disconnection by pulling back the sleeve
- Positive, quick connection of the male into the female by the latching ball system
- Shut-off by poppet valve
- High resistant materials and hardened male and sleeve to withstand the brinelling effect
- Interchangeability according to ISO 7241 series A

## MATERIAL

Female and male couplings in steel, with some hardened areas, in correspondence to the most stressed points. Springs in C98 steel, seals in NBR (other materials on request) and back-up ring in PTFE. PU seal on ½" female available on request.

## WORKING TEMPERATURE

-22°F up to +230°F (-30°C up to +110°C)  
For other temperatures, the coupling may be assembled with the specific seals

## SAFETY FACTOR

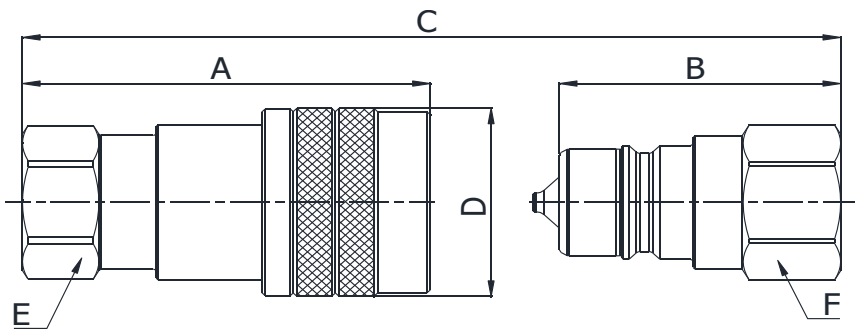
4:1 for dynamic pressures

## IMPULSE PRESSURES

100,000 cycles at 133% of the rated one (freq. 1Hz)

## TEST SPECIFICATIONS

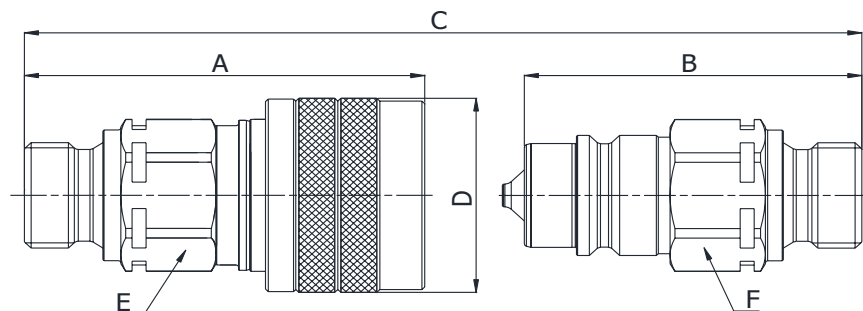
ISO 18869



**Q00811021A**  
**Q00211021A**

BSPT TERMINATION ENDS  
TO ISO 7-1  
TAPERED

SIZE			PART NUMBER		THREAD	DIMENSIONS mm					
DN	Inch	Dash	Female coupling	Male coupling		A	B	C	D	E	F
6.3	1/4"	-04	Q00811021A-04-04	Q00211021A-04-04	1/4"	48.8	34.5	A+B-14,3	ø24	17	17
10	3/8"	-06	Q00811021A-06-06	Q00211021A-06-06	3/8"	57.8	40	A+B-17,8	ø30	22	22
12.5	1/2"	-08	Q00811021A-08-08	Q00211021A-08-08	1/2"	67.1	45	A+B-22,1	ø38	27	27
20	3/4"	-12	Q00811021A-12-12	Q00211021A-12-12	3/4"	83.5	56.5	A+B-27	ø45	34	34
25	1"	-16	Q00811021A-16-16	Q00211021A-16-16	1"	97.9	64.5	A+B-32,7	ø52,3	41	41

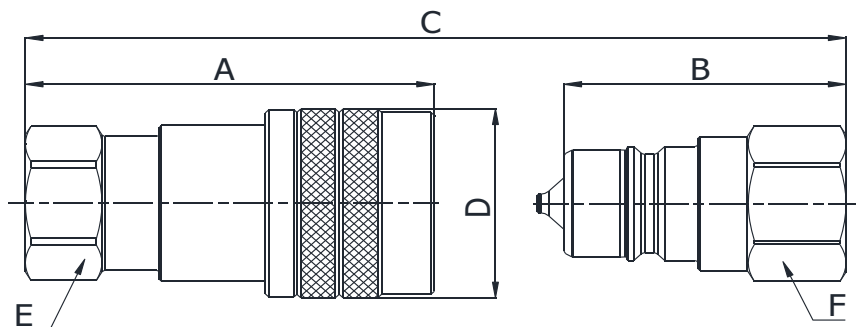


**Q00811050A**  
**Q00211050A**

BSP TERMINATION ENDS  
TO ISO 8434-6

SIZE			PART NUMBER		THREAD	DIMENSIONS mm					
DN	Inch	Dash	Female coupling	Male coupling		A	B	C	D	E	F
10	3/8"	-06	Q00811050A-06-06	Q00211050A-06-06	3/8"	64.7	56.2	A+B-17,5	ø30	22	22
12.5	1/2"	-08	Q00811050A-08-06	Q00211050A-08-06	3/8"	68.9	57.7	A+B-21,8	ø38	27	27
12.5	1/2"	-08	Q00811050A-08-08	Q00211050A-08-08	1/2"	71.4	60.2	A+B-21,8	ø38	27	27

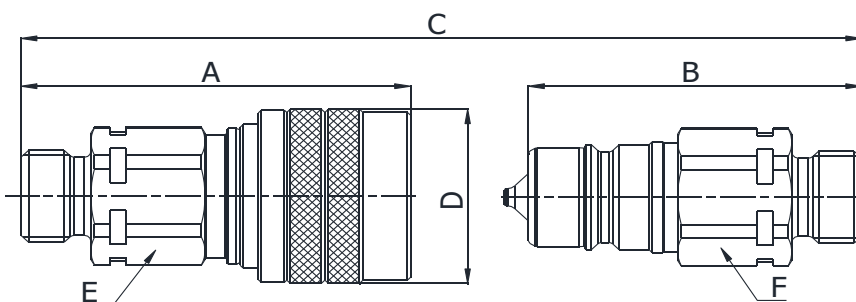
**Q.SAFE 342**



**Q00811041A**  
**Q00211041A**

BSP TERMINATION ENDS  
TO DIN 3852 X TYPE

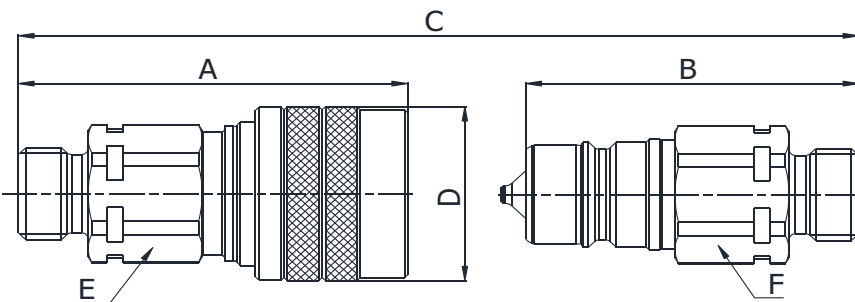
SIZE			PART NUMBER		THREAD	DIMENSIONS mm					
DN	Inch	Dash	Female coupling	Male coupling		A	B	C	D	E	F
6.3	1/4"	-04	Q00811041A-04-04	Q00211041A-04-04	1/4"	48.8	34.5	A+B-14,2	ø24	17	17
10	3/8"	-06	Q00811041A-06-04	Q00211041A-06-04	1/4"	63	54.5	A+B-17,5	ø30	22	22
10	3/8"	-06	Q00811041A-06-06	Q00211041A-06-06	3/8"	57.8	40	A+B-17,5	ø30	22	22
12.5	1/2"	-08	Q00811041A-08-06	Q00211041A-08-06	3/8"	66.2	55	A+B-21,8	ø38	27	27
12.5	1/2"	-08	Q00811041A-08-08	Q00211041A-08-08	1/2"	67	45	A+B-21,8	ø38	27	27
12.5	1/2"	-08	Q00811041A-08-12	Q00211041A-08-12	3/4"	69	53	A+B-21,8	ø38	34	34
20	3/4"	-12	Q00811041A-12-08	Q00211041A-12-08	1/2"	85.7	66.3	A+B-26,7	ø45	34	34
20	3/4"	-12	Q00811041A-12-12	Q00211041A-12-12	3/4"	83.5	56.5	A+B-26,7	ø45	34	34
25	1"	-16	Q00811041A-16-12	Q00211041A-16-12	3/4"	97.9	64.5	A+B-32,7	ø52	41	41
25	1"	-16	Q00811041A-16-16	Q00211041A-16-16	1"	97.9	64.5	A+B-32,7	ø52	41	41
31.5	1.1/4"	-20	Q00811041A-20-20	Q00211041A-20-20	1.1/4"	118	75	A+B-43	ø69	50	50
40	1.1/2"	-24	Q00811041A-24-24	Q00211041A-24-24	1.1/2"	133	84	A+B-49	ø83	60	60
51	2"	-32	Q00811041A-32-32	Q00211041A-32-32	2"	164	104	A+B-60,2	ø100	75	75



**Q00811110A**  
**Q00211110A**

METRIC TERMINATION ENDS  
TO ISO 8434-1  
L SERIES

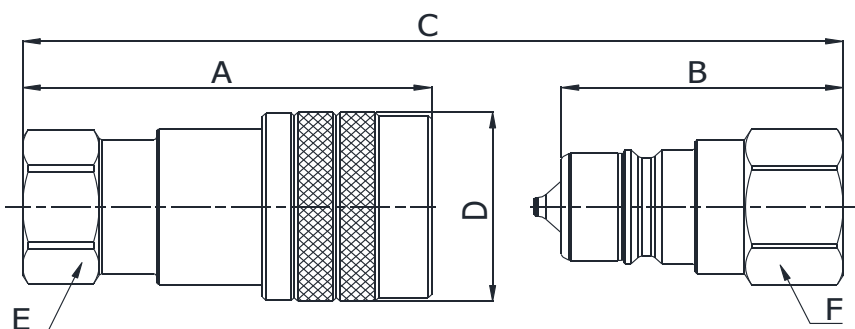
SIZE			PART NUMBER		THREAD	DIMENSIONS mm					
DN	Inch	Dash	Female coupling	Male coupling		A	B	C	D	E	F
6.3	1/4"	-04	Q00811110A-04-14	Q00211110A-04-14	M14x1,5	52.1	42	A+B-14,2	ø24	17	17
10	3/8"	-06	Q00811110A-06-12	Q00211110A-06-12	M12x1,5	61	52.5	A+B-17,5	ø30	22	22
10	3/8"	-06	Q00811110A-06-14	Q00211110A-06-14	M14x1,5	61	52.5	A+B-17,5	ø30	22	22
10	3/8"	-06	Q00811110A-06-16	Q00211110A-06-16	M16x1,5	61	52.5	A+B-17,5	ø30	22	22
10	3/8"	-06	Q00811110A-06-18	Q00211110A-06-18	M18x1,5	61	52.5	A+B-17,5	ø30	22	22
12.5	1/2"	-08	Q00811110A-08-14	Q00211110A-08-14	M14x1,5	65.2	54	A+B-21,8	ø38	27	27
12.5	1/2"	-08	Q00811110A-08-16	Q00211110A-08-16	M16x1,5	66.2	55	A+B-21,8	ø38	27	27
12.5	1/2"	-08	Q00811110A-08-18	Q00211110A-08-18	M18x1,5	65.2	54	A+B-21,8	ø38	27	27
12.5	1/2"	-08	Q00811110A-08-22	Q00211110A-08-22	M22x1,5	66.2	55	A+B-21,8	ø38	27	27
12.5	1/2"	-08	Q00811110A-08-26	Q00211110A-08-26	M26x1,5	66.2	55	A+B-21,8	ø38	27	27
20	3/4"	-12	Q00811110A-12-18	Q00211110A-12-18	M18x1,5	85.4	66.3	A+B-26,7	ø45	34	34
20	3/4"	-12	Q00811110A-12-22	Q00211110A-12-22	M22x1,5	85.7	66.3	A+B-26,7	ø45	34	34
20	3/4"	-12	Q00811110A-12-26	Q00211110A-12-26	M26x1,5	85.7	66.3	A+B-26,7	ø45	34	34
20	3/4"	-12	Q00811110A-12-30	Q00211110A-12-30	M30x2	87.7	68.3	A+B-26,7	ø45	34	34
25	1"	-16	Q00811110A-16-26	Q00211110A-16-26	M26x1,5	94.5	79.5	A+B-32,7	ø52	41	41
25	1"	-16	Q00811110A-16-30	Q00211110A-16-30	M30x2	96.5	81.5	A+B-32,7	ø52	41	41
25	1"	-16	Q00811110A-16-36	Q00211110A-16-36	M36x2	97	81.5	A+B-32,7	ø52	41	41



**Q00811120A**  
**Q00211120A**

METRIC TERMINATION ENDS  
TO ISO 8434-1  
S SERIES

SIZE			PART NUMBER		THREAD	DIMENSIONS mm					
DN	Inch	Dash	Female coupling	Male coupling		A	B	C	D	E	F
10	3/8"	-06	Q00811120A-06-16	Q00211120A-06-16	M16x1,5	62	53.5	A+B-17,5	ø30	22	22
10	3/8"	-06	Q00811120A-06-18	Q00211120A-06-18	M18x1,5	62	53.5	A+B-17,5	ø30	22	22
12.5	1/2"	-08	Q00811120A-08-18	Q00211120A-08-18	M18x1,5	66.2	55	A+B-21,8	ø38	27	27
12.5	1/2"	-08	Q00811120A-08-20	Q00211120A-08-20	M20x1,5	66.2	55	A+B-21,8	ø38	27	27
12.5	1/2"	-08	Q00811120A-08-24	Q00211120A-08-24	M24x1,5	68.2	57	A+B-21,8	ø38	27	27
25	1"	-16	Q00811120A-16-30	Q00211120A-16-30	M30x2	98.5	83.5	A+B-32,7	ø52	41	41
25	1"	-16	Q00811120A-16-36	Q00211120A-16-36	M36x2	100.5	85.5	A+B-32,7	ø52	41	41
25	1"	-16	Q00811120A-16-42	Q00211120A-16-42	M40x2	102.5	87.5	A+B-32,7	ø52	46	46

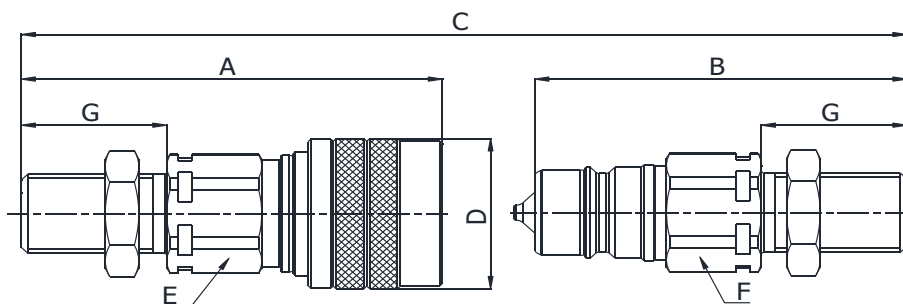


**Q00811191A**  
**Q00211191A**

METRIC TERMINATION ENDS  
TO ISO 6149-1

SIZE			PART NUMBER		THREAD	DIMENSIONS mm					
DN	Inch	Dash	Female coupling	Male coupling		A	B	C	D	E	F
12.5	1/2"	-08	Q00811191A-08-16	Q00211191A-08-16	M16x1,5	66.7	55.5	A+B-21,8	ø38	27	27
12.5	1/2"	-08	Q00811191A-08-18	Q00211191A-08-18	M18x1,5	68.2	57	A+B-21,8	ø38	27	27
12.5	1/2"	-08	Q00811191A-08-22	Q00211191A-08-22	M22x1,5	67	48	A+B-21,8	ø38	27	27

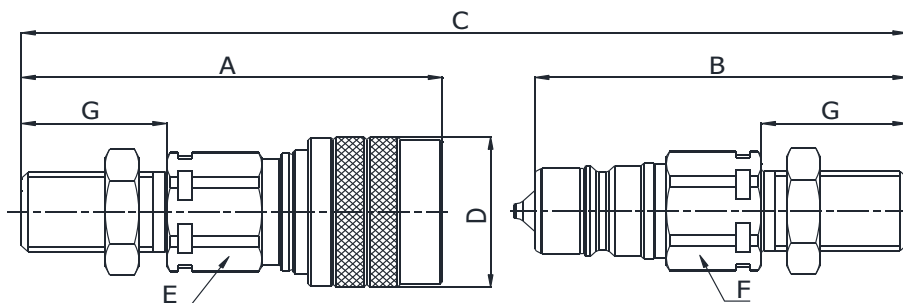
Q.SAFE 344



**Q00811770B**  
**Q00211770B**

METRIC TERMINATION ENDS  
TO ISO 8434-1  
BULKHEAD L SERIES

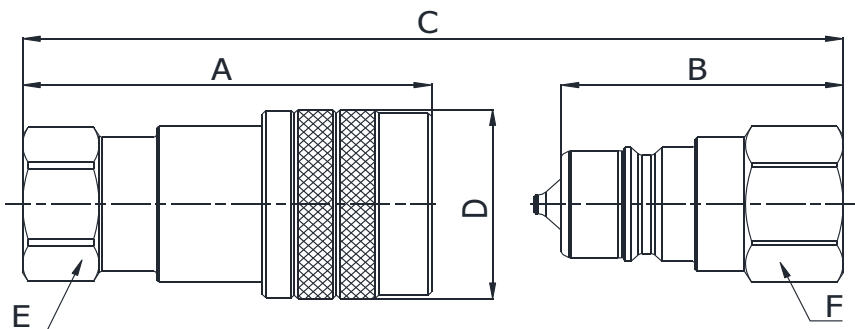
SIZE			PART NUMBER		THREAD	DIMENSIONS mm						
DN	Inch	Dash	Female coupling	Male coupling		A	B	C	D	E	F	G
10	3/8"	-06	Q00811770B-06-12	Q00211770B-06-12	M12x1,5	76	67.5	A+B-17,5	ø30	22	22	25
10	3/8"	-06	Q00811770B-06-14	Q00211770B-06-14	M14x1,5	75	66.5	A+B-17,5	ø30	22	22	25
10	3/8"	-06	Q00811770B-06-16	Q00211770B-06-16	M16x1,5	75	66.5	A+B-17,5	ø30	22	22	26
10	3/8"	-06	Q00811770B-06-18	Q00211770B-06-18	M18x1,5	75	66.5	A+B-17,5	ø30	22	22	26
12.5	1/2"	-08	Q00811770B-08-14	Q00211770B-08-14	M14x1,5	80.2	69	A+B-21,8	ø38	27	27	25
12.5	1/2"	-08	Q00811770B-08-16	Q00211770B-08-16	M16x1,5	80.2	69	A+B-21,8	ø38	27	27	26
12.5	1/2"	-08	Q00811770B-08-18	Q00211770B-08-18	M18x1,5	80.2	69	A+B-21,8	ø38	27	27	26
12.5	1/2"	-08	Q00811770B-08-22	Q00211770B-08-22	M22x1,5	81.2	70	A+B-21,8	ø38	27	27	27
12.5	1/2"	-08	Q00811770B-08-26	Q00211770B-08-26	M26x1,5	82.2	71	A+B-21,8	ø38	30	30	28
20	3/4"	-12	Q00811770B-12-22	Q00211770B-12-22	M22x1,5	100.7	81.3	A+B-26,7	ø45	34	34	27
20	3/4"	-12	Q00811770B-12-30	Q00211770B-12-30	M30x2	105.7	86.3	A+B-26,7	ø45	34	34	32
25	1"	-16	Q00811770B-16-26	Q00211770B-16-26	M26x1,5	110.5	92.3	A+B-32,7	ø52	41	41	28
25	1"	-16	Q00811770B-16-30	Q00211770B-16-30	M30x2	114.5	96.3	A+B-32,7	ø52	41	41	32
25	1"	-16	Q00811770B-16-36	Q00211770B-16-36	M36x2	114.5	96.3	A+B-32,7	ø52	41	41	32



**Q00811870B**  
**Q00211870B**

METRIC TERMINATION ENDS  
TO ISO 8434-1  
BULKHEAD S SERIES

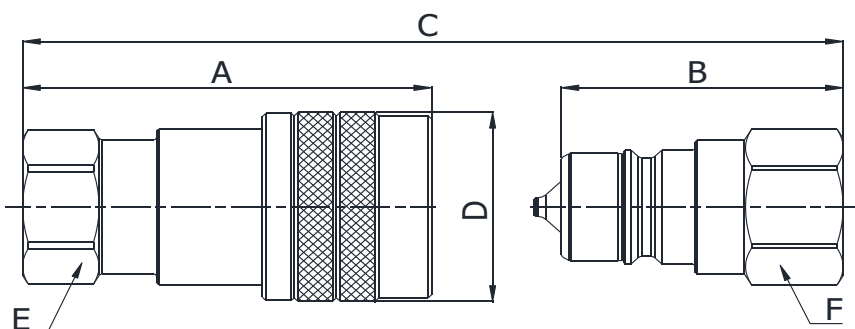
SIZE			PART NUMBER		THREAD	DIMENSIONS mm						
DN	Inch	Dash	Female coupling	Male coupling		A	B	C	D	E	F	G
10	3/8"	-06	Q00811870B-06-16	Q00211870B-06-16	M16x1,5	76	67.5	A+B-17,5	ø30	22	22	27
10	3/8"	-06	Q00811870B-06-18	Q00211870B-06-18	M18x1,5	76	67.5	A+B-17,5	ø30	22	22	27
12.5	1/2"	-08	Q00811870B-08-18	Q00211870B-08-18	M18x1,5	81.2	70	A+B-21,8	ø38	27	27	27
12.5	1/2"	-08	Q00811870B-08-20	Q00211870B-08-20	M20x1,5	81.2	70	A+B-21,8	ø38	27	27	27
12.5	1/2"	-08	Q00811870B-08-24	Q00211870B-08-24	M24x1,5	83.2	72	A+B-21,8	ø38	27	27	29
25	1"	-16	Q00811870B-16-30	Q00211870B-16-30	M30x2	116.5	101.5	A+B-32,7	ø52	41	41	34
25	1"	-16	Q00811870B-16-36	Q00211870B-16-36	M36x2	118.5	103.5	A+B-32,7	ø52	41	41	36
25	1"	-16	Q00811870B-16-42	Q00211870B-16-42	M40x2	120.5	105.5	A+B-32,7	ø52	41	41	40



**Q00811141A**  
**Q00211141A**

METRIC TERMINATION ENDS  
TO ISO 3852-1 X TYPE

SIZE			PART NUMBER		THREAD	DIMENSIONS mm					
DN	Inch	Dash	Female coupling	Male coupling		A	B	C	D	E	F
10	3/8"	-06	Q00811141A-06-16	Q00211141A-06-16	M16x1,5	64.5	56	A+B-17,5	ø30	22	22
12.5	1/2"	-08	Q00811141A-08-18	Q00211141A-08-18	M18x1,5	66.2	55	A+B-21,8	ø38	27	27
12.5	1/2"	-08	Q00811141A-08-20	Q00211141A-08-20	M20x1,5	67	45	A+B-21,8	ø38	27	27
12.5	1/2"	-08	Q00811141A-08-22	Q00211141A-08-22	M22x1,5	67	48	A+B-21,8	ø38	27	27



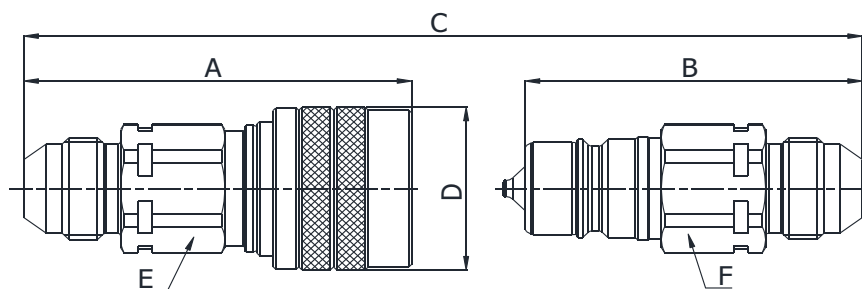
**Q00811341A**  
**Q00211341A**

NPTF TERMINATION ENDS  
TO ANSI B 1.20.3

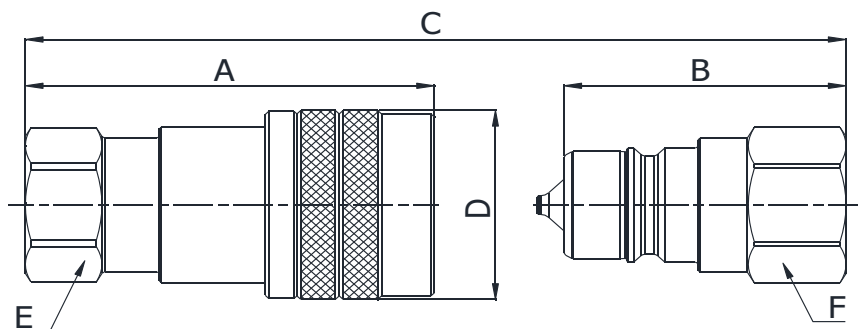
SIZE			PART NUMBER		THREAD	DIMENSIONS mm					
DN	Inch	Dash	Female coupling	Male coupling		A	B	C	D	E	F
6.3	1/4"	-04	Q00811341A-04-04	Q00211341A-04-04	1/4" NPTF	48.8	34.5	A+B-14,2	ø24	17	17
10	3/8"	-06	Q00811341A-06-06	Q00211341A-06-06	3/8" NPTF	57.8	40	A+B-17,5	ø30	22	22
10	3/8"	-06	Q00811341A-06-08	Q00211341A-06-08	1/2" NPTF	60.8	45	A+B-17,5	ø30	27	27
12.5	1/2"	-08	Q00811341A-08-08	Q00211341A-08-08	1/2" NPTF	67	45	A+B-21,8	ø38	27	27
12.5	1/2"	-08	Q00811341A-08-12	Q00211341A-08-12	3/4" NPTF	70	53	A+B-22	ø38	34	34
20	3/4"	-12	Q00811341A-12-12	Q00211341A-12-12	3/4" NPTF	83.5	56.5	A+B-26,7	ø45	34	34
25	1"	-16	Q00811341A-16-16	Q00211341A-16-16	1" NPTF	97.9	64.5	A+B-32,7	ø52	41	41
31.5	1.1/4"	-20	Q00811341A-20-20	Q00211341A-20-20	1.1/4" NPTF	118.0	75.0	A+B-43	ø69	50	50
40	1.1/2"	-24	Q00811341A-24-24	Q00211341A-24-24	1.1/2" NPTF	133.0	84.0	A+B-49	ø83	60	60

**Q00811250A**  
**Q00211250A**

SAE TERMINATION ENDS  
TO ISO 8434-2



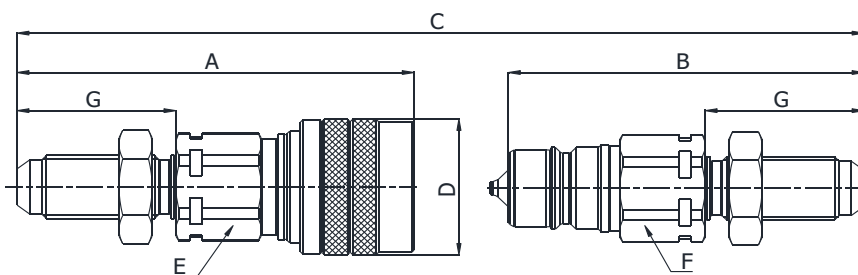
SIZE			PART NUMBER		THREAD	DIMENSIONS mm					
DN	Inch	Dash	Female coupling	Male coupling		A	B	C	D	E	F
10	3/8"	-06	Q00811250A-06-08	Q00211250A-06-08	3/4"-16 UNF	67	58.2	A+B-18,1	ø30	22	22



**Q00811301A**  
**Q00211301A**

SAE TERMINATION ENDS  
TO SAE J1926-1

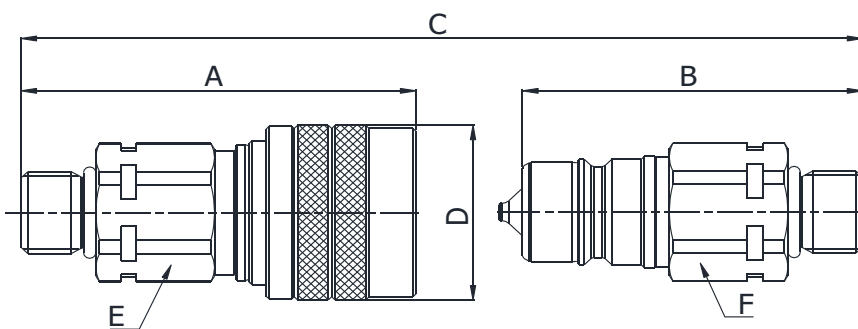
SIZE			PART NUMBER		THREAD	DIMENSIONS mm					
DN	Inch	Dash	Female coupling	Male coupling		A	B	C	D	E	F
6.3	1/4"	-04	Q00811301A-04-06	Q00211301A-04-06	9/16"-18 UNF	50	34.5	A+B-14,2	ø24	17	17
10	3/8"	-06	Q00811301A-06-06	Q00211301A-06-06	9/16"-18 UNF	64.5	56	A+B-17,5	ø30	22	22
12.5	1/2"	-08	Q00811301A-08-08	Q00211301A-08-08	3/4"-16 UNF	67	45	A+B-21,8	ø38	27	27
12.5	1/2"	-08	Q00811301A-08-10	Q00211301A-08-10	7/8"-14 UNF	69	50	A+B-21,8	ø38	27	27
12.5	1/2"	-08	Q00811301A-08-12	Q00211301A-08-12	1-1/16"-12 UN	73	54	A+B-21,8	ø38	34	34



**Q00811230A**  
**Q00211230A**

SAE TERMINATION ENDS  
TO ISO 8434-2  
BULKHEAD

SIZE			PART NUMBER		THREAD	DIMENSIONS mm						
DN	Inch	Dash	Female coupling	Male coupling		A	B	C	D	E	F	G
10	3/8"	-06	Q00811230A-06-06	Q00211230A-06-06	9/16"-18 UNF	83.8	75	A+B-18	ø30	22	22	22
10	3/8"	-06	Q00811230A-06-10	Q00211230A-06-10	7/8"-14 UNF	91.3	79.6	A+B-17,5	ø30	27	27	41
12.5	1/2"	-08	Q00811230A-08-08	Q00211230A-08-08	3/4"-16 UNF	91.8	80.6	A+B-21,8	ø38	27	27	36.6
12.5	1/2"	-08	Q00811230A-08-10	Q00211230A-08-10	7/8"-14 UNF	95.3	84.1	A+B-21,8	ø38	27	27	40.1



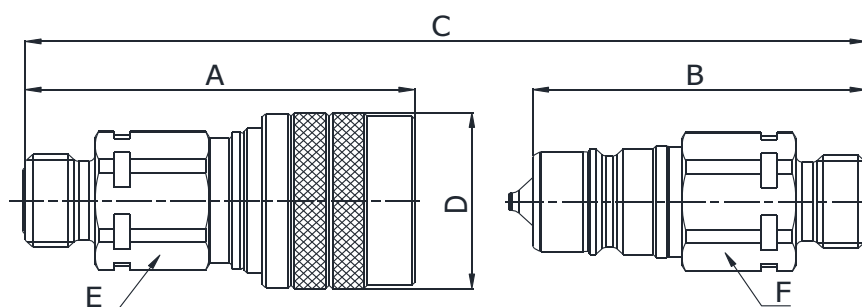
**Q00811320A**  
**Q00211320A**

ORB TERMINATION ENDS  
TO SAE J1926-2  
S SERIES

SIZE			PART NUMBER		THREAD	DIMENSIONS mm					
DN	Inch	Dash	Female coupling	Male coupling		A	B	C	D	E	F
10	3/8"	-06	Q00811320A-06-06	Q00211320A-06-06	9/16"-18 UNF	63	54.4	A+B-17,5	ø30	22	22
12.5	1/2"	-08	Q00811320A-08-08	Q00211320A-08-08	3/4"-16 UNF	70	60	A+B-21,8	ø38	27	27

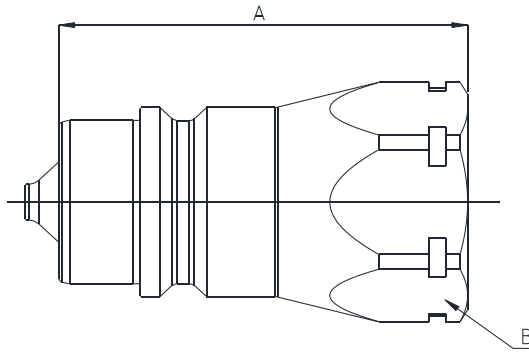
**Q00811240A**  
**Q00211240A**

ORFS TERMINATION ENDS  
 TO ISO 8434-3



SIZE			PART NUMBER		THREAD	DIMENSIONS mm					
DN	Inch	Dash	Female coupling	Male coupling		A	B	C	D	E	F
10	3/8"	-06	Q00811240A-06-04	Q00211240A-06-04	9/16"-18 UNF	60.8	52.3	A+B-17,5	ø30	22	22
10	3/8"	-06	Q00811240A-06-06	Q00211240A-06-06	11/16"-16 UN	61.2	52.7	A+B-17,5	ø30	22	22
12.5	1/2"	-08	Q00811240A-08-08	Q00211240A-08-08	13/16"-16 UN	66.2	55.8	A+B-21,8	ø38	27	27
25	1"	-16	Q00811240A-16-16	Q00211240A-16-16	1.7/16"-12 UN	100	81.8	A+B-32,7	ø52	41	41

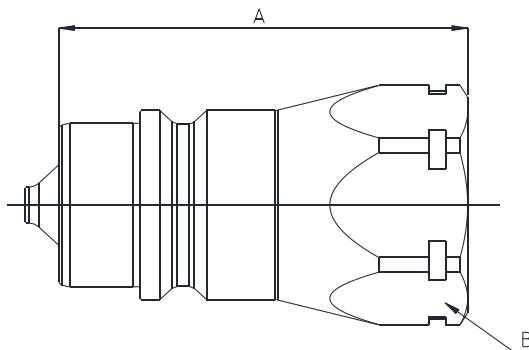




## Q00411041A

BSP TERMINATION ENDS  
TO DIN 3852 X TYPE

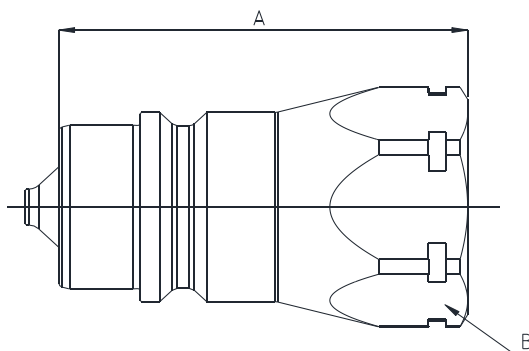
SIZE			PART NUMBER	THREAD	DIMENSIONS mm				
DN	Inch	Dash			Male coupling	A	B		
12.5	1/2"	08	Q00411041A-08-08	1/2"	47	27			



## Q00411341A

NPTF TERMINATION ENDS  
TO ANSI B 1.20.3

SIZE			PART NUMBER	THREAD	DIMENSIONS mm				
DN	Inch	Dash			Male coupling	A	B		
12.5	1/2"	08	Q00411341A-08-08	1/2" NPTF	47	27			



## Q00411301A

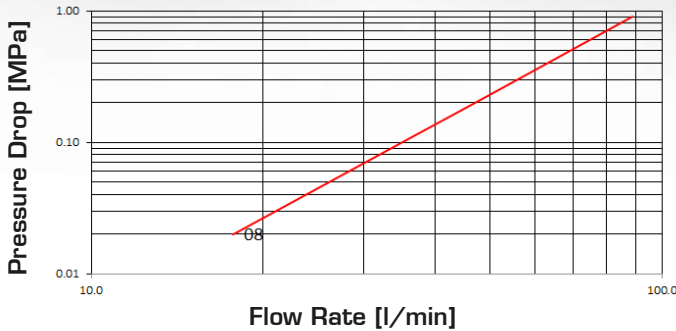
SAE TERMINATION ENDS  
TO SAE J1926-1

SIZE			PART NUMBER	THREAD	DIMENSIONS mm				
DN	Inch	Dash			Male coupling	A	B		
12.5	1/2"	08	Q00411301A-08-08	3/4" UNF	47	27			

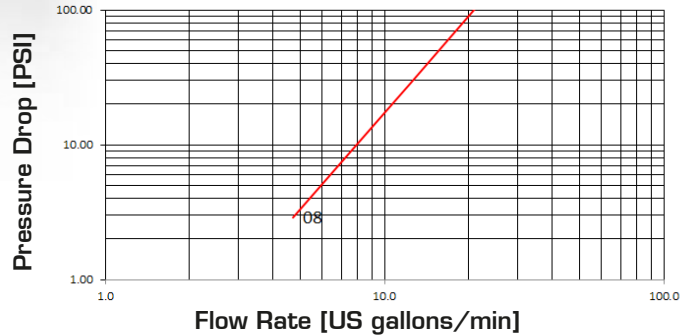
# ISO A BALL VALVES



Pressure Drop



Pressure Drop



Q.SAFE 350

## TECHNICAL DATA

SIZE			WORKING PRESSURE (Dynamic)		RATED FLOW at 0.2 MPa of pressure drop		CONNECTION EFFORT		OIL SPILLAGE Connection/Disconnection		MINIMUM BURST PRESSURE						CONNECTION/DISCONNECTION UNDER PRESSURE
DN	inch	Dash	MPa	PSI	l/min	US GPM	N	lb.	cc.	cubic inch	Male		Female		M & F		
			MPa	PSI	l/min	US GPM	N	lb.	cc.	cubic inch	MPa	PSI	MPa	PSI	MPa	PSI	
12.5	½	08	21	3045	47	12.4	65	144	1.6	0.098	85	12325	100	14500	150	21750	NOT ALLOWED

The rated flow represents the normal operating condition. The maximum recommended flow rate is equal to 1.5 times the rated flow

## PRODUCT DESCRIPTION

- Simple connection and disconnection by pulling back the sleeve
- Positive, quick connection of the male into the female by the latching ball system
- Shut-off by ball valve
- High resistant materials and hardened male and sleeve to withstand the brinelling effect
- Interchangeability according to ISO 7241 series A

### MATERIAL

Female couplings in steel, with some hardened areas, in correspondence to the most stressed points. Male couplings in high grade carbon steel. Springs in C98 steel, seals in NBR (other materials on request) and back-up ring in PTFE

### WORKING TEMPERATURE

-22°F up to +230°F (-30°C up to +110°C)  
For other temperatures, the coupling may be assembled with the specific seals

### SAFETY FACTOR

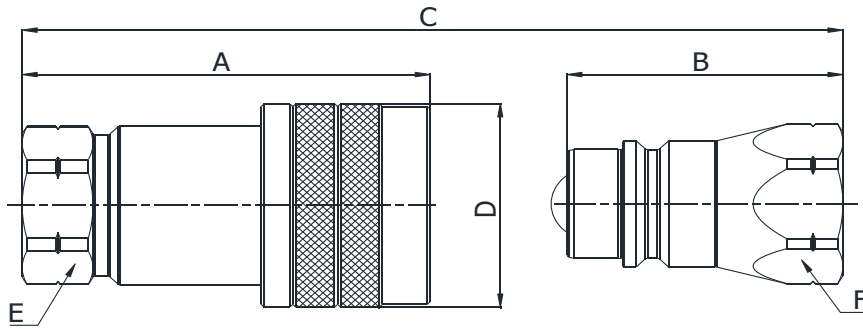
4:1 for dynamic pressures

### IMPULSE PRESSURES

100,000 cycles at 133% of the rated one (freq. 1Hz)

### TEST SPECIFICATIONS

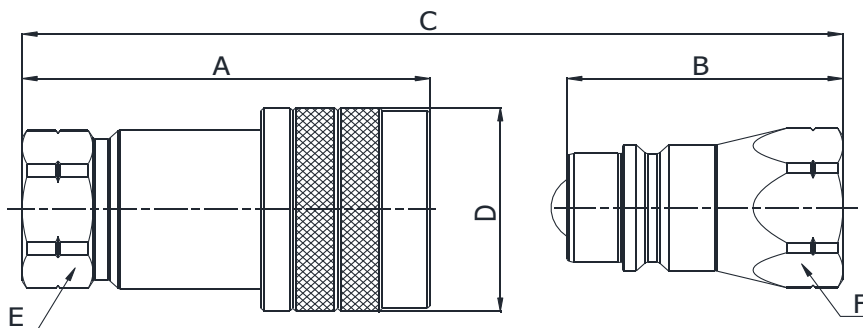
ISO 18869



**Q00911041A**  
**Q00311041A**

BSP TERMINATION ENDS  
TO DIN 3852

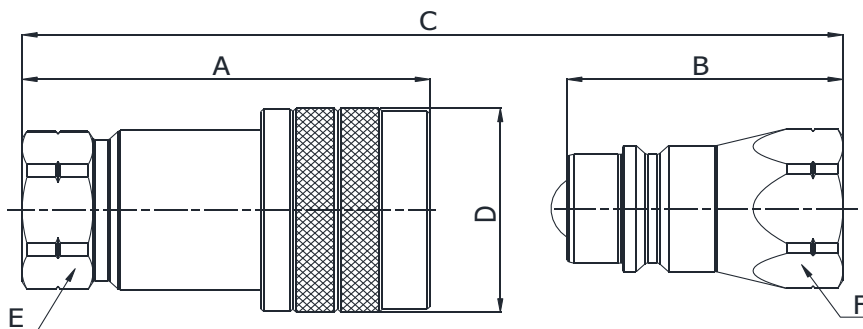
SIZE			PART NUMBER		THREAD	DIMENSIONS mm					
DN	Inch	Dash	Female coupling	Male coupling		A	B	C	D	E	F
12.5	1/2"	-08	Q00911041A-08-08	Q00310041A-08-08	1/2"	68.2	46.2	A+B-21,8	ø38	27	27



**Q00911341A**  
**Q00310341A**

NFTS TERMINATION ENDS  
TO ANSI B 1.20.3

SIZE			PART NUMBER		THREAD	DIMENSIONS mm					
DN	Inch	Dash	Female coupling	Male coupling		A	B	C	D	E	F
12.5	1/2"	-08	Q00911341A-08-08	Q00310341A-08-08	1/2" NPTF	68.2	46.2	A+B-21,8	ø38	27	27



**Q00911301A**  
**Q00310301A**

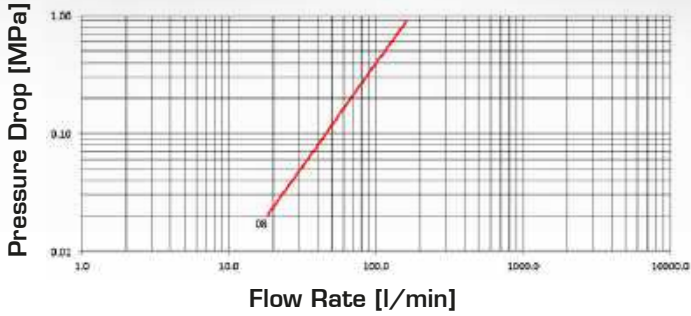
SAE TERMINATION ENDS  
TO SAE J1926-1

SIZE			PART NUMBER		THREAD	DIMENSIONS mm					
DN	Inch	Dash	Female coupling	Male coupling		A	B	C	D	E	F
12.5	1/2"	-08	Q00911301A-08-08	Q00310301A-08-08	3/4"-16 UNF	67	45	A+B-21,8	ø38	27	27

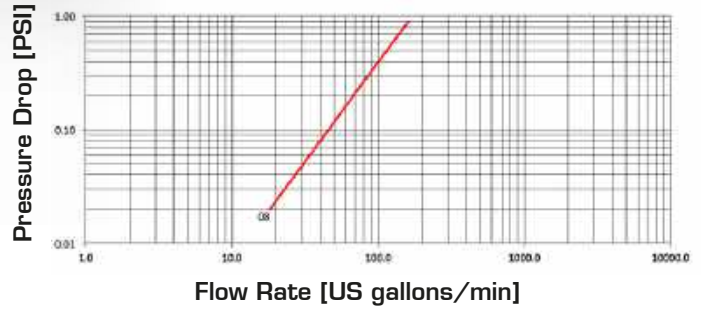


# ISO A CONNECTABLE UNDER PRESSURE

Pressure Drop



Pressure Drop



Q.SAFE 352

## TECHNICAL DATA

SIZE			WORKING PRESSURE (Dynamic)		RATED FLOW at 0.2 MPa of pressure drop		CONNECTION EFFORT		OIL SPILLAGE Connection/Disconnection		MINIMUM BURST PRESSURE						CONNECTION/DISCONNECTION UNDER PRESSURE	
DN	inch	Dash	MPa	PSI	l/min	US GPM	N	lb.	cc.	cubic inch	Male		Female		M & F			
											MPa	PSI	MPa	PSI	MPa	PSI		
12.5	½	08	30	4350	68	18.0	80	178	2	0.122	120	17400	120	17400	160	23200	Only connection	
										With 0 MPa pressure								

The rated flow represents the normal operating condition. The maximum recommended flow rate is equal to 1.5 times the rated flow

## PRODUCT DESCRIPTION

- Connectable under pressure thanks to a frontal micro-valve
- Connection and disconnection is possible by pulling back the sleeve
- Positive, quick connection of the male into the female by the latching ball system
- Shut-off by poppet valve
- High resistant materials
- Connectability at the maximum working pressure
- Interchangeable according to ISO 7241 series A

## MATERIAL

Female couplings in steel, with some hardened areas, in correspondence to the most stressed points. Male couplings in high grade carbon steel. Springs in C98 steel, seals in NBR and polyurethane (other materials on request) and back-up ring in PTFE. PU seal on ½" female available on request.

## WORKING TEMPERATURE

-22°F up to +230°F (-30°C up to +110°C)  
For other temperatures, the coupling may be assembled with the specific seals

## SAFETY FACTOR

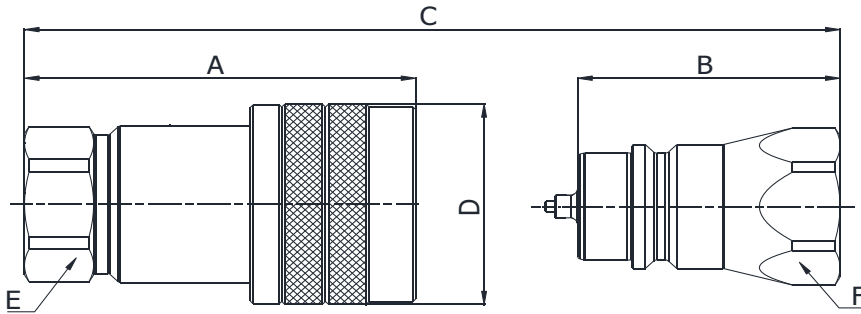
4:1 for dynamic pressures

## IMPULSE PRESSURES

100,000 cycles at 133% of the rated one (freq. 1Hz)

## TEST SPECIFICATIONS

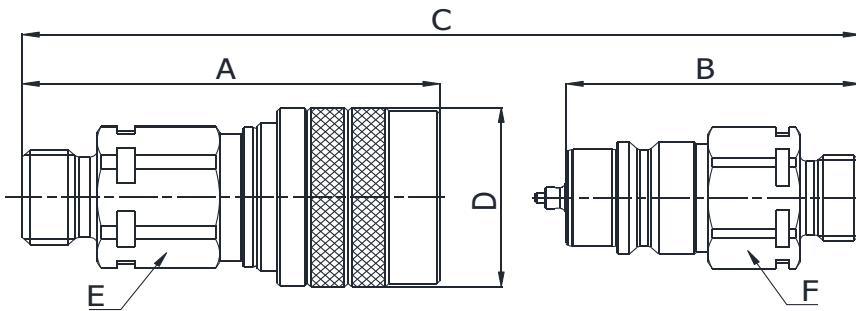
ISO 18869



**Q01011041A**  
**Q00611041A**

BSP TERMINATION ENDS  
TO DIN 3852 X TYPE

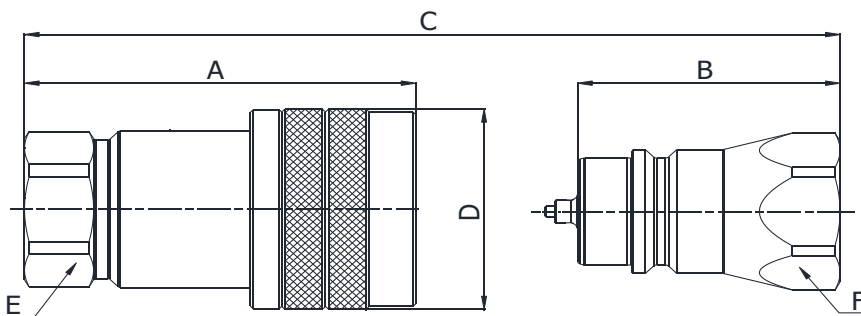
SIZE			PART NUMBER		THREAD	DIMENSIONS mm					
DN	Inch	Dash	Female coupling	Male coupling		A	B	C	D	E	F
12.5	1/2"	-08	Q01011041A-08-08	Q00611041A-08-08	1/2"	67	45	A+B-21,8	ø38	27	27



**Q01011110A**  
**Q00611110A**

METRIC TERMINATION END  
TO ISO 8434-1  
L SERIES

SIZE			PART NUMBER		THREAD	DIMENSIONS mm					
DN	Inch	Dash	Female coupling	Male coupling		A	B	C	D	E	F
12.5	1/2"	-08	Q01011110A-08-18	Q00611110A-08-18	M18x1,5	65.2	54	A+B-21,8	ø38	27	27



**Q01011341A**  
**Q00611341A**

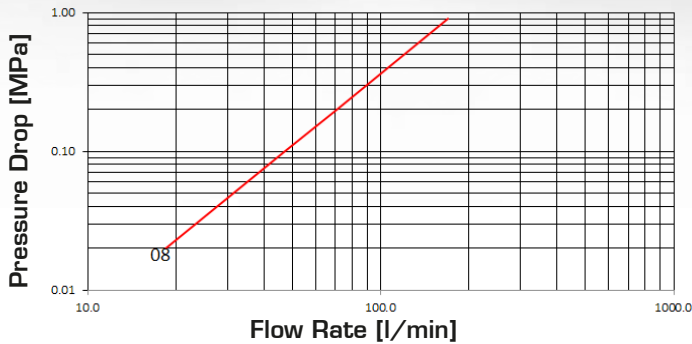
NPTF TERMINATION END  
TO ANSI B 1.20.3

SIZE			PART NUMBER		THREAD	DIMENSIONS mm					
DN	Inch	Dash	Female coupling	Male coupling		A	B	C	D	E	F
12.5	1/2"	-08	Q01011341A-08-08	Q00611341A-08-08	1/2" NPTF	67	45	A+B-21,8	ø38	27	27

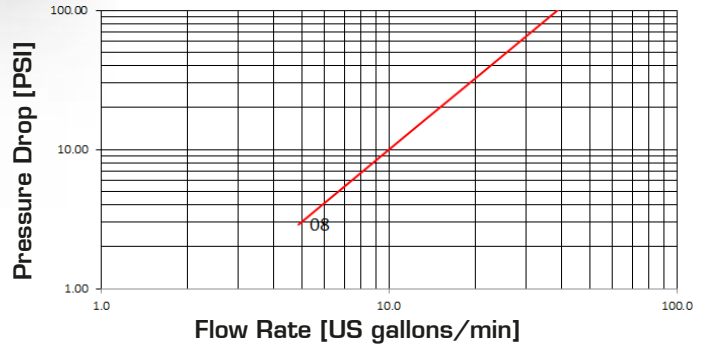
# ISO A MALE CONNECTABLE UNDER PRESSURE



Pressure Drop



Pressure Drop



## TECHNICAL DATA

SIZE			WORKING PRESSURE [Dynamic]		RATED FLOW at 0.2 MPa of pressure drop		CONNECTION EFFORT		OIL SPILLAGE Connection/Disconnection		MINIMUM BURST PRESSURE						CONNECTION/DISCONNECTION UNDER PRESSURE
DN	inch	Dash	MPa	PSI	l/min	US GPM	N	lb.	cc.	cubic inch	Male		Female		M & F		
											MPa	PSI	MPa	PSI	MPa	PSI	
12.5	½	08	30	4350	71	18.8	80	178	2	0.122	-	-	125	18125	125	18125	Connection only, with male under pressure

The rated flow represents the normal operating condition. The maximum recommended flow rate is equal to 1.5 times the rated flow

## PRODUCT DESCRIPTION

- Connectable with male ISO A under pressure
- High working pressure 30MPa
- Simple connection and disconnection by pulling back the sleeve
- No shut-off, Manuli mechanical valve block system
- Installations on hoses, pipe and direct to port
- Wide range of termination ends
- Interchangeability according to ISO 7241 series A

## MATERIAL

Female couplings in steel, with some hardened areas, in correspondence to the most stressed points. Carbonitrided valve, and sleeve, springs in C98 steel, seals in NBR (other materials on request) and back-up ring in PTFE. PU seal on ½" female available on request.

## WORKING TEMPERATURE

-22°F up to +230°F (-30°C up to +110°C)  
For other temperatures, the coupling may be assembled with the specific seals

## SAFETY FACTOR

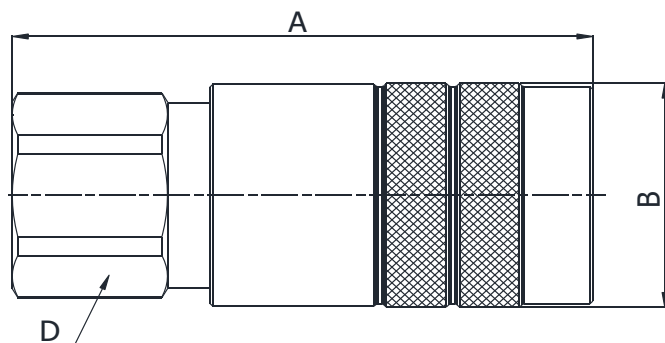
4:1 for dynamic pressures

## IMPULSE PRESSURES

500,000 cycles (connected and disconnected conditions) at 120% of the rated one (freq. 1Hz)

## TEST SPECIFICATIONS

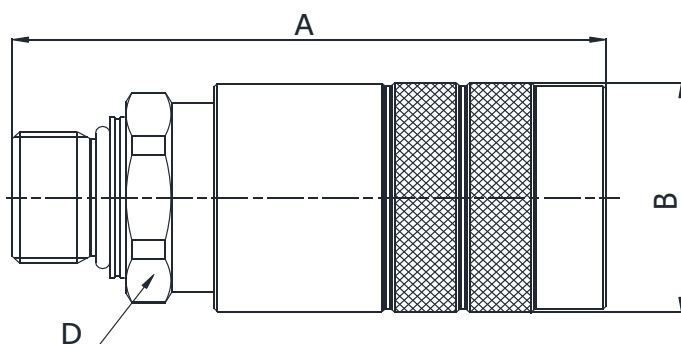
ISO 18869



## Q01111041A

BSP TERMINATION ENDS  
TO DIN 3852 X TYPE

SIZE			PART NUMBER	THREAD	DIMENSIONS mm					
DN	Inch	Dash	Female coupling		A	B	D			
12.5	1/2"	-08	Q01111041A-08-08	1/2"	91.7	ø38,3	32			



## Q01111190A

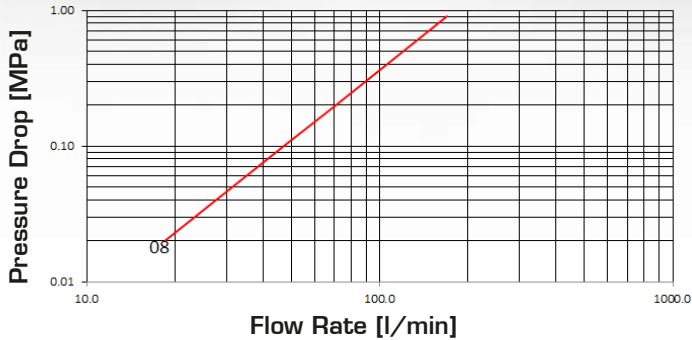
METRIC TERMINATION ENDS  
TO ISO 6149-1

SIZE			PART NUMBER	THREAD	DIMENSIONS mm					
DN	Inch	Dash	Female coupling		A	B	D			
12.5	1/2"	-08	Q01111190A-08-22	M22x1,5	91.2	ø38,3	32			

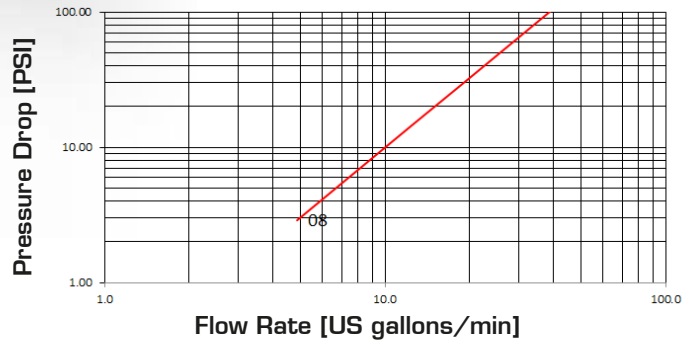


# ISO A BOTH PARTS CONNECTABLE UNDER PRESSURE

Pressure Drop



Pressure Drop



## TECHNICAL DATA

SIZE			WORKING PRESSURE [Dynamic]		RATED FLOW at 0.2 MPa of pressure drop		CONNECTION EFFORT		OIL SPILLAGE Connection/Disconnection		MINIMUM BURST PRESSURE						CONNECTION/DISCONNECTION UNDER PRESSURE
DN	inch	Dash	MPa	PSI	l/min	US GPM	N	lb.	cc.	cubic inch	Male		Female		M & F		
											MPa	PSI	MPa	PSI	MPa	PSI	
12.5	½	08	30	4350	71	18.8	80	178	2	0.122	-	-	125	18125	125	18125	Connection only, with male and female under pressure

The rated flow represents the normal operating condition. The maximum recommended flow rate is equal to 1.5 times the rated flow

## PRODUCT DESCRIPTION

- Connectable with male (ISO A) and female under pressure
- High working pressure 30MPa
- Simple connection and disconnection by pulling back the sleeve
- No shut-off, Manuli mechanical valve block system
- Installations on hoses, pipe and direct to port
- Wide range of termination ends
- Interchangeable according to ISO 7241 series A

## MATERIAL

Female couplings in steel, with some hardened areas, in correspondence to the most stressed points. Carbonitrided valves and sleeve, springs in C98 steel, seals in NBR and polyurethane (other materials on request) and back-up ring in PTFE. PU seal on ½" female available on request.

## WORKING TEMPERATURE

-22°F up to +230°F (-30°C up to +110°C)  
For other temperatures, the coupling may be assembled with the specific seals

## SAFETY FACTOR

4:1 for dynamic pressures

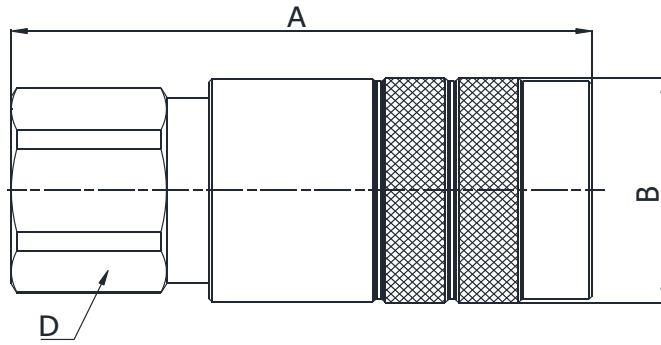
## IMPULSE PRESSURES

500,000 cycles (connected and disconnected conditions) at 120% of the rated one (freq. 1Hz)

## TEST SPECIFICATIONS

ISO 18869

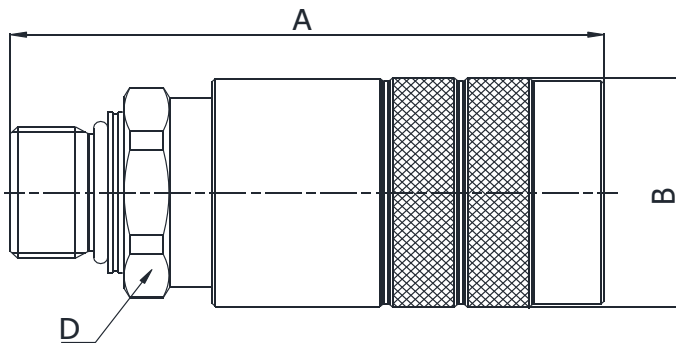




## Q01211041A

BSP TERMINATION ENDS  
TO DIN3852

SIZE			PART NUMBER	THREAD	DIMENSIONS mm					
DN	Inch	Dash	Female coupling		A	B	D			
12.5	1/2"	-08	Q01211041A-08-08	1/2"	93.6	ø38,3	32			



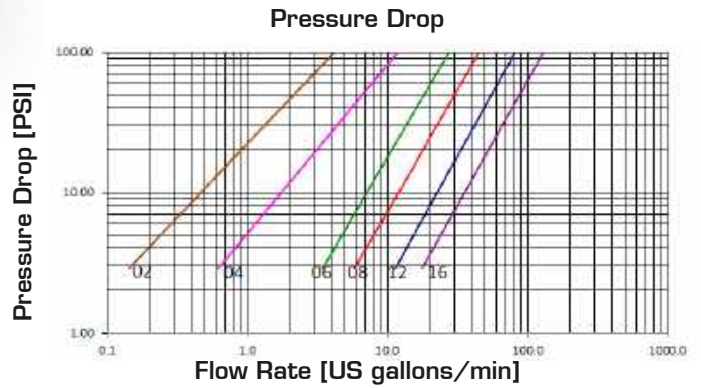
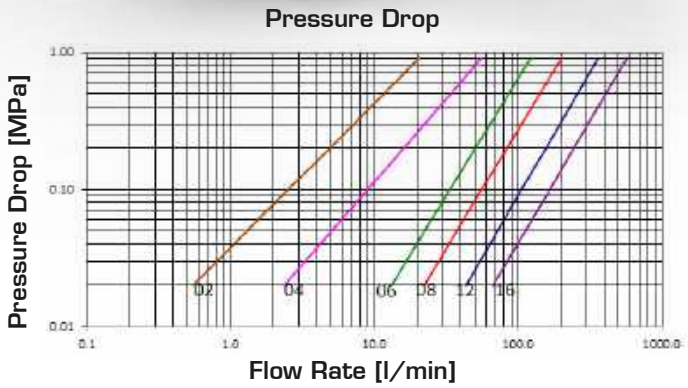
## Q01211190A

METRIC TERMINATION ENDS  
TO ISO 6149-2

SIZE			PART NUMBER	THREAD	DIMENSIONS mm					
DN	Inch	Dash	Female coupling		A	B	D			
12.5	1/2"	-08	Q01211190A-08-22	M22x1,5	93.1	ø38,3	32			



# ISO B POPPET VALVES



## TECHNICAL DATA

SIZE			WORKING PRESSURE (Dynamic)		RATED FLOW at 0.2 MPa of pressure drop		CONNECTION EFFORT		OIL SPILLAGE Connection/Disconnection		MINIMUM BURST PRESSURE				CONNECTION/DISCONNECTION UNDER PRESSURE		
DN	inch	Dash	MPa	PSI	l/min	US GPM	N	lb.	cc.	cubic inch	Male		Female		M & F		
			MPa	PSI			N	lb.	cc.	cubic inch	MPa	PSI	MPa	PSI	MPa	PSI	
5	1/8	02	50	7250	5	1.3	40	9.0	0.5	0.031	210	30450	270	39150	220	31900	Not allowed
6.3	1/4	04	40	5800	16	4.3	40	9.0	0.8	0.049	180	26100	190	27550	165	23925	Not allowed
10	3/8	06	35	5075	51	13.5	40	9.0	1.5	0.092	145	21025	160	23200	160	23200	Not allowed
12.5	1/2	08	35	5075	84	22.0	70	15.7	2.5	0.153	145	21025	145	21025	160	23200	Not allowed
20	3/4	12	25	3625	156	41.5	90	20.2	8.5	0.519	100	14500	100	14500	125	18125	Not allowed
25	1	16	25	3625	246	65.0	90	20.2	15.0	0.915	100	14500	100	14500	120	17400	Not allowed

The rated flow represents the normal operating condition. The maximum recommended flow rate is equal to 1.5 times the rated flow

## PRODUCT DESCRIPTION

- Reference series for all industrial applications
- Simple connection and disconnection by pulling back the sleeve
- Positive, quick connection of the male into the female by latching the ball system
- Shut-off by poppet valve
- High resistant materials
- Interchangeable according to ISO 7241 series B

## MATERIAL

Female couplings in steel, with some hardened areas, in correspondence to the most stressed points. Male couplings in high grade carbon steel hardened. Springs in C98 steel, seals in NBR (other materials on request) and back-up ring in PTFE

## WORKING TEMPERATURE

-22°F up to +230°F (-30°C up to +110°C)  
For other temperatures, the coupling may be assembled with the specific seals

## SAFETY FACTOR

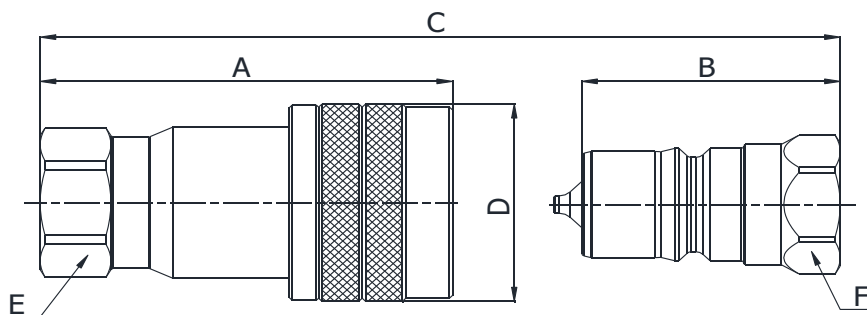
4:1 for dynamic pressures

## IMPULSE PRESSURES

100,000 cycles at 133% of the rated one (freq. 1Hz)

## TEST SPECIFICATIONS

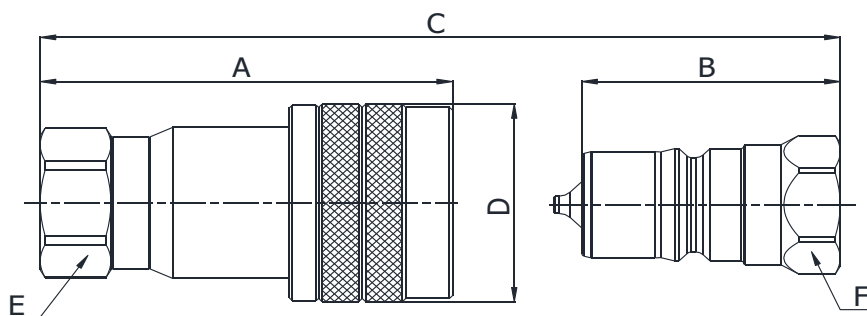
ISO 18869



**Q02411041A**  
**Q02111041A**

BSP TERMINATION ENDS  
TO DIN 3852 X TYPE

SIZE			PART NUMBER		THREAD	DIMENSIONS mm					
DN	Inch	Dash	Female coupling	Male coupling		A	B	C	D	E	F
5	1/8"	-02	Q02411041A-02-02	Q02111041A-02-02	1/8"	48.5	30	A+B-18,7	ø22	15	14
6.3	1/4"	-04	Q02411041A-04-04	Q02111041A-04-04	1/4"	58.8	37.2	A+B-21,2	ø28	19	19
10	3/8"	-06	Q02411041A-06-06	Q02111041A-06-06	3/8"	66.2	41.5	A+B-24,4	ø35	24	22
12.5	1/2"	-08	Q02411041A-08-08	Q02111041A-08-08	1/2"	74	46.5	A+B-27,2	ø42	30	27
20	3/4"	-12	Q02411041A-12-12	Q02111041A-12-12	3/4"	91	56.5	A+B-34,2	ø52	36	36
25	1"	-16	Q02411041A-16-16	Q02111041A-16-16	1"	104	64.5	A+B-39,2	ø60	41	41



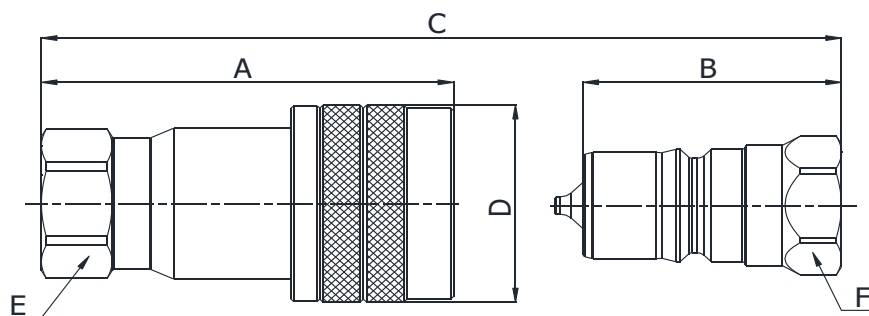
**Q02411341A**  
**Q02111341A**

NPTF TERMINATION END  
TO ANSI B 1.20.3

SIZE			PART NUMBER		THREAD	DIMENSIONS mm					
DN	Inch	Dash	Female coupling	Male coupling		A	B	C	D	E	F
5	1/8"	-02	Q02411341A-02-02	Q02111341A-02-02	1/8" NPTF	48.5	30	A+B-18,7	ø22	15	14
6.3	1/4"	-04	Q02411341A-04-04	Q02111341A-04-04	1/4" NPTF	58.8	37.2	A+B-21,2	ø28	19	19
10	3/8"	-06	Q02411341A-06-06	Q02111341A-06-06	3/8" NPTF	66.2	41.5	A+B-24,4	ø35	24	22
12.5	1/2"	-08	Q02411341A-08-08	Q02111341A-08-08	1/2" NPTF	74	46.5	A+B-27,2	ø42	30	27
20	3/4"	-12	Q02411341A-12-12	Q02111341A-12-12	3/4" NPTF	91	56.5	A+B-34,2	ø52	36	36
25	1"	-16	Q02411341A-16-16	Q02111341A-16-16	1" NPTF	104	64.5	A+B-39,2	ø60	41	41

**Q02411301A**  
**Q02111301A**

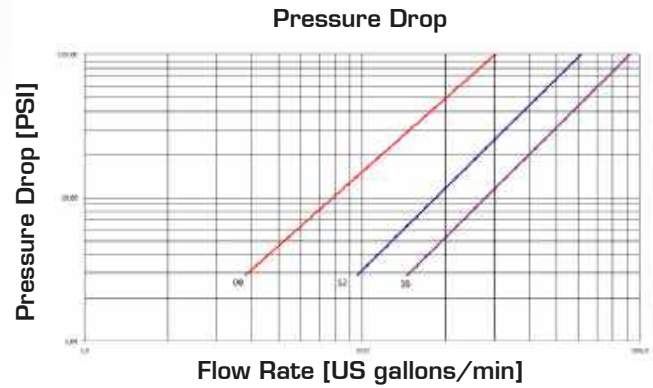
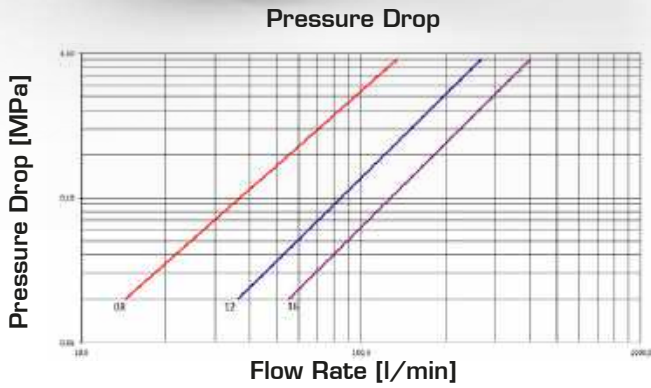
SAE TERMINATION ENDS  
TO SAE J1926-1



SIZE			PART NUMBER		THREAD	DIMENSIONS mm					
DN	Inch	Dash	Female coupling	Male coupling		A	B	C	D	E	F
6.3	1/4"	-04	Q02411301A-04-06	Q02111301A-04-06	9/16"-18UNF	62.2	40.6	A+B-21,2	ø28	19	19
10	3/8"	-06	Q02411301A-06-08	Q02111301A-06-08	3/4"-16 UNF	68.2	46	A+B-24,4	ø35	24	24
12.5	1/2"	-08	Q02411301A-08-08	Q02111301A-08-08	3/4"-16 UNF	74	46.5	A+B-27,2	ø42	30	27
20	3/4"	-12	Q02411301A-12-12	Q02111301A-12-12	1"1/16-12 UN	94	59.5	A+B-34,2	ø52	36	34
25	1"	-16	Q02411301A-16-16	Q02111301A-16-16	1"5/16-12 UN	104	64.5	A+B-39,2	ø60	41	41



# ISO B FOR DRILLING BOP UNITS



## TECHNICAL DATA

SIZE			WORKING PRESSURE [Connected]		WORKING PRESSURE [Disconnected]		RATED FLOW at 0.2 MPa of pressure drop		CONNECTION EFFORT		OIL SPILLAGE Connection/ Disconnection		MINIMUM BURST PRESSURE						CONNECTION/ DISCONNECTION UNDER PRESSURE
DN	inch	Dash	MPa	PSI	MPa	PSI	l/min	US GPM	N	lb.	cc.	cubic inch	Male		Female		M & F		
			MPa	PSI	MPa	PSI							MPa	PSI	MPa	PSI	MPa	PSI	
12.5	½	08	42	6090	35	5075	55	14.6	70	156	2.5	0.153	140	20300	140	20300	180	26100	Not allowed
20	¾	12	35	5075	25	3625	122	32.1	90	200	8.5	0.519	100	14500	100	14500	150	21750	Not allowed
25	1	16	35	5075	25	3625	183	48.3	90	200	15	0.916	100	14500	100	14500	140	20300	Not allowed

The rated flow represents the normal operating condition. The maximum recommended flow rate is equal to 1.5 times the rated flow

### PRODUCT DESCRIPTION

- MQS-B BOP VERSION is designed for BOP (Blow-out preventer) service in Oil & Gas Industry
- Simple connection & disconnection by pulling back the sleeve
- Safety system on the female part to avoid accidental disconnection
- Positive quick connection of the male into the female by latching ball system
- Poppet valve sealing system that guarantee high sealing performance at low & high pressure
- ECOAT zinc plating with improved corrosion protection and environmentally friendly process
- Female & Male Coupling with red identification for an easy visual verification
- ISO 7241 series B interchangeable
- API 16D approval.

### MATERIAL

Female & male couplings in high grade carbon steel with hardened areas in correspondence to the most stressed points. Seal in Viton with back-up in PTFE.

### WORKING TEMPERATURE

-25°C to +200°C

### SAFETY FACTOR

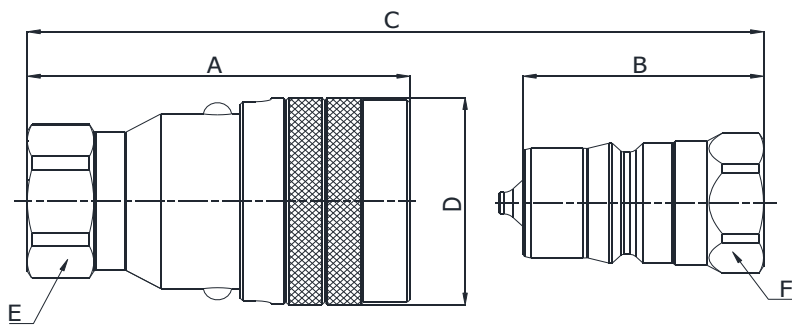
4:1 in CONNECTED & DISCONNECTED conditions

### IMPULSE PRESSURES

100,000 cycles at 133% of the rated one (freq. 1Hz)

### TEST SPECIFICATIONS

ISO 18869 , Flame resistance test to API 16D

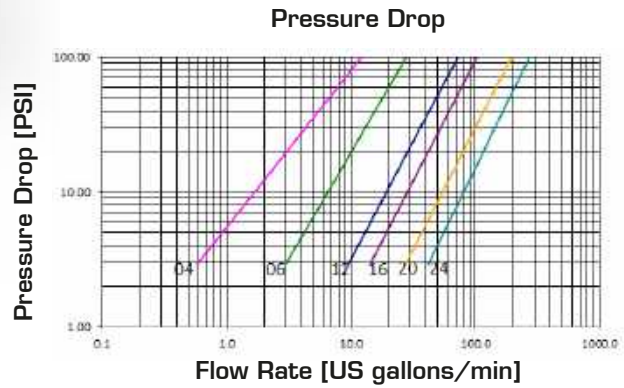
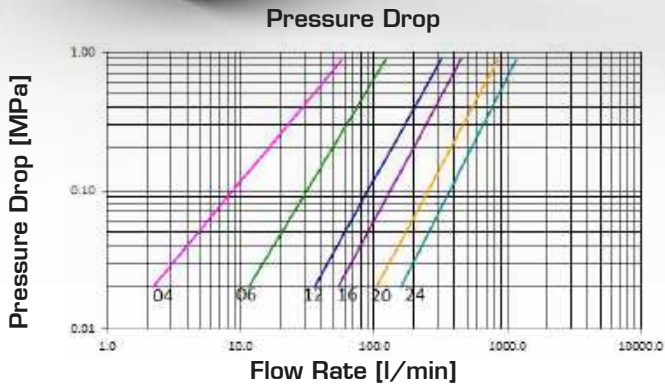


**Q02613341F**  
**Q02113341F**

NPTF TERMINATION ENDS  
 TO ANSI B1.20.3

SIZE			PART NUMBER		THREAD	DIMENSIONS mm					
DN	Inch	Dash	Female coupling	Male coupling		A	B	C	D	E	F
12.5	1/2"	-08	Q02613341F-08-08	Q02113341F-08-08	1/2" NPTF	74	46.5	A+B-27,2	ø44	30	27
20	3/4"	-12	Q02613341F-12-12	Q02113341F-12-12	3/4" NPTF	91	56.5	A+B-34,2	ø54	36	34
25	1"	-16	Q02613341F-16-16	Q02113341F-16-16	1" NPTF	104	64.5	A+B-39,2	ø64	46	41

# STANDARD POPPET VALVES



## TECHNICAL DATA

SIZE			MPa		RATED FLOW at 0.2 MPa of pressure drop		N		OIL SPILLAGE Connection/ Disconnection		MINIMUM BURST PRESSURE						CONNECTION/ DISCONNECTION UNDER PRESSURE
DN	inch	Dash	MPa	PSI	l/min	US GPM	N	lb.	cc.	cubic inch	Male		Female		M & F		
											MPa	PSI	MPa	PSI	MPa	PSI	
6.3	1/4	04	35	5075	16	4.2	40	89	0.8	0.049	190	27550	190	27550	140	20300	Not allowed
10	3/8	06	35	5075	49	12.9	65	144	1.3	0.079	150	21750	160	23200	160	23200	Not allowed
12.5	1/2	08	See ISO A Series														
20	3/4	12	25	3625	135	35.7	80	178	7	0.427	110	15950	100	14500	120	17400	Not allowed
25	1	16	25	3625	196	51.8	90	200	11	0.672	100	14500	110	15950	120	17400	Not allowed
31.5	1 1/4	20	22	3190	376	99.3	105	233	15	0.916	90	13050	90	13050	100	14500	Not allowed
40	1 1/2	24	21	3045	536	141.6	115	256	24	1.465	85	12325	90	13050	100	14500	Not allowed

The rated flow represents the normal operating condition. The maximum recommended flow rate is equal to 1.5 times the rated flow

## PRODUCT DESCRIPTION

- Historical series for the agriculture market
- Simple connection and disconnection by pulling back the sleeve
- Positive, quick connection of the male into the female by latching the ball system
- Shut-off by poppet valve
- High resistant materials
- Interchangeable with similar products available on the market (1/2" size according to ISO 7241-1 series A)

## MATERIAL

Female couplings in steel, with some hardened areas, in correspondence to the most stressed points. Male couplings in high grade carbon steel hardened. Springs in C98 steel, seals in NBR (other materials on request) and back-up ring in PTFE

## WORKING TEMPERATURE

-22°F up to +230°F (-30°C up to +110°C)  
For other temperatures, the coupling may be assembled with the specific seals

## SAFETY FACTOR

4:1 for dynamic pressures

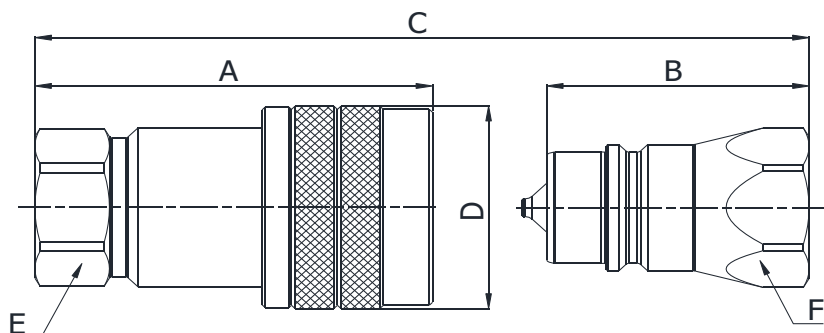
## IMPULSE PRESSURES

100,000 cycles at 133% of the rated one (freq. 1Hz)

## TEST SPECIFICATIONS

ISO 18869

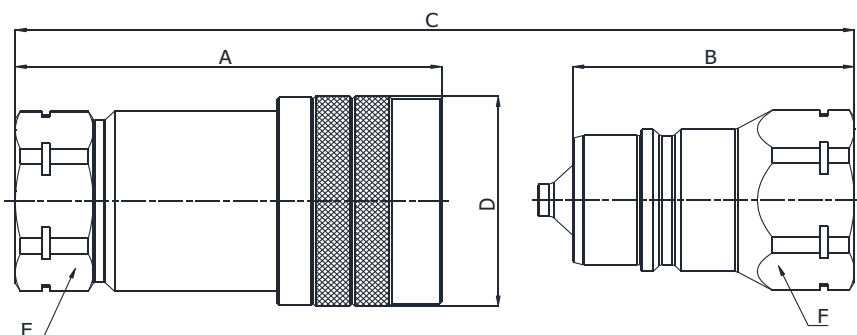




**Q03211041A**  
**Q02911041A**

BSP TERMINATION ENDS  
TO DIN 3852 X TYPE

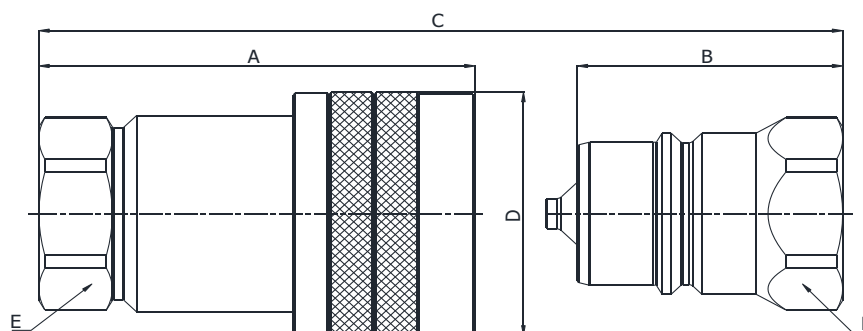
SIZE			PART NUMBER		THREAD	DIMENSIONS mm						
DN	Inch	Dash	Female coupling	Male coupling		A	B	C	D	E	F	
6.3	1/4"	-04	Q03211041A-04-04	Q02911041A-04-04	1/4"	53.5	36.5	A+B-16,6	ø27	19	19	
10	3/8"	-06	Q03211041A-06-06	Q02911041A-06-06	3/8"	60.5	40	A+B-20,1	ø34	24	24	
12.5	1/2"	-08	SEE ISO SERIES A									
20	3/4"	-12	Q03211041A-12-12	Q02911041A-12-12	3/4"	85.5	56.5	A+B-28,3	ø47	34	34	
25	1"	-16	Q03211041A-16-16	Q02911041A-16-16	1"	98	64.5	A+B-32,9	ø52	41	41	
31.5	1.1/4"	-20	Q03211041A-20-20	Q02911041A-20-20	1.1/4"	119.5	78	A+B-41,5	ø68	50	50	
40	1.1/2"	-24	Q03211041A-24-24	Q02911041A-24-24	1.2/2"	132	88	A+B-44,2	ø80	60	60	



**Q03211041B**  
**Q02911041B**

BSP TERMINATION ENDS  
TO DIN 3852 X TYPE

SIZE			PART NUMBER		THREAD	DIMENSIONS mm					
DN	Inch	Dash	Female coupling	Male coupling		A	B	C	D	E	F
20	3/4"	-12	Q03211041B-12-12	Q02911041B-12-12	3/4"	88	56.5	A+B-31	ø47	34	34
25	1"	-16	Q03211041B-16-16	Q02911041B-16-16	1"	98	64.5	A+B-32,9	ø52	41	41

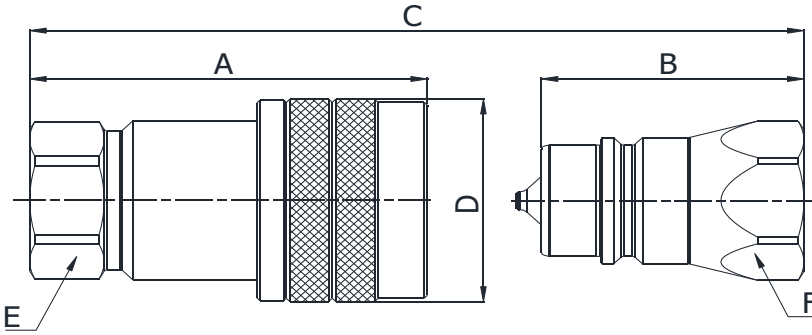


**Q03211041C**  
**Q02911041C**

BSP TERMINATION ENDS  
TO DIN 3852 X TYPE

SIZE			PART NUMBER		THREAD	DIMENSIONS mm					
DN	Inch	Dash	Female coupling	Male coupling		A	B	C	D	E	F
25	1"	-16	Q03211041C-16-16	Q02911041C-16-16	1"	106	64.5	A+B-40,9	ø64,3	46	46

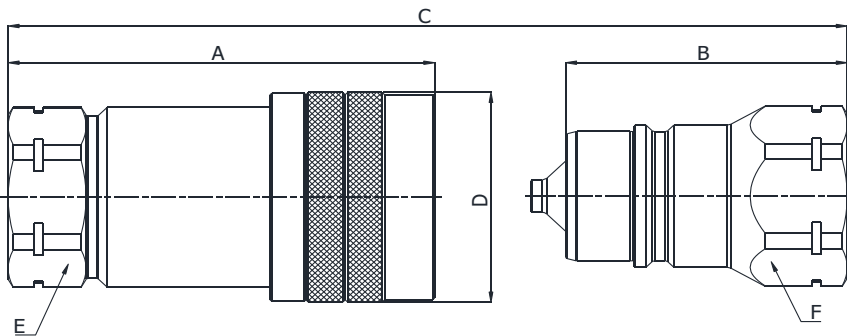




**Q03211341A**  
**Q02911341A**

NPTF TERMINATION END  
TO ANSI B 1.20.3

SIZE			PART NUMBER		THREAD	DIMENSIONS mm						
DN	Inch	Dash	Female coupling	Male coupling		A	B	C	D	E	F	
6.3	1/4"	-04	Q03211341A-04-04	Q02911341A-04-04	1/4" NPTF	53.5	36.5	A+B-16,6	ø27	19	19	
10	3/8"	-06	Q03211341A-06-06	Q02911341A-06-06	3/8" NPTF	60.5	40	A+B-20,1	ø34	24	24	
12.5	1/2"	-08	SEE ISO SERIES A									
20	3/4"	-12	Q03211341A-12-12	Q02911341A-12-12	3/4" NPTF	85.5	56.5	A+B-28,3	ø47	34	34	
25	1"	-16	Q03211341A-16-16	Q02911341A-16-16	1" NPTF	98	64.5	A+B-32,9	ø52	41	41	
31.5	1.1/4"	-20	Q03211341A-20-20	Q02911341A-20-20	1.1/4"	119.5	78	A+B-41,5	ø68	50	50	
40	1.1/2"	-24	Q03211341A-24-24	Q02911341A-24-24	1.2/2"	132	88	A+B-44,2	ø80	60	60	

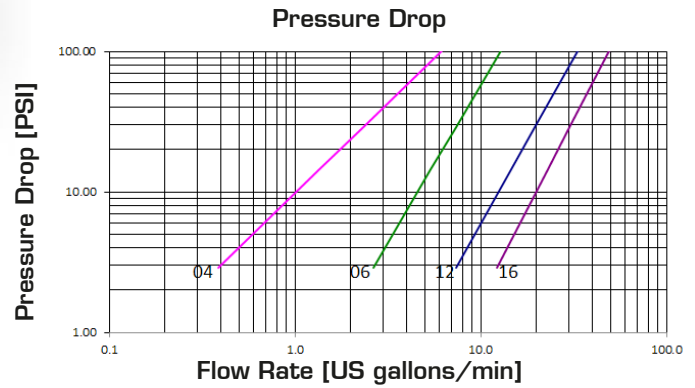
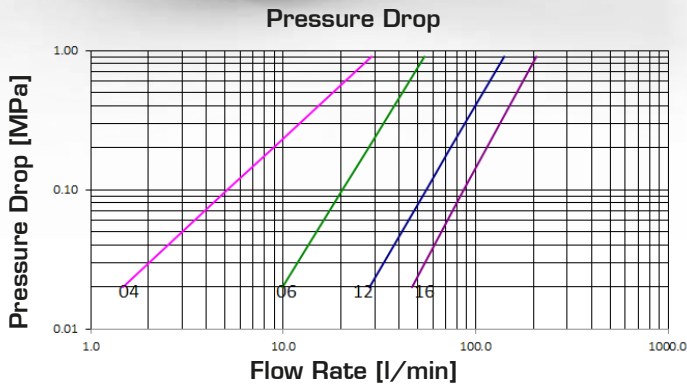


**Q03211341B**  
**Q02911341B**

NPTF TERMINATION END  
TO ANSI B 1.20.3

SIZE			PART NUMBER		THREAD	DIMENSIONS mm					
DN	Inch	Dash	Female coupling	Male coupling		A	B	C	D	E	F
20	3/4"	-12	Q03211341B-12-12	Q02911341B-12-12	3/4" NPTF	88	56.5	A+B-31	ø47	34	34
25	1"	-16	Q03211341B-16-16	Q02911341B-16-16	1" NPTF	98	64.5	A+B-32,9	ø52	41	41

# STANDARD BALL VALVES



Q.SAFE 366

## TECHNICAL DATA

SIZE			WORKING PRESSURE (Dynamic)		RATED FLOW at 0.2 MPa of pressure drop		CONNECTION EFFORT		OIL SPILLAGE Connection/Disconnection		MINIMUM BURST PRESSURE						CONNECTION/DISCONNECTION UNDER PRESSURE
DN	inch	Dash	MPa	PSI	l/min	US GPM	N	lb.	cc.	cubic inch	Male		Female		M & F		
											MPa	PSI	MPa	PSI	MPa	PSI	
6.3	1/4	04	30	4350	9	2.4	40	89	0.35	0.021	140	20300	125	18125	150	21750	Not allowed
10	3/8	06	25	3625	28	7.4	65	144	0.85	0.052	115	16675	120	17400	160	23200	Not allowed
12.5	1/2	08	See ISO A Series sealed ball														
20	3/4	12	25	3625	74	19.6	75	167	3.5	0.214	100	14500	110	15950	125	18125	Not allowed
25	1	16	21	3045	114	30.1	100	222	5	0.305	85	12325	100	14500	110	15950	Not allowed

The rated flow represents the normal operating condition. The maximum recommended flow rate is equal to 1.5 times the rated flow

## PRODUCT DESCRIPTION

- Historical series for the agriculture market
- Simple connection and disconnection by pulling back the sleeve
- Positive, quick connection of the male into the female by latching the ball system
- Shut-off by ball valve
- High resistant materials
- Interchangeable with poppet valve standard series and with similar products available on the market (1/2" size according to ISO 7241-1 series A)

## MATERIAL

Female couplings in steel, with some hardened areas, in correspondence to the most stressed points. Male couplings in high grade carbon steel hardened. High-resistance latching balls, springs in C98 steel, seals in NBR and back-up ring in PTFE

## WORKING TEMPERATURE

-22°F up to +230°F (-30°C up to +110°C)  
For other temperatures, the coupling may be assembled with the specific seals

## SAFETY FACTOR

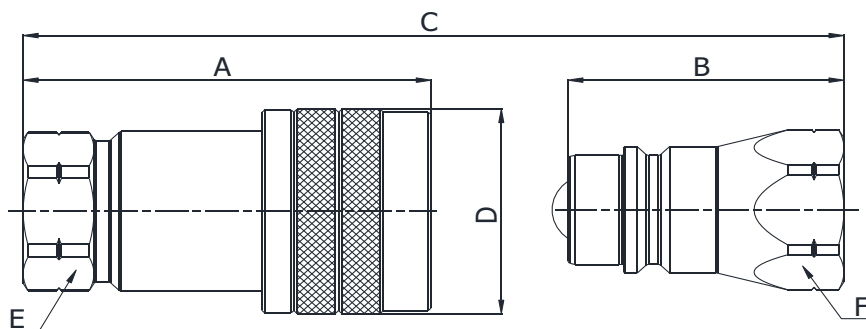
4:1 for dynamic pressures

## IMPULSE PRESSURES

100,000 cycles at 133% of the rated one (freq. 1Hz)

## TEST SPECIFICATIONS

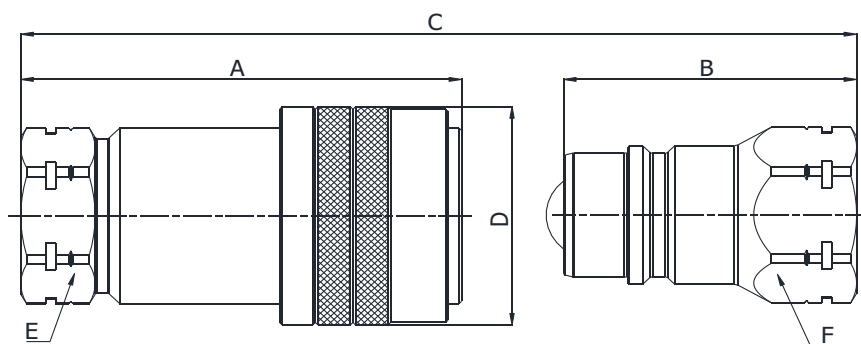
ISO 18869



**Q03311041A**  
**Q03011041A**

BSP TERMINATION ENDS  
TO DIN 3852 X TYPE

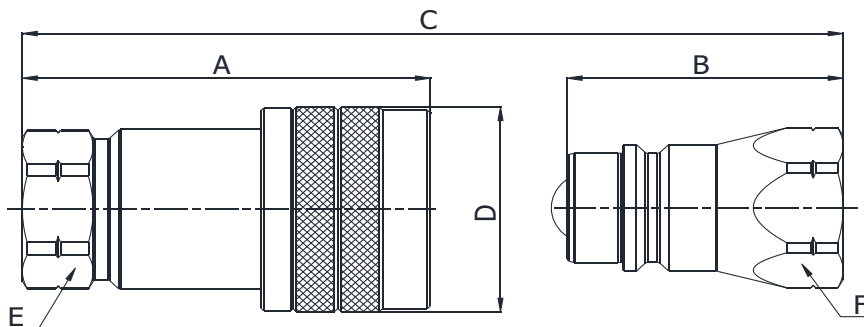
SIZE			PART NUMBER		THREAD	DIMENSIONS mm						
DN	Inch	Dash	Female coupling	Male coupling		A	B	C	D	E	F	
6.3	1/4"	-04	Q03311041A-04-04	Q03010041A-04-04	1/4"	51.3	34.3	A+B-16,6	ø27	19	19	
10	3/8"	-06	Q03311041A-06-06	Q03010041A-06-06	3/8"	59.9	39.4	A+B-20,1	ø34	24	24	
12.5	1/2"	-08	SEE ISO SERIES A									
20	3/4"	-12	Q03311041A-12-12	Q03010041A-12-12	3/4"	85.5	56.5	A+B-28,3	ø47	34	34	
25	1"	-16	Q03311041A-16-16	Q03010041A-16-16	1"	98	64.5	A+B-32,9	ø52	41	41	



**Q03311041B**  
**Q03011041B**

BSP TERMINATION ENDS  
TO DIN 3852 X TYPE

SIZE			PART NUMBER		THREAD	DIMENSIONS mm					
DN	Inch	Dash	Female coupling	Male coupling		A	B	C	D	E	F
20	3/4"	-12	Q03311041B-12-12	Q03010041B-12-12	3/4"	88	58.5	A+B-31,5	ø47	34	34

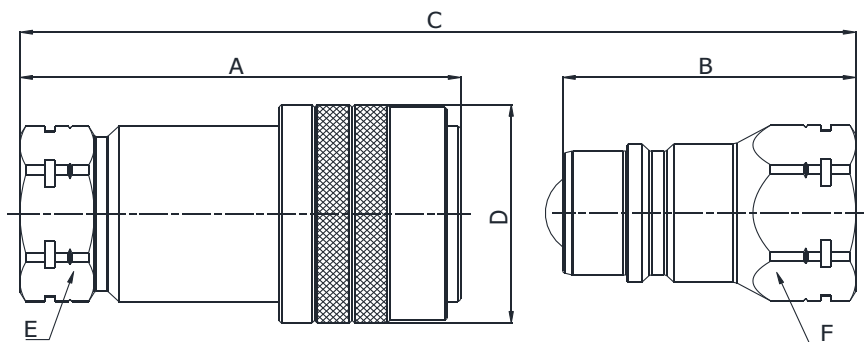


**Q03311341A**  
**Q03011341A**

NPTF TERMINATION END  
TO ANSI B 1.20.3

SIZE			PART NUMBER		THREAD	DIMENSIONS mm						
DN	Inch	Dash	Female coupling	Male coupling		A	B	C	D	E	F	
6.3	1/4"	-04	Q03311341A-04-04	Q03010341A-04-04	1/4" NPTF	51.3	34.3	A+B-16,6	ø27	19	19	
10	3/8"	-06	Q03311341A-06-06	Q03010341A-06-06	3/8" NPTF	59.9	39.4	A+B-20,1	ø34	24	24	
12.5	1/2"	-08	SEE ISO SERIES A									
20	3/4"	-12	Q03311341A-12-12	Q03010341A-12-12	3/4" NPTF	85.5	56.5	A+B-28,3	ø47	34	34	
25	1"	-16	Q03311341A-16-16	Q03010341A-16-16	1" NPTF	98	64.5	A+B-32,9	ø52	41	41	

Q.SAFE 368



**Q03311341B**  
**Q03011341B**

NPTF TERMINATION END  
TO ANSI B 1.20.3

SIZE			PART NUMBER		THREAD	DIMENSIONS mm					
DN	Inch	Dash	Female coupling	Male coupling		A	B	C	D	E	F
6.3	1/4"	-04	Q03311341B-12-12	Q03010341B-12-12	3/4" NPTF	88	58.5	A+B-31,5	ø47	34	34



# STANDARD FREE-FLOW

## TECHNICAL DATA

SIZE			WORKING PRESSURE (Dynamic)		MINIMUM BURST PRESSURE		CONNECTION / DISCONNECTION UNDER PRESSURE
DN	inch	Dash	MPa	PSI	M & F		
					MPa	PSI	
6.3	1/4	04	35	5075	160	23200	Not allowed
10	3/8	06	35	5075	145	21025	Not allowed
12.5	1/2	08	35	5075	145	21025	Not allowed

## PRODUCT DESCRIPTION

- MQS-NL is Compact Free-Flow quick release couplings
- Simple connection & disconnection by pulling back the sleeve
- Positive quick connection of the male into the female by latching ball system
- ECOAT zinc plating with improved corrosion protection and environmentally friendly process

### MATERIAL

Female & male couplings in high grade carbon steel with hardened areas in correspondence to the most stressed points. Seal in NBR with back-up in PTFE.

### WORKING TEMPERATURE

-30°C to +110°C

### SAFETY FACTOR

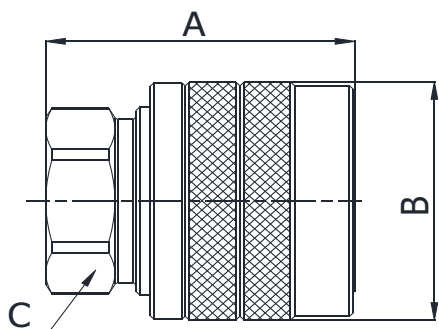
4:1 in CONNECTED & DISCONNECTED conditions

### IMPULSE PRESSURES

100,000 cycles at 133% of the rated one (freq. 1Hz)

### TEST SPECIFICATIONS

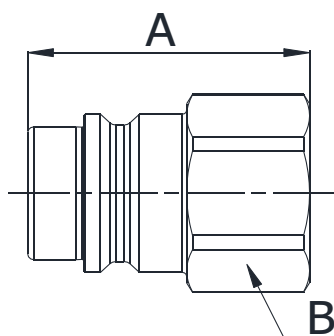
ISO 18869



## Q03811041A

BSP TERMINATION ENDS  
TO DIN 3852 X TYPE

SIZE			PART NUMBER	THREAD	DIMENSIONS mm					
DN	Inch	Dash	Female coupling		A	B	C			
6.3	1/4"	-04	Q03811041A-04-04	1/4"	33.2	27.5	19			
10	3/8"	-06	Q03811041A-06-06	3/8"	39.5	34.3	24			
12.5	1/2"	-08	Q03811041A-08-08	1/2"	44	38.3	27			

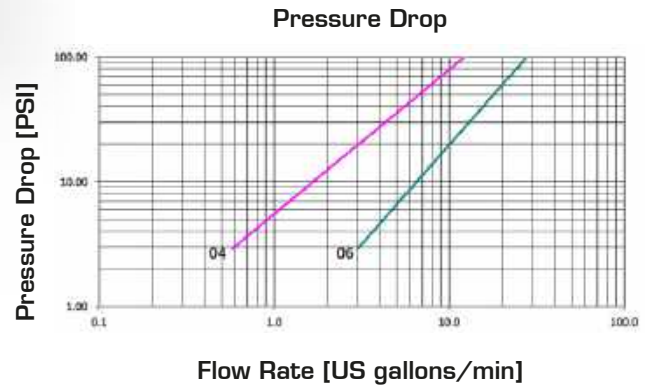
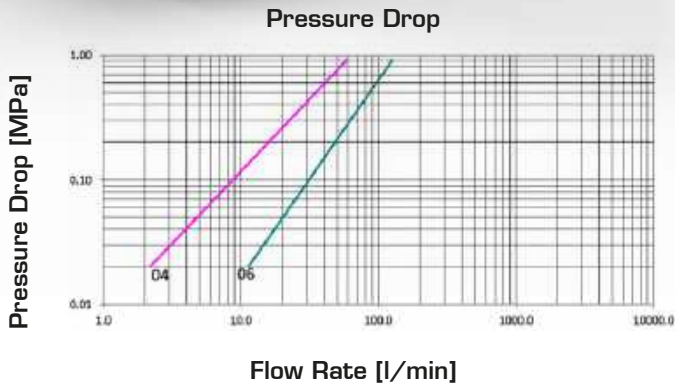


## Q03711041A

BSP TERMINATION ENDS  
TO DIN 3852 X TYPE

SIZE			PART NUMBER	THREAD	DIMENSIONS mm					
DN	Inch	Dash	Male coupling		A	B				
6.3	1/4"	-04	Q03710041A-04-04	1/4"	27.5	19				
10	3/8"	-06	Q03710041A-06-06	3/8"	29	24				
12.5	1/2"	-08	Q03710041A-08-08	1/2"	34	27				

# STANDARD PUSH-PULL



## TECHNICAL DATA

SIZE		WORKING PRESSURE [Dynamic]		RATED FLOW at 0.2 MPa of pressure drop		CONNECTION EFFORT		OIL SPILLAGE Connection/ Disconnection		MINIMUM BURST PRESSURE				CONNECTION/ DISCONNECTION UNDER PRESSURE	
DN	inch	Dash	MPa	PSI	l/min	US GPM	N	lb.	cc.	cubic inch	Male		M & F		
											MPa	PSI	MPa	PSI	
6.3	1/4	04	35	5075	16	4.2	65	144	0.8	0.049	230	33350	140	20300	Not allowed
10	3/8	06	35	5075	49	12.9	100	222	1.3	0.079	170	24650	150	21750	Not allowed
12.5	1/2	08	See ISO A Series												

The rated flow represents the normal operating condition. The maximum recommended flow rate is equal to 1.5 times the rated flow

### PRODUCT DESCRIPTION

- Female couplings designed for Agriculture applications, interchangeable with male part MQS-N
- Push-Pull connection/disconnection
- Break-away function according to ISO 5675 (in case of bulkhead mounting on the external sleeve)
- Positive connection by latching ball system
- Shut-off by poppet valve

### MATERIAL

Female & male couplings in high grade carbon steel with hardened areas in correspondence to the most stressed points. Seal in NBR with back-up in PTFE.

### WORKING TEMPERATURE

-30°C to +110°C

### SAFETY FACTOR

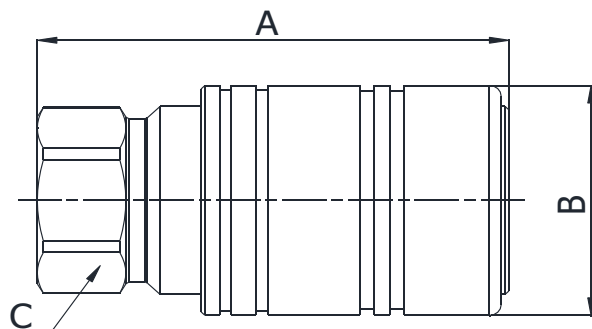
4:1 in CONNECTED & DISCONNECTED conditions

### IMPULSE PRESSURES

100,000 cycles at 133% of the rated one (freq. 1Hz)

### TEST SPECIFICATIONS

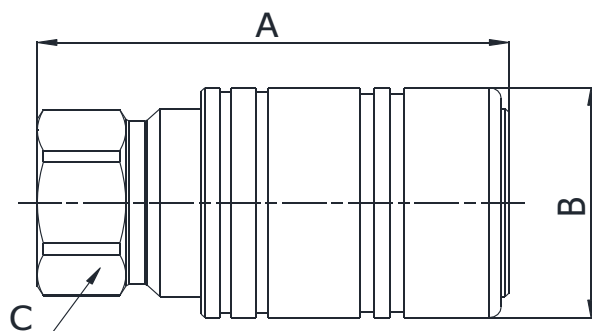
ISO 18869



## Q03611041A

BSP TERMINATION ENDS  
TO DIN 3852 X TYPE

SIZE			PART NUMBER	THREAD	DIMENSIONS mm					
DN	Inch	Dash	Female coupling		A	B	C			
6.3	1/4"	-04	Q03611041A-04-04	1/4"	53.5	ø27	19			
10	3/8"	-06	Q03611041A-06-06	3/8"	60.5	ø33	24			



## Q03611341A

NPT TERMINATION ENDS  
TO ANSI B 1.20.3

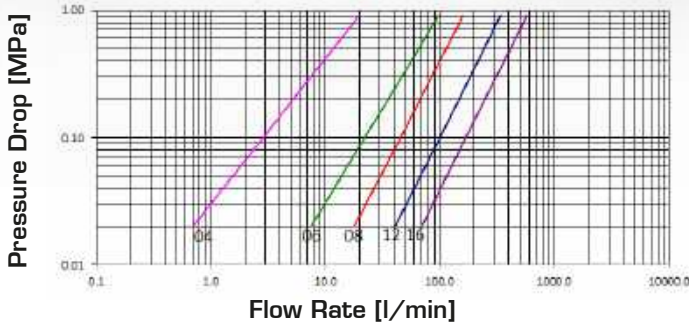
SIZE			PART NUMBER	THREAD	DIMENSIONS mm					
DN	Inch	Dash	Female coupling		A	B	C			
6.3	1/4"	-04	Q03611341A-04-04	1/4"-NPT	53.5	ø27	19			
10	3/8"	-06	Q03611341A-06-06	3/8"-NPT	60.5	ø33	24			



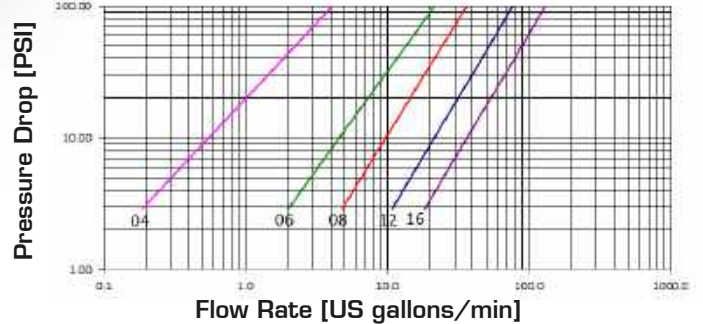
# PUSH-PULL POPPET VALVE



Pressure Drop



Pressure Drop



## TECHNICAL DATA

SIZE			WORKING PRESSURE [Dynamic]		RATED FLOW at 0.2 MPa of pressure drop		CONNECTION EFFORT		OIL SPILLAGE Connection/ Disconnection		MINIMUM BURST PRESSURE				CONNECTION/ DISCONNECTION UNDER PRESSURE
DN	inch	Dash	MPa	PSI	l/min	US GPM	N	lb.	cc.	cubic inch	Female		M & F		
			MPa	PSI							MPa	PSI	MPa	PSI	
6.3	1/4	04	35	5075	5	1.3	80	178	0.7	0.043	180	26100	145	21025	Not allowed
10	3/8	06	31.5	4568	35	9.2	105	233	1.4	0.085	150	21750	130	18850	Not allowed
12.5	1/2	08	30	4350	68	18.0	110	244	2	0.122	140	20300	140	20300	Not allowed
20	3/4	12	25	3625	147	38.8	165	367	7	0.427	120	17400	110	15950	Not allowed
25	1	16	25	3625	250	66.1	215	478	11	0.672	115	16675	120	17400	Not allowed

The rated flow represents the normal operating condition. The maximum recommended flow rate is equal to 1.5 times the rated flow

## PRODUCT DESCRIPTION

- Female coupling designed for agriculture applications, connectable with ISO 7241-1 series A male couplings
- PUSH-PULL connection and disconnection system, in case of bulkhead mounting on the external sleeve
- Break-away function according to ISO 5675 (in case of bulkhead mounting on the external sleeve)
- Positive connection by latching balls system
- Shut-off by poppet valve
- High resistant materials
- Dimensions and performances according to ISO 7241 series A

## MATERIAL

Female couplings in steel with some hardened areas, in correspondence to the most stressed points. Carbonitrided valve and sleeve, springs in C98 steel, latching balls in high resistance 100 C6 steel, seals in NBR (other materials on request) and back-up ring in PTFE. PU seal on 1/2" female available on request.

## WORKING TEMPERATURE

-22°F up to +230°F (-30°C up to +110°C)  
For other temperatures, the coupling is assembled with specific seals

## SAFETY FACTOR

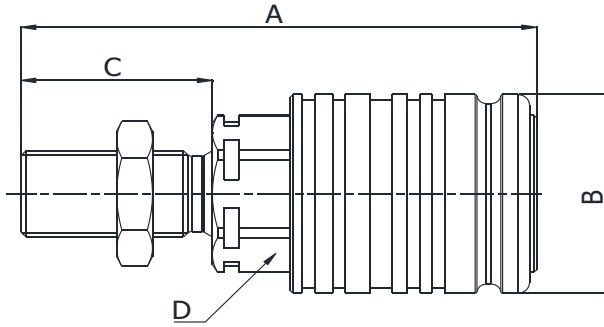
4:1 for dynamic pressures

## IMPULSE PRESSURES

100,000 cycles at 133% of the rated one (freq. 1Hz)

## TEST SPECIFICATIONS

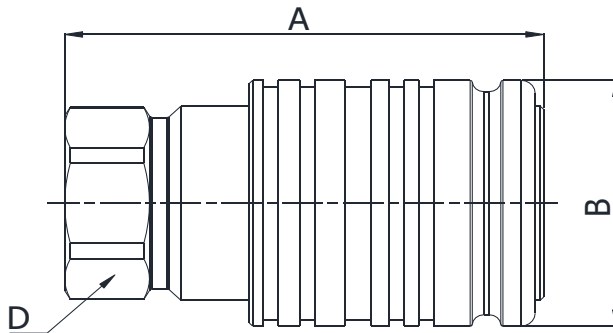
ISO 18869



## Q01311040A

BSP TERMINATION ENDS  
TO ISO 8434-6  
BULKHEAD

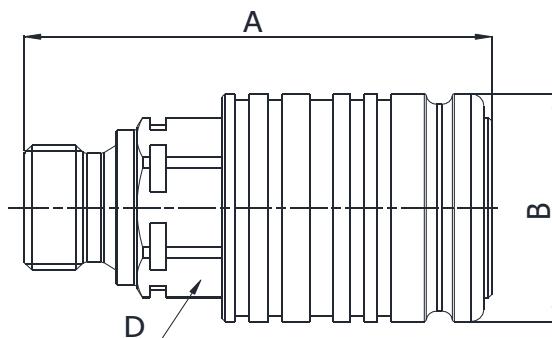
SIZE			PART NUMBER	THREAD	DIMENSIONS mm					
DN	Inch	Dash	Female coupling		A	B	C	D		
12.5	1/2"	-08	Q01311040A-08-06	3/8"	86.2	ø38	32	27		



## Q01311041A

BSP TERMINATION ENDS  
TO DIN 3852  
X TYPE

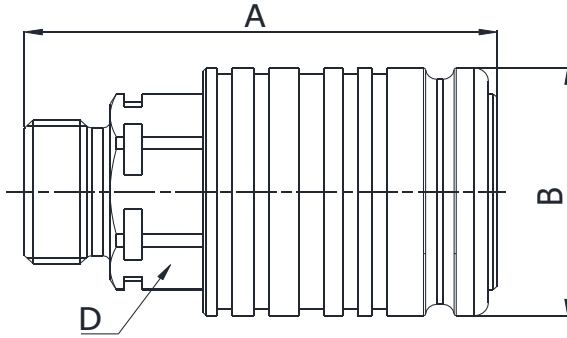
SIZE			PART NUMBER	THREAD	DIMENSIONS mm					
DN	Inch	Dash	Female coupling		A	B	D			
6	1/4"	-04	Q01311041A-04-04	1/4"	58.1	ø26	17			
10	3/8"	-06	Q01311041A-06-04	1/4"	63	ø32	22			
10	3/8"	-06	Q01311041A-06-06	3/8"	64.5	ø32	22			
12.5	1/2"	-08	Q01311041A-08-06	3/8"	66.2	ø38	27			
12.5	1/2"	-08	Q01311041A-08-08	1/2"	67	ø38	27			
12.5	1/2"	-08	Q01311041A-08-12	3/4"	73.2	ø38	34			
20	3/4"	-12	Q01311041A-12-08	1/2"	85.7	ø48	34			
20	3/4"	-12	Q01311041A-12-12	3/4"	87.7	ø48	34			
25	1"	-16	Q01311041A-16-12	3/4"	97.9	ø54	41			
25	1"	-16	Q01311041A-16-16	1"	97.9	ø54	41			



## Q01311050A

BSP TERMINATION ENDS  
TO ISO 8434-6

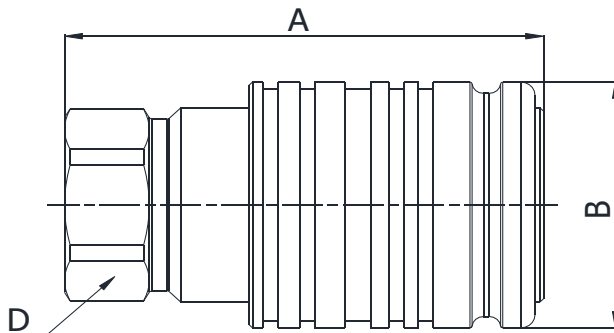
SIZE			PART NUMBER	THREAD	DIMENSIONS mm					
DN	Inch	Dash	Female coupling		A	B	D			
12.5	1/2"	-08	Q01311050A-08-06	3/8"	68.9	ø38	27			
12.5	1/2"	-08	Q01311050A-08-08	1/2"	71.4	ø38	27			



# Q01311110A

METRIC TERMINATION ENDS  
TO ISO 8434-1  
L SERIES

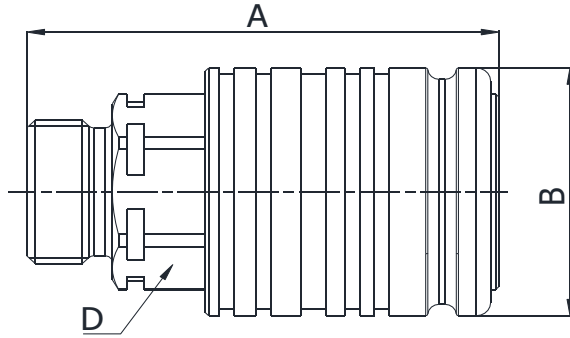
SIZE			PART NUMBER	THREAD	DIMENSIONS mm					
DN	Inch	Dash	Female coupling		A	B	D			
10	3/8"	-06	Q01311110A-06-12	M12x1,5	61	ø32	22			
10	3/8"	-06	Q01311110A-06-14	M14x1,5	61	ø32	22			
10	3/8"	-06	Q01311110A-06-16	M16x1,5	61	ø32	22			
10	3/8"	-06	Q01311110A-06-18	M18x1,5	61	ø32	22			
12.5	1/2"	-08	Q01311110A-08-12	M12x1,5	66.2	ø38	27			
12.5	1/2"	-08	Q01311110A-08-14	M14x1,5	65.2	ø38	27			
12.5	1/2"	-08	Q01311110A-08-16	M16x1,5	66.2	ø38	27			
12.5	1/2"	-08	Q01311110A-08-18	M18x1,5	65.2	ø38	27			
12.5	1/2"	-08	Q01311110A-08-22	M22x1,5	66.2	ø38	27			
12.5	1/2"	-08	Q01311110A-08-26	M26x1,5	66.2	ø38	30			
20	3/4"	-12	Q01311110A-12-22	M22x1,5	85.7	ø48	34			
20	3/4"	-12	Q01311110A-12-26	M26x1,5	85.7	ø48	34			
20	3/4"	-12	Q01311110A-12-30	M30x2	87.7	ø48	34			
25	1"	-16	Q01311110A-16-26	M26x1,5	94.5	ø54	41			
25	1"	-16	Q01311110A-16-30	M30x2	96.5	ø54	41			
25	1"	-16	Q01311110A-16-36	M36x2	96.5	ø54	41			



# Q01311141A

METRIC TERMINATION ENDS  
TO DIN 3852 X TYPE

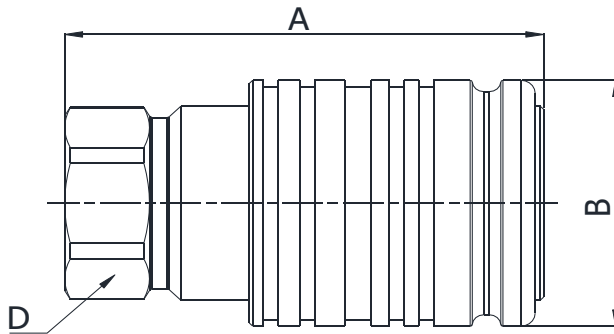
SIZE			PART NUMBER	THREAD	DIMENSIONS mm					
DN	Inch	Dash	Female coupling		A	B	D			
10	3/8"	-06	Q01311141A-06-16	M16x1,5	64.5	ø32	22			
12.5	1/2"	-08	Q01311141A-08-18	M18x1,5	66.2	ø38	27			
12.5	1/2"	-08	Q01311141A-08-20	M20x1,5	67	ø38	27			
12.5	1/2"	-08	Q01311141A-08-22	M22x1,5	67	ø38	27			
20	3/4"	-12	Q01311141A-12-22	M22x1,5	84.7	ø48	34			



## Q0131120A

METRIC TERMINATION ENDS  
TO ISO 8434-1  
S SERIES

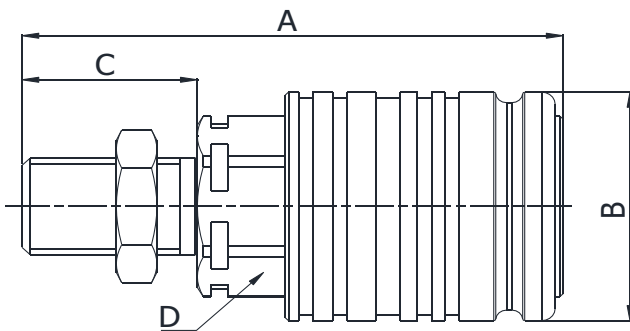
SIZE			PART NUMBER	THREAD	DIMENSIONS mm					
DN	Inch	Dash	Female coupling		A	B	D			
10	3/8"	-06	Q0131120A-06-16	M16x1,5	62	ø32	22			
10	3/8"	-06	Q0131120A-06-18	M18x1,5	62	ø32	22			
12.5	1/2"	-08	Q0131120A-08-18	M18x1,5	66.2	ø38	27			
12.5	1/2"	-08	Q0131120A-08-20	M20x1,5	66.2	ø38	27			
12.5	1/2"	-08	Q0131120A-08-24	M24x1,5	68.2	ø38	27			
25	1"	-16	Q0131120A-16-30	M30x2	98.5	ø54	41			
25	1"	-16	Q0131120A-16-36	M36x2	100.5	ø54	41			
25	1"	-16	Q0131120A-16-42	M40x2	102.5	ø54	46			



## Q0131191A

METRIC TERMINATION ENDS  
TO DIN 3852 X TYPE

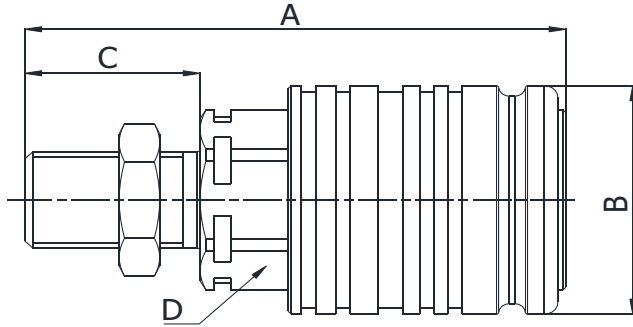
SIZE			PART NUMBER	THREAD	DIMENSIONS mm					
DN	Inch	Dash	Female coupling		A	B	D			
12.5	1/2"	-08	Q0131191A-08-16*	M16x1,5	66.7	ø38	27			
12.5	1/2"	-08	Q0131191A-08-18*	M18x1,5	68.2	ø38	27			
12.5	1/2"	-08	Q0131191A-08-22	M22x1,5	67	ø38	27			



## Q01311770A

METRIC TERMINATION END  
TO ISO 8434-1  
BULKHEAD L SERIES

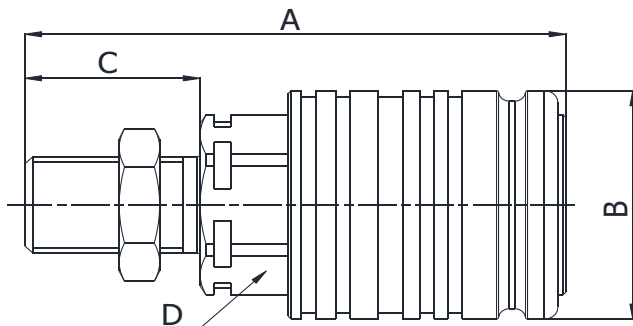
SIZE			PART NUMBER	THREAD	DIMENSIONS mm					
DN	Inch	Dash	Female coupling		A	B	C	D		
12.5	1/2"	-08	Q01311770A-08-18	M18x1,5	90.2	ø38	36	27		



# Q01311770B

METRIC TERMINATION END  
TO ISO 8434-1  
BULKHEAD L SERIES

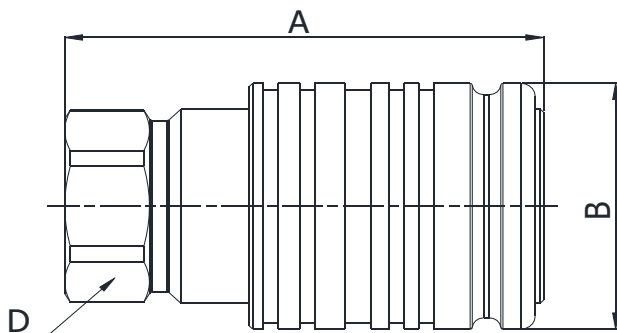
SIZE			PART NUMBER	THREAD	DIMENSIONS mm				
DN	Inch	Dash			Female coupling	A	B	C	D
10	3/8"	-06	Q01311770B-06-12	M12x1,5	76	ø32	25	22	
10	3/8"	-06	Q01311770B-06-14	M14x1,5	75	ø32	25	22	
10	3/8"	-06	Q01311770B-06-16	M16x1,5	75	ø32	26	22	
10	3/8"	-06	Q01311770B-06-18	M18x1,5	75	ø32	26	22	
12.5	1/2"	-08	Q01311770B-08-14	M14x1,5	80.2	ø38	25	27	
12.5	1/2"	-08	Q01311770B-08-16	M16x1,5	80.2	ø38	26	27	
12.5	1/2"	-08	Q01311770B-08-18	M18x1,5	80.2	ø38	26	27	
12.5	1/2"	-08	Q01311770B-08-22	M22x1,5	81.2	ø38	27	27	
12.5	1/2"	-08	Q01311770B-08-26	M26x1,5	82.2	ø38	28	30	
20	3/4"	-12	Q01311770B-12-22	M22x1.5	100.7	ø48	27	34	
20	3/4"	-12	Q01311770B-12-26	M26x1.5	101.7	ø48	28	34	
20	3/4"	-12	Q01311770B-12-30	M30x2	105.7	ø48	32	34	
25	1"	-16	Q01311770B-16-30	M30x2	114.5	ø54	32	41	



# Q01311870B

METRIC TERMINATION END  
TO ISO 8434-1  
BULKHEAD S SERIES

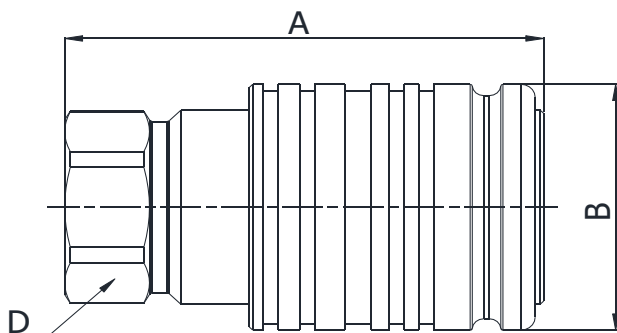
SIZE			PART NUMBER	THREAD	DIMENSIONS mm				
DN	Inch	Dash			Female coupling	A	B	C	D
10	3/8"	-06	Q01311870B-06-16	M16x1,5	76	ø32	27	22	
10	3/8"	-06	Q01311870B-06-18	M18x1,5	76	ø32	27	22	
12.5	1/2"	-08	Q01311870B-08-18	M18x1,5	81.2	ø38	27	27	
12.5	1/2"	-08	Q01311870B-08-20	M20x1,5	81.2	ø38	27	27	
12.5	1/2"	-08	Q01311870B-08-24	M24x1,5	83.2	ø38	29	27	
20	3/4"	-12	Q01311870B-12-30	M30x2	107.7	ø48	34	34	
25	1"	-16	Q01311870B-16-36	M36x2	118.5	ø54	36	41	



## Q01311341A

NPT TERMINATION END  
TO ANSI B 1.20.3 STANDARD

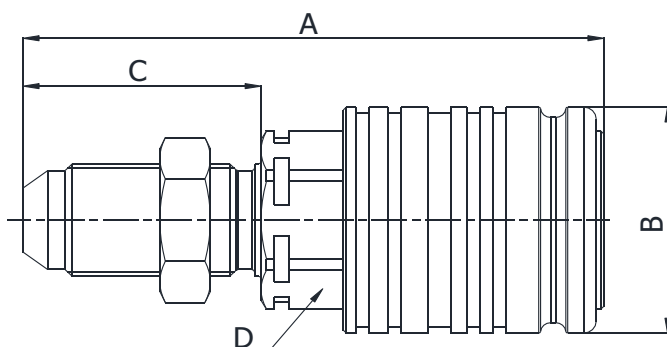
SIZE			PART NUMBER	THREAD	DIMENSIONS mm				
DN	Inch	Dash			Female coupling	A	B	D	
6	1/4"	-04	Q01311341A-04-04	1/4" NPTF	58	ø26	17		
10	3/8"	-06	Q01311341A-06-06	3/8" NPTF	64.5	ø32	22		
12.5	1/2"	-08	Q01311341A-08-08	1/2" NPTF	67	ø38	27		
20	3/4"	-12	Q01311341A-16-12	3/4" NPTF	97.9	ø54	41		
25	1"	-16	Q01311341A-16-16	1" NPTF	97.9	ø54	41		



## Q01311301A

BSP TERMINATION ENDS  
TO DIN 3852 X TYPE

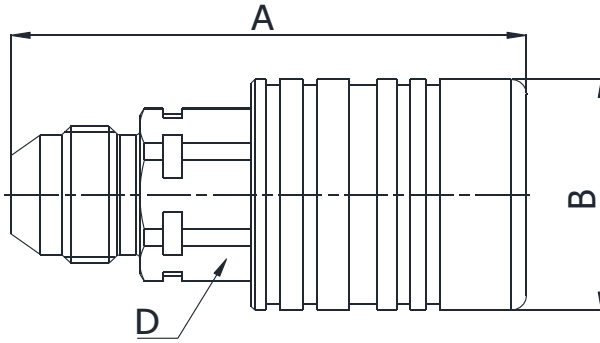
SIZE			PART NUMBER	THREAD	DIMENSIONS mm				
DN	Inch	Dash			Female coupling	A	B	D	
10	3/8"	-06	Q01311301A-06-06*	9/16"-18 UNF	64.5	ø32	22		
12.5	1/2"	-08	Q01311301A-08-08	3/4"-16 UNF	67	ø38	27		
12.5	1/2"	-08	Q01311301A-08-10	7/8"-14 UNF	69	ø38	27		



## Q01311230A

SAE TERMINATION END  
TO ISO 8434-2  
BULKHEAD

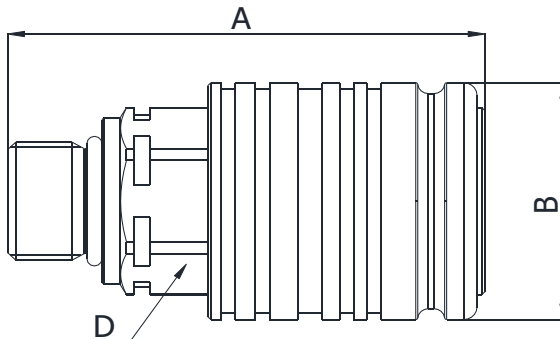
SIZE			PART NUMBER	THREAD	DIMENSIONS mm				
DN	Inch	Dash			Female coupling	A	B	C	D
12.5	1/2"	-08	Q01311230A-08-08	3/4"-16 UNF	91.8	ø38	37.6	27	
12.5	1/2"	-08	Q01311230A-08-10	7/8"-14 UNF	95.3	ø38	41.1	27	



## Q01311250A

SAE TERMINATION END  
TO ISO 8434-2

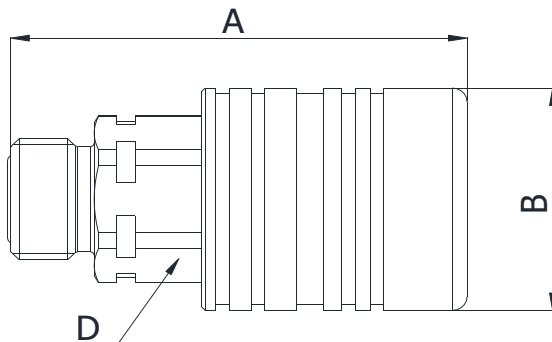
SIZE			PART NUMBER	THREAD	DIMENSIONS mm					
DN	Inch	Dash	Female coupling		A	B	D			
10	3/8"	-06	Q01311250A-06-08	3/4"-16 UNF	66.7	ø32	22			



## Q01311320A

ORB TERMINATION ENDS  
TO SAE J1926-2  
S SERIES

SIZE			PART NUMBER	THREAD	DIMENSIONS mm					
DN	Inch	Dash	Female coupling		A	B	D			
12.5	1/2"	-08	Q01311320A-08-08	3/4"-16 UNF	68.2	ø38	27			



## Q01311240A

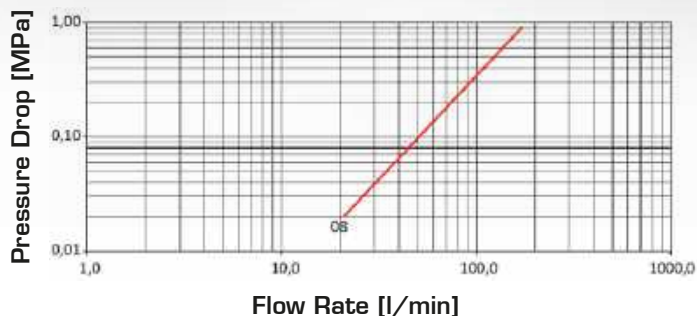
ORFS TERMINATION ENDS  
TO ISO 8434-3

SIZE			PART NUMBER	THREAD	DIMENSIONS mm					
DN	Inch	Dash	Female coupling		A	B	D			
10	3/8"	-06	Q01311240A-06-04	9/16"-18 UN	60.8	ø32	22			
10	3/8"	-06	Q01311240A-06-06	11/16"-16 UN	61.2	ø32	22			
12.5	1/2"	-08	Q01311240A-08-08	13/16"-16 UN	66.2	ø38	27			
25	1"	-16	Q01311240A-16-16	1.7/16"-12 UN	100	ø54	41			

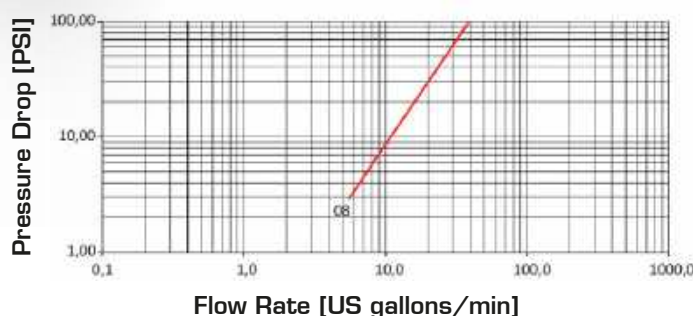
# PUSH-PULL CONNECTABLE UNDER PRESSURE



Pressure Drop



Pressure Drop



Q.SAFE 380

## TECHNICAL DATA

SIZE			WORKING PRESSURE [Dynamic]		RATED FLOW at 0.2 MPa of pressure drop		CONNECTION EFFORT		OIL SPILLAGE Connection/ Disconnection		MINIMUM BURST PRESSURE				CONNECTION/ DISCONNECTION UNDER PRESSURE
DN	inch	Dash	MPa	PSI	l/min	US GPM	N	lb.	cc.	cubic inch	Female		M & F		
			MPa	PSI	l/min	US GPM	N	lb.	cc.	cubic inch	MPa	PSI	MPa	PSI	
12.5	½	08	30	4350	68	18.0	110	244	2	0.122	120	17400	140	20300	Connection only
										With 0 MPa pressure					

The rated flow represents the normal operating condition. The maximum recommended flow rate is equal to 1.5 times the rated flow

## PRODUCT DESCRIPTION

- Female coupling designed for agriculture applications, connectable with ISO 7241-1 series A male couplings
- Connectable under pressure thanks to a frontal micro-valve
- Push-Pull connection and disconnection system, in case of bulkhead mounting on the external sleeve
- Break-away function according to ISO 5675 (in case of bulkhead mounting on the external sleeve)
- Positive connection by latching balls system
- Shut-off by poppet valve
- High resistant materials
- Dimensions and performances according to ISO 7241 series A

## MATERIAL

Female couplings in steel with some hardened areas, in correspondence to the most stressed points. Carbonitrided valve, micro-valve and sleeve, springs in C98 steel, latching balls in 100 C6 steel, seals in NBR and polyurethane (other materials on request) and back-up ring in PTFE. PU seal on ½" female available on request.

## WORKING TEMPERATURE

-22°F up to +230°F (-30°C up to +110°C)  
For other temperatures, the quick coupling is assembled with specific seals

## SAFETY FACTOR

4:1 for dynamic pressures

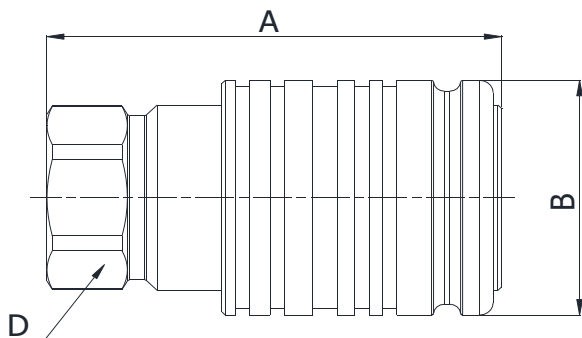
## IMPULSE PRESSURES

100,000 cycles of impulse pressure at 133% of the rated one (freq. 1Hz)

## TEST SPECIFICATIONS

ISO 18869

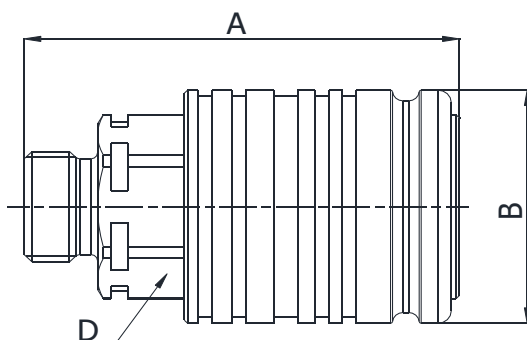




## Q01511041A

BSP TERMINATION ENDS  
TO DIN 3852 X TYPE

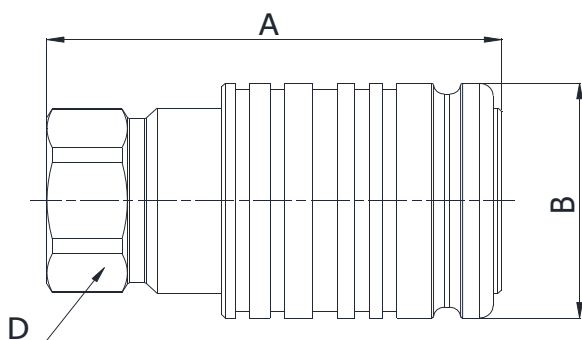
SIZE			PART NUMBER	THREAD	DIMENSIONS mm					
DN	Inch	Dash	Female coupling		A	B	D			
12.5	1/2"	-08	Q01511041A-08-08	1/2"	67	ø38	27			



## Q01511110A

METRIC TERMINATION END  
TO ISO 8434-1  
L SERIES

SIZE			PART NUMBER	THREAD	DIMENSIONS mm					
DN	Inch	Dash	Female coupling		A	B	D			
12.5	1/2"	-08	Q01511110A-08-18	M18x1,5	65.2	ø38	27			



## Q01511341A

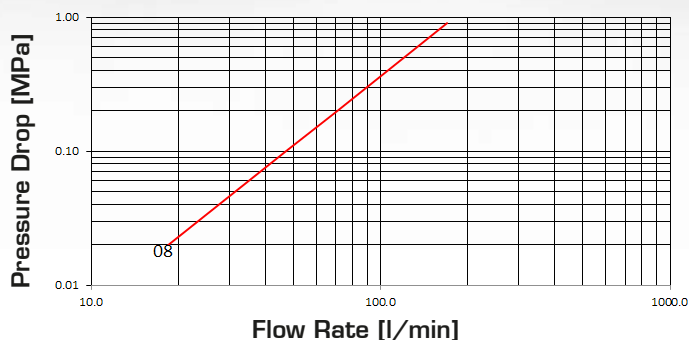
NPT TERMINATION END  
TO ANSI B 1.20.3 STANDARD

SIZE			PART NUMBER	THREAD	DIMENSIONS mm					
DN	Inch	Dash	Female coupling		A	B	D			
12.5	1/2"	-08	Q01511341A-08-08	1/2" NPTF	67	ø38	27			

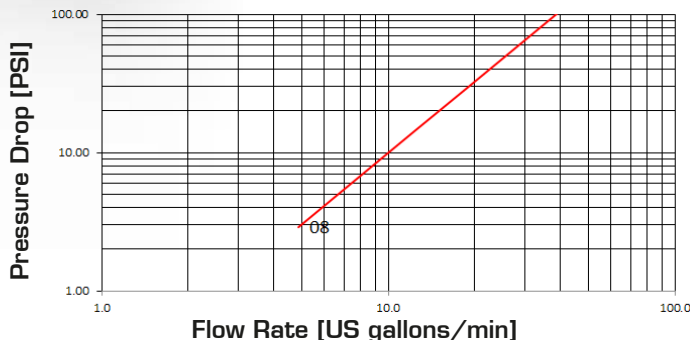


# PUSH-PULL FEMALE CONNECTABLE WITH MALE UNDER PRESSURE

Pressure Drop



Pressure Drop



## TECHNICAL DATA

SIZE			WORKING PRESSURE (Dynamic)		RATED FLOW at 0.2 MPa of pressure drop		CONNECTION EFFORT		OIL SPILLAGE Connection/ Disconnection		MINIMUM BURST PRESSURE				CONNECTION/ DISCONNECTION UNDER PRESSURE
DN	inch	Dash	MPa	PSI	l/min	US GPM	N	lb.	cc.	cubic inch	Female		M & F		
											MPa	PSI	MPa	PSI	
12.5	1/2	08	30	4350	71	18.8	170	378	2	0.122	125	18125	125	18125	Connection only, with male under pressure

The rated flow represents the normal operating condition. The maximum recommended flow rate is equal to 1.5 times the rated flow

## PRODUCT DESCRIPTION

- Connectable with male ISO A under pressure
- Working pressure 30MPa
- Connection/disconnection PUSH-PULL
- No shut-off, Manuli mechanical valve block system
- Installation on hoses with coupling blocked on panel by the sleeve
- Breakaway function according to ISO 5675
- Interchangeable according to ISO 7241 series A
- Wide range of termination end

### MATERIAL

Couplings in steel with some stressed area hardened, carbonitrided valve, springs in C98 steel, seals in NBR, back-up ring PTFE. PU seal on 1/2" female available on request.

### WORKING TEMPERATURE

-22°F up to +230°F (-30°C up to +110°C)  
For other temperatures, the quick coupling is assembled with specific seals

### SAFETY FACTOR

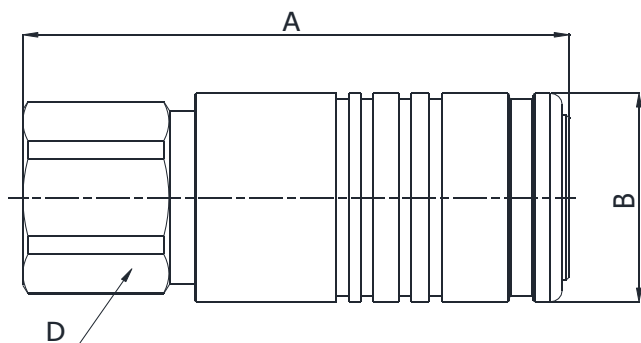
4:1 for dynamic pressures

### IMPULSE PRESSURES

500,000 cycles (connected and disconnected conditions) at 120% of the rated one (freq. 1Hz)

### TEST SPECIFICATIONS

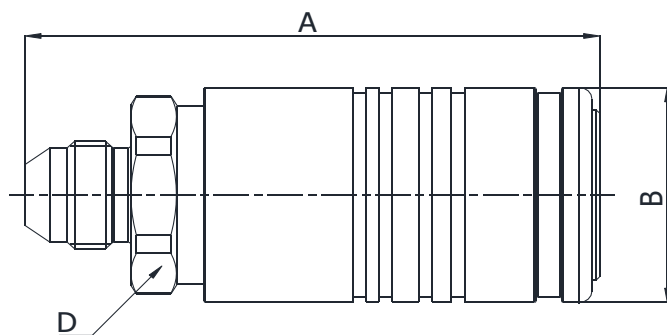
ISO 18869



# Q01611041A

BSP TERMINATION ENDS  
TO DIN 3852 X TYPE

SIZE			PART NUMBER	THREAD	DIMENSIONS mm					
DN	Inch	Dash	Female coupling		A	B	D			
12.5	1/2"	-08	Q01611041A-08-08	1/2"	91.2	ø38	32			



# Q01611250A

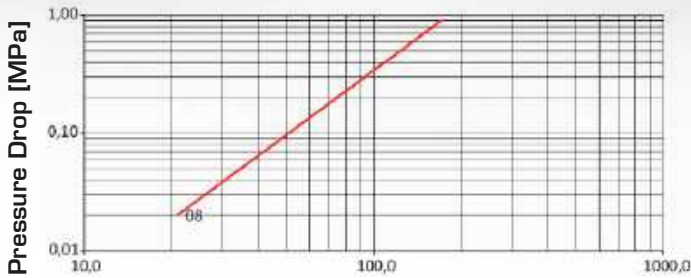
SAE TERMINATION ENDS  
TO ISO 8434-2

SIZE			PART NUMBER	THREAD	DIMENSIONS mm					
DN	Inch	Dash	Female coupling		A	B	D			
12.5	1/2"	-08	Q01611250A-08-08	3/4"- 16 UNF	90.7	ø38	32			



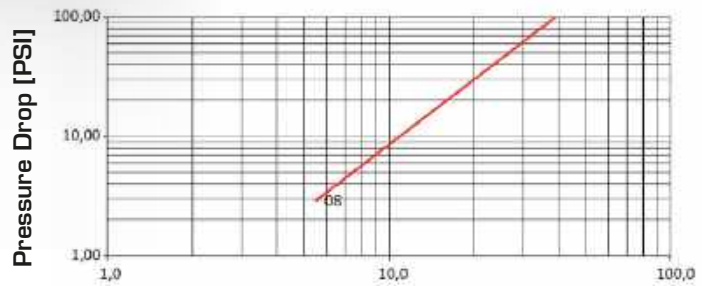
# PUSH-PULL FEMALE BOTH PARTS CONNECTABLE UNDER PRESSURE

Pressure Drop



Flow Rate [l/min]

Pressure Drop



Flow Rate [US gallons/min]

## TECHNICAL DATA

SIZE			WORKING PRESSURE (Dynamic)		RATED FLOW at 0.2 MPa of pressure drop		CONNECTION EFFORT		OIL SPILLAGE Connection/ Disconnection		MINIMUM BURST PRESSURE				CONNECTION/ DISCONNECTION UNDER PRESSURE	
DN	inch	Dash	MPa	PSI	l/min	US GPM	N	lb.	cc.	cubic inch	Female		M & F			
											MPa	PSI	MPa	PSI		
12.5	½	08	30	4350	71	18.8	170	378	2	0.122	125	18125	125	18125	Connection only, with male and female under pressure	
										With 0 MPa of pressure						

The rated flow represents the normal operating condition. The maximum recommended flow rate is equal to 1.5 times the rated flow

## PRODUCT DESCRIPTION

- Connectable with male ISO A and female under pressure
- Working pressure 30MPa
- Connection/disconnection PUSH-PULL
- No shut-off, Manuli mechanical valve block system
- Installation on hoses with coupling blocked on panel by the sleeve
- Breakaway function according to ISO 5675
- Interchangeable according to ISO 7241 series A
- Wide range of termination ends

## MATERIAL

Couplings in steel with some stressed area hardened, carbonitrided valve, springs in C98 steel, seals in polyurethane and NBR, back-up ring PTFE. PU seal on ½" female available on request.

## WORKING TEMPERATURE

-22°F up to +230°F (-30°C up to +110°C)  
For other temperatures, the quick coupling is assembled with specific seals

## SAFETY FACTOR

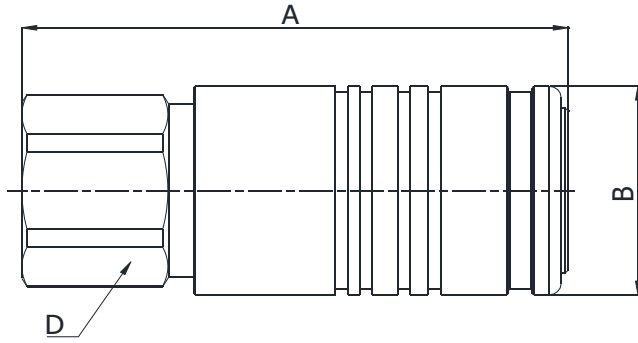
4:1 for dynamic pressures

## IMPULSE PRESSURES

500,000 cycles (connected and disconnected conditions) at 120% of the rated one (freq. 1Hz)

## TEST SPECIFICATIONS

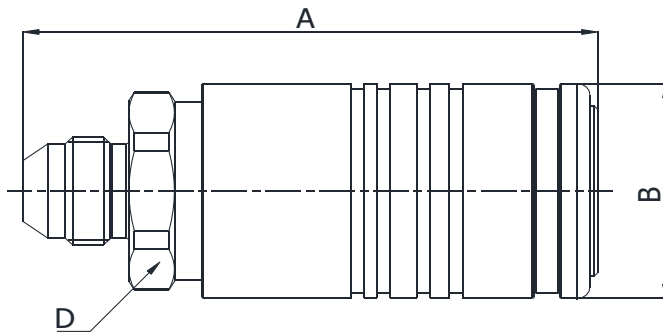
ISO 18869



# Q01711041A

BSP TERMINATION ENDS  
TO DIN 3852 X TYPE

SIZE			PART NUMBER	THREAD	DIMENSIONS mm					
DN	Inch	Dash	Female coupling		A	B	D			
12.5	1/2"	-08	Q01711041A-08-08	1/2"	91.2	ø38	32			



# Q01711250A

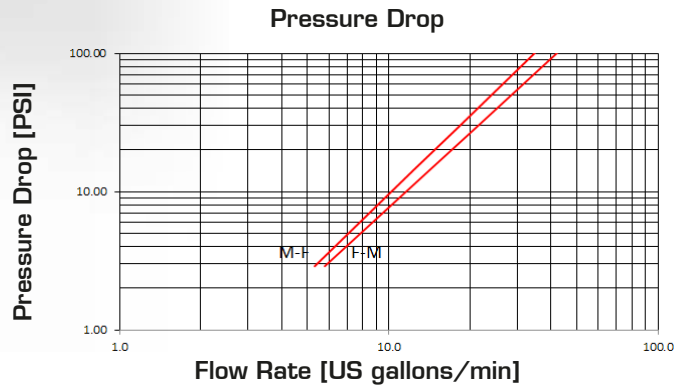
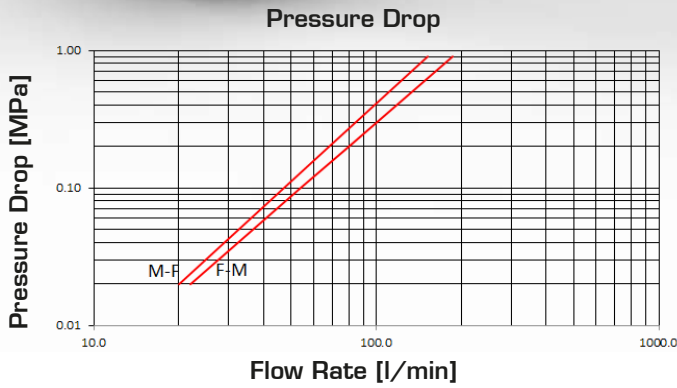
SAE TERMINATION ENDS  
TO ISO 8434-2

SIZE			PART NUMBER	THREAD	DIMENSIONS mm					
DN	Inch	Dash	Female coupling		A	B	D			
12.5	1/2"	-08	Q01711250A-08-08	3/4"- 16 UNF	90.7	ø38	32			

**385 Q.SAFE**



# PUSH-PULL FEMALE CONNECTABLE WITH MALE UNDER PRESSURE



## TECHNICAL DATA

SIZE			WORKING PRESSURE [Dynamic]		RATED FLOW at 0.2 MPa of pressure drop			CONNECTION EFFORT		OIL SPILLAGE Connection/ Disconnection		MINIMUM BURST PRESSURE				CONNECTION/ DISCONNECTION UNDER PRESSURE
DN	inch	Dash	MPa	PSI	Flow direction	l/min	US GPM	N	lb.	cc.	cubic inch	Male		M & F		Connection only, with male under pressure
												MPa	PSI	MPa	PSI	
12.5	½	08	30	4350	F → M	80	21.1	230	511	2	0.122	125	18125	125	18125	Connection only, with male under pressure
					M → F	68	18.0									

The rated flow represents the normal operating condition. The maximum recommended flow rate is equal to 1.5 times the rated flow

## PRODUCT DESCRIPTION

- Connectable with male ISO A under pressure
- Working pressure 30MPa
- Connection/disconnection PUSH-PULL
- No shut-off, Manuli mechanical valve block system
- Installation on pipe and ports
- Breakaway function according to ISO 5675
- Interchangeable according to ISO 7241 series A
- Wide range of termination ends
- According to all requirements of ISO 5675

## MATERIAL

Couplings in steel with some stressed area hardened, carbonitrided valve, springs in C98 steel, seals in NBR, back-up ring PTFE. PU seal on ½" female available on request.

## WORKING TEMPERATURE

-22°F up to +230°F (-30°C up to +110°C)  
For other temperatures, the quick coupling is assembled with specific seals

## SAFETY FACTOR

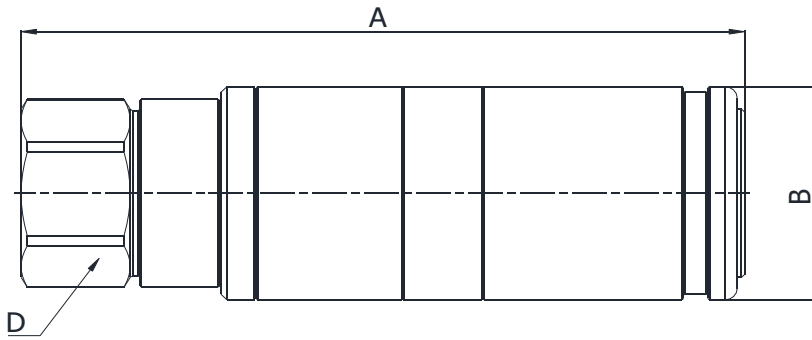
4:1 for dynamic pressures

## IMPULSE PRESSURES

500,000 cycles (connected and disconnected conditions) at 120% of the rated one (freq. 1Hz)

## TEST SPECIFICATIONS

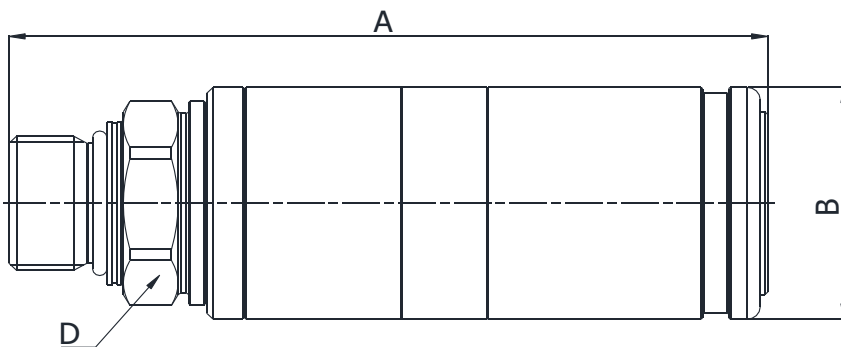
ISO 18869



## Q01811041A

BSP TERMINATION ENDS  
TO DIN 3852 X TYPE

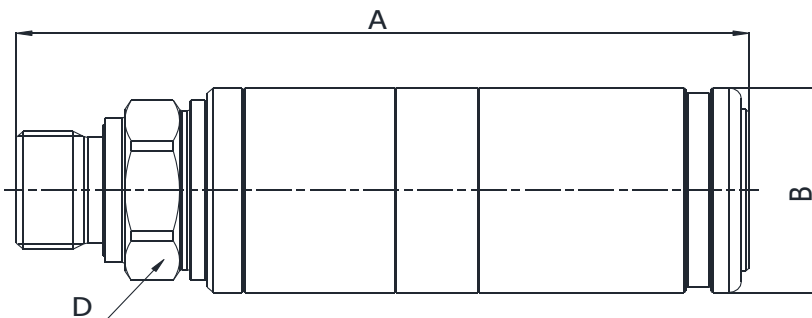
SIZE			PART NUMBER	THREAD	DIMENSIONS mm					
DN	Inch	Dash	Female coupling		A	B	D			
12.5	1/2"	-08	Q01811041A-08-08	1/2"	118.4	ø38	30			



## Q01811190A

METRIC TERMINATION ENDS  
TO ISO 6149-2

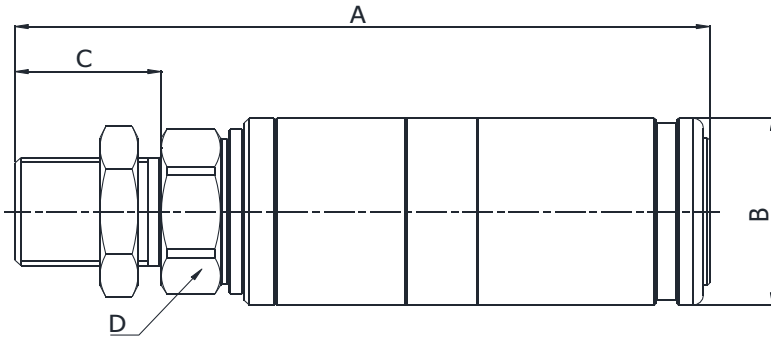
SIZE			PART NUMBER	THREAD	DIMENSIONS mm					
DN	Inch	Dash	Female coupling		A	B	D			
12.5	1/2"	-08	Q01811190A-08-22	M22x1,5	115.9	ø38	30			



## Q01811140A

METRIC TERMINATION ENDS  
TO ISO 9974-2

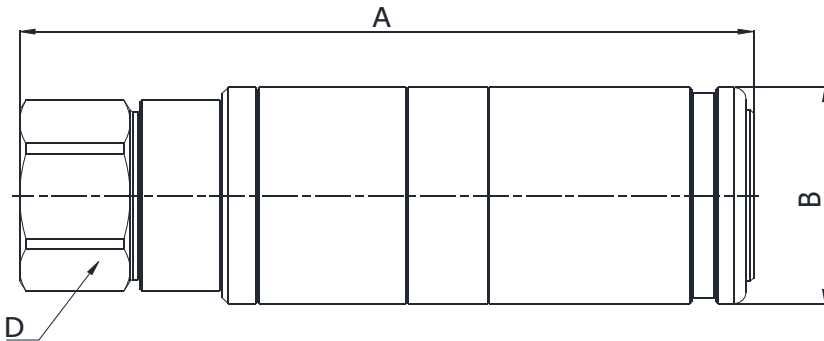
SIZE			PART NUMBER	THREAD	DIMENSIONS mm					
DN	Inch	Dash	Female coupling		A	B	D			
12.5	1/2"	-08	Q01811140A-08-22	M22x1,5	115.9	ø38	30			



## Q01811770B

METRIC TERMINATION ENDS  
ISO 8434-1 L SERIES BULKHEAD

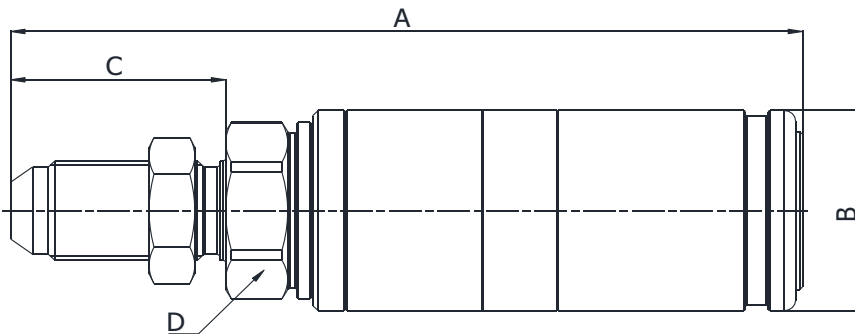
SIZE			PART NUMBER	THREAD	DIMENSIONS mm					
DN	Inch	Dash	Female coupling		A	B	C	D		
12.5	1/2"	-08	Q01811770B-08-22	M22x1,5	127.9	ø38	27	30		



## Q01811341A

NPT TERMINATION ENDS  
TO ANSI B 1.20.3

SIZE			PART NUMBER	THREAD	DIMENSIONS mm					
DN	Inch	Dash	Female coupling		A	B	D			
12.5	1/2"	-08	Q01811341A-08-08	1/2" NPTF	118.4	ø38	30			

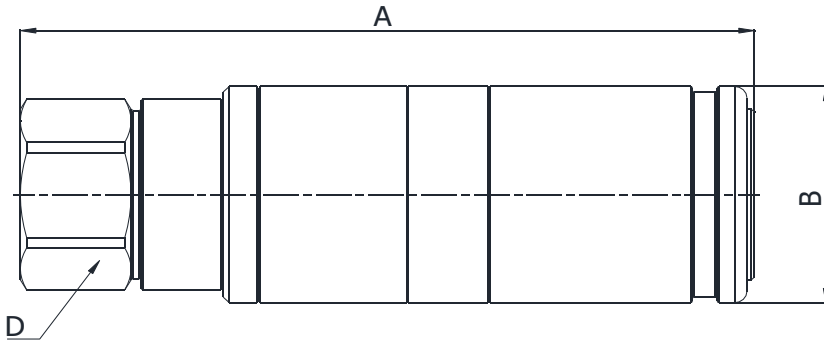


## Q01811230A

SAE TERMINATION ENDS  
ISO 8434-2 BULKHEAD

SIZE			PART NUMBER	THREAD	DIMENSIONS mm					
DN	Inch	Dash	Female coupling		A	B	C	D		
12.5	1/2"	-08	Q01811230A-08-08	3/4"-16 UNF	138.5	ø38	37.6	30		
12.5	1/2"	-08	Q01811230A-08-10	7/8"-14UNF	142	ø38	40.1	30		

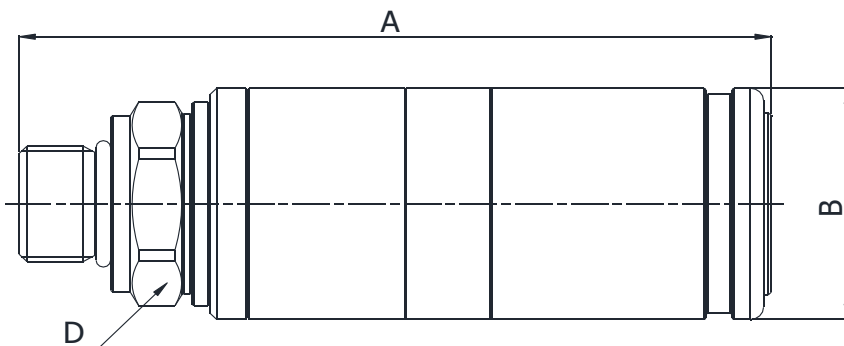




## Q01811301A

SAE TERMINATION ENDS  
TO SAE J1926-1

SIZE			PART NUMBER	THREAD	DIMENSIONS mm					
DN	Inch	Dash	Female coupling		A	B	D			
12.5	1/2"	-08	Q01811301A-08-08	3/4"-16 UNF	117.4	ø38	30			



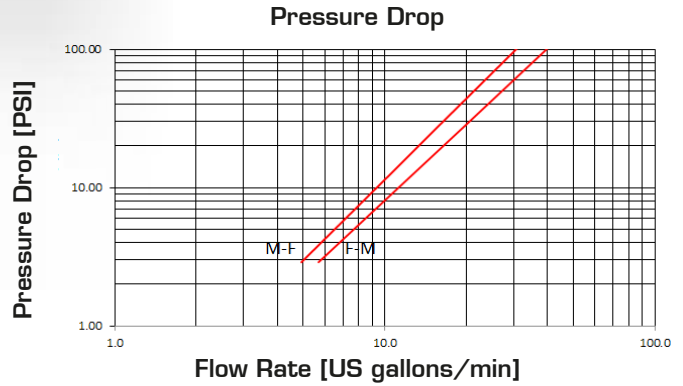
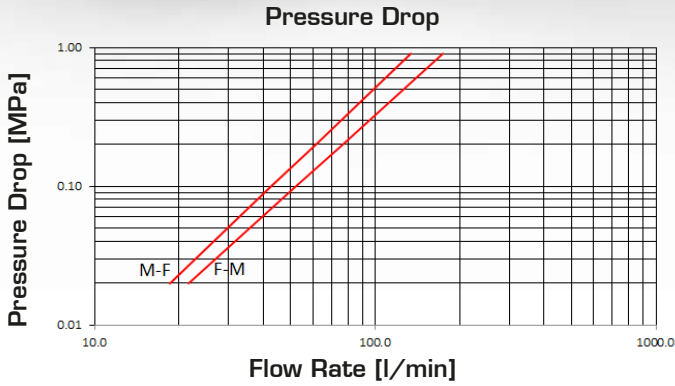
## Q01811320A

ORB TERMINATION ENDS  
TO SAE J1926-2 S SERIES

SIZE			PART NUMBER	THREAD	DIMENSIONS mm					
DN	Inch	Dash	Female coupling		A	B	D			
12.5	1/2"	-08	Q01811320A-08-08	3/4"-16 UNF	115	ø38	30			
12.5	1/2"	-08	Q01811320A-08-10	7/8"-14UNF	117	ø38	30			



# PUSH-PULL FEMALE CONNECTABLE WITH BOTH PARTS UNDER PRESSURE



Q.SAFE 390

## TECHNICAL DATA

SIZE			WORKING PRESSURE [Dynamic]		RATED FLOW at 0.2 MPa of pressure drop			CONNECTION EFFORT		OIL SPILLAGE Connection/ Disconnection		MINIMUM BURST PRESSURE				CONNECTION/ DISCONNECTION UNDER PRESSURE
DN	inch	Dash	MPa	PSI	Flow direction	l/min	US GPM	N	lb.	cc.	cubic inch	Male		M & F		
												MPa	PSI	MPa	PSI	
12.5	½	08	30	4350	F → M	80	21.1	230	511	2.5	0.153	125	18125	125	18125	Connection only, with male & female under pressure
					M → F	68	18.0									

The rated flow represents the normal operating condition. The maximum recommended flow rate is equal to 1.5 times the rated flow

## PRODUCT DESCRIPTION

- Connectable with male ISO A and female under pressure
- Working pressure 30MPa
- Connection/disconnection PUSH-PULL
- No shut-off, Manuli mechanical valve block system
- Installation on pipe and ports
- Breakaway function according to ISO 5675
- Interchangeable according to ISO 7241 series A
- Wide range of termination ends
- According to all requirements of ISO 5675

## MATERIAL

Couplings in steel with some stressed area hardened, carbonitrided valve, springs in C98 steel, seals in polyurethane and NBR, back-up ring PTFE. PU seal on ½" female available on request.

## WORKING TEMPERATURE

-22°F up to +230°F (-30°C up to +110°C)  
For other temperatures, the quick coupling is assembled with specific seals

## SAFETY FACTOR

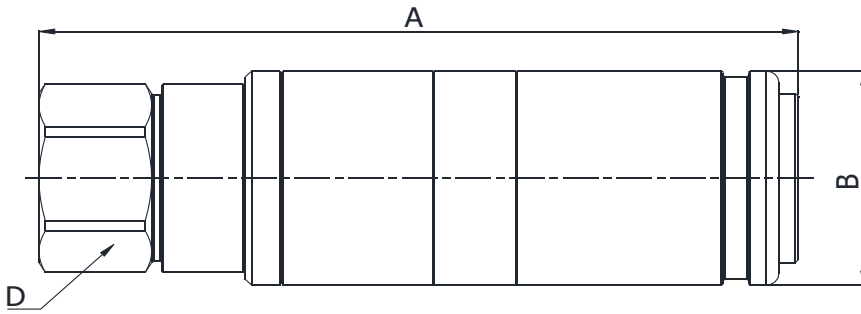
4:1 for dynamic pressures

## IMPULSE PRESSURES

500,000 cycles (connected and disconnected conditions) at 120% of the rated one (freq. 1Hz)

## TEST SPECIFICATIONS

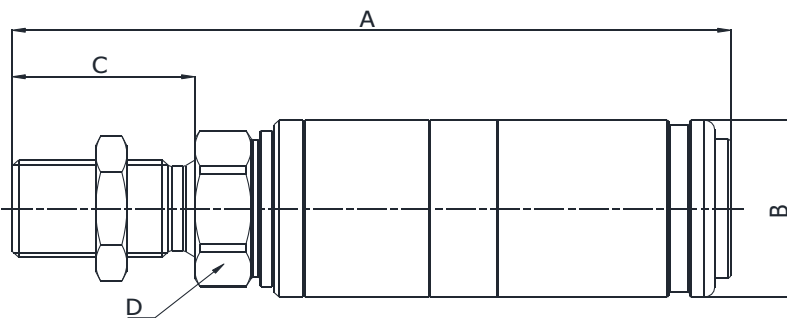
ISO 18869



## Q01911041A

BSP TERMINATION ENDS  
TO DIN 3852 X TYPE

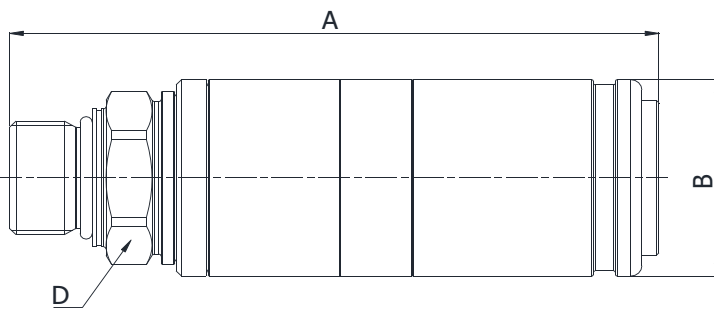
SIZE			PART NUMBER	THREAD	DIMENSIONS mm					
DN	Inch	Dash	Female coupling		A	B	D			
12.5	1/2"	-08	Q01911041A-08-08	1/2"	120.3	ø38	30			



## Q01911040A

BSP TERMINATION ENDS  
TO ISO 8434-6  
BULKHEAD

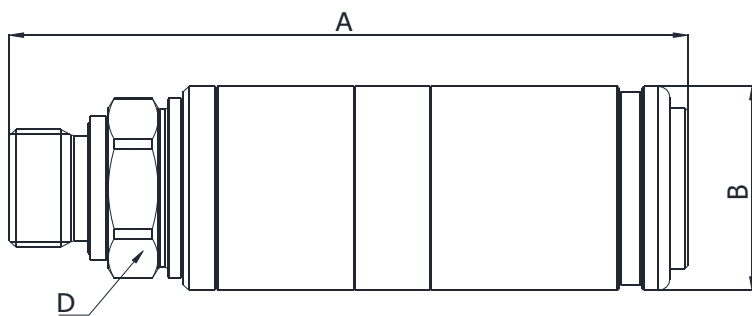
SIZE			PART NUMBER	THREAD	DIMENSIONS mm					
DN	Inch	Dash	Female coupling		A	B	C	D		
12.5	1/2"	-08	Q01911040A-08-08	1/2"	137.8	ø38	35	30		



## Q01911190A

METRIC TERMINATION ENDS  
TO ISO 6149-2

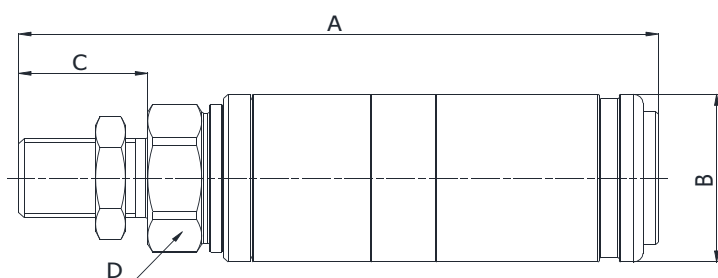
SIZE			PART NUMBER	THREAD	DIMENSIONS mm					
DN	Inch	Dash	Female coupling		A	B	D			
12.5	1/2"	-08	Q01911190A-08-22	M22x1,5	117.8	ø38	30			



## Q01911140A

METRIC TERMINATION ENDS  
TO ISO 9974-2

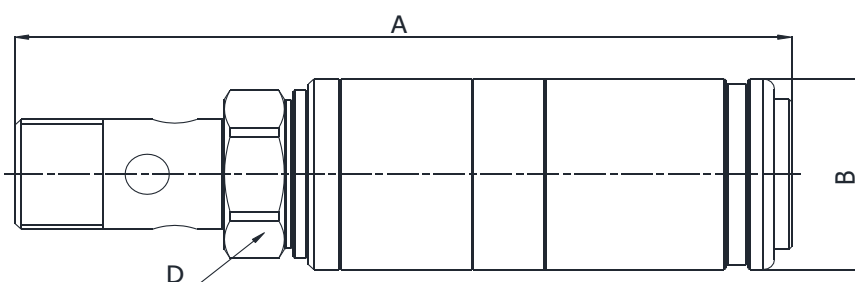
SIZE			PART NUMBER	THREAD	DIMENSIONS mm				
DN	Inch	Dash	Female coupling		A	B	D		
12.5	1/2"	-08	Q01911140A-08-22	M22x1,5	117.8	ø38	30		



## Q01911770B

METRIC TERMINATION ENDS  
ISO 8434-1 L SERIES BULKHEAD

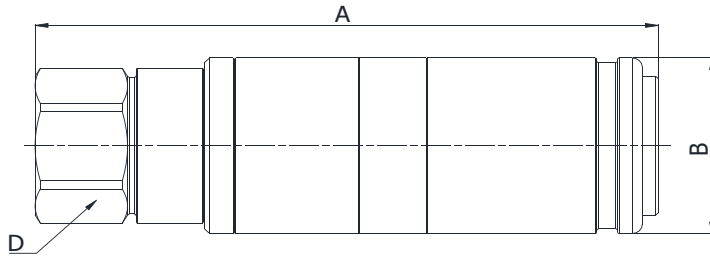
SIZE			PART NUMBER	THREAD	DIMENSIONS mm				
DN	Inch	Dash	Female coupling		A	B	C	D	
12.5	1/2"	-08	Q01911770B-08-18	M18x1,5	128.8	ø38	26	30	
12.5	1/2"	-08	Q01911770B-08-22	M22x1,5	129.8	ø38	27	30	



## Q01911080A

METRIC TERMINATION ENDS  
DIN 7643

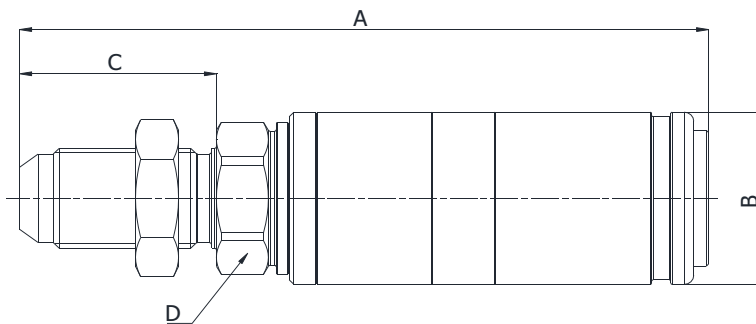
SIZE			PART NUMBER	THREAD	DIMENSIONS mm				
DN	Inch	Dash	Female coupling		A	B	D		
12.5	1/2"	-08	Q01911080A-08-22	M22x1,5	140.8	ø38	30		



# Q01911341A

NPT TERMINATION ENDS  
TO ANSI B 1.20.3

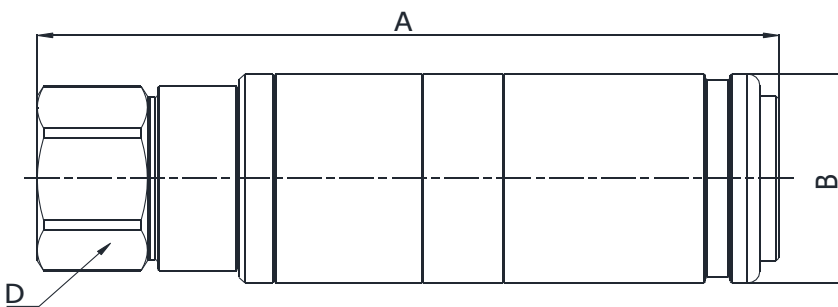
SIZE			PART NUMBER	THREAD	DIMENSIONS mm					
DN	Inch	Dash			Female coupling	A	B	D		
12.5	1/2"	-08	Q01911341A-08-08	1/2" NPTF	120.3	ø38	30			



# Q01911230A

SAE TERMINATION ENDS  
ISO 8434-2 BULKHEAD

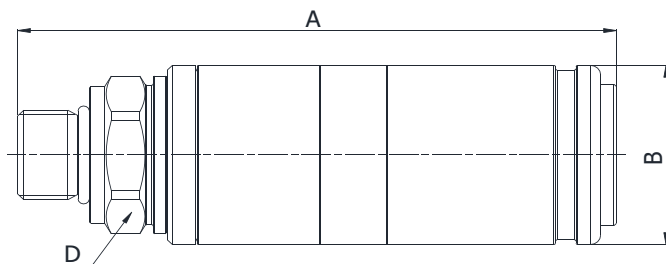
SIZE			PART NUMBER	THREAD	DIMENSIONS mm					
DN	Inch	Dash			Female coupling	A	B	D		
12.5	1/2"	-08	Q01911230A-08-10	7/8"-14UNF	143.9	ø38	40.1	30		



# Q01911301A

SAE TERMINATION ENDS  
TO SAE J1926-1

SIZE			PART NUMBER	THREAD	DIMENSIONS mm					
DN	Inch	Dash			Female coupling	A	B	D		
12.5	1/2"	-08	Q01911301A-08-08	3/4"-16 UNF	119.3	ø38	30			



# Q01911320A

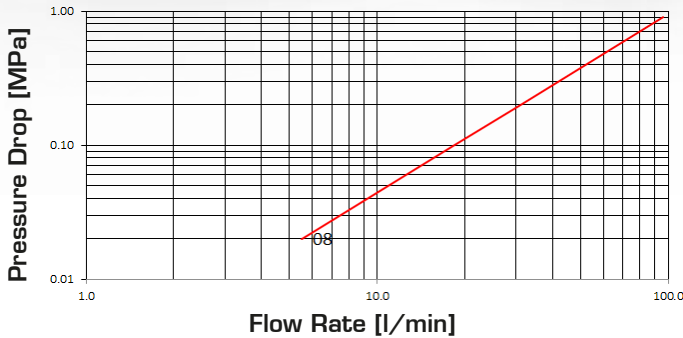
ORB TERMINATION ENDS  
TO SAE J1926-2 S SERIES

SIZE			PART NUMBER	THREAD	DIMENSIONS mm					
DN	Inch	Dash	Female coupling		A	B	D			
12.5	1/2"	-08	Q01911320A-08-08	3/4"-16 UNF	116.9	ø38	30			
12.5	1/2"	-08	Q01911320A-08-10	7/8"-14UNF	118.9	ø38	30			

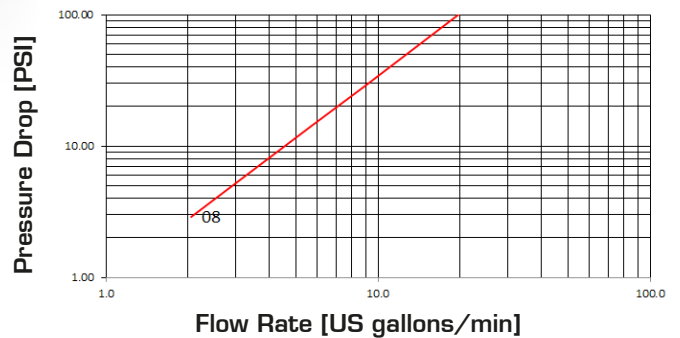
# BRAKING CIRCUIT VALVES



Pressure Drop



Pressure Drop



## TECHNICAL DATA

SIZE			WORKING PRESSURE [Dynamic]		RATED FLOW at 0.2 MPa of pressure drop		CONNECTION EFFORT		OIL SPILLAGE Connection/Disconnection		MINIMUM BURST PRESSURE						CONNECTION/DISCONNECTION UNDER PRESSURE
DN	inch	Dash	MPa	PSI	l/min	US GPM	N	lb.	cc.	cubic inch	Male		Female		M & F		
			MPa	PSI	l/min	US GPM	N	lb.	cc.	cubic inch	MPa	PSI	MPa	PSI	MPa	PSI	
12.5	½	08	15	2175	31	8.2	110	224	0.02	0.001	130	18850	60	8700	130	18850	Not allowed

The rated flow represents the normal operating condition. The maximum recommended flow rate is equal to 1.5 times the rated flow

## PRODUCT DESCRIPTION

- Trailer brake coupling specially designed to connect the hydraulic breaking system of tractors to trailers
- Connection and disconnection by pulling back the sleeve
- Positive connection by latching balls system
- Shut-off by flat valve
- The male has to be placed on the tractor and the female on the implement
- Interchangeable according to ISO 5676

### MATERIAL

Female and male coupling in steel, with some stressed tempered areas. Carbonitrided valve and sleeve, springs in C98 steel, seals in NBR and back-up ring PTFE

### WORKING TEMPERATURE

-22°F up to +230°F (-30°C up to +110°C)

### SAFETY FACTOR

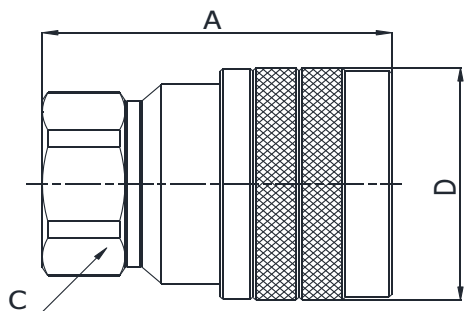
4:1 for dynamic pressures

### TEST SPECIFICATIONS

ISO 18869



Safety cap for male coupling and female coupling with parking included

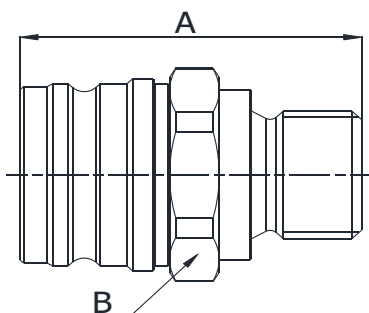


# Q04811041A

BSP TERMINATION ENDS  
TO DIN 3852 X TYPE

SIZE			PART NUMBER	THREAD	DIMENSIONS mm					
DN	Inch	Dash	Female coupling		A	B	C			
12.5	1/2"	-08	Q04811041A-08-06	3/8"	55,5	ø44	32			
12.5	1/2"	-08	Q04811041A-08-08	1/2"	56,5	ø44	32			

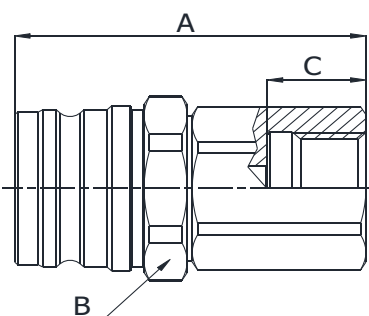
Q.SAFE 396



# Q04711050A

BSP TERMINATION ENDS  
TO ISO 8434-6

SIZE			PART NUMBER	THREAD	DIMENSIONS mm					
DN	Inch	Dash	Male coupling		A	B				
12.5	1/2"	-8	Q04711050A-08-08	1/2"	48	32				

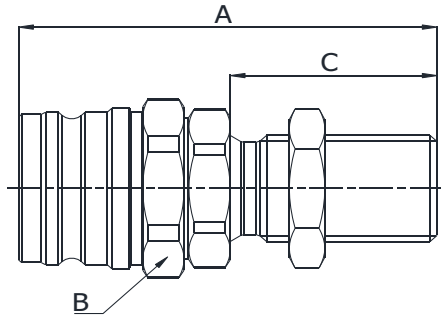


# Q04711041A

BSP TERMINATION ENDS  
TO DIN 3852 X TYPE

SIZE			PART NUMBER	THREAD	DIMENSIONS mm					
DN	Inch	Dash	Male coupling		A	B	C			
12.5	1/2"	-08	Q04711041A-08-08	1/2" GAS	57	32	16			

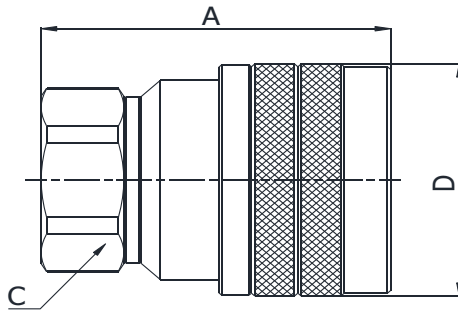




## Q04711040A

BSP TERMINATION ENDS  
TO ISO 8434-6  
BULKHEAD

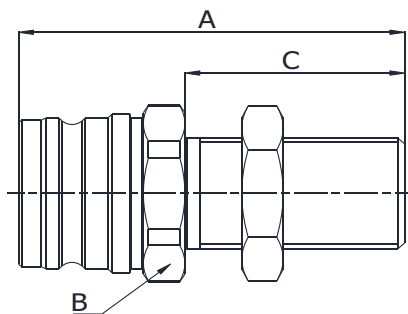
SIZE			PART NUMBER	THREAD	DIMENSIONS mm					
DN	Inch	Dash	Male coupling		A	B	C			
12.5	1/2"	-08	Q04711040A-08-08	1/2"	70.8	32	35			



## Q04811141A

METRIC TERMINATION ENDS  
TO DIN 3852 X TYPE

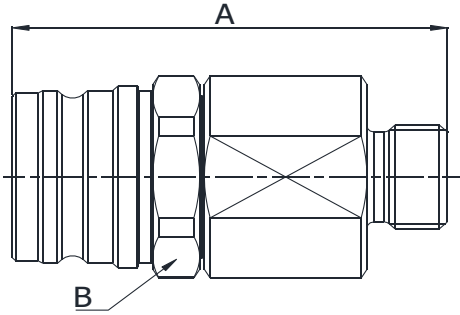
SIZE			PART NUMBER	THREAD	DIMENSIONS mm					
DN	Inch	Dash	Female coupling		A	B	C			
12.5	1/2"	-08	Q04811141A-08-18	M18x1,5	55,5	ø44	32			



## Q04711370A

METRIC TERMINATION ENDS  
TO DIN 3863  
BULKHEAD

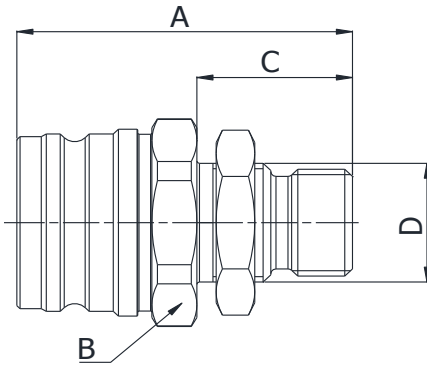
SIZE			PART NUMBER	THREAD	DIMENSIONS mm					
DN	Inch	Dash	Male coupling		A	B	C			
12.5	1/2"	-08	Q04711370A-08-22	M22x1,5	65	32	37			



## Q0471110A

METRIC TERMINATION ENDS  
TO ISO 8434-1  
L SERIES

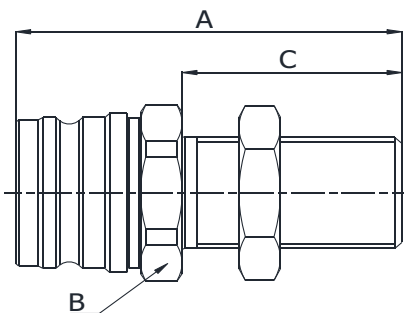
SIZE			PART NUMBER	THREAD	DIMENSIONS mm				
DN	Inch	Dash			Male coupling	A	B		
12.5	1/2"	-08	Q04711110A-08-18	M18x1,5	65	32			
12.5	1/2"	-08	Q04711110A-08-22	M22x1,5	64.7	32			



## Q04711770A

METRIC TERMINATION END  
TO ISO 8434-1  
BULKHEAD

SIZE			PART NUMBER	THREAD	DIMENSIONS mm				
DN	Inch	Dash			Male coupling	A	B	C	D
12.5	1/2"	-08	Q04711770A-08-16	M16x1.5	52.5	32	24.5	M20x1.5	
12.5	1/2"	-08	Q04711770A-08-18	M18x1.5	52	32	24	M20x1.5	

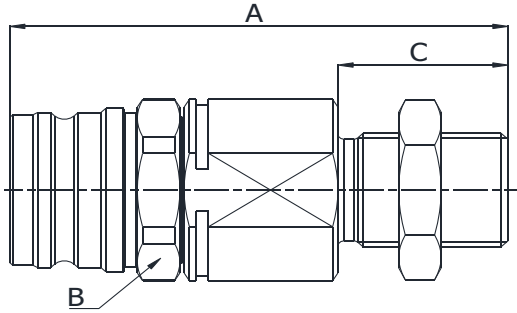


## Q04711770A

METRIC TERMINATION END  
TO ISO 8434-1  
BULKHEAD L SERIES

SIZE			PART NUMBER	THREAD	DIMENSIONS mm				
DN	Inch	Dash			Male coupling	A	B	C	
12.5	1/2"	-08	Q04711770A-08-22	M22x1,5	63	32	35		

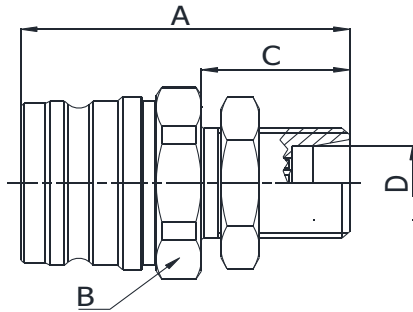
Q.SAFE 398



## Q04711770B

METRIC TERMINATION END  
TO ISO 8434-1  
BULKHEAD L SERIES

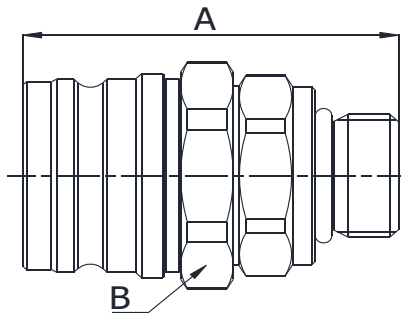
SIZE			PART NUMBER	THREAD	DIMENSIONS mm					
DN	Inch	Dash	Male coupling		A	B	C			
12.5	1/2"	-08	Q04711770B-08-22	M22x1,5	82	32	28			



## Q04711820A

METRIC TERMINATION END  
BULKHEAD

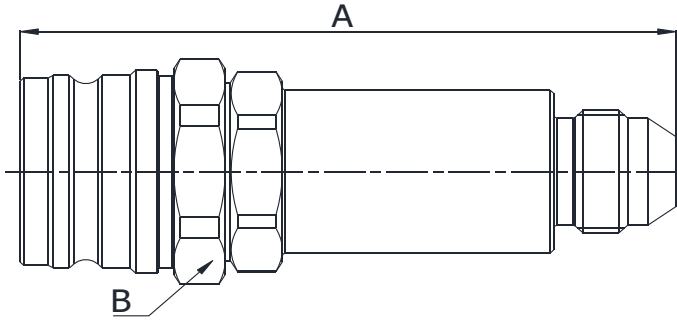
SIZE			PART NUMBER	THREAD	DIMENSIONS mm					
DN	Inch	Dash	Male coupling		A	B	C	D		
12.5	1/2"	-08	Q04711820A-08-20	M20x1,5	51	32	23	ø13,5		



## Q04711300A

SAE TERMINATION END  
TO SAE J1926-3

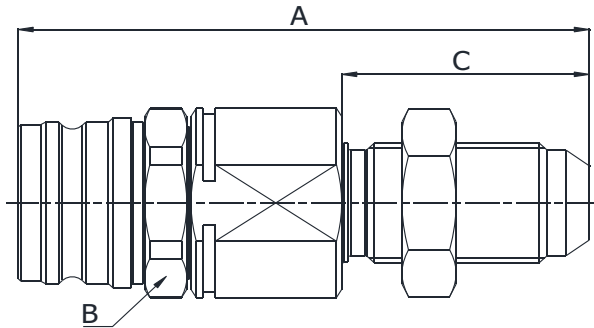
SIZE			PART NUMBER	THREAD	DIMENSIONS mm					
DN	Inch	Dash	Male coupling		A	B				
12.5	1/2"	-08	Q04711300A-08-08	3/4"-16 UNF	50	32				



# Q04711250A

SAE TERMINATION ENDS  
TO ISO 8434-2

SIZE			PART NUMBER	THREAD	DIMENSIONS mm					
DN	Inch	Dash	Male coupling		A	B				
12.5	1/2"	-08	Q04711250A-08-08	3/4"-16 UNF	89.5	32				



# Q04711230A

SAE TERMINATION ENDS  
TO ISO 8434-2  
BULKHEAD

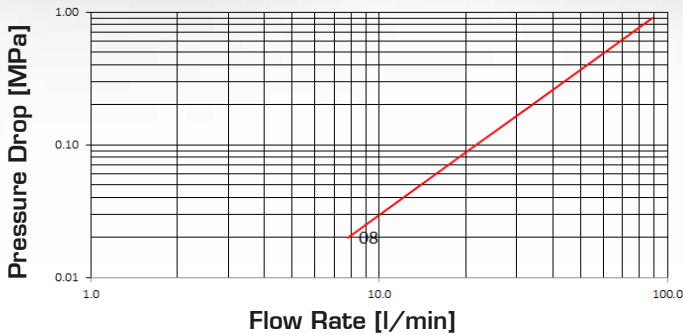
SIZE			PART NUMBER	THREAD	DIMENSIONS mm					
DN	Inch	Dash	Male coupling		A	B	C			
12.5	1/2"	-08	Q04711230A-08-10	7/8"-14 UNF	94.8	32	40.1			

Q.SAFE  
400

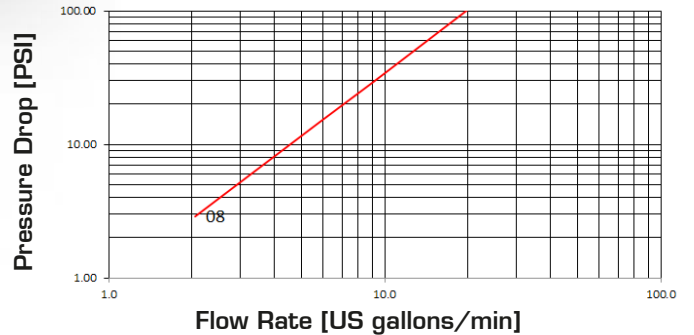
# AGRICULTURAL VALVES



**Pressure Drop**



**Pressure Drop**



## TECHNICAL DATA

SIZE			WORKING PRESSURE (Dynamic)		RATED FLOW at 0.2 MPa of pressure drop		OIL SPILLAGE Connection/ Disconnection		MINIMUM BURST PRESSURE						CONNECTION/ DISCONNECTION UNDER PRESSURE
DN	inch	Dash	MPa	PSI	l/min	US GPM	cc.	cubic inch	Male		Female		M & F		ALLOWED
									MPa	PSI	MPa	PSI	MPa	PSI	
12.5	½	08	20	2900	34	9.0	0.02	0.001	130	18850	80	11600	140	20300	ALLOWED

The rated flow represents the normal operating condition. The maximum recommended flow rate is equal to 1.5 times the rated flow

## PRODUCT DESCRIPTION

- Trailer brake coupling specially designed to connect the hydraulic breaking system of tractors to trailers
- Connection and disconnection by screwing the sleeve
- Connection secured on the thread between the sleeve and the male coupling
- Flat-valve
- Connection and disconnection under pressure allowed
- The male has to be placed on the tractor and the female on the implement
- Interchangeable with similar products available on the market

### MATERIAL

Female and male coupling in steel, with hardened stressed areas. Carbonitrided valve, springs in C98 steel, seals in NBR and back-up ring PTFE

### WORKING TEMPERATURE

-22°F up to +230°F (-30°C up to +110°C)

### SAFETY FACTOR

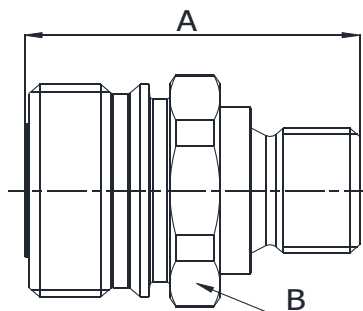
4:1 for dynamic pressures

### TEST SPECIFICATIONS

ISO 18869



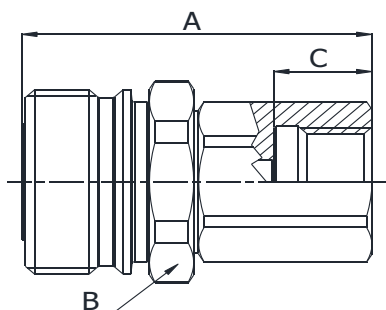
Safety cap for male coupling and female coupling with parking included



## Q04911050A

BSP TERMINATION ENDS  
TO ISO 8434-6

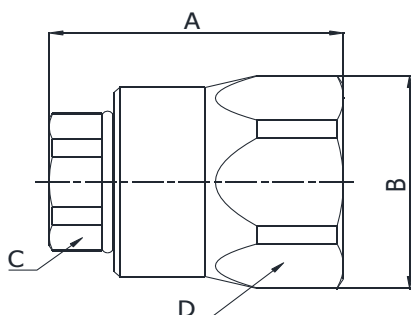
SIZE			PART NUMBER	THREAD	DIMENSIONS mm					
DN	Inch	Dash	Male coupling		A	B				
12.5	1/2"	-08	Q04911050A-08-08	1/2" GAS	48	36				



## Q04911041A

BSP TERMINATION ENDS  
TO DIN 3852 X TYPE

SIZE			PART NUMBER	THREAD	DIMENSIONS mm					
DN	Inch	Dash	Male coupling		A	B	C			
12.5	1/2"	-08	Q04911041A-08-08	1/2" BSP	57	36	16			

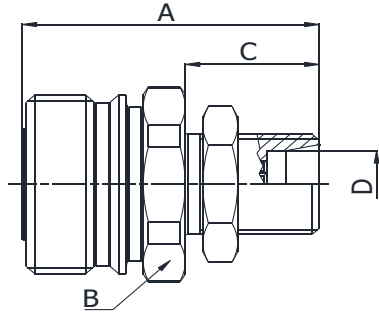


## Q05011141A

METRIC TERMINATION ENDS  
TO DIN 3852 X TYPE

SIZE			PART NUMBER	THREAD	DIMENSIONS mm					
DN	Inch	Dash	Female coupling		A	B	C	D		
12.5	1/2"	-08	Q05011141A-08-18	M18x1,5	53.5	ø45	27	41		

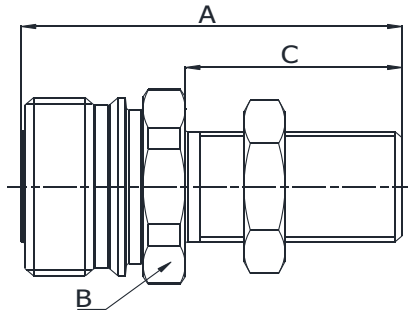
Q.SAFE  
402



## Q04911820A

METRIC TERMINATION ENDS  
BULKHEAD

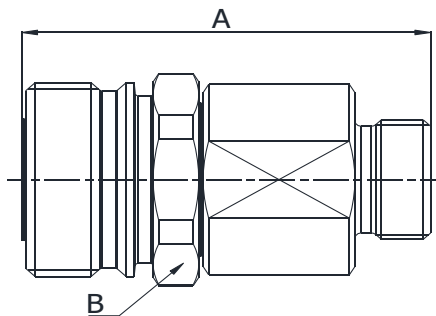
SIZE			PART NUMBER	THREAD	DIMENSIONS mm				
DN	Inch	Dash	Male coupling		A	B	C	D	
12.5	1/2"	-08	Q04911820A-08-20	M20x1,5	51	36	23	ø13,5	



## Q04911370A

METRIC TERMINATION ENDS  
TO DIN 3863  
BULKHEAD

SIZE			PART NUMBER	THREAD	DIMENSIONS mm				
DN	Inch	Dash	Male coupling		A	B	C		
12.5	1/2"	-08	Q04911370A-08-22	M22x1,5	65	36	37		

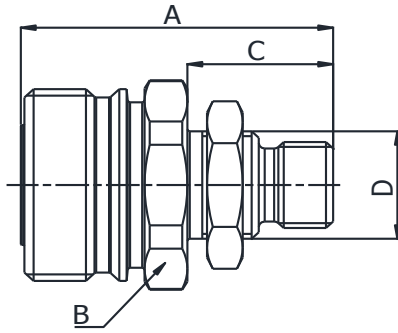


## Q04911110A

METRIC TERMINATION ENDS  
TO ISO 8434-1  
L SERIES

SIZE			PART NUMBER	THREAD	DIMENSIONS mm				
DN	Inch	Dash	Male coupling		A	B			
12.5	1/2"	-08	Q04911110A-08-18	M18x1,5	65	36			
12.5	1/2"	-08	Q04911110A-08-22	M22x1,5	64.7	36			

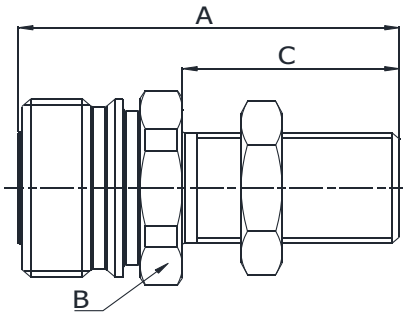
403 Q.SAFE



## Q04911770A

METRIC TERMINATION END  
TO ISO 8434-1  
BULKHEAD

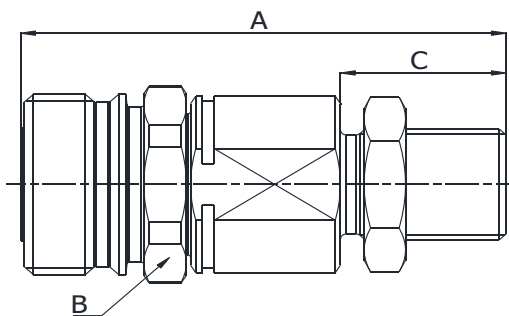
SIZE			PART NUMBER	THREAD	DIMENSIONS mm				
DN	Inch	Dash			Male coupling	A	B	C	D
12.5	1/2"	-08	Q04911770A-08-16	M16x1,5	52.5	36	24.5	M20x1.5	
12.5	1/2"	-08	Q04911770A-08-18	M18x1,5	52	36	24	M20x1.5	



## Q04911770A

METRIC TERMINATION END  
TO ISO 8434-1  
BULKHEAD L SERIES

SIZE			PART NUMBER	THREAD	DIMENSIONS mm				
DN	Inch	Dash			Male coupling	A	B	C	
12.5	1/2"	-08	Q04911770A-08-22	M22x1,5	63	36	35		

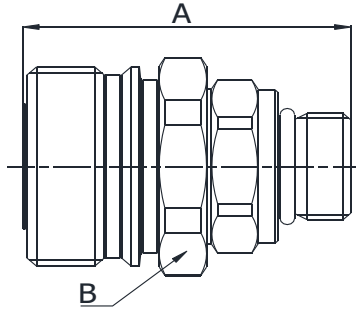


## Q04911770B

METRIC TERMINATION END  
TO ISO 8434-1  
BULKHEAD L SERIES

SIZE			PART NUMBER	THREAD	DIMENSIONS mm				
DN	Inch	Dash			Male coupling	A	B	C	
12.5	1/2"	-08	Q04911770B-08-22	M22x1,5	82	36	28		

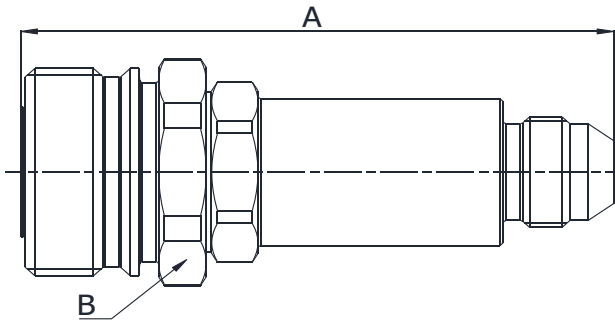




# Q04911300A

SAE TERMINATION END  
TO SAE J1926-3

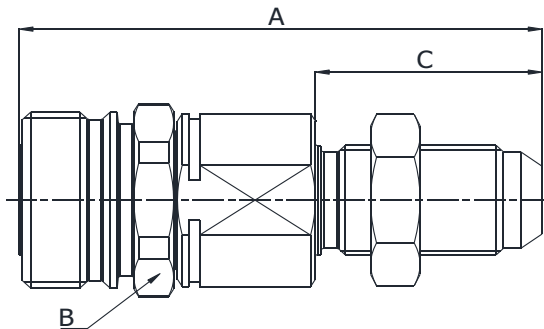
SIZE			PART NUMBER	THREAD	DIMENSIONS mm					
DN	Inch	Dash	Male coupling		A	B				
12.5	1/2"	-08	Q04911300A-08-08	3/4"-16 UNF	50	36				



# Q04911250A

BSP TERMINATION ENDS  
TO ISO 8434-6

SIZE			PART NUMBER	THREAD	DIMENSIONS mm					
DN	Inch	Dash	Male coupling		A	B				
12.5	1/2"	-8	Q04711050A-08-08	1/2"	48	32				



# Q04911230A

SAE TERMINATION ENDS  
TO ISO 8434-2  
BULKHEAD

SIZE			PART NUMBER	THREAD	DIMENSIONS mm					
DN	Inch	Dash	Male coupling		A	B	C			
12.5	1/2"	-08	Q04911230A-08-10	7/8"-14 UNF	94.8	36	40.1			

405 Q.SAFE



# DIAGNOSTIC

## TECHNICAL DATA

 SIZE			 WORKING PRESSURE (Dynamic)		 MINIMUM BURST PRESSURE	
DN	inch	Dash	MPa	PSI	Male	
					MPa	PSI
5	1/8	02	42	6090	250	36250

## PRODUCT DESCRIPTION

- Quick coupling purposely designed to easily access hydraulic systems for performance testing
- Installing male coupling in several parts of the hydraulic system, a reliable diagnosis can be carried out in a short time
- Connection by pushing the male coupling in the female or vice-versa
- Disconnection by pulling back the sleeve
- Retaining by ball latching system
- Shut-off system by flat valve
- Wide range of termination ends available on request and protective cap
- Interchangeability according to ISO 15171-1 and SAE J1502

### MATERIAL

Male coupling in steel, with some hardened areas in correspondence to the most stressed points. Carbonitrided valve, spring in C98 steel and seals in NBR (other materials on request)

### WORKING TEMPERATURE

-22°F up to +230°F (-30°C up to +110°C)  
For different temperature range, the coupling can be assembled with specific seals

### SAFETY FACTOR

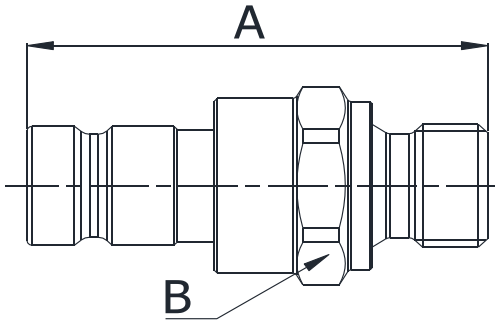
4:1 for dynamic pressures

### IMPULSE PRESSURES

1,000,000 cycles at 133% of the rated one (freq. 1Hz)

### TEST SPECIFICATIONS

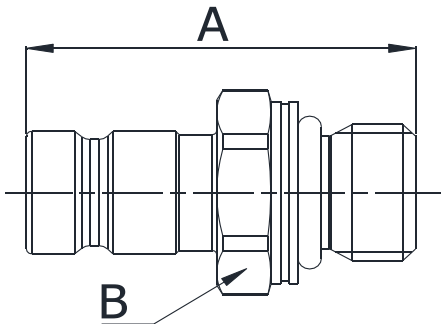
ISO 18869



## Q04511050A

BSP TERMINATION ENDS  
TO ISO 8434-6

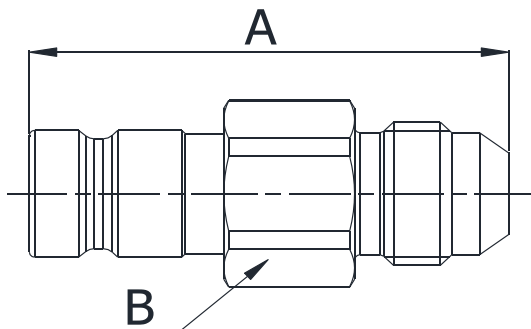
SIZE			PART NUMBER	THREAD	DIMENSIONS mm					
DN	Inch	Dash	Male coupling		A	B				
5	1/8"	-02	Q04511050A-02-04	3/8"	43.8	19				



## Q04511190A

METRIC TERMINATION ENDS  
TO ISO 6149-2

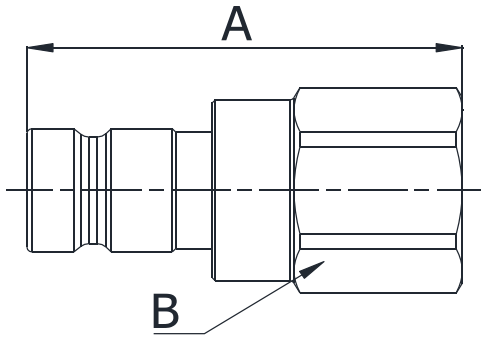
SIZE			PART NUMBER	THREAD	DIMENSIONS mm					
DN	Inch	Dash	Male coupling		A	B				
5	1/8"	-02	Q04511190A-02-14	M14x1,5	36.4	19				



## Q04511250A

SAE TERMINATION ENDS  
TO ISO 8434-2

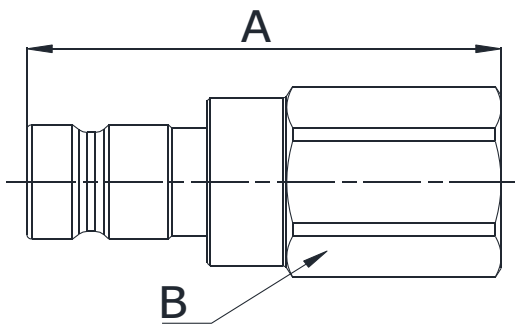
SIZE			PART NUMBER	THREAD	DIMENSIONS mm					
DN	Inch	Dash	Male coupling		A	B				
5	1/8"	-02	Q04511250A-02-06	3/8"	43.9	17				



## Q04511251A

SAE TERMINATION ENDS  
TO ISO 8434-2

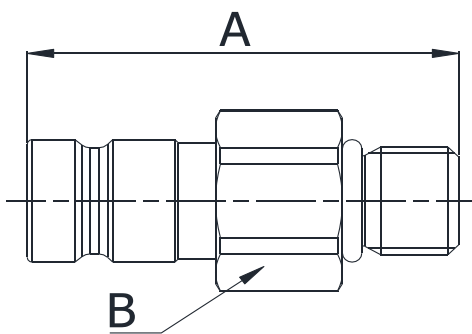
SIZE			PART NUMBER	THREAD	DIMENSIONS mm					
DN	Inch	Dash	Male coupling		A	B				
5	1/8"	-02	Q04511251A-02-06	3/8"	41.8	19				



## Q04511301A

SAE TERMINATION ENDS  
TO SAE J1926-1

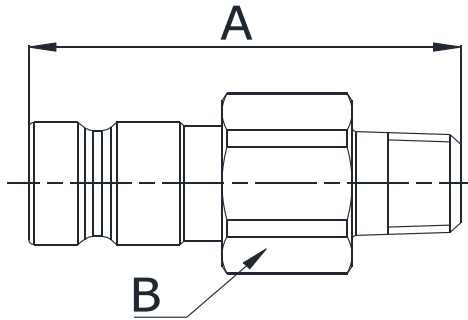
SIZE			PART NUMBER	THREAD	DIMENSIONS mm					
DN	Inch	Dash	Male coupling		A	B				
5	1/8"	-02	Q04511301A-02-06	9/16"-18 UNF	46.8	19				



## Q04511320A

SAE TERMINATION ENDS  
TO SAE J1926-2

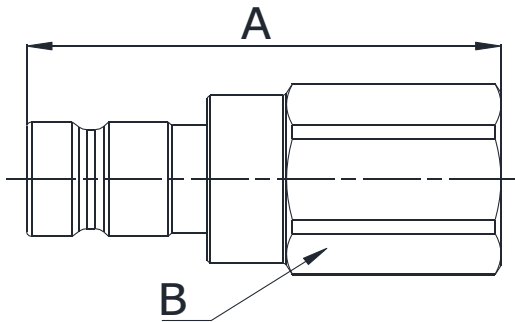
SIZE			PART NUMBER	THREAD	DIMENSIONS mm					
DN	Inch	Dash	Male coupling		A	B				
5	1/8"	-02	Q04511320A-02-04	7/16"-20 UNF	40.8	17				
5	1/8"	-02	Q04511320A-02-06	9/16"-18 UNF	37.4	17				



## Q04511280A

NPTF TERMINATION ENDS  
TO ANSI B 1.20.3

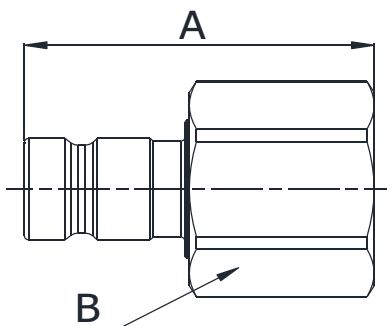
SIZE			PART NUMBER	THREAD	DIMENSIONS mm				
DN	Inch	Dash			Male coupling	A	B		
5	1/8"	-02	Q04511280A-02-02	1/8" NPTF	39.8	17			
5	1/8"	-02	Q04511280A-02-04	1/4" NPTF	44.3	17			
5	1/8"	-02	Q04511280A-02-06	3/8" NPTF	39.9	19			



## Q04511341A

NPTF TERMINATION ENDS  
TO ANSI B 1.20.3

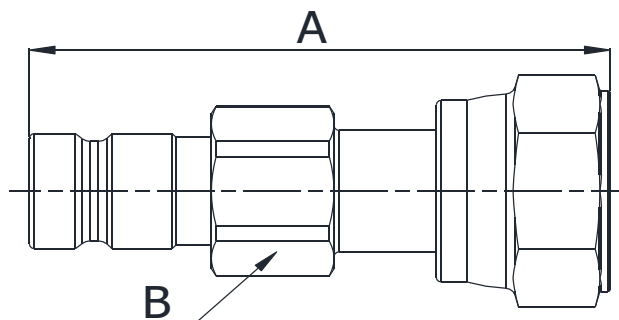
SIZE			PART NUMBER	THREAD	DIMENSIONS mm				
DN	Inch	Dash			Male coupling	A	B		
5	1/8"	-02	Q04511341A-02-02	1/8" NPTF	37.8	17			
5	1/8"	-02	Q04511341A-02-04	1/4" NPTF	45.8	17			



## Q04511241A

ORFS TERMINATION ENDS  
TO SAE J1453

SIZE			PART NUMBER	THREAD	DIMENSIONS mm				
DN	Inch	Dash			Male coupling	A	B		
5	1/8"	-02	Q04511241A-02-08	13/16"-16 UN	38.8	24			



# Q04511241A

ORFS TERMINATION ENDS  
TO SAE J1453

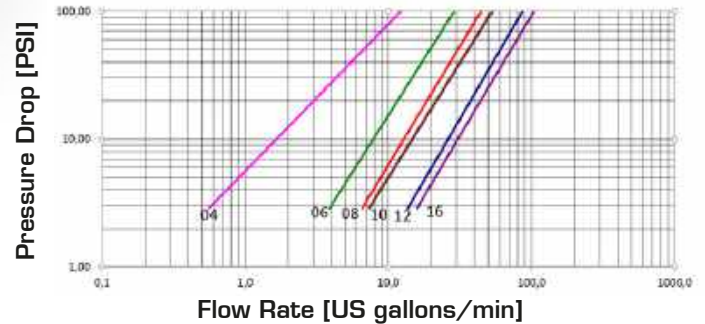
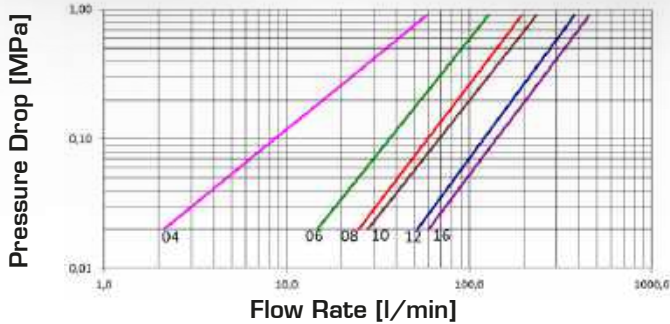
SIZE			PART NUMBER	THREAD	DIMENSIONS mm					
DN	Inch	Dash	Male coupling		A	B				
5	1/8"	-02	Q04511241A-02-04	9/16"-16 UNF	53	17				
5	1/8"	-02	Q04511241A-02-06	11/16"-16 UN	56.8	17				

# FLAT FACE



Pressure Drop

Pressure Drop



## TECHNICAL DATA

SIZE			WORKING PRESSURE				RATED FLOW		CONNECTION EFFORT		OIL SPILLAGE		MINIMUM BURST PRESSURE						CONNECTION WITH FEMALE UNDER PRESSURE
DN	inch	Dash	MPa		PSI		l/min	US GPM	N	lb.	cc.	cubic inch	Male		Female		M & F		[MALE AT 0 MPa]
			MPa	PSI	MPa	PSI						MPa	PSI	MPa	PSI	MPa	PSI		
6.3	1/4"	04	35	5075	32	4640	16	4.2	120	27.0	0.005	0.0003	180	26100	130	18850	160	23200	Allowed up to 6 MPa
10	3/8"	06	35	5075	25	3625	54	14.3	130	29.2	0.007	0.0004	135	19575	125	18125	140	20300	Allowed up to 6 MPa
12.5	1/2"	08	35	5075	25	3625	86	22.7	150	33.7	0.008	0.0005	120	17400	110	15950	145	21025	Allowed up to 4 MPa
16	5/8"	10	35	5075	25	3625	101	26.7	160	36.0	0.008	0.0005	150	21750	100	14500	160	23200	Allowed up to 3 MPa
19	3/4"	12	35	5075	25	3625	172	45.4	210	47.2	0.009	0.0005	100	14500	105	15225	140	20300	Allowed up to 2 MPa
25	1"	16	35	5075	21	3045	204	53.9	210	47.2	0.02	0.0012	105	15225	85	12325	145	21025	Allowed up to 2 MPa

Connection with Male under pressure not allowed; Disconnection under pressure not allowed  
 The rated flow represents the normal operating condition. The maximum recommended flow rate is equal to 1.5 times the rated flow

## PRODUCT DESCRIPTION

- Flat mating surfaces easily wiped clean to prevent contamination and spillage during connection/disconnection
- Connection is made by pushing the male coupling and disconnection by pulling back the sleeve of the female
- Safety system on female part to prevent accidental disconnection
- Positive, quick connection of the male into the female by the latching ball system
- Shut-off by flat valve
- Interchangeability according to ISO 16028 and HTMA standards (only for 3/8")
- 1,000,000 cycles at 120% of rated (freq. 1Hz - connected conditions)

## MATERIAL

Female and male coupling in steel, with some stressed tempered or carbonitrided areas. Springs in AISI and C98 steel, seals in polyurethane and NBR. Other materials (VITON, EPDM or any others) on request

## WORKING TEMPERATURE

-22°F up to +230°F (-30°C up to +110°C)  
 For other temperatures the coupling is assembled with the specified seals

## SAFETY FACTOR

4:1 for dynamic pressures

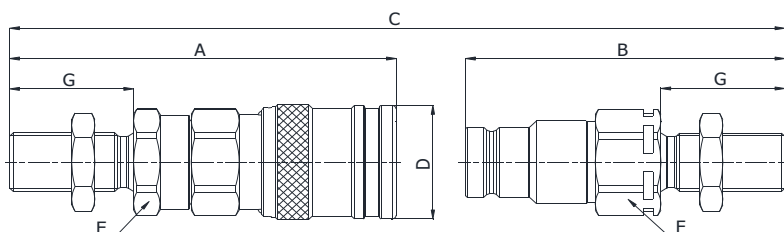
## IMPULSE PRESSURES

100,000 cycles at 133% of the rated one (freq. 1Hz) in disconnected conditions. 1,000,000 cycles at 120% of rated one (freq. 1Hz) in connected conditions.

## TEST SPECIFICATIONS

ISO 18869

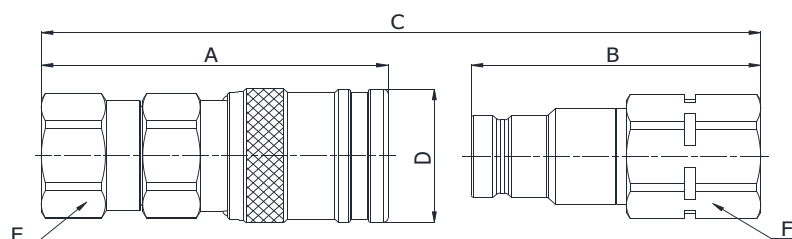
# Q04111040A Q03911040A



BSP TERMINATION ENDS  
TO ISO 8434-6  
BULKHEAD

SIZE			PART NUMBER		THREAD	DIMENSIONS mm						
DN	Inch	Dash	Female coupling	Male coupling		A	B	C	D	E	F	G
10	3/8"	-06	Q04111040A-06-06	Q03911040A-06-06	3/8"	99.9	82.5	A+B-16,4	ø32	27	27	32

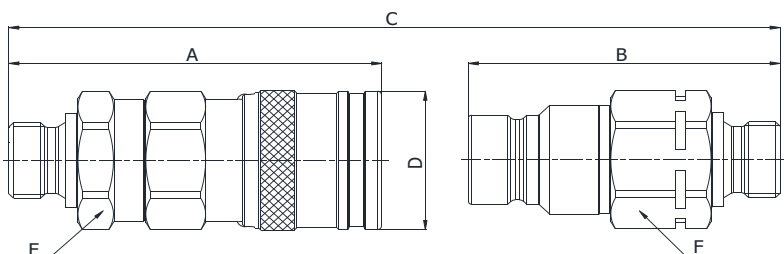
# Q04111041A Q03911041A



BSP TERMINATION ENDS  
TO DIN 3852 X TYPE

SIZE			PART NUMBER		THREAD	DIMENSIONS mm							
DN	Inch	Dash	Female coupling	Male coupling		A	B	C	D	E	F		
6.3	1/4"	-04	Q04111041A-04-04	Q03911041A-04-04	1/4"	63.6	52.1	A+B-11,1	ø28	24	22		
6.3	1/4"	-04	Q04111041A-04-06	Q03911041A-04-06	3/8"	63.6	53.6	A+B-11,1	ø28	24	22		
10	3/8"	-06	Q04111041A-06-06	Q03911041A-06-06	3/8"	74.9	62.5	A+B-15,9	ø32	27	27		
10	3/8"	-06	Q04111041A-06-08	Q03911041A-06-08	1/2"	77.9	65.5	A+B-15,9	ø32	27	27		
12.5	1/2"	-08	Q04111041A-08-06	Q03911041A-08-06	3/8"	81.7	72.5	A+B-17,1	ø38	34	34		
12.5	1/2"	-08	Q04111041A-08-08	Q03911041A-08-08	1/2"	84.7	72.5	A+B-17,1	ø38	34	34		
12.5	1/2"	-08	Q04111041A-08-12	Q03911041A-08-12	3/4"	86.7	74.5	A+B-17,1	ø38	34	34		
16	5/8"	-10	Q04111041A-10-12	Q03911041A-10-12	3/4"	89.9	75.1	A+B-17,6	ø42	34	34		
20	3/4"	-12	Q04111041A-12-08	Q03911041A-12-08	1/2"	105.9	88.5	A+B-21,7	ø48	41	41		
20	3/4"	-12	Q04111041A-12-12	Q03911041A-12-12	3/4"	105.9	88.5	A+B-21,7	ø48	41	41		
20	3/4"	-12	Q04111041A-12-16	Q03911041A-12-16	1"	108.9	91.5	A+B-21,7	ø48	41	41		
25	1"	-16	Q04111041A-16-16	Q03911041A-16-16	1"	114.5	89.8	A+B-22,9	ø55	50	50		
25	1"	-16	Q04111041A-16-20	Q03911041A-16-20	1.1/4"	117	94.8	A+B-22,9	ø55	50	50		

# Q04111050A Q03911050A



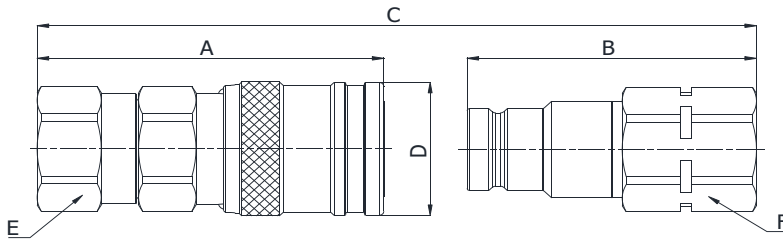
BSP TERMINATION ENDS  
TO ISO 8434-6

SIZE			PART NUMBER		THREAD	DIMENSIONS mm							
DN	Inch	Dash	Female coupling	Male coupling		A	B	C	D	E	F		
10	3/8"	-06	Q04111050A-06-06	Q03911050A-06-06	3/8"	82.6	65.2	A+B-15,9	ø32	27	27		
10	3/8"	-06	Q04111050A-06-08	Q03911050A-06-08	1/2"	85.1	67.7	A+B-15,9	ø32	27	27		
12.5	1/2"	-08	Q04111050A-08-08	Q03911050A-08-08	1/2"	92.9	77.7	A+B-17,1	ø38	34	34		
12.5	1/2"	-08	Q04111050A-08-12	Q03911050A-08-12	3/4"	94.9	79.7	A+B-17,1	ø38	34	34		
16	5/8"	-10	Q04111050A-10-12	Q03911050A-10-12	3/4"	95.6	80.3	A+B-17,6	ø42	34	34		



# Q04111141A Q03911141A

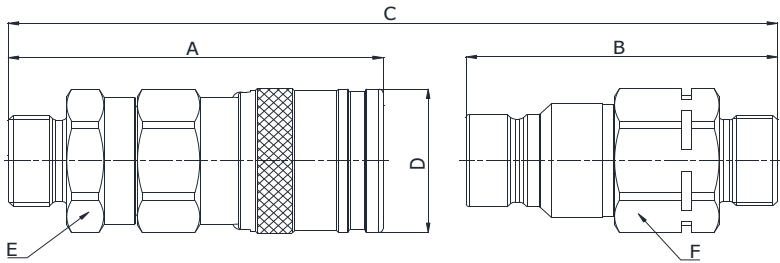
METRIC TERMINATION ENDS  
TO ISO 3852-1 X TYPE



SIZE			PART NUMBER		THREAD	DIMENSIONS mm					
DN	Inch	Dash	Female coupling	Male coupling		A	B	C	D	E	F
6.3	1/4"	-04	Q04111141A-04-16	Q03911141A-04-16	M16x1,5	63.6	53.6	A+B-11,1	ø28	24	22
10	3/8"	-06	Q04111141A-06-18	Q03911141A-06-18	M18x1,5	77.9	62.5	A+B-15,9	ø32	27	27
10	3/8"	-06	Q04111141A-06-22	Q03911141A-06-22	M22x1,5	77.9	64.5	A+B-15,9	ø32	27	27

# Q04111120A Q03911120A

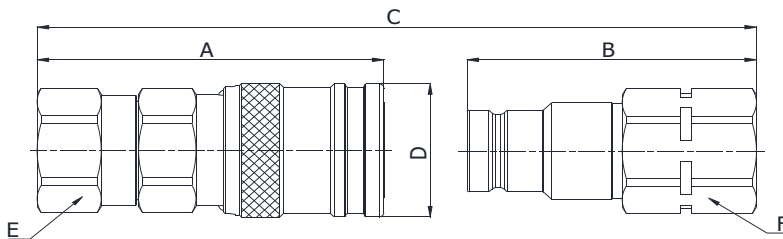
METRIC TERMINATION END  
TO ISO 8434-1  
S SERIES



SIZE			PART NUMBER		THREAD	DIMENSIONS mm					
DN	Inch	Dash	Female coupling	Male coupling		A	B	C	D	E	F
6.3	1/4"	-04	Q04111120A-04-16	Q03911120A-04-16	M16x1,5	69.6	51.1	A+B-11,1	ø28	24	22
6.3	1/4"	-04	Q04111120A-04-18	Q03911120A-04-18	M18x1,5	69.6	51.1	A+B-11,1	ø28	24	22
10	3/8"	-06	Q04111120A-06-18	Q03911120A-06-18	M18x1,5	79.9	62.5	A+B-15,9	ø32	27	27
10	3/8"	-06	Q04111120A-06-20	Q03911120A-06-20	M20x1,5	79.9	62.5	A+B-15,9	ø32	27	27
12.5	1/2"	-08	Q04111120A-08-20	Q03911120A-08-20	M20x1,5	87.7	72.5	A+B-17,1	ø38	34	34
12.5	1/2"	-08	Q04111120A-08-24	Q03911120A-08-24	M24x1,5	87.7	74.5	A+B-17,1	ø38	34	34
20	3/4"	-12	Q04111120A-12-30	Q03911120A-12-30	M30x2	105.9	90.5	A+B-21,7	ø48	41	41

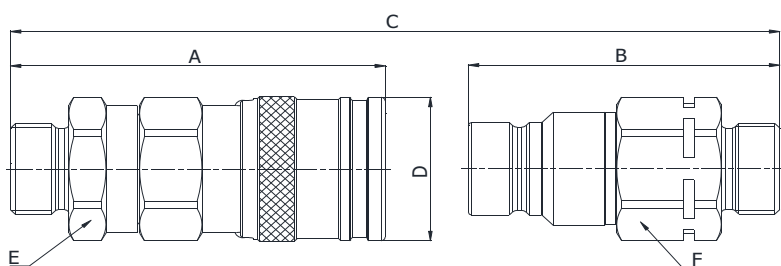
# Q04111191A Q03911191A

METRIC TERMINATION ENDS  
TO ISO 6149-1



SIZE			PART NUMBER		THREAD	DIMENSIONS mm					
DN	Inch	Dash	Female coupling	Male coupling		A	B	C	D	E	F
10	3/8"	-06	Q04111191A-06-16	Q03911191A-06-16	M16x1,5	75.4	63	A+B-15,9	ø32	27	27
10	3/8"	-06	Q04111191A-06-18	Q03911191A-06-18	M18x1,5	76.9	64.5	A+B-15,9	ø32	27	27

**Q.SAFE**  
**413**

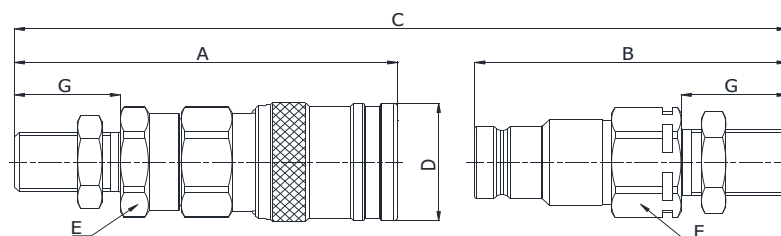


# Q0411110A Q0391110A

METRIC TERMINATION END  
TO ISO 8434-1  
L SERIES

SIZE			PART NUMBER		THREAD	DIMENSIONS mm							
DN	Inch	Dash	Female coupling	Male coupling		A	B	C	D	E	F		
6.3	1/4"	-04	Q0411110A-04-12	Q0391110A-04-12	M16x1,5	68.6	50.1	A+B-11,1	ø28	24	22		
6.3	1/4"	-04	Q0411110A-04-14	Q0391110A-04-14	M14x1,5	68.6	50.1	A+B-11,1	ø28	24	22		
6.3	1/4"	-04	Q0411110A-04-16	Q0391110A-04-16	M16x1,5	68.6	50.1	A+B-11,1	ø28	24	22		
10	3/8"	-06	Q0411110A-06-14	Q0391110A-06-14	M14x1,5	77.9	61.5	A+B-15,9	ø32	27	27		
10	3/8"	-06	Q0411110A-06-16	Q0391110A-06-16	M16x1,5	78.9	62.5	A+B-15,9	ø32	27	27		
10	3/8"	-06	Q0411110A-06-18	Q0391110A-06-18	M18x1,5	78.9	61.5	A+B-15,9	ø32	27	27		
10	3/8"	-06	Q0411110A-06-22	Q0391110A-06-22	M22x1,5	79.9	62.5	A+B-15,9	ø32	27	27		
12.5	1/2"	-08	Q0411110A-08-18	Q0391110A-08-18	M18x1,5	86.7	72.5	A+B-17,1	ø38	34	34		
12.5	1/2"	-08	Q0411110A-08-22	Q0391110A-08-22	M22x1,5	87.7	72.5	A+B-17,1	ø38	34	34		
12.5	1/2"	-08	Q0411110A-08-26	Q0391110A-08-26	M26x1,5	87.7	72.5	A+B-17,1	ø38	34	34		
20	3/4"	-12	Q0411110A-12-26	Q0391110A-12-26	M26x1,5	101.9	86.5	A+B-21,7	ø48	41	41		
20	3/4"	-12	Q0411110A-12-30	Q0391110A-12-30	M30x2	103.9	88.5	A+B-21,7	ø48	41	41		
25	1"	-16	Q0411110A-16-30	Q0391110A-16-30	M30x2	110.5	79.8	A+B-22,9	ø55	50	50		

Q.SAFE 414



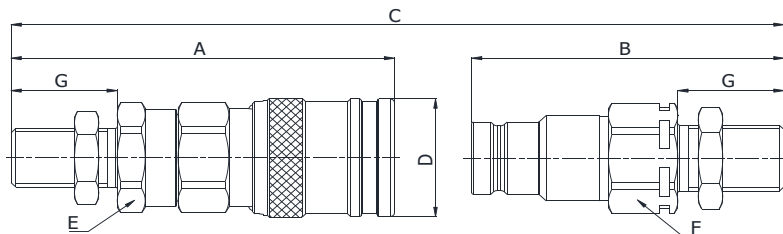
# Q04111770B Q03911770B

METRIC TERMINATION END  
TO ISO 8434-1  
BULKHEAD L SERIES

SIZE			PART NUMBER		THREAD	DIMENSIONS mm						
DN	Inch	Dash	Female coupling	Male coupling		A	B	C	D	E	F	G
6.3	1/4"	-04	Q04111770B-04-12	Q03911770B-04-12	M12x1,5	82.6	65.1	A+B-11,1	ø28	24	22	25
6.3	1/4"	-04	Q04111770B-04-14	Q03911770B-04-14	M14x1,5	82.6	64.1	A+B-11,1	ø28	24	22	25
6.3	1/4"	-04	Q04111770B-04-16	Q03911770B-04-16	M16x1,5	83.6	64.1	A+B-11,1	ø28	24	22	26
10	3/8"	-06	Q04111770B-06-16	Q03911770B-06-16	M16x1,5	93.9	76.5	A+B-15,9	ø32	27	27	26
10	3/8"	-06	Q04111770B-06-18	Q03911770B-06-18	M18x1,5	93.9	76.5	A+B-15,9	ø32	27	27	26
10	3/8"	-06	Q04111770B-06-22	Q03911770B-06-22	M22x1,5	94.9	77.5	A+B-15,9	ø32	27	27	27
12.5	1/2"	-08	Q04111770B-08-18	Q03911770B-08-18	M18x1,5	101.7	86.5	A+B-17,1	ø38	34	34	26
12.5	1/2"	-08	Q04111770B-08-22	Q03911770B-08-22	M22x1,5	102.7	87.5	A+B-17,1	ø38	34	34	27
12.5	1/2"	-08	Q04111770B-08-26	Q03911770B-08-26	M26x1,5	103.7	88.5	A+B-17,1	ø38	34	34	28
20	3/4"	-12	Q04111770B-12-26	Q03911770B-12-26	M26x1,5	114.9	102.5	A+B-21,7	ø48	41	41	29
20	3/4"	-12	Q04111770B-12-30	Q03911770B-12-30	M30x2	118.9	106.5	A+B-21,7	ø48	41	41	32

# Q04111870B Q03911870B

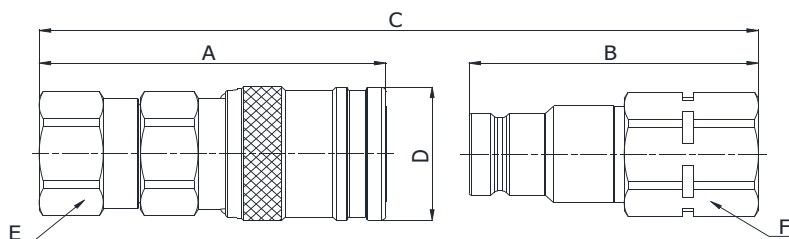
METRIC TERMINATION END  
TO ISO 8434-1  
BULKHEAD S SERIES



SIZE			PART NUMBER		THREAD	DIMENSIONS mm						
DN	Inch	Dash	Female coupling	Male coupling		A	B	C	D	E	F	G
6.3	1/4"	-04	Q04111870B-04-16	Q03911870B-04-16	M16x1,5	83.6	65.1	A+B-11,1	ø28	24	22	27
6.3	1/4"	-04	Q04111870B-04-18	Q03911870B-04-18	M18x1,5	83.6	65.1	A+B-11,1	ø28	24	22	27
10	3/8"	-06	Q04111870B-06-18	Q03911870B-06-18	M18x1,5	94.9	77.5	A+B-15,9	ø32	27	27	27
10	3/8"	-06	Q04111870B-06-20	Q03911870B-06-20	M20x1,5	94.9	77.5	A+B-15,9	ø32	27	27	27
12.5	1/2"	-08	Q04111870B-08-24	Q03911870B-08-24	M24x1,5	104.7	89.5	A+B-17,1	ø38	34	34	29
20	3/4"	-12	Q04111870B-12-30	Q03911870B-12-30	M30x2	119.9	108.5	A+B-21,7	ø48	41	41	34
25	1"	-16	Q04111870B-16-36	Q03911870B-16-36	M36x2	128.5	101.8	A+B-22,9	ø55	50	50	36

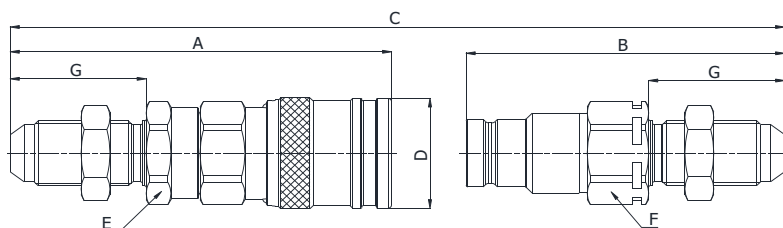
# Q04111341A Q03911341A

NPTF TERMINATION END  
TO ANSI B 1.20.3



SIZE			PART NUMBER		THREAD	DIMENSIONS mm							
DN	Inch	Dash	Female coupling	Male coupling		A	B	C	D	E	F		
6.3	1/4"	-04	Q04111341A-04-04	Q03911341A-04-04	1/4" NPTF	63.6	52.1	A+B-11,1	ø28	24	22		
10	3/8"	-06	Q04111341A-06-06	Q03911341A-06-06	3/8" NPTF	74.9	62.5	A+B-15,9	ø32	27	27		
10	3/8"	-06	Q04111341A-06-08	Q03911341A-06-08	1/2" NPTF	77.9	65.5	A+B-15,9	ø32	27	27		
12.5	1/2"	-08	Q04111341A-08-08	Q03911341A-08-08	1/2" NPTF	84.7	72.5	A+B-17,1	ø38	34	34		
12.5	1/2"	-08	Q04111341A-08-12	Q03911341A-08-12	3/4" NPTF	86.7	74.5	A+B-17,1	ø38	34	34		
16	5/8"	-10	Q04111341A-10-08	Q03911341A-10-08	1/2" NPTF	87.9	73.1	A+B-17,6	ø42	34	34		
16	5/8"	-10	Q04111341A-10-12	Q03911341A-10-12	3/4" NPTF	89.9	75.1	A+B-17,6	ø42	34	34		
20	3/4"	-12	Q04111341A-12-12	Q03911341A-12-12	3/4" NPTF	105.9	88.5	A+B-21,7	ø48	41	41		
20	3/4"	-12	Q04111341A-12-16	Q03911341A-12-16	1" NPTF	108.9	91.5	A+B-21,7	ø48	41	41		
25	1"	-16	Q04111341A-16-16	Q03911341A-16-16	1" NPTF	114.5	89.8	A+B-22,9	ø55	50	50		
25	1"	-16	Q04111341A-16-20	Q03911341A-16-20	1.1/4" NPTF	116.6	94.8	A+B-23,3	ø55	50	50		

# Q04111230A Q03911230A

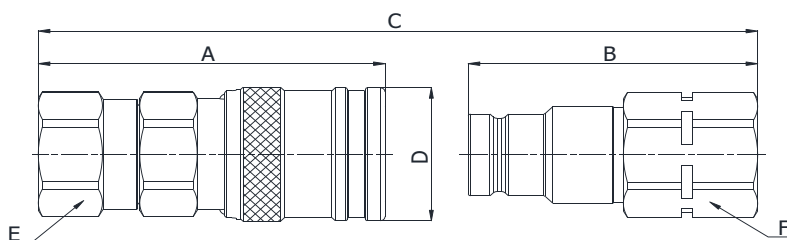


SAE TERMINATION END  
TO ISO 8434-2  
BULKHEAD

SIZE			PART NUMBER		THREAD	DIMENSIONS mm						
DN	Inch	Dash	Female coupling	Male coupling		A	B	C	D	E	F	G
10	3/8"	-06	Q04111230A-06-08	Q03911230A-06-08	3/4"-16 UNF	105.5	88.1	A+B-15,9	ø32	27	27	36.6
10	3/8"	-06	Q04111230A-06-10	Q03911230A-06-10	7/8"-14 UNF	109	91.6	A+B-15,9	ø32	27	27	40.1
12.5	1/2"	-08	Q04111230A-08-10	Q03911230A-08-10	7/8"-14 UNF	116.8	101.6	A+B-17,1	ø38	34	34	40.1
12.5	1/2"	-08	Q04111230A-08-12	Q03911230A-08-12	1.1/16"-12 UN	121.1	105.9	A+B-17,1	ø38	34	34	44.4

Q.SAFE 416

# Q04111301A Q03911301A

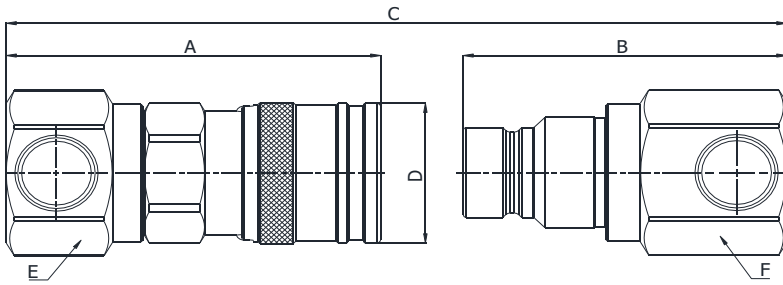


SAE TERMINATION END  
TO SAE J1926-1

SIZE			PART NUMBER		THREAD	DIMENSIONS mm							
DN	Inch	Dash	Female coupling	Male coupling		A	B	C	D	E	F		
6.3	1/4"	-04	Q04111301A-04-06	Q03911301A-04-06	9/16"-18 UNF	63.6	53.6	A+B-11,1	ø28	24	22		
10	3/8"	-06	Q04111301A-06-06	Q03911301A-06-06	9/16"-18 UNF	75.4	63	A+B-15,9	ø32	27	27		
10	3/8"	-06	Q04111301A-06-08	Q03911301A-06-08	3/4"-16 UNF	77.4	65	A+B-15,9	ø32	27	27		
10	3/8"	-06	Q04111301A-06-10	Q03911301A-06-10	7/8"-14 UNF	79.9	67.5	A+B-15,9	ø32	27	27		
12.5	1/2"	-08	Q04111301A-08-08	Q03911301A-08-08	3/4"-16 UNF	84.2	72	A+B-17,1	ø38	34	34		
12.5	1/2"	-08	Q04111301A-08-10	Q03911301A-08-10	7/8"-14 UNF	86.7	74.5	A+B-17,1	ø38	34	34		
12.5	1/2"	-08	Q04111301A-08-12	Q03911301A-08-12	1.1/16"-12 UN	89.7	77.5	A+B-17,1	ø38	34	34		
16	5/8"	-10	Q04111301A-10-08	Q03911301A-10-08	3/4"-16 UNF	87.4	72.6	A+B-17,6	ø42	34	34		
16	5/8"	-10	Q04111301A-10-10	Q03911301A-10-10	7/8"-14 UNF	89.9	75.1	A+B-17,6	ø42	34	34		
16	5/8"	-10	Q04111301A-10-12	Q03911301A-10-12	1.1/16"-12 UN	92.9	78.1	A+B-17,6	ø42	34	34		
20	3/4"	-12	Q04111301A-12-12	Q03911301A-12-12	1.1/16"-12 UN	108.9	91.5	A+B-21,7	ø48	41	41		
20	3/4"	-12	Q04111301A-12-16	Q03911301A-12-16	1.5/16"-12 UN	108.9	91.5	A+B-21,7	ø48	41	41		
25	1"	-16	Q04111301A-16-16	Q03911301A-16-16	1.5/16"-12 UN	114.5	89.8	A+B-22,9	ø55	50	50		

**Q04111301B  
Q03911301B**

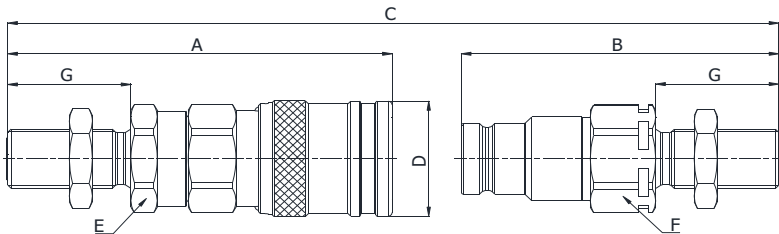
SAE TERMINATION END  
TO SAE J1926-1



SIZE			PART NUMBER		THREAD	DIMENSIONS mm							
DN	Inch	Dash	Female coupling	Male coupling		A	B	C	D	E	F		
10	3/8"	-06	Q04111301B-06-06	Q03911301B-06-06	9/16"-18 UNF	84.9	72.5	A+B-15,9	ø32	34	34		
12.5	1/2"	-08	Q04111301B-08-08	Q03911301B-08-08	3/4"-16 UNF	93.2	80.5	A+B-17,1	ø38	41	41		

**Q04111270A  
Q03911270A**

ORFS TERMINATION ENDS  
TO ISO 8434-3  
BULKHEAD



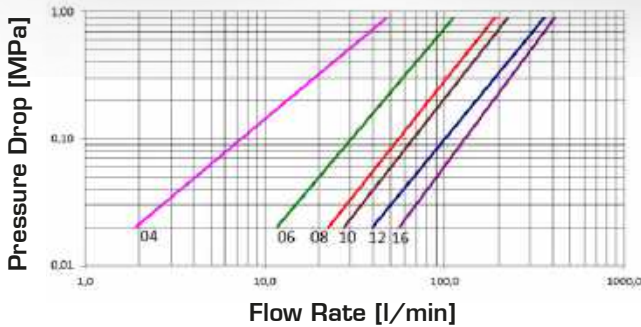
SIZE			PART NUMBER		THREAD	DIMENSIONS mm							
DN	Inch	Dash	Female coupling	Male coupling		A	B	C	D	E	F	G	H
10	3/8"	-06	Q04111270A-06-08	Q03911270A-06-08	13/16"-16 UN	104.4	87	A+B-16,4	ø32	27	27	36.5	36.5

**417 Q.SAFE**

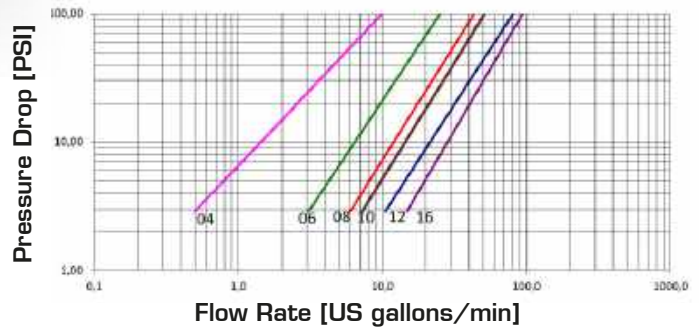
# FLAT FACE HIGH PRESSURE



Pressure Drop



Pressure Drop



## TECHNICAL DATA

SIZE			MPa		MPa		RATED FLOW at 0.2 MPa of pressure drop		CONNECTION EFFORT		OIL SPILLAGE Connection/ Disconnection		MINIMUM BURST PRESSURE						CONNECTION WITH FEMALE UNDER PRESSURE [MALE AT 0 MPa]
DN	inch	Dash	MPa	PSI	MPa	PSI	l/min	US GPM	N	lb.	cc.	cubic inch	Male		Female		M & F		
			MPa	PSI	MPa	PSI							MPa	PSI	MPa	PSI	MPa	PSI	
6.3	¼	04	35	5075	35	5075	13	3.4	120	27.0	0.005	0.0003	180	26100	150	21750	190	27550	Allowed up to 6 MPa
10	⅜	06	35	5075	35	5075	46	12.2	130	29.2	0.007	0.0004	170	24650	140	20300	170	24650	Allowed up to 6 MPa
12.5	½	08	35	5075	35	5075	82	21.7	150	33.7	0.008	0.0005	160	23200	150	21750	170	24650	Allowed up to 4 MPa
16	⅝	10	35	5075	35	5075	98	25.9	160	36.0	0.008	0.0005	170	24650	150	21750	170	24650	Allowed up to 3 MPa
19	¾	12	35	5075	35	5075	150	39.6	210	47.2	0.009	0.0005	150	21750	150	21750	160	23200	Allowed up to 2 MPa
25	1	16	35	5075	35	5075	186	49.1	210	47.2	0.02	0.0012	160	23200	170	24650	160	23200	Allowed up to 2 MPa

Connection with Male under pressure not allowed; Disconnection under pressure not allowed  
 The rated flow represents the normal operating condition. The maximum recommended flow rate is equal to 1.5 times the rated flow

## PRODUCT DESCRIPTION

- MQS-FH is the flat-face line for heavy-duty application setting with 35MPa of working pressure in connected and disconnected conditions
- Push connection and pulling back the sleeve for disconnection
- Safety system on female part to prevent accidental disconnection
- Interchangeable with ISO 16028
- 1 Million impulse cycles qualified

## MATERIAL

Female & male couplings in high grade carbon steel with hardened areas in correspondence to the most stressed points. Male vs. female Sealing system in new Polyurethane compound; other seals in NBR with back-up in PTFE.

## WORKING TEMPERATURE

-22°F up to +230°F (-30°C up to +110°C)

## SAFETY FACTOR

4:1 for dynamic pressures

## IMPULSE PRESSURES

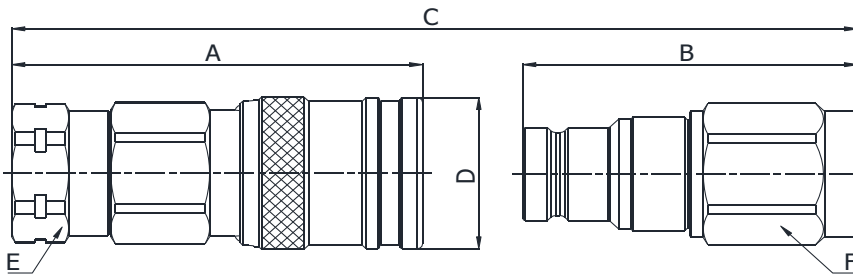
1,000,000 cycles at 120% of rated one (freq. 1Hz)

## TEST SPECIFICATIONS

ISO 18869

# Q04411041A Q04311041A

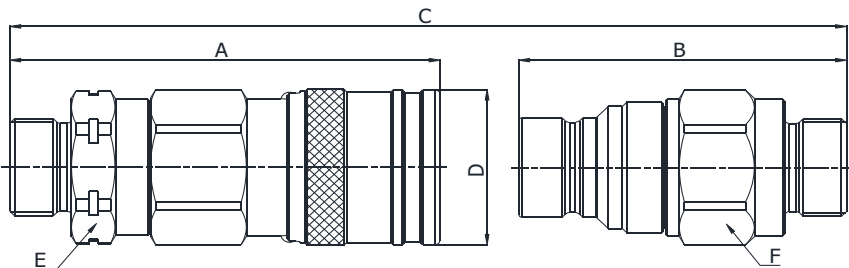
BSP TERMINATION ENDS  
TO DIN 3852 X TYPE



SIZE			PART NUMBER		THREAD	DIMENSIONS mm					
DN	Inch	Dash	Female coupling	Male coupling		A	B	C	D	E	F
6.3	1/4"	-04	Q04411041A-04-04	Q04311041A-04-04	1/4"	65.2	52.4	A+B-11,1	ø28	24	22
10	3/8"	-06	Q04411041A-06-06	Q04311041A-06-06	3/8"	78.3	63.8	A+B-15,9	ø32	27	27
10	3/8"	-06	Q04411041A-06-08	Q04311041A-06-08	1/2"	81.3	67.8	A+B-15,9	ø32	27	27
12.5	1/2"	-08	Q04411041A-08-08	Q04311041A-08-08	1/2"	88.5	71.3	A+B-17,1	ø38	34	34
12.5	1/2"	-08	Q04411041A-08-12	Q04311041A-08-12	3/4"	90.5	75.8	A+B-17,1	ø38	34	34
16	5/8"	-10	Q04411041A-10-12	Q04311041A-10-12	3/4"	94.6	76.4	A+B-17,1	ø42	36	34
20	3/4"	-12	Q04411041A-12-12	Q04311041A-12-12	3/4"	108	89.8	A+B-21,7	ø48	41	41
20	3/4"	-12	Q04411041A-12-16	Q04311041A-12-16	1"	111	92.8	A+B-21,7	ø48	41	41
25	1"	-16	Q04411041A-16-16	Q04311041A-16-16	1"	119.4	92.1	A+B-22,9	ø55	50	50
25	1"	-16	Q04411041A-16-20	Q04311041A-16-20	1.1/4"	122.4	97.1	A+B-22,9	ø55	50	50

# Q04411341A Q04311341A

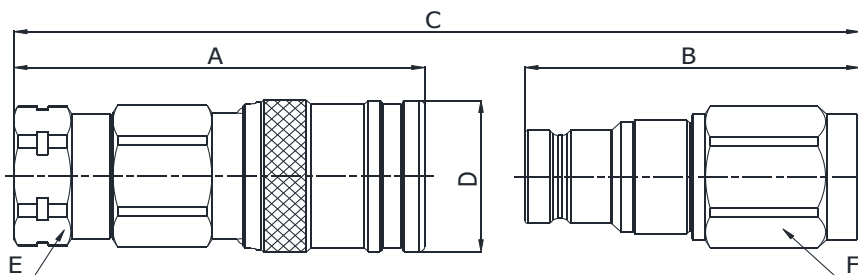
NPTF TERMINATION END  
TO ANSI B 1.20.3



SIZE			PART NUMBER		THREAD	DIMENSIONS mm					
DN	Inch	Dash	Female coupling	Male coupling		A	B	C	D	E	F
10	3/8"	-06	Q04411341A-06-06	Q04311341A-06-06	3/8"-NPT	78.3	63.8	A+B-15,9	ø32	27	27
12.5	1/2"	-08	Q04411341A-08-08	Q04311341A-08-08	1/2"-NPT	88.5	71.3	A+B-17,1	ø38	34	34
20	3/4"	-12	Q04411341A-12-12	Q04311341A-12-12	3/4"-NPT	108	89.8	A+B-21,7	ø48	41	41
25	1"	-16	Q04411341A-16-16	Q04311341A-16-16	1"-NPT	119.4	92.1	A+B-22,9	ø55	50	50

# Q0441120A Q0431120A

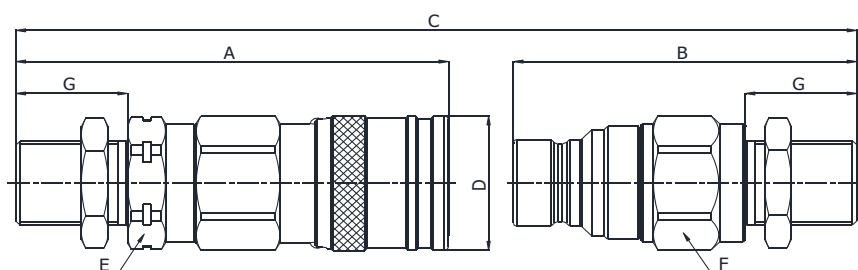
METRIC TERMINATION ENDS  
TO ISO 8434-1 S SERIES



SIZE			PART NUMBER		THREAD	DIMENSIONS mm					
DN	Inch	Dash	Female coupling	Male coupling		A	B	C	D	E	F
12.5	1/2"	-08	Q0441120A-08-24	Q0431120A-08-24	M24x1,5	97.5	74.3	A+B-17,1	ø38	34	34

# Q04411870B Q04311870B

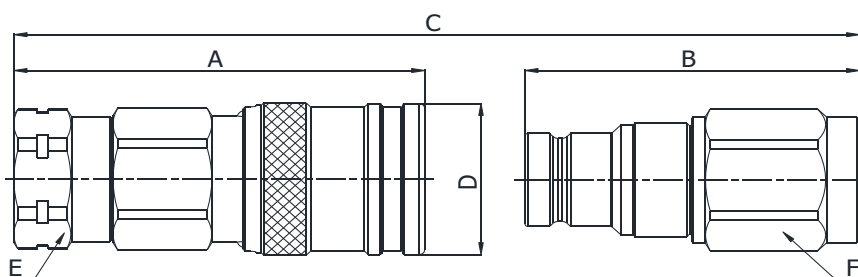
METRIC TERMINATION ENDS  
TO ISO 8434-1 S SERIES  
BULKHEAD



SIZE			PART NUMBER		THREAD	DIMENSIONS mm						
DN	Inch	Dash	Female coupling	Male coupling		A	B	C	D	E	F	G
12.5	1/2"	-08	Q04411870B-08-24	Q04311870B-08-24	M24x1,5	112.5	89.3	A+B-17,1	ø38	34	34	29

# Q04411301A Q04311301A

SAE TERMINATION END  
TO SAE J1926-1



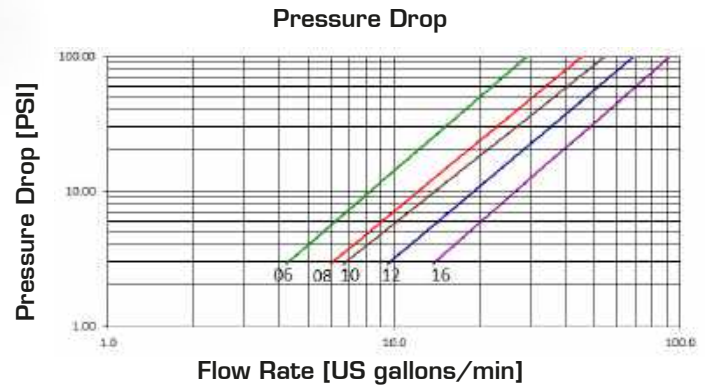
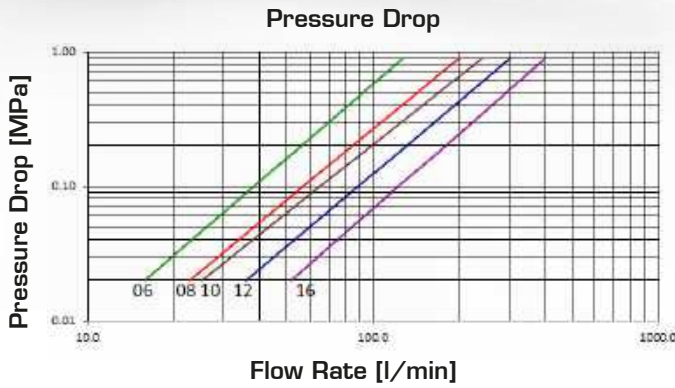
SIZE			PART NUMBER		THREAD	DIMENSIONS mm					
DN	Inch	Dash	Female coupling	Male coupling		A	B	C	D	E	F
10	3/8"	-06	Q04411301A-06-08	Q04311301A-06-08	3/4"-16UNF	80,8	66,8	A+B-15,9	ø32	27	27
12.5	1/2"	-08	Q04411301A-08-10	Q04311301A-08-10	7/8"-14UNF	90.5	74.8	A+B-17,1	ø38	34	34
12.5	1/2"	-08	Q04411301A-08-12	Q04311301A-08-12	1.1/16"-12UNF	93.5	78.8	A+B-17,1	ø38	34	34
20	3/4"	-12	Q04411301A-12-12	Q04311301A-12-12	1.1/16"-12 UN	111	89.8	A+B-21,7	ø48	41	41
20	3/4"	-12	Q04411301A-12-16	Q04311301A-12-16	1.5/16"-12 UN	111	92.8	A+B-21,7	ø48	41	41

Q.SAFE  
420





# FLAT FACE MALE CONNECTABLE UNDER PRESSURE



## TECHNICAL DATA

SIZE			MPa		MPa		RATED FLOW at 0.2 MPa of pressure drop		CONNECTION EFFORT		OIL SPILLAGE Connection/Disconnection		MINIMUM BURST PRESSURE				CONNECTION/DISCONNECTION UNDER PRESSURE
DN	inch	Dash	MPa	PSI	MPa	PSI	l/min	US GPM	N	lb.	cc.	cubic inch	Male		M & F		
			MPa	PSI	MPa	PSI							MPa	PSI	MPa	PSI	
10	3/8	06	35	5075	35	5075	56	14.8	150	33.7	0.007	0.0004	170	24650	140	20300	Connection allowed
12.5	1/2	08	35	5075	35	5075	85	22.5	180	40.5	0.008	0.0005	170	24650	140	20300	Connection allowed
16	5/8	10	35	5075	35	5075	99	26.2	200	45.0	0.008	0.0005	170	24650	140	20300	Connection allowed
19	3/4	12	35	5075	35	5075	131	34.6	200	45.0	0.009	0.0005	140	20300	150	21750	Connection allowed
25	1	16	35	5075	35	5075	170	44.9	220	49.5	0.02	0.0012	140	23200	160	23200	Connection allowed

The rated flow represents the normal operating condition. The maximum recommended flow rate is equal to 1.5 times the rated flow

### PRODUCT DESCRIPTION

- Triple valve system that guarantees connection under pressure (female part always with 0MPa) safely
- Low connection effort during connection under pressure
- Working pressure 35MPa
- Interchangeable according to ISO 16028:1997aMD.1:2006 (E)
- Sealing system with flat valve
- Polyurethane seals
- Compact design
- Wide range of termination ends

### MATERIAL

Couplings in steel with some stressed area hardened, carbonitrided valve, springs in C98 steel, seals in polyurethane and NBR, back-up ring PTFE

### WORKING TEMPERATURE

-22°F up to +230°F (-30°C up to +110°C)

### SAFETY FACTOR

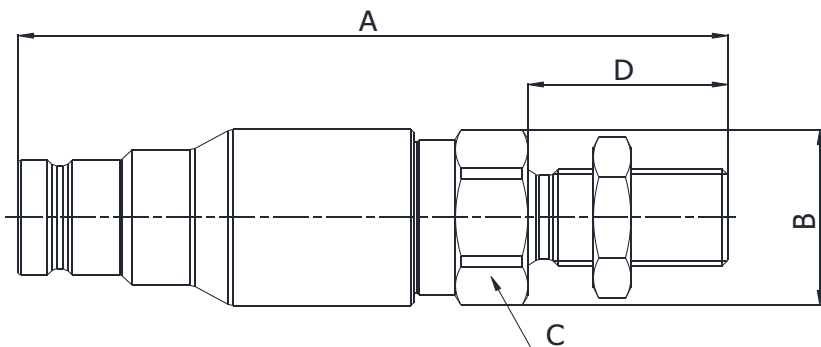
4:1 for dynamic pressures

### IMPULSE PRESSURES

1,000,000 cycles (connected and disconnected conditions) at 120% of the rated one (freq. 1Hz)

### TEST SPECIFICATIONS

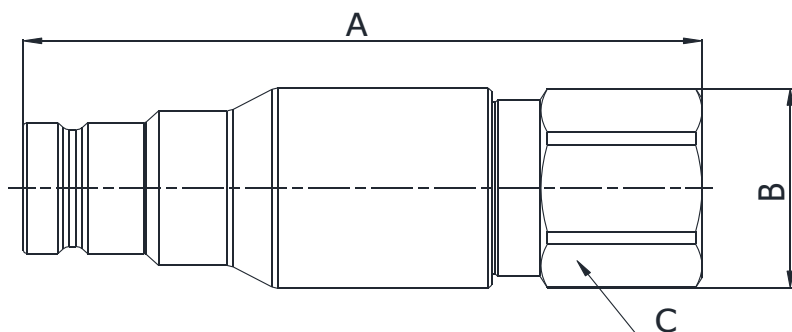
ISO 18869



## Q04011040A

BSP TERMINATION ENDS  
TO ISO 8434-6  
BULKHEAD

SIZE			PART NUMBER	THREAD	DIMENSIONS mm				
DN	Inch	Dash	Male coupling		A	B	C	D	
10	3/8"	-06	Q04011040A-06-06	3/8"	113.5	ø30	27	32	

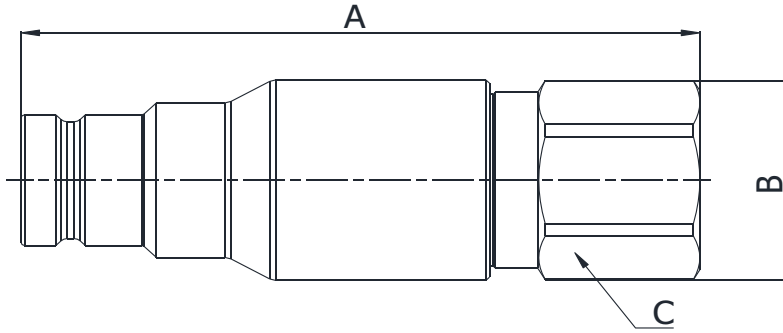


## Q04011041A

BSP TERMINATION ENDS  
TO DIN 3852 TYPE

SIZE			PART NUMBER	THREAD	DIMENSIONS mm				
DN	Inch	Dash	Male coupling		A	B	C		
10	3/8"	-06	Q04011041A-06-06	3/8"	91.7	ø30	27		
10	3/8"	-06	Q04011041A-06-08	1/2"	94	ø30	27		
12	1/2"	-08	Q04011041A-08-06	3/8"	99	ø37	34		
12	1/2"	-08	Q04011041A-08-08	1/2"	99	ø37	34		
12	1/2"	-08	Q04011041A-08-12	3/4"	102	ø37	34		
16	5/8"	-10	Q04011041A-10-12	3/4"	114.3	ø40	36		
19	3/4"	-12	Q04011041A-12-12	3/4"	118	ø45	41		
19	3/4"	-12	Q04011041A-12-16	1"	122	ø45	41		
25	1"	-16	Q04011041A-16-16	1"	126.3	ø55	50		
25	1"	-16	Q04011041A-16-20	1.1/4"	130	ø55	50		

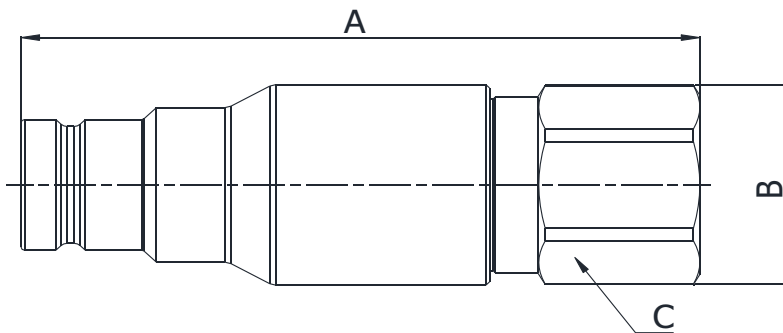
Q.SAFE  
422



# Q04011341A

NPTF TERMINATION END  
TO ANSI B 1.20.3

SIZE			PART NUMBER	THREAD	DIMENSIONS mm					
DN	Inch	Dash			Male coupling	A	B	C		
10	3/8"	-06	Q04011341A-06-06	3/8" NPTF	91.7	ø30	27			
10	3/8"	-06	Q04011341A-06-08	1/2" NPTF	94	ø30	27			
12	1/2"	-08	Q04011341A-08-08	1/2" NPTF	98	ø38	34			
12	1/2"	-08	Q04011341A-08-12	3/4" NPTF	100	ø38	34			
16	5/8"	-10	Q04011341A-10-12	3/4" NPTF	114.3	ø40	36			
19	3/4"	-12	Q04011341A-12-12	3/4" NPTF	118	ø45	41			
19	3/4"	-12	Q04011341A-12-16	1" NPTF	122	ø45	41			
25	1"	-16	Q04011341A-16-20	1.1/4" NPTF	130	ø55	50			



# Q04011301A

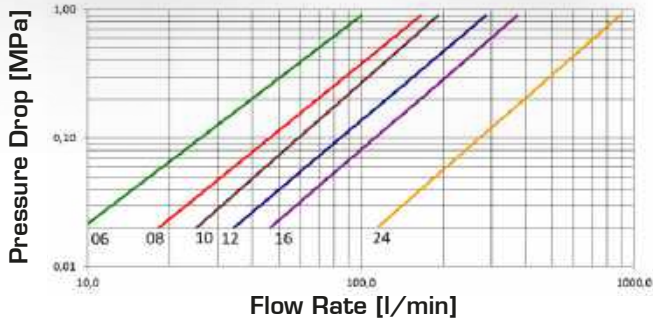
SAE TERMINATION ENDS  
TO SAE J1926-1

SIZE			PART NUMBER	THREAD	DIMENSIONS mm					
DN	Inch	Dash			Male coupling	A	B	C		
10	3/8"	-06	Q04011301A-06-06	9/16"-18 UNF	91.7	ø30	27			
10	3/8"	-06	Q04011301A-06-08	3/4" 16UNF	94.5	ø30	27			
12	1/2"	-08	Q04011301A-08-10	7/8" -14 UNF	102	ø38	34			
12	1/2"	-08	Q04011301A-08-12	1.1/16"-12UN	105	ø38	34			
19	3/4"	-12	Q04011301A-12-16	1.5/16"-12UN	122.1	ø45	41			
25	1"	-16	Q04011301A-16-16	1.5/16"-12 UN	126.3	ø55	50			

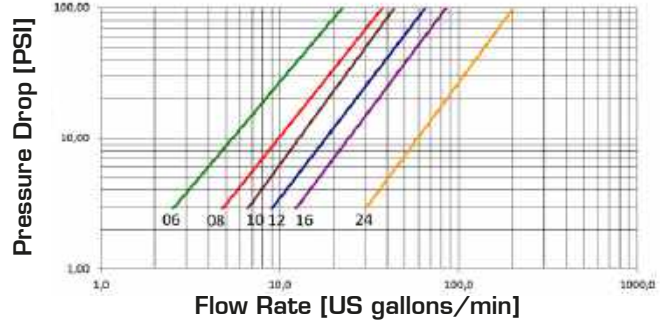


# FLAT FACE SCREW TYPE

Pressure Drop



Pressure Drop



Q.SAFE 424

## TECHNICAL DATA

SIZE			MPa				RATED FLOW at 0.2 MPa of pressure drop		OIL SPILLAGE Connection/ Disconnection		MINIMUM BURST PRESSURE						CONNECTION/ DISCONNECTION UNDER PRESSURE
DN	inch	Dash	WORKING PRESSURE CONNECTED [Dynamic]		WORKING PRESSURE DISCONNECTED [Dynamic]		l/min	US GPM	cc.	cubic inch	Male		Female		M & F		
			MPa	PSI	MPa	PSI					MPa	PSI	MPa	PSI	MPa	PSI	
10	3/8	06	42	5075	35	5075	40	10.6	0.007	0.0004	190	27550	145	21025	175	25375	Allowed
12.5	1/2	08	42	5075	35	5075	69	18.2	0.008	0.0005	180	26100	145	21025	170	24650	Allowed
16	5/8	10	42	5075	35	5075	86	22.7	0.008	0.0005	200	29000	145	21025	185	26825	Allowed
19	3/4	12	42	5075	35	5075	124	32.8	0.009	0.0005	145	21025	145	21025	175	25375	Allowed
25	1	16	38	5075	35	5075	165	43.6	0.02	0.0012	145	21025	145	21025	155	22475	Allowed
38	1 1/2	24	32	4640	32	4640	396	104.6	0.05	0.0031	130	18850	130	18850	130	18850	Allowed

The rated flow represents the normal operating condition. The maximum recommended flow rate is equal to 1.5 times the rated flow

## PRODUCT DESCRIPTION

- Screw coupling with quick connection system
- Working pressure 35MPa
- Triple valve system that guarantees connection under pressure safely
- Interchangeable according to Manuli Q.Safe specifications
- Sealing system with flat valve
- Polyurethane seals
- Compact design
- Wide range of termination ends

## MATERIAL

Couplings in steel with some stressed area hardened, carbonitrided valve, springs in C98 steel, seals in polyurethane and NBR, back-up ring PTFE

## WORKING TEMPERATURE

-22°F up to +230°F (-30°C up to +110°C)

## SAFETY FACTOR

4:1 for dynamic pressures

## IMPULSE PRESSURES

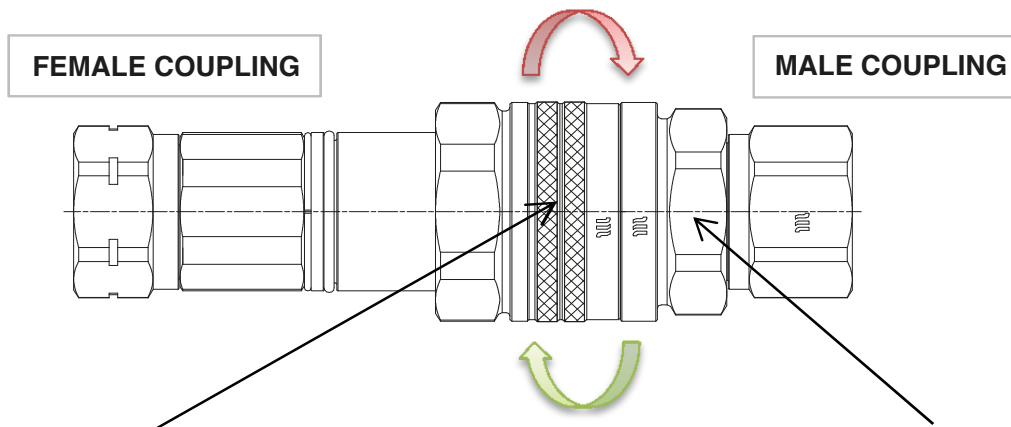
1,000,000 cycles at 120% of rated one (freq. 1Hz) in connected and disconnected conditions

## TEST SPECIFICATIONS

ISO 18869

# ASSEMBLY INSTRUCTIONS

## RECOMMENDED TIGHTENING TORQUES



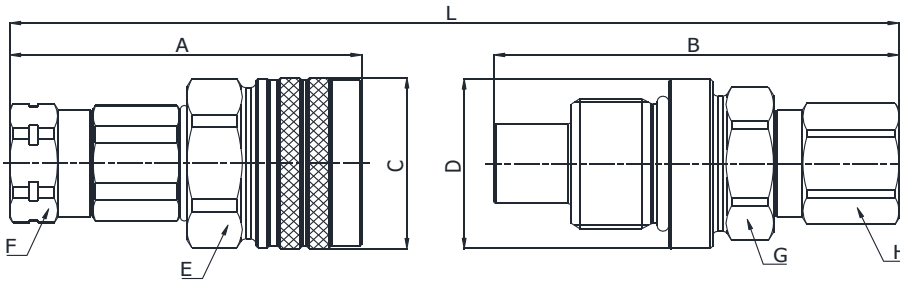
Turn the sleeve on the female applying the tightening torque through the hexagon

Hold the hexagon on the male body with a wrench

SIZE			TIGHTENING TORQUE
DN	Inch	Dash	Nm
10	3/8	06	60
12.5	1/2	08	80
16	5/8	10	100
19	3/4	12	120
25	1	16	200
38	1 1/2	24	400

Q06711041A  
Q06611041A

BSP TERMINATION ENDS  
TO DIN 3852 X TYPE

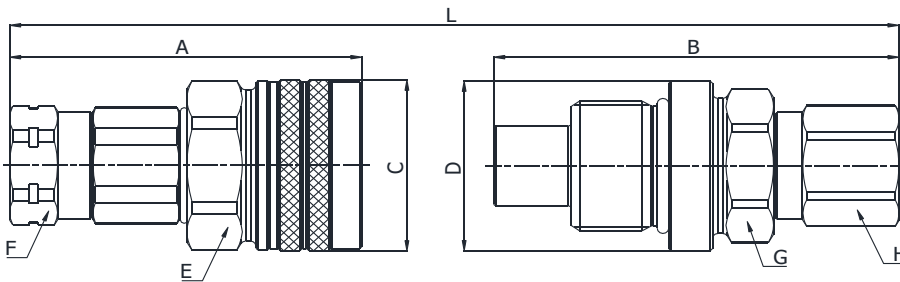


SIZE			PART NUMBER		THREAD	DIMENSIONS mm								
DN	Inch	Dash	Female coupling	Male coupling		A	B	C	D	E	F	G	H	L
10	3/8"	-06	Q06711041A-06-06	Q06611041A-06-06	3/8"	79.7	Ø42,3	91.7	Ø42	38	27	34	27	A+B-17,1
10	3/8"	-06	Q06711041A-06-08	Q06611041A-06-08	1/2"	82.7	Ø42,3	94.5	Ø42	38	27	34	27	A+B-17,1
12.5	1/2"	-08	Q06711041A-08-08	Q06611041A-08-08	1/2"	89.9	Ø50,3	99.0	Ø50	46	34	41	34	A+B-18,4
12.5	1/2"	-08	Q06711041A-08-12	Q06611041A-08-12	3/4"	91.9	Ø50,3	102	Ø50	46	34	41	34	A+B-18,4
16	5/8"	-10	Q06711041A-10-12	Q06611041A-10-12	3/4"	96.5	114.3	Ø55,3	Ø55	50	36	46	36	A+B-18,9
19	3/4"	-12	Q06711041A-12-12	Q06611041A-12-12	3/4"	109.9	118.7	Ø60,3	Ø60	55	41	50	41	A+B-23,5
19	3/4"	-12	Q06711041A-12-16	Q06611041A-12-16	1"	112.9	122.1	Ø60,3	Ø60	55	41	50	41	A+B-23,5
25	1"	-16	Q06711041A-16-16	Q06611041A-16-16	1"	121.3	126.3	Ø70,3	Ø70	65	50	60	50	A+B-24,5
25	1"	-16	Q06711041A-16-20	Q06611041A-16-20	1.1/4"	124.3	130	Ø70,3	Ø70	65	50	60	50	A+B-24,5
38	1 1/2"	-24	Q06711041A-24-24	Q06611041A-24-24	1.1/2"	167,6	166	Ø97,3	Ø97	90	75	85	75	A+B-31

Q.SAFE 426

Q06711341A  
Q06611341A

NPTF TERMINATION END  
TO ANSI B 1.20.3



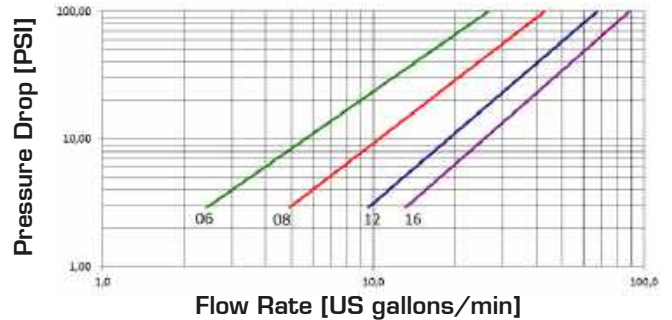
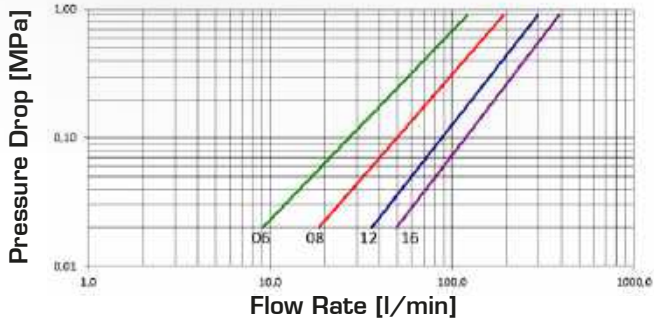
SIZE			PART NUMBER		THREAD	DIMENSIONS mm								
DN	Inch	Dash	Female coupling	Male coupling		A	B	C	D	E	F	G	H	L
10	3/8"	-06	Q06711341A-06-06	Q06611341A-06-06	3/8" NPTF	79.7	Ø42,3	91.7	Ø42	38	27	34	27	A+B-17,1
10	3/8"	-06	Q06711341A-06-08	Q06611341A-06-08	1/2" NPTF	82.7	Ø42,3	94.5	Ø42	38	27	34	27	A+B-17,1
12.5	1/2"	-08	Q06711341A-08-08	Q06611341A-08-08	1/2" NPTF	89.9	Ø50,3	99.0	Ø50	46	34	41	34	A+B-18,4
12.5	1/2"	-08	Q06711341A-08-12	Q06611341A-08-12	3/4" NPTF	91.9	Ø50,3	102	Ø50	46	34	41	34	A+B-18,4
16	5/8"	-10	Q06711341A-10-12	Q06611341A-10-12	3/4" NPTF	96.5	Ø55,3	114.3	Ø55	50	36	46	36	A+B-18,9
19	3/4"	-12	Q06711341A-12-12	Q06611341A-12-12	3/4" NPTF	109.9	Ø60,3	118.7	Ø60	55	41	50	41	A+B-23,5
19	3/4"	-12	Q06711341A-12-16	Q06611341A-12-16	1" NPTF	112.9	Ø60,3	122.1	Ø60	55	41	50	41	A+B-23,5
25	1"	-16	Q06711341A-16-16	Q06611341A-16-16	1" NPTF	121.3	Ø70,3	126.3	Ø70	65	50	60	50	A+B-24,5
25	1"	-16	Q06711341A-16-20	Q06611341A-16-20	1-1/4" NPTF	124.3	Ø70,3	130	Ø70	65	50	60	50	A+B-24,5
38	1-1/2"	-24	Q06711341A-24-24	Q06611341A-24-24	1-1/2" NPTF	167.6	Ø97,3	166	Ø97	90	75	85	75	A+B-31



# FLAT FACE FOR MULTICONNECTORS

Pressure Drop

Pressure Drop



## TECHNICAL DATA

SIZE			WORKING PRESSURE CONNECTED (Dynamic)		WORKING PRESSURE DISCONNECTED (Dynamic)		RATED FLOW at 0.2 MPa of pressure drop		OIL SPILLAGE Connection/ Disconnection		MINIMUM BURST PRESSURE						CONNECTION/ DISCONNECTION UNDER PRESSURE
DN	inch	Dash	MPa	PSI	MPa	PSI	l/min	US GPM	cc.	cubic inch	Male		Female		M & F		
											MPa	PSI	MPa	PSI	MPa	PSI	
10	3/8"	06	35	5075	35	5075	44	11.6	0.007	0.0004	170	24650	140	20300	180	26100	Allowed
12.5	1/2"	08	35	5075	35	5075	76	20.1	0.008	0.0005	170	24650	140	20300	180	26100	Allowed
19	3/4"	12	35	5075	35	5075	129	34.1	0.009	0.0005	140	20300	140	20300	160	23200	Allowed
25	1"	16	35	5075	35	5075	172	45.4	0.02	0.0012	160	23200	150	21750	160	23200	Allowed

The rated flow represents the normal operating condition. The maximum recommended flow rate is equal to 1.5 times the rated flow

## PRODUCT DESCRIPTION

- Flat face cartridges for multiconnections.
- Working pressure 35 MPa in connected and disconnected conditions.
- Flat mating surfaces easily wiped clean to prevent contamination and spillage during connection/disconnection.
- Shut-off by flat valve
- Polyurethane seals
- 1,000,000 cycles at 120% of rated one (freq. 1Hz – connected and disconnected conditions)

## MATERIAL

Female & male couplings in high grade carbon steel.  
Male vs. female sealing system in Polyurethane compound; other seals in NBR, back-up ring in PTFE

## WORKING TEMPERATURE

-22°F up to +230°F (-30°C up to +110°C)

## SAFETY FACTOR

4:1 for dynamic pressures

## IMPULSE PRESSURES

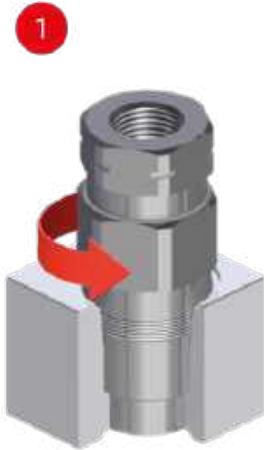
1,000,000 cycles at 120% of rated one (freq. 1Hz) in connected and disconnected conditions

## TEST SPECIFICATIONS

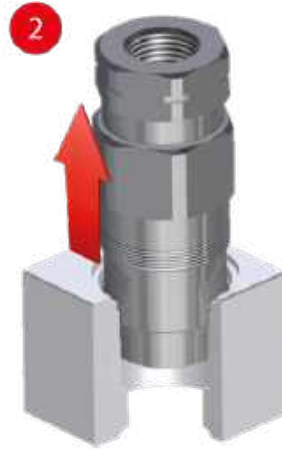
ISO 18869



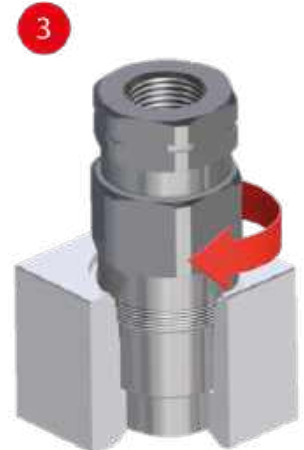
## FEMALE REPLACEMENT INSTRUCTIONS



1 Use a wrench on the lower hexagon to unscrew the old coupling



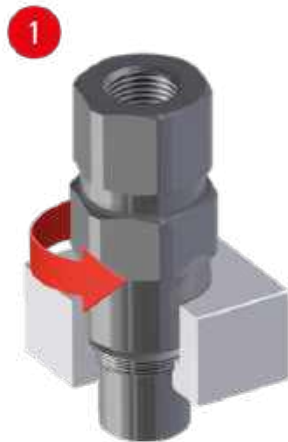
2 Lift out the old coupling and replace with the new part



3 Use a wrench on the lower hexagon to tighten the new coupling to the torque listed below

SIZE			HEX SIZE	TIGHTENING TORQUE
DN	Inch	Dash	mm (AF)	Nm
10	3/8	06	30	60
12.5	1/2	08	36	90
19	3/4	12	41	150
25	1	16	50	250

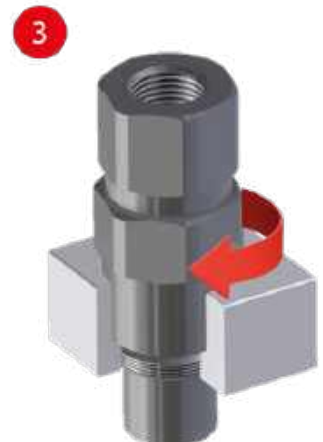
## MALE REPLACEMENT INSTRUCTIONS



1 Use a wrench on the lower hexagon to unscrew the old coupling



2 Lift out the old coupling and replace with the new part



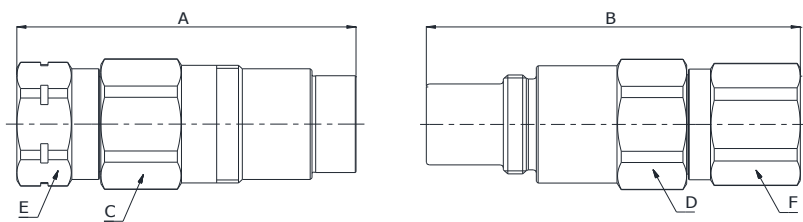
3 Use a wrench on the lower hexagon to tighten the new coupling to the torque listed below

SIZE			HEX SIZE	TIGHTENING TORQUE
DN	Inch	Dash	mm (AF)	Nm
10	3/8	06	30	60
12.5	1/2	08	36	100
19	3/4	12	42	150
25	1	16	50	250



**Q06811041A**  
**Q06911041A**

BSP TERMINATION ENDS  
TO DIN 3852 X TYPE

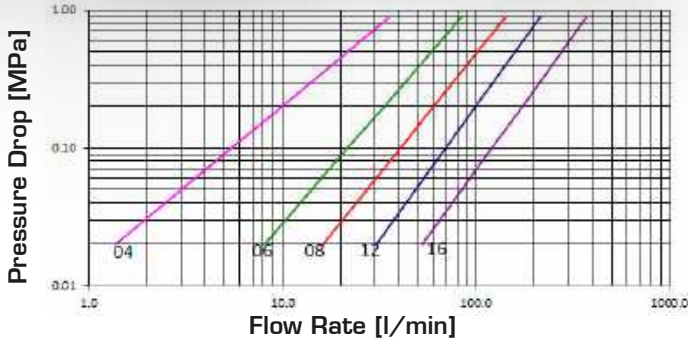


SIZE			PART NUMBER		THREAD	DIMENSIONS mm					
DN	Inch	Dash	Female coupling	Male coupling		A	B	C	D	E	F
10	3/8"	-06	Q06911041A-06-06	Q06811041A-06-06	3/8"	82.3	93.7	30	30	27	27
10	3/8"	-06	Q06911041A-06-08	Q06811041A-06-08	1/2"	85.3	96.5	30	30	27	27
12.5	1/2"	-08	Q06911041A-08-08	Q06811041A-08-08	1/2"	92.5	102	36	36	34	34
12.5	1/2"	-08	Q06911041A-08-12	Q06811041A-08-12	3/4"	94.5	105	36	36	34	34
20	3/4"	-12	Q06911041A-12-12	Q06811041A-12-12	3/4"	108	118.7	41	42	41	41
25	1"	-16	Q06911041A-16-16	Q06811041A-16-16	1"	119.4	126.3	50	50	50	50

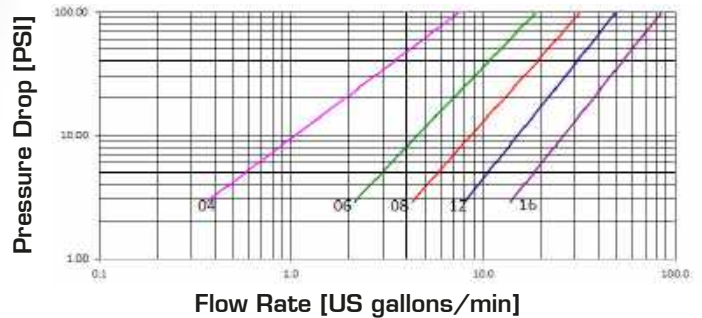
# SCREW TYPE



Pressure Drop



Pressure Drop



## TECHNICAL DATA

SIZE			WORKING PRESSURE (Dynamic)		RATED FLOW at 0.2 MPa of pressure drop		OIL SPILLAGE Connection/ Disconnection		MINIMUM BURST PRESSURE						CONNECTION/ DISCONNECTION UNDER PRESSURE
DN	inch	Dash	MPa	PSI	l/min	US GPM	cc.	cubic inch	Male		Female		M & F		
									MPa	PSI	MPa	PSI	MPa	PSI	
6.3	1/4	04	35	5075	10	2.6	0.8	0.049	145	21025	190	27500	190	27550	Allowed max. 10 MPa
10	3/8	06	35	5075	34	9.0	1.5	0.092	150	21750	160	23200	150	21750	Allowed max. 10 MPa
12.5	1/2	08	30	4350	61	16.1	2	0.122	130	18850	140	20300	140	20300	Allowed max. 10 MPa
20	3/4	12	30	4350	100	26.4	5	0.305	130	18850	130	18850	140	20300	Allowed max. 10 MPa
25	1	16	25	3625	173	45.7	9	0.549	110	15950	110	15950	110	15950	Allowed max. 10 MPa

The rated flow represents the normal operating condition. The maximum recommended flow rate is equal to 1.5 times the rated flow

## PRODUCT DESCRIPTION

- Screw-type couplings specially designed for heavy duty, high pressure, pressure impulse applications such as hammers, attachments, rock crushers, etc.
- Connection and disconnection is made by screwing the sleeve, also possible with residual pressure in the line
- Connection secured on the thread between the sleeve and the male coupling
- Shut-off by poppet valve
- Hexagon around the male insert to be tightened up or released for maintenance
- Interchangeable with similar products available on the market
- Up to size DN 20 ISO 14541 compliant

## MATERIAL

Female coupling in steel, male couplings high standard carbon steel. Carbonitrided valve, springs in C98 steel, seals in NBR (other materials available on request) and back-up ring in PTFE

## WORKING TEMPERATURE

-22°F up to +230°F (-30°C up to +110°C)

## SAFETY FACTOR

4:1 for dynamic pressures

## IMPULSE PRESSURES

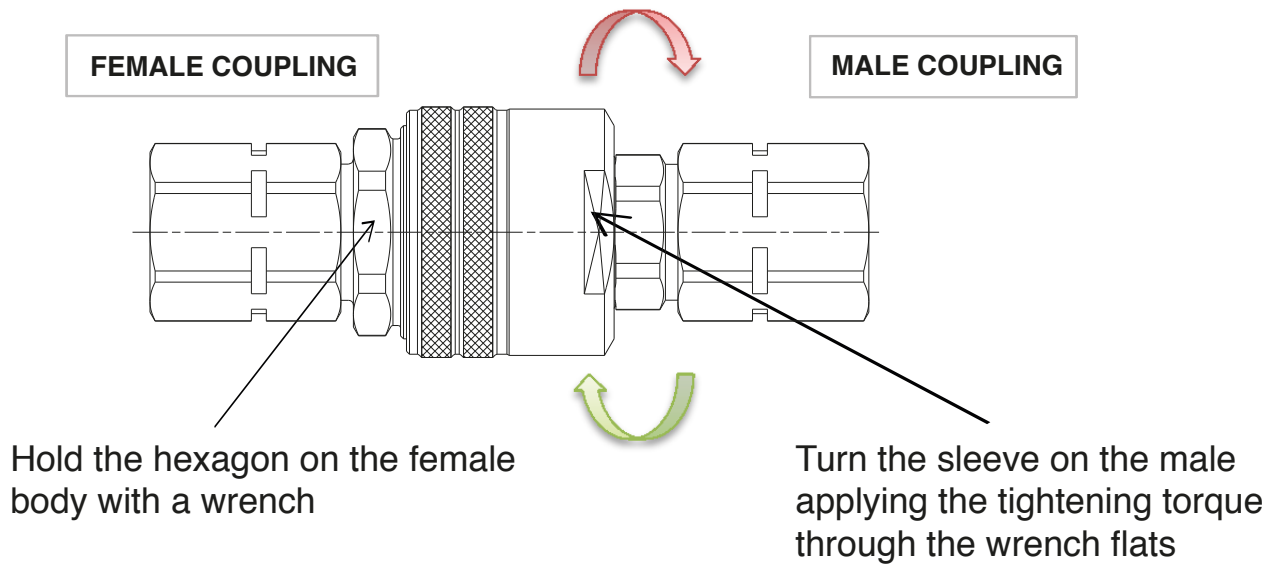
200,000 cycles at 133% of the rated one (freq. 1Hz) disconnected; 500,000 connected

## TEST SPECIFICATIONS

ISO 18869

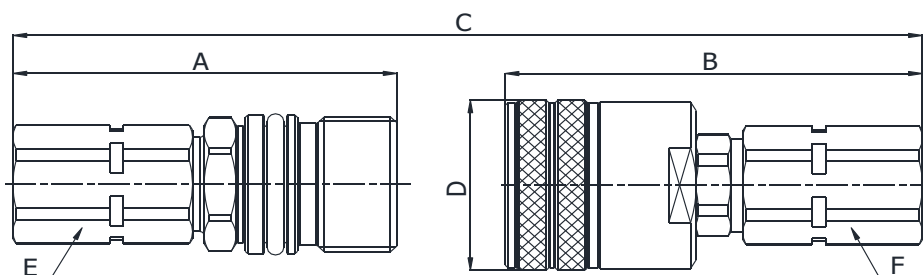
# ASSEMBLY INSTRUCTIONS

## RECOMMENDED TIGHTENING TORQUES



SIZE			TIGHTENING TORQUE
DN	Inch	Dash	Nm
6.3	1/4"	-04	25
10	3/8"	-06	40
12.5	1/2"	-08	70
20	<b>3/4"</b>	-12	100
25	1"	-16	150

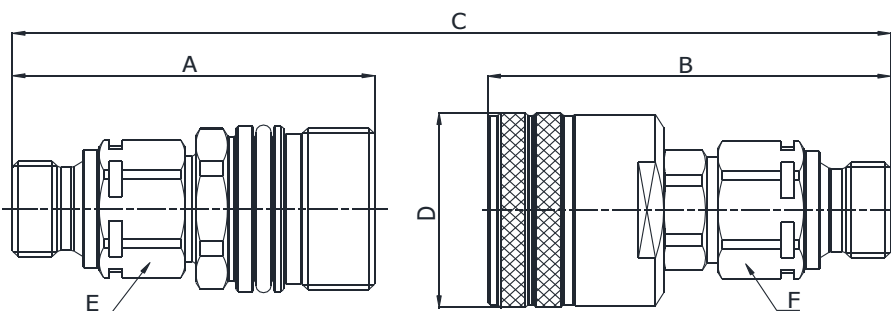
# Q05211041A Q05111041A



BSP TERMINATION ENDS  
TO DIN 3852 X TYPE

SIZE			PART NUMBER		THREAD	DIMENSIONS mm							
DN	Inch	Dash	Female coupling	Male coupling		A	B	C	D	E	F		
6.3	1/4"	-04	Q05211041A-04-04	Q05111041A-04-04	1/4"	61.5	65.5	A+B-24,5	ø30	19	19		
10	3/8"	-06	Q05211041A-06-04	Q05111041A-06-04	1/4"	68	74	A+B-26,5	ø34	22	22		
10	3/8"	-06	Q05211041A-06-06	Q05111041A-06-06	3/8"	69.5	75.5	A+B-26,5	ø34	22	22		
12.5	1/2"	-08	Q05211041A-08-06	Q05111041A-08-06	3/8"	66.5	74.5	A+B-26,5	ø42	27	27		
12.5	1/2"	-08	Q05211041A-08-08	Q05111041A-08-08	1/2"	69.5	77.5	A+B-26,5	ø42	27	27		
20	3/4"	-12	Q05211041A-12-08	Q05111041A-12-08	1/2"	80.8	89.3	A+B-31	ø49	34	34		
20	3/4"	-12	Q05211041A-12-12	Q05111041A-12-12	3/4"	82.8	91.3	A+B-31	ø49	34	34		
25	1"	-16	Q05211041A-16-08	Q05111041A-16-08	1/2"	92.3	99.3	A+B-34,5	ø56	41	41		
25	1"	-16	Q05211041A-16-12	Q05111041A-16-12	3/4"	92.3	99.3	A+B-34,5	ø56	41	41		
25	1"	-16	Q05211041A-16-16	Q05111041A-16-16	1"	95.3	102.3	A+B-34,5	ø56	41	41		

Q.SAFE 432



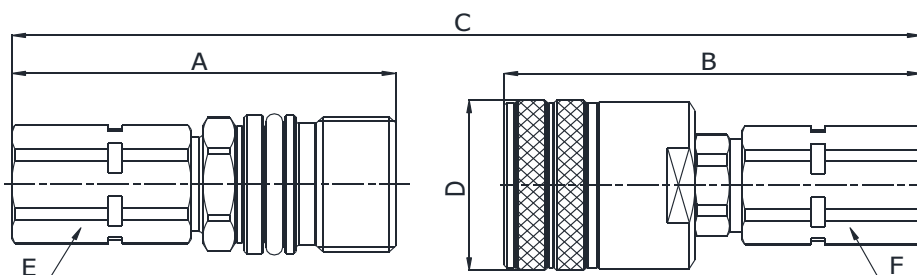
# Q05211050A Q05111050A

BSP TERMINATION ENDS  
TO ISO 8434-6

SIZE			PART NUMBER		THREAD	DIMENSIONS mm							
DN	Inch	Dash	Female coupling	Male coupling		A	B	C	D	E	F		
12.5	1/2"	-08	Q05211050A-08-06	Q05111050A-08-06	3/8"	69.2	77.2	A+B-26,5	ø42	27	27		
12.5	1/2"	-08	Q05211050A-08-08	Q05111050A-08-08	1/2"	71.7	79.7	A+B-26,5	ø42	27	27		

# Q05211141A Q05111141A

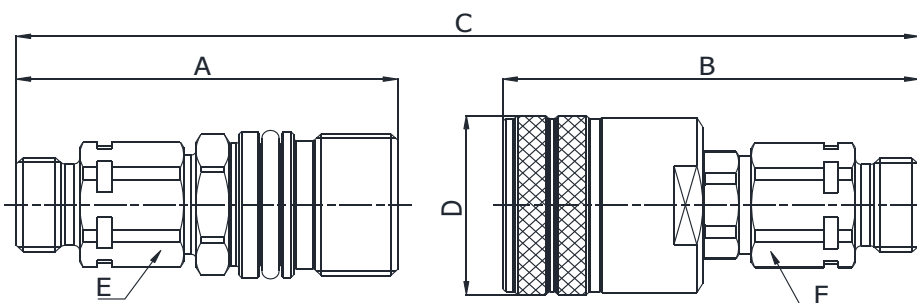
METRIC TERMINATION ENDS  
TO ISO 3852-1 X TYPE



SIZE			PART NUMBER		THREAD	DIMENSIONS mm							
DN	Inch	Dash	Female coupling	Male coupling		A	B	C	D	E	F		
10	3/8"	-06	Q05211141A-06-16	Q05111141A-06-16	M16x1,5	69.5	75.5	A+B-26,5	ø34	22	22		
12.5	1/2"	-08	Q05211141A-08-18	Q05111141A-08-18	M18x1,5	66.5	74.5	A+B-26,5	ø42	27	27		
12.5	1/2"	-08	Q05211141A-08-22	Q05111141A-08-22	M22x1,5	68.5	76.5	A+B-26,5	ø42	27	27		

# Q05211110A Q05111110A

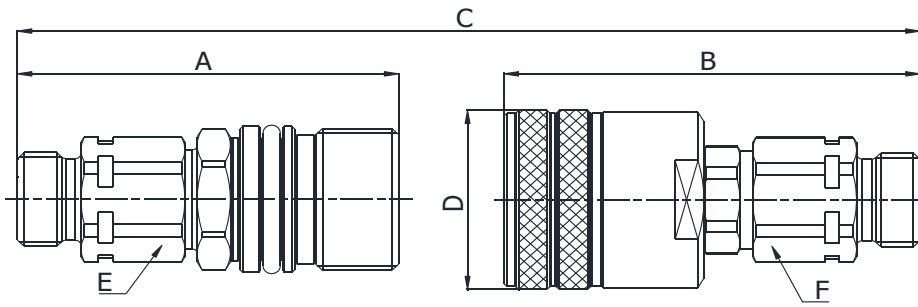
METRIC TERMINATION END  
TO ISO 8434-1  
L SERIES



SIZE			PART NUMBER		THREAD	DIMENSIONS mm							
DN	Inch	Dash	Female coupling	Male coupling		A	B	C	D	E	F		
6.3	1/4"	-04	Q05211110A-04-12	Q05111110A-04-12	M12x1,5	59.5	63.5	A+B-24,5	ø30	19	19		
6.3	1/4"	-04	Q05211110A-04-14	Q05111110A-04-14	M14x1,5	59.5	63.5	A+B-24,5	ø30	19	19		
10	3/8"	-06	Q05211110A-06-12	Q05211110A-06-12	M12x1,5	66	72	A+B-26,5	ø34	22	22		
10	3/8"	-06	Q05211110A-06-14	Q05211110A-06-14	M14x1,5	66	72	A+B-26,5	ø34	22	22		
10	3/8"	-06	Q05211110A-06-16	Q05211110A-06-16	M16x1,5	66	72	A+B-26,5	ø34	22	22		
10	3/8"	-06	Q05211110A-06-18	Q05211110A-06-18	M18x1,5	66	72	A+B-26,5	ø34	22	22		
12.5	1/2"	-08	Q05211110A-08-14	Q05111110A-08-14	M14x1,5	65.5	73.5	A+B-26,5	ø42	27	27		
12.5	1/2"	-08	Q05211110A-08-16	Q05111110A-08-16	M16x1,5	66.5	74.5	A+B-26,5	ø42	27	27		
12.5	1/2"	-08	Q05211110A-08-18	Q05111110A-08-18	M18x1,5	65.5	73.5	A+B-26,5	ø42	27	27		
12.5	1/2"	-08	Q05211110A-08-22	Q05111110A-08-22	M22x1,5	66.5	74.5	A+B-26,5	ø42	27	27		
12.5	1/2"	-08	Q05211110A-08-26	Q05111110A-08-26	M26x1,5	66.5	74.5	A+B-26,5	ø42	27	27		
20	3/4"	-12	Q05211110A-12-18	Q05111110A-12-18	M18x1,5	80,8	89,3	A+B-31	ø49	34	34		
20	3/4"	-12	Q05211110A-12-22	Q05111110A-12-22	M22x1,5	80,8	89,3	A+B-31	ø49	34	34		
20	3/4"	-12	Q05211110A-12-26	Q05111110A-12-26	M26x1,5	80,8	89,3	A+B-31	ø49	34	34		
20	3/4"	-12	Q05211110A-12-30	Q05111110A-12-30	M30x2	82,8	91,3	A+B-31	ø49	34	34		
25	1"	-16	Q05211110A-16-26	Q05111110A-16-26	M26x1,5	90,3	97,3	A+B-34,5	ø56	41	41		
25	1"	-16	Q05211110A-16-30	Q05111110A-16-30	M30x2	92,3	99,3	A+B-34,5	ø56	41	41		
25	1"	-16	Q05211110A-16-36	Q05111110A-16-36	M36x2	92,3	99,3	A+B-34,5	ø56	41	41		

**Q.SAFE**

**433**

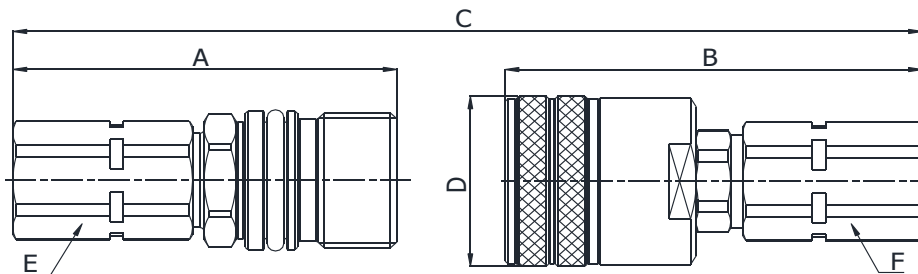


**Q05211120A**  
**Q05111120A**

METRIC TERMINATION END  
TO ISO 8434-1  
S SERIES

SIZE			PART NUMBER		THREAD	DIMENSIONS mm							
DN	Inch	Dash	Female coupling	Male coupling		A	B	C	D	E	F		
6.3	1/4"	-04	Q05211120A-04-16	Q05111120A-04-16	M16x1,5	61.5	65.5	A+B-24,5	ø30	19	19		
10	3/8"	-06	Q05211120A-06-16	Q05111120A-06-16	M16x1,5	67	73	A+B-26,5	ø34	22	22		
10	3/8"	-06	Q05211120A-06-18	Q05111120A-06-18	M18x1,5	67	73	A+B-26,5	ø34	22	22		
12.5	1/2"	-08	Q05211120A-08-18	Q05111120A-08-18	M18x1,5	66.5	74.5	A+B-26,5	ø42	27	27		
12.5	1/2"	-08	Q05211120A-08-20	Q05111120A-08-20	M20x1,5	66.5	74.5	A+B-26,5	ø42	27	27		
12.5	1/2"	-08	Q05211120A-08-24	Q05111120A-08-24	M24x1,5	68.5	76.5	A+B-26,5	ø42	27	27		
20	3/4"	-12	Q05211120A-12-20	Q05111120A-12-20	M20x1,5	80.8	89.3	A+B-31	ø49	34	34		
20	3/4"	-12	Q05211120A-12-24	Q05111120A-12-24	M24x1,5	82.8	91.3	A+B-31	ø49	34	34		
20	3/4"	-12	Q05211120A-12-30	Q05111120A-12-30	M30x2	84.8	93.3	A+B-31	ø49	34	34		
25	1"	-16	Q05211120A-16-30	Q05111120A-16-30	M30x2	94,3	101.3	A+B-34,5	ø56	41	41		
25	1"	-16	Q05211120A-16-36	Q05111120A-16-36	M36x2	96,3	103.3	A+B-34,5	ø56	41	41		
25	1"	-16	Q05211120A-16-42	Q05111120A-16-42	M42x2	98,3	105.3	A+B-34,5	ø56	41	41		

Q.SAFE 434



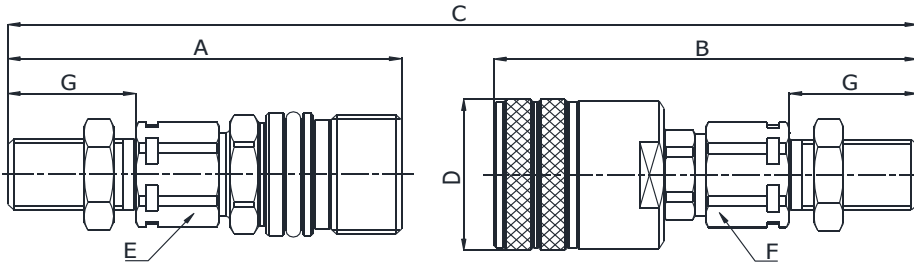
**Q05211191A**  
**Q05111191A**

METRIC TERMINATION ENDS  
TO ISO 6149-1

SIZE			PART NUMBER		THREAD	DIMENSIONS mm							
DN	Inch	Dash	Female coupling	Male coupling		A	B	C	D	E	F		
12.5	1/2"	-08	Q05211191A-08-16	Q05111191A-08-16	M16x1,5	67	75	A+B-26,5	ø42	27	27		
12.5	1/2"	-08	Q05211191A-08-18	Q05111191A-08-18	M18x1,5	68.5	76.5	A+B-26,5	ø42	27	27		

# Q05211770B Q05111770B

METRIC TERMINATION END  
TO ISO 8434-1  
BULKHEAD L SERIES

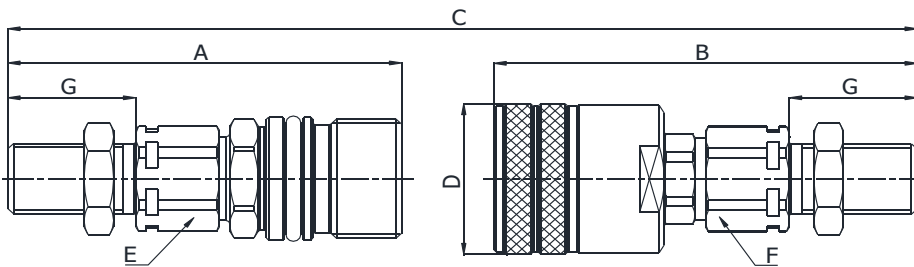


SIZE			PART NUMBER		THREAD	DIMENSIONS mm						
DN	Inch	Dash	Female coupling	Male coupling		A	B	C	D	E	F	G
6.3	1/4"	-04	Q05211770B-04-12	Q05111770B-04-12	M12x1,5	74.5	78.5	A+B-24,5	ø30	19	19	25
6.3	1/4"	-04	Q05211770B-04-14	Q05111770B-04-14	M14x1,5	74.5	78.5	A+B-24,5	ø30	19	19	25
10	3/8"	-06	Q05211770B-06-12	Q05111770B-06-12	M12x1,5	81	87	A+B-26,5	ø34	22	22	25
10	3/8"	-06	Q05211770B-06-14	Q05111770B-06-14	M14x1,5	80	86	A+B-26,5	ø34	22	22	25
10	3/8"	-06	Q05211770B-06-16	Q05111770B-06-16	M16x1,5	80	86	A+B-26,5	ø34	22	22	26
10	3/8"	-06	Q05211770B-06-18	Q05111770B-06-18	M18x1,5	80	86	A+B-26,5	ø34	22	22	26
12.5	1/2"	-08	Q05211770B-08-14	Q05111770B-08-14	M14x1,5	80.5	88.5	A+B-26,5	ø42	27	27	25
12.5	1/2"	-08	Q05211770B-08-16	Q05111770B-08-16	M16x1,5	80.5	88.5	A+B-26,5	ø42	27	27	26
12.5	1/2"	-08	Q05211770B-08-18	Q05111770B-08-18	M18x1,5	80.5	88.5	A+B-26,5	ø42	27	27	26
12.5	1/2"	-08	Q05211770B-08-22	Q05111770B-08-22	M22x1,5	81.5	89.5	A+B-26,5	ø42	27	27	27
12.5	1/2"	-08	Q05211770B-08-26	Q05111770B-08-26	M26x1,5	82.5	90.5	A+B-26,5	ø42	30	30	29
20	3/4"	-12	Q05211770B-12-18	Q05111770B-12-18	M18x1,5	94.8	103.3	A+B-31	ø49	34	34	26
20	3/4"	-12	Q05211770B-12-22	Q05111770B-12-22	M22x1,5	95.8	104.3	A+B-31	ø49	34	34	27
20	3/4"	-12	Q05211770B-12-26	Q05111770B-12-26	M26x1,5	96.8	105.3	A+B-31	ø49	34	34	29
20	3/4"	-12	Q05211770B-12-30	Q05111770B-12-30	M30x2	100.8	109.3	A+B-31	ø49	34	34	32
25	1"	-16	Q05211770B-16-26	Q05111770B-16-26	M26x1,5	106.3	113.3	A+B-34,5	ø56	41	41	29
25	1"	-16	Q05211770B-16-30	Q05111770B-16-30	M30x2	110.3	117.3	A+B-34,5	ø56	41	41	32
25	1"	-16	Q05211770B-16-36	Q05111770B-16-36	M36x2	110.3	117.3	A+B-34,5	ø56	41	41	32

435 Q.SAFE

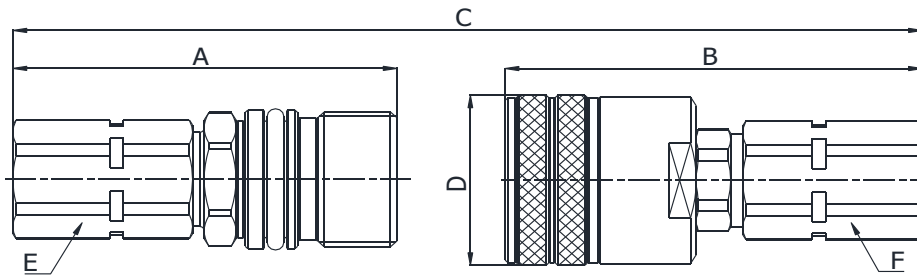
# Q05211870B Q05111870B

METRIC TERMINATION END  
TO ISO 8434-1  
BULKHEAD S SERIES



SIZE			PART NUMBER		THREAD	DIMENSIONS mm						
DN	Inch	Dash	Female coupling	Male coupling		A	B	C	D	E	F	G
6.3	1/4"	-04	Q05211870B-04-14	Q05111870B-04-14	M14x1,5	75.5	79.5	A+B-24,5	ø30	19	19	27
6.3	1/4"	-04	Q05211870B-04-16	Q05111870B-04-16	M16x1,5	76.5	77.5	A+B-24,5	ø30	19	19	27
10	3/8"	-06	Q05211870B-06-16	Q05111870B-06-16	M16x1,5	81	87	A+B-26,5	ø34	22	22	27
10	3/8"	-06	Q05211870B-06-18	Q05111870B-06-18	M18x1,5	81	87	A+B-26,5	ø34	22	22	27
12.5	1/2"	-08	Q05211870B-08-18	Q05111870B-08-18	M18x1,5	81.5	89.5	A+B-26,5	ø42	27	27	27
12.5	1/2"	-08	Q05211870B-08-20	Q05111870B-08-20	M20x1,5	81.5	89.5	A+B-26,5	ø42	27	27	27
12.5	1/2"	-08	Q05211870B-08-24	Q05111870B-08-24	M24x1,5	83.5	91.5	A+B-26,5	ø42	27	27	29
20	3/4"	-12	Q05211870B-12-24	Q05111870B-12-24	M24x1,5	97.8	106.3	A+B-31	ø49	34	34	29
20	3/4"	-12	Q05211870B-12-30	Q05111870B-12-30	M30x2	102.8	111.3	A+B-31	ø49	34	34	34
25	1"	-16	Q05211870B-16-30	Q05111870B-16-30	M30x2	112.3	119.3	A+B-34,5	ø56	41	41	34
25	1"	-16	Q05211870B-16-36	Q05111870B-16-36	M36x2	114.3	121.3	A+B-34,5	ø56	41	41	36
25	1"	-16	Q05211870B-16-42	Q05111870B-16-42	M42x2	116.3	123.3	A+B-34,5	ø56	41	41	40

**Q05211341A**  
**Q05111341A**

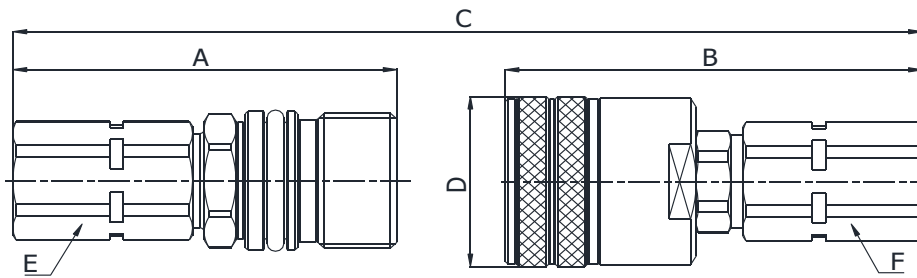


NPTF TERMINATION END  
TO ANSI B 1.20.3

SIZE			PART NUMBER		THREAD	DIMENSIONS mm							
DN	Inch	Dash	Female coupling	Male coupling		A	B	C	D	E	F		
6.3	1/4"	-04	Q05211341A-04-04	Q05111341A-04-04	1/4" NPTF	61.5	65.5	A+B-24,5	ø30	19	19		
10	3/8"	-06	Q05211341A-06-06	Q05111341A-06-06	3/8" NPTF	69.5	75.5	A+B-26,5	ø34	22	22		
12.5	1/2"	-08	Q05211341A-08-08	Q05111341A-08-08	1/2" NPTF	69.5	77.5	A+B-26,5	ø42	27	27		
20	3/4"	-12	Q05211341A-12-12	Q05111341A-12-12	3/4" NPTF	82.8	91.3	A+B-31	ø49	34	34		
25	1"	-16	Q05211341A-16-16	Q05111341A-16-16	1" NPTF	95.3	102.3	A+B-34,5	ø56	41	41		

Q.SAFE 436

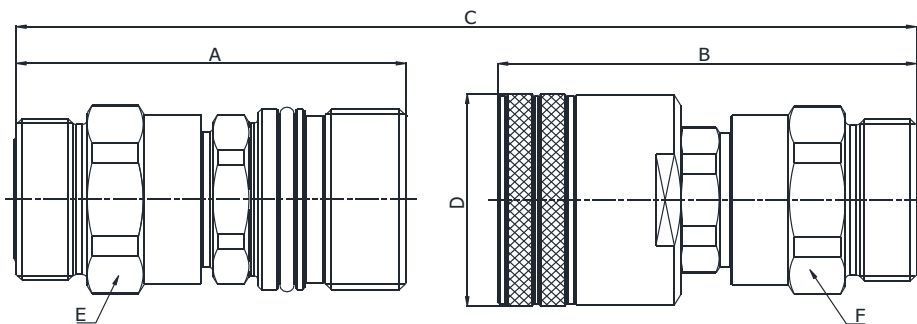
**Q05211301A**  
**Q05111301A**



SAE TERMINATION END  
TO SAE J1926-1

SIZE			PART NUMBER		THREAD	DIMENSIONS mm							
DN	Inch	Dash	Female coupling	Male coupling		A	B	C	D	E	F		
10	3/8"	-06	Q05211301A-06-06	Q05111301A-06-06	9/16"-18UNF	69.5	75.5	A+B-26,5	ø34	22	22		
12.5	1/2"	-08	Q05211301A-08-08	Q05111301A-08-08	3/4"-16 UNF	69	77	A+B-26,5	ø42	27	27		
12.5	1/2"	-08	Q05211301A-08-10	Q05111301A-08-10	7/8"-14 UNF	71.5	79.5	A+B-26,5	ø42	27	27		

**Q05211240A**  
**Q05111240A**



ORFS TERMINATION ENDS  
TO ISO 8434-3

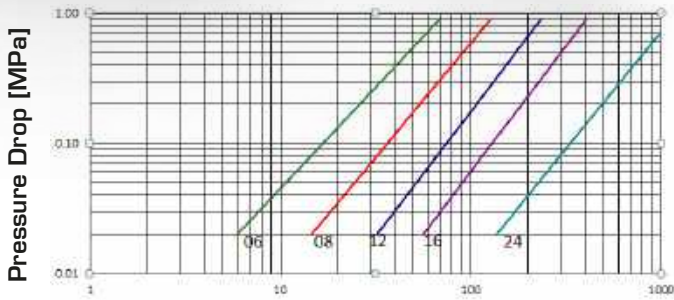
SIZE			PART NUMBER		THREAD	DIMENSIONS mm							
DN	Inch	Dash	Female coupling	Male coupling		A	B	C	D	E	F		
25	1"	-16	Q05211240A-16-16	Q05111240A-16-16	1.7/16"-12 UN	98.3	102.8	A+B-34,5	ø56	46	46		
25	1"	-16	Q05211240A-16-20	Q05111240A-16-20	1.11/16"-12UN	95.8	102.8	A+B-34,5	ø56	46	46		



# SCREW TYPE HEAVY DUTY

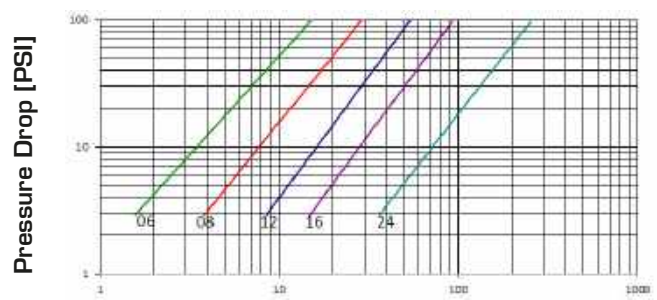


Pressure Drop



Flow Rate [l/min]

Pressure Drop



Flow Rate [US gallons/min]

## TECHNICAL DATA

SIZE			MPa		RATED FLOW at 0.2 MPa of pressure drop		OIL SPILLAGE Connection/ Disconnection		MINIMUM BURST PRESSURE						CONNECTION/ DISCONNECTION UNDER PRESSURE
DN	inch	Dash	MPa	PSI	l/min	US GPM	cc.	cubic inch	Male		Female		M & F		Allowed
									MPa	PSI	MPa	PSI	MPa	PSI	
10	3/8	06	35	5075	26	6.9	1.5	0.092	150	21750	160	23200	180	26100	Allowed
12.5	1/2	08	30	4350	54	14.3	2	0.122	130	18850	140	20300	140	20300	Allowed
20	3/4	12	30	4350	107	28.3	5	0.305	130	17750	130	18850	140	20300	Allowed
25	1	16	25	3625	186	49.1	9	0.549	110	15950	110	15950	110	15950	Allowed
38	1 1/2	24	30	4350	492	130.0	25	1.526	130	18850	125	18125	130	18850	Allowed

The rated flow represents the normal operating condition. The maximum recommended flow rate is equal to 1.5 times the rated flow

### PRODUCT DESCRIPTION

- Screw-type couplings specially designed for heavy duty applications such as hammers, attachments, rock crushers, etc.
- Thanks to strengthened internal components this series is highly resistant against backflow, flow impulses and peaks, pressure impulses, vibration and hose bending
- Connection and disconnection is made by screwing the sleeve, also possible with rated pressure in the line
- Connection secured on the thread between the sleeve and the male coupling
- Shut-off by poppet valve
- Hexagonal profile of external sleeve for an easy connection and disconnection in high pressure conditions
- Interchangeable with MQS-SG series and similar products available on the market
- Up to size DN 20 ISO 14541 compliant

### MATERIAL

Female and male coupling in high standard steel. Carbonitrided valve, springs in C98 steel, seals in NBR (other materials available on request) and back-up ring in PTFE

### WORKING TEMPERATURE

-22°F up to +230°F (-30°C up to +110°C)  
Specific seals available in case of higher temperatures

### SAFETY FACTOR

4:1 for dynamic pressures

### IMPULSE PRESSURES

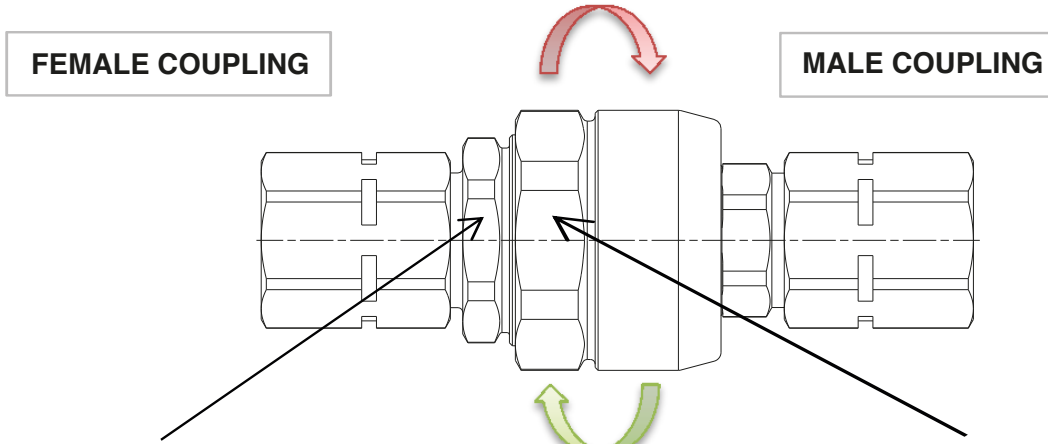
200,000 cycles at 133% of the rated one (freq. 1Hz) disconnected; 500,000 connected

### TEST SPECIFICATIONS

ISO 18869

# ASSEMBLY INSTRUCTIONS

## RECOMMENDED TIGHTENING TORQUES



FEMALE COUPLING

MALE COUPLING

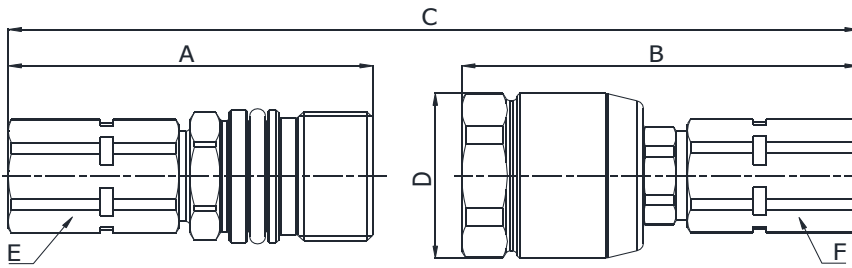
Hold the hexagon on the female body with a wrench

Turn the sleeve on the male applying the tightening torque through the hexagon

SIZE			TIGHTENING TORQUE
DN	Inch	Dash	Nm
10	3/8"	-06	50
12.5	1/2"	-08	80
20	3/4"	-12	120
25	1"	-16	180
38	1-1/2"	-24	300

# Q06211041A Q06111041A

BSP TERMINATION ENDS  
TO DIN 3852 X TYPE

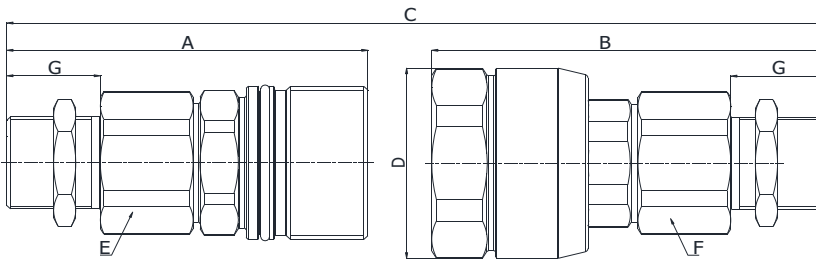


SIZE			PART NUMBER		THREAD	DIMENSIONS mm					
DN	Inch	Dash	Female coupling	Male coupling		A	B	C	D	E	F
10	3/8"	-06	Q06211041A-06-04	Q06111041A-06-04	1/4"	68	74	A+B-26,5	ø34,7	22	22
10	3/8"	-06	Q06211041A-06-06	Q06111041A-06-06	3/8"	69.5	75.5	A+B-26,5	ø34,7	22	22
12.5	1/2"	-08	Q06211041A-08-06	Q06111041A-08-06	3/8"	66.5	74.5	A+B-26,5	ø44,4	27	27
12.5	1/2"	-08	Q06211041A-08-08	Q06111041A-08-08	1/2"	69.5	77.5	A+B-26,5	ø44,4	27	27
20	3/4"	-12	Q06211041A-12-08	Q06111041A-12-08	1/2"	80.8	89.3	A+B-31	ø54,2	34	34
20	3/4"	-12	Q06211041A-12-12	Q06111041A-12-12	3/4"	82.8	91.3	A+B-31	ø54,2	34	34
25	1"	-16	Q06211041A-16-12	Q06111041A-16-12	3/4"	92.3	99.3	A+B-34,5	ø59,6	41	41
25	1"	-16	Q06211041A-16-16	Q06111041A-16-16	1"	95.3	102.3	A+B-34,5	ø59,6	41	41
38	1-1/2"	-24	Q06211041A-24-20	Q06111041A-24-20	1.1/4"	124.5	137.3	A+B-47,5	ø86,6	60	60
38	1-1/2"	-24	Q06211041A-24-24	Q06111041A-24-24	1.1/2"	127.5	140.3	A+B-47,5	ø86,6	60	60

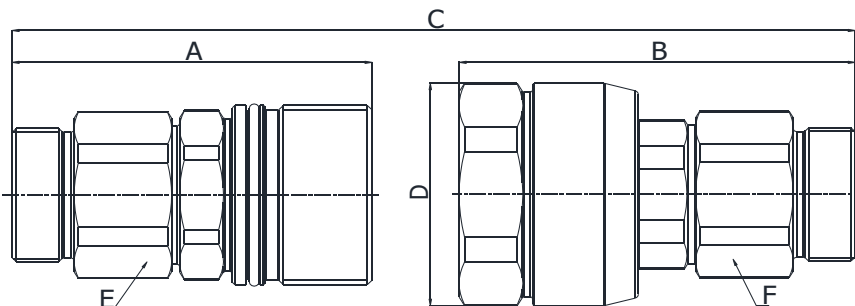
439 Q.SAFE

# Q06211870B Q06111870B

METRIC TERMINATION ENDS  
BULKHEAD S SERIES



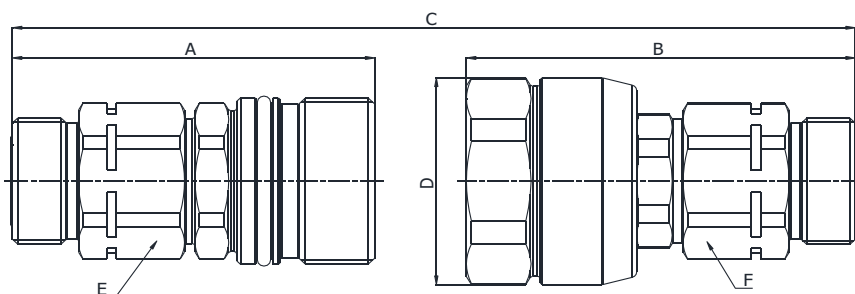
SIZE			PART NUMBER		THREAD	DIMENSIONS mm						
DN	Inch	Dash	Female coupling	Male coupling		A	B	C	D	E	F	
38	1-1/2"	-24	Q06211870B-24-42	Q06111870B-24-42	M42x2	146.7	159.5	A+B-47,3	ø86,6	60	60	38



**Q06211120A**  
**Q06111120A**

METRIC TERMINATION ENDS  
TO ISO 8434-1 S SERIES

SIZE			PART NUMBER		THREAD	DIMENSIONS mm					
DN	Inch	Dash	Female coupling	Male coupling		A	B	C	D	E	F
38	1-1/2"	-24	Q06211120A-24-52	Q06111120A-24-52	M52x2	127.6	140	A+B-47,3	ø86,6	60	60



**Q06211240A**  
**Q06111240A**

ORFS TERMINATION ENDS  
TO ISO 8434-3

SIZE			PART NUMBER		THREAD	DIMENSIONS mm					
DN	Inch	Dash	Female coupling	Male coupling		A	B	C	D	E	F
25	1"	-16	Q06211240A-16-16	Q06111240A-16-16	1.7/16"-12 UN	98.3	102.8	A+B-34,5	ø59,6	46	46

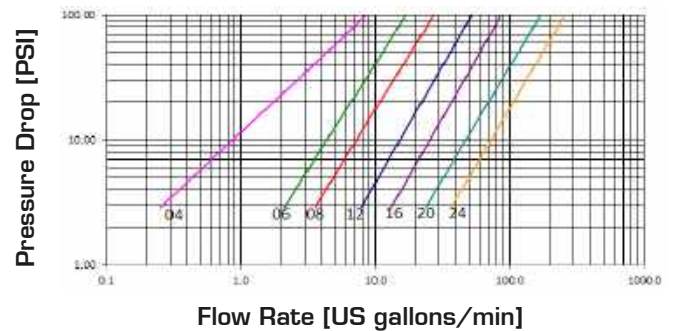
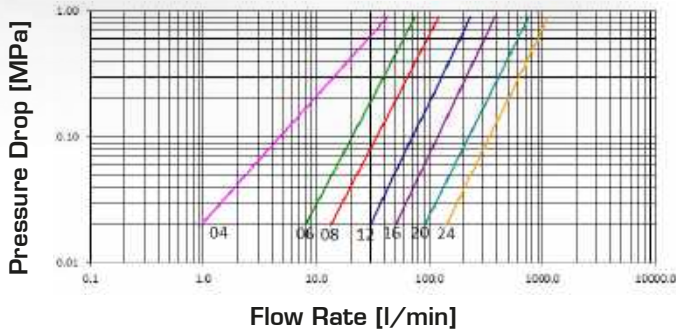
Q.SAFE  
440

# SCREW TYPE HEAVY DUTY



Pressure Drop

Pressure Drop



## TECHNICAL DATA

SIZE			WORKING PRESSURE (Dynamic)		RATED FLOW at 0.2 MPa of pressure drop		OIL SPILLAGE Connection/ Disconnection		MINIMUM BURST PRESSURE						CONNECTION/ DISCONNECTION UNDER PRESSURE
DN	inch	Dash	MPa	PSI	l/min	US GPM	cc.	cubic inch	Male		Female		M & F		
									MPa	PSI	MPa	PSI	MPa	PSI	
6	1/4	04	70	10150	10	2.6	0.4	0.024	290	42050	350	50750	300	43500	Allowed up to 30 MPa
10	3/8	06	60	8700	31	8.2	1.5	0.092	250	36250	330	47850	320	46400	Allowed up to 30 MPa
12.5	1/2	08	50	7250	51	13.5	2	0.122	200	29000	260	37700	310	44950	Allowed up to 30 MPa
20	3/4	12	50	7250	102	26.9	4	0.244	200	29000	250	36250	310	44950	Allowed up to 30 MPa
25	1	16	50	7250	170	44.9	7.5	0.458	200	29000	230	33350	270	39150	Allowed up to 30 MPa
31	1 1/4	20	40	5800	325	85.9	15	0.916	160	23200	170	24650	230	33350	Allowed up to 15 MPa
38	1 1/2	24	32	4640	494	130.5	23	1.404	130	18850	140	20300	150	21750	Allowed up to 15 MPa

The rated flow represents the normal operating condition. The maximum recommended flow rate is equal to 1.5 times the rated flow

## PRODUCT DESCRIPTION

- Screw-on connection/disconnection system
- Sleeve with hexagon area internal components reinforced, made in steel
- Hardened valve bodies
- Three-part poppet valve with a moulded shaped seal
- Mechanical backstop to prevent partial enclosures of valves due to peaks and reverse flow
- Interchangeable with other products and widely used on the market
- Accessories (plugs and caps) and spare part kits available
- Wide range of termination ends

## MATERIAL

Couplings in steel with some stressed area hardened.  
Carbonitrided valve, springs in C98 steel, seals in NBR and back-up ring in PTFE

## WORKING TEMPERATURE

-22°F up to +230°F (-30°C up to +110°C)

## SAFETY FACTOR

4:1 for dynamic pressures

## IMPULSE PRESSURES

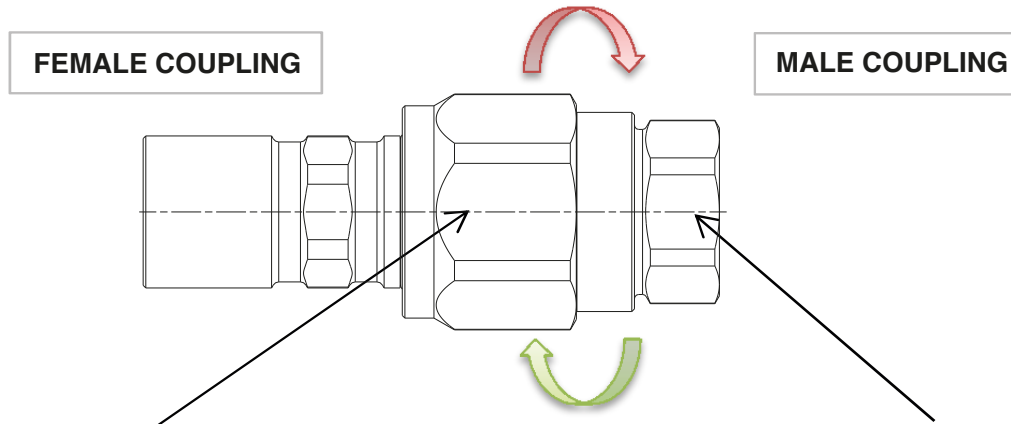
200,000 cycles (connected and disconnected conditions) at 120% of the rated one (freq. 1Hz)

## TEST SPECIFICATIONS

ISO 18869

# ASSEMBLY INSTRUCTIONS

## RECOMMENDED TIGHTENING TORQUES



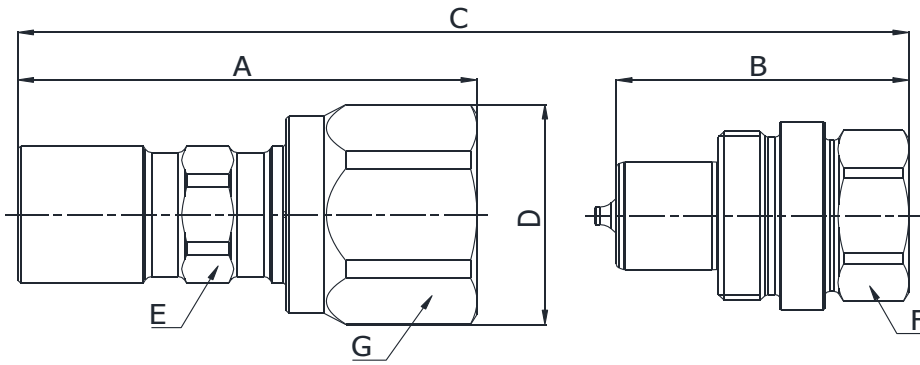
Turn the sleeve on the female applying the tightening torque through the hexagon

Hold the hexagon on the male body with a wrench

SIZE			TIGHTENING TORQUE
DN	Inch	Dash	Nm
6	1/4"	-04	50
10	3/8"	-06	70
12.5	1/2"	-08	100
19	<b>3/4"</b>	-12	150
25	1"	-16	250
31	1-1/4"	-20	400
38	1-1/2"	-24	500

**Q05411041A**  
**Q05311041A**

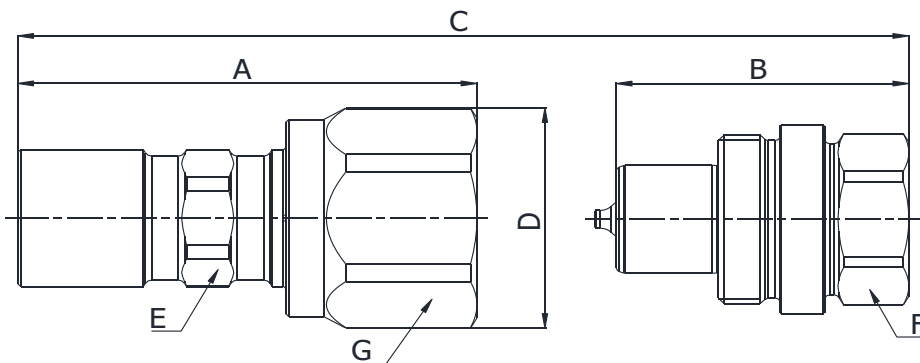
BSP TERMINATION ENDS  
TO DIN 3852 X TYPE



SIZE			PART NUMBER		THREAD	DIMENSIONS mm						
DN	Inch	Dash	Female coupling	Male coupling		A	B	C	D	E	F	G
6.3	1/4"	-04	Q05411041A-04-04	Q05311041A-04-04	1/4"	63	42.2	A+B-20,8	ø35	19	22	32
10	3/8"	-06	Q05411041A-06-06	Q05311041A-06-06	3/8"	72.5	46.2	A+B-25,9	ø38,5	22	27	35
12.5	1/2"	-08	Q05411041A-08-08	Q05311041A-08-08	1/2"	82.1	54.4	A+B-27,3	ø45	27	32	41
20	3/4"	-12	Q05411041A-12-12	Q05311041A-12-12	3/4"	93.7	61.4	A+B-31,9	ø55	35	41	50
25	1"	-16	Q05411041A-16-16	Q05311041A-16-16	1"	105.8	68.3	A+B-37	ø66	41	50	60
31.5	1.1/4"	-20	Q05411041A-20-20	Q05311041A-20-20	1.1/4"	131.9	82	A+B-53,9	ø88	55	70	80
38	1.1/2"	-24	Q05411041A-24-24	Q05311041A-24-24	1.1/2"	158.9	102	A+B-70,4	ø99	60	80	90

**Q05411341A**  
**Q05311341A**

NPTF TERMINATION END  
TO ANSI B 1.20.3



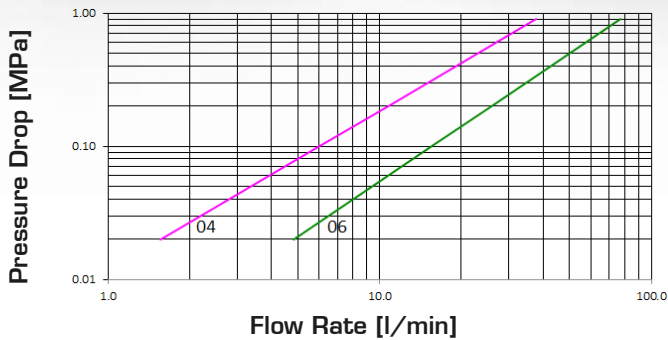
SIZE			PART NUMBER		THREAD	DIMENSIONS mm						
DN	Inch	Dash	Female coupling	Male coupling		A	B	C	D	E	F	G
6.3	1/4"	-04	Q05411341A-04-04	Q05311341A-04-04	1/4" NPTF	63	42.2	A+B-20,8	ø35	19	22	32
10	3/8"	-06	Q05411341A-06-06	Q05311341A-06-06	3/8" NPTF	72.5	46.2	A+B-25,9	ø38,5	22	27	35
12.5	1/2"	-08	Q05411341A-08-08	Q05311341A-08-08	1/2" NPTF	82.1	54.4	A+B-27,3	ø45	27	32	41
20	3/4"	-12	Q05411341A-12-12	Q05311341A-12-12	3/4" NPTF	93.7	61.4	A+B-31,9	ø55	35	41	50
25	1"	-16	Q05411341A-16-16	Q05311341A-16-16	1" NPTF	105.8	68.3	A+B-37	ø66	41	50	60
31.5	1.1/4"	-20	Q05411341A-20-20	Q05311341A-20-20	1.1/4" NPTF	131.9	82	A+B-53,9	ø88	55	70	80
38	1.1/2"	-24	Q05411341A-24-24	Q05311341A-24-24	1.1/2" NPTF	158.9	102	A+B-70,4	ø99	60	80	90

**443 Q.SAFE**

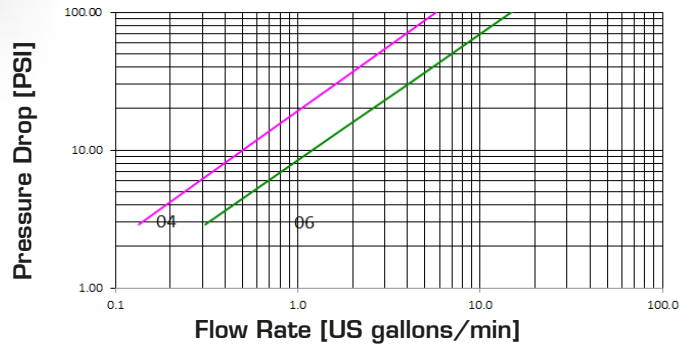
# SCREW TYPE HYDRAULIC CYLINDERS (POPPET)



Pressure Drop



Pressure Drop



## TECHNICAL DATA

SIZE			WORKING PRESSURE (Dynamic)		RATED FLOW at 0.2 MPa of pressure drop		OIL SPILLAGE Connection/ Disconnection		MINIMUM BURST PRESSURE						CONNECTION/ DISCONNECTION UNDER PRESSURE
DN	inch	Dash	MPa	PSI	l/min	US GPM	cc.	cubic inch	Male		Female		M & F		
									MPa	PSI	MPa	PSI	MPa	PSI	
6.3	1/4	04	70	10150	11	2.9	0.4	0.024	350	50750	310	44950	320	46400	RESIDUAL PRESSURE
10	3/8	06	70	10150	26	7	0.6	0.037	280	40600	300	43500	280	40600	RESIDUAL PRESSURE

The rated flow represents the normal operating condition. The maximum recommended flow rate is equal to 1.5 times the rated flow

## PRODUCT DESCRIPTION

- Screw-type couplings specially designed for very high pressure applications on cylinders and hydraulic rams
- Connection and disconnection is made by screwing the sleeve and can be made with residual pressure in the line
- Connection secured on the thread between the sleeve and the male coupling
- Shut-off by poppet valve provides effective hydraulic sealing
- Interchangeable with other products and widely used in the USA and Europe
- ISO 14540 compliant

## MATERIAL

Female and male coupling in steel. Carbonitrided valve, springs in C98 steel, seals in NBR (other materials available on request) and back-up ring in PTFE

## WORKING TEMPERATURE

-22°F up to +230°F (-30°C up to +110°C)  
Specific seals available in case of higher temperatures

## SAFETY FACTOR

4:1 for dynamic pressures

## IMPULSE PRESSURES

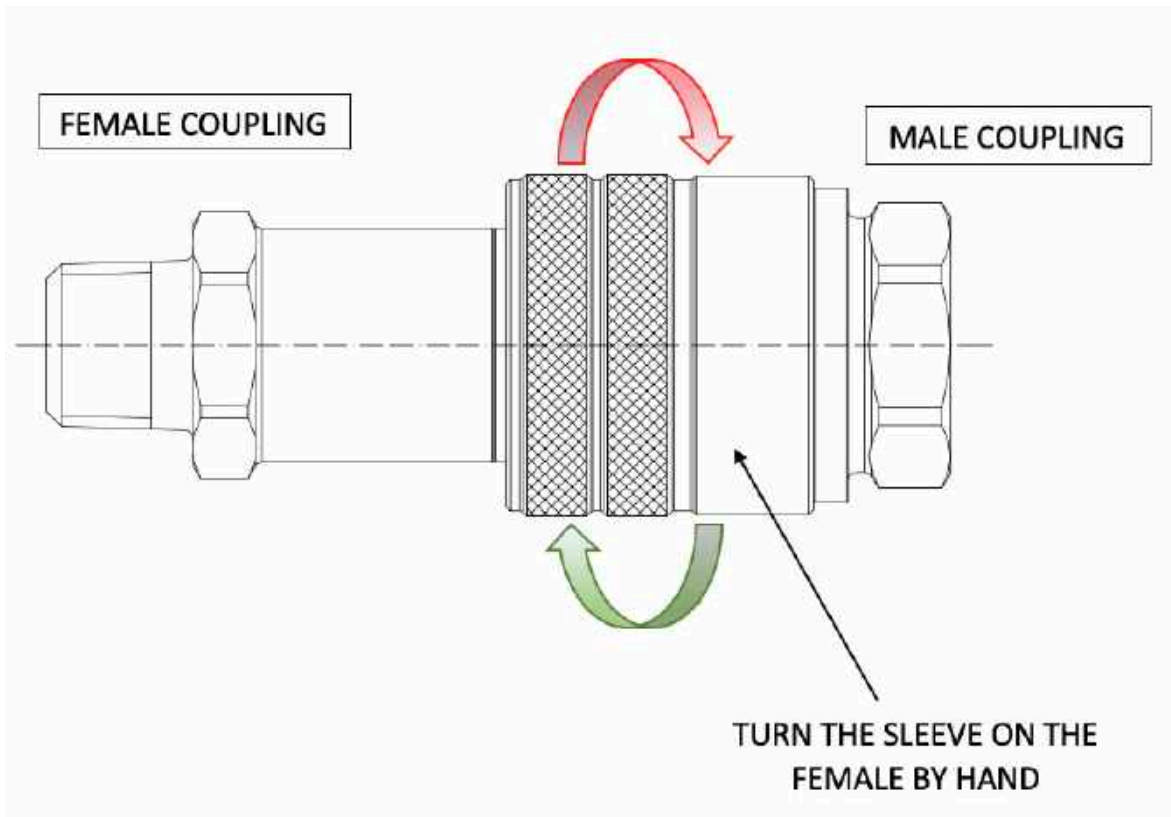
10,000 cycles at 100% of the rated one (freq. 1Hz)

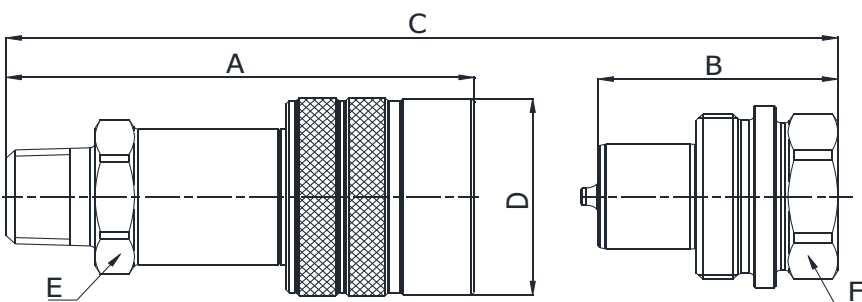
## TEST SPECIFICATIONS

ISO 18869



## ASSEMBLY INSTRUCTIONS

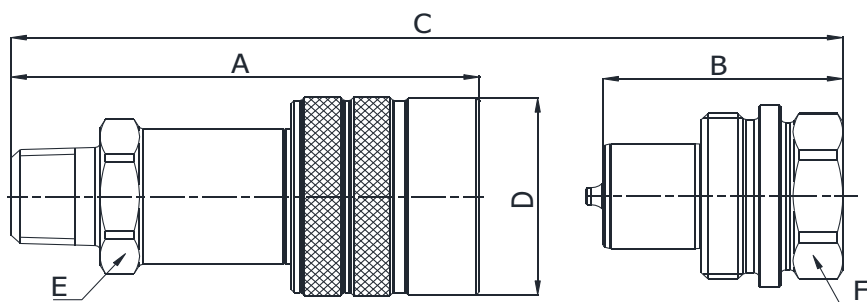




## Q05611280B

NPT TERMINATION ENDS  
TO ANSI B1.20.3

SIZE			PART NUMBER		THREAD	DIMENSIONS mm					
DN	Inch	Dash	Female coupling	Male coupling		A	B	C	D	E	F
6.3	1/4"	-04	Q05611280B-04-04	-	1/4" NPTF	62.4	-	A+B-19	ø30	21	-
10	3/8"	-06	Q05611280B-06-04	-	1/4" NPTF	76	-	A+B-25	ø35,6	25	-
10	3/8"	-06	Q05611280B-06-06	-	3/8" NPTF	76	-	A+B-25	ø35,6	25	-

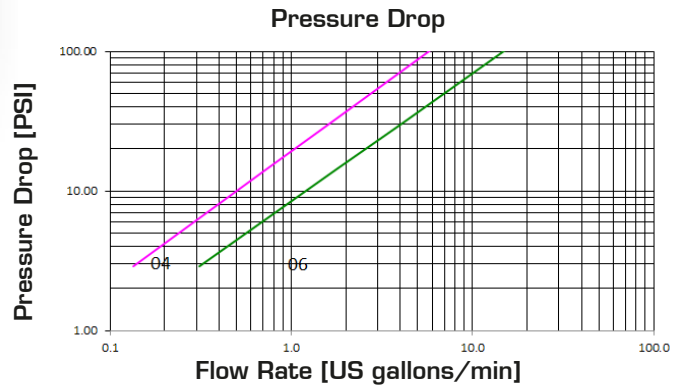
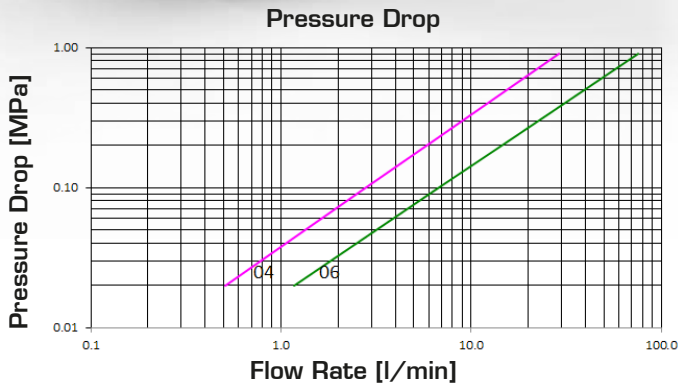


## Q05511341B

NPT TERMINATION ENDS  
TO ANSI B1.20.3

SIZE			PART NUMBER		THREAD	DIMENSIONS mm					
DN	Inch	Dash	Female coupling	Male coupling		A	B	C	D	E	F
6.3	1/4"	-04	-	Q05511341B-04-04	1/4" NPTF	-	34	A+B-19	-	-	22
10	3/8"	-06	-	Q05511341B-06-04	1/4" NPTF	-	39	A+B-25	-	-	27
10	3/8"	-06	-	Q05511341B-06-06	3/8" NPTF	-	39	A+B-25	-	-	27

# SCREW TYPE HYDRAULIC CYLINDERS (BALL)



## TECHNICAL DATA

SIZE			WORKING PRESSURE (Dynamic)		RATED FLOW at 0.2 MPa of pressure drop		OIL SPILLAGE Connection/ Disconnection		MINIMUM BURST PRESSURE						CONNECTION/ DISCONNECTION UNDER PRESSURE
DN	inch	Dash	MPa	PSI	l/min	US GPM	cc.	cubic inch	Male		Female		M & F		
									MPa	PSI	MPa	PSI	MPa	PSI	
6.3	¼	04	70	10150	6	1.6	0.3	0.018	180	26100	170	24650	320	46400	RESIDUAL PRESSURE
10	⅜	06	70	10150	15	4	0.5	0.031	170	24650	180	26100	280	40600	RESIDUAL PRESSURE

The rated flow represents the normal operating condition. The maximum recommended flow rate is equal to 1.5 times the rated flow

### PRODUCT DESCRIPTION

- Screw-type couplings specially designed for very high pressure applications on cylinders and hydraulic rams
- Connection and disconnection is made by screwing the sleeve and can be made with residual pressure in the line
- Connection secured on the thread between the sleeve and the male coupling
- Shut-off by ball valve provides effective hydraulic sealing
- Interchangeable with other products and widely used in the USA and Europe
- ISO 14540 compliant

### MATERIAL

Female and male coupling in steel. Carbonitrided valve, springs in C98 steel, seals in NBR (other materials available on request) and back-up ring in PTFE

### WORKING TEMPERATURE

-22°F up to +230°F (-30°C up to +110°C)  
Specific seals available in case of higher temperatures

### SAFETY FACTOR

4:1 for dynamic pressures

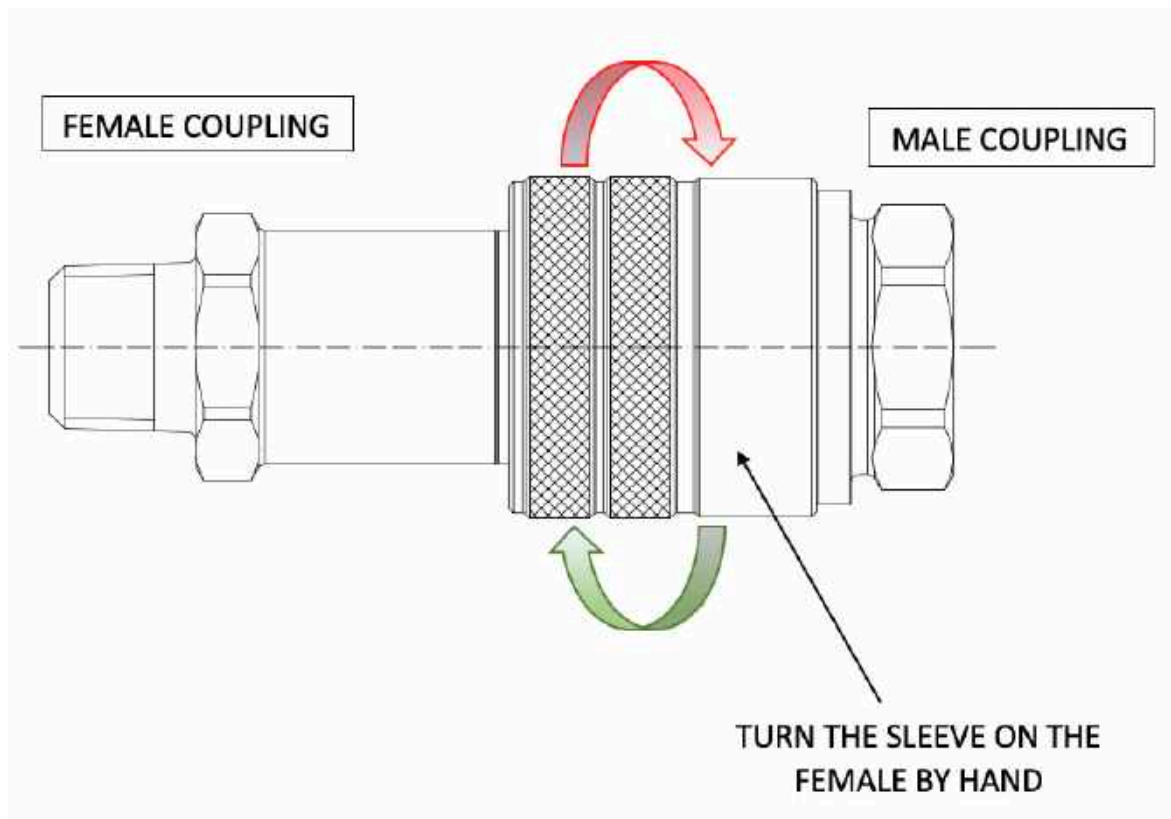
### IMPULSE PRESSURES

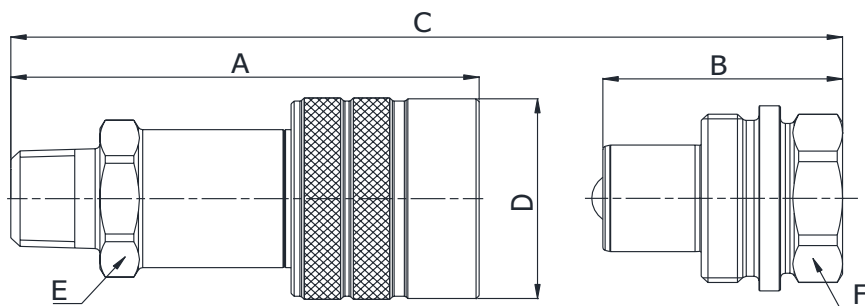
10,000 cycles at 100% of the rated one (freq. 1Hz)

### TEST SPECIFICATIONS

ISO 7241-2

## ASSEMBLY INSTRUCTIONS

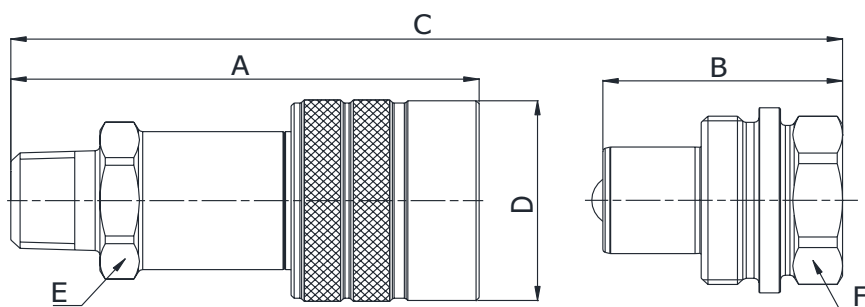




## Q05611280C

NPT TERMINATION ENDS  
TO ANSI B1.20.3

SIZE			PART NUMBER		THREAD	DIMENSIONS mm					
DN	Inch	Dash	Female coupling	Male coupling		A	B	C	D	E	F
6.3	1/4"	-04	Q05611280C-04-04		1/4" NPTF	62.4	-	A+B-19	ø30	21	-
10	3/8"	-06	Q05611280C-06-04	-	1/4" NPTF	75.6	-	A+B-25	ø35,6	25	-
10	3/8"	-06	Q05611280C-06-06	-	3/8" NPTF	75.6	-	A+B-25	ø35,6	25	-



## Q05510341C

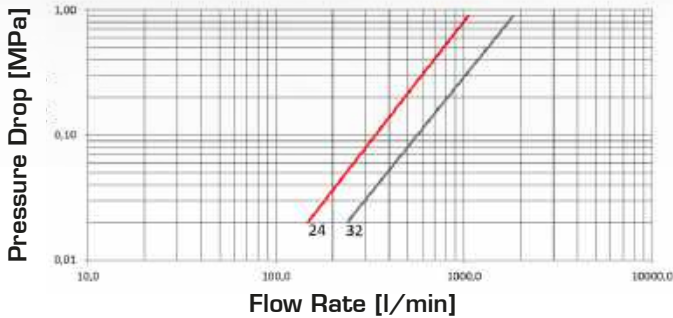
NPT TERMINATION ENDS  
TO ANSI B1.20.3

SIZE			PART NUMBER		THREAD	DIMENSIONS mm					
DN	Inch	Dash	Female coupling	Male coupling		A	B	C	D	E	F
6.3	1/4"	-04	-	Q05510341C-04-04	1/4" NPTF	-	32	A+B-19	-	-	22
10	3/8"	-06	-	Q05510341C-06-04	1/4" NPTF	-	39	A+B-25	-	-	27
10	3/8"	-06	-	Q05510341C-06-06	3/8" NPTF	-	39	A+B-25	-	-	27

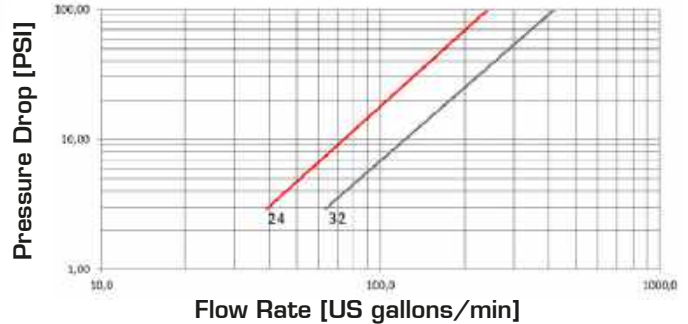


# SCREW TYPE FOR OIL & GAS

Pressure Drop



Pressure Drop



Q.SAFE 450

## TECHNICAL DATA

SIZE			WORKING PRESSURE				RATED FLOW		OIL SPILLAGE		MINIMUM BURST PRESSURE						CONNECTION/ DISCONNECTION
			CONNECTED (Dynamic)		DISCONNECTED (Dynamic)		at 0.2 MPa of pressure drop		Connection/ Disconnection								UNDER PRESSURE
DN	inch	Dash	MPa	PSI	MPa	PSI	l/min	US GPM	cc.	cubic inch	Male		Female		M & F		
			MPa	PSI	MPa	PSI					MPa	PSI	MPa	PSI	MPa	PSI	
38	1-1/2	-24	35	5075	25	3625	485	128.1	35	2.137	100	14500	120	17400	150	21750	Residual pressure
51	2	-32	35	5075	25	3625	820	216.6	80	4.884	100	14500	100	14500	180	26100	Residual pressure

The rated flow represents the normal operating condition. The maximum recommended flow rate is equal to 1.5 times the rated flow

## PRODUCT DESCRIPTION

- Screw-type couplings specially designed for Oil & Gas applications
- Wing Nut shaped sleeve for easier connection and disconnection by hand, also in case of residual pressure in the line
- Connection secured on the thread between the sleeve and the female coupling
- Inspection holes to check full connection
- Shut-off by poppet valve
- Interchangeable with similar products available on the market

### MATERIAL

Female and male couplings in high grade carbon steel. Springs in C98 steel, seals in NBR (other materials available on request) and back-up ring in PTFE

### WORKING TEMPERATURE

-22°F up to +230°F (-30°C up to +110°C)

### SAFETY FACTOR

4:1 for dynamic pressures

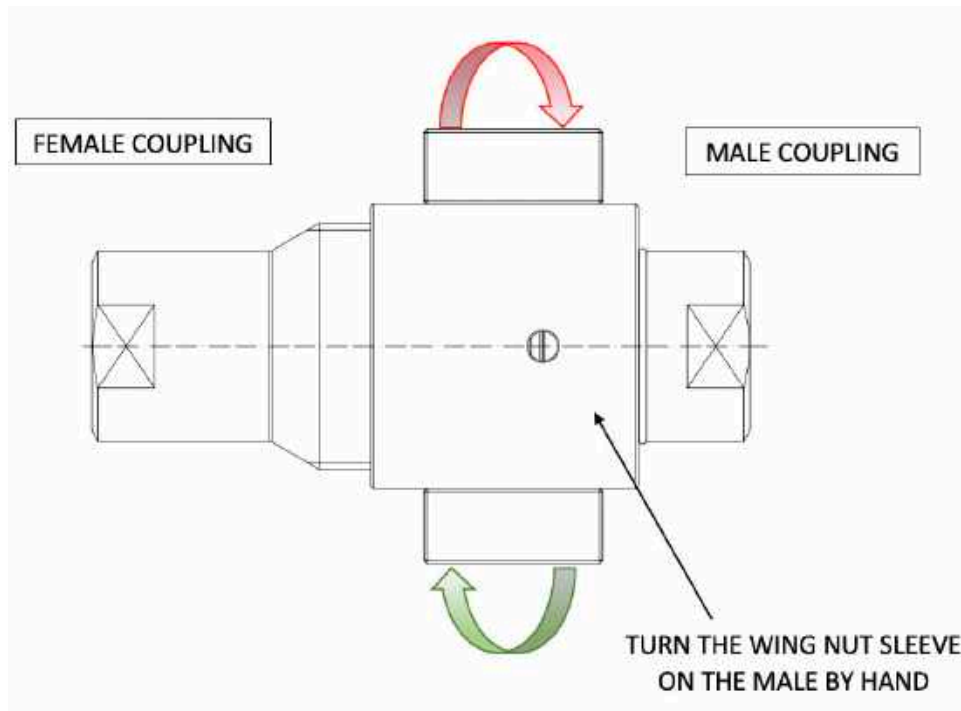
### IMPULSE PRESSURES

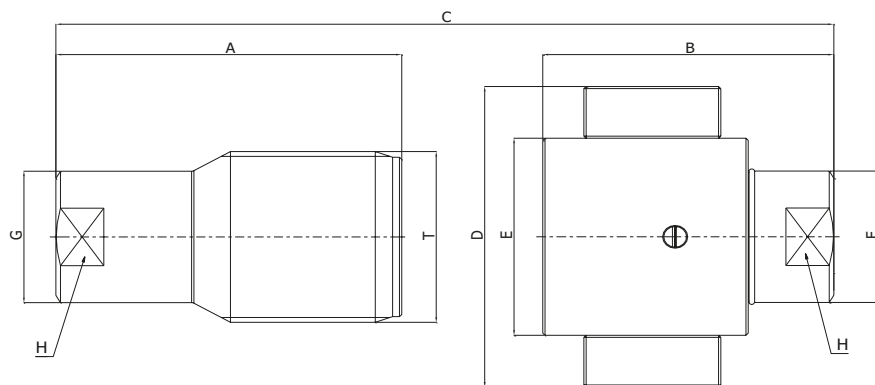
500,000 cycles at 120% of the rated one (freq. 1Hz) in connected and disconnected conditions.

### TEST SPECIFICATIONS

ISO 18869

## ASSEMBLY INSTRUCTIONS





**Q07711041A**  
**Q07611041A**

BSP TERMINATION ENDS  
TO DIN 3852 X TYPE

SIZE			PART NUMBER		THREAD	DIMENSIONS mm								
DN	Inch	Dash	Female coupling	Male coupling		A	B	C	D	E	F	G	H	T
38	1-1/2	-24	Q07711041A-24-24	Q07611041A-24-24	1.1/2"	151.5	127.5	A+B-40,5	145.2	ø95,2	ø63,5	ø63,5	57.1	STUB ACME 3-1/4 - 4
51	2	-32	Q07711041A-32-32	Q07611041A-32-32	2"	179	154	A+B-51	168.7	ø118,7	ø83	ø82,5	76.2	STUB ACME 4 - 4

**Q.SAFE**  
**452**

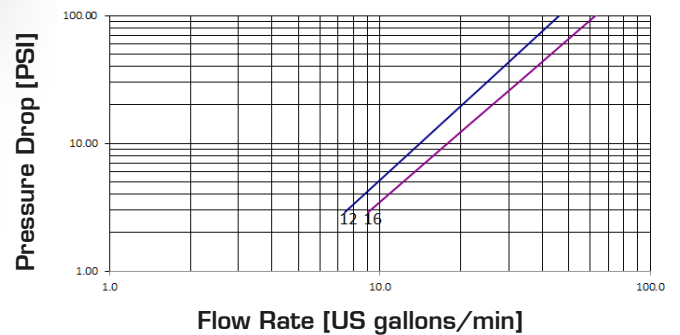
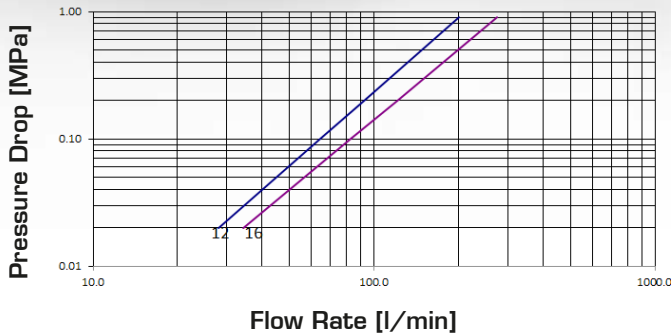


# SCREW TYPE FOR TRUCKS



Pressure Drop

Pressure Drop



## TECHNICAL DATA

SIZE			WORKING PRESSURE (Dynamic)		RATED FLOW at 0.2 MPa of pressure drop		OIL SPILLAGE Connection/ Disconnection		MINIMUM BURST PRESSURE						CONNECTION/ DISCONNECTION UNDER PRESSURE
DN	inch	Dash	MPa	PSI	l/min	US GPM	cc.	cubic inch	Male		Female		M & F		Residual pressure
									MPa	PSI	MPa	PSI	MPa	PSI	
20	3/4	12	25	3625	92	24.3	7.5	0.458	100	14500	120	17400	110	15950	Residual pressure
25	1	16	25	3625	121	32.0	9	0.549	120	17400	140	20300	130	18850	Residual pressure

The rated flow represents the normal operating condition. The maximum recommended flow rate is equal to 1.5 times the rated flow

## PRODUCT DESCRIPTION

- Screw-type couplings specially designed for truck trailer applications
- Wing Nut shaped sleeve for easier connection and disconnection by hand, also in case of residual pressure in the line
- Connection secured on the thread between the sleeve and the male coupling
- Shut-off by poppet valve
- Interchangeable with similar products available on the market

### MATERIAL

Female and male coupling in steel. Carbonitrided valve, springs in C98 steel, seals in NBR (other materials available on request) and back-up ring in PTFE

### WORKING TEMPERATURE

-22°F up to +230°F (-30°C up to +110°C)

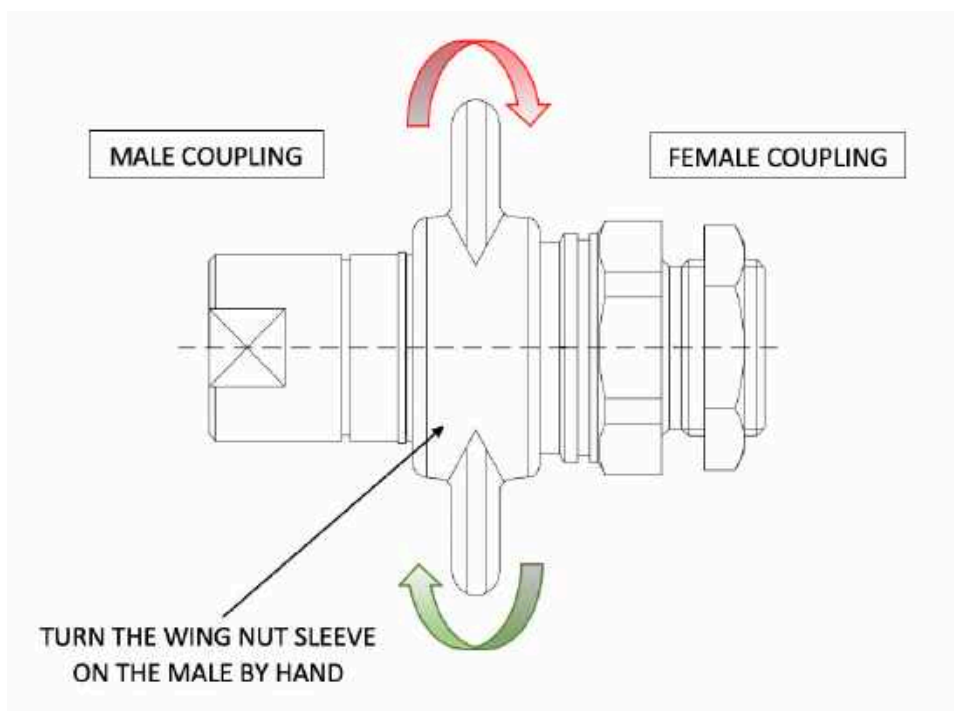
### SAFETY FACTOR

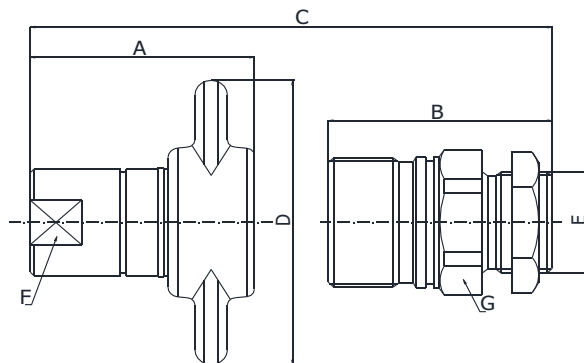
4:1 for dynamic pressures and 2:1 for static pressures

### TEST SPECIFICATIONS

ISO 18869

## ASSEMBLY INSTRUCTIONS





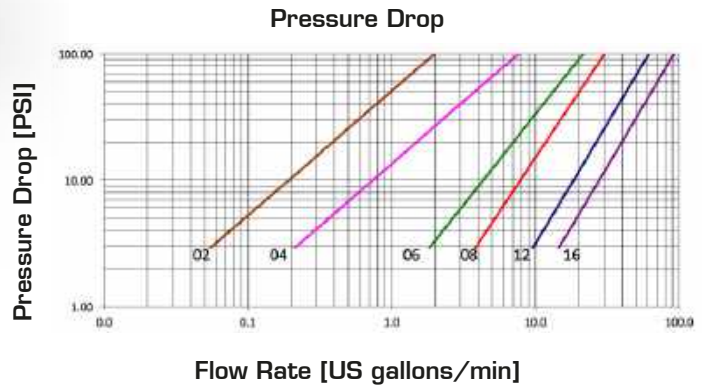
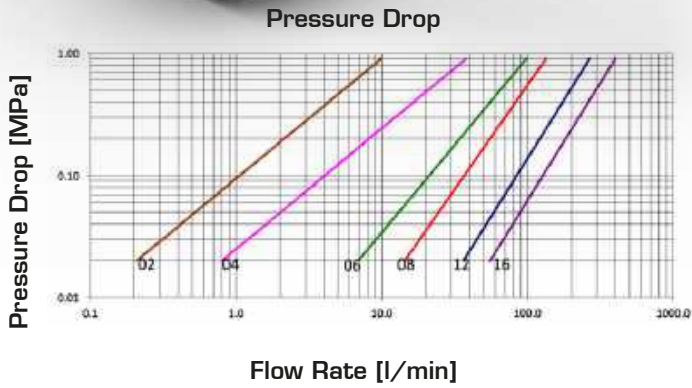
**Q05811041A**  
**Q05711041A**

BSP TERMINATION ENDS  
TO DIN 3852 X TYPE

SIZE			PART NUMBER		THREAD	DIMENSIONS mm						
DN	Inch	Dash	Female coupling	Male coupling		A	B	C	D	E	F	G
20	3/4"	-12	Q05811041A-12-12	Q05711041A-12-12	3/4"	78	78	138	117	1.1/4"	33	46
25	1"	-16	Q05811041A-16-16	Q05711041A-16-16	1"	83	83	148	117	1.1/4"	40	55



# STAINLESS STEEL ISO B POPPET VALVE



Q.SAFE 456

## TECHNICAL DATA

SIZE			WORKING PRESSURE (Dynamic)		RATED FLOW at 0.2 MPa of pressure drop		CONNECTION EFFORT		OIL SPILLAGE Connection/Disconnection		MINIMUM BURST PRESSURE						CONNECTION/DISCONNECTION UNDER PRESSURE	
DN	inch	Dash	MPa	PSI	l/min	US GPM	N	lb.	cc.	cubic inch	Male		Female		M & F			
											MPa	PSI	MPa	PSI	MPa	PSI		
5	1/8	02	40	5800	2	0.6	28	6.3	0.5	0.031	210	30450	280	40600	160	23200	Not allowed	
6.3	1/4	04	35	5075	8	2.2	36	8.1	0.8	0.049	150	21750	220	31900	230	33350	Not allowed	
10	3/8	06	30	4350	34	9.1	38	8.5	1.5	0.092	130	18850	160	23200	180	26100	Not allowed	
12.5	1/2	08	30	4350	55	14.6	50	11.2	2.5	0.153	120	17400	130	18850	140	20300	Not allowed	
20	3/4	12	25	3625	122	32.1	56	12.6	8.5	0.519	110	15950	110	15950	130	18850	Not allowed	
25	1	16	25	3625	183	48.3	56	12.6	15.0	0.915	110	15950	110	15950	100	14500	Not allowed	

The rated flow represents the normal operating condition. The maximum recommended flow rate is equal to 1.5 times the rated flow

## PRODUCT DESCRIPTION

- Reference series for all industrial applications
- Simple connection and disconnection by pulling back the sleeve
- Positive, quick connection of the male into the female by latching the ball system
- Shut-off by poppet valve
- High resistant materials
- Interchangeable according to ISO 7241 series B
- FKM (VITON) seal

### MATERIAL

Female and male in AISI 316 steel. Couplings in high grade carbon steel hardened. Springs in C98 steel, seals in FKM (VITON) (other materials on request) and back-up ring in PTFE

### WORKING TEMPERATURE

-25°C up to +200°C  
For other temperatures, the quick coupling is assembled with specific seals

### SAFETY FACTOR

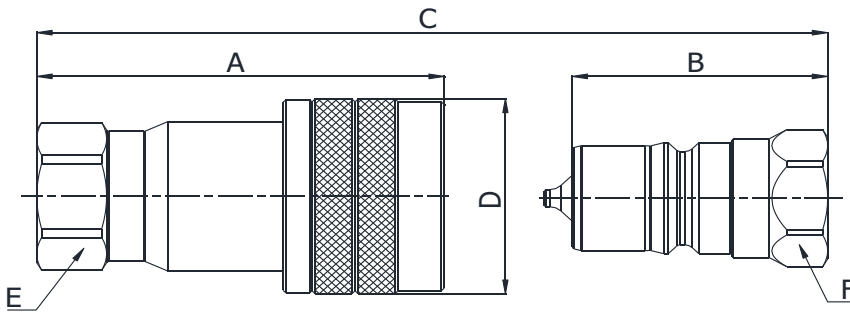
4:1 for dynamic pressures

### IMPULSE PRESSURES

Withstands 100,000 cycles of impulse pressure at 133% of the rated one (freq. 1Hz)

### TEST SPECIFICATIONS

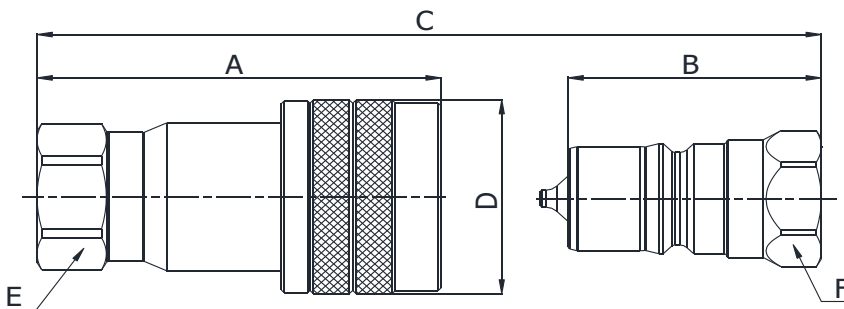
ISO 18869



**Q02423041A**  
**Q02123041A**

BSP TERMINATION ENDS  
TO DIN 3852 X TYPE  
FKM SEAL

SIZE			PART NUMBER		THREAD	DIMENSIONS mm					
DN	Inch	Dash	Female coupling	Male coupling		A	B	C	D	E	F
5	1/8"	-02	Q02423041A-02-02	Q02123041A-02-02	1/8"	48.5	30	A+B-18,2	ø22	15	14
6.3	1/4"	-04	Q02423041A-04-04	Q02123041A-04-04	1/4"	58.8	37.2	A+B-21,2	ø28	19	19
10	3/8"	-06	Q02423041A-06-06	Q02123041A-06-06	3/8"	66.2	41.5	A+B-24,4	ø35	24	22
12.5	1/2"	-08	Q02423041A-08-08	Q02123041A-08-08	1/2"	74	46.5	A+B-27,2	ø42	30	27
20	3/4"	-12	Q02423041A-12-12	Q02123041A-12-12	3/4"	91	56.5	A+B-34,2	ø52	36	36
25	1"	-16	Q02423041A-16-16	Q02123041A-16-16	1"	104	64.5	A+B-39,2	ø60	41	41



**Q02423341A**  
**Q02123341A**

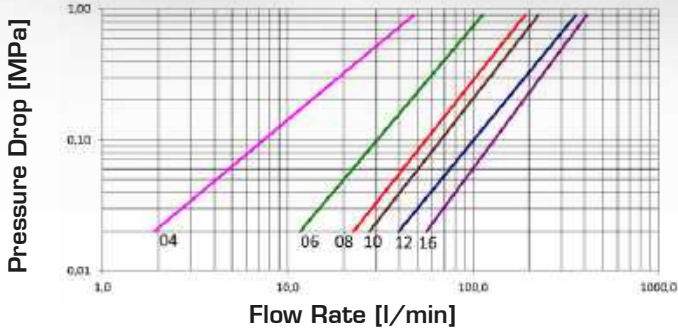
NPTF TERMINATION END  
TO ANSI B 1.20.3  
FKM SEAL

SIZE			PART NUMBER		THREAD	DIMENSIONS mm					
DN	Inch	Dash	Female coupling	Male coupling		A	B	C	D	E	F
5	1/8"	-02	Q02423341A-02-02	Q02123341A-02-02	1/8" NPTF	48.5	30	A+B-18,2	ø22	15	14
6.3	1/4"	-04	Q02423341A-04-04	Q02123341A-04-04	1/4" NPTF	58.8	37.2	A+B-21,2	ø28	19	19
10	3/8"	-06	Q02423341A-06-06	Q02123341A-06-06	3/8" NPTF	66.2	41.5	A+B-24,4	ø35	24	22
12.5	1/2"	-08	Q02423341A-08-08	Q02123341A-08-08	1/2" NPTF	74	46.5	A+B-27,2	ø42	30	27
20	3/4"	-12	Q02423341A-12-12	Q02123341A-12-12	3/4" NPTF	91	56.5	A+B-34,2	ø52	36	36
25	1"	-16	Q02423341A-16-16	Q02123341A-16-16	1" NPTF	104	64.5	A+B-39,2	ø60	41	41

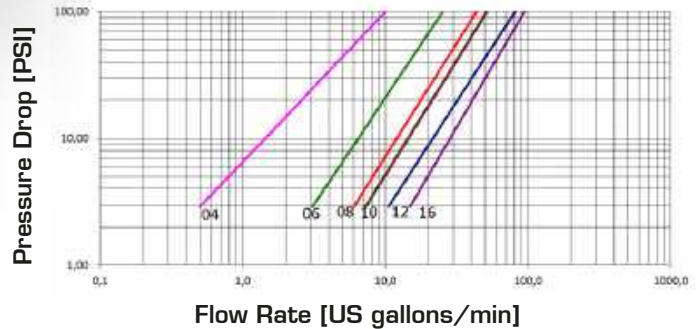


# STAINLESS STEEL FLAT FACE

Pressure Drop



Pressure Drop



Q.SAFE 458

## TECHNICAL DATA

SIZE		WORKING PRESSURE CONNECTED [Dynamic]		WORKING PRESSURE DISCONNECTED [Dynamic]		RATED FLOW at 0.2 MPa of pressure drop		CONNECTION EFFORT		OIL SPILLAGE Connection/ Disconnection	MINIMUM BURST PRESSURE						CONNECTION WITH FEMALE UNDER PRESSURE (MALE AT 0 MPa)		
DN	inch	Dash	MPa	PSI	MPa	PSI	l/min	US GPM	N	lb.	cc.	cubic inch	Male		Female		M & F		
			MPa	PSI	MPa	PSI							MPa	PSI	MPa	PSI	MPa	PSI	
6.3	1/4"	04	35	5075	32	4640	13	3.4	120	27.0	0.005	0.0003	200	29000	130	18850	220	31900	Allowed up to 6 MPa
10	3/8"	06	35	5075	32	4640	46	12.2	130	29.2	0.007	0.0004	180	26100	130	18850	170	24650	Allowed up to 6 MPa
12.5	1/2"	08	35	5075	25	3625	82	21.7	150	33.7	0.008	0.0005	100	14500	100	14500	140	20300	Allowed up to 4 MPa
16	5/8"	10	35	5075	25	3625	98	25.9	160	36.0	0.008	0.0005	100	14500	100	14500	140	20300	Allowed up to 3 MPa
19	3/4"	12	35	5075	22	3190	150	39.6	210	47.2	0.009	0.0005	90	13050	100	14500	140	20300	Allowed up to 2 MPa
25	1"	16	35	5075	21	3045	186	49.1	210	47.2	0.02	0.0012	110	15950	85	12325	140	20300	Allowed up to 2 MPa

Connection with Male under pressure not allowed; Disconnection under pressure not allowed  
 The rated flow represents the normal operating condition. The maximum recommended flow rate is equal to 1.5 times the rated flow

## PRODUCT DESCRIPTION

- Flat mating surfaces easily wiped clean to prevent contamination and spillage during connection/disconnection
- Connection is made by pushing the male coupling and disconnection by pulling back the sleeve of the female
- Positive, quick connection of the male into the female by the latching ball system
- Shut-off by flat valve
- Interchangeability according to ISO 16028 and HTMA standards (only for 3/8")
- 1,000,000 cycles at 120% of rated (freq. 1Hz - connected conditions)
- FKM (VITON) seal

## MATERIAL

Female and male coupling in steel, with some stressed tempered or carbonitrided areas. Springs in AISI and C98 steel, FKM (VITON) seal. Other materials (VITON, EPDM or any others) on request

## WORKING TEMPERATURE

-25°C up to +200°C  
 For other temperatures the coupling is assembled with the specified seals

## SAFETY FACTOR

4:1 for dynamic pressures

## IMPULSE PRESSURES

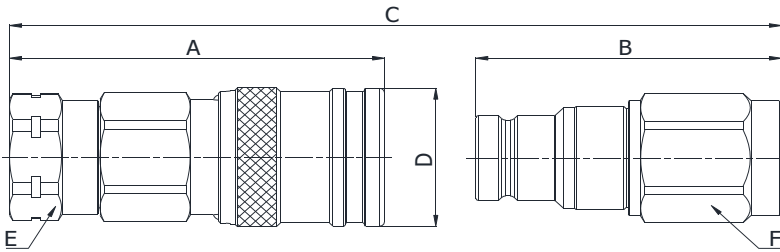
100,000 cycles at 133% of the rated one (freq. 1Hz) in disconnected conditions. 1,000,000 cycles at 120% of rated one (freq. 1Hz) in connected conditions.

## TEST SPECIFICATIONS

ISO 18869

**Q04123041A**  
**Q03923041A**

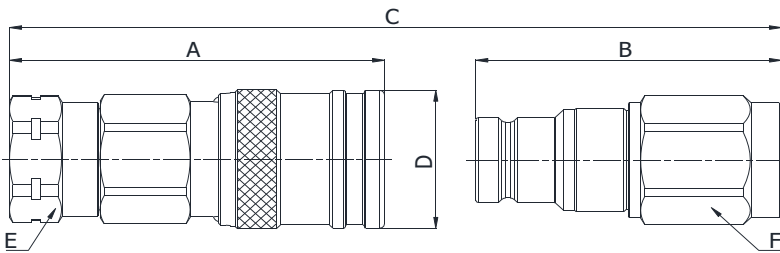
BSP TERMINATION ENDS  
 TO DIN 3852 X TYPE



SIZE			PART NUMBER		THREAD	DIMENSIONS mm							
DN	Inch	Dash	Female coupling	Male coupling		A	B	C	D	E	F		
6.3	1/4"	-04	Q04123041A-04-04	Q03923041A-04-04	1/4"	65.2	52.4	A+B-11,1	ø28	24	22		
10	3/8"	-06	Q04123041A-06-06	Q03923041A-06-06	3/8"	78.3	63.8	A+B-15,9	ø32	27	27		
10	3/8"	-06	Q04123041A-06-08	Q03923041A-06-08	1/2"	81.3	67.8	A+B-15,9	ø32	27	27		
12.5	1/2"	-08	Q04123041A-08-08	Q03923041A-08-08	1/2"	88.5	71.3	A+B-17,1	ø38	36	36		
12.5	1/2"	-08	Q04123041A-08-12	Q03923041A-08-12	3/4"	90.5	75.8	A+B-17,1	ø38	36	36		
16	5/8"	-10	Q04123041A-10-12	Q03923041A-10-12	3/4"	94.6	76.4	A+B-17,6	ø42	36	36		
19	3/4"	-12	Q04123041A-12-12	Q03923041A-12-12	3/4"	108	89.8	A+B-21.7	ø48	41	41		
25	1"	-16	Q04123041A-16-16	Q03923041A-16-16	1"	119.4	92.1	A+B-22,9	ø55	50	50		

**Q04123341A**  
**Q03923341A**

NPTF TERMINATION ENDS  
 TO ANSI B 1.20.3



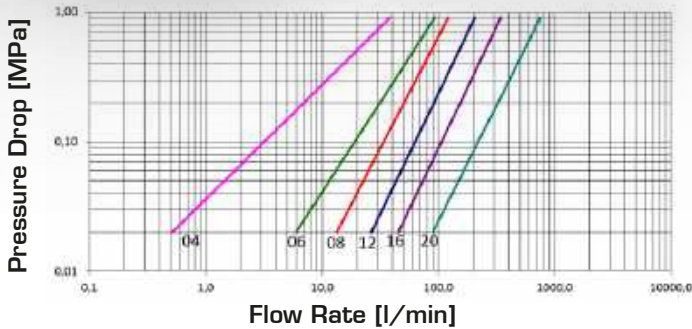
SIZE			PART NUMBER		THREAD	DIMENSIONS mm							
DN	Inch	Dash	Female coupling	Male coupling		A	B	C	D	E	F		
10	3/8"	-06	Q04123341A-06-06	Q03923341A-06-06	3/8" NPTF	78.3	63.8	A+B-15,9	ø32	27	27		
12.5	1/2"	-08	Q04123341A-08-08	Q03923341A-08-08	1/2" NPTF	88.5	71.3	A+B-17,1	ø38	36	36		
16	5/8"	-10	Q04123341A-10-12	Q03923341A-10-12	3/4" NPTF	94.6	76.4	A+B-17,6	ø42	36	36		
20	3/4"	-12	Q04123341A-12-12	Q03923341A-12-12	3/4" NPTF	108	89.8	A+B-21.7	ø48	41	41		
25	1"	-16	Q04123341A-16-16	Q03923341A-16-16	1" NPTF	119.4	92.1	A+B-22,9	ø55	50	50		



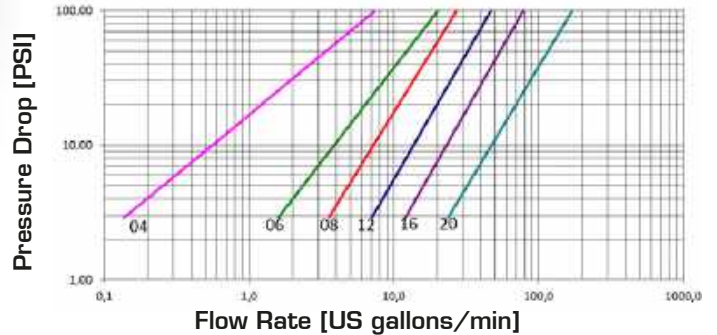


# STAINLESS STEEL SCREW TYPE HEAVY DUTY

Pressure Drop



Pressure Drop



Q.SAFE 460

## TECHNICAL DATA

SIZE			WORKING PRESSURE (Dynamic)		RATED FLOW at 0.2 MPa of pressure drop		OIL SPILLAGE Connection/ Disconnection		MINIMUM BURST PRESSURE						CONNECTION/ DISCONNECTION UNDER PRESSURE
DN	inch	Dash	MPa	PSI	l/min	US GPM	cc.	cubic inch	Male		Female		M & F		
									MPa	PSI	MPa	PSI	MPa	PSI	
6	1/4"	04	50	7250	10	2.6	0.4	0.024	220	31900	350	50750	350	50750	Not allowed
10	3/8"	06	35	5075	31	8.2	1.5	0.092	150	21750	180	26100	180	26100	Not allowed
12.5	1/2"	08	35	5075	51	13.5	2	0.134	140	20300	220	31900	250	36250	Not allowed
20	3/4"	12	32	4640	92	24.3	4	0.244	130	18850	220	31900	200	29000	Not allowed
25	1"	16	32	4640	156	41.2	7.5	0.458	130	18850	180	26100	180	26100	Not allowed
31	1 1/4"	20	30	4350	325	85.9	15	0.916	120	17400	150	21750	160	23200	Not allowed

The rated flow represents the normal operating condition. The maximum recommended flow rate is equal to 1.5 times the rated flow

## PRODUCT DESCRIPTION

- Screw-on connection/disconnection system
- Sleeve with hexagon area internal components reinforced, made in steel
- Hardened valve bodies
- Three-part poppet valve with a moulded shaped seal
- Mechanical backstop to prevent partial enclosures of valves due to peaks and reverse flow
- Interchangeable with other products and widely used on the market
- Accessories (plugs and caps) and spare part kits available
- Wide range of termination ends
- FKM (VITON) seal

## MATERIAL

Couplings in steel with some stressed area hardened.  
Carbonitrided valve, springs in C98 steel, FKM (VITON) seal and back-up ring in PTFE

## WORKING TEMPERATURE

-25°C up to +200°C

## SAFETY FACTOR

4:1 for dynamic pressures

## IMPULSE PRESSURES

200,000 cycles (connected and disconnected conditions) at 120% of the rated one (freq. 1Hz)

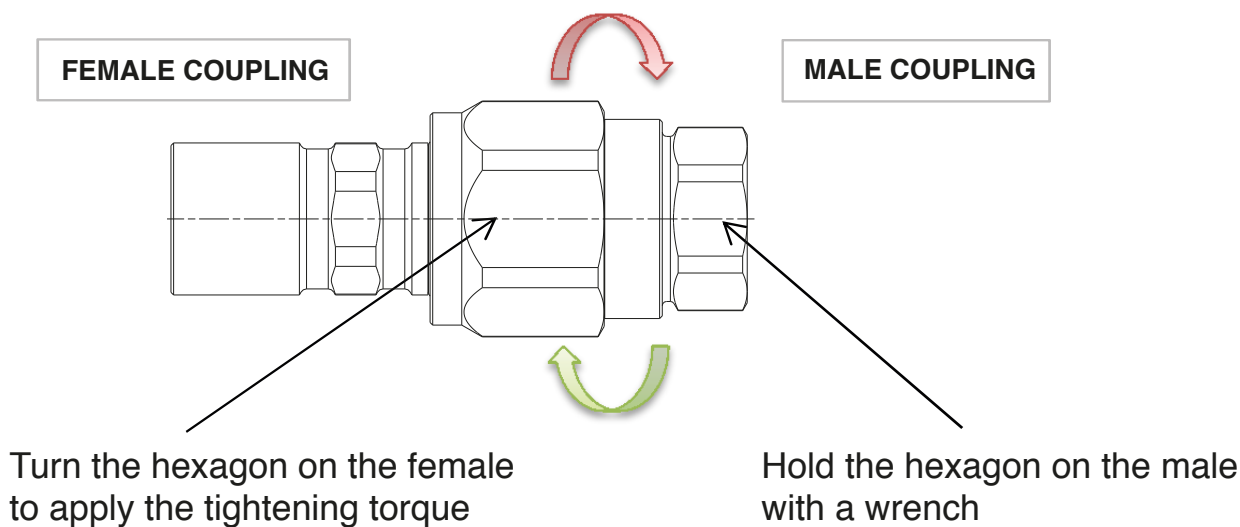
## TEST SPECIFICATIONS

ISO 18869

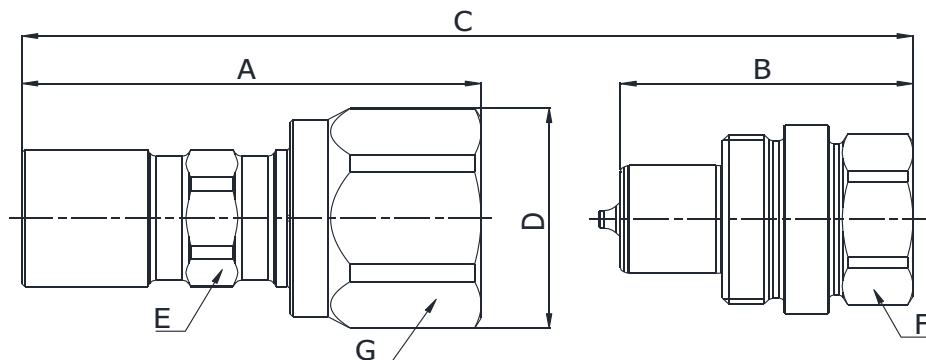


# ASSEMBLY INSTRUCTIONS

## RECOMMENDED TIGHTENING TORQUES



SIZE			TIGHTENING TORQUE
DN	Inch	Dash	Nm
6	1/4"	-04	50
10	3/8"	-06	70
12.5	1/2"	-08	100
19	<b>3/4"</b>	-12	150
25	1"	-16	250
31	1-1/4"	-20	400

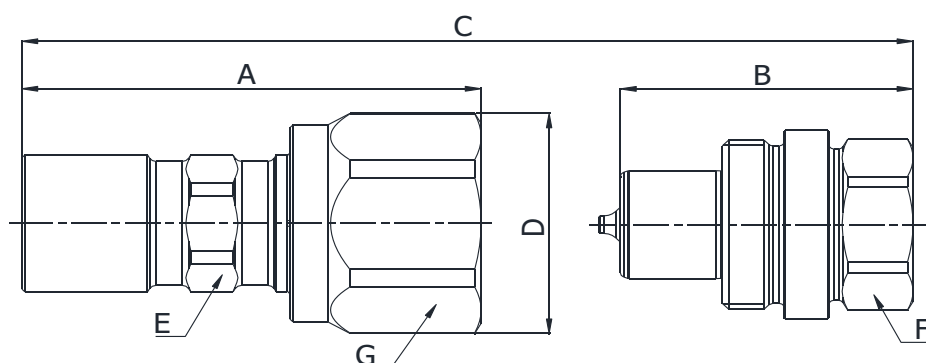


**Q05423041A**  
**Q05323041A**

BSP TERMINATION ENDS  
TO DIN 3852 X TYPE

SIZE			PART NUMBER		THREAD	DIMENSIONS mm						
DN	Inch	Dash	Female coupling	Male coupling		A	B	C	D	E	F	G
6.3	1/4"	-04	Q05423041A-04-04	Q05323041A-04-04	1/4"	63	42.2	A+B-20,4	ø35	19	22	32
10	3/8"	-06	Q05423041A-06-06	Q05323041A-06-06	3/8"	72.5	46.2	A+B-25,9	ø38,5	22	27	35
12.5	1/2"	-08	Q05423041A-08-08	Q05323041A-08-08	1/2"	82.1	54.4	A+B-27,3	ø45	27	32	41
20	3/4"	-12	Q05423041A-12-12	Q05323041A-12-12	3/4"	93.7	61.4	A+B-31,9	ø55	35	41	50
25	1"	-16	Q05423041A-16-16	Q05323041A-16-16	1"	105.8	68.3	A+B-37	ø66	41	50	60
31.5	1.1/4"	-20	Q05423041A-20-20	Q05323041A-20-20	1.1/4"	131.9	82	A+B-53,9	ø88	55	70	80

**Q.SAFE**  
**462**



**Q05423341A**  
**Q05323341A**

NPTF TERMINATION END  
TO ANSI B 1.20.3

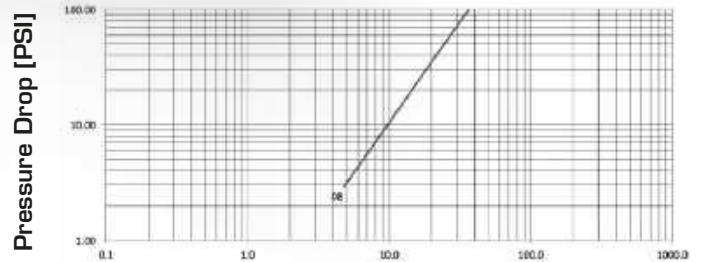
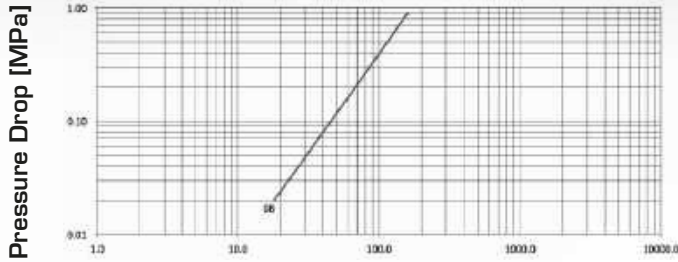
SIZE			PART NUMBER		THREAD	DIMENSIONS mm						
DN	Inch	Dash	Female coupling	Male coupling		A	B	C	D	E	F	G
6.3	1/4"	-04	Q05423341A-04-04	Q05323341A-04-04	1/4" NPTF	63	42.2	A+B-20,4	ø35	19	22	32
10	3/8"	-06	Q05423341A-06-06	Q05323341A-06-06	3/8" NPTF	72.5	46.2	A+B-25,9	ø38,5	22	27	35
12.5	1/2"	-08	Q05423341A-08-08	Q05323341A-08-08	1/2" NPTF	82.1	54.4	A+B-27,3	ø45	27	32	41
20	3/4"	-12	Q05423341A-12-12	Q05323341A-12-12	3/4" NPTF	93.7	61.4	A+B-31,9	ø55	35	41	50
25	1"	-16	Q05423341A-16-16	Q05323341A-16-16	1" NPTF	105.8	68.3	A+B-37	ø66	41	50	60
31.5	1.1/4"	-20	Q05423341A-20-20	Q05323341A-20-20	1.1/4" NPTF	131.9	82	A+B-53,9	ø88	55	70	80

# DHI TYPE ISO A POPPET VALVE



Pressure Drop

Pressure Drop



Flow Rate [l/min]

Flow Rate [US gallons/min]

## TECHNICAL DATA

SIZE		WORKING PRESSURE [Dynamic]		RATED FLOW at 0.2 MPa of pressure drop		CONNECTION EFFORT		OIL SPILLAGE Connection/Disconnection		MINIMUM BURST PRESSURE						CONNECTION/DISCONNECTION UNDER PRESSURE	
DN	inch	MPa	PSI	l/min	US GPM	N	lb.	cc.	cubic inch	Male		Female		M & F			
DN	inch	Dash	MPa	PSI	l/min	US GPM	N	lb.	cc.	cubic inch	MPa	PSI	MPa	PSI	MPa	PSI	
12.5	½	08	30	4350	68	18.0	80	18.0	1.8	0.110	125	18125	150	21750	150	21750	Not allowed

The rated flow represents the normal operating condition. The maximum recommended flow rate is equal to 1.5 times the rated flow

## PRODUCT DESCRIPTION

- Dimensional and performance requirements conform to ISO 7241-1 series A, ensuring worldwide interchangeability
- Connect by pulling back the sleeve (with female ISO A)
- Positive connection by the locking ball system
- Shut-off poppet valve provides an effective hydraulic sealing
- When female bulkhead is mounted on the outside sleeve (PUSH-PULL), the coupling ensures breakaway features according to ISO 5675

## MATERIAL

Female coupling in steel with some hardened areas, in correspondence to the most stressed points. Male couplings in high grade carbon steel. Carbonitrided valve and sleeve, springs in C98 steel, seals in NBR (other materials available on request) and back-up ring in PTFE

## WORKING TEMPERATURE

-22°F up to +230°F (-30°C up to +110°C)  
For other temperatures, the coupling may be assembled with the specific seals

## SAFETY FACTOR

4:1 for dynamic pressures

## IMPULSE PRESSURES

100,000 cycles at 133% of the rated one (freq. 1Hz)

## TEST SPECIFICATIONS

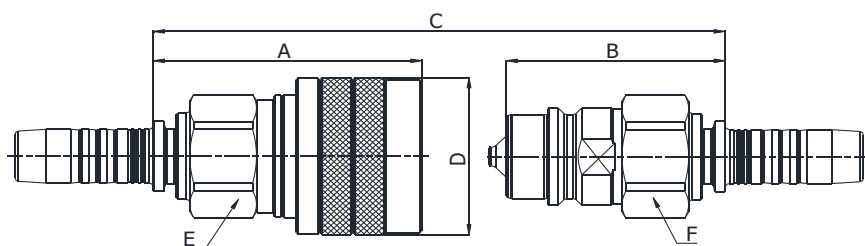
ISO 18869



Quick release couplings DHI maintenance without flexible hose replacement

# Q30811MF1A Q30211MF1A

ISO A COUPLING  
MULTIFIT INSERT



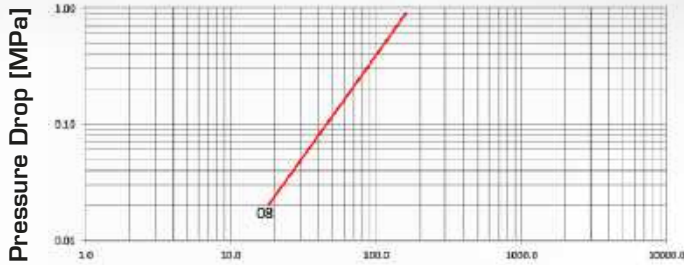
SIZE			PART NUMBER		HOSE BORE			DIMENSIONS mm					
DN	Inch	Dash	Female coupling	Male coupling	DN	Inch	Dash	A	B	C	D	E	F
12.5	1/2"	-08	Q30811MF1A-08-04	Q30211MF1A-08-04	6	1/4"	-04	62.5	51.3	A+B-21,8	ø38	27	27
12.5	1/2"	-08	Q30811MF1A-08-05	Q30211MF1A-08-05	8	5/16"	-05	62.5	51.3	A+B-21,8	ø38	27	27
12.5	1/2"	-08	Q30811MF1A-08-06	Q30211MF1A-08-06	10	3/8"	-06	62	50.8	A+B-21,8	ø38	27	27
12.5	1/2"	-08	Q30811MF1A-08-08	Q30211MF1A-08-08	12	1/2"	-08	60.4	49.2	A+B-21,8	ø38	27	27

# DHI TYPE ISO A PUSH-PULL POPPET VALVE

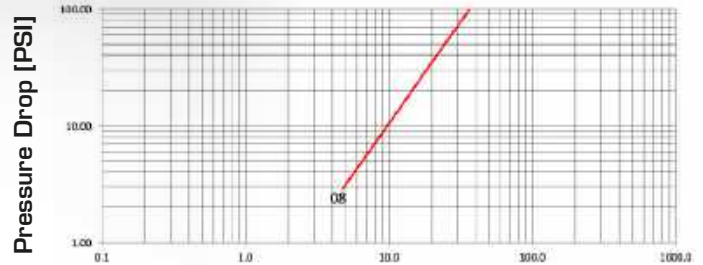


Pressure Drop

Pressure Drop



Flow Rate [l/min]



Flow Rate [US gallons/min]

## TECHNICAL DATA

SIZE		WORKING PRESSURE [Dynamic]		RATED FLOW at 0.2 MPa of pressure drop		CONNECTION EFFORT		OIL SPILLAGE Connection/ Disconnection		MINIMUM BURST PRESSURE				CONNECTION/ DISCONNECTION UNDER PRESSURE	
DN	inch	MPa	PSI	l/min	US GPM	N	lb.	cc.	cubic inch	Male		M & F			
										MPa	PSI	MPa	PSI		
12.5	½	08	30	4350	68	18.0	110	244	2	0.122	140	20300	140	20300	Not allowed

The rated flow represents the normal operating condition. The maximum recommended flow rate is equal to 1.5 times the rated flow

## PRODUCT DESCRIPTION

- Female coupling designed for agriculture applications, connectable with ISO 7241-1 series A male couplings
- PUSH-PULL connection and disconnection system, in case of bulkhead mounting on the external sleeve
- Break-away function according to ISO 5675 (in case of bulkhead mounting on the external sleeve)
- Positive connection by latching balls system
- Shut-off by poppet valve
- High resistant materials
- Dimensions and performances according to ISO 7241-1 series A

## MATERIAL

Female couplings in steel with some hardened areas, in correspondence to the most stressed points. Carbonitrided valve and sleeve, springs in C98 steel, latching balls in high resistance 100 C6 steel, seals in NBR (other materials on request) and back-up ring in PTFE

## WORKING TEMPERATURE

-22°F up to +230°F (-30°C up to +110°C)  
For other temperatures, the coupling is assembled with specific seals

## SAFETY FACTOR

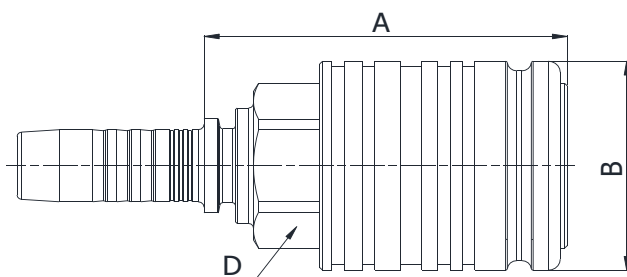
4:1 for dynamic pressures

## IMPULSE PRESSURES

100,000 cycles at 133% of the rated one (freq. 1Hz)

## TEST SPECIFICATIONS

ISO 18869



# Q31311MF1A

FEMALE PUSH PULL COUPLING  
MULTIFIT INSERT

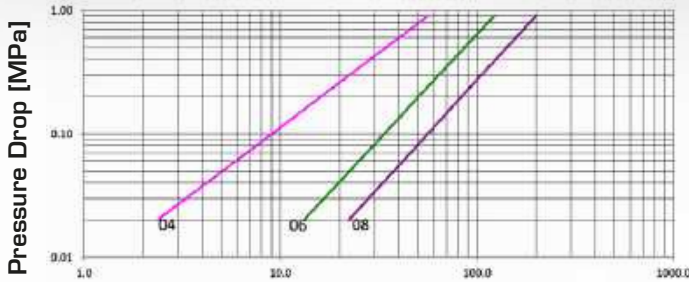
SIZE			PART NUMBER	HOSE BORE			DIMENSIONS mm					
DN	Inch	Dash	Female coupling	DN	Inch	Dash	A	B	D			
12.5	1/2"	-08	Q31311MF1A-08-04	6	1/4"	-04	62.5	ø38	27			
12.5	1/2"	-08	Q31311MF1A-08-05	8	5/16"	-05	62.5	ø38	27			
12.5	1/2"	-08	Q31311MF1A-08-06	10	3/8"	-06	62	ø38	27			
12.5	1/2"	-08	Q31311MF1A-08-08	12	1/2"	-08	60.4	ø38	27			

Q.SAFE 466



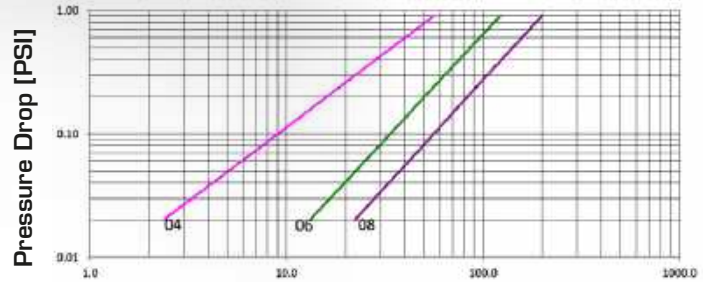
# DHI TYPE ISO B POPPET VALVE

Pressure Drop



Flow Rate [l/min]

Pressure Drop



Flow Rate [US gallons/min]

## TECHNICAL DATA

SIZE			WORKING PRESSURE [Dynamic]		RATED FLOW at 0.2 MPa of pressure drop		CONNECTION EFFORT		OIL SPILLAGE Connection/Disconnection		MINIMUM BURST PRESSURE						CONNECTION/DISCONNECTION UNDER PRESSURE
DN	inch	Dash	MPa	PSI	l/min	US GPM	N	lb.	cc.	cubic inch	Male		Female		M & F		
			MPa	PSI							MPa	PSI	MPa	PSI	MPa	PSI	
6.3	1/4	04	40	5800	16	4.3	40	9.0	0.8	0.049	180	26100	190	27550	165	23925	Not allowed
10	3/8	06	35	5075	51	13.5	40	9.0	1.5	0.092	145	21025	160	23200	160	23200	Not allowed
12.5	1/2	08	35	5075	84	22.0	70	15.7	2.5	0.153	145	21025	145	21025	160	23200	Not allowed

The rated flow represents the normal operating condition. The maximum recommended flow rate is equal to 1.5 times the rated flow

## PRODUCT DESCRIPTION

- Reference series for all industrial applications
- Simple connection and disconnection by pulling back the sleeve
- Positive, quick connection of the male into the female by latching the ball system
- Shut-off by poppet valve
- High resistant materials
- Interchangeable according to ISO 7241-1 series B

## MATERIAL

Female couplings in steel, with some hardened areas, in correspondence to the most stressed points. Male couplings in high grade carbon steel hardened. Springs in C98 steel, seals in NBR (other materials on request) and back-up ring in PTFE

## WORKING TEMPERATURE

-22°F up to +230°F (-30°C up to +110°C)  
For other temperatures, the quick coupling is assembled with specific seals

## SAFETY FACTOR

4:1 for dynamic pressures

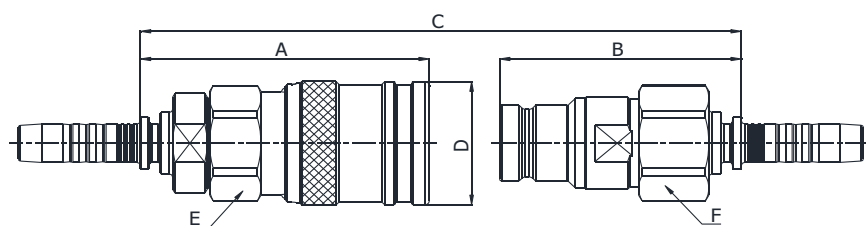
## IMPULSE PRESSURES

Withstands 100,000 cycles of impulse pressure at 133% of the rated one (freq. 1Hz)

## TEST SPECIFICATIONS

ISO 18869

**Q32411MF1A**  
**Q32111MF1A**



ISO B COUPLINGS  
MULTIFIT INSERT

SIZE			PART NUMBER		HOSE BORE			DIMENSIONS mm					
DN	Inch	Dash	Female coupling	Male coupling	DN	Inch	Dash	A	B	C	D	E	F
6.3	1/4"	-04	Q32411MF1A-04-06	Q32111MF1A-04-06	10	3/8"	-06	56	45.1	A+B-21,2	ø28	19	19
10	3/8"	-06	Q32411MF1A-06-06	Q32111MF1A-06-06	10	3/8"	-06	65.2	51.3	A+B-24,4	ø35	22	22
12.5	1/2"	-08	Q32411MF1A-08-08	Q32111MF1A-08-08	12	1/2"	-08	72	53.7	A+B-27,2	ø42	27	27
12.5	1/2"	-08	Q30811MF1A-08-08	Q30211MF1A-08-08	12	1/2"	-08	60.4	49.2	A+B-21,8	ø38	27	27

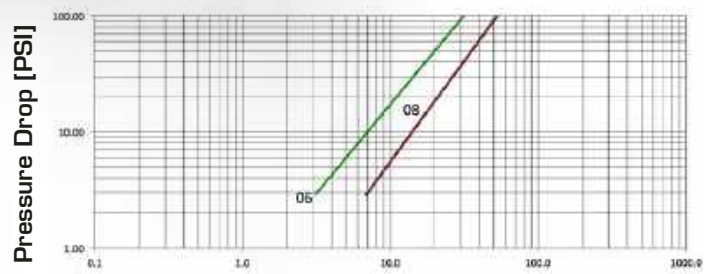
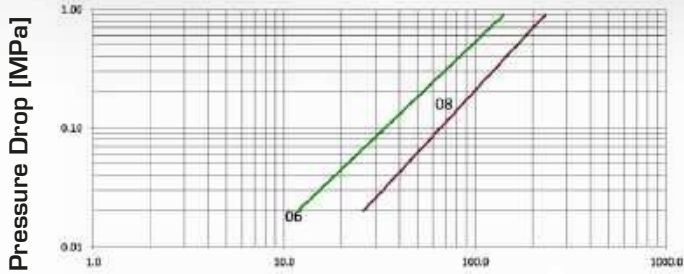




# DHI TYPE FLAT FACE

Pressure Drop

Pressure Drop



Flow Rate [l/min]

Flow Rate [US gallons/min]

## TECHNICAL DATA

SIZE			WORKING PRESSURE				RATED FLOW		CONNECTION EFFORT		OIL SPILLAGE		MINIMUM BURST PRESSURE						CONNECTION WITH FEMALE UNDER PRESSURE
DN	inch	Dash	MPa		PSI		l/min	US GPM	N	lb.	cc.	cubic inch	Male		Female		M & F		(MALE AT 0 MPa)
			MPa	PSI	MPa	PSI							MPa	PSI	MPa	PSI	MPa	PSI	
10	3/8	06	35	5075	25	3625	54	14.3	130	29.2	0.007	0.0004	135	19575	125	18125	140	20300	Allowed up to 6 MPa
12.5	1/2	08	35	5075	25	3625	86	22.7	150	33.7	0.008	0.0005	120	17400	110	15950	145	21025	Allowed up to 4 MPa

Connection with Male under pressure not allowed; Disconnection under pressure not allowed  
 The rated flow represents the normal operating condition. The maximum recommended flow rate is equal to 1.5 times the rated flow

## PRODUCT DESCRIPTION

- Connection is made by pushing the male coupling and disconnection by pulling back the sleeve of the female
- Flat mating surfaces easily wiped clean to prevent contamination and spillage during connection/disconnection
- Stainless steel springs in the female coupling
- Interchangeability according to ISO 16028 and HTMA standards

## MATERIAL

Female and male coupling in steel, with some stressed tempered or carbonitrided areas. Springs in AISI and C98 steel, seals in polyurethane NBR. Other materials (VITON, EPDM or any others) on request.

## WORKING TEMPERATURE

-22°F up to +230°F (-30°C up to +110°C)  
 For other temperatures the coupling is assembled with the specified seals

## SAFETY FACTOR

4:1 for dynamic pressures

## IMPULSE PRESSURES

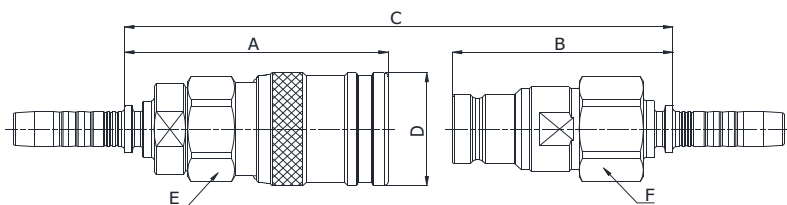
100,000 cycles at 133% of the rated one (freq. 1Hz) in disconnected conditions.  
 1,000,000 cycles at 120% of rated one (freq. 1Hz) in connected conditions.

## TEST SPECIFICATIONS

ISO 18869

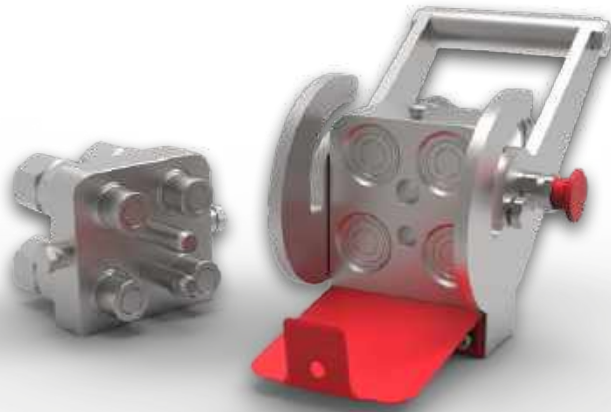
Q.SAFE  
469

# Q34111MF1A Q33911MF1A

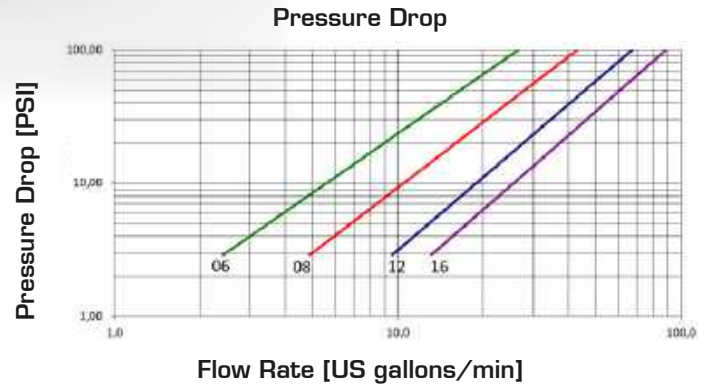
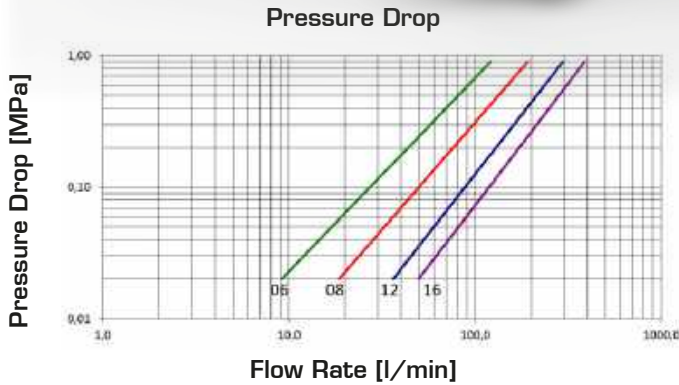


FLAT FACE COUPLING  
 MULTIFIT INSERT

SIZE			PART NUMBER		HOSE BORE			DIMENSIONS mm					
DN	Inch	Dash	Female coupling	Male coupling	DN	Inch	Dash	A	B	C	D	E	F
10	3/8"	-06	Q34111MF1A-06-06	Q33911MF1A-06-06	10	3/8"	-06	69.7	58.3	A+B-15,9	ø32	27	27
10	3/8"	-06	Q34111MF1A-06-08	Q33911MF1A-06-08	12	1/2"	-08	69.6	56.7	A+B-15,9	ø32	27	27
12.5	1/2"	-08	Q34111MF1A-08-08	Q33911MF1A-08-08	12	1/2"	-08	78.9	66.7	A+B-17.1	ø38	34	34
12.5	1/2"	-08	Q34111MF1A-08-12	Q33911MF1A-08-12	19	3/4"	-12	75.8	65.1	A+B-17.1	ø38	34	34



# FLAT FACE MULTI-CONNECTOR



## TECHNICAL DATA

SIZE		WORKING PRESSURE CONNECTED (Dynamic)		WORKING PRESSURE DISCONNECTED (Dynamic)		RATED FLOW at 0.2 MPa of pressure drop		OIL SPILLAGE Connection/Disconnection		MINIMUM BURST PRESSURE						CONNECTION/DISCONNECTION UNDER PRESSURE	
DN	inch	Dash	MPa	PSI	MPa	PSI	l/min	US GPM	cc.	cubic inch	Male		Female		M & F		
			MPa	PSI	MPa	PSI					MPa	PSI	MPa	PSI	MPa	PSI	
10	3/8"	06	35	5,075	35	5,075	44	11.6	0.007	0.0004	170	24,650	140	20,300	180	26,100	Allowed
12.5	1/2"	08	35	5,075	35	5,075	76	20.1	0.008	0.0005	170	24,650	140	20,300	180	26,100	Allowed
19	3/4"	12	35	5,075	35	5,075	129	34.1	0.009	0.0005	140	20,300	140	20,300	160	23,200	Allowed
25	1"	16	35	5,075	35	5,075	172	45.4	0.02	0.0012	160	23,200	150	21,750	160	23,200	Allowed

The rated flow represents the normal operating condition. The maximum recommended flow rate is equal to 1.5 times the rated flow

## PRODUCT DESCRIPTION

- Flat mating surfaces easily wiped clean to prevent contamination and spillage during connection/disconnection
- Lever provides simultaneous connection / disconnection of couplings
- Positive, quick connection of the male into the female by the lever
- Shut-off by flat valve
- 1,000,000 cycles at 120% of rated (freq. 1Hz)

## MATERIAL

Female and male coupling in steel, with springs in AISI and C98 steel, seals in polyurethane and NBR. Other materials (VITON, EPDM or any others) on request

## WORKING TEMPERATURE

-22°F up to +230°F (-30°C up to +110°C)  
For other temperatures the coupling is assembled with the specified seals

## SAFETY FACTOR

4:1 for dynamic pressures

## IMPULSE PRESSURES

1,000,000 cycles at 120% of rated one (freq. 1Hz) in connected and disconnected conditions.

## TEST SPECIFICATIONS

ISO 18869

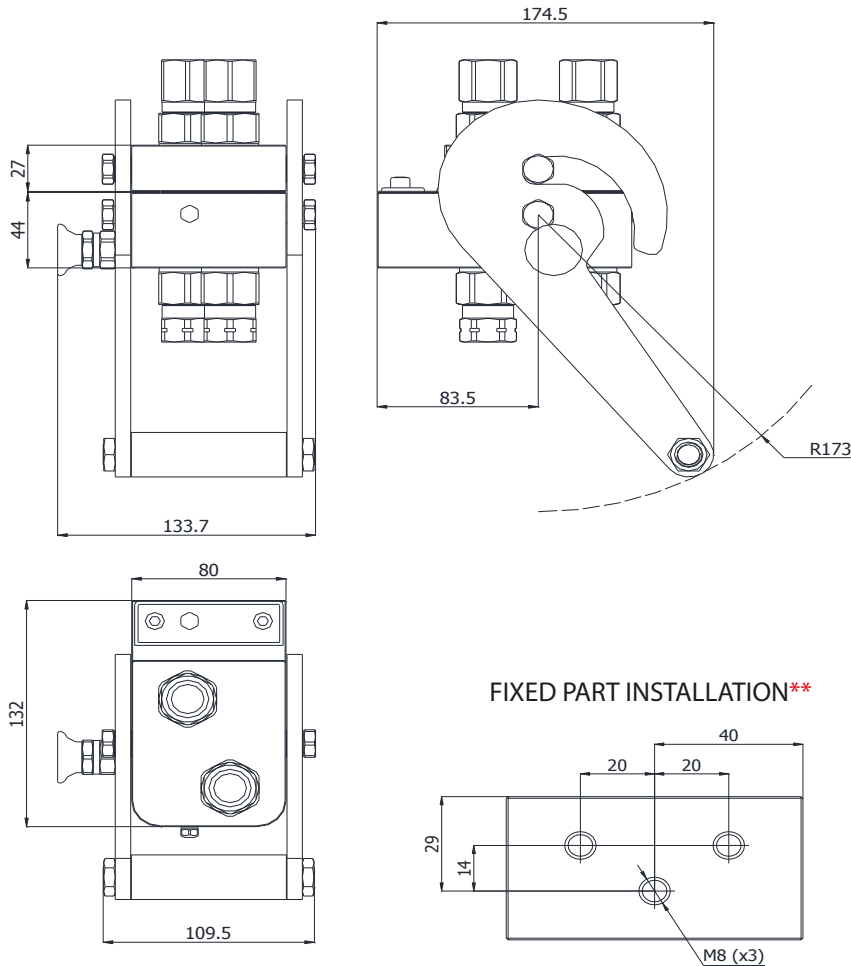
# Q401 SERIES



2 LINE MULTI-COUPLING  
DOUBLE-SIDED LEVER  
LOCKING POSITION: LEFT \*

\* Right hand locking available on request  
\*\* Plate adaptor for frontal fixing available

Q.SAFE  
472



MULTI-COUPLING					TERMINATION END *		
PART NUMBER		SIZE			LINES	DESCRIPTION	THREAD
Fixed	Mobile	DN	Inch	Dash			
Q401BOF-041-06	Q401BOM-041-06	10	3/8"	-06	2	BSP FEMALE DIN3852-2 TYPE X	3/8" BSP
Q401BOF-041-08	Q401BOM-041-08	10	3/8"	-06	2	BSP FEMALE DIN3852-2 TYPE X	1/2" BSP

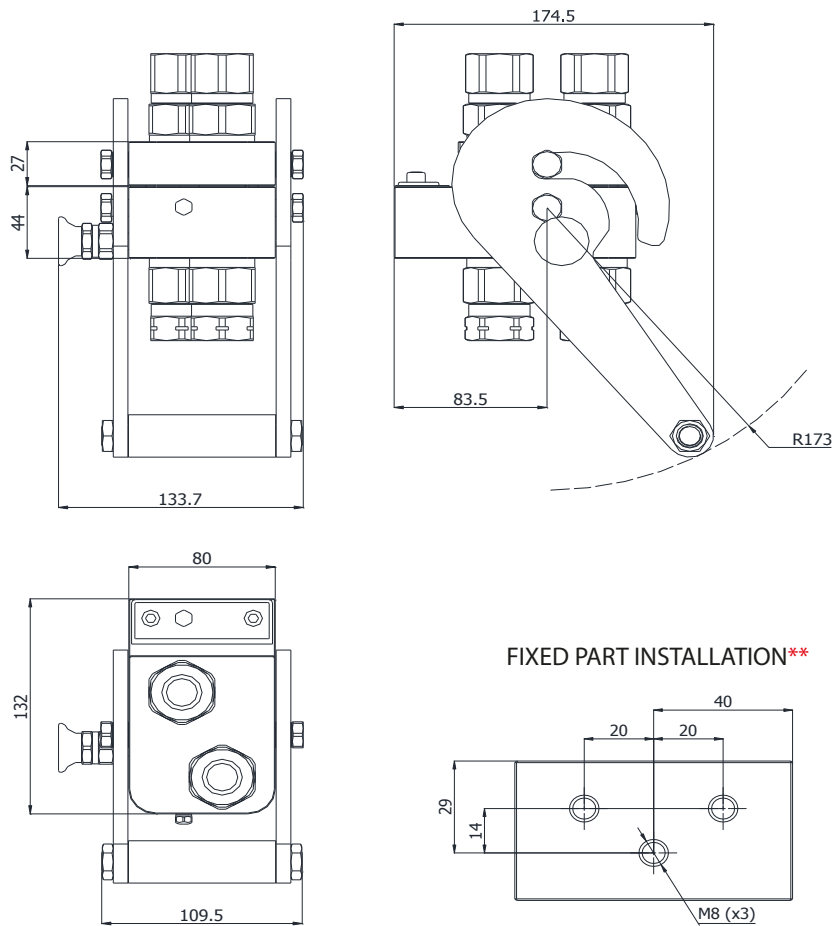
\* Alternative termination ends can be provided - please ask your sales rep for details

# Q402 SERIES



2 LINE MULTI-COUPLING  
 DOUBLE-SIDED LEVER  
 LOCKING POSITION: LEFT \*

\* Right hand locking available on request  
 \*\* Plate adaptor for frontal fixing available



**473 Q.SAFE**

MULTI-COUPLING					TERMINATION END *		
PART NUMBER		SIZE			LINES	DESCRIPTION	THREAD
Fixed	Mobile	DN	Inch	Dash			
Q402B0F-041-08	Q402B0M-041-08	12.5	1/2"	-08	2	BSP FEMALE DIN3852-2 TYPE X	1/2" BSP
Q402B0F-041-12	Q402B0M-041-12	12.5	1/2"	-08	2	BSP FEMALE DIN3852-2 TYPE X	3/4" BSP

\* Alternative termination ends can be provided - please ask your sales rep for details

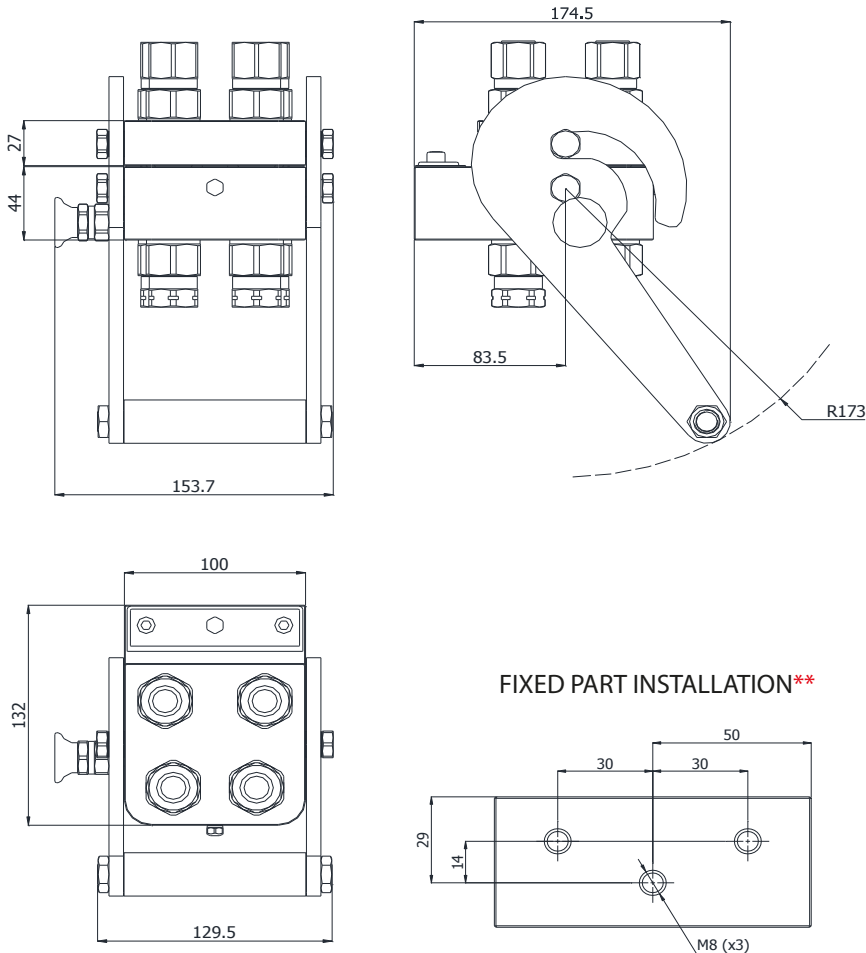
# Q403 SERIES



4 LINE MULTI-COUPLING  
DOUBLE-SIDED LEVER  
LOCKING POSITION: LEFT \*

\* Right hand locking available on request  
\*\* Plate adaptor for frontal fixing available

Q.SAFE  
474



MULTI-COUPLING					TERMINATION END *		
PART NUMBER		SIZE			LINES	DESCRIPTION	THREAD
Fixed	Mobile	DN	Inch	Dash			
Q403D0F-041-06	Q403D0M-041-06	10	3/8"	-06	4	BSP FEMALE DIN3852-2 TYPE X	3/8" BSP
Q403D0F-120-20	Q403D0M-120-20	10	3/8"	-06	4	METRIC MALE ISO 8434-1 S SERIES	M20x1.5

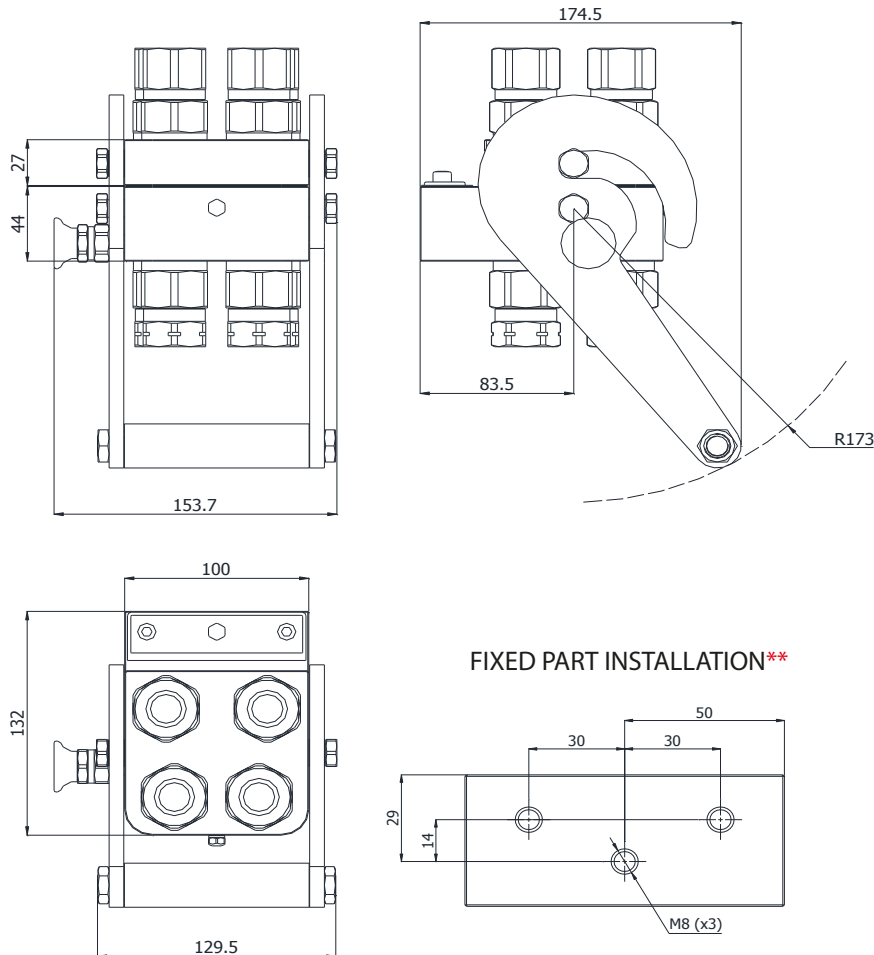
\* Alternative termination ends can be provided - please ask your sales rep for details

# Q404 SERIES



4 LINE MULTI-COUPLING  
 DOUBLE-SIDED LEVER  
 LOCKING POSITION: LEFT \*

\* Right hand locking available on request  
 \*\* Plate adaptor for frontal fixing available



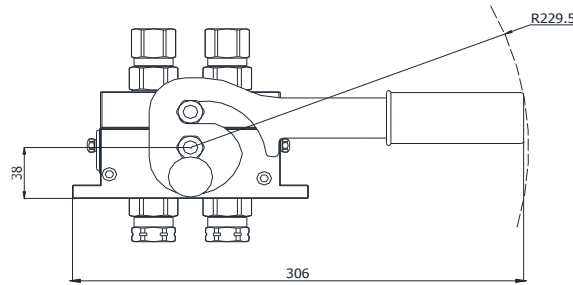
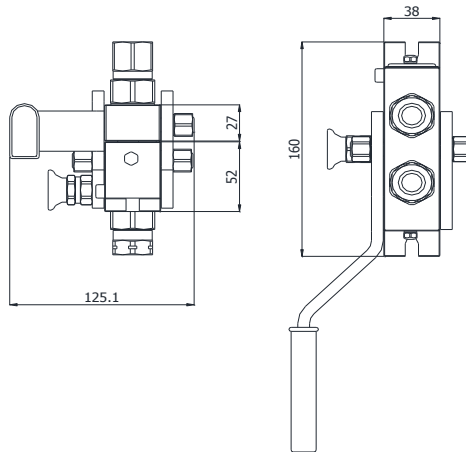
475 Q.SAFE

MULTI-COUPLING					TERMINATION END *		
PART NUMBER		SIZE			LINES	DESCRIPTION	THREAD
Fixed	Mobile	DN	Inch	Dash			
Q404D0F-041-08	Q404D0M-041-08	12.5	1/2"	-08	4	BSP FEMALE DIN3852-2 TYPE X	1/2" BSP
Q404C0F-AA	-	12.5	1/2"	-08	1	ORFS MALE ISO 8434-3	13/16"-16 UN
					2	ORFS MALE ISO 8434-3	1-3/16"-12 UN
-	Q404C0M-AA	12.5	1/2"	-08	1	BSP MALE ISO 8434-6	1/2" BSP
					2	BSP MALE ISO 8434-6	3/4" BSP

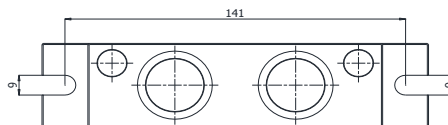
\* Alternative termination ends can be provided - please ask your sales rep for details

# Q405 SERIES

2 LINE MULTI-COUPLING  
 SINGLE-SIDED LEVER  
 LOCKING POSITION: LEFT



FIXED PART INSTALLATION\*\*



MULTI-COUPLING					TERMINATION END *		
PART NUMBER		SIZE			LINES	DESCRIPTION	THREAD
Fixed	Mobile	DN	Inch	Dash			
Q405B0F-041-06	Q405B0M-041-06	10	3/8"	-06	2	BSP FEMALE DIN3852-2 TYPE X	3/8" BSP

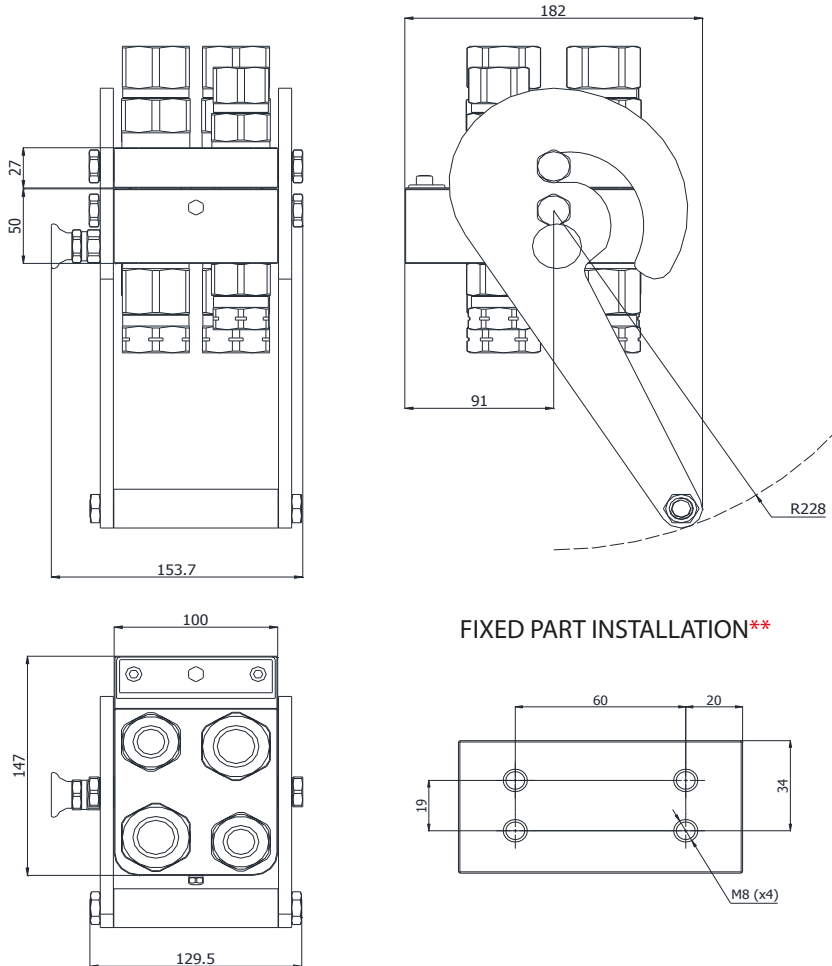
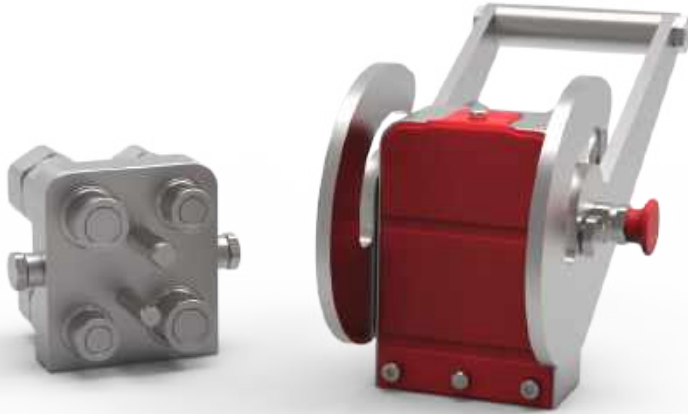
\* Alternative termination ends can be provided - please ask your sales rep for details



# Q406 SERIES

2+2 LINE MULTI-COUPLING  
 DOUBLE-SIDED LEVER  
 LOCKING POSITION: LEFT \*

\* Right hand locking available on request  
 \*\* Plate adaptor for frontal fixing available



477 Q.SAFE

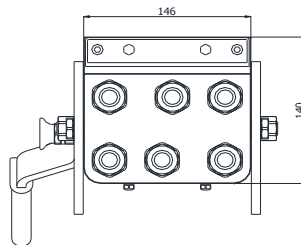
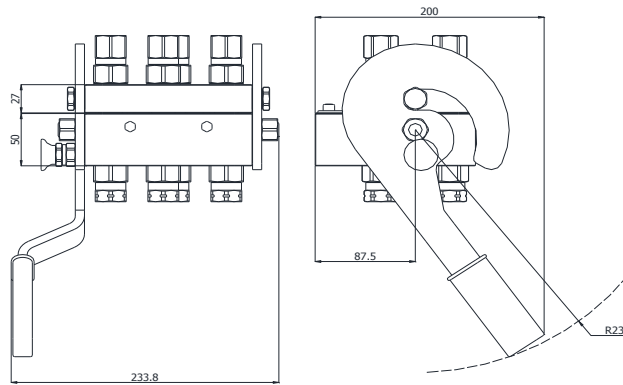
MULTI-COUPLING					TERMINATION END*		
PART NUMBER		SIZE			LINES	DESCRIPTION	THREAD
Fixed	Mobile	DN	Inch	Dash			
Q406D0F-AA	Q406D0M-AA	12.5	1/2"	-08	2	BSP FEMALE DIN3852-2 TYPE X	1/2" BSP
		19	3/4"	-12	2	BSP FEMALE DIN3852-2 TYPE X	3/4" BSP

\* Alternative termination ends can be provided - please ask your sales rep for details

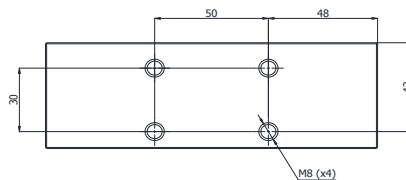
# Q407 SERIES

6 LINE MULTI-COUPLING  
SINGLE-SIDED LEVER  
LOCKING POSITION: LEFT \*

\* Right hand locking available on request



FIXED PART INSTALLATION\*\*



MULTI-COUPLING					TERMINATION END *		
PART NUMBER		SIZE			LINES	DESCRIPTION	THREAD
Fixed	Mobile	DN	Inch	Dash			
Q407F0F-041-06	Q407F0M-041-06	10	3/8"	-06	6	BSP FEMALE DIN3852-2 TYPE X	3/8" BSP
Q407E0F-041-06AA	Q407E0M-041-06AA	10	3/8"	-06	5	BSP FEMALE DIN3852-2 TYPE X	3/8" BSP

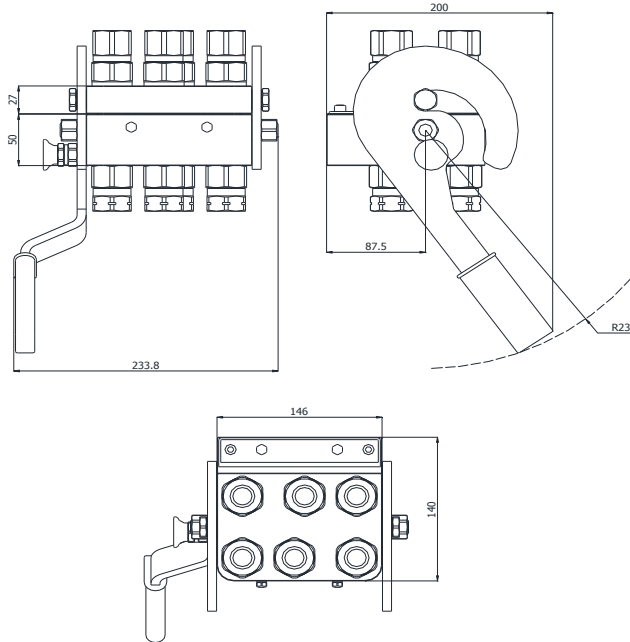
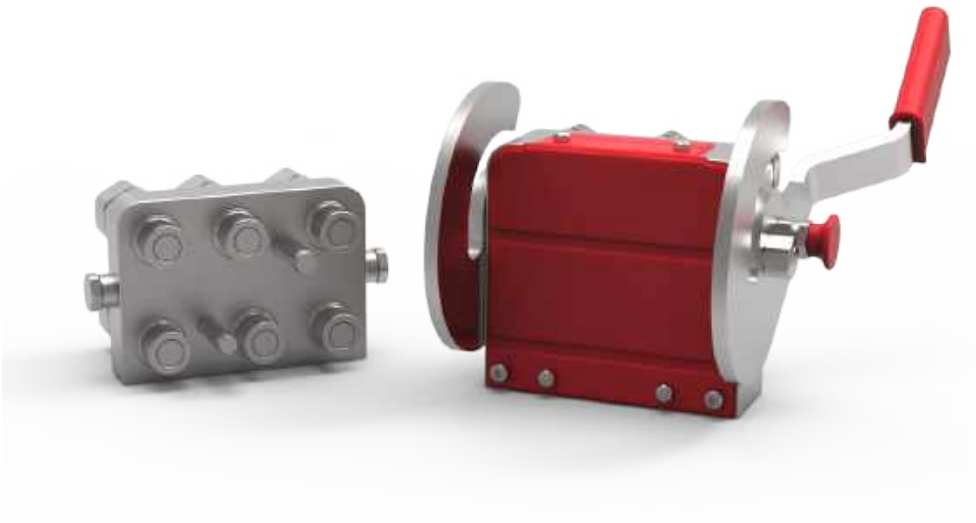
\* Alternative termination ends can be provided - please ask your sales rep for details

Q.SAFE 478

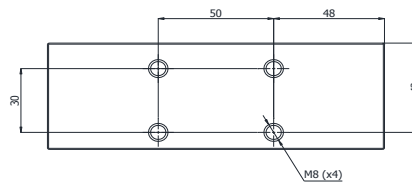
# Q408 SERIES

6 LINE MULTI-COUPLING  
 SINGLE-SIDED LEVER  
 LOCKING POSITION: LEFT \*

\* Right hand locking available on request



FIXED PART INSTALLATION\*\*



MULTI-COUPLING					TERMINATION END*		
PART NUMBER		SIZE			LINES	DESCRIPTION	THREAD
Fixed	Mobile	DN	Inch	Dash			
Q408F0F-041-08	Q408F0M-041-08	12.5	1/2"	-08	6	BSP FEMALE DIN3852-2 TYPE X	1/2" BSP

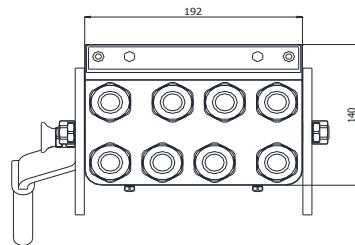
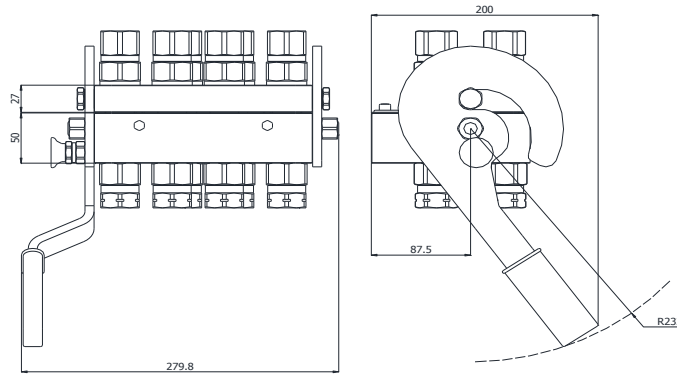
\* Alternative termination ends can be provided - please ask your sales rep for details

# Q409 SERIES

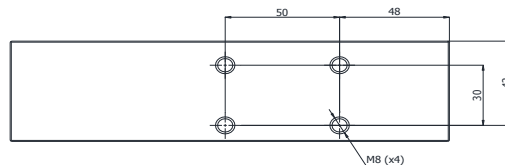


8 LINE MULTI-COUPLING  
SINGLE-SIDED LEVER  
LOCKING POSITION: LEFT \*

\* Right hand locking available on request



FIXED PART INSTALLATION\*\*



MULTI-COUPLING					TERMINATION END *		
PART NUMBER		SIZE			LINES	DESCRIPTION	THREAD
Fixed	Mobile	DN	Inch	Dash			
Q409HOF-041-08	Q409HOM-041-08	12.5	1/2"	-08	8	BSP FEMALE DIN3852-2 TYPE X	1/2" BSP

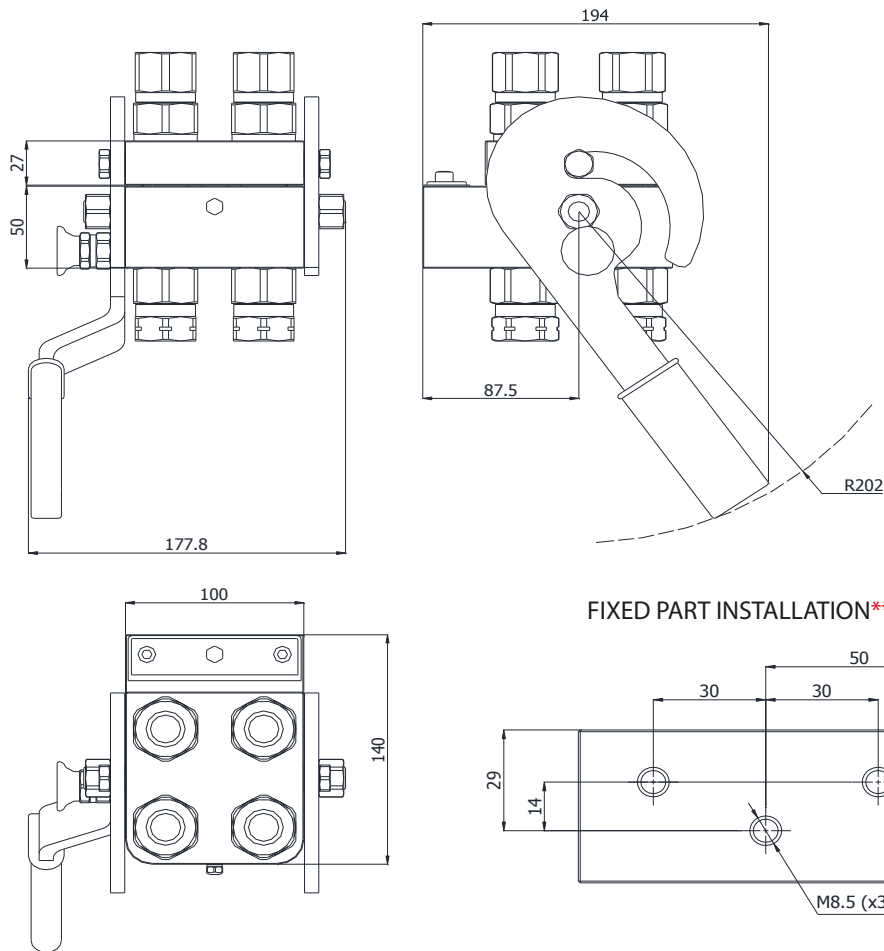
\* Alternative termination ends can be provided - please ask your sales rep for details

# Q410 SERIES



4 LINE MULTI-COUPLING  
SINGLE-SIDED LEVER  
LOCKING POSITION: LEFT \*

\* Right hand locking available on request  
\*\* Plate adaptor for frontal fixing available



**481 Q.SAFE**

MULTI-COUPLING					TERMINATION END*		
PART NUMBER		SIZE			LINES	DESCRIPTION	THREAD
Fixed	Mobile	DN	Inch	Dash			
Q410D0F-041-08	Q410D0M-041-08	12.5	1/2"	-08	4	BSP FEMALE DIN3852-2 TYPE X	1/2" BSP
Q410C0F-041-08AA	Q410C0M-041-08AA	12.5	1/2"	-08	3	BSP FEMALE DIN3852-2 TYPE X	1/2" BSP

\* Alternative termination ends can be provided - please ask your sales rep for details

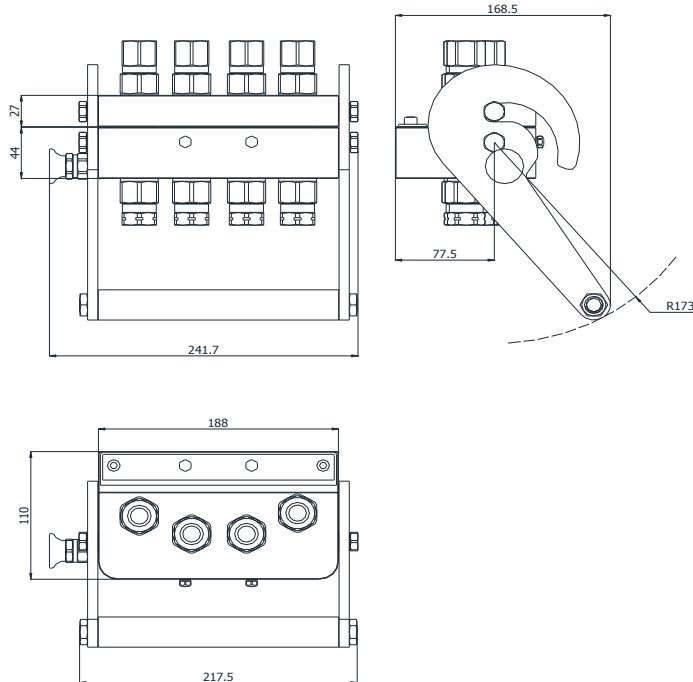
# Q411 SERIES

4 LINE MULTI-COUPLING  
DOUBLE-SIDED LEVER  
LOCKING POSITION: LEFT \*

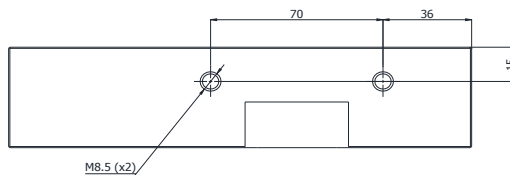
\* Right hand locking available on request



Q.SAFE  
482

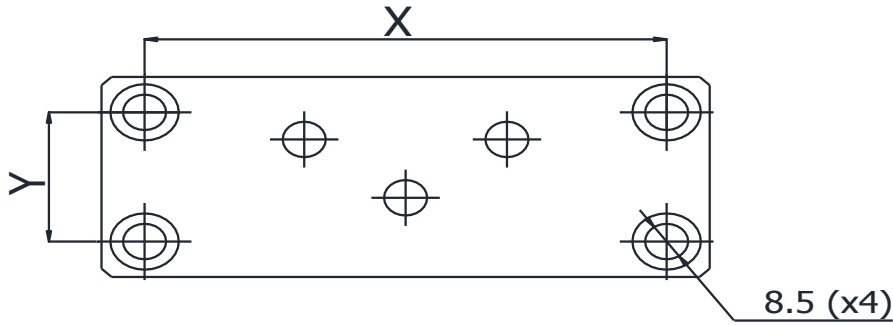


FIXED PART INSTALLATION\*\*



MULTI-COUPLING					TERMINATION END *		
PART NUMBER		SIZE			LINES	DESCRIPTION	THREAD
Fixed	Mobile	DN	Inch	Dash			
Q411D0F-041-06	Q411D0M-041-06	10	3/8"	-06	4	BSP FEMALE DIN3852-2 TYPE X	3/8" BSP

\* Alternative termination ends can be provided - please ask your sales rep for details



## Q1AZ50BN

PLATE ADAPTOR FOR  
MULTICONNECTOR

MULTICOUPLING SERIES	PART NUMBER	MATERIAL	DIMENSIONS mm	
			X	Y
Q401	Q1AZ50BN-01	ALUMINIUM	103	31
Q402	Q1AZ50BN-02	ALUMINIUM	103	31
Q403	Q1AZ50BN-03	ALUMINIUM	115	31
Q404	Q1AZ50BN-04	ALUMINIUM	115	31
Q406	Q1AZ50BN-06	ALUMINIUM	115	40
Q410	Q1AZ50BN-10	ALUMINIUM	115	31



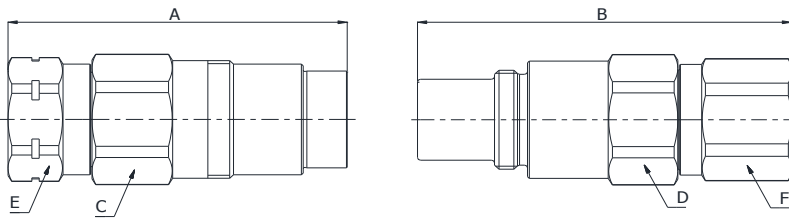
## Q1AZ19FR

COVER FOR  
MULTICONNECTOR

MULTICOUPLING SERIES	PART NUMBER	MATERIAL	COLOUR
Q401	Q1AZ19FR-01	STEEL+PU	RED
Q402	Q1AZ19FR-02	STEEL+PU	RED
Q403	Q1AZ19FR-03	STEEL+PU	RED
Q404	Q1AZ19FR-04	STEEL+PU	RED
Q405	Q1AZ19FR-05	STEEL+PU	RED
Q406	Q1AZ19FR-06	STEEL+PU	RED
Q407	Q1AZ19FR-07	STEEL+PU	RED
Q408	Q1AZ19FR-08	STEEL+PU	RED
Q409	Q1AZ19FR-09	STEEL+PU	RED
Q410	Q1AZ19FR-10	STEEL+PU	RED
Q411	Q1AZ19FR-11	STEEL+PU	RED

**Q06811041A**  
**Q06911041A**

BSP TERMINATION ENDS  
TO DIN 3852 X TYPE



SIZE			PART NUMBER		THREAD	DIMENSIONS mm					
DN	Inch	Dash	Female coupling	Male coupling		A	B	C	D	E	F
10	3/8"	-06	Q06911041A-06-06	Q06811041A-06-06	3/8"	82.3	93.7	30	30	27	27
10	3/8"	-06	Q06911041A-06-08	Q06811041A-06-08	1/2"	85.3	96.5	30	30	27	27
12.5	1/2"	-08	Q06911041A-08-08	Q06811041A-08-08	1/2"	92.5	102	36	36	34	34
12.5	1/2"	-08	Q06911041A-08-12	Q06811041A-08-12	3/4"	94.5	105	36	36	34	34
20	3/4"	-12	Q06911041A-12-12	Q06811041A-12-12	3/4"	108	118.7	41	42	41	41
25	1"	-16	Q06911041A-16-16	Q06811041A-16-16	1"	119.4	126.3	50	50	50	50





## Q1A0114

PARKING FOR MQS-A MALE  
BULKHEAD MOUNTING

SIZE			PART NUMBER	MATERIAL	COLOUR
DN	Inch	Dash	Parking		
12.5	1/2"	-08	Q1A0114N-08	STEEL	-



## Q1A0114-B

PARKING FOR MQS-A MALE

SIZE			PART NUMBER	MATERIAL	COLOUR
DN	Inch	Dash	Parking		
12.5	1/2"	-08	Q1A0114N-08B	STEEL	-



## Q1A0104

PARKING FOR MQS-A MALE

SIZE			PART NUMBER	MATERIAL	COLOUR
DN	Inch	Dash	Parking		
12.5	1/2"	-08	Q1A0104N-08	STEEL	-



## Q1A0114-T

PARKING WITH CAP FOR MQS-A MALE BULKHEAD MOUNTING

SIZE			PART NUMBER	MATERIAL	COLOUR
DN	Inch	Dash	Parking		
12.5	1/2"	-08	Q1A0114K-08T	STEEL + POM	BLACK



## Q1AF104

PARKING FOR MQS-VB (BREAKING VALVES)

SIZE			PART NUMBER	MATERIAL	COLOUR
DN	Inch	Dash	Parking		
12.5	1/2"	-08	Q1AF104N-08	STEEL	-



## Q1AH104

PARKING FOR MQS-VS (AGRICULTURAL VALVES)

SIZE			PART NUMBER	MATERIAL	COLOUR
DN	Inch	Dash	Parking		
12.5	1/2"	-08	Q1AH104N-08	STEEL	-



# Q1AP104

PARKING FOR MQS-ST  
(SCREW TYPE MALE FOR TRUCK)

SIZE			PART NUMBER		MATERIAL	COLOUR
DN	Inch	Dash	Parking			
20	3/4"	-12	Q1AP104N-12		STEEL	-
25	1"	-16	Q1AP104N-16		STEEL	-



# Q1A0B00 Q1A1B00

PLUGS AND CAPS  
FOR MQS-A (ISO A)

SIZE			PART NUMBER		MATERIAL	COLOUR
DN	Inch	Dash	Plug for Female coupling	Cap for Male coupling		
6.3	1/4"	-04	Q1A1B00R-04	Q1A0B00R-04	PVC	RED
6.3	1/4"	-04	Q1A1B00Y-04	Q1A0B00Y-04	PVC	YELLOW
10	3/8"	-06	Q1A1B00R-06	Q1A0B00R-06	PVC	RED
10	3/8"	-06	Q1A1B00Y-06	Q1A0B00Y-06	PVC	YELLOW
10	3/8"	-06	Q1A1B00K-06	Q1A0B00K-06	PVC	BLACK
12.5	1/2"	-08	Q1A1B00R-08	Q1A0B00R-08	PVC	RED
12.5	1/2"	-08	Q1A1B00B-08	Q1A0B00B-08	PVC	BLUE
12.5	1/2"	-08	Q1A1B00G-08	Q1A0B00G-08	PVC	GREEN
12.5	1/2"	-08	Q1A1B00Y-08	Q1A0B00Y-08	PVC	YELLOW
12.5	1/2"	-08	Q1A1B00K-08	Q1A0B00K-08	PVC	BLACK
12.5	1/2"	-08	Q1A1B00H-08	Q1A0B00H-08	PVC	WHITE
20	3/4"	-12	Q1A1B00R-12	Q1A0B00R-12	PVC	RED
20	3/4"	-12	Q1A1B00Y-12	Q1A0B00Y-12	PVC	YELLOW
25	1"	-16	Q1A1B00R-16	Q1A0B00R-16	PVC	RED
25	1"	-16	Q1A1B00Y-16	Q1A0B00Y-16	PVC	YELLOW



# Q1A0B00 Q1A1B00

PLUGS AND CAPS  
FOR MQS-AP (ISO A  
CONNECTABLE UNDER  
PRESSURE)

SIZE			PART NUMBER		MATERIAL	COLOUR
DN	Inch	Dash	Plug for Female coupling	Cap for Male coupling		
12.5	1/2"	-08	Q1A1B00R-08	Q1A0B00R-08	PVC	RED
12.5	1/2"	-08	Q1A1B00B-08	Q1A0B00B-08	PVC	BLUE
12.5	1/2"	-08	Q1A1B00G-08	Q1A0B00G-08	PVC	GREEN
12.5	1/2"	-08	Q1A1B00Y-08	Q1A0B00Y-08	PVC	YELLOW
12.5	1/2"	-08	Q1A1B00K-08	Q1A0B00K-08	PVC	BLACK
12.5	1/2"	-08	Q1A1B00H-08	Q1A0B00H-08	PVC	WHITE

**Q.SAFE 488**



# Q1A1B00

PLUGS FOR MQS-AF  
(ISO A PUSH-PULL)

SIZE			PART NUMBER		MATERIAL	COLOUR
DN	Inch	Dash	Plug for Female coupling	Cap for Male coupling		
6.3	1/4"	-04	Q1A1B00R-04	-	PVC	RED
6.3	1/4"	-04	Q1A1B00Y-04	-	PVC	YELLOW
10	3/8"	-06	Q1A1B00R-06	-	PVC	RED
10	3/8"	-06	Q1A1B00Y-06	-	PVC	YELLOW
10	3/8"	-06	Q1A1B00K-06	-	PVC	BLACK
12.5	1/2"	-08	Q1A1B00R-08	-	PVC	RED
12.5	1/2"	-08	Q1A1B00B-08	-	PVC	BLUE
12.5	1/2"	-08	Q1A1B00G-08	-	PVC	GREEN
12.5	1/2"	-08	Q1A1B00Y-08	-	PVC	YELLOW
12.5	1/2"	-08	Q1A1B00K-08	-	PVC	BLACK
12.5	1/2"	-08	Q1A1B00H-08	-	PVC	WHITE
20	3/4"	-12	Q1A1B00R-12	-	PVC	RED
20	3/4"	-12	Q1A1B00Y-12	-	PVC	YELLOW
25	1"	-16	Q1A1B00R-16	-	PVC	RED
25	1"	-16	Q1A1B00Y-16	-	PVC	YELLOW



## Q1A1B00

PLUGS FOR MQS-AM & MQS-AB (ISO A), MQS-AFP, MQS-AFM, MQS-AFB, MQS-ARM & MQS-ARB (ISO A PUSH-PULL)

SIZE			PART NUMBER		MATERIAL	COLOUR
DN	Inch	Dash	Plug for Female coupling	Cap for Male coupling		
12.5	1/2"	-08	Q1A1B00R-08	-	PVC	RED
12.5	1/2"	-08	Q1A1B00B-08	-	PVC	BLUE
12.5	1/2"	-08	Q1A1B00G-08	-	PVC	GREEN
12.5	1/2"	-08	Q1A1B00Y-08	-	PVC	YELLOW
12.5	1/2"	-08	Q1A1B00K-08	-	PVC	BLACK
12.5	1/2"	-08	Q1A1B00H-08	-	PVC	WHITE



## Q1A5B00 Q1A4B00

PLUGS AND CAPS FOR MQS-N (STANDARD) SERIES

SIZE			PART NUMBER		MATERIAL	COLOUR
DN	Inch	Dash	Plug for Female coupling	Cap for Male coupling		
6.3	1/4"	-04	Q1A5B00R-04	Q1A4B00R-04	PVC	RED
6.3	1/4"	-04	Q1A5B00B-04	Q1A4B00B-04	PVC	BLUE
6.3	1/4"	-04	Q1A5B00G-04	Q1A4B00G-04	PVC	GREEN
10	3/8"	-06	Q1A5B00R-06	Q1A4B00R-06	PVC	RED
10	3/8"	-06	Q1A5B00B-06	Q1A4B00B-06	PVC	BLUE
12.5	1/2"	-08	SEE PLUGS AND CAPS FOR ISO SERIES A			
20	3/4"	-12	Q1A5B00R-12	Q1A4B00R-12	PVC	RED
20	3/4"	-12	Q1A5B00B-12	Q1A4B00B-12	PVC	BLUE
20	3/4"	-12	Q1A5B00Y-12	Q1A4B00Y-12	PVC	YELLOW



# Q1A9B00 Q1A8B00

PLUGS AND CAPS FOR  
MQS-F (FLAT-FACE) &  
MQS-FH (FLAT-FACE HIGH  
PRESSURE)

SIZE			PART NUMBER		MATERIAL	COLOUR
DN	Inch	Dash	Cap for female coupling	Cap for male coupling		
6.3	1/4"	-04	Q1A9B00R-04	Q1A8B00R-04	PVC	RED
6.3	1/4"	-04	Q1A9B00B-04	Q1A8B00B-04	PVC	BLUE
10	3/8"	-06	Q1A9B00R-06	Q1A8B00R-06	PVC	RED
10	3/8"	-06	Q1A9B00B-06	Q1A8B00B-06	PVC	BLUE
12.5	1/2"	-08	Q1A9B00R-08	Q1A8B00R-08	PVC	RED
12.5	1/2"	-08	Q1A9B00B-08	Q1A8B00B-08	PVC	BLUE
16	5/8"	-10	Q1A9B00R-10	Q1A8B00R-10	PVC	RED
20	3/4"	-12	Q1A9B00R-12	Q1A8B00R-12	PVC	RED
20	3/4"	-12	Q1A9B00B-12	Q1A8B00B-12	PVC	BLUE
25	1"	-16	Q1A9B00R-16	Q1A8B00R-16	PVC	RED
25	1"	-16	Q1A9B00B-16	Q1A8B00B-16	PVC	BLUE

**Q.SAFE 490**



# Q1A8B00

CAPS FOR  
MQS-FP (FLAT-FACE MALE  
CONNECTABLE UNDER  
PRESSURE)

SIZE			PART NUMBER		MATERIAL	COLOUR
DN	Inch	Dash	Plug for Female coupling	Cap for Male coupling		
10	3/8"	-06	-	Q1A8B00R-06	PVC	RED
10	3/8"	-06	-	Q1A8B00B-06	PVC	BLUE
12.5	1/2"	-08	-	Q1A8B00R-08	PVC	RED
12.5	1/2"	-08	-	Q1A8B00B-08	PVC	BLUE
16	5/8"	-10	-	Q1A8B00R-10	PVC	RED
19	3/4"	-12	-	Q1A8B00R-12	PVC	RED
19	3/4"	-12	-	Q1A8B00B-12	PVC	BLUE
25	1"	-16	-	Q1A8B00B-16	PVC	RED
25	1"	-16	-	Q1A8B00R-16	PVC	BLUE



**Q1A3B00**  
**Q1A2B00**

PLUGS AND CAPS  
FOR MQS-B (ISO B)

SIZE			PART NUMBER		MATERIAL	COLOUR
DN	Inch	Dash	Plug for Female coupling	Cap for Male coupling		
6.3	1/4"	-04	Q1A3B00R-04	Q1A2B00R-04	PVC	RED



**Q1AJA00**  
**Q1AIA00**

PLUGS AND CAPS  
FOR MQS-SGR (SCREW-TYPE)  
& MQS-SG (SCREW-TYPE)

SIZE			PART NUMBER		MATERIAL	COLOUR
DN	Inch	Dash	Cap for female coupling	Plug for male coupling		
6.3	1/4"	-04	Q1AJA00R-04	Q1AIA00R-04	PE-HD	RED
10	3/8"	-06	Q1AJA00R-06	Q1AIA00R-06	PE-HD	RED
12.5	1/2"	-08	Q1AJA00R-08	Q1AIA00R-08	PE-HD	RED
20	3/4"	-12	Q1AJA00R-12	Q1AIA00R-12	PE-HD	RED
25	1"	-16	Q1AJA00R-16	Q1AIA00R-16	PE-HD	RED
38	1.1/2"	-24	Q1AJA00R-24	Q1AIA00R-24	PE-HD	RED



## Q1AJ100 Q1AI100

CAPS AND PLUGS  
FOR MQS-SG (SCREW-TYPE)  
& MQS-SGR (SCREW-TYPE  
GERMAN MARKET)

SIZE			PART NUMBER		MATERIAL	COLOUR
DN	Inch	Dash	Cap for female coupling	Plug for male coupling		
6.3	1/4"	-04	Q1AJ100N-04	Q1AI100N-04	STEEL + PE-LD	-
10	3/8"	-06	Q1AJ100N-06	Q1AI100N-06	STEEL + PE-LD	-
12.5	1/2"	-08	Q1AJ100N-08	Q1AI100N-08	STEEL + PE-LD	-
20	3/4"	-12	Q1AJ100N-12	Q1AI100N-12	STEEL + PE-LD	-
25	1"	-16	Q1AJ100N-16	Q1AI100N-16	STEEL + PE-LD	-

**Q.SAFE 492**



## Q1AN100 Q1AM100

CAPS AND PLUGS  
FOR MQS-SC (SCREW-TYPE  
HYDRAULIC CYLINDERS)

SIZE			PART NUMBER		MATERIAL	COLOUR
DN	Inch	Dash	Plug for Female coupling	Cap for Male coupling		
6.3	1/4"	-04	Q1AN100N-04	Q1AM100N-04	STEEL + PE-LD	-
10	3/8"	-06	Q1AN100N-06	Q1AM100N-06	STEEL + PE-LD	-



## Q1AQ100 Q1AP100

CAPS AND PLUGS  
FOR MQS-ST  
(SCREW-TYPE TRUCKS)

SIZE			PART NUMBER		MATERIAL	COLOUR
DN	Inch	Dash	Cap for female coupling	Plug for male coupling		
20	3/4"	-12	Q1AQ100N-12	Q1AP100N-12	STEEL	-
25	1"	-16	Q1AQ100N-16	Q1AP100N-16	STEEL	-





# Q1AL100 Q1AK100

CAPS AND PLUGS  
FOR MQS-SH (SCREW-TYPE  
FOR VERY HIGH PRESSURE)

SIZE			PART NUMBER		MATERIAL	COLOUR
DN	Inch	Dash	Plug for Female coupling	Cap for Male coupling		
6.3	1/4"	-04	Q1AL100N-04	Q1AK100N-04	STEEL + PE-LD	-
10	3/8"	-06	Q1AL100N-06	Q1AK100N-06	STEEL + PE-LD	-
12.5	1/2"	-08	Q1AL100N-08	Q1AK100N-08	STEEL + PE-LD	-
20	3/4"	-12	Q1AL100N-12	Q1AK100N-12	STEEL + PE-LD	-
25	1"	-16	Q1AL100N-16	Q1AK100N-16	STEEL + PE-LD	-



# Q1ACB00

CAP  
FOR MQS-D (DIAGNOSTIC)

SIZE			PART NUMBER	MATERIAL	COLOUR
DN	Inch	Dash	Cap for Male coupling		
5	1/8"	-02	Q1ACB00K-02	PVC	BLACK



# Q1AEA00

CAP  
FOR MQS-VB  
(BRAKING VALVES)

SIZE			PART NUMBER	MATERIAL	COLOUR
DN	Inch	Dash	Cap for Male coupling		
12.5	1/2"	-08	Q1AEA00R-08	PVC	RED



## Q1AGA00

CAP  
FOR MQS-VS  
(AGRICULTURAL VALVES)

SIZE			PART NUMBER	MATERIAL	COLOUR
DN	Inch	Dash	Cap for Male coupling		
12.5	1/2"	-08	Q1AGA00R-08	PE-HD	RED



## Q1A1D02

AUTOMATIC CAP  
FOR MQS-AF (PUSH-PULL)

SIZE			PART NUMBER	MATERIAL	COLOUR
DN	Inch	Dash	Cap for Female coupling		
12.5	1/2"	-08	Q1A1D02Y-08	POM	YELLOW
12.5	1/2"	-08	Q1A1D02R-08	POM	RED
12.5	1/2"	-08	Q1A1D02K-08	POM	BLACK
12.5	1/2"	-08	Q1A1D02G-08	POM	GREEN
12.5	1/2"	-08	Q1A1D02B-08	POM	BLUE
20	3/4"	-12	Q1A1D02Y-12	POM	YELLOW
20	3/4"	-12	Q1A1D02R-12	POM	RED
20	3/4"	-12	Q1A1D02K-12	POM	BLACK
20	3/4"	-12	Q1A1D02G-12	POM	GREEN
20	3/4"	-12	Q1A1D02B-12	POM	BLUE



## Q1A1D02

AUTOMATIC CAP  
FOR MQS-AFP, MQS-AFM,  
MQS-AFB, MQS-ARM &  
MQS-ARB (ISO A PUSH-PULL)

SIZE			PART NUMBER		MATERIAL	COLOUR
DN	Inch	Dash	Cap for Female coupling			
12.5	1/2"	-08	Q1A1D02B-08		POM	BLUE
12.5	1/2"	-08	Q1A1D02G-08		POM	GREEN
12.5	1/2"	-08	Q1A1D02K-08		POM	BLACK
12.5	1/2"	-08	Q1A1D02R-08		POM	RED
12.5	1/2"	-08	Q1A1D02Y-08		POM	YELLOW



## Q1A9D02

AUTOMATIC CAP  
FOR MQS-F (FEMALE)  
& MQS-FH (FEMALE)

SIZE			PART NUMBER		MATERIAL	COLOUR
DN	Inch	Dash	Plug for Female coupling			
12.5	1/2"	-08	Q1A9D02R-08		POM	RED
16	5/8"	-10	Q1A9D02B-10		POM	BLUE
20	3/4"	-12	Q1A9D02B-12		POM	BLUE



## Q1AL500 Q1AK500

CAPS AND PLUGS  
FOR MQS-SH ( SCREW-TYPE  
VERY HIGH PRESSURE)

SIZE			PART NUMBER		MATERIAL	COLOUR
DN	Inch	Dash	Plug for Female coupling	Cap for Male coupling		
31.5	1.1/4"	-20	Q1AL500N-20	Q1AK500N-20	ALUMINIUM + STEEL	-
38	1.1/2"	-24	Q1AL500N-24	Q1AK500N-24	ALUMINIUM + STEEL	-



# Q1AW500 Q1AV500

CAPS AND PLUGS  
FOR MQS-FS ( SCREW-TYPE  
FLAT FACE)

SIZE			PART NUMBER		MATERIAL	COLOUR
DN	Inch	Dash	Plug for Female coupling	Cap for Male coupling		
10	3/8"	-06	Q1AW500N-06	Q1AV500N-06	ALUMINIUM + STEEL	-
12.5	1/2"	-08	Q1AW500N-08	Q1AV500N-08	ALUMINIUM + STEEL	-
16	5/8"	-10	Q1AW500N-10	Q1AV500N-10	ALUMINIUM + STEEL	-
19	3/4"	-12	Q1AW500N-12	Q1AV500N-12	ALUMINIUM + STEEL	-
25	1"	-16	Q1AW500N-16	Q1AV500N-16	ALUMINIUM + STEEL	-
38	1-1/2"	-24	Q1AW500N-24	Q1AV500N-24	ALUMINIUM + STEEL	-

**Q.SAFE 496**

# Q1A8093



SHAPED SEAL FOR MQS-F  
(FLAT-FACE), MQS-FH (FLAT-  
FACE HIGH PRESSURE) &  
MQS-FP (FLAT-FACE MALE  
CONNECTABLE UNDER  
PRESSURE)

SIZE			PART NUMBER	KIT	MATERIAL
DN	Inch	Dash			
6.3	1/4"	-04	Q1A8093N-04	SHAPED SEAL	POLYURETHANE
10	3/8"	-06	Q1A8093N-06	SHAPED SEAL	POLYURETHANE
12.5	1/2"	-08	Q1A8093N-08	SHAPED SEAL	POLYURETHANE
16	5/8"	-10	Q1A8093N-10	SHAPED SEAL	POLYURETHANE
20	3/4"	-12	Q1A8093N-12	SHAPED SEAL	POLYURETHANE
25	1"	-16	Q1A8093N-16	SHAPED SEAL	POLYURETHANE

# Q1AV093



SHAPED SEAL FOR MQS-FS  
(FLAT-FACE SCREW TYPE)

SIZE			PART NUMBER	KIT	MATERIAL
DN	Inch	Dash			
10	3/8"	-06	Q1AV093N-06	SHAPED SEAL	POLYURETHANE
12.5	1/2"	-08	Q1AV093N-08	SHAPED SEAL	POLYURETHANE
16	5/8"	-10	Q1AV093N-10	SHAPED SEAL	POLYURETHANE
20	3/4"	-12	Q1AV093N-12	SHAPED SEAL	POLYURETHANE
25	1"	-16	Q1AV093N-16	SHAPED SEAL	POLYURETHANE
38	1.1/2"	-24	Q1AV093N-24	SHAPED SEAL	POLYURETHANE



# Q1A1013

O-RING AND BACK-UP RING  
FOR MQS-A (ISO A)

SIZE			PART NUMBER	KIT	MATERIAL	
DN	Inch	Dash			O-Ring	Backup Ring
6.3	1/4"	-04	Q1A1013N-04	O-RING + BACK-UP RING	NBR	PTFE
10	3/8"	-06	Q1A1013N-06	O-RING + BACK-UP RING	NBR	PTFE
12.5	1/2"	-08	Q1A1013N-08	O-RING + BACK-UP RING	NBR	PTFE
20	3/4"	-12	Q1A1013N-12	O-RING + BACK-UP RING	NBR	PTFE
25	1"	-16	Q1A1013N-16	O-RING + BACK-UP RING	NBR	PTFE
31.5	1.1/4"	-20	Q1A1013N-20	O-RING + BACK-UP RING	NBR	PTFE
40	1.1/2"	-24	Q1A1013N-24	O-RING + BACK-UP RING	NBR	PTFE
51	2"	-32	Q1A1013N-32	O-RING + BACK-UP RING	NBR	PTFE



## Q1A1013

O-RING AND BACK-UP RING  
FOR MQS-AF  
(ISO A PUSH-PULL)

SIZE			PART NUMBER	KIT	MATERIAL	
DN	Inch	Dash			O-Ring	Backup Ring
6.3	1/4"	-04	Q1A1013N-04	O-RING + BACK-UP RING	NBR	PTFE
10	3/8"	-06	Q1A1013N-06	O-RING + BACK-UP RING	NBR	PTFE
12.5	1/2"	-08	Q1A1013N-08	O-RING + BACK-UP RING	NBR	PTFE
20	3/4"	-12	Q1A1013N-12	O-RING + BACK-UP RING	NBR	PTFE
25	1"	-16	Q1A1013N-16	O-RING + BACK-UP RING	NBR	PTFE

**Q.SAFE 498**



## Q1A1013

O-RING AND BACK-UP RING  
FOR MQS-AP, MQS-AM &  
MQS-AB (ISO A), MQS-AFP,  
MQS-AFM, MQS-AFB, MQS-  
ARM & MQS-ARB  
(ISO A PUSH-PULL)

SIZE			PART NUMBER	KIT	MATERIAL	
DN	Inch	Dash			O-Ring	Backup Ring
12.5	1/2"	-08	Q1A1013N-08	O-RING + BACK-UP RING	NBR	PTFE



# Q1A3013

O-RING AND BACK-UP RING  
FOR MQS-B (ISO B)

SIZE			PART NUMBER	KIT	MATERIAL	
DN	Inch	Dash			O-Ring	Backup Ring
5	1/8"	-02	Q1A3013N-02	O-RING + BACK-UP RING	NBR	PTFE
6.3	1/4"	-04	Q1A3013N-04	O-RING + BACK-UP RING	NBR	PTFE
10	3/8"	-06	Q1A3013N-06	O-RING + BACK-UP RING	NBR	PTFE
12.5	1/2"	-08	Q1A3013N-08	O-RING + BACK-UP RING	NBR	PTFE
20	3/4"	-12	Q1A3013N-12	O-RING + BACK-UP RING	NBR	PTFE
25	1"	-16	Q1A3013N-16	O-RING + BACK-UP RING	NBR	PTFE



# Q1A5013

O-RING AND BACK-UP RING  
FOR MQS-N  
(STANDARD SERIES)

SIZE			PART NUMBER	KIT	MATERIAL	
DN	Inch	Dash			O-Ring	Backup Ring
6.3	1/4"	-04	Q1A5013N-04	O-RING + BACK-UP RING	NBR	PTFE
10	3/8"	-06	Q1A5013N-06	O-RING + BACK-UP RING	NBR	PTFE
12.5	1/2"	-08	SEE SPARE PARTS FOR ISO SERIES			
20	3/4"	-12	Q1A5013N-12	O-RING + BACK-UP RING	NBR	PTFE
20	3/4"	-12	Q1A5013N-12B	O-RING + BACK-UP RING	NBR	PTFE
25	1"	-16	Q1A5013N-16	O-RING + BACK-UP RING	NBR	PTFE
25	1"	-16	Q1A5013N-16B	O-RING + BACK-UP RING	NBR	PTFE
25	1"	-16	Q1A5013N-16C	O-RING + BACK-UP RING	NBR	PTFE
31.5	1.1/4"	-20	Q1A5013N-20	O-RING + BACK-UP RING	NBR	PTFE
40	1.1/2"	-24	Q1A5013N-24	O-RING + BACK-UP RING	NBR	PTFE

**499 Q.SAFE**



## Q1AJ013

O-RING AND BACK-UP RING  
FOR MQS-SG  
& MQS-SGR (SCREW-TYPE)

SIZE			PART NUMBER	KIT	MATERIAL	
DN	Inch	Dash			O-Ring	Backup Ring
6.3	1/4"	-04	Q1AJ013N-04	O-RING + BACK-UP RING	NBR	PTFE
10	3/8"	-06	Q1AJ013N-06	O-RING + BACK-UP RING	NBR	PTFE
12.5	1/2"	-08	Q1AJ013N-08	O-RING + BACK-UP RING	NBR	PTFE
20	3/4"	-12	Q1AJ013N-12	O-RING + BACK-UP RING	NBR	PTFE
25	1"	-16	Q1AJ013N-16	O-RING + BACK-UP RING	NBR	PTFE
40	1.1/2"	-24	Q1AJ013N-24	O-RING + BACK-UP RING	NBR	PTFE

**Q.SAFE 500**



## Q1AN013

O-RING AND BACK-UP RING  
FOR MQS-SC (SCREW-TYPE  
HYDRAULIC CYLINDERS)

SIZE			PART NUMBER	KIT	MATERIAL	
DN	Inch	Dash			O-Ring	Backup Ring
6.3	1/4"	-04	Q1AN013N-04	O-RING + BACK-UP RING	NBR	PTFE
10	3/8"	-06	Q1AN013N-06	O-RING + BACK-UP RING	NBR	PTFE





# Q1AQ013

O-RING RING  
FOR MQS-ST (SCREW-TYPE  
FOR TRUCKS)

SIZE			PART NUMBER	KIT	MATERIAL	
DN	Inch	Dash			O-Ring	Backup Ring
20	3/4"	-12	Q1AQ013N-12	O-RING	NBR	-
25	1"	-16	Q1AQ013N-16	O-RING	NBR	-



# Q1AL013

O-RING AND BACK-UP RING  
FOR MQS-SH (SCREW-TYPE  
FOR VERY HIGH PRESSURE)

SIZE			PART NUMBER	KIT	MATERIAL	
DN	Inch	Dash			O-Ring	Backup Ring
6.3	1/4"	-04	Q1AL013N-04	O-RING + BACK-UP RING	NBR	PTFE
10	3/8"	-06	Q1AL013N-06	O-RING + BACK-UP RING	NBR	PTFE
12.5	1/2"	-08	Q1AL013N-08	O-RING + BACK-UP RING	NBR	PTFE
20	3/4"	-12	Q1AL013N-12	O-RING + BACK-UP RING	NBR	PTFE
25	1"	-16	Q1AL013N-16	O-RING + BACK-UP RING	NBR	PTFE
31.5	1 1/4"	-20	Q1AL013N-20	O-RING + BACK-UP RING	NBR	PTFE
38	1 1/2"	-24	Q1AL013N-24	O-RING + BACK-UP RING	NBR	PTFE

## ABOUT Q.SAFE CHECK VALVES

Manuli Hydraulics’ check valves are expertly designed for optimal hydrodynamic performance, ensuring minimal pressure drop across the component, and therefore minimising the impact on the fluid flow in your systems. Manufactured from high quality steel with a Cr3+ (trivalent chrome) plating, Manuli check valves offer superior corrosion resistance - up to 500 hours to red rust in salt spray conditions - with the option to upgrade to our new E-Coat 1000 plating (1,000 hours to red rust) on request.

Valve sealing is supplied by a C98 high-carbon steel spring and (where required) a nitrile (NBR) o-ring and back-up ring arrangement, which prevents unwanted creeping of the rubber seal over time.

Manuli check valve housings come in 3 basic forms, “Standard”, “DHI” and “Compact”. This choice of housing design makes it even easier for you to include Manuli check valves into your systems regardless of space constraints.

The Manuli check valve range also includes “Bi-Directional” options for both the “Standard” and “DHI” housing types, to allow an even greater level of pressure control in your systems.

Q.SAFE  
502

## Q.SAFE CHECK VALVES

ACCESSORY TYPE	SIZE								PAGE No.
	1/4"	3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	
STANDARD	Green	Green	Green	Green	Green	Green	Green	Green	504
COMPACT	Green	Green	Green	Green	Green	White	White	White	511
BI-DIRECTIONAL	White	Green	Green	Green	White	White	White	White	515
STANDARD - DHI	Green	Green	Green	Green	Green	Green	Green	Green	518
BI-DIRECTIONAL - DHI	White	Green	Green	Green	White	White	White	White	522

## How to order Manuli Check Valves

Our portfolio of check valves is designed to allow maximum flexibility of selection with the minimum number of unique parts required. So for all of our off-the-shelf valve families it is possible to have any of the listed configurations supplied with any one of the standard crack pressures.

When placing your order simply substitute the 11th character in the part number for the relevant "Digit" shown in the table below.

*Note: All part numbers in the following pages are shown with a "A" in this position\*, corresponding to a 35 kPa (5.1 psi) crack pressure.*

*\* Except in the case of bi-directional check valves where all the options are listed.*

Q2A1110404A-08-08

REPLACE WITH RELEVANT  
DIGIT FROM TABLE

**CRACK PRESSURE OPTIONS**

Digit	Pressure (kPa)	Pressure (psi)
A	35	5.1
B	10	1.5
C	20	2.9
D	50	7.3
E	100	14.5
F	150	21.8
G	200	29.0
H	250	36.3
J	300	43.5
K	350	50.8
L	400	58.0
M	450	65.3
N	500	72.5
P	600	87.0
Q	700	101.5
R	800	116.0
S	900	130.5
T	1000	145.0
X	Without Spring	

**Example:**

Part number "Q2A1110505A-04-04" would specify a 35 kPa crack pressure.

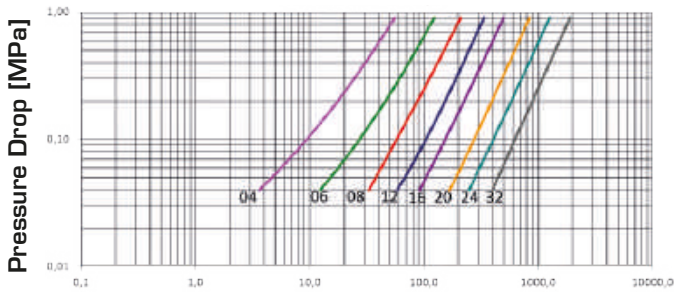
Part number "Q2A1110505M-04-04" would specify exactly the same valve configuration, but with a 450 kPa crack pressure.

**Note:** When specifying the crack pressure for a bi-directional check valve the digit value would refer to the crack pressure in the B-A direction. A-B direction crack pressure is always 35 kPa.

# STANDARD CHECK VALVES

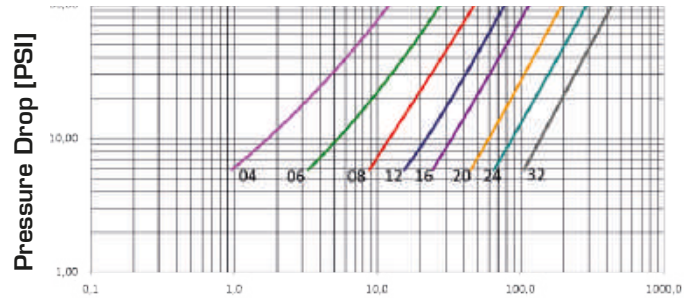


Pressure Drop



Flow Rate [l/min]

Pressure Drop



Flow Rate [US gallons/min]

## TECHNICAL DATA

SIZE			WORKING PRESSURE (Dynamic)		RATED FLOW at 0.2 MPa of pressure drop		MINIMUM BURST PRESSURE	
DN	inch	Dash	MPa	PSI	l/min	US GPM	MPa	PSI
6	1/4"	04	45	6,525	18	4.8	180	26,100
10	3/8"	06	35	5,075	46	12.2	140	20,300
12	1/2"	08	35	5,075	88	23.2	140	20,300
19	3/4"	12	35	5,075	153	40.4	140	20,300
25	1"	16	35	5,075	225	59.4	140	20,300
31	1.1/4"	20	35	5,075	394	104.1	140	20,300
38	1.1/2"	24	35	5,075	580	153.2	140	20,300
51	2"	32	35	5,075	890	235.1	140	20,300

## PRODUCT DESCRIPTION

- Manufactured from high-quality materials
- Robust design
- Large range of termination end options available
- Large range of cracking-pressures available

### MATERIAL

Steel, with springs in C98 high-carbon steel. Seals in NBR and back-up ring in PTFE.

### WORKING TEMPERATURE

-22°F up to +230°F (-30°C up to +110°C)

### SAFETY FACTOR

4:1 for dynamic pressures

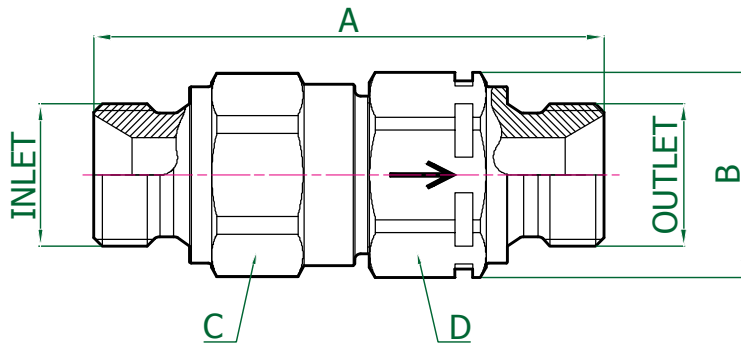
### IMPULSE PRESSURES

1,000,000 cycles at 120% of the rated one (freq. 1Hz)

### TEST SPECIFICATIONS

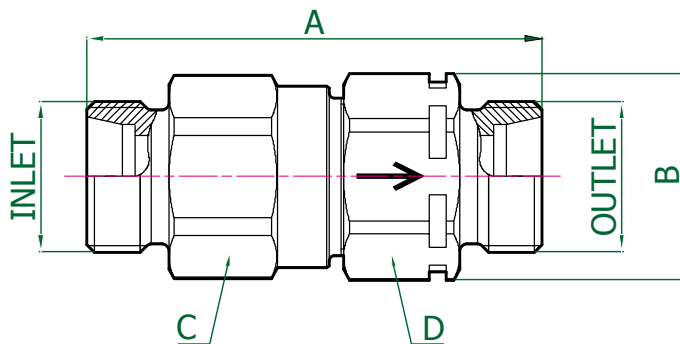
ISO 18869

## Q2A1110505



MALE-MALE, STANDARD  
**INLET:** BSP MALE 60° CONE SEAT  
 BS5200 / ISO 8434-6  
**OUTLET:** BSP MALE 60° CONE SEAT  
 BS5200 / ISO 8434-6  
**MATERIAL:** STEEL  
**SEALS:** NBR (NITRILE)

NOMINAL SIZE			PART NUMBER	OPENING PRESSURE	THREADS		DIMENSIONS mm				
DN	inch	Dash			INLET	OUTLET	A	B	C	D	E
6	1/4"	-04	Q2A1110505A-04-04	35 kPa	1/4"	1/4"	56	Ø21	19	19	
10	3/8"	-06	Q2A1110505A-06-06	35 kPa	3/8"	3/8"	64	Ø24,2	22	22	
12.5	1/2"	-08	Q2A1110505A-08-08	35 kPa	1/2"	1/2"	74.5	Ø30	27	27	
19	3/4"	-12	Q2A1110505A-12-12	35 kPa	3/4"	3/4"	88.2	Ø38	34	34	
25	1"	-16	Q2A1110505A-16-16	35 kPa	1"	1"	100.9	Ø45	41	41	
31	1-1/4"	-20	Q2A1110505A-20-20	35 kPa	1-1/4"	1-1/4"	122.4	Ø55	50	50	
38	1-1/2"	-24	Q2A1110505A-24-24	35 kPa	1-1/2"	1-1/2"	141	Ø66	60	60	
51	2"	-32	Q2A1110505A-32-32	35 kPa	2"	2"	173.7	Ø82	75	75	

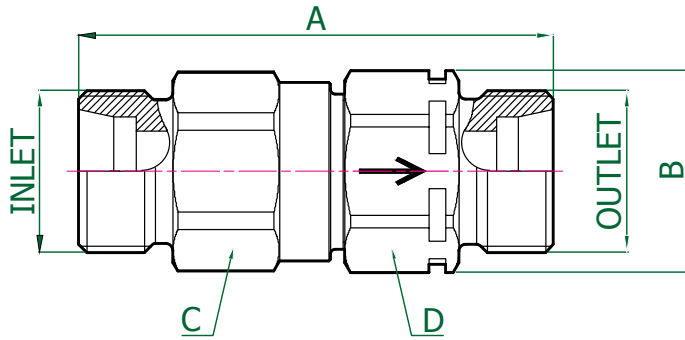


## Q2A1111111

MALE-MALE, STANDARD  
**INLET:** METRIC MALE 24° CONE SEAT  
 LIGHT TYPE DIN 3861 / ISO 8434-1  
**OUTLET:** METRIC MALE 24° CONE SEAT  
 LIGHT TYPE DIN 3861 / ISO 8434-1  
**MATERIAL:** STEEL  
**SEALS:** NBR (NITRILE)

NOMINAL SIZE			PART NUMBER	OPENING PRESSURE	THREADS		DIMENSIONS mm				
DN	inch	Dash			INLET	OUTLET	A	B	C	D	E
6	1/4"	-04	Q2A1111111A-12-12	35 kPa	M12X1,5	M12X1,5	50.5	Ø21	19	19	
6	1/4"	-04	Q2A1111111A-14-14	36 kPa	M14X1,5	M14X1,5	50.5	Ø21	19	19	
10	3/8"	-06	Q2A1111111A-18-18	35 kPa	M18X1,5	M18X1,5	58.5	Ø24,2	22	22	
12.5	1/2"	-08	Q2A1111111A-22-22	35 kPa	M22X1,5	M22X1,5	66.5	Ø30	27	27	
19	3/4"	-12	Q2A1111111A-26-26	35 kPa	M26X1,5	M26X1,5	74.5	Ø38	34	34	
25	1"	-16	Q2A1111111A-30-30	35 kPa	M30X2	M30X2	84.5	Ø45	41	41	
31	1-1/4"	-20	Q2A1111111A-36-36	35 kPa	M36X2	M36X2	104	Ø55	50	50	

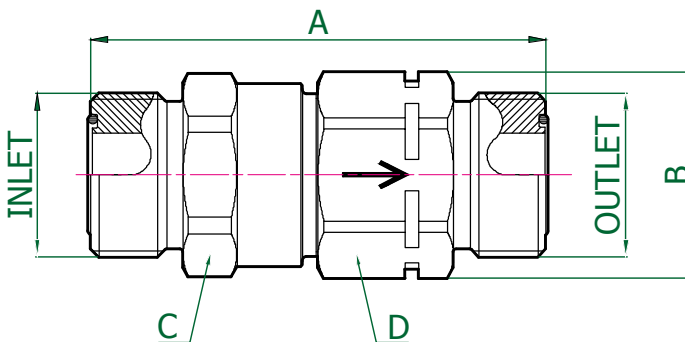
**Q.SAFE**  
**505**



## Q2A111212

MALE-MALE, STANDARD  
**INLET:** METRIC MALE 24° CONE SEAT  
 HEAVY TYPE DIN 3861 / ISO 8434-1  
**OUTLET:** METRIC MALE 24° CONE SEAT  
 HEAVY TYPE DIN 3861 / ISO 8434-1  
**MATERIAL:** STEEL  
**SEALS:** NBR (NITRILE)

NOMINAL SIZE			PART NUMBER	OPENING PRESSURE	THREADS		DIMENSIONS mm				
DN	inch	Dash			INLET	OUTLET	A	B	C	D	E
6	1/4"	-04	Q2A1111212A-16-16	35 kPa	M16X1,5	M16X1,5	54.5	Ø21	19	19	
10	3/8"	-06	Q2A1111212A-20-20	35 kPa	M20X1,5	M20X1,5	60.5	Ø24,2	22	22	
12.5	1/2"	-08	Q2A1111212A-24-24	35 kPa	M24X1,5	M24X1,5	70.5	Ø30	27	27	
19	3/4"	-12	Q2A1111212A-30-30	35 kPa	M30X2	M30X2	82.5	Ø38	34	34	
25	1"	-16	Q2A1111212A-36-36	35 kPa	M36X2	M36X2	92.5	Ø45	41	41	

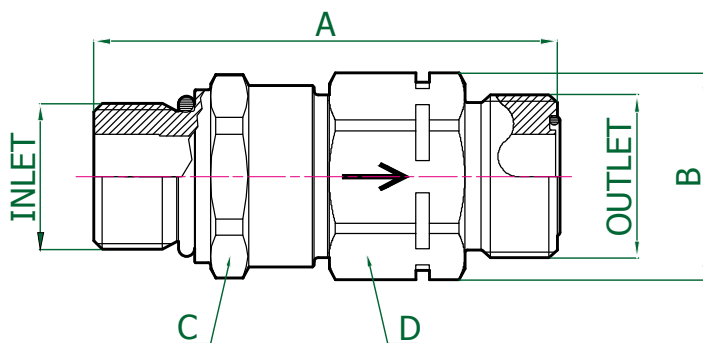


## Q2A1112424

MALE-MALE, STANDARD  
**INLET:** ORFS MALE ISO 8434-3  
 / SAE J1453  
**OUTLET:** ORFS MALE ISO 8434-3  
 / SAE J1453  
**MATERIAL:** STEEL  
**SEALS:** NBR (NITRILE)

NOMINAL SIZE			PART NUMBER	OPENING PRESSURE	THREADS		DIMENSIONS mm				
DN	inch	Dash			INLET	OUTLET	A	B	C	D	E
10	3/8"	-06	Q2A1112424A-06-06	35 kPa	11/16"-16 UN	11/16"-16 UN	58.9	Ø24,2	22	22	
12.5	1/2"	-08	Q2A1112424A-08-08	35 kPa	13/16"-16 UN	13/16"-16 UN	68.1	Ø30	27	27	
20	3/4"	-12	Q2A1112424A-10-10	35 kPa	1"-14 UNS	1"-14 UNS	74.3	Ø38	34	34	
20	3/4"	-12	Q2A1112424A-12-12	35 kPa	1.3/16"-12 UN	1.3/16"-12 UN	83.8	Ø38	34	34	
25	1"	-16	Q2A1112424A-16-16	35 kPa	1.7/16"-12 UN	1.7/16"-12 UN	91.5	Ø45	41	41	

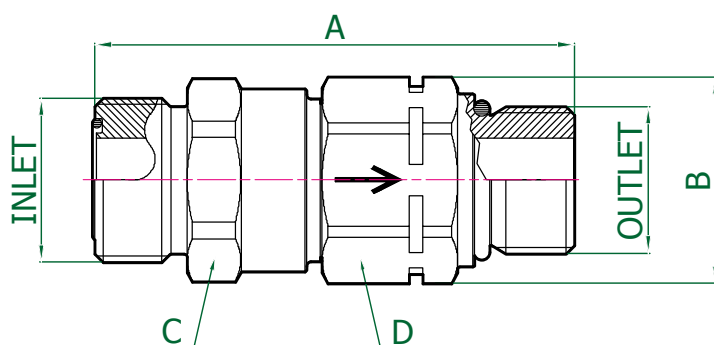
Q.SAFE 506



## Q2A1113224

MALE-MALE, STANDARD  
**INLET:** MALE O'RING BOSS  
 (NON-ADJUSTABLE HEAVY) SAE J1926-2  
**OUTLET:** ORFS MALE ISO 8434-3  
 / SAE J1453  
**MATERIAL:** STEEL  
**SEALS:** NBR (NITRILE)

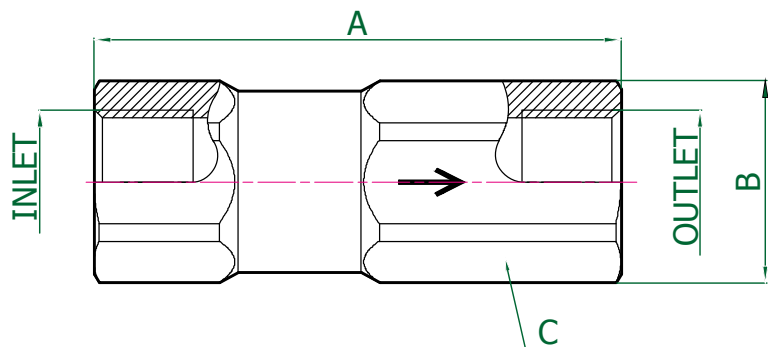
NOMINAL SIZE			PART NUMBER	OPENING PRESSURE	THREADS		DIMENSIONS mm				
DN	inch	Dash			INLET	OUTLET	A	B	C	D	E
10	3/8"	-06	Q2A1113224A-06-06	35 kPa	9/16"-18 UNF	11/16"-16 UN	59.7	Ø24,2	22	22	
12.5	1/2"	-08	Q2A1113224A-08-08	35 kPa	3/4"-16 UNF	13/16"-16 UN	69.3	Ø30	27	27	
20	3/4"	-12	Q2A1113224A-10-10	35 kPa	7/8"-14 UNF	1"-14 UNS	80.5	Ø38	34	34	
20	3/4"	-12	Q2A1113224A-12-12	35 kPa	1.1/16"-12 UN	1.3/16"-12 UN	86	Ø38	34	34	
25	1"	-16	Q2A1113224A-16-16	35 kPa	1.5/16"-12 UN	1.7/16"-12 UN	92.5	Ø45	41	41	



## Q2A1112432

MALE-MALE, STANDARD  
**INLET:** ORFS MALE ISO 8434-3  
 / SAE J1453  
**OUTLET:** MALE O'RING BOSS  
 (NON-ADJUSTABLE HEAVY) SAE J1926-2  
**MATERIAL:** STEEL  
**SEALS:** NBR (NITRILE)

NOMINAL SIZE			PART NUMBER	OPENING PRESSURE	THREADS		DIMENSIONS mm				
DN	inch	Dash			INLET	OUTLET	A	B	C	D	E
10	3/8"	-06	Q2A1112432A-06-06	35 kPa	11/16"-16 UN	9/16"-18 UNF	60.7	Ø24,2	22	22	
12.5	1/2"	-08	Q2A1112432A-08-08	35 kPa	13/16"-16 UN	3/4"-16 UNF	72	Ø30	27	27	
20	3/4"	-12	Q2A1112432A-10-10	35 kPa	1"-14 UNS	7/8"-14 UNF	81.3	Ø38	34	34	
20	3/4"	-12	Q2A1112432A-12-12	35 kPa	1.3/16"-12 UN	1.1/16"-12 UN	85.3	Ø38	34	34	
25	1"	-16	Q2A1112432A-16-16	35 kPa	1.7/16"-12 UN	1.5/16"-12 UN	92.5	Ø45	41	41	



## Q2A2100404

FEMALE-FEMALE, STANDARD

**INLET:** BSP FIXED FEMALE  
DIN 3852-2 'FORM X' / ISO 1179-1

**OUTLET:** BSP FIXED FEMALE  
DIN 3852-2 'FORM X' / ISO 1179-1

**MATERIAL:** STEEL

**SEALS:** NBR (NITRILE)

NOMINAL SIZE			PART NUMBER	OPENING PRESSURE	THREADS		DIMENSIONS mm				
DN	inch	Dash			INLET	OUTLET	A	B	C	D	E
6	1/4"	-04	Q2A2100404A-04-04	35 kPa	1/4"	1/4"	60	Ø21	19		
10	3/8"	-06	Q2A2100404A-06-06	35 kPa	3/8"	3/8"	65 (67*)	Ø24.2	22		
12.5	1/2"	-08	Q2A2100404A-08-08	35 kPa	1/2"	1/2"	77 (81*)	Ø29.6	27		
19	3/4"	-12	Q2A2100404A-12-12	35 kPa	3/4"	3/4"	90	Ø37.4	34		
25	1"	-16	Q2A2100404A-16-16	35 kPa	1"	1"	104	Ø45	41		
31	1-1/4"	-20	Q2A2100404A-20-20	35 kPa	1-1/4"	1-1/4"	128.5	Ø55	50		
38	1-1/2"	-24	Q2A2100404A-24-24	35 kPa	1-1/2"	1-1/2"	148	Ø66	60		
51	2"	-32	Q2A2100404A-32-32	35 kPa	2"	2"	178	Ø82	75		

## Q2A2103434

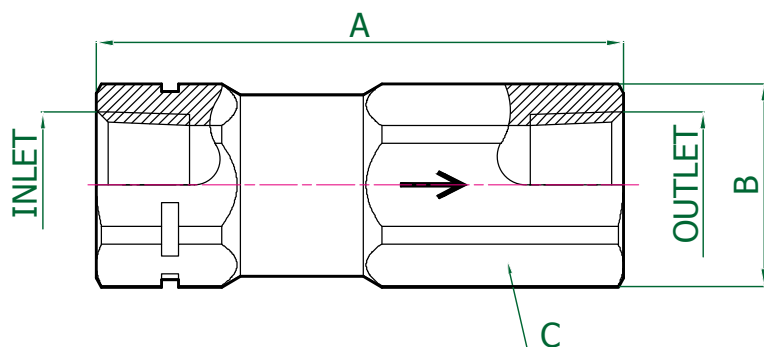
FEMALE-FEMALE, STANDARD

**INLET:** NPTF FIXED FEMALE  
SAE J476A

**OUTLET:** NPTF FIXED FEMALE  
SAE J476A

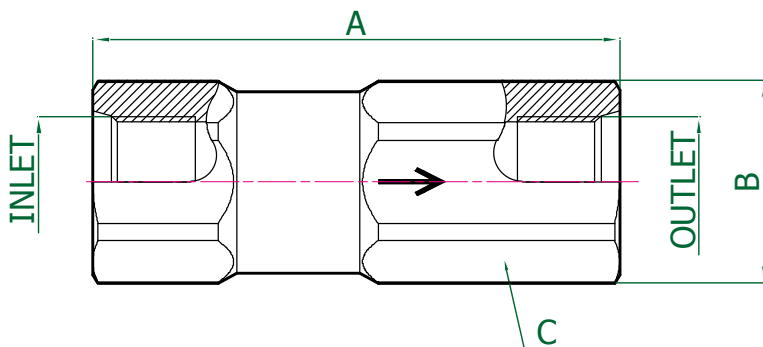
**MATERIAL:** STEEL

**SEALS:** NBR (NITRILE)



NOMINAL SIZE			PART NUMBER	OPENING PRESSURE	THREADS		DIMENSIONS mm				
DN	inch	Dash			INLET	OUTLET	A	B	C	D	E
6	1/4"	-04	Q2A2103434A-04-04	35 kPa	1/4" NPTF	1/4" NPTF	60	Ø21	19		
10	3/8"	-06	Q2A2103434A-06-06	35 kPa	3/8" NPTF	3/8" NPTF	65 (67*)	Ø24.2	22		
12.5	1/2"	-08	Q2A2103434A-08-08	35 kPa	1/2" NPTF	1/2" NPTF	77 (81*)	Ø29.6	27		
19	3/4"	-12	Q2A2103434A-12-12	35 kPa	3/4" NPTF	3/4" NPTF	90	Ø37.4	34		
25	1"	-16	Q2A2103434A-16-16	35 kPa	1" NPTF	1" NPTF	104	Ø45	41		
31	1-1/4"	-20	Q2A2103434A-20-20	35 kPa	1-1/4" NPTF	1-1/4" NPTF	128.5	Ø55	50		
38	1-1/2"	-24	Q2A2103434A-24-24	35 kPa	1-1/2" NPTF	1-1/2" NPTF	148	Ø66	60		
51	2"	-32	Q2A2103434A-32-32	35 kPa	2" NPTF	2" NPTF	178	Ø82	75		

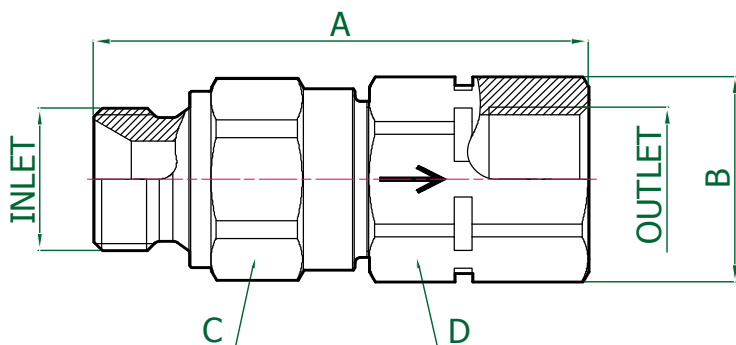




## Q2A2103030

FEMALE-FEMALE, STANDARD  
**INLET:** FEMALE O’RING BOSS TYPE  
 SAE J1926-1  
**OUTLET:** FEMALE O’RING BOSS TYPE  
 SAE J1926-1  
**MATERIAL:** STEEL  
**SEALS:** NBR (NITRILE)

NOMINAL SIZE			PART NUMBER	OPENING PRESSURE	THREADS		DIMENSIONS mm				
DN	inch	Dash			INLET	OUTLET	A	B	C	D	E
12.5	1/2"	-08	Q2A2103030A-08-08	35 kPa	3/4"-16 UNF	3/4"-16 UNF	77 (81*)	Ø29.6	27		
19	3/4"	-12	Q2A2103030A-12-12	35 kPa	1.1/16"-12 UN	1.1/16"-12 UN	96	Ø37.4	34		
25	1"	-16	Q2A2103030A-16-16	35 kPa	1.5/16"-12 UN	1.5/16"-12 UN	104	Ø45	41		



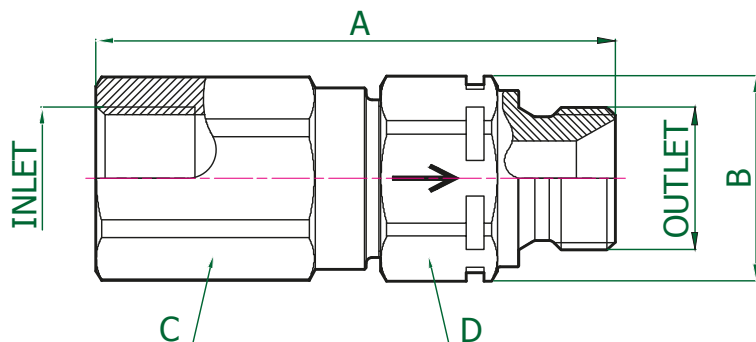
## Q2A3110504

MALE-FEMALE, STANDARD  
**INLET:** BSP MALE 60° CONE SEAT  
 BS5200 / ISO 8434-6  
**OUTLET:** BSP FIXED FEMALE  
 DIN 3852-2 'FORM X' / ISO 1179-1  
**MATERIAL:** STEEL  
**SEALS:** NBR (NITRILE)

NOMINAL SIZE			PART NUMBER	OPENING PRESSURE	THREADS		DIMENSIONS mm				
DN	inch	Dash			INLET	OUTLET	A	B	C	D	E
6	1/4"	-04	Q2A3110504A-04-04	35 kPa	1/4"	1/4"	54.8	Ø21	19	19	
10	3/8"	-06	Q2A3110504A-06-06	35 kPa	3/8"	3/8"	63.8	Ø24,2	22	22	
12.5	1/2"	-08	Q2A3110504A-08-08	35 kPa	1/2"	1/2"	72.3	Ø30	27	27	
19	3/4"	-12	Q2A3110504A-12-12	35 kPa	3/4"	3/4"	83	Ø38	34	34	
25	1"	-16	Q2A3110504A-16-16	35 kPa	1"	1"	95.7	Ø45	41	41	

## Q2A4110405

FEMALE-MALE, STANDARD  
**INLET:** BSP FIXED FEMALE  
 DIN 3852-2 'FORM X' / ISO 1179-1  
**OUTLET:** BSP MALE 60° CONE SEAT  
 BS5200 / ISO 8434-6  
**MATERIAL:** STEEL  
**SEALS:** NBR (NITRILE)

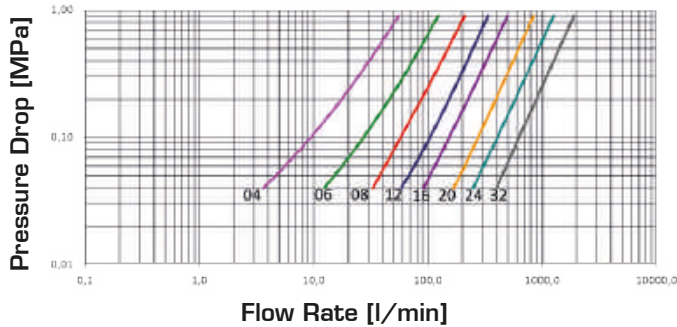


NOMINAL SIZE			PART NUMBER	OPENING PRESSURE	THREADS		DIMENSIONS mm				
DN	inch	Dash			INLET	OUTLET	A	B	C	D	E
6	1/4"	-04	Q2A4110405A-04-04	35 kPa	1/4"	1/4"	62.5	Ø21	19	19	
10	3/8"	-06	Q2A4110405A-06-06	35 kPa	3/8"	3/8"	70.5	Ø24,2	22	22	
12.5	1/2"	-08	Q2A4110405A-08-08	35 kPa	1/2"	1/2"	83	Ø30	27	27	
19	3/4"	-12	Q2A4110405A-12-12	35 kPa	3/4"	3/4"	96.5	Ø38	34	34	
25	1"	-16	Q2A4110405A-16-16	35 kPa	1"	1"	111.5	Ø45	41	41	

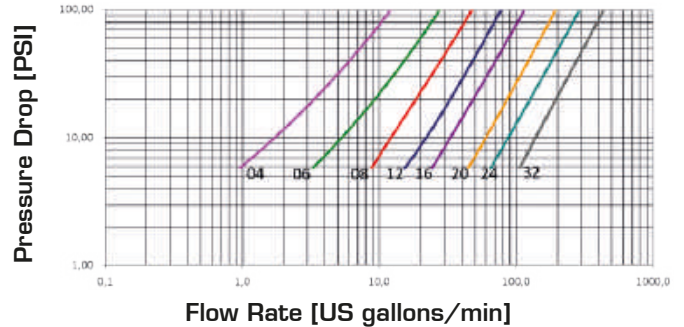
# COMPACT CHECK VALVES



Pressure Drop



Pressure Drop



## TECHNICAL DATA

SIZE			WORKING PRESSURE (Dynamic)		RATED FLOW at 0.2 MPa of pressure drop		MINIMUM BURST PRESSURE	
DN	inch	Dash	MPa	PSI	l/min	US GPM	MPa	PSI
6	1/4"	04	35	5,075	5	1.3	140	20,300
10	3/8"	06	35	5,075	11	2.9	140	20,300
12	1/2"	08	35	5,075	37	9.8	140	20,300
19	3/4"	12	35	5,075	73	19.3	140	20,300
25	1"	16	35	5,075	106	28.0	140	20,300

## PRODUCT DESCRIPTION

- Manufactured from high-quality materials
- Robust design
- Space saving design
- Large range of termination end options available
- Large range of cracking-pressure available

### MATERIAL

Steel, with springs in C98 high-carbon steel. Seals in NBR and back-up ring in PTFE.

### WORKING TEMPERATURE

-22°F up to +230°F (-30°C up to +110°C)

### SAFETY FACTOR

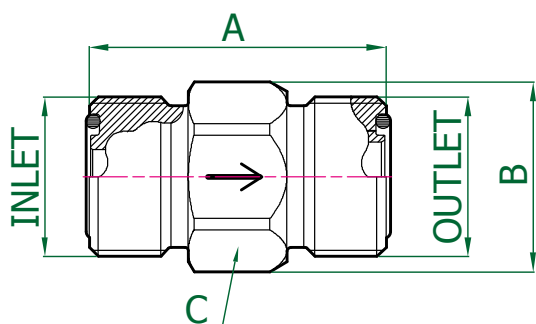
4:1 for dynamic pressures

### IMPULSE PRESSURES

1,000,000 cycles at 120% of the rated one (freq. 1Hz)

### TEST SPECIFICATIONS

ISO 18869

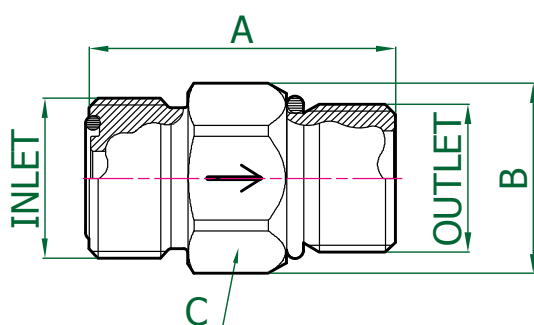


## Q2B1112424

MALE-MALE, COMPACT  
**INLET:** ORFS MALE ISO 8434-3  
 / SAE J1453  
**OUTLET:** ORFS MALE ISO 8434-3  
 / SAE J1453  
**MATERIAL:** STEEL  
**SEALS:** NBR (NITRILE)

NOMINAL SIZE			PART NUMBER	OPENING PRESSURE	THREADS		DIMENSIONS mm				
DN	inch	Dash			INLET	OUTLET	A	B	C	D	E
6	1/4"	-4	Q2B1112424A-04-04	35 kPa	9/16"-18 UNF	9/16"-18 UNF	31	ø18,8	17		
10	3/8"	-6	Q2B1112424A-06-06	35 kPa	11/16"-16 UN	11/16"-16 UN	33.6	ø21	19		
12.5	1/2"	-8	Q2B1112424A-08-08	35 kPa	13/16"-16 UN	13/16"-16 UN	38.3	ø24,5	22		
12.5	1/2"	-8	Q2B1112424A-10-10	35 kPa	1"-14 UNS	1"-14 UNS	43.7	ø30	27		
20	3/4"	-12	Q2B1112424A-12-12	35 kPa	1.3/16"-12 UN	1.3/16"-12 UN	46.7	ø35,5	32		
25	1"	-16	Q2B1112424A-16-16	35 kPa	1.7/16"-12 UN	1.7/16"-12 UN	50.8	ø42	38		

Q.SAFE 512

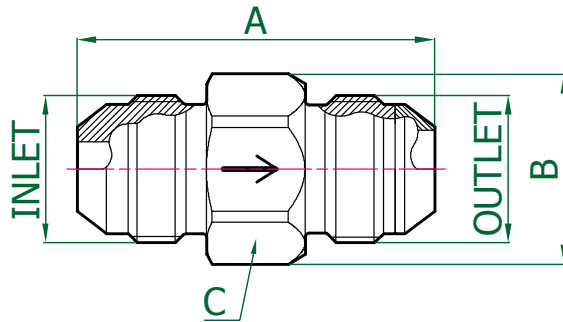


## Q2B1112432

MALE-MALE, COMPACT  
**INLET:** ORFS MALE ISO 8434-3  
 / SAE J1453  
**OUTLET:** MALE O'RING BOSS  
 (NON-ADJUSTABLE HEAVY) SAE J1926-2  
**MATERIAL:** STEEL  
**SEALS:** NBR (NITRILE)

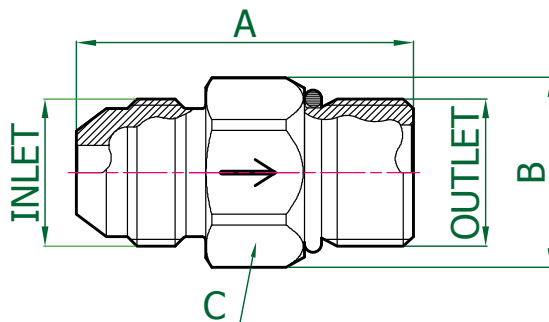
NOMINAL SIZE			PART NUMBER	OPENING PRESSURE	THREADS		DIMENSIONS mm				
DN	inch	Dash			INLET	OUTLET	A	B	C	D	E
10	3/8"	-6	Q2B1112432A-06-06	35 kPa	11/16"-16 UN	9/16"-18 UNF	34.4	ø21	19		
12.5	1/2"	-8	Q2B1112432A-08-08	35 kPa	13/16"-16 UN	3/4"-16 UNF	39.5	ø24,5	22		
12.5	1/2"	-8	Q2B1112432A-10-10	35 kPa	1"-14 UNS	7/8"-14 UNF	44.2	ø30	27		
20	3/4"	-12	Q2B1112432A-12-12	35 kPa	1.3/16"-12 UN	1.1/16"-12 UN	48.2	ø35,5	32		
25	1"	-16	Q2B1112432A-16-16	35 kPa	1.7/16"-12 UN	1.5/16"-12 UN	51.8	ø42	38		

## Q2B1112525



MALE-MALE, COMPACT  
**INLET:** JIC MALE (37° CONE)  
ISO 8434-2 / SAE J514  
**OUTLET:** JIC MALE (37° CONE)  
ISO 8434-2 / SAE J514  
**MATERIAL:** STEEL  
**SEALS:** NBR (NITRILE)

NOMINAL SIZE			PART NUMBER	OPENING PRESSURE	THREADS		DIMENSIONS mm				
DN	inch	Dash			INLET	OUTLET	A	B	C	D	E
6	1/4"	-4	Q2B1112525A-04-04	35 kPa	7/16"-20 UNF	7/16"-20 UNF	39.2	ø18,8	17		
10	3/8"	-6	Q2B1112525A-06-06	35 kPa	9/16"-18 UNF	9/16"-18 UNF	39.4	ø21	19		
12.5	1/2"	-8	Q2B1112525A-08-08	35 kPa	3/4"-16 UNF	3/4"-16 UNF	46.1	ø24,5	22		
12.5	1/2"	-8	Q2B1112525A-10-10	35 kPa	7/8"-14 UNF	7/8"-14 UNF	51.3	ø30	27		
20	3/4"	-12	Q2B1112525A-12-12	35 kPa	1.1/16"-12 UN	1.1/16"-12 UN	56.5	ø35,5	32		
25	1"	-16	Q2B1112525A-16-16	35 kPa	1.5/16"-12 UN	1.5/16"-12 UN	62	ø42	38		

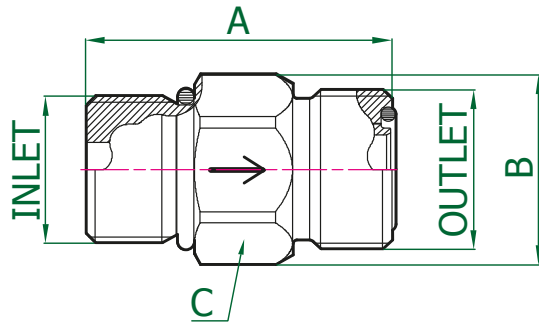


## Q2B1112532

MALE-MALE, COMPACT  
**INLET:** JIC MALE (37° CONE)  
ISO 8434-2 / SAE J514  
**OUTLET:** MALE O'RING BOSS  
(NON-ADJUSTABLE HEAVY) SAE J1926-2  
**MATERIAL:** STEEL  
**SEALS:** NBR (NITRILE)

NOMINAL SIZE			PART NUMBER	OPENING PRESSURE	THREADS		DIMENSIONS mm				
DN	inch	Dash			INLET	OUTLET	A	B	C	D	E
10	3/8"	-6	Q2B1112532A-06-06	35 kPa	9/16"-18 UNF	9/16"-18 UNF	37.3	ø21	19		
12.5	1/2"	-8	Q2B1112532A-08-08	35 kPa	3/4"-16 UNF	3/4"-16 UNF	43.4	ø24,5	22		
12.5	1/2"	-8	Q2B1112532A-10-10	35 kPa	7/8"-14 UNF	7/8"-14 UNF	48	ø30	27		
20	3/4"	-12	Q2B1112532A-12-12	35 kPa	1.1/16"-12 UN	1.1/16"-12 UN	53.1	ø35,5	32		
25	1"	-16	Q2B1112532A-16-16	35 kPa	1.5/16"-12 UN	1.5/16"-12 UN	57.4	ø42	38		

## Q2B1113224

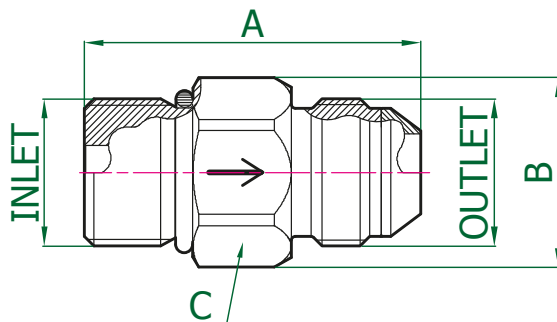


MALE-MALE, COMPACT  
**INLET:** MALE O’RING BOSS  
 (NON-ADJUSTABLE HEAVY) SAE J1926-2  
**OUTLET:** ORFS MALE ISO 8434-3  
 / SAE J1453  
**MATERIAL:** STEEL  
**SEALS:** NBR (NITRILE)

NOMINAL SIZE			PART NUMBER	OPENING PRESSURE	THREADS		DIMENSIONS mm				
DN	inch	Dash			INLET	OUTLET	A	B	C	D	E
6	1/4"	-4	Q2B1113224A-04-04	35 kPa	7/16"-20 UNF	9/16"-18 UNF	32.2	ø18,8	17		
10	3/8"	-6	Q2B1113224A-06-06	35 kPa	9/16"-18 UNF	11/16"-16 UN	34.4	ø21	19		
12.5	1/2"	-8	Q2B1113224A-08-08	35 kPa	3/4"-16 UNF	13/16"-16 UN	39.5	ø24,5	22		
12.5	1/2"	-8	Q2B1113224A-10-10	35 kPa	7/8"-14 UNF	1"-14 UNS	44.2	ø30	27		
20	3/4"	-12	Q2B1113224A-12-12	35 kPa	1.1/16"-12 UN	1.3/16"-12 UN	48.2	ø35,5	32		
25	1"	-16	Q2B1113224A-16-16	35 kPa	1.5/16"-12 UN	1.7/16"-12 UN	51.8	ø42	38		

Q.SAFE 514

## Q2B1113225



MALE-MALE, COMPACT  
**INLET:** MALE O’RING BOSS  
 (NON-ADJUSTABLE HEAVY) SAE J1926-2  
**OUTLET:** JIC MALE (37° CONE)  
 ISO 8434-2 / SAE J514  
**MATERIAL:** STEEL  
**SEALS:** NBR (NITRILE)

NOMINAL SIZE			PART NUMBER	OPENING PRESSURE	THREADS		DIMENSIONS mm				
DN	inch	Dash			INLET	OUTLET	A	B	C	D	E
6	1/4"	-4	Q2B1113225A-04-04	35 kPa	7/16"-20 UNF	7/16"-20 UNF	36.2	ø18,8	17		
10	3/8"	-6	Q2B1113225A-06-06	35 kPa	9/16"-18 UNF	9/16"-18 UNF	37.3	ø21	19		
12.5	1/2"	-8	Q2B1113225A-08-08	35 kPa	3/4"-16 UNF	3/4"-16 UNF	43.4	ø24,5	22		
12.5	1/2"	-8	Q2B1113225A-10-10	35 kPa	7/8"-14 UNF	7/8"-14 UNF	48	ø30	27		
20	3/4"	-12	Q2B1113225A-12-12	35 kPa	1.1/16"-12 UN	1.1/16"-12 UN	53.1	ø35,5	32		
25	1"	-16	Q2B1113225A-16-16	35 kPa	1.5/16"-12 UN	1.5/16"-12 UN	57.4	ø42	38		



# BI-DIRECTIONAL CHECK VALVES

## TECHNICAL DATA

SIZE			WORKING PRESSURE (Dynamic)		RATED FLOW at 0.2 MPa of pressure drop		MINIMUM BURST PRESSURE	
DN	inch	Dash	MPa	PSI	l/min	US GPM	MPa	PSI
10	3/8"	06	35	5075	39	10	150	21750
12.5	1/2"	08	35	5075	84	22	140	20300
19	3/4"	-12	35	5075	119	31	140	20300

## PRODUCT DESCRIPTION

- Manufactured from high-quality materials
- Robust design
- Large range of termination end options available
- A-B cracking pressures of 500kPa and 800kPa available
- B-A cracking pressure of 35kPa

### MATERIAL

Steel, with springs in C98 high-carbon steel. Seals in NBR and back-up ring in PTFE.

### WORKING TEMPERATURE

-22°F up to +230°F (-30°C up to +110°C)

### SAFETY FACTOR

4:1 for dynamic pressures

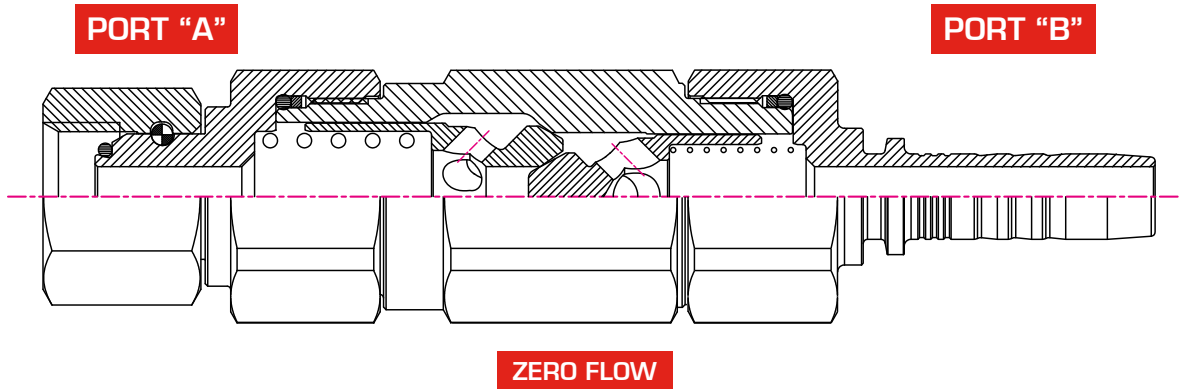
### IMPULSE PRESSURES

1,000,000 cycles at 120% of the rated one (freq. 1Hz)

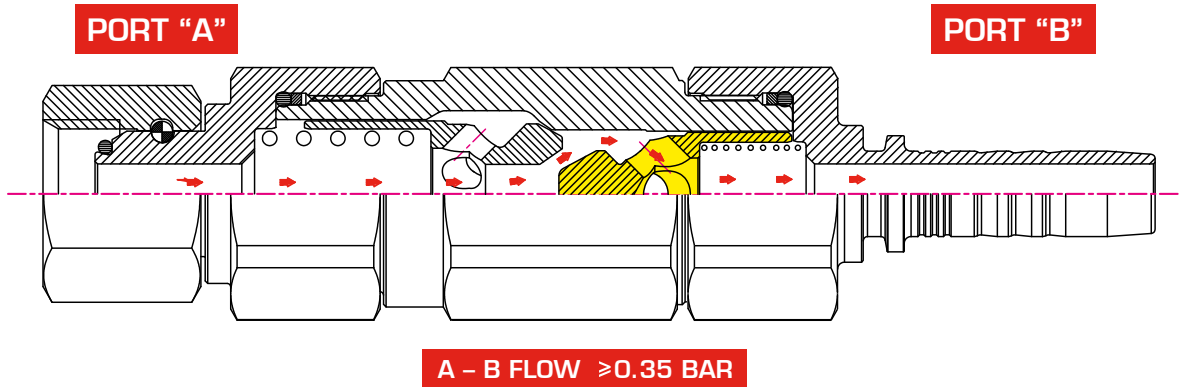
### TEST SPECIFICATIONS

ISO 18869

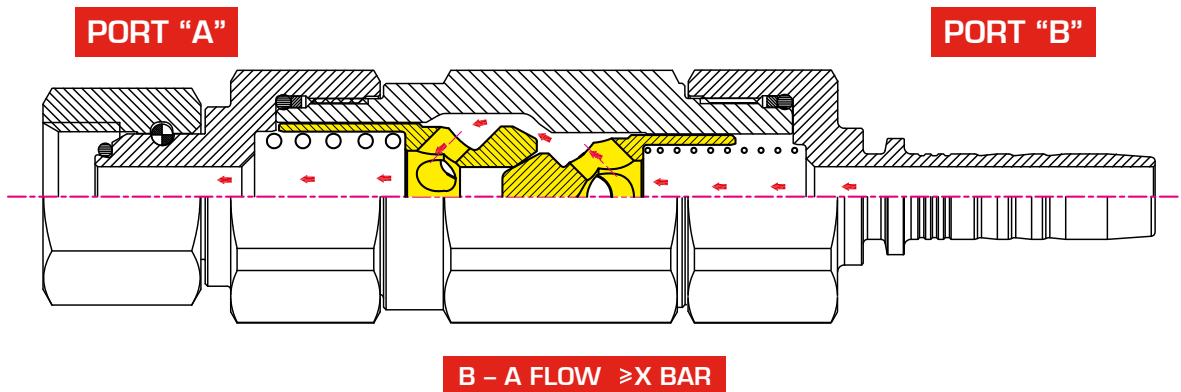
## How Do Manuli Bi-Directional Check Valves Work?



In its zero flow state the bi-directional check valve is sealed in both flow directions, meaning that no fluid can cross from port "A" to port "B" or vice versa.



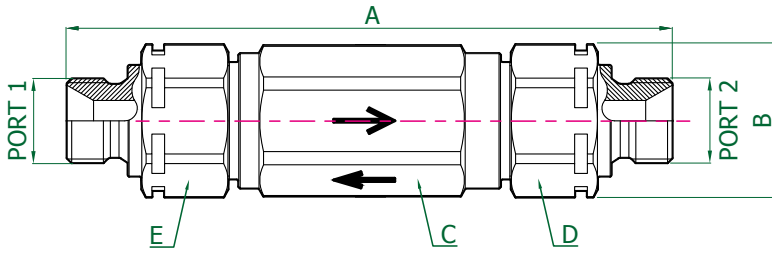
When the pressure of the fluid flowing from port "A" to port "B" exceeds the specified valve rating, "X" kPa, the highlighted valve assembly is similarly forced out of the way to allow the fluid to flow.



When the pressure of the fluid flowing from port "B" to port "A" exceeds 35 kPa the highlighted valve assembly is forced out of the way, thus allowing the fluid to flow.



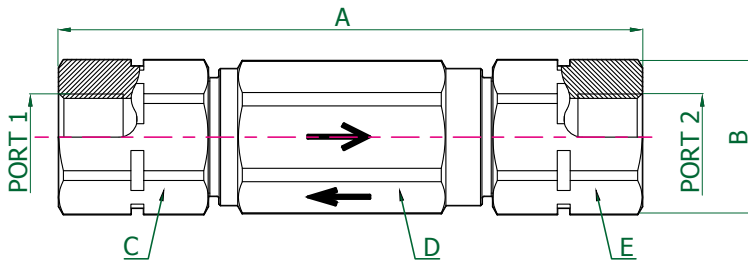
## Q2D1110505



**MALE-MALE, BI-DIRECTIONAL**  
**INLET:** BSP MALE 60° CONE SEAT  
BS5200 / ISO 8434-6  
**OUTLET:** BSP MALE 60° CONE SEAT  
BS5200 / ISO 8434-6  
**MATERIAL:** STEEL  
**SEALS:** NBR (NITRILE)

NOMINAL SIZE			PART NUMBER	OPENING PRESSURE		THREADS		DIMENSIONS mm				
DN	inch	Dash		1 -> 2	2 -> 1	INLET	OUTLET	A	B	C	D	E
10	3/8"	-6	Q2D1110505N-06-06A	500 kPa	35 kPa	3/8"	3/8"	110.6	Ø30	27	27	27
10	3/8"	-6	Q2D1110505R-06-06A	800 kPa	35 kPa	3/8"	3/8"	110.6	Ø30	27	27	27
12.5	1/2"	-8	Q2D1110505N-08-08A	500 kPa	35 kPa	1/2"	1/2"	149.8	Ø38	34	34	34
12.5	1/2"	-8	Q2D1110505R-08-08A	800 kPa	35 kPa	1/2"	1/2"	149.8	Ø38	34	34	34
19	3/4"	-12	Q2D1110505N-12-12A	500 kPa	35 kPa	3/4"	3/4"	173.8	Ø45	41	41	41
19	3/4"	-12	Q2D1110505R-12-12A	800 kPa	35 kPa	3/4"	3/4"	173.8	Ø45	41	41	41

## Q2D2110404



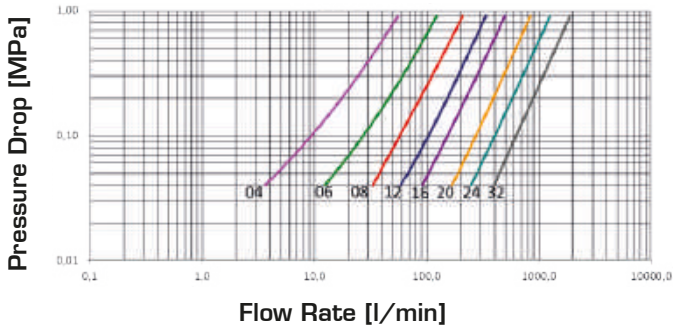
**FEMALE-FEMALE, BI-DIRECTIONAL**  
**INLET:** BSP FIXED FEMALE  
DIN 3852-2 'FORM X' / ISO 1179-1  
**OUTLET:** BSP FIXED FEMALE  
DIN 3852-2 'FORM X' / ISO 1179-1  
**MATERIAL:** STEEL  
**SEALS:** NBR (NITRILE)

NOMINAL SIZE			PART NUMBER	OPENING PRESSURE		THREADS		DIMENSIONS mm				
DN	inch	Dash		1 -> 2	2 -> 1	INLET	OUTLET	A	B	C	D	E
10	3/8"	-06	Q2D2110404N-06-06A	500 kPa	35 kPa	3/8"	3/8"	105.2	Ø30	27	27	27
10	3/8"	-06	Q2D2110404R-06-06A	800 kPa	35 kPa	3/8"	3/8"	105.2	Ø30	27	27	27
12.5	1/2"	-08	Q2D2110404N-08-08A	500 kPa	35 kPa	1/2"	1/2"	139.4	Ø38	34	34	34
12.5	1/2"	-08	Q2D2110404R-08-08A	800 kPa	35 kPa	1/2"	1/2"	139.4	Ø38	34	34	34
19	3/4"	-12	Q2D2110404N-12-12A	500 kPa	35 kPa	3/4"	3/4"	163.4	Ø45	41	41	41
19	3/4"	-12	Q2D2110404R-12-12A	800 kPa	35 kPa	3/4"	3/4"	163.4	Ø45	41	41	41

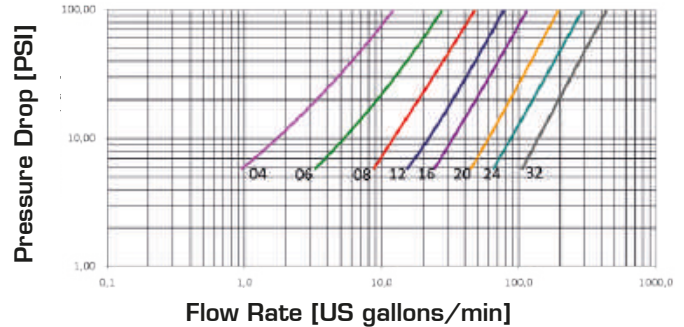


# STANDARD CHECK VALVES DHI (DIRECT HOSE INTERFACE)

Pressure Drop



Pressure Drop



Q.SAFE 518

## TECHNICAL DATA

SIZE			WORKING PRESSURE (Dynamic)		RATED FLOW at 0.2 MPa of pressure drop		MINIMUM BURST PRESSURE	
DN	inch	Dash	MPa	PSI	l/min	US GPM	MPa	PSI
6	1/4"	04	45	6525	18	4.8	180	26100
10	3/8"	06	35	5075	46	12.2	140	20300
12	1/2"	08	35	5075	88	23.2	140	20300
19	3/4"	12	35	5075	153	40.4	140	20300
25	1"	16	35	5075	225	59.4	140	20300
31	1.1/4"	20	35	5075	394	104.1	140	20300
38	1.1/2"	24	35	5075	580	153.2	140	20300
51	2"	32	35	5075	890	235.1	140	20300

## PRODUCT DESCRIPTION

- Manufactured from high-quality materials
- Robust design
- Large range of termination end options available
- Large range of cracking-pressures available
- Direct-to-hose connection minimises potential leak points

### MATERIAL

Steel, with springs in C98 high-carbon steel. Seals in NBR and back-up ring in PTFE.

### WORKING TEMPERATURE

-22°F up to +230°F (-30°C up to +110°C)

### SAFETY FACTOR

4:1 for dynamic pressures

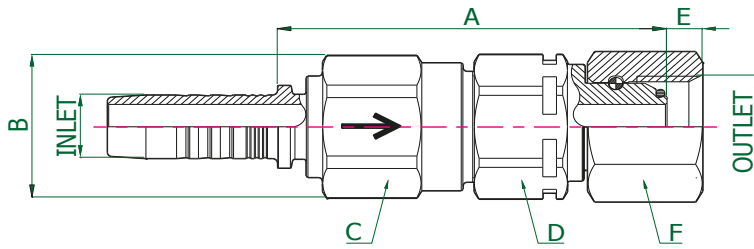
### IMPULSE PRESSURES

1,000,000 cycles at 120% of the rated one (freq. 1Hz)

### TEST SPECIFICATIONS

ISO 18869

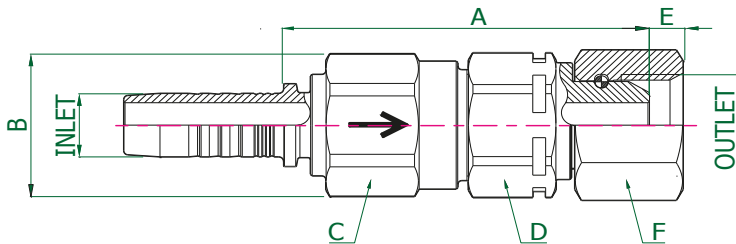
## Q2A311M108



TAIL-FEMALE, STANDARD  
**INLET:** MULTIFIT TAIL, STRAIGHT  
**OUTLET:** BSP O-RING FEMALE  
 60° CONE BS5200 / ISO 8434-6  
**MATERIAL:** STEEL  
**SEALS:** NBR (NITRILE)

NOMINAL SIZE			PART NUMBER	OPENING PRESSURE	THREADS		DIMENSIONS mm					
DN	inch	Dash			INLET	OUTLET	A	B	C	D	E	F
6	1/4"	-4	Q2A311M108A-04-04	35 kPa	1/4"	1/4"	50.2	Ø21	19	19	4.1	19
10	3/8"	-6	Q2A311M108A-06-06	35 kPa	3/8"	3/8"	62.3	Ø24,2	22	22	5.9	22
12.5	1/2"	-8	Q2A311M108A-08-08	35 kPa	1/2"	1/2"	70.9	Ø30	27	27	6.5	27
19	3/4"	-12	Q2A311M108A-12-12	35 kPa	3/4"	3/4"	80.6	Ø38	34	34	8.5	32
25	1"	-16	Q2A311M108A-16-16	35 kPa	1"	1"	86.9	Ø45	41	41	10.6	38

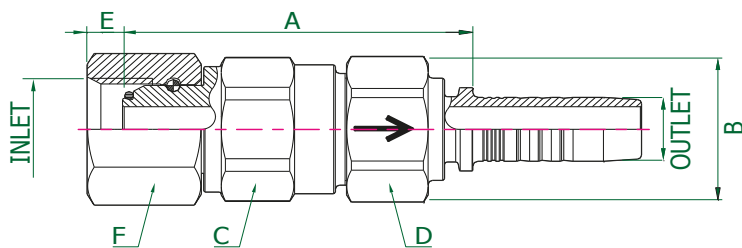
## Q2A311M105



TAIL-FEMALE, STANDARD  
**INLET:** MULTIFIT TAIL, STRAIGHT  
**OUTLET:** BSP FEMALE 60° CONE  
 BS5200 / ISO 8434-6  
**MATERIAL:** STEEL  
**SEALS:** NBR (NITRILE)

NOMINAL SIZE			PART NUMBER	OPENING PRESSURE	THREADS		DIMENSIONS mm					
DN	inch	Dash			INLET	OUTLET	A	B	C	D	E	F
31	1-1/4"	-20	Q2A311M105A-20-20	35 kPa	1-1/4"	1-1/4"	111.2	Ø55	50	50	10.5	50
38	1-1/2"	-24	Q2A311M105A-24-24	35 kPa	1-1/2"	1-1/2"	126	Ø66	60	60	12.5	60

## Q2A41108M1

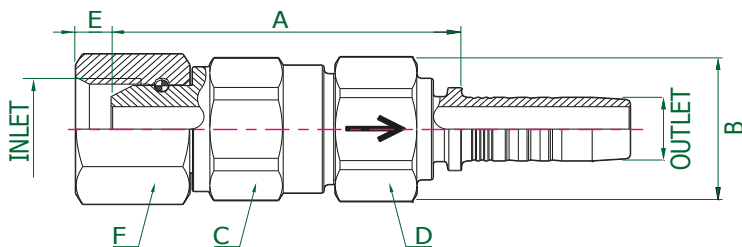


FEMALE-TAIL, STANDARD  
**INLET:** BSP O-RING FEMALE  
 60° CONE BS5200 / ISO 8434-6  
**OUTLET:** MULTIFIT TAIL, STRAIGHT  
**MATERIAL:** STEEL  
**SEALS:** NBR (NITRILE)

NOMINAL SIZE			PART NUMBER	OPENING PRESSURE	THREADS		DIMENSIONS mm					
DN	inch	Dash			INLET	OUTLET	A	B	C	D	E	F
6	1/4"	-4	Q2A41108M1A-04-04	35 kPa	1/4"	1/4"	48	Ø21	19	19	4.1	19
10	3/8"	-6	Q2A41108M1A-06-06	35 kPa	3/8"	3/8"	57.3	Ø24,2	22	22	5.9	22
12.5	1/2"	-8	Q2A41108M1A-08-08	35 kPa	1/2"	1/2"	64.3	Ø30	27	27	6.5	27
19	3/4"	-12	Q2A41108M1A-12-12	35 kPa	3/4"	3/4"	73.4	Ø38	34	34	8.5	32
25	1"	-16	Q2A41108M1A-16-16	35 kPa	1"	1"	84.4	Ø45	41	41	10.6	38

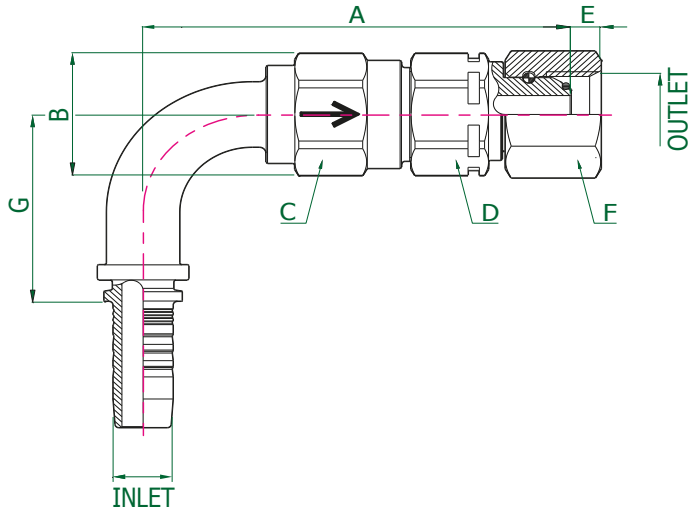
**Q.SAFE 520**

## Q2A41105M1



FEMALE-TAIL, STANDARD  
**INLET:** BSP FEMALE 60° CONE  
 BS5200 / ISO 8434-6  
**OUTLET:** MULTIFIT TAIL, STRAIGHT  
**MATERIAL:** STEEL  
**SEALS:** NBR (NITRILE)

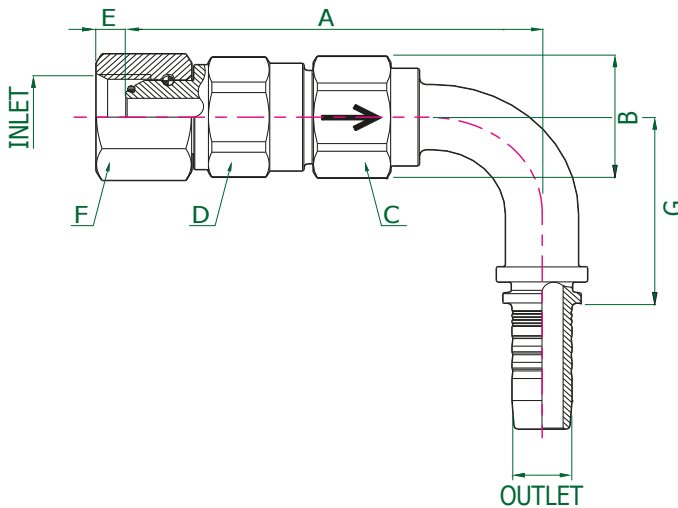
NOMINAL SIZE			PART NUMBER	OPENING PRESSURE	THREADS		DIMENSIONS mm					
DN	inch	Dash			INLET	OUTLET	A	B	C	D	E	F
31	1-1/4"	-20	Q2A41105M1A-20-20	35 kPa	1-1/4"	1-1/4"	111.2	Ø55	50	50	10.5	50
38	1-1/2"	-24	Q2A41105M1A-24-24	35 kPa	1-1/2"	1-1/2"	126	Ø66	60	60	12.5	60



## Q2A311M908

TAIL-FEMALE, STANDARD  
**INLET:** MULTIFIT TAIL, 90° SWEPT  
**OUTLET:** BSP O-RING FEMALE  
 60° CONE BS5200 / ISO 8434-6  
**MATERIAL:** STEEL  
**SEALS:** NBR (NITRILE)

NOMINAL SIZE			PART NUMBER	OPENING PRESSURE	THREADS		DIMENSIONS mm						
DN	inch	Dash			INLET	OUTLET	A	B	C	D	E	F	G
6	1/4"	-4	Q2A311M908A-04-04	35 kPa	1/4"	1/4"	64.8	Ø21	19	19	4.1	19	30.1
10	3/8"	-6	Q2A311M908A-06-06	35 kPa	3/8"	3/8"	79.9	Ø24	22	22	5.9	22	37
12.5	1/2"	-8	Q2A311M908A-08-08	35 kPa	1/2"	1/2"	94.5	Ø30	27	27	6.5	27	45.9
19	3/4"	-12	Q2A311M908A-12-12	35 kPa	3/4"	3/4"	115.8	Ø38	34	34	8.5	32	62.5
25	1"	-16	Q2A311M908A-16-16	35 kPa	1"	1"	132	Ø45	41	41	10.6	38	70.6



## Q2A41108M9

TAIL-FEMALE, STANDARD  
**INLET:** BSP O-RING FEMALE  
 60° CONE BS5200 / ISO 8434-6  
**OUTLET:** MULTIFIT TAIL, 90° SWEPT  
**MATERIAL:** STEEL  
**SEALS:** NBR (NITRILE)

NOMINAL SIZE			PART NUMBER	OPENING PRESSURE	THREADS		DIMENSIONS mm						
DN	inch	Dash			INLET	OUTLET	A	B	C	D	E	F	G
6	1/4"	-4	Q2A41108M9A-04-04	35 kPa	1/4"	1/4"	62.6	Ø21	19	19	4.1	19	30.1
10	3/8"	-6	Q2A41108M9A-06-06	35 kPa	3/8"	3/8"	74.9	Ø24	22	22	5.9	22	37
12.5	1/2"	-8	Q2A41108M9A-08-08	35 kPa	1/2"	1/2"	88	Ø30	27	27	6.5	27	45.9
19	3/4"	-12	Q2A41108M9A-12-12	35 kPa	3/4"	3/4"	108.6	Ø38	34	34	8.5	32	62.5
25	1"	-16	Q2A41108M9A-16-16	35 kPa	1"	1"	129.5	Ø45	41	41	10.6	38	70.6



# BI-DIRECTIONAL CHECK VALVES DHI (DIRECT HOSE INTERFACE)

## TECHNICAL DATA

SIZE			WORKING PRESSURE (Dynamic)		RATED FLOW at 0.2 MPa of pressure drop		MINIMUM BURST PRESSURE	
DN	inch	Dash	MPa	PSI	l/min	US GPM	MPa	PSI
10	3/8"	06	35	5075	39	10	150	21750
12.5	1/2"	08	35	5075	84	22	140	20300
19	3/4"	-12	35	5075	119	31	140	20300

## PRODUCT DESCRIPTION

- Manufactured from high-quality materials
- Robust design
- Large range of termination end options available
- A-B cracking pressures of 500kPa and 800kPa available
- B-A cracking pressure of 35kPa
- Direct-to-hose connection minimises potential leak points

### MATERIAL

Steel, with springs in C98 high-carbon steel. Seals in NBR and back-up ring in PTFE.

### WORKING TEMPERATURE

-22°F up to +230°F (-30°C up to +110°C)

### SAFETY FACTOR

4:1 for dynamic pressures

### IMPULSE PRESSURES

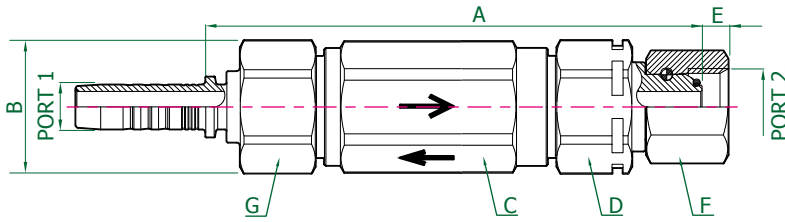
1,000,000 cycles at 120% of the rated one (freq. 1Hz)

### TEST SPECIFICATIONS

ISO 18869

Q.SAFE 522

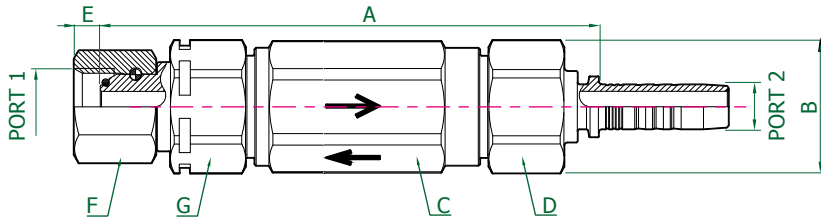
# Q2D311M108



TAIL-FEMALE, BI-DIRECTIONAL  
**INLET:** MULTIFIT TAIL, STRAIGHT  
**OUTLET:** BSP O-RING FEMALE  
 60° CONE BS5200 / ISO 8434-6  
**MATERIAL:** STEEL  
**SEALS:** NBR (NITRILE)

NOMINAL SIZE			PART NUMBER	OPENING PRESSURE		THREADS		DIMENSIONS mm						
DN	inch	Dash		1 -> 2	2 -> 1	INLET	OUTLET	A	B	C	D	E	F	G
10	3/8"	-6	Q2D311M108N-06-06A	500 kPa	35 kPa	3/8"	3/8"	104.9	Ø30	27	27	6	22	27
10	3/8"	-6	Q2D311M108R-06-06A	800 kPa	35 kPa	3/8"	3/8"	104.9	Ø30	27	27	6	22	27
12.5	1/2"	-8	Q2D311M108N-08-08A	500 kPa	35 kPa	1/2"	1/2"	139.8	Ø38	34	34	6.3	27	34
12.5	1/2"	-8	Q2D311M108R-08-08A	800 kPa	35 kPa	1/2"	1/2"	139.8	Ø38	34	34	6.3	27	34
19	3/4"	-12	Q2D311M108N-12-12A	500 kPa	35 kPa	3/4"	3/4"	163.7	Ø45	41	41	8.5	32	41
19	3/4"	-12	Q2D311M108R-12-12A	800 kPa	35 kPa	3/4"	3/4"	163.7	Ø45	41	41	8.5	32	41

# Q2D41108M1



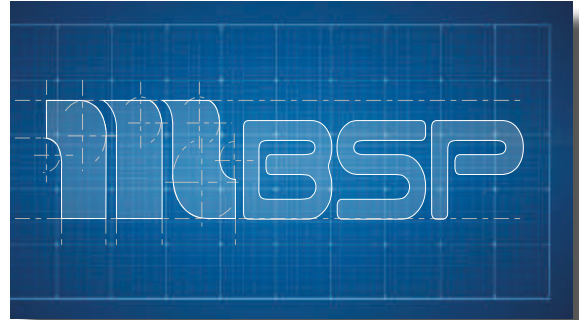
FEMALE-TAIL, BI-DIRECTIONAL  
**INLET:** BSP O-RING FEMALE  
 60° CONE BS5200 / ISO 8434-6  
**OUTLET:** MULTIFIT TAIL, STRAIGHT  
**MATERIAL:** STEEL  
**SEALS:** NBR (NITRILE)

NOMINAL SIZE			PART NUMBER	OPENING PRESSURE		THREADS		DIMENSIONS mm						
DN	inch	Dash		1 -> 2	2 -> 1	INLET	OUTLET	A	B	C	D	E	F	G
10	3/8"	-6	Q2D41108M1N-06-06A	500 kPa	35 kPa	3/8"	3/8"	104.9	Ø30	27	27	6	22	27
10	3/8"	-6	Q2D41108M1R-06-06A	800 kPa	35 kPa	3/8"	3/8"	104.9	Ø30	27	27	6	22	27
12.5	1/2"	-8	Q2D41108M1N-08-08A	500 kPa	35 kPa	1/2"	1/2"	139.8	Ø38	34	34	6.3	27	34
12.5	1/2"	-8	Q2D41108M1R-08-08A	800 kPa	35 kPa	1/2"	1/2"	139.8	Ø38	34	34	6.3	27	34
19	3/4"	-12	Q2D41108M1N-12-12A	500 kPa	35 kPa	3/4"	3/4"	173.8	Ø45	41	41	8.5	32	41
19	3/4"	-12	Q2D41108M1R-12-12A	800 kPa	35 kPa	3/4"	3/4"	173.8	Ø45	41	41	8.5	32	41

**Q.SAFE**  
**523**

## Bespoke solutions to unique problems

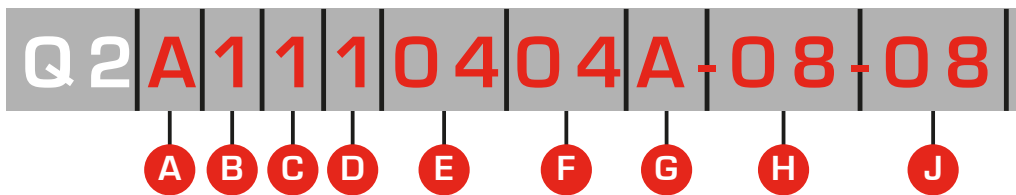
*Hydraulics applications are so many and varied that it would be pretty much impossible to develop industrialised products for every possible situation. However, at Manuli Hydraulics we are fully prepared to meet any application challenge that our OEM partners can present us with, which is why we offer our **Bespoke Solutions Program (BSP)**.*



The BSP is just one way that Manuli Hydraulics provides an added value service to our OEM partners. Manuli Hydraulics is structured in such a way that we can tailor solutions to the specific requirements of our customers in a way that our competitors never could. We are small enough to be agile and responsive, yet large enough to have the design and manufacturing capabilities to produce bespoke products at a reasonable price. Used by some of the largest and most respected OEMs around the world, the Manuli Bespoke Solutions Program means that you never have to compromise on your hydraulic system design again.

## How to specify your bespoke check valve

Specifying the required properties of your check valve is simply a matter of constructing an appropriate part number. The following pages explain how to construct the part number using the Manuli Hydraulics part numbering system.



**A - CHECK VALVE TYPE** - See Table 1

**B - INPUT / OUTPUT CONFIGURATION** - See Table 2

**C - VALVE MATERIAL** - See Table 3

**D - SEAL MATERIAL** - See Table 4

**E - INPUT TERMINATION END TYPE** - See Table 5

**F - OUTPUT TERMINATION END TYPE** - See Table 5

**G - CRACK PRESSURE** - See Table 6

**H - INPUT TUBE SIZE** - See Table 7

**J - OUTPUT TUBE SIZE** - See Table 7



**1 - CHECK VALVE TYPE**

Digit	Check Valve Type
A	Standard
B	Compact
C	Calibrated
D	Bi-directional

**2 - INLET / OUTLET CONFIGURATION**

Digit	INLET	OUTLET
	Male / Tail*	Male / Tail*
1		
	Female	Female
2		
	Male / Tail*	Female
3		
	Female	Male / Tail*
4		

\* Use Table 5a for male termination ends, and Table 5b for DHI tails

**3 - VALVE MATERIAL**

Digit	Material
1	Steel
2	AISI 316
3	AISI 303
4	Brass
5	Aluminium

**4 - SEAL MATERIAL**

Digit	INLET
0	None
1	NBR (Nitrile)
2	HNBR
3	FKM (Viton, FPM)
4	CR (Neoprene)
5	EPDM
6	FFPM (Kalrez)
7	PTFE
8	VMQ (Silicone Rubber)
9	AU (Polyurethane)

**5 - INLET / OUTLET TERMINATION END TYPE**

Digit	Male Termination End	Female Termination End
01	BSP Male DIN 3852-11 - ISO 1179-2 Heavy Duty "form E"	Fixed Female GAS JIS B 2351 "type O"
02	BSP Male Tapered Thread Long	BSP Female Tapered
04	BSP Male Bulkhead	BSP Fixed Female DIN 3852-2 "form X" / ISO 1179-1
05	BSP Male 60° cone seat BS5200 / ISO 8434-6	BSP Female 60° cone BS5200 / ISO 8434-6
08	Metric Bolt DIN 7643	BSP O-Ring Female 60° cone BS5200 / ISO 8434-6
11	Metric male 24° cone seat light type DIN 3861 / ISO 8434-1	-
12	Metric male 24° cone seat heavy type DIN 3861 / ISO 8434-1	Metric Female 24° cone O'Ring heavy type DIN 3865 / ISO 8434-1 Long Drop
14	Metric Male DIN 3852-11 "form E" b/ ISO 9974-2	Metric Fixed Female DIN 3852-1 "form X" and "form Y"
19	Metric Male ISO 6149-2 / DIN 3852-3 "form F" (only for Fittings and Q.Safe) Metric Male with Retaining Ring (Adjustable + Non-Adjustable Heavy) ISO 9974 port compatible (only for Adaptors)	Metric Fixed Female ISO 6149-1
23	JIC Bulkhead male 37° cone ISO 8434-2 / SAE J514	-
24	ORFS male ISO 8434-3 / SAE J1453	ORFS female ISO 8434-3 / SAE J1453
25	JIC male (37° cone) ISO 8434-2 / SAE J514	JIC female (37° cone seat) ISO 8434-2 / SAE J514
27	ORFS Bulkhead male ISO 8434-3 / SAE J1453	JIC female double hexagon 37° cone seat
28	NPTF Male 60° cone seat SAE J476a	NPSM Swivel Female 60° cone SAE J514
30	Male O'Ring Boss type SAE J1926-3	Female Port SAE J1926-1
32	Male O'Ring Boss (Adjustable + Non-Adjustable Heavy) SAE J1926-2	-
34	API Male	NPTF Fixed Female SAE J476a
37	Metric male 60° cone superlight DIN 3863 Bulkhead	Flange ISO/SAE 62 Plus / Flange (A/C)
77	DIN Bulkhead Male 24° cone Light type ISO 8434-1	ASME B16.5 Ring Joint Type Flange
82	French GAZ Bulkhead metric male 24° cone seat	Staple Lock Swivel Female
87	DIN Bulkhead Male 24° cone Heavy type ISO 8434-1	ASME B16.5 FLANGE / SDB compressor (A/C)

**Table 5a - Termination End Options**

Digit	DHI Tail Type
M1	Multifit tail, straight
M4	Multifit tail, 45° swept
M9	Multifit Plus tail, 90° swept
I1	Interlock Plus tail, straight
I4	Interlock Plus tail, 45° swept
I9	Interlock Plus tail, 90° swept
S1	Spiralfit tail, straight
S4	Spiralfit tail, 45° swept
S9	Spiralfit tail, 90° swept

**Table 5b - DHI Tail Options**

**6 - CRACK PRESSURE**

Digit	Pressure (kPa)	Pressure (psi)
<b>A</b>	35	5.1
<b>B</b>	10	1.5
<b>C</b>	20	2.9
<b>D</b>	50	7.3
<b>E</b>	100	14.5
<b>F</b>	150	21.8
<b>G</b>	200	29.0
<b>H</b>	250	36.3
<b>J</b>	300	43.5
<b>K</b>	350	50.8
<b>L</b>	400	58.0
<b>M</b>	450	65.3
<b>N</b>	500	72.5
<b>P</b>	600	87.0
<b>Q</b>	700	101.5
<b>R</b>	800	116.0
<b>S</b>	900	130.5
<b>T</b>	1000	145.0
<b>X</b>	Without Spring	

**7 - INLET / OUTLET TUBE SIZE**

Digit	DN	Inch	Dash
<b>04</b>	6	1/4"	-04
<b>06</b>	10	3/8"	-06
<b>08</b>	12	1/2"	-08
<b>10</b>	16	5/8"	-10
<b>12</b>	19	3/4"	-12
<b>16</b>	25	1"	-16
<b>20</b>	31	1-1/4"	-20
<b>22</b>	35	1-3/8"	-22
<b>24</b>	38	1-1/2"	-24
<b>32</b>	51	2"	-32
<b>36</b>	57	2-1/4"	-36



# ASSEMBLY MACHINES



# INTRODUCTION

---

Manuli assembling machines are part of our integrated product range and are designed according to high quality standards and optimised through Manuli's extensive experience in the hydraulic market.

Manuli assembling machines are recommended for a high-performance, safe hose assembling procedure.

All Manuli assembling machines are tested and approved in both laboratory and field validation exercises.

The following index offers a guideline to aid selection of the proper machine with reference to the applications and performance requested.

Special machines (not included in this catalogue) are available upon request, as well as original spare parts.

Manuli hose and fittings products must be assembled in strict accordance with Manuli instructions and limitations.

Don't mix and match: always use Manuli original couplings and hoses.

Manuli hose, couplings and assembling machines are tested as an effective and reliable system. The use of different products and machines may cause premature hose failures, property damage, serious injury or death.

**MANULI MAKES NO WARRANTIES, EXPRESS OR IMPLIED, AND ASSUMES NO RESPONSIBILITY OR LIABILITY FOR ANY LOSS OR DAMAGE, WHETHER DIRECT, INDIRECT, CONSEQUENTIAL OR INCIDENTAL WHICH MIGHT ARISE OUT OF CRIMPED HOSE ASSEMBLIES NOT PRODUCED FROM GENUINE MANULI HOSE FITTINGS, HOSE AND EQUIPMENT, IN CONFORMANCE WITH MANULI PROCESS SPECIFICATIONS FOR EACH SPECIFIC HOSE ASSEMBLY.**

The latest edition of the Manuli crimping booklet is the only official guide to selecting proper hose and fittings combinations and for determining crimping compatibility and parameters.

## CRIMPING MACHINES EVO RANGE

Manuli is always on the lookout for ways to improve both the efficiency and the quality of new and existing production operations.



As a market leader in assembly machines, we wanted to offer new crimping machines to improve the operator's comfort, giving more flexibility when assembling hoses. This led to the creation of the new EVO crimping machines.

These machines combine the robustness required for harsh environments with the reliability needed for busy workshops. Their compact and ergonomic design, along with the ease of set up and maintenance, make them suitable for a variety of applications.

This extensive range is highly adaptable, with various options available allowing users to customise their machine according to their specific needs.

- Extensive range for both industrial and hydraulic hoses
- 137, 240, 350 and 420 tonnes variants
- From 3/16 up to 4" hose diameter
- 4 kW or 5,5 kW motor for 3Ph



- Bluetooth connection 
- SC panel - Smart Control panel. Daily counter. Semi-automatic opening 
- SCE panel - electronic micrometer with the ability to save up to 25 configuration
- Caliper connected and numerical display of the crimping range on SCE

- Robust
- Ease of maintenance (foam pads and dust collector)
- Compatibility with all tensions (different frequencies)



- Compact and ergonomic design 
- Easy set up
- Various options available to suit our customers' needs and workshops

	MODEL	MACHINE TYPE	APPLICATION SECTOR	MACHINE PERFORMANCE	PAGE
<b>CUTTING</b>	M 22 CUT / MV 22 CUT	Benchtop	Aftermarket service	Medium size capacity	533
	M 30 CUT E	Benchtop cutting machine, optional skiving	Aftermarket service	Wide hose range capacity	534
	M 30 CUT & SKIVE	Benchtop: integrated cutting & skiving	Aftermarket service	Wide hose range capacity	535
	M 30 CUT L	Stand type cutting machine	Aftermarket service (smoke absorption integrated)	Wide hose range capacity	536
	M 55 CUT	Stand type cutting machine	Aftermarket service and small-medium OEM workshop	Whole hose range capacity	537
	M 75 CUT	Stand type cutting machine	Production unit	Whole hose range capacity	538
	M 90 CUT	Stand type cutting machine	Production unit	Whole hose range capacity	539
<b>SKIVING</b>	MH SKY	Manual, portable skiving tool	Aftermarket service	Wide hose range capacity	541
	M 50 SKY	Benchtop, skiving	Aftermarket service	Wide hose range capacity	542
	M 205 SKY	Stand type skive machine	Production unit	Whole hose range capacity	543
<b>INSERT PUSHING</b>	M 1500 INS	Benchtop coupling inserter	Production unit	Whole hose range capacity	546
	M 4000 INS	Benchtop coupling inserter	Production unit	Whole hose range capacity	547
<b>MARKING</b>	M 50 MARK	Benchtop, ferrules marking	Aftermarket service	Wide hose range capacity	548
<b>CRIMPING</b>	MHP 80	Hand pump, portable	On site repair	Manual machine for small sizes	551
	MHP 110	Hand pump, portable	On site repair	Manual machine for small sizes	552
	MHP 137	Hand pump, portable	On site repair	Manual machine for small/medium sizes	553
	MRB 137 EVO R	Vertical Benchtop	Aftermarket service	Medium crimping force, small/medium sizes, limited productivity	554
	MB 137 EVO	Benchtop	Aftermarket service	Medium crimping force, small/medium sizes, limited productivity	555
	MB 240 EVO	Benchtop	Aftermarket service	Medium crimping force, medium productivity	557
	MB 350 EVO / MB 350 EVO L	Benchtop: very high crimp force	Aftermarket service	High crimping force, medium productivity, large size	559
	GOLDENCRIMP 420 EVO	Benchtop	Field maintenance shops, wide hose range	Very high crimping force, tough environments, large size	561
	GOLDENCRIMP 450	Benchtop	Field maintenance shops, wide hose range	Very high crimping force, tough environments, large size	563
	MRV 137 EVO R	Field service and mobile workshop	On site repair mobile van	Medium crimping force, limited productivity	564
	MV 137 L	Field service and mobile workshop	On site repair mobile van	Medium crimping force, limited productivity	565
	MV 240	Field service and mobile workshop	On site repair mobile van	Medium crimping force, limited productivity	566



	MODEL	MACHINE TYPE	APPLICATION SECTOR	MACHINE PERFORMANCE	PAGE
CRIMPING	MV 240 L	Field service and mobile workshop	On site repair mobile van	Medium crimping force, limited productivity	567
	MV 350 / MV 350 L	Field service and mobile or container workshop	On site repair mobile van	High crimping force, limited productivity, large size	568
	MS 140	Stand type crimp machine	Assembling production unit, small/medium sizes	Medium crimping force, high productivity for small - medium bore	570
	MS 320	Stand-type crimp machine, SCS control	Assembling production unit, OEM and distribution	High crimping force, high productivity, large size	571
	MS 480	Stand-type crimp machine, SCS control	Assembling production unit, OEM and large bore focus	Very high crimping force, high productivity, very large opening	573
	MS 800	Stand-type crimp machine, SCS control	Assembling production unit	Very high crimping force for large bore hose focus	575
	MS 320 OPEN HEAD	Stand-type crimp machine	Assembling production unit	High crimping force for large bore hose focus	577
	MS 450-200	Stand-type crimp machine	Assembling production unit	Very high crimping force for large bore hose focus	578
	MS 550 / MS 550-16	Stand-type crimp machine, SCS control	Assembling production unit	Very high crimping force for large bore hose focus	579
TEST BENCHES	MTB 2000 L	Stand type machine; proof pressure and certify	Production unit	Wide hose range capacity	582
	MTB 2000 XL	Stand type machine; proof pressure and certify	Production unit	Wide hose range capacity	583
DIE SETS	DIE SETS FOR CRIMPING MACHINES				584



In order to simplify the process of selecting appropriate equipment for new workshops, Manuli Hydraulics also offers a range of scaled machine modules. These modules include suitable combinations of cutting and crimping machines (and skiving where appropriate), based on the scale and planned throughput of the intended assembly operation.

MODULE		DESCRIPTION	CAPACITY	CUTTING	SKIVING	CRIMPING
M0	STATIC	Small Service Workshop	<ul style="list-style-type: none"> <li>• 1□" 4WS</li> <li>• 25 Hoses / Day</li> <li>• Mixed sizes</li> </ul>	M 22 CUT	M 50 SKY	MB 137 EVO
	MOBILE			M 22 CUT (12/24 V)	MH SKY	MRV 137 EVO R (12V)
M1	STATIC	Intermittent Service Workshop	<ul style="list-style-type: none"> <li>• 2" 4WS</li> <li>• 50 Hoses / Day</li> <li>• Mixed sizes</li> </ul>	M 30 CUT L	M 50 SKY	MB 240 EVO
	MOBILE					MV 240 EVO (12/24 V or 220 1Ph)
M2	STATIC	Continuous Service Workshop	<ul style="list-style-type: none"> <li>• 2" 6WS - 3" 2WB</li> <li>• 100 Hoses / Day</li> <li>• Mixed sizes</li> </ul>	M 75 CUT	M 205 SKY PLUS	MB 350 EVO
	MOBILE					MV 350 (12/24 V or 220 1Ph/3Ph) or GoldenCrimp/450
P1	STATIC	OEM Assembly Workshop	<ul style="list-style-type: none"> <li>• 1□" 4WS - 2" 2WB</li> <li>• &gt;100 Hoses / Day</li> <li>• Mixed sizes</li> </ul>	M 55 CUT P	M 300 SKY	MS 140 SCS
P2	STATIC	OEM Assembly Workshop	<ul style="list-style-type: none"> <li>• 2" 4WS - 3" 2WB</li> <li>• &gt;100 Hoses / Day</li> <li>• Mixed sizes</li> </ul>	M 55 CUT P	M 300 SKY	MS 320
P3	STATIC	OEM Assembly Workshop	<ul style="list-style-type: none"> <li>• 2" 6WS - 3" 4WS</li> <li>• &gt;100 Hoses / Day</li> <li>• Mixed sizes</li> </ul>	M 90 CUT	M 205 SKY (With reinforced clamping system)	MS 480
P4	STATIC	XXL Assembly Workshop	<ul style="list-style-type: none"> <li>• 3" 8WS - 4" 4WS - 8" Industrial Hose</li> <li>• 50 Hoses / Day</li> <li>• Mixed sizes</li> </ul>	MDH 15 CUT	MDH 205 SKY	MS 550 / MS 800

531 MACHINES

**Key**

**M** Maintenance Operations  
Intended for small or medium aftermarket, repair service

**P** Production Operations  
Intended for small/medium/large OEM activity or large production aftermarket

MODULE		DESCRIPTION	CAPACITY	CUTTING	ACCESSORIES	CRIMPING
I1	STATIC	Industrial Workshop	<ul style="list-style-type: none"> <li>Industrial hose up to 6"</li> </ul>	M75 CUT / MDH 15 CUT	Insert Pushing Decoiler	MS 320 OPEN HEAD
I2	STATIC	Industrial Workshop	<ul style="list-style-type: none"> <li>Industrial hose 4" &amp; 6"</li> <li>2wb : 4" max</li> <li>4ws : 3" max</li> <li>6ws : 2" max</li> </ul>	M75 CUT / M90 CUT / MDH15 CUT	Insert Pushing Decoiler	MS 450-200

# M 22 CUT / MV 22 CUT

STARTER WORKSHOP  
BENCHTOP



## KEY FEATURES

- Smooth bending system
- 90° cut
- Clean cut
- Scalloped blade
- Dust collector included
- Multiple voltage options

## TECHNICAL SPECIFICATIONS

<b>CAPACITY</b>	<b>DIMENSIONS</b>
2wb: 1□" max.	630 x 485 x 650 mm
4ws: 1□" max.	(25 x 19 x 26")
<b>ROTATION SPEED</b>	<b>PACKAGING</b>
3000 rpm	800 x 600 x 830 mm
<b>SCALLOPED BLADE DIAMETER</b>	(31 x 24 x 33")
254 mm (10") included	<b>NET WEIGHT</b>
<b>MAX HOSE OD.</b>	42 kg (93 lb)
50 mm (1.969")	<b>GROSS WEIGHT</b>
<b>MOTOR</b>	55 kg (121 lb)
2.2 kW	<b>TECHNICAL FEATURES</b>
<b>VOLTAGES</b>	Dimensions van type machine:
220/240 V, 3Ph, 50 Hz	488 x 630 x 650 mm
380/415 V, 3Ph, 50 Hz	(19.2 x 24.8 x 25.6");
208/240 V, 3Ph, 60 Hz	38 kg (84 lb)
380/415 V, 3Ph, 60 Hz	
12/24 V also available upon request	

## STANDARD



Scalloped Blade



Dust Collector

## OPTIONAL



Battery & Charger

# M 30 CUT E

STARTER & PROFESSIONAL WORKSHOP  
BENCHTOP CUTTING MACHINE, OPTIONAL SKIVING



## KEY FEATURES

Compact design

Easy and safe to use

Versatile, scalloped blade for high performance and efficient cutting with minimal smoke

Electronic brake

Skiving module can be ordered as optional and integrated on this machine

## TECHNICAL SPECIFICATIONS

### CAPACITY

2wb: 2" max.

4ws: 2" max.

6ws: 1□" max.

Industrial: 2" max.

### VOLTAGES

220/240 V, 3Ph, 50 Hz

380/415 V, 3Ph, 50 Hz

208/240 V, 3Ph, 60 Hz

380/415 V, 3Ph, 60 Hz

### ROTATION SPEED

3000 rpm

### DIMENSIONS

835 x 545 x 640 mm

(33 x 21 x 25")

### SCALLOPED BLADE DIAMETER

300 mm (11.8")

### MAX HOSE OD.

85 mm (3.346")

### PACKAGING

1170 x 770 x 1100 mm

(46 x 30 x 43")

### MOTOR

2.2 kW

### NET WEIGHT

75 kg (165 lb)

### GROSS WEIGHT

90 kg (198 lb)

## STANDARD



Scalloped Blade



Dust Collector

## OPTIONAL



Cutting Rail

# M 30 CUT & SKIVE

STARTER & PROFESSIONAL WORKSHOP  
BENCHTOP, INTEGRATED CUTTING & SKIVING



## KEY FEATURES

- Compact design
- Two operations in one machine
- Easy and safe to use
- Versatile, scalloped blade for high performance and efficient cutting with minimal smoke
- Dust free skive operation (drawers for dust collection)
- Electronic brake

## TECHNICAL SPECIFICATIONS

<b>CAPACITY</b>	<b>VOLTAGES</b>
2wb: 2" max.	220/240 V, 3Ph, 50 Hz
4ws: 2" max.	380/415 V, 3Ph, 50 Hz
6ws: 1□" max.	208/240 V, 3Ph, 60 Hz
Industrial: 2" max.	380/415 V, 3Ph, 60 Hz
<b>ROTATION SPEED (CUT)</b>	<b>DIMENSIONS</b>
3000 rpm	835 x 545 x 640 mm
<b>ROTATION SPEED (SKIVE)</b>	(33 x 21 x 25")
200 rpm	<b>PACKAGING</b>
<b>SCALLOPED BLADE DIAMETER</b>	1170 x 770 x 1100 mm
300 mm (11.8")	46 x 30 x 43"
<b>MAX HOSE OD.</b>	<b>NET WEIGHT</b>
85 mm (3.34")	85 kg (187 lb)
<b>MOTOR</b>	<b>GROSS WEIGHT</b>
2.2 kW	100 kg (220 lb)
<b>TECHNICAL FEATURES</b>	

Skiving tools for External Skiving (ESE) and for Internal Skiving (IS) to be ordered separately

## STANDARD



Scalloped Blade



Dust Collector

## OPTIONAL



Cutting Rail



Tool Kit ESE



Tool Kit IS

# M 30 CUT L

## STARTER & PROFESSIONAL WORKSHOP STAND TYPE CUTTING MACHINE



### KEY FEATURES

- Compact design
- Easy and safe to use
- Versatile, scalloped blade for high performance and efficient cutting with minimal smoke
- Ergonomic, easy to clean
- Integrated dust collector

MACHINES 536

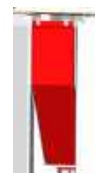
### TECHNICAL SPECIFICATIONS

<b>CAPACITY</b>	<b>VOLTAGES</b>
2wb: 2" max.	220/240 V, 3Ph, 50 Hz
4ws: 2" max.	380/415 V, 3Ph, 50 Hz
6ws: 1□" max.	208/240 V, 3Ph, 60 Hz
Industrial: 2"	380/415 V, 3Ph, 60 Hz
<b>ROTATION SPEED</b>	<b>DIMENSIONS</b>
3000 rpm	765 x 500 x 1150 mm
<b>SCALLOPED BLADE DIAMETER</b>	(30 x 20 x 45")
254 mm (10")	<b>PACKAGING</b>
<b>MAX HOSE OD.</b>	800 x 600 x 1200 mm
85 mm (3.34")	(32 x 24 x 47")
<b>MOTOR</b>	<b>NET WEIGHT</b>
3.0 kW	92 kg (203 lb)
	<b>GROSS WEIGHT</b>
	120 kg (265 lb)

### STANDARD



Smoke Suction Connector



2 Dust Collectors



Scalloped Blade



Slotted Blade

### OPTIONAL



Cutting Rail

# M 55 CUT

FULL SERVICE WORKSHOP, STARTER PRODUCTION UNITS  
STAND TYPE CUTTING MACHINE



## KEY FEATURES

- Versatile, slotted blade for high performance smoke free cutting
- Ergonomic and functional design
- Double foot pedal system
- Safety cover and feeding guides for hose (easy and fast cutting operation)
- Digital counter for maintenance assistance
- Adjustable speed for cutting on pneumatic version

## TECHNICAL SPECIFICATIONS

### CAPACITY

2wb: 2" max.

4ws: 2" max.

6ws: 2" max.

Industrial: 2"

### ROTATION SPEED

3000 rpm

### SLOTTED BLADE DIAMETER

400 mm (15.7")

### MAX HOSE OD.

80 mm (3.15")

### MOTOR

7.5 kW

### VOLTAGES

220/240 V, 3Ph, 50 Hz

380/415 V, 3Ph, 50 Hz

208/240 V, 3Ph, 60 Hz

380/415 V, 3Ph, 60 Hz

### DIMENSIONS

1140 x 1000 x 1280 mm

(45 x 39 x 50")

### PACKAGING

1600 x 1200 x 1600 mm

(63 x 47 x 63")

### NET WEIGHT

240 kg (529 lb)

### GROSS WEIGHT

280 kg (617 lb)

### TECHNICAL FEATURES

Diameter of the suction connection: 150 mm (6")

Options: Pneumatic bending system, scalloped blade

## STANDARD



Control Panel



Slotted Blade



Feeding Guide

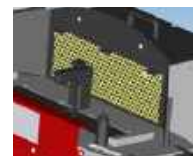


Dust Collector

## OPTIONAL



Cutting Rail



Smoke Suction



Decoiler



DV 32



DVC

# M 75 CUT

EXPERT SERVICE LINE  
STAND TYPE CUTTING MACHINE



## KEY FEATURES

- Powerful
- Safety cover
- High visibility
- Suitable for cutting large bore hoses

## STANDARD



Slotted Blade

## TECHNICAL SPECIFICATIONS

### CAPACITY

- 2wb: 3" max.
- 4ws: 2" max.
- 6ws: 2" max.

### ROTATION SPEED

3000 rpm

### SLOTTED BLADE DIAMETER

520 mm (20.5") included

### MAX HOSE OD.

125 mm (5")

### MOTOR

7.5 kW

### VOLTAGES

- 220/240 V, 3Ph, 50 Hz
- 380/415 V, 3Ph, 50 Hz
- 208/240 V, 3Ph, 60 Hz
- 380/415 V, 3Ph, 60 Hz

### DIMENSIONS

910 x 820 x 1280 mm  
(36 x 32 x 50")

### NET WEIGHT

215 kg (474 lb)

### TECHNICAL FEATURES

Diameter of suction connection: 110 mm (4.33 ")

Optional tool: Brake motor, slotted disc

## OPTIONAL



Cutting Rail



Decoiler



DV 32



DVC



# M 90 CUT

EXPERT SERVICE LINE  
STAND TYPE CUTTING MACHINE



## KEY FEATURES

- Very powerful
- Heavy duty for difficult cuts
- Hydraulic bending
- Brake motor
- Electronic soft start
- Smoke suction integrated in cutting table

## STANDARD



Slotted Blade



Production Counters



Smoke Suction Connector



CME Electrical Foot Switch

## TECHNICAL SPECIFICATIONS

### CAPACITY

- 2wb: 3" max.
- 4ws: 3" max.
- 6ws: 3" max.

### ROTATION SPEED

3000 rpm

### SLOTTED BLADE DIAMETER

520 mm (20.5") included

### MAX HOSE OD.

125 mm (5")

### MOTOR

9.0 kW

### VOLTAGES

- 220/240 V, 3Ph, 50 Hz
- 380/415 V, 3Ph, 50 Hz
- 208/240 V, 3Ph, 60 Hz
- 380/415 V, 3Ph, 60 Hz

### DIMENSIONS

1000 x 1060 x 1350 mm  
(39 x 42 x 53")

### NET WEIGHT

260 kg (573 lb)

### TECHNICAL FEATURES

- Diameter of suction connection: 110 mm (4.33")
- Standard tool: Hydraulic bending, brake motor
- Optional tool: Slotted disc

## OPTIONAL



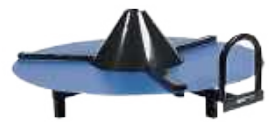
Cutting Rail



Decoiler



DV 32



DVC

## ACCESSORIES AND TOOLS

### CUTTING DISCS

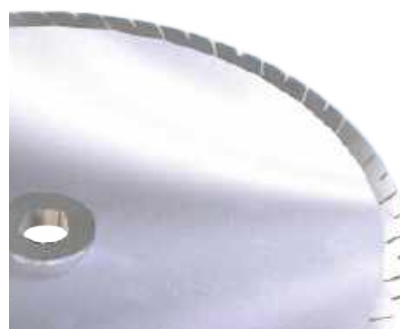
#### SCALLOPED BLADE TYPE

The scalloped blade is suitable for all hose types. It is able to reach a high quality of cutting surface and is the standard on 254 and 300 mm blades.



#### SLOTTED BLADE TYPE

The slotted blade is recommended for cutting standard and heavy duty hoses. It is ideal for continuous service, as the blade profile has been optimised to maintain a low temperature on the cutting edge. This blade provides an extended operational life of up to 2 times that of the previous blade, and is the standard on 400 and 520 mm blades.



### BRAKE MOTOR

The brake motor is a device which stops the disc immediately when the stop button is pushed.

### PNEUMATIC BENDING

Available on M 75 CUT and M 55 CUT.

Pneumatic bending facilitates cutting, as the operator does not have to force the hose on the blade. The pneumatic system, activated by a foot switch, offers hands free operation. This is the same principle for the hydraulic bending on M 90 CUT.

# MH SKY

FIELD SERVICE & MOBILE WORKSHOP  
MANUAL, PORTABLE SKIVING TOOL

## KEY FEATURES

- Portable, lightweight
- Economic
- Simple
- Compact
- Robust
- Plugín skive system



## TECHNICAL SPECIFICATIONS

### CAPACITY

2wb: 2" max.

4ws: 2" max.

### DIMENSIONS

413 x 52 x 224 mm

(16 x 2 x 9")

### NET WEIGHT

3 kg (7 lb)

### TECHNICAL FEATURES

Tool selection:

- External Skiving Kit (ESE)  
including 10 mandrels  
(6-8-10-13-16-19-25-32-  
38-50)

- Internal Skiving Kit (IS)  
including 7 mandrels (13-  
16-19-25-32-38-50)

Internal skiving tools can also  
be ordered per diameter

## OPTIONAL



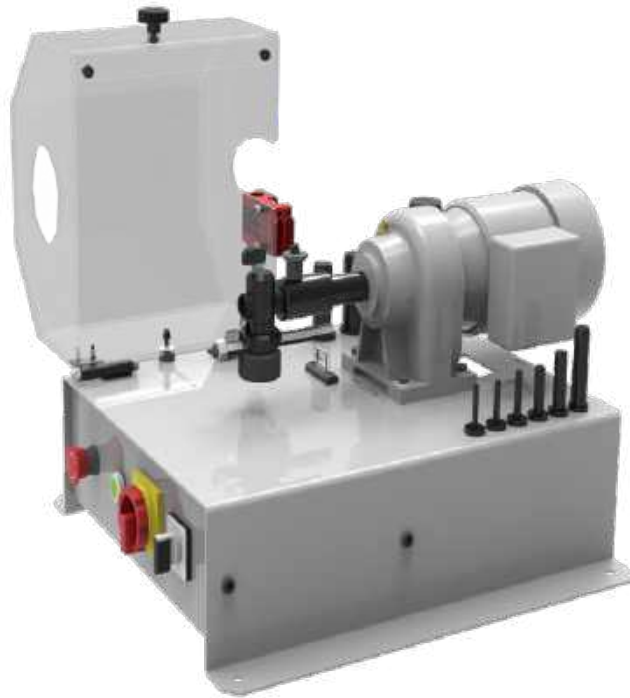
Tool Kit ESE



Tool Kit IS

# M 50 SKY

## SMALL SERVICE WORKSHOP BENCHTOP SKIVING



### KEY FEATURES

- Plug'n skive system
- Compact & stable
- Safety switch on the cover
- Good visibility
- Tool storage included
- Foot pedal drive with emergency stop
- 2-way rotation

### STANDARD



CME Electrical Foot Switch

### TECHNICAL SPECIFICATIONS

#### CAPACITY

2wb: 2" max.

4ws: 2" max.

#### ROTATION SPEED

100 rpm

#### MOTOR

0.25 kW

#### VOLTAGES

220/240 V, 1Ph, 50 Hz

380/415 V, 3Ph, 50 Hz

220/240 V, 1Ph, 60 Hz

380/415 V, 3Ph, 60 Hz

#### DIMENSIONS

500 x 660 x 360 mm

(19 x 26 x 14")

#### PACKAGING

800 x 600 x 830 mm

(31 x 24 x 33")

#### NET WEIGHT

45 kg (99 lb)

#### GROSS WEIGHT

55 kg (121 lb)

#### TECHNICAL FEATURES

Tools available (to be ordered separately)

ESE, IS, ESP1, ESP2

### OPTIONAL



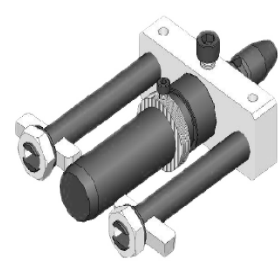
Tool Kit IS



Tool Kit ESE



Tool Kit ESP 1



Tool Kit ESP 2

# M 205 SKY

## STARTER & PROFESSIONAL WORKSHOP STAND TYPE SKIVING MACHINE



### KEY FEATURES

- Plug'n skive system
- Large dust collector
- Robust & easily adjustable knife for quick and easy changeover
- Suitable for high volume production
- 2-way rotation

### TECHNICAL SPECIFICATIONS

**CAPACITY**

2wb: 3" max. with optional tools  
 4ws: 3" max. with optional tools  
 6ws: 3" max. with optional tools

**ROTATION SPEED**

205 rpm

**MOTOR**

0.9 kW

**VOLTAGES**

220/240 V, 3Ph, 50 Hz  
 380/415 V, 3Ph, 50 Hz  
 208/240 V, 3Ph, 60 Hz  
 380/415 V, 3Ph, 60 Hz

**DIMENSIONS**

675 x 550 x 1130 mm  
 (27 x 22 x 44")

**PACKAGING**

800 x 600 x 1200 mm  
 (32 x 24 x 47")

**NET WEIGHT**

100 kg (220 lb)

**GROSS WEIGHT**

160 kg (353 lb)

**TECHNICAL FEATURES**

Options available: speed regulator, hose clamping system (limited to distribution workshop using sizes under 2")

Tools available (to be ordered separately):  
 ESA, IS, ESP1, ESP2

### OPTIONAL



Manual Hose Clamping System

Pneumatic Hose Clamping System

Speed Regulator

Tool Kit IS

Tool Kit ESE

Tool Kit ESP 1

Tool Kit ESP 2

## ACCESSORIES AND TOOLS

### EXTERNAL SKIVING TOOLS

Depending on the machine and on customer needs, Manuli Hydraulics offers 3 types of external skiving tools:

#### ESE (External Skiving Economic)

##### For MH SKY, M 50 SKY and M 30 CUT & SKIVE

The ESE kit includes 10 mandrels:  $\frac{1}{4}$ " ,  $\frac{5}{16}$ " ,  $\frac{3}{8}$ " ,  $\frac{1}{2}$ " ,  $\frac{5}{8}$ " ,  $\frac{3}{4}$ " , 1" , 1□" , 1□" , 2"

#### ESA (External Skiving Adjustable)

##### For M 205 SKY

The ESA kit includes 11 mandrels:  $\frac{3}{16}$ " ,  $\frac{1}{4}$ " ,  $\frac{5}{16}$ " ,  $\frac{3}{8}$ " ,  $\frac{1}{2}$ " ,  $\frac{5}{8}$ " ,  $\frac{3}{4}$ " , 1" , 1□" , 1□" , 2"

ESA mandrels are also available in 2□" and 3"

#### ESP (External Skiving Production)

##### For M 50 SKY and M 205 SKY

ESP tools are individual 'skiving heads' intended to be pre-set to the right depth and length for greater productivity. They are recommended for batch skiving operations and a second knife can be added for abrasion resistant covers.

ESP is available in:  $\frac{3}{16}$ " ,  $\frac{1}{4}$ " ,  $\frac{5}{16}$ " ,  $\frac{3}{8}$ " ,  $\frac{1}{2}$ " ,  $\frac{5}{8}$ " ,  $\frac{3}{4}$ " , 1" , 1□" , 1□" , 2" , 2□" and 3"

### INTERNAL SKIVING TOOLS

#### IS (Internal Skiving)

##### For all machines

The IS kit includes 7 mandrels:  $\frac{1}{2}$ " ,  $\frac{5}{8}$ " ,  $\frac{3}{4}$ " , 1" , 1□" , 1□" , 2"

They are also available in  $\frac{5}{8}$ " , 2□" and 3"

The ring is heat treated to resist the abrasion of the hose wires.

Optional venturi system with IS tool.

## ACCESSORIES AND TOOLS

### HOSE CLAMPING SYSTEM

Recommended for skiving hoses over 2" (DN 50)

### PLUG N'SKIVE SYSTEM

All Manuli Hydraulics skiving machines are equipped with the Plug'n Skive System which allows the quick and easy insertion of tools.

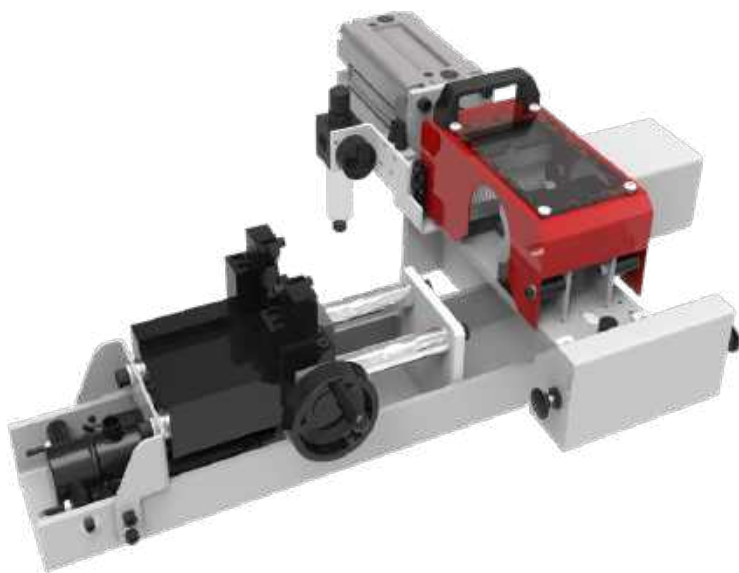
With the Plug n'Skive System no tools are needed to insert the skiving mandrel, simply push the mandrel into the locking system to unlock it, lift a knob and pull out the tool.

# M 1500 INS

EXPERT SERVICE LINE  
BENCHTOP COUPLING INSERTER

## KEY FEATURES

- Compact
- Sturdy
- Powerful
- Hydro pneumatic power pack



## TECHNICAL SPECIFICATIONS

### CAPACITY

2wb: 2" max.

4ws: 2" max.

6ws: 2" max.

### DIMENSIONS

750 x 660 x 300 mm

(30 x 26 x 12")

### NET WEIGHT

70 kg (154 lb)

### POWER SUPPLY

Compressed air (7 bar)

### TECHNICAL FEATURES

Optional tool: for small bore  
□", 3/8", □" shell

## STANDARD



Hydro-pneumatic Pump



# M 4000 INS

EXPERT SERVICE LINE  
BENCHTOP COUPLING INSERTER

## KEY FEATURES

- Compact
- Sturdy
- Powerful
- Manual insert centring device
- Joystick operated clamping and insertion



## TECHNICAL SPECIFICATIONS

<b>CAPACITY</b>	<b>MAXIMUM FLANGE</b>
76 mm - 170 mm OD Hose	250 mm
<b>DIMENSIONS</b>	<b>INSERTION FORCE</b>
800 x 500 x 900 mm (31 x 20 x 35")	4,000 N
<b>NET WEIGHT</b>	<b>INSERTION STROKE</b>
150 kg (330 lb)	300 mm
<b>VOLTAGES</b>	<b>INSERTION SPEED *</b>
380/415 V, 3Ph, 50 Hz	24 mm/s
<b>POWER</b>	<b>CLAMPING LENGTH</b>
1.5kW	200 mm

## OPTIONS

Manual version available



\* Electrical version only

# M 50 MARK

AFTER MARKET SERVICE  
BENCHTOP, FERRULE MARKING



## KEY FEATURES

- Robust
- Easy to use
- Compact
- Large space for 14 stamps
- Stamp holder with numbering wheel; 3 figures on the wheel + 1 groove for stamps

## TECHNICAL SPECIFICATIONS

### CAPACITY

2wb: 4" max.

4ws: 4" max.

### DIMENSIONS

390 x 360 x 520 mm

(15 x 14 x 20")

### PACKAGING

800 x 600 x 830 mm

(31 x 24 x 33")

### NET WEIGHT

34 kg (75 lb)

### GROSS WEIGHT

50 kg (110 lb)

### STANDARD STAMP HOLDER

2 x 14 stamps

### SIZE OF THE STAMPS

6 x 3 mm

(0.236 x 0.118")

### HEIGHT OF THE LETTERS

2.5 mm

(0.098")

### TECHNICAL FEATURES

Optional stamp holder with numbering wheel: 3 figures on the wheel and one groove for 10 stamps

### STAMP BOX

Includes stamp box of 100 stamps & 20 blanks

## CK 50



## TECHNICAL SPECIFICATIONS

## NUMBER OF NOZZLES

10 to suit hose ID

## COMPRESSED AIR

7 bar

## MINIMUM INTERNAL DIAMETER OF HOSE

6 mm

## MINIMUM INTERNAL DIAMETER

51 mm

## TECHNICAL FEATURES

Includes 575 pellets &amp; projectile catcher

## HRD 07

HOSES CAN BE STORED ON THE HOSE DISPENSER



## TECHNICAL SPECIFICATIONS

## MAXIMUM NUMBER OF COILS

7

## MAXIMUM WEIGHT/COIL

80 kg

## MINIMUM INTERNAL DIAMETER

300 mm

## MINIMUM EXTERNAL DIAMETER

850 mm

## MAXIMUM HEIGHT

200 mm

## DIMENSIONS

1180 x 1180 x 2115 mm (100 kg)

## PACKAGING

1200 x 1200 x 720 mm (135 kg)

## DV 32 - DVC - OEM DECOILER

### DV 32



### DVC



### OEM



The hose decoiler is highly adaptable, suitable for a hose reel or a coil up to 100 kgs. It is stable and equipped with a hose guide system and a manual break, offering increased safety and efficiency.

## INDUSTRIAL DECOILER

Robust, motorised decoiler for large bore industrial hose. Comes with 6 manually adjustable centring pins, remote stop-start controller and a high torque, 3kW motor with speed control.



#### VOLTAGES

400 V, 3Ph, 50 Hz

#### DIMENSIONS

2600 x 2600 x 1600 mm  
(102 x 102 x 63")

#### NET WEIGHT

714 kg (1570 lb)

#### MOTOR

3 kW with speed control

#### POWER TORQUE

1200 N

#### TABLE DIAMETER

2200 mm

# MHP 80

FIELD SERVICE & MOBILE WORKSHOP  
HAND PUMP, PORTABLE



## KEY FEATURES

- Compact
- Lightweight
- Easy to use
- Balanced design
- Dual stage pump
- 1" Die Set included

## OPTIONAL



Maintenance Kits



Hydro-pneumatic Pump

## TECHNICAL SPECIFICATIONS

<b>CRIMP RANGE</b> 4 - 43 mm (0.157 - 1.693")	<b>DIMENSIONS</b> 330 x 250 x 400 mm (13 x 10 x 16")
<b>CRIMP FORCE</b> 80 t	<b>PACKAGING</b> 800 x 600 x 830 mm (31 x 24 x 33")
<b>OPENING WITH DIES</b> +20 mm (+0.787")	<b>NET WEIGHT</b> 28 kg (62 lb)
<b>COMPLETE OPENING</b> 59 mm (2.323")	<b>GROSS WEIGHT</b> 41 kg (90 lb)
<b>MASTER DIE LENGTH</b> 56 mm (2.205")	<b>TECHNICAL FEATURES</b> Hand pump: 5000 psi (double speed)
<b>STANDARD DIES</b> 15, 18, 21, 24, 27, 30, 39	

HOSE AND FITTINGS SELECTION		
HOSE TYPE	FITTING TYPE	MAX HOSE SIZE
2 WIRE BRAID & TEXTILE	MF2000 MULTIFIT; MF3000 OPK; MF3000 OPF	1"
3 WIRE (1 BRAID + 2 SPIRAL)	MF2000 MULTIFIT	□ "
4 WIRE SPIRALS	MF2000 MULTIFIT; MF3000 OPK	□ "

# MHP 110

FIELD SERVICE & MOBILE WORKSHOP  
HAND PUMP, PORTABLE

## KEY FEATURES

- Flexible
- Portable
- Robust (protected narrow head)
- Multi-positioning (with removable plate)



## OPTIONAL



Maintenance Kits



Hydro-pneumatic Pump

## TECHNICAL SPECIFICATIONS

<b>CRIMP RANGE</b> 4 - 43 mm (0.157 - 1.693")	<b>STANDARD DIES</b> 15, 18, 21, 24, 27, 30
<b>CRIMP FORCE</b> 110 t	<b>DIMENSIONS</b> 220 x 222 x 240 mm (7 x 9 x 10")
<b>OPENING WITH DIES</b> +20 mm (+0.787")	<b>PACKAGING</b> 800 x 600 x 830 mm (31 x 24 x 33")
<b>COMPLETE OPENING</b> 59 mm (2.323")	<b>NET WEIGHT</b> 28 kg (62 lb)
<b>MASTER DIE LENGTH</b> 60 mm (2.362")	<b>WEIGHT (HEAD ONLY)</b> 21 kg (46 lbs)

### HOSE AND FITTINGS SELECTION

HOSE TYPE	FITTING TYPE	MAX HOSE SIZE
2 WIRE BRAID & TEXTILE	MF2000 MULTIFIT; MF3000 OPK; MF3000 OPF	1"
3 WIRE (1 BRAID + 2 SPIRAL)	MF2000 MULTIFIT	□"
4 WIRE SPIRALS	MF2000 MULTIFIT; MF3000 OPK	1"

# MHP 137

FIELD SERVICE & MOBILE WORKSHOP  
HAND PUMP, PORTABLE



## KEY FEATURES

- High capacity
- Narrow head
- Audio-visual signal
- 350 bar technology more robust & reliable than 700 bar
- Large opening

## OPTIONAL



Maintenance Kit



Quick Change Gun



Aluminium Quick Change Gun



Die Storage Panel



Hydro-pneumatic Pump



Marking Dies



Die Sets for Brake & Air Conditioning Hoses

## TECHNICAL SPECIFICATIONS

<b>CRIMP RANGE</b>	<b>STANDARD DIES</b>
4 - 70 mm (0.157 - 2.756")	15, 18, 21, 24, 27, 30, 33, 36, 39, 42, 45, 48, 51 and Refrifast dies 14, 18, 21
<b>CRIMP FORCE</b>	
137 t	
<b>OPENING WITH DIES</b>	<b>DIMENSIONS</b>
+28 mm (+1.102")	480 x 250 x 340 mm (19 x 10 x 13")
<b>COMPLETE OPENING</b>	
100 mm (3.937")	<b>PACKAGING</b>
<b>MASTER DIE LENGTH</b>	800 x 600 x 830 mm (31 x 24 x 33")
75 mm (2.362")	<b>NET WEIGHT</b>
	55 kg (121 lb)
	<b>GROSS WEIGHT</b>
	75 kg (165 lb)

## HOSE AND FITTINGS SELECTION

HOSE TYPE	FITTING TYPE	MAX HOSE SIZE
2 WIRE BRAID & TEXTILE	MF2000 MULTIFIT; MF3000 OPF; MF3000 OPK	1 □"
3 WIRE (1 BRAID + 2 SPIRAL)	MF2000 MULTIFIT;	1 □"
4 WIRE SPIRALS	MF2000 MULTIFIT; MF3000 OPK	1 □"
3 WIRE (1 BRAID + 2 SPIRAL)	MF2000 INTERLOCK PLUS; MF2000 SPIRALFIT	□"
4 WIRE SPIRALS	MF2000 INTERLOCK PLUS; MF2000 SPIRALFIT	□"



# MRB 137 EVO R

## MAINTENANCE WORKSHOP VERTICAL BENCHTOP

### KEY FEATURES

- Ergonomically positioned adjustable head
- Axis of the head situated perpendicular to the operator
- Compact
- Optional quick change tool for dies
- Range of standard dies available



### OPTIONAL



Maintenance Kit



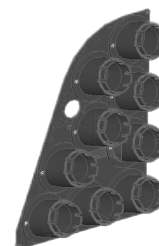
Die Storage Panel



Die Storage Table



Quick Change Gun



Die Storage Panel EVO R



Aluminium Quick Change Gun

### TECHNICAL SPECIFICATIONS

**CRIMP RANGE**

6 to 56 mm (0.517 - 2.205")

**CRIMP FORCE**

137 t

**OPENING WITH DIES**

+28 mm (+1.102")

**COMPLETE OPENING**

100 mm (3.937")

**MASTER DIE LENGTH**

75 mm (2.953")

**STANDARD DIES**

15, 18, 21, 24, 27, 30, 33, 36, 39, 42, 45, 48, 51

**NOISE LEVEL**

70 dB A

**MOTOR**

1.5 kW (110V)

2.2 kW (230V)

**VOLTAGES**

110 V, 1Ph, 60 Hz

220/240 V, 1 Ph, 50 Hz

380/415V, 3 Ph + N, 50 Hz

+12/24

Other voltages available on request

**DIMENSIONS**

360 x 530 x 620 mm

(14 x 21 x 25")

**NET WEIGHT**

85 kg (187 lb)

**GROSS WEIGHT**

89 kg (196 lb)

**HOSE AND FITTINGS SELECTION**

HOSE TYPE	FITTING TYPE	MAX HOSE SIZE
2 WIRE BRAID & TEXTILE	MF2000 MULTIFIT; MF3000 OPF; MF3000 OPK	1 □ "
3 WIRE (1 BRAID + 2 SPIRAL)	MF2000 MULTIFIT	1 □ "
4 WIRE SPIRALS	MF2000 MULTIFIT; MF3000 OPK	1 □ "
3 WIRE (1 BRAID + 2 SPIRAL)	MF2000 INTERLOCK PLUS; MF2000 SPIRALFIT	□ "
4 WIRE SPIRALS	MF2000 INTERLOCK PLUS; MF2000 SPIRALFIT	□ "



# MB 137 EVO

## ASSEMBLING FOR FIELD REPAIR BENCHTOP CRIMP MACHINE



### KEY FEATURES

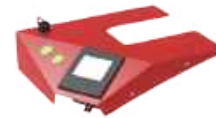
- Crimp force of up to 137 tonnes for hoses up to 1 1/4"
- Easy to use and robust
- Extensive range of dies to suit crimping of hydraulic hoses
- Easy to set up and maintain
- Fast and reliable
- Numerical micrometer
- Model shown equipped with SC control panel
- Calliper option on SCE control panel
- Bluetooth as standard on SC and SCE control panels



### CONTROL OPTIONS AVAILABLE ON REQUEST



SC



SCE



SCS

### TECHNICAL SPECIFICATIONS

**CRIMP RANGE**

4 - 70 mm (0.157 - 2.756")

**CRIMP FORCE**

137 t

**OPENING WITH DIES**

+28 mm (+1.102")

**COMPLETE OPENING**

100 mm (3.937")

**MASTER DIE LENGTH**

75 mm (2.953")

**STANDARD DIES**

15, 18, 21, 24, 27, 30, 33, 36, 39, 42, 45, 48, 51

**NOISE LEVEL**

70 dB A

**MOTOR**

4.0 kW

**VOLTAGES**

220/240 V, 3Ph, 50 Hz

380/415 V, 3Ph, 50 Hz

208/240 V, 3Ph, 60 Hz

380/415 V, 3Ph, 60 Hz

Other voltages available on request

**DIMENSIONS**

765 x 400 x 650 mm

(30 x 16 x 26")

**NET WEIGHT**

160 kg (353 lb)

### OPTIONAL



Maintenance Kit



Marking Dies



Die Storage Panel



Die Storage Table



Electrical Footswitch



Quick Change Gun



Aluminium Quick Change Gun



Die Sets for Brake & Air Conditioning Hoses



Die Storage Panel EVO

# MB 137 EVO

## ASSEMBLING FOR FIELD REPAIR BENCHTOP CRIMP MACHINE

### HOSE AND FITTINGS SELECTION

HOSE TYPE	FITTING TYPE	MAX HOSE SIZE
2 WIRE BRAID & TEXTILE	MF2000 MULTIFIT; MF3000 OPF; MF3000 OPK	1 □ "
3 WIRE (1 BRAID + 2 SPIRAL)	MF2000 MULTIFIT	1 □ "
4 WIRE SPIRALS	MF2000 MULTIFIT; MF3000 OPK	1 □ "
3 WIRE (1 BRAID + 2 SPIRAL)	MF2000 INTERLOCK PLUS; MF2000 SPIRALFIT	□ "
4 WIRE SPIRALS	MF2000 INTERLOCK PLUS; MF2000 SPIRALFIT	□ "

# MB 240 EVO

## PROFESSIONAL WORKSHOP BENCHTOP



### KEY FEATURES

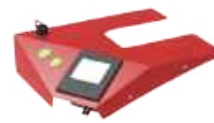
- Crimp force of up to 240 tonnes for hoses up to 2"
- Easy to use and robust
- Radial die movement
- High crimping force
- Extensive range of dies to suit crimping of hydraulic hoses
- Easy set up and maintenance
- Fast and reliable
- Numerical micrometer
- Model shown equipped with SCE control panel
- Calliper option on SCE control panel
- Bluetooth as standard on SC and SCE control panels



### CONTROL OPTIONS AVAILABLE ON REQUEST



SC



SCE



SCS

### TECHNICAL SPECIFICATIONS

<b>CRIMP RANGE</b>	4 - 76 mm (0.157 - 2.992")	<b>NOISE LEVEL</b>	<70 dB A
<b>CRIMP FORCE</b>	240 t	<b>MOTOR</b>	4.0 kW
<b>OPENING WITH DIES</b>	+38 mm (+1.496")	<b>VOLTAGES</b>	220/240 V, 3Ph, 50 Hz
<b>COMPLETE OPENING</b>	118 mm (4.645")		380/415 V, 3Ph, 50 Hz
<b>MASTER DIE LENGTH</b>	100 mm (3.937")		208/240 V, 3Ph, 60 Hz
<b>STANDARD DIES</b>	15, 18, 21, 24, 27, 30, 33, 36, 39, 42, 45, 48, 51, 57, 62, 66, 70		380/415 V, 3Ph, 60 Hz
			Other voltages available on request
		<b>DIMENSIONS</b>	765 x 400 x 650 mm (30 x 16 x 26")
		<b>NET WEIGHT</b>	165 kg (364 lb)

### OPTIONAL



Maintenance Kit



Marking Dies



Die Storage Panel



Die Storage Table



Electrical Footswitch



Quick Change Gun



Aluminium Quick Change Gun



Mechanical Backstop



Die Sets for Brake & Air Conditioning Hoses



Die Storage Panel EVO

# MB 240 EVO

## PROFESSIONAL WORKSHOP BENCHTOP

### HOSE AND FITTINGS SELECTION

HOSE TYPE	FITTING TYPE	MAX HOSE SIZE
2 WIRE BRAID & TEXTILE	MF2000 MULTIFIT; MF3000 OPF; MF3000 OPK	2"
3 WIRE (1 BRAID + 2 SPIRAL)	MF2000 MULTIFIT; MF2000 INTERLOCK PLUS; MF2000 SPIRALFIT	1 □ "
4 WIRE SPIRALS	MF2000 MULTIFIT; MF3000 OPK	2"
4 WIRE SPIRALS	MF2000 INTERLOCK PLUS; MF2000 SPIRALFIT	1 □ "
6 WIRE SPIRAL	MF2000 INTERLOCK PLUS;	1"

# MB 350 EVO / MB 350 EVO L

FULL SERVICE WORKSHOP  
BENCHTOP; VERY HIGH CRIMP FORCE



## KEY FEATURES

- Crimp force of up to 350 tonnes for hoses up to 3"
- Easy to use and robust
- Automatic maintenance alerts
- Groove for 90° long drop fittings
- Also available as S CRIMP 350 L with 4.0 kW motor
- Numerical micrometer
- Model shown equipped with SCS control panel
- Calliper option on SCE control panel
- Bluetooth as standard on SC and SCE control panels



## CONTROL OPTIONS AVAILABLE ON REQUEST



SC



SCE



SCS

## TECHNICAL SPECIFICATIONS

<b>CRIMP RANGE</b>	<b>NOISE LEVEL</b>
4 - 130 mm (0.157 - 5.118")	<70 dB A
<b>CRIMP FORCE</b>	<b>MOTOR</b>
350 t	5.5 kW / 4 kW
<b>OPENING WITH DIES</b>	<b>VOLTAGES</b>
+54 mm (+2.125")	220/240 V, 3Ph, 50 Hz
<b>COMPLETE OPENING</b>	380/415 V, 3Ph, 50 Hz
180 mm (7.086")	208/240 V, 3Ph, 60 Hz
<b>MASTER DIE LENGTH</b>	380/415 V, 3Ph, 60 Hz
115 mm (4.523")	<b>DIMENSIONS</b>
<b>STANDARD DIES</b>	765 x 400 x 750 mm
15, 18, 21, 24, 27, 30, 33, 36, 39, 42, 45, 48, 51, 57, 62, 66, 70, 73, 76	(30 x 16 x 30")
	<b>NET WEIGHT</b>
	262 kg (578 lb)
	<b>TECHNICAL FEATURES</b>
	-Automatic maintenance alerts -Cylinder protection against dust - durable design -Also available as S CRIMP 350 EVO L with 4.0 kW Motor

## OPTIONAL



Maintenance Kit



Marking Dies



Die Storage Panel



Die Storage Table



Electrical Footswitch



Quick Change Gun



Aluminium Quick Change Gun



Mechanical Backstop



Die Sets for Brake & Air Conditioning Hoses



Die Storage Panel EVO

559 MACHINES

**MB 350 EVO / MB 350 EVO L**
**FULL SERVICE WORKSHOP  
BENCHTOP; VERY HIGH CRIMP FORCE**
**HOSE AND FITTINGS SELECTION**

HOSE TYPE	FITTING TYPE	MAX HOSE SIZE
2 WIRE BRAID & TEXTILE	MF2000 MULTIFIT; MF3000 OPF; MF3000 OPK	3"
3 WIRE (1 BRAID + 2 SPIRAL)	MF2000 MULTIFIT; MF2000 INTERLOCK PLUS; MF2000 SPIRALFIT;	1 □ "
4 WIRE SPIRALS	MF2000 MULTIFIT; MF2000 INTERLOCK PLUS; MF2000 SPIRALFIT; MF3000 OPK	2"
5 WIRE (4 SPIRAL + 1 BRAID)	MF2000 INTERLOCK PLUS	1 □ "
7 WIRE (6 SPIRAL + 1 BRAID)	MF2000 INTERLOCK SUPER	1 □ "
6 WIRE SPIRALS (350 BAR / 5000psi)	MF2000 INTERLOCK PLUS; MF2000 SPIRALFIT	2"
6 WIRE SPIRAL (420 BAR / 5000psi)	MF2000 INTERLOCK PLUS; MF2000 INTERLOCK SUPER	1 □ "
8 WIRE SPIRALS	MF2000 INTERLOCK PLUS	1 □ "



# GOLDENCRIMP 420 EVO

## ASSEMBLING FOR FIELD REPAIR BENCHTOP CRIMP MACHINE



### KEY FEATURES

- High crimping force of 420 tonnes
- Robust design for transport and operation in harsh environments
- Protected cylinders for trouble-free operation in high dust environments
- Large opening suitable for large bore hoses
- Easy maintenance due to foam pads and dust collector
- Numerical micrometer
- Model shown equipped with SCS control panel
- Calliper option on SCE control panel
- Bluetooth as standard on SC and SCE control panels



### CONTROL OPTIONS AVAILABLE ON REQUEST



SC



SCE



SCS

### TECHNICAL SPECIFICATIONS

<b>CRIMP RANGE</b> 4 - 130 mm (0.157 - 5.118")	<b>NOISE LEVEL</b> <70 dB A
<b>CRIMP FORCE</b> 420 t	<b>MOTOR</b> 5.5 kW
<b>OPENING WITH DIES</b> +48 mm (+1.9 inch)	<b>VOLTAGES</b> 220/240 V, 3Ph, 50 Hz
<b>COMPLETE OPENING</b> 178 mm (7.0 inch)	380/415 V, 3Ph, 50 Hz
<b>MASTER DIE LENGTH</b> 120 mm (4.724 inch)	208/240 V, 3Ph, 60 Hz
<b>STANDARD DIES</b> 15, 18, 21, 24, 27, 30, 33, 36, 39, 42, 45, 48, 51, 57, 62, 66, 70, 73, 76	380/415 V, 3Ph, 60 Hz
	<b>DIMENSIONS</b> 765 x 500 x 800 mm (30 x 20 x 32")
	<b>PACKAGING</b> 745 x 1150 x 945 mm (29 x 45 x 37")
	<b>NET WEIGHT</b> 395 kg (871 lb)

### OPTIONAL



Maintenance Kit



Marking Dies



Die Storage Panel



Die Storage Table



Electrical Footswitch



Quick Change Gun



Aluminium Quick Change Gun



Die Sets for Brake & Air Conditioning Hoses



Die Storage Panel EVO

# GOLDENCRIMP 420 EVO

ASSEMBLING FOR FIELD REPAIR  
BENCHTOP CRIMP MACHINE

## HOSE AND FITTINGS SELECTION

HOSE TYPE	FITTING TYPE	MAX HOSE SIZE
2 WIRE BRAID & TEXTILE	MF2000 MULTIFIT; MF3000 OPF; MF3000 OPK	4"
3 WIRE (1 BRAID + 2 SPIRAL)	MF2000 MULTIFIT; MF2000 INTERLOCK PLUS; MF2000 SPIRALFIT;	1 □ "
4 WIRE SPIRALS	MF2000 MULTIFIT; MF3000 OPK; MF2000 INTERLOCK PLUS; MF2000 SPIRALFIT;	3"
5 WIRE (4 SPIRAL + 1 BRAID)	MF2000 INTERLOCK PLUS	1 □ "
7 WIRE (6 SPIRAL + 1 BRAID)	MF2000 INTERLOCK SUPER	1 □ "
6 WIRE SPIRALS	MF2000 INTERLOCK SUPER; MF2000 SPIRALFIT-GX; MF2000 INTERLOCK PLUS; MF2000 SPIRALFIT	2"
8 WIRE SPIRALS	MF2000 INTERLOCK SUPER	1 □ "



# GOLDENCRIMP 450

## ASSEMBLING FOR FIELD REPAIR BENCHTOP CRIMP MACHINE



### KEY FEATURES

- High crimp force (450 tonnes)
- Large opening
- Wide family of dies for industrial hoses
- Long master dies
- Robust - designed for harsh environments
- Low noise level
- Easy die set-up with ergonomic gun
- Metallic guard for the set stop

### STANDARD



Electrical Footswitch

### OPTIONAL



Die Storage Panel



Die Storage Table



Die Sets for Brake & Air Conditioning Hoses



Quick Change Gun



Aluminium Quick Change Gun



Marking Dies

### TECHNICAL SPECIFICATIONS

<b>CRIMP RANGE</b>	<b>NOISE LEVEL</b>
4 - 130 mm (0.157 - 5.118")	<65 dB A
<b>CRIMP FORCE</b>	<b>MOTOR</b>
450 t	5.5 kW
<b>OPENING WITH DIES</b>	<b>VOLTAGES</b>
+70 mm (+2.755")	220/240 V, 3Ph, 50 Hz
<b>COMPLETE OPENING</b>	380/415 V, 3Ph, 50 Hz
197 mm (7.755")	208/240 V, 3Ph, 60 Hz
<b>MASTER DIE LENGTH</b>	380/415 V, 3Ph, 60 Hz
140 mm (5.512")	<b>DIMENSIONS</b>
<b>STANDARD DIES</b>	830 x 775 x 1450 mm (33 x 31 x 57")
15, 18, 21, 24, 27, 30, 33, 36, 39, 42, 45, 48, 51, 57, 62, 66, 70, 73, 76	<b>PACKAGING</b>
	1120 x 1020 x 1770 mm (44 x 40 x 70")
	<b>NET WEIGHT</b>
	720 kg (1587 lb)

### HOSE AND FITTINGS SELECTION

HOSE TYPE	FITTING TYPE	MAX HOSE SIZE
2 WIRE BRAID & TEXTILE	MF2000 MULTIFIT; MF3000 OPF; MF3000 OPK	4"
1 WIRE BRAID + 2 WIRE SPIRAL	MF2000 MULTIFIT; MF2000 INTERLOCK PLUS; MF2000 SPIRALFIT;	1 □"
4 WIRE SPIRALS	MF2000 MULTIFIT; MF3000 OPK; MF2000 INTERLOCK PLUS; MF2000 SPIRALFIT;	3"
5 WIRE (4 SPIRAL + 1 BRAID)	MF2000 INTERLOCK PLUS	1 □"
7 WIRE (6 SPIRAL + 1 BRAID)	MF2000 INTERLOCK SUPER	1 □"
6 WIRE SPIRALS	MF2000 INTERLOCK PLUS; MF2000 SPIRALFIT	3"
6 WIRE SPIRALS	MF2000 INTERLOCK SUPER; MF2000 SPIRALFIT-GX	2"
8 WIRE SPIRALS	MF2000 INTERLOCK SUPER	1 □"

# MRV 137 EVO R

FIELD SERVICE & MOBILE WORKSHOP  
MOBILE VAN

## KEY FEATURES

- Ergonomically positioned adjustable crimping head
- Axis of crimping head oriented perpendicular to the operator
- Optional quick change tool for dies available in Plastic or Aluminium
- Compact design
- Range of standard dies available
- Optional die storage panel available

## OPTIONAL



Maintenance Kit



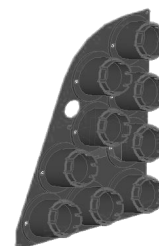
Die Storage Panel



Die Storage Table



Quick Change Gun



Die Storage Panel EVO R



Aluminium Quick Change Gun



MACHINES

564

## TECHNICAL SPECIFICATIONS

### CRIMP RANGE

6 - 56 mm (0.517 - 2.205")

### CRIMP FORCE

137 t

### OPENING WITH DIES

+28 mm (+1.102")

### COMPLETE OPENING

100 mm (3.937")

### MASTER DIE LENGTH

75 mm (2.952")

### STANDARD DIES

15, 18, 21, 24, 27, 30, 33, 36, 39, 42, 45, 48, 51

### NOISE LEVEL

70 dB A

### MOTOR

1.5 kW (12V)

### VOLTAGES

12 V

### DIMENSIONS

470 x 630 x 644 mm  
(19 x 25 x 25")

### NET WEIGHT

89 kg (196 lb)

### GROSS WEIGHT

105 kg (231 lb)

## HOSE AND FITTINGS SELECTION

HOSE TYPE	FITTING TYPE	MAX HOSE SIZE
2 WIRE BRAID & TEXTILE	MF2000 MULTIFIT; MF3000 OPF; MF3000 OPK	1 □"
3 WIRE (1 BRAID + 2 SPIRAL)	MF2000 MULTIFIT	1 □"
4 WIRE SPIRALS	MF2000 MULTIFIT; MF3000 OPK	1 □"
3 WIRE (1 BRAID + 2 SPIRAL)	MF2000 INTERLOCK PLUS; MF2000 SPIRALFIT	□"
4 WIRE SPIRALS	MF2000 INTERLOCK PLUS; MF2000 SPIRALFIT	□"

# MV 137 L

FIELD SERVICE & MOBILE WORKSHOP  
MOBILE VAN



## KEY FEATURES

- Robust and compact design
- Lightweight
- High crimping speed
- Suitable also for 90° elbow fittings
- Cylinder protection

## OPTIONAL



Maintenance Kit



Quick Change Gun



Aluminium Quick Change Gun



Die Storage Panel



Battery & Charger



Marking Dies



Die Sets for Brake & Air Conditioning Hoses



Front Die Storage

## TECHNICAL SPECIFICATIONS

<b>CRIMP RANGE</b>	<b>MOTOR</b>
4 - 70 mm (0.157 - 2.756")	2.0 kW
<b>CRIMP FORCE</b>	<b>VOLTAGES</b>
137 t	12 V
<b>OPENING WITH DIES</b>	24 V
+28 mm (+1.102")	<b>DIMENSIONS</b>
<b>COMPLETE OPENING</b>	250 x 320 x 300 mm
100 mm (3.937")	(10 x 13 x 12")
<b>MASTER DIE LENGTH</b>	<b>PACKAGING</b>
75 mm (2.952")	800 x 600 x 830 mm
<b>STANDARD DIES</b>	(31 x 24 x 33")
15, 18, 21, 24, 27, 30, 33, 36, 39, 42, 45, 48, 51	<b>NET WEIGHT</b>
<b>NOISE LEVEL</b>	86 kg (190 lb)
72 dB A	<b>GROSS WEIGHT</b>
	102 kg (225 lb)
	<b>TECHNICAL FEATURES</b>
	Dimensions of power pack: 440 x 320 x 320 mm (17 x 13 x 13")

## HOSE AND FITTINGS SELECTION

HOSE TYPE	FITTING TYPE	MAX HOSE SIZE
2 WIRE BRAID & TEXTILE	MF2000 MULTIFIT; MF3000 OPF; MF3000 OPK	1 □ "
3 WIRE (1 BRAID + 2 SPIRAL)	MF2000 MULTIFIT	1 □ "
4 WIRE SPIRALS	MF2000 MULTIFIT; MF3000 OPK	1 □ "
3 WIRE (1 BRAID + 2 SPIRAL)	MF2000 INTERLOCK PLUS; MF2000 SPIRALFIT	□ "
4 WIRE SPIRALS	MF2000 INTERLOCK PLUS; MF2000 SPIRALFIT	□ "

# MV 240

## FIELD SERVICE & MOBILE WORKSHOP MOBILE VAN



### KEY FEATURES

- Robust design
- Ergonomic micrometer
- High crimping speed
- Radial movement of the dies
- Cylinder protection
- Remote head mounting option possible

### OPTIONAL



Maintenance Kit



Quick Change Gun



Aluminium Quick Change Gun



Die Storage Panel



Battery & Charger



Marking Dies



Die Sets for Brake & Air Conditioning Hoses



Front Die Storage

### TECHNICAL SPECIFICATIONS

**CRIMP RANGE**

4 - 76 mm (0.157 - 2.992")

**CRIMP FORCE**

240 t

**OPENING WITH DIES**

+38 mm (+1.496")

**COMPLETE OPENING**

118 mm (4.646")

**MASTER DIE LENGTH**

100 mm (3.937")

**STANDARD DIES**

15, 18, 21, 24, 27, 30, 33, 36, 39, 42, 45, 48, 51, 57, 62, 66, 70

**NOISE LEVEL**

72 dB A

**MOTOR**

2.0 kW

**VOLTAGES**

12 V

24 V

220/240 V, 3Ph, 50 Hz

380/415 V, 3Ph, 50 Hz

208/240 V, 3Ph, 60 Hz

380/415 V, 3Ph, 60 Hz

**DIMENSIONS**

650 x 550 x 670 mm

(26 x 22 x 26")

**PACKAGING**

800 x 600 x 830 mm

(31 x 24 x 33")

**NET WEIGHT**

145 kg (320 lb)

**GROSS WEIGHT**

180 kg (397 lb)

### HOSE AND FITTINGS SELECTION

HOSE TYPE	FITTING TYPE	MAX HOSE SIZE
2 WIRE BRAID & TEXTILE	MF2000 MULTIFIT; MF3000 OPF; MF3000 OPK	2"
3 WIRE (1 BRAID + 2 SPIRAL)	MF2000 MULTIFIT; MF2000 INTERLOCK PLUS; MF2000 SPIRALFIT	1 □ "
4 WIRE SPIRALS	MF2000 MULTIFIT; MF3000 OPK	2"
4 WIRE SPIRALS	MF2000 INTERLOCK PLUS; MF2000 SPIRALFIT	1 □ "
6 WIRE SPIRAL	MF2000 INTERLOCK PLUS;	1"

# MV 240 L

FIELD SERVICE & MOBILE WORKSHOP  
MOBILE VAN



## KEY FEATURES

- Robust design
- Ergonomic micrometer
- High crimping speed
- Radial movement of the dies
- Cylinder protection

## OPTIONAL



Maintenance Kit



Quick Change Gun



Aluminium Quick Change Gun



Die Storage Panel



Battery & Charger



Marking Dies



Die Sets for Brake & Air Conditioning Hoses



Front Die Storage



Ergonomic Micrometer

## TECHNICAL SPECIFICATIONS

<b>CRIMP RANGE</b>	<b>MOTOR</b>
4 - 76 mm (0.157 - 2.992")	2.0 kW
<b>CRIMP FORCE</b>	<b>VOLTAGES</b>
240 t	12 V
<b>OPENING WITH DIES</b>	24 V
+38 mm (+1.496")	220/240 V, 3Ph, 50 Hz
<b>COMPLETE OPENING</b>	380/415 V, 3Ph, 50 Hz
118 mm (4.646")	208/240 V, 3Ph, 60 Hz
<b>MASTER DIE LENGTH</b>	380/415 V, 3Ph, 60 Hz
100 mm (3.937")	<b>DIMENSIONS</b>
<b>STANDARD DIES</b>	320 x 360 x 350 mm
15, 18, 21, 24, 27, 30, 33, 36, 39, 42, 45, 48, 51, 57, 62, 66, 70	(13 x 13.5 x 14")
<b>NOISE LEVEL</b>	<b>PACKAGING</b>
72 dB A	800 x 600 x 830 mm
<b>TECHNICAL FEATURES</b>	(31 x 24 x 33")
Dimensions of power pack: 440 x 320 x 320 mm (17 x 13 x 13")	<b>NET WEIGHT</b>
	130 kg (287 lb)
	<b>GROSS WEIGHT</b>
	180 kg (397 lb)

## HOSE AND FITTINGS SELECTION

HOSE TYPE	FITTING TYPE	MAX HOSE SIZE
2 WIRE BRAID & TEXTILE	MF2000 MULTIFIT; MF3000 OPF; MF3000 OPK	2"
3 WIRE (1 BRAID + 2 SPIRAL)	MF2000 MULTIFIT; MF2000 INTERLOCK PLUS; MF2000 SPIRALFIT	1 □ "
4 WIRE SPIRALS	MF2000 MULTIFIT; MF3000 OPK	2"
4 WIRE SPIRALS	MF2000 INTERLOCK PLUS; MF2000 SPIRALFIT	1 □ "
6 WIRE SPIRAL	MF2000 INTERLOCK PLUS;	1"



# MV 350

FIELD SERVICE & MOBILE / CONTAINER WORKSHOP  
MOBILE VAN



## KEY FEATURES

- Robust design
- Large opening
- High crimping force
- Ergonomic micrometer
- High crimping speed
- Radial movement of the dies
- Cylinder protection
- Remote head mounting option possible

## TECHNICAL SPECIFICATIONS

### CRIMP RANGE

4 - 130 mm (0.157 - 5.118")

### CRIMP FORCE

350 t

### OPENING WITH DIES

+54 mm (+2.125")

### COMPLETE OPENING

180 mm (7.086")

### MASTER DIE LENGTH

115 mm (4.528")

### STANDARD DIES

15, 18, 21, 24, 27, 30, 33,  
36, 39, 42, 45, 48, 51, 57,  
62, 66, 70, 73, 76

### NOISE LEVEL

<65 dB A

### MOTOR

2.0 kW

### VOLTAGES

12 V

24 V

220/240 V, 3Ph, 50 Hz

380/415 V, 3Ph, 50 Hz

208/240 V, 3Ph, 60 Hz

380/415 V, 3Ph, 60 Hz

### DIMENSIONS

650 x 550 x 750 mm

(26 x 22 x 30")

### PACKAGING

800 x 600 x 830 mm

(31 x 24 x 33")

### NET WEIGHT

210 kg (463 lb)

### GROSS WEIGHT

260 kg (573 lb)

### SAFETY REMARK

Possible limitations in case  
of double elbow fittings

## OPTIONAL



Maintenance Kit



Quick Change Gun



Aluminium Quick Change Gun



Die Storage Panel



Battery & Charger



Marking Dies



Die Sets for Brake & Air  
Conditioning Hoses



Front Die Storage

# MV 350

FIELD SERVICE & MOBILE / CONTAINER WORKSHOP  
 MOBILE VAN

HOSE AND FITTINGS SELECTION		
HOSE TYPE	FITTING TYPE	MAX HOSE SIZE
2 WIRE BRAID & TEXTILE	MF2000 MULTIFIT; MF3000 OPF; MF3000 OPK	3"
3 WIRE (1 BRAID + 2 SPIRAL)	MF2000 MULTIFIT; MF2000 INTERLOCK PLUS; MF2000 SPIRALFIT;	1 □"
4 WIRE SPIRALS	MF2000 MULTIFIT; MF2000 INTERLOCK PLUS; MF2000 SPIRALFIT; MF3000 OPK	2"
5 WIRE (4 SPIRAL + 1 BRAID)	MF2000 INTERLOCK PLUS	1 □"
7 WIRE (6 SPIRAL + 1 BRAID)	MF2000 INTERLOCK SUPER	1 □"
6 WIRE SPIRAL	MF2000 INTERLOCK PLUS; MF2000 INTERLOCK SUPER; MF2000 SPIRALFIT	1 □"

# MS 140

## ASSEMBLING FOR MASS PRODUCTION STAND TYPE CRIMP MACHINE, SCS SYSTEM



### KEY FEATURES

- Safe Crimp System (SCS) control
- Large production capacity (small/medium bore)
- Low noise level
- Precise
- Robust
- Fast crimping
- Easy die set-up with ergonomic gun

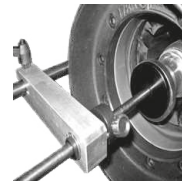
### OPTIONAL



Aluminium Quick Change Gun



Electrical Footswitch



Mechanical Backstop



Mirror



Back View Camera

### TECHNICAL SPECIFICATIONS

#### CRIMP RANGE

4 - 70 mm (0.157 - 2.756")

#### NOISE LEVEL

&lt;69 dB A

#### CRIMP FORCE

140 t

#### MOTOR

5.5 kW

#### OPENING WITH DIES

+45 mm (+1.772")

#### VOLTAGES

220/240 V, 3Ph, 50 Hz

#### COMPLETE OPENING

125 mm (4.921")

380/415 V, 3Ph, 50 Hz

208/240 V, 3Ph, 60 Hz

#### MASTER DIE LENGTH

80 mm (3.150")

#### DIMENSIONS

890 x 810 x 1390 mm

#### STANDARD DIES

15, 18, 21, 24, 27, 30, 33,  
36, 39, 42, 45, 48

(35 x 32 x 55")

#### PACKAGING

1120 x 1020 x 1770 mm

(44 x 40 x 70")

#### NET WEIGHT

675 kg (1488 lb)

### HOSE AND FITTINGS SELECTION

HOSE TYPE	FITTING TYPE	MAX HOSE SIZE
2 WIRE BRAID & TEXTILE	MF2000 MULTIFIT; MF3000 OPF; MF3000 OPK	1 □"
3 WIRE (1 BRAID + 2 SPIRAL)	MF2000 MULTIFIT;	1 □"
4 WIRE SPIRALS	MF2000 MULTIFIT; MF3000 OPK	1 □"
3 WIRE (1 BRAID + 2 SPIRAL)	MF2000 INTERLOCK PLUS; MF2000 SPIRALFIT	1"
4 WIRE SPIRALS	MF2000 INTERLOCK PLUS; MF2000 SPIRALFIT	1"



# MS 320

## ASSEMBLING FOR MASS PRODUCTION STAND TYPE CRIMP MACHINE, SCS SYSTEM



### KEY FEATURES

- High crimp force
- Large opening
- Safe Crimp System (SCS) control
- Wide family of dies for industrial hoses
- Robust structure
- Fast and ergonomic
- Low noise level
- Easy die-set up with ergonomic gun

### STANDARD



Quick Change Gun



SCS Safe Crimp System



Electrical Footswitch



Die Storage



Mirror

### TECHNICAL SPECIFICATIONS

<b>CRIMP RANGE</b>	<b>MOTOR</b>
4 - 130 mm (0.157 - 5.118")	5.5 kW / 7.5 kW (Fast Version)
<b>CRIMP FORCE</b>	<b>VOLTAGES</b>
320 t	220/240 V, 3Ph, 50 Hz
<b>OPENING WITH DIES</b>	380/415 V, 3Ph, 50 Hz
+80 mm (+3.149")	208/240 V, 3Ph, 60 Hz
<b>COMPLETE OPENING</b>	380/415 V, 3Ph, 60 Hz
207 mm (8.149")	<b>DIMENSIONS</b>
<b>MASTER DIE LENGTH</b>	1240 x 995 x 1615 mm
100 mm (3.937")	(49 x 39 x 64")
<b>STANDARD DIES</b>	<b>PACKAGING</b>
15, 18, 21, 24, 27, 30, 33, 36, 39, 42, 45, 48, 51, 57, 62, 66, 70, 73, 76	1400 x 1100 x 1960 mm
<b>NOISE LEVEL</b>	(55 x 43 x 77")
<65 dB A	<b>NET WEIGHT</b>
	2000 kg (4409 lb)
	<b>GROSS WEIGHT</b>
	2300 kg (5071 lb)

### OPTIONAL



Die Storage Panel



Marking Dies



Back View Camera



Aluminium Quick Change Gun



Mechanical Backstop



Side Table & Pushing Panel



Die Sets for Brake & Air Conditioning Hoses



Automatic Central Greasing System

## MS 320

ASSEMBLING FOR MASS PRODUCTION  
STAND TYPE CRIMP MACHINE, SCS SYSTEM

## HOSE AND FITTINGS SELECTION

HOSE TYPE	FITTING TYPE	MAX HOSE SIZE
2 WIRE BRAID & TEXTILE	MF2000 MULTIFIT; MF3000 OPF; MF3000 OPK;	3"
3 WIRE (1 BRAID + 2 SPIRAL)	MF2000 MULTIFIT; MF2000 INTERLOCK PLUS; MF2000 SPIRALFIT;	1 □"
4 WIRE SPIRALS	MF2000 MULTIFIT; MF2000 INTERLOCK PLUS; MF2000 SPIRALFIT; MF3000 OPK	2"
5 WIRE (4 SPIRAL + 1 BRAID)	MF2000 INTERLOCK PLUS	1 □"
7 WIRE (6 SPIRAL + 1 BRAID)	MF2000 INTERLOCK SUPER	1 □"
6 WIRE SPIRALS (ROCKMASTER/13 - GOLDENISO/35 XTRAFLEX - SHIELDMASTER/35 - DIAMONDSPIR)	MF2000 INTERLOCK PLUS; MF2000 SPIRALFIT	2"
8 WIRE SPIRALS	MF2000 INTERLOCK PLUS	1 □"

# MS 480

## ASSEMBLING FOR MASS PRODUCTION STAND TYPE CRIMP MACHINE, SCS SYSTEM



### KEY FEATURES

- High crimp force
- Large opening
- Safe Crimp System (SCS) control
- Wide family of dies for industrial hoses
- Long master dies
- Robust
- Low noise level
- Easy die set-up with ergonomic gun

### STANDARD



Quick Change Gun



SCS Safe Crimp System



Electrical Footswitch



Die Storage



Mirror

### TECHNICAL SPECIFICATIONS

<b>CRIMP RANGE</b>	<b>MOTOR</b>
4 - 160 mm (0.157 - 6.299")	5.5 kW
<b>CRIMP FORCE</b>	<b>VOLTAGES</b>
480 t	220/240 V, 3Ph, 50 Hz
<b>OPENING WITH DIES</b>	380/415 V, 3Ph, 50 Hz
+85 mm (+3.346")	208/240 V, 3Ph, 60 Hz
<b>COMPLETE OPENING</b>	380/415 V, 3Ph, 60 Hz
212 mm (8.346")	<b>DIMENSIONS</b>
<b>MASTER DIE LENGTH</b>	1300 x 900 x 1700 mm
125 mm (4.921")	(51 x 35 x 67")
<b>STANDARD DIES</b>	<b>PACKAGING</b>
15, 18, 21, 24, 27, 30, 33, 36, 39, 42, 45, 48, 51, 57, 62, 66, 70, 73, 76	1400 x 1100 x 1960 mm
<b>NOISE LEVEL</b>	(55 x 43 x 77")
<65 dB A	<b>NET WEIGHT</b>
	2200 kg (4850 lb)
	<b>GROSS WEIGHT</b>
	2430 kg (5357 lb)

### OPTIONAL



Die Storage Panel



Marking Dies



Back View Camera



Aluminium Quick Change Gun



Mechanical Backstop



Side Table & Pushing Panel



Die Sets for Brake & Air Conditioning Hoses



Automatic Central Greasing System

## MS 480

ASSEMBLING FOR MASS PRODUCTION  
STAND TYPE CRIMP MACHINE, SCS SYSTEM

## HOSE AND FITTINGS SELECTION

HOSE TYPE	FITTING TYPE	MAX HOSE SIZE
2 WIRE BRAID & TEXTILE	MF2000 MULTIFIT; MF3000 OPF; MF3000 OPK;	4"
3 WIRE (1 BRAID + 2 SPIRAL)	MF2000 MULTIFIT; MF2000 INTERLOCK PLUS; MF2000 SPIRALFIT;	1 □"
4 WIRE SPIRALS	MF2000 MULTIFIT; MF2000 INTERLOCK PLUS; MF2000 SPIRALFIT; MF3000 OPK	4"
5 WIRE (4 SPIRAL + 1 BRAID)	MF2000 INTERLOCK PLUS	1 □"
7 WIRE (6 SPIRAL + 1 BRAID)	MF2000 INTERLOCK SUPER	1 □"
7 WIRE (6 SPIRAL + 1 BRAID)	MF2000 INTERLOCK PLUS	2"
6 WIRE SPIRALS	MF2000 INTERLOCK PLUS; MF2000 SPIRALFIT	3"
6 WIRE SPIRALS	MF2000 INTERLOCK SUPER; MF2000 SPIRALFIT-GX	2"
8 WIRE SPIRALS	MF2000 INTERLOCK SUPER	1 □"

# MS 800

## ASSEMBLING FOR LARGE BORE HOSES STAND TYPE CRIMP MACHINE, SCS CONTROL



### KEY FEATURES

- Designed for heavy duty large bore hydraulic hoses
- High power and speed
- Ergonomically designed for large bore hoses
- Safe Crimp System (SCS) for maximum reliability during the crimping process
- Large opening up to 8"
- Long master dies
- Very high crimping force

### STANDARD



Electrical Footswitch



SCS Safe Crimp System



Hose Support

### TECHNICAL SPECIFICATIONS

<b>CRIMP RANGE</b>	<b>MOTOR</b>
4 - 230 mm (0.157 - 9.055")	7.5 kW
<b>CRIMP FORCE</b>	<b>VOLTAGES</b>
800 t	380/415 V, 3Ph, 50 Hz
<b>OPENING WITH DIES</b>	<b>DIMENSIONS</b>
+100 mm (+3.937")	1400 x 1400 x 2060 mm (55 x 55 x 81")
<b>COMPLETE OPENING</b>	<b>NET WEIGHT</b>
347 mm (13.661")	4300 kg (9480 lb)
<b>MASTER DIE LENGTH</b>	<b>GROSS WEIGHT</b>
180 mm (7.087")	5000 kg (11023 lb)
<b>NOISE LEVEL</b>	<b>TECHNICAL FEATURES</b>
< 70 dB A	-Machine platform equipped with rollers to support the hose at working height (1100 mm) in order to handle large bore hoses more easily -Supplied as standard: Intermediate dies 250/130

### OPTIONAL



Quick Change Gun



Die Storage Panel



Back View Camera

## MS 800

**ASSEMBLING FOR LARGE BORE HOSES  
STAND TYPE CRIMP MACHINE, SCS CONTROL**

## HOSE AND FITTINGS SELECTION

HOSE TYPE	FITTING TYPE	MAX HOSE SIZE
INDUSTRIAL TEXTILE HOSES	VARIOUS	8"
2 WIRE BRAID & TEXTILE	MF2000 MULTIFIT; MF3000 OPF; MF3000 OPK;	4"
3 WIRE (1 BRAID + 2 SPIRAL)	MF2000 MULTIFIT; MF2000 INTERLOCK PLUS; MF2000 SPIRALFIT;	1 □ "
4 WIRE SPIRALS	MF2000 MULTIFIT; MF2000 INTERLOCK PLUS; MF2000 SPIRALFIT; MF3000 OPK	4"
5 WIRE (4 SPIRAL + 1 BRAID)	MF2000 INTERLOCK PLUS	1 □ "
7 WIRE (6 SPIRAL + 1 BRAID)	MF2000 INTERLOCK SUPER	3"
6/8 WIRE SPIRALS	MF2000 INTERLOCK PLUS; MF2000 SPIRALFIT; MF2000 INTERLOCK SUPER	3"

# MS 320 OPEN HEAD

XXL WORKSHOP



## KEY FEATURES

- Unique on market
- Lateral opening
- No limit on end connection diameter
- Easy to use
- Separated power pack
- Integrated safety system

## TECHNICAL SPECIFICATIONS

<b>CAPACITY *</b>	<b>VOLTAGES</b>
Industrial: 6"	230 V, 3 Ph
<b>CRIMP RANGE</b>	400 V, 3 Ph
4 - 230 mm (0.157 - 9.055")	<b>MACHINE DIMENSIONS</b>
<b>CRIMP FORCE</b>	1265 x 680 x 1800 mm
320 t	(50 x 27 x 71")
<b>OPENING WITH DIES</b>	<b>POWER PACK DIMENSIONS</b>
+55 mm (+2.165 ")	890 x 800 x 1050 mm
<b>COMPLETE OPENING</b>	(35 x 31 x 41")
260 mm (10.236")	<b>MACHINE WEIGHT</b>
<b>LATERAL OPENING</b>	1700 kg (3748 lb)
247 mm (9.724")	<b>POWER PACK WEIGHT</b>
<b>MASTER DIE LENGTH</b>	400 kg (882 lb)
125 mm (4.921")	<b>TECHNICAL FEATURES</b>
<b>MOTOR</b>	-Die sizes available upon request
5.5 kW	

## STANDARD



Electrical Footswitch



Die Storage

\*Indicative capacities depending on hose and fitting type



# MS 450-200

**XXL WORKSHOP**

## KEY FEATURES

- High crimp force (450 tonnes)
- Large opening
- Wide family of dies for industrial hoses
- Long master dies
- Robust - designed for harsh environments
- Low noise level
- Easy die set-up with ergonomic gun
- Metallic guard for the set stop
- Separated crimping head allowing flexible workshop arrangements



## TECHNICAL SPECIFICATIONS

**CAPACITY \***

Industrial: 4" &amp; 6"

**CRIMP RANGE**

4 - 180 mm (0.157 - 7.087")

**CRIMP FORCE**

450 t

**OPENING WITH DIES**

+70 mm (+2.755")

**COMPLETE OPENING**

230 mm (9.055")

**MASTER DIE LENGTH**

125 mm (4.921")

**STANDARD DIES**

 15, 18, 21, 24, 27, 30, 33, 36, 39, 42, 45, 48, 51, 57, 62, 66, 70, 73, 76;  
 Extra die sets: up to 180 mm;  
 Die sizes available on request

**MOTOR**

5.5 kW

**VOLTAGES**

220/240 V, 3Ph, 50 Hz

380/415 V, 3Ph, 50 Hz

208/240 V, 3Ph, 60 Hz

380/415 V, 3Ph, 60 Hz

**DIMENSIONS**

830 x 775 x 1450 mm

(33 x 31 x 57")

**PACKAGING**

1120 x 1020 x 1770 mm

(44 x 40 x 70")

**NET WEIGHT**

450 kg (992 lb)

## OPTIONAL



Die Storage Panel



Die Storage Table



Quick Change Gun



Marking Dies



Aluminium Quick Change Gun



Die Sets for Brake &amp; Air Conditioning Hoses



Electrical Footswitch

\*Indicative capacities depending on hose and fitting type



# MS 550/MS 550-16

XXL WORKSHOP



## KEY FEATURES

- Very large opening
- Fixed bottom die
- Long dies available
- High crimping force
- Symmetric machine
- Low working height
- Ergonomic
- Safe Crimp System (SCS)
- Step crimping capability with SCS

## STANDARD



SCS Safe Crimp System



Die Storage

## OPTIONAL



Back View Camera

## TECHNICAL SPECIFICATIONS

	MS 550	MS 550-16
<b>CAPACITY *</b>	Industrial: 12"	Industrial: 16"
<b>CRIMP FORCE</b>	550 t	550 t
<b>COMPLETE OPENING</b>	490 mm (19.291")	660 mm (25.984")
<b>OPENING WITH DIES</b>	+130 mm (+5.118 ")	+160 mm (6.299")
<b>MASTER DIE LENGTH</b>	200 mm (7.874")	200 mm (7.874")
<b>MOTOR</b>	5.5 kW	5.5 kW
<b>VOLTAGES</b>	230 V, 3 Ph 400 V, 4 Ph	230 V, 3 Ph 400 V, 4 Ph
<b>MACHINE DIMENSIONS</b>	1300 x 1050 x 2230 mm (35 x 41 x 88")	1450 x 1100 x 2300 mm (57 x 43 x 91")
<b>POWER PACK DIMENSIONS</b>	800 x 790 x 1650 mm (31 x 31 x 65")	800 x 790 x 1650 mm (31 x 31 x 65")
<b>MACHINE WEIGHT</b>	4000 kg (8818 lb)	4300 kg (9480 lb)
<b>POWER PACK WEIGHT</b>	500 kg (1102 lb)	500 kg (1102 lb)
<b>TECHNICAL FEATURES</b>	Die sizes available upon request	

\*Indicative capacities depending on hose and fitting type

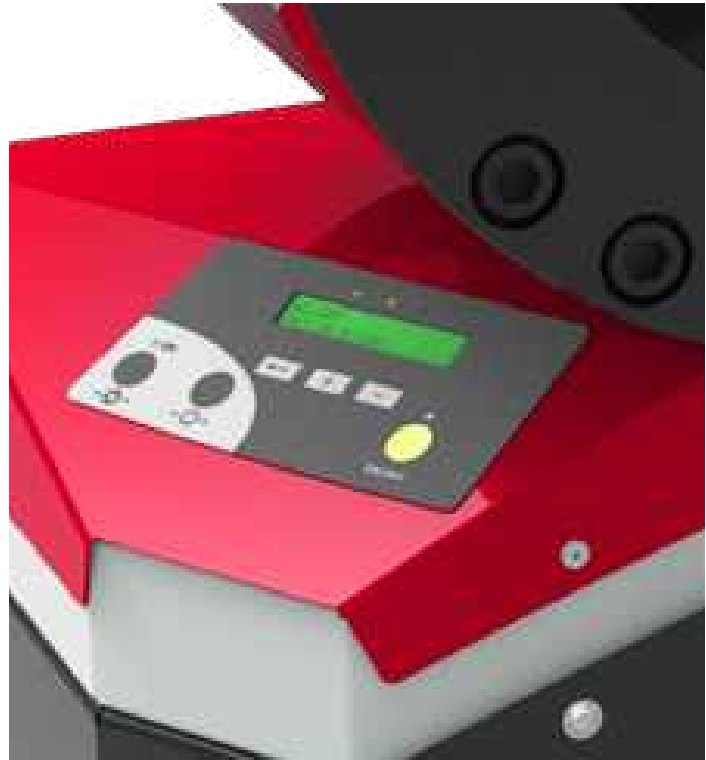
## ACCESSORIES AND TOOLS

### SAFE CRIMP (SC) SMART CONTROL PANEL

A basic smart control panel, which includes maintenance functions essential for keeping the machine in good condition.

**Maintenance functions include:**

- **2 Counters:** 1 daily counter and 1 machine cycle counter
- **3 LED Indicator Lights:** 1 for daily maintenance, 1 for advanced maintenance and 1 for expert maintenance
- **Semi-automatic function:** The semi-automatic opening is ideal for serial assemblies as it can be adjusted specifically to allow the fitting to pass through the dies with minimal clearance, saving energy by reducing the cycle time.
- **Integrated Bluetooth:** Receive crimping data from the Manuli crimping app to reduce the risk of operator error



### SAFE CRIMP ELECTRICAL PANEL (SCE)

A modern touch screen with electronic buttons, which includes maintenance functions essential for keeping the machine in good condition.

**Maintenance functions include:**

- **Functions of the Safe Crimp Panel**
- **Electronic micrometer** with automatic die selection and the ability to save up to 25 configurations
- **Integrated Bluetooth:** Receive crimping data from the Manuli crimping app to reduce the risk of operator error
- **Optional calliper control:** Integrated vernier caliper connected to the machine which allows automatic correction of crimping diameters based on measured values



## ACCESSORIES AND TOOLS

### SAFE CRIMP SYSTEM



#### Benefits of Safe Crimp System control for hose assembly activity:

- Friendly and easy setting of crimping parameters including:
  - ✓ Pre-set of crimp Ø calibration to compensate ferrule elastic rebound
  - ✓ Reminder of dies to be used
  - ✓ Easy automatic opening setting
- Storage of recurrent and customised crimp recipes: favourite crimp assemblies:
  - ✓ Short cuts for faster setting
  - ✓ No crimp Ø re-adjusting
  - ✓ Possibility to download your customised recipes by USB port and save on separate computer (CSV file)
- Production counter for batch quantity control:
  - ✓ Quality monitoring by: Automatic crimp Ø check (Only available on 7" screen)
  - ✓ Continuous crimp pressure measurement (Option on 4.5" screen)
  - ✓ Crimping pressure and count control for mistake proofing assembly (Option 4.5" screen)
- Operator identification (Log in / log out)
- Maintenance Warnings

# MTB 2000 L

## TEST BENCH, PROOF PRESSURE & CERTIFY STAND TYPE MACHINE

### KEY FEATURES

Easy to use and robust

Safe: Steel Compartment, polycarbonate transparent window and metal mesh

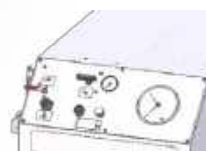
Large testing area for up to 6 hoses

Pallet loading with a forklift

Variable pressure up to 2000 bar



### STANDARD



Power Unit M



Power Unit E

## TECHNICAL SPECIFICATIONS

#### INDICATIVE CAPACITY

1200 mm (48")

#### HOSE CONNECTION

6 maximum

#### AIR CONSUMPTION

100 NI/min

#### OPENING/CLOSING TIME

10-14 seconds

#### MAX PRESSURE

2000 bar (29000 psi)

#### INNER TANK CAPACITY

1700 x 790 x 200 mm  
(67 x 31 x 8")

#### DIMENSIONS (PANEL)

700 x 1200 x 1220 mm  
(28 x 47 x 48")

#### PACKAGING (TANK)

1600 x 1200 x 1280 mm  
(63 x 47 x 50")

#### PACKAGING (PANEL)

1000 x 1200 x 1280 mm  
(39 x 47 x 50")

#### WEIGHT

430 kg (948 lb)

#### NET WEIGHT

500 kg (1102 lb)

#### TECHNICAL FEATURES

-Minimum compressed air  
input 8.5 bar (123 psi)

## FEATURES AND OPTIONS

#### DISPLAY FEATURES

- M** Gauge measurement display
- E** Numerical measurement colour display with ethernet port for mirror link connection with computer

#### FURTHER OPTIONS

- Autonomous filling pump
- Air blowing system for both models
- Second tank available on all models

# MTB 2000 XL

## TEST BENCH, PROOF PRESSURE & CERTIFY STAND TYPE MACHINE

### KEY FEATURES

Easy to use and robust

Safe: Steel Compartment, polycarbonate transparent window and metal mesh

Large testing area for up to 6 hoses

Pallet loading with a forklift

Variable pressure up to 2000 bar

Print test data directly to USB drive or printer

ISD model supplied with colour printer



Model shown XL ISD

### TECHNICAL SPECIFICATIONS

#### INDICATIVE CAPACITY

1200 mm (48")

#### HOSE CONNECTION

6 maximum

#### AIR CONSUMPTION

100 NI/min

#### OPENING/CLOSING TIME

10-14 seconds

#### MAX PRESSURE

2000 bar (29000 psi)

#### INNER TANK CAPACITY

1400 x 900 x 600 mm  
(55 x 35 x 24")

#### DIMENSIONS (PANEL)

700 x 1200 x 1220 mm  
(28 x 47 x 48")

#### PACKAGING (TANK)

1600 x 1200 x 1280 mm

(63 x 47 x 50")

#### PACKAGING (PANEL)

1000 x 1200 x 1280 mm

(39 x 47 x 50")

#### WEIGHT

600 kg (1323 lb)

#### NET WEIGHT

500 kg (1102 lb)

#### TECHNICAL FEATURES

-Minimum compressed air input 8.5 bar (123 psi)  
-Minimum test pressure 250 bar (3626 psi), with low pressure option 50 bar (725 psi) (only for XL ISD)

### FEATURES AND OPTIONS

#### STANDARD OPTIONS

##### XL ISD:

- Light included
- Touch screen panel
- Printer

##### XL E:

- LED Light included
- Numerical measurement colour display with ethernet port for mirror link connection with computer

#### FURTHER OPTIONS

- Autonomous filling pump
- Air blowing system for both models
- Second tank available on all models
- Low pressure pump (50 bar - 300 bar) available on ISD model

## MHP 80

PG.551

DESCRIPTION	N°	CRIMP RANGE
DIE SET N. 06 - LENGTH 56 MM	6	06-08
DIE SET N. 08 - LENGTH 56 MM	8	08-10
DIE SET N. 10 - LENGTH 56 MM	10	10-12
DIE SET N. 12 - LENGTH 56 MM	12	12-15
<b>DIE SET N. 15 - LENGTH 56 MM</b>	<b>15</b>	<b>15-18</b>
<b>DIE SET N. 18 - LENGTH 56 MM</b>	<b>18</b>	<b>18-21</b>
<b>DIE SET N. 21 - LENGTH 56 MM</b>	<b>21</b>	<b>21-24</b>
<b>DIE SET N. 24 - LENGTH 56 MM</b>	<b>24</b>	<b>24-27</b>
<b>DIE SET N. 27 - LENGTH 56 MM</b>	<b>27</b>	<b>27-30</b>
<b>DIE SET N. 30 - LENGTH 56 MM</b>	<b>30</b>	<b>30-43</b>
<b>KIT 6 DIES MHP80 (N.15 TO N.30)</b>	-	-

## MHP 110

PG.552

DESCRIPTION	N°	CRIMP RANGE
DIE SET N. 06 - LENGTH 56 MM	6	06-08
DIE SET N. 08 - LENGTH 56 MM	8	08-10
DIE SET N. 10 - LENGTH 56 MM	10	10-12
DIE SET N. 12 - LENGTH 56 MM	12	12-15
<b><i>DIE SET N. 15 - LENGTH 56 MM</i></b>	<b>15</b>	<b>15-18</b>
<b><i>DIE SET N. 18 - LENGTH 56 MM</i></b>	<b>18</b>	<b>18-21</b>
<b><i>DIE SET N. 21 - LENGTH 56 MM</i></b>	<b>21</b>	<b>21-24</b>
<b><i>DIE SET N. 24 - LENGTH 56 MM</i></b>	<b>24</b>	<b>24-27</b>
<b><i>DIE SET N. 27 - LENGTH 56 MM</i></b>	<b>27</b>	<b>27-30</b>
<b><i>DIE SET N. 30 - LENGTH 56 MM</i></b>	<b>30</b>	<b>30-39</b>
<b><i>KIT 6 DIES MHP110 (N.15 TO N.30)</i></b>	-	-

MHP 137

PG.553

DESCRIPTION	N°	CRIMP RANGE
DIE SET N. 4 - LENGTH 56 MM	4	04-05
DIE SET N. 6 - LENGTH 56 MM	6	06-07
DIE SET N. 7 - LENGTH 56 MM	7	07-08
DIE SET N. 8 - LENGTH 56 MM	8	08-10
DIE SET N. 9 - LENGTH 56 MM	9	09-10
DIE SET N. 10 - LENGTH 56 MM	10	10-12
DIE SET N. 12 - LENGTH 56 MM	12	12-15
DIE SET N. 14 - LENGTH 56 MM	14	14-15
<b>DIE SET N. 15 - LENGTH 56 MM</b>	<b>15</b>	<b>15-18</b>
DIE SET N. 17 - LENGTH 56 MM	17	17-18
<b>DIE SET N. 18 - LENGTH 56 MM</b>	<b>18</b>	<b>18-21</b>
DIE SET N. 20 - LENGTH 56 MM	20	20-21
<b>DIE SET N. 21 - LENGTH 56 MM</b>	<b>21</b>	<b>21-24</b>
<b>DIE SET N. 24 - LENGTH 56 MM</b>	<b>24</b>	<b>24-27</b>
<b>DIE SET N. 27 - LENGTH 56 MM</b>	<b>27</b>	<b>27-30</b>
<b>DIE SET N. 30 - LENGTH 56 MM</b>	<b>30</b>	<b>30-33</b>
<b>DIE SET N. 33 - LENGTH 70 MM</b>	<b>33</b>	<b>33-36</b>
<b>DIE SET N. 36 - LENGTH 75 MM</b>	<b>36</b>	<b>36-39</b>
<b>DIE SET N. 39 - LENGTH 70 MM</b>	<b>39</b>	<b>39-42</b>
<b>DIE SET N. 42 - LENGTH 70 MM</b>	<b>42</b>	<b>42-45</b>
<b>DIE SET N. 45 - LENGTH 70 MM</b>	<b>45</b>	<b>45-48</b>
<b>DIE SET N. 48 - LENGTH 70 MM</b>	<b>48</b>	<b>48-51</b>
<b>DIE SET N. 51 - LENGTH 75 MM</b>	<b>51</b>	<b>51-57</b>
KIT 4 DIES MHP137 (N.15 TO N.33)	-	-
KIT 5 DIES MHP137 (N.15 TO N.39)	-	-
KIT 6 DIES MHP137 (N.15 TO N.39)	-	-
KIT 7 DIES MHP137 (N.15 TO N.39)	-	-
KIT 9 DIES MHP137 (N.15 TO N.45)	-	-
KIT 9 DIES MHP137 (N.15 TO N.48)	-	-
KIT 10 DIES MHP137 (N.15 TO N.48)	-	-
<b>KIT 13 DIES HCRIMP137 (N.15 TO N.51)</b>	-	-



## MRB 137 EVO R

PG.554

DESCRIPTION	N°	CRIMP RANGE
DIE SET N. 4 - LENGTH 56 MM	4	04-05
DIE SET N. 6 - LENGTH 56 MM	6	06-07
DIE SET N. 7 - LENGTH 56 MM	7	07-08
DIE SET N. 9 - LENGTH 56 MM	9	09-10
DIE SET N. 8 - LENGTH 56 MM	8	08-10
DIE SET N. 10 - LENGTH 56 MM	10	10-12
DIE SET N. 12 - LENGTH 56 MM	12	12-15
DIE SET N. 14 - LENGTH 56 MM	14	14-15
<b>DIE SET N. 15 - LENGTH 56 MM</b>	<b>15</b>	<b>15-18</b>
DIE SET N. 17 - LENGTH 56 MM	17	17-18
<b>DIE SET N. 18 - LENGTH 56 MM</b>	<b>18</b>	<b>18-21</b>
DIE SET N. 20 - LENGTH 56 MM	20	20-21
<b>DIE SET N. 21 - LENGTH 56 MM</b>	<b>21</b>	<b>21-24</b>
<b>DIE SET N. 24 - LENGTH 56 MM</b>	<b>24</b>	<b>24-27</b>
<b>DIE SET N. 27 - LENGTH 56 MM</b>	<b>27</b>	<b>27-30</b>
<b>DIE SET N. 30 - LENGTH 56 MM</b>	<b>30</b>	<b>30-33</b>
<b>DIE SET N. 33 - LENGTH 70 MM</b>	<b>33</b>	<b>33-36</b>
<b>DIE SET N. 36 - LENGTH 75 MM</b>	<b>36</b>	<b>36-39</b>
<b>DIE SET N. 39 - LENGTH 70 MM</b>	<b>39</b>	<b>39-42</b>
<b>DIE SET N. 42 - LENGTH 70 MM</b>	<b>42</b>	<b>42-45</b>
<b>DIE SET N. 45 - LENGTH 70 MM</b>	<b>45</b>	<b>45-48</b>
<b>DIE SET N. 48 - LENGTH 70 MM</b>	<b>48</b>	<b>48-51</b>
<b>DIE SET N. 51 - LENGTH 75 MM</b>	<b>51</b>	<b>51-57</b>
KIT 4 DIES MRB137EVOR (N.15 TO N.33)	-	-
KIT 5 DIES MRB137EVOR (N.15 TO N.39)	-	-
KIT 6 DIES MRB137EVOR (N.15 TO N.39)	-	-
KIT 7 DIES MRB137EVOR (N.15 TO N.39)	-	-
KIT 9 DIES MRB137EVOR (N.15 TO N.45)	-	-
KIT 9 DIES MRB137EVOR (N.15 TO N.48)	-	-
KIT 10 DIES MRB137EVOR (N.15 TO N.48)	-	-
<b>KIT 13 DIES MRB137EVOR (N.15 TO N.51)</b>	<b>-</b>	<b>-</b>

## MB 137 EVO

PG.555

DESCRIPTION	N°	CRIMP RANGE
DIE SET N. 4 - LENGTH 56 MM	4	04-05
DIE SET N. 6 - LENGTH 56 MM	6	06-07
DIE SET N. 7 - LENGTH 56 MM	7	07-08
DIE SET N. 9 - LENGTH 56 MM	9	09-10
DIE SET N. 8 - LENGTH 56 MM	8	08-10
DIE SET N. 10 - LENGTH 56 MM	10	10-12
DIE SET N. 12 - LENGTH 56 MM	12	12-15
DIE SET N. 14 - LENGTH 56 MM	14	14-15
<b>DIE SET N. 15 - LENGTH 56 MM</b>	<b>15</b>	<b>15-18</b>
DIE SET N. 17 - LENGTH 56 MM	17	17-18
<b>DIE SET N. 18 - LENGTH 56 MM</b>	<b>18</b>	<b>18-21</b>
DIE SET N. 20 - LENGTH 56 MM	20	20-21
<b>DIE SET N. 21 - LENGTH 56 MM</b>	<b>21</b>	<b>21-24</b>
<b>DIE SET N. 24 - LENGTH 56 MM</b>	<b>24</b>	<b>24-27</b>
<b>DIE SET N. 27 - LENGTH 56 MM</b>	<b>27</b>	<b>27-30</b>
<b>DIE SET N. 30 - LENGTH 56 MM</b>	<b>30</b>	<b>30-33</b>
<b>DIE SET N. 33 - LENGTH 70 MM</b>	<b>33</b>	<b>33-36</b>
<b>DIE SET N. 36 - LENGTH 75 MM</b>	<b>36</b>	<b>36-39</b>
<b>DIE SET N. 39 - LENGTH 70 MM</b>	<b>39</b>	<b>39-42</b>
<b>DIE SET N. 42 - LENGTH 70 MM</b>	<b>42</b>	<b>42-45</b>
<b>DIE SET N. 45 - LENGTH 70 MM</b>	<b>45</b>	<b>45-48</b>
<b>DIE SET N. 48 - LENGTH 70 MM</b>	<b>48</b>	<b>48-51</b>
<b>DIE SET N. 51 - LENGTH 75 MM</b>	<b>51</b>	<b>51-57</b>
KIT 4 DIES MB137EVO (N.15 TO N.33)	-	-
KIT 5 DIES MB137EVO (N.15 TO N.39)	-	-
KIT 6 DIES MB137EVO (N.15 TO N.39)	-	-
KIT 7 DIES MB137EVO (N.15 TO N.39)	-	-
KIT 9 DIES MB137EVO (N.15 TO N.45)	-	-
KIT 9 DIES MB137EVO (N.15 TO N.48)	-	-
KIT 10 DIES MB137EVO (N.15 TO N.48)	-	-
<b>KIT 13 DIES MB137EVO (N.15 TO N.51)</b>	<b>-</b>	<b>-</b>

## MB 240 EVO

PG.557

DESCRIPTION	N°	CRIMP RANGE
DIE SET N. 4 - LENGTH 56 MM	4	04-05
DIE SET N. 6 - LENGTH 56 MM	6	06-08
DIE SET N. 7 - LENGTH 56 MM	7	07-08
DIE SET N. 8 - LENGTH 56 MM	8	08-09
DIE SET N. 9 - LENGTH 56 MM	9	09-10
DIE SET N. 10 - LENGTH 56 MM	10	10-12
DIE SET N. 12 - LENGTH 56 MM	12	12-15
DIE SET N. 14 - LENGTH 56 MM	14	14-15
<b>DIE SET N. 15 - LENGTH 56 MM</b>	<b>15</b>	<b>15-18</b>
DIE SET N. 17 - LENGTH 56 MM	17	17-18
<b>DIE SET N. 18 - LENGTH 56 MM</b>	<b>18</b>	<b>18-21</b>
DIE SET N. 20 - LENGTH 56 MM	20	20-21
<b>DIE SET N. 21 - LENGTH 56 MM</b>	<b>21</b>	<b>21-24</b>
<b>DIE SET N. 24 - LENGTH 70 MM</b>	<b>24</b>	<b>24-27</b>
<b>DIE SET N. 27 - LENGTH 90 MM</b>	<b>27</b>	<b>27-30</b>
<b>DIE SET N. 30 - LENGTH 90 MM</b>	<b>30</b>	<b>30-33</b>
<b>DIE SET N. 33 - LENGTH 90 MM</b>	<b>33</b>	<b>33-36</b>
<b>DIE SET N. 36 - LENGTH 90 MM</b>	<b>36</b>	<b>36-39</b>
<b>DIE SET N. 39 - LENGTH 90 MM</b>	<b>39</b>	<b>39-42</b>
<b>DIE SET N. 42 - LENGTH 90 MM</b>	<b>42</b>	<b>42-45</b>
<b>DIE SET N. 45 - LENGTH 100 MM</b>	<b>45</b>	<b>45-48</b>
<b>DIE SET N. 48 - LENGTH 100 MM</b>	<b>48</b>	<b>48-51</b>
<b>DIE SET N. 51 - LENGTH 100 MM</b>	<b>51</b>	<b>51-57</b>
DIE SET N. 54 - LENGTH 110 MM	54	54-57
<b>DIE SET N. 57 - LENGTH 100 MM</b>	<b>57</b>	<b>57-62</b>
DIE SET N. 60 - LENGTH 100 MM	60	60-62
<b>DIE SET N. 62 - LENGTH 110 MM</b>	<b>62</b>	<b>62-66</b>
<b>DIE SET N. 66 - LENGTH 100 MM</b>	<b>66</b>	<b>66-70</b>
<b>DIE SET N. 70 - LENGTH 100 MM</b>	<b>70</b>	<b>70-72</b>
DIE SET N. 72 - LENGTH 100 MM	72	72-80
KIT 9 DIES MB240EVO (N.15 TO N.51)	-	-
KIT 11 DIES MB240EVO (N.15 TO N.66)	-	-
KIT 12 DIES MB240EVO (N.15 TO N.66)	-	-
<b>KIT 17 DIES MB240EVO (N.15 TO N.70)</b>	<b>-</b>	<b>-</b>

## MB 350 EVO / MB 350 EVO L

PG.559

DESCRIPTION	N°	CRIMP RANGE
DIE SET N. 4 - LENGTH 56 MM	4	04-05
DIE SET N. 6 - LENGTH 56 MM	6	06-08
DIE SET N. 7 - LENGTH 56 MM	7	07-08
DIE SET N. 8 - LENGTH 56 MM	8	08-09
DIE SET N. 9 - LENGTH 56 MM	9	09-10
DIE SET N. 10 - LENGTH 56 MM	10	10-12
DIE SET N. 12 - LENGTH 56 MM	12	12-15
DIE SET N. 14 - LENGTH 56 MM	14	14-15
<b>DIE SET N. 15 - LENGTH 56 MM</b>	<b>15</b>	<b>15-18</b>
DIE SET N. 17 - LENGTH 56 MM	17	17-18
<b>DIE SET N. 18 - LENGTH 56 MM</b>	<b>18</b>	<b>18-21</b>
DIE SET N. 20 - LENGTH 56 MM	20	20-21
<b>DIE SET N. 21 - LENGTH 56 MM</b>	<b>21</b>	<b>21-24</b>
<b>DIE SET N. 24 - LENGTH 70 MM</b>	<b>24</b>	<b>24-27</b>
<b>DIE SET N. 27 - LENGTH 90 MM</b>	<b>27</b>	<b>27-30</b>
<b>DIE SET N. 30 - LENGTH 90 MM</b>	<b>30</b>	<b>30-33</b>
<b>DIE SET N. 33 - LENGTH 90 MM</b>	<b>33</b>	<b>33-36</b>
<b>DIE SET N. 36 - LENGTH 90 MM</b>	<b>36</b>	<b>36-39</b>
<b>DIE SET N. 39 - LENGTH 90 MM</b>	<b>39</b>	<b>39-42</b>
<b>DIE SET N. 42 - LENGTH 90 MM</b>	<b>42</b>	<b>42-45</b>
<b>DIE SET N. 45 - LENGTH 100 MM</b>	<b>45</b>	<b>45-48</b>
<b>DIE SET N. 48 - LENGTH 100 MM</b>	<b>48</b>	<b>48-51</b>
<b>DIE SET N. 51 - LENGTH 110 MM</b>	<b>51</b>	<b>51-57</b>
DIE SET N. 54 - LENGTH 110 MM	54	54-57
<b>DIE SET N. 57 - LENGTH 110 MM</b>	<b>57</b>	<b>57-62</b>
DIE SET N. 60 - LENGTH 110 MM	60	60-62
<b>DIE SET N. 62 - LENGTH 125 MM</b>	<b>62</b>	<b>62-66</b>
DIE SET N. 66 - LENGTH 110 MM	66	66-70
<b>DIE SET N. 66* - LENGTH 125 MM</b>	<b>66*</b>	<b>66-70</b>
DIE SET N. 70 - LENGTH 100 MM	70	70-72
<b>DIE SET N. 70* - LENGTH 125 MM</b>	<b>70*</b>	<b>70-72</b>
DIE SET N. 72 - LENGTH 100 MM	72	72-73
<b>DIE SET N. 73 - LENGTH 125 MM</b>	<b>73</b>	<b>73-76</b>
DIE SET N. 75 - LENGTH 125 MM	75	75-76
<b>DIE SET N. 76 - LENGTH 125 MM</b>	<b>76</b>	<b>76-86</b>
DIE SET N. 80 - LENGTH 125 MM	80	80-86
DIE SET N. 86 - LENGTH 125 MM	86	86-90
DIE SET N. 90 - LENGTH 125 MM	90	90-95
DIE SET N. 95 - LENGTH 125 MM	95	95-105
DIE SET N. 99 - LENGTH 125 MM	99	99-109
DIE SET N. 112 - LENGTH 125 MM	112	112-117
DIE SET N. 117 - LENGTH 125 MM	117	117-122
DIE SET N. 122 - LENGTH 125 MM	122	122-127
KIT 13 DIES MB350EVO/L (N.15 TO N.73)	-	-
<b>KIT 19 DIES MB350EVO/L (N.15 TO N.76)</b>	-	-

## GOLDENCRIMP 420 EVO

PG.561

DESCRIPTION	N°	CRIMP RANGE
DIE SET N. 4 - LENGTH 56 MM	4	04-05
DIE SET N. 6 - LENGTH 56 MM	6	06-08
DIE SET N. 7 - LENGTH 56 MM	7	07-08
DIE SET N. 8 - LENGTH 56 MM	8	08-09
DIE SET N. 10 - LENGTH 56 MM	10	10-12
DIE SET N. 12 - LENGTH 56 MM	12	12-15
<b>DIE SET N. 15 - LENGTH 56 MM</b>	<b>15</b>	<b>15-18</b>
DIE SET N. 17 - LENGTH 56 MM	17	17-18
<b>DIE SET N. 18 - LENGTH 56 MM</b>	<b>18</b>	<b>18-21</b>
DIE SET N. 20 - LENGTH 56 MM	20	20-21
<b>DIE SET N. 21 - LENGTH 56 MM</b>	<b>21</b>	<b>21-24</b>
<b>DIE SET N. 24 - LENGTH 70 MM</b>	<b>24</b>	<b>24-27</b>
<b>DIE SET N. 27 - LENGTH 90 MM</b>	<b>27</b>	<b>27-30</b>
<b>DIE SET N. 30 - LENGTH 90 MM</b>	<b>30</b>	<b>30-33</b>
<b>DIE SET N. 33 - LENGTH 90 MM</b>	<b>33</b>	<b>33-36</b>
<b>DIE SET N. 36 - LENGTH 90 MM</b>	<b>36</b>	<b>36-39</b>
<b>DIE SET N. 39 - LENGTH 90 MM</b>	<b>39</b>	<b>39-42</b>
<b>DIE SET N. 42 - LENGTH 90 MM</b>	<b>42</b>	<b>42-45</b>
<b>DIE SET N. 45 - LENGTH 100 MM</b>	<b>45</b>	<b>45-48</b>
<b>DIE SET N. 48 - LENGTH 100 MM</b>	<b>48</b>	<b>48-51</b>
<b>DIE SET N. 51 - LENGTH 110 MM</b>	<b>51</b>	<b>51-57</b>
DIE SET N. 54 - LENGTH 110 MM	54	54-57
<b>DIE SET N. 57 - LENGTH 110 MM</b>	<b>57</b>	<b>57-62</b>
DIE SET N. 60 - LENGTH 110 MM	60	60-62
DIE SET N. 62 - LENGTH 110 MM	62	60-62
<b>DIE SET N. 62* - LENGTH 125 MM</b>	<b>62*</b>	<b>62-66</b>
DIE SET N. 66 - LENGTH 110 MM	66	66-70
<b>DIE SET N. 66* - LENGTH 125 MM</b>	<b>66*</b>	<b>66-70</b>
DIE SET N. 70 - LENGTH 100 MM	70	70-72
<b>DIE SET N. 70* - LENGTH 125 MM</b>	<b>70*</b>	<b>70-72</b>
<b>DIE SET N. 73 - LENGTH 125 MM</b>	<b>73</b>	<b>73-76</b>
DIE SET N. 75 - LENGTH 125 MM	75	75-76
DIE SET N. 76 - LENGTH 125 MM	76	76-86
<b>DIE SET N. 76* - LENGTH 135 MM</b>	<b>76*</b>	<b>76-86</b>
DIE SET N. 80 - LENGTH 125 MM	80	80-82
DIE SET N. 82 - LENGTH 135 MM	82	82-90
DIE SET N. 86 - LENGTH 125 MM	86	86-90
DIE SET N. 86* - LENGTH 150 MM (FOR DIAMONDSPIR 2½")	86*	86-90
DIE SET N. 90 - LENGTH 125 MM	90	90-95
DIE SET N. 95 - LENGTH 125 MM	95	95-105
DIE SET N. 95* - LENGTH 150 MM (FOR DIAMONDSPIR 2½")	95*	95-105
KIT 13 DIE SET GOLDENCRIMP420EVO (15 TO 73)	-	-
<b>KIT 19 DIE SET GOLDENCRIMP420EVO (15 TO 76)</b>	-	-

## GOLDENCRIMP 450

PG.563

DESCRIPTION	N°	CRIMP RANGE
DIE SET N. 4 - LENGTH 56 MM	4	04-05
DIE SET N. 6 - LENGTH 56 MM	6	06-08
DIE SET N. 7 - LENGTH 56 MM	7	07-08
DIE SET N. 8 - LENGTH 56 MM	8	08-09
DIE SET N. 10 - LENGTH 56 MM	10	10-12
DIE SET N. 12 - LENGTH 56 MM	12	12-15
<b>DIE SET N. 15 - LENGTH 56 MM</b>	<b>15</b>	<b>15-18</b>
DIE SET N. 17 - LENGTH 56 MM	17	17-18
<b>DIE SET N. 18 - LENGTH 56 MM</b>	<b>18</b>	<b>18-21</b>
DIE SET N. 20 - LENGTH 56 MM	20	20-21
<b>DIE SET N. 21 - LENGTH 56 MM</b>	<b>21</b>	<b>21-24</b>
<b>DIE SET N. 24 - LENGTH 70 MM</b>	<b>24</b>	<b>24-27</b>
<b>DIE SET N. 27 - LENGTH 90 MM</b>	<b>27</b>	<b>27-30</b>
<b>DIE SET N. 30 - LENGTH 90 MM</b>	<b>30</b>	<b>30-33</b>
<b>DIE SET N. 33 - LENGTH 90 MM</b>	<b>33</b>	<b>33-36</b>
<b>DIE SET N. 36 - LENGTH 90 MM</b>	<b>36</b>	<b>36-39</b>
<b>DIE SET N. 39 - LENGTH 90 MM</b>	<b>39</b>	<b>39-42</b>
<b>DIE SET N. 42 - LENGTH 90 MM</b>	<b>42</b>	<b>42-45</b>
<b>DIE SET N. 45 - LENGTH 100 MM</b>	<b>45</b>	<b>45-48</b>
<b>DIE SET N. 48 - LENGTH 100 MM</b>	<b>48</b>	<b>48-51</b>
<b>DIE SET N. 51 - LENGTH 110 MM</b>	<b>51</b>	<b>51-57</b>
<b>DIE SET N. 54 - LENGTH 110 MM</b>	<b>54</b>	<b>54-57</b>
<b>DIE SET N. 57 - LENGTH 110 MM</b>	<b>57</b>	<b>57-62</b>
DIE SET N. 60 - LENGTH 110 MM	60	60-62
DIE SET N. 62 - LENGTH 110 MM	62	62-66
<b>DIE SET N. 62* - LENGTH 125 MM</b>	<b>62*</b>	<b>62-66</b>
DIE SET N. 66 - LENGTH 110 MM	66	66-70
<b>DIE SET N. 66* - LENGTH 125 MM</b>	<b>66*</b>	<b>66-70</b>
DIE SET N. 70 - LENGTH 100 MM	70	70-72
<b>DIE SET N. 70* - LENGTH 125 MM</b>	<b>70*</b>	<b>70-72</b>
<b>DIE SET N. 73 - LENGTH 125-28 MM, REINFORCED PIN</b>	<b>73</b>	<b>73-76</b>
DIE SET N. 76 - LENGTH 125 MM	76	76-86
<b>DIE SET N. 76* - LENGTH 135 MM</b>	<b>76*</b>	<b>76-86</b>
DIE SET N. 80 - LENGTH 125 MM	80	80-82
DIE SET N. 82 - LENGTH 135 MM	82	82-90
DIE SET N. 86* - LENGTH 150 MM (FOR DIAMONDSPIR 2½")	86*	86-90
DIE SET N. 90 - LENGTH 125 MM	90	90-95
DIE SET N. 95 - LENGTH 150 MM (FOR DIAMONDSPIR 2½")	95*	95-105
DIE SET N. 99 - LENGTH 125 MM	99	95-105
DIE SET N. 105 - LENGTH 150 MM	105	99-109
DIE SET N. 112 - LENGTH 150 MM	112	112-122
DIE SET N. 117 - LENGTH 110 MM	117	117-127
DIE SET N. 122 - LENGTH 130 MM, REINFORCED PIN	122	122-130
KIT 13 DIE SET GOLDENCRIMP450EVO (15 TO 73)	-	-
<b>KIT 19 DIE SET GOLDENCRIMP450EVO (15 TO 76)</b>	-	-

## MVB 137 EVO R

PG.564

DESCRIPTION	N°	CRIMP RANGE
DIE SET N. 4 - LENGTH 56 MM	4	04-05
DIE SET N. 6 - LENGTH 56 MM	6	06-08
DIE SET N. 7 - LENGTH 56 MM	7	07-08
DIE SET N. 8 - LENGTH 56 MM	8	08-10
DIE SET N. 9 - LENGTH 56 MM	9	09-10
DIE SET N. 10 - LENGTH 56 MM	10	10-12
DIE SET N. 12 - LENGTH 56 MM	12	12-15
DIE SET N. 14 - LENGTH 56 MM	14	14-15
<b>DIE SET N. 15 - LENGTH 56 MM</b>	<b>15</b>	<b>15-18</b>
DIE SET N. 17 - LENGTH 56 MM	17	17-18
<b>DIE SET N. 18 - LENGTH 56 MM</b>	<b>18</b>	<b>18-21</b>
DIE SET N. 20 - LENGTH 56 MM	20	20-21
<b>DIE SET N. 21 - LENGTH 56 MM</b>	<b>21</b>	<b>21-24</b>
<b>DIE SET N. 24 - LENGTH 56 MM</b>	<b>24</b>	<b>24-27</b>
<b>DIE SET N. 27 - LENGTH 56 MM</b>	<b>27</b>	<b>27-30</b>
<b>DIE SET N. 30 - LENGTH 56 MM</b>	<b>30</b>	<b>30-33</b>
<b>DIE SET N. 33 - LENGTH 70 MM</b>	<b>33</b>	<b>33-36</b>
<b>DIE SET N. 36 - LENGTH 75 MM</b>	<b>36</b>	<b>36-39</b>
<b>DIE SET N. 39 - LENGTH 70 MM</b>	<b>39</b>	<b>39-42</b>
<b>DIE SET N. 42 - LENGTH 70 MM</b>	<b>42</b>	<b>42-45</b>
<b>DIE SET N. 45 - LENGTH 70 MM</b>	<b>45</b>	<b>45-48</b>
<b>DIE SET N. 48 - LENGTH 70 MM</b>	<b>48</b>	<b>48-51</b>
<b>DIE SET N. 51 - LENGTH 75 MM</b>	<b>51</b>	<b>51-57</b>
KIT 4 DIES MVB137EVOR (N.15 TO N.33)	-	-
KIT 5 DIES MVB137EVOR (N.15 TO N.39)	-	-
KIT 6 DIES MVB137EVOR (N.15 TO N.39)	-	-
KIT 7 DIES MVB137EVOR (N.15 TO N.39)	-	-
KIT 9 DIES MVB137EVOR (N.15 TO N.45)	-	-
KIT 9 DIES MVB137EVOR (N.15 TO N.48)	-	-
KIT 10 DIES MVB137EVOR (N.15 TO N.48)	-	-
<b>KIT 13 DIES MVB137EVOR (N.15 TO N.51)</b>	<b>-</b>	<b>-</b>

MV 137 L

PG.565

DESCRIPTION	N°	CRIMP RANGE
DIE SET N. 4 - LENGTH 56 MM	4	04-05
DIE SET N. 6 - LENGTH 56 MM	6	06-08
DIE SET N. 8 - LENGTH 56 MM	8	08-10
DIE SET N. 10 - LENGTH 56 MM	10	10-12
DIE SET N. 12 - LENGTH 56 MM	12	12-15
<b>DIE SET N. 15 - LENGTH 56 MM</b>	<b>15</b>	<b>15-18</b>
DIE SET N. 17 - LENGTH 56 MM	17	17-18
<b>DIE SET N. 18 - LENGTH 56 MM</b>	<b>18</b>	<b>18-21</b>
DIE SET N. 20 - LENGTH 56 MM	20	20-21
<b>DIE SET N. 21 - LENGTH 56 MM</b>	<b>21</b>	<b>21-24</b>
<b>DIE SET N. 24 - LENGTH 56 MM</b>	<b>24</b>	<b>24-27</b>
<b>DIE SET N. 27 - LENGTH 56 MM</b>	<b>27</b>	<b>27-30</b>
<b>DIE SET N. 30 - LENGTH 56 MM</b>	<b>30</b>	<b>30-33</b>
<b>DIE SET N. 33 - LENGTH 70 MM</b>	<b>33</b>	<b>33-36</b>
<b>DIE SET N. 36 - LENGTH 75 MM</b>	<b>36</b>	<b>36-39</b>
<b>DIE SET N. 39 - LENGTH 70 MM</b>	<b>39</b>	<b>39-42</b>
<b>DIE SET N. 42 - LENGTH 70 MM</b>	<b>42</b>	<b>42-45</b>
<b>DIE SET N. 45 - LENGTH 70 MM</b>	<b>45</b>	<b>45-48</b>
<b>DIE SET N. 48 - LENGTH 70 MM</b>	<b>48</b>	<b>48-51</b>
<b>DIE SET N. 51 - LENGTH 75 MM</b>	<b>51</b>	<b>51-57</b>
KIT 4 DIES MV137L (N.15 TO N.33)	-	-
KIT 5 DIES MV137L (N.15 TO N.39)	-	-
KIT 6 DIES MV137L (N.15 TO N.39)	-	-
KIT 7 DIES MV137L (N.15 TO N.39)	-	-
KIT 9 DIES MV137L (N.15 TO N.45)	-	-
KIT 9 DIES MV137L (N.15 TO N.48)	-	-
KIT 10 DIES MV137L (N.15 TO N.48)	-	-
<b>KIT 13 DIES MV137L (N.15 TO N.51)</b>	<b>-</b>	<b>-</b>



MV 240

PG.566

DESCRIPTION	N°	CRIMP RANGE
DIE SET N. 4 - LENGTH 56 MM	4	04-05
DIE SET N. 6 - LENGTH 56 MM	6	06-08
DIE SET N. 7 - LENGTH 56 MM	7	07-08
DIE SET N. 8 - LENGTH 56 MM	8	08-09
DIE SET N. 9 - LENGTH 56 MM	9	09-10
DIE SET N. 10 - LENGTH 56 MM	10	10-12
DIE SET N. 12 - LENGTH 56 MM	12	12-15
DIE SET N. 14 - LENGTH 56 MM	14	14-15
<b>DIE SET N. 15 - LENGTH 56 MM</b>	<b>15</b>	<b>15-18</b>
DIE SET N. 17 - LENGTH 56 MM	17	17-18
<b>DIE SET N. 18 - LENGTH 56 MM</b>	<b>18</b>	<b>18-21</b>
DIE SET N. 20 - LENGTH 56 MM	20	17-18
<b>DIE SET N. 21 - LENGTH 56 MM</b>	<b>21</b>	<b>21-24</b>
<b>DIE SET N. 24 - LENGTH 70 MM</b>	<b>24</b>	<b>24-27</b>
<b>DIE SET N. 27 - LENGTH 90 MM</b>	<b>27</b>	<b>27-30</b>
<b>DIE SET N. 30 - LENGTH 90 MM</b>	<b>30</b>	<b>30-33</b>
<b>DIE SET N. 33 - LENGTH 90 MM</b>	<b>33</b>	<b>33-36</b>
<b>DIE SET N. 36 - LENGTH 90 MM</b>	<b>36</b>	<b>36-39</b>
<b>DIE SET N. 39 - LENGTH 90 MM</b>	<b>39</b>	<b>39-42</b>
<b>DIE SET N. 42 - LENGTH 90 MM</b>	<b>42</b>	<b>42-45</b>
<b>DIE SET N. 45 - LENGTH 100 MM</b>	<b>45</b>	<b>45-48</b>
<b>DIE SET N. 48 - LENGTH 100 MM</b>	<b>48</b>	<b>48-51</b>
<b>DIE SET N. 51 - LENGTH 100 MM</b>	<b>51</b>	<b>51-57</b>
DIE SET N. 54 - LENGTH 100 MM	54	54-57
<b>DIE SET N. 57 - LENGTH 100 MM</b>	<b>57</b>	<b>57-62</b>
DIE SET N. 60 - LENGTH 100 MM	60	60-62
<b>DIE SET N. 62 - LENGTH 100 MM</b>	<b>62</b>	<b>62-66</b>
<b>DIE SET N. 66 - LENGTH 100 MM</b>	<b>66</b>	<b>66-70</b>
<b>DIE SET N. 70 - LENGTH 100 MM</b>	<b>70</b>	<b>70-72</b>
DIE SET N. 72 - LENGTH 100 MM	72	72-80
KIT 9 DIES MV240 (N.15 TO N.51)	-	-
KIT 11 DIES MV240 (N.15 TO N.66)	-	-
KIT 12 DIES MV240 (N.15 TO N.66)	-	-
<b>KIT 17 DIES MV240 (N.15 TO N.70)</b>	<b>-</b>	<b>-</b>

MV 240 L

PG.567

DESCRIPTION	N°	CRIMP RANGE
DIE SET N. 4 - LENGTH 56 MM	4	04-05
DIE SET N. 6 - LENGTH 56 MM	6	06-08
DIE SET N. 7 - LENGTH 56 MM	7	07-08
DIE SET N. 8 - LENGTH 56 MM	8	08-09
DIE SET N. 9 - LENGTH 56 MM	9	09-10
DIE SET N. 10 - LENGTH 56 MM	10	10-12
DIE SET N. 12 - LENGTH 56 MM	12	12-15
<b>DIE SET N. 15 - LENGTH 56 MM</b>	<b>15</b>	<b>15-18</b>
<b>DIE SET N. 18 - LENGTH 56 MM</b>	<b>18</b>	<b>18-21</b>
<b>DIE SET N. 21 - LENGTH 56 MM</b>	<b>21</b>	<b>21-24</b>
<b>DIE SET N. 24 - LENGTH 70 MM</b>	<b>24</b>	<b>24-27</b>
<b>DIE SET N. 27 - LENGTH 90 MM</b>	<b>27</b>	<b>27-30</b>
<b>DIE SET N. 30 - LENGTH 90 MM</b>	<b>30</b>	<b>30-33</b>
<b>DIE SET N. 33 - LENGTH 90 MM</b>	<b>33</b>	<b>33-36</b>
<b>DIE SET N. 36 - LENGTH 90 MM</b>	<b>36</b>	<b>36-39</b>
<b>DIE SET N. 39 - LENGTH 90 MM</b>	<b>39</b>	<b>39-42</b>
<b>DIE SET N. 42 - LENGTH 90 MM</b>	<b>42</b>	<b>42-45</b>
<b>DIE SET N. 45 - LENGTH 100 MM</b>	<b>45</b>	<b>45-48</b>
<b>DIE SET N. 48 - LENGTH 100 MM</b>	<b>48</b>	<b>48-51</b>
<b>DIE SET N. 51 - LENGTH 100 MM</b>	<b>51</b>	<b>51-57</b>
<b>DIE SET N. 54 - LENGTH 100 MM</b>	<b>54</b>	<b>54-57</b>
<b>DIE SET N. 57 - LENGTH 100 MM</b>	<b>57</b>	<b>57-62</b>
<b>DIE SET N. 62 - LENGTH 100 MM</b>	<b>62</b>	<b>62-66</b>
<b>DIE SET N. 66 - LENGTH 100 MM</b>	<b>66</b>	<b>66-70</b>
<b>DIE SET N. 70 - LENGTH 100 MM</b>	<b>70</b>	<b>70-72</b>
KIT 9 DIES MV240L (N.15 TO N.51)	-	-
KIT 11 DIES MV240L (N.15 TO N.66)	-	-
KIT 12 DIES MV240L (N.15 TO N.66)	-	-
<b>KIT 17 DIES MV240L (N.15 TO N.70)</b>	-	-

MV 350

PG.568

DESCRIPTION	N°	CRIMP RANGE
DIE SET N. 4 - LENGTH 56 MM	4	04-05
DIE SET N. 6 - LENGTH 56 MM	6	06-08
DIE SET N. 7 - LENGTH 56 MM	7	07-08
DIE SET N. 8 - LENGTH 56 MM	8	08-09
DIE SET N. 9 - LENGTH 56 MM	9	09-10
DIE SET N. 10 - LENGTH 56 MM	10	10-12
DIE SET N. 12 - LENGTH 56 MM	12	12-15
DIE SET N. 14 - LENGTH 56 MM	14	14-15
<b>DIE SET N. 15 - LENGTH 56 MM</b>	<b>15</b>	<b>15-18</b>
DIE SET N. 17 - LENGTH 56 MM	17	17-18
<b>DIE SET N. 18 - LENGTH 56 MM</b>	<b>18</b>	<b>18-21</b>
DIE SET N. 20 - LENGTH 56 MM	20	17-18
<b>DIE SET N. 21 - LENGTH 56 MM</b>	<b>21</b>	<b>21-24</b>
DIE SET N. 24 - LENGTH 70 MM	24	24-27
<b>DIE SET N. 27 - LENGTH 90 MM</b>	<b>27</b>	<b>27-30</b>
DIE SET N. 30 - LENGTH 90 MM	30	30-33
<b>DIE SET N. 33 - LENGTH 90 MM</b>	<b>33</b>	<b>33-36</b>
<b>DIE SET N. 36 - LENGTH 90 MM</b>	<b>36</b>	<b>36-39</b>
<b>DIE SET N. 39 - LENGTH 90 MM</b>	<b>39</b>	<b>39-42</b>
<b>DIE SET N. 42 - LENGTH 90 MM</b>	<b>42</b>	<b>42-45</b>
<b>DIE SET N. 45 - LENGTH 100 MM</b>	<b>45</b>	<b>45-48</b>
<b>DIE SET N. 48 - LENGTH 100 MM</b>	<b>48</b>	<b>48-51</b>
<b>DIE SET N. 51 - LENGTH 100 MM</b>	<b>51</b>	<b>51-57</b>
DIE SET N. 54 - LENGTH 110 MM	54	54-57
<b>DIE SET N. 57 - LENGTH 100 MM</b>	<b>57</b>	<b>57-62</b>
DIE SET N. 54 - LENGTH 110 MM	54	54-57
<b>DIE SET N. 62 - LENGTH 100 MM</b>	<b>62</b>	<b>62-66</b>
<b>DIE SET N. 66 - LENGTH 110 MM</b>	<b>66</b>	<b>66-70</b>
<b>DIE SET N. 70 - LENGTH 100 MM</b>	<b>70</b>	<b>70-72</b>
DIE SET N. 73 - LENGTH 125 MM	73	73-76
DIE SET N. 75 - LENGTH 125 MM	75	75-76
DIE SET N. 76 - LENGTH 125 MM	76	76-86
DIE SET N. 80 - LENGTH 125 MM	80	80-86
DIE SET N. 86 - LENGTH 125 MM	86	86-90
DIE SET N. 90 - LENGTH 125 MM	90	90-95
DIE SET N. 95 - LENGTH 125 MM	95	95-105
DIE SET N. 99 - LENGTH 125 MM	99	99-109
DIE SET N. 112 - LENGTH 125 MM	112	112-117
DIE SET N. 117 - LENGTH 125 MM	117	117-122
DIE SET N. 122 - LENGTH 125 MM	122	122-127
KIT 12 DIES MV350 (N.15 TO N.66)	-	-
<b>KIT 17 DIES MV350 (N.15 TO N.70)</b>	<b>-</b>	<b>-</b>

MV 350 L

PG.568

DESCRIPTION	N°	CRIMP RANGE
DIE SET N. 4 - LENGTH 56 MM	4	04-05
DIE SET N. 6 - LENGTH 56 MM	6	06-08
DIE SET N. 7 - LENGTH 56 MM	7	07-08
DIE SET N. 8 - LENGTH 56 MM	8	08-09
DIE SET N. 9 - LENGTH 56 MM	9	09-10
DIE SET N. 10 - LENGTH 56 MM	10	10-12
DIE SET N. 12 - LENGTH 56 MM	12	12-15
DIE SET N. 14 - LENGTH 56 MM	14	14-15
<b>DIE SET N. 15 - LENGTH 56 MM</b>	<b>15</b>	<b>15-18</b>
DIE SET N. 17 - LENGTH 56 MM	17	17-18
<b>DIE SET N. 18 - LENGTH 56 MM</b>	<b>18</b>	<b>18-21</b>
DIE SET N. 20 - LENGTH 56 MM	20	17-18
<b>DIE SET N. 21 - LENGTH 56 MM</b>	<b>21</b>	<b>21-24</b>
DIE SET N. 24 - LENGTH 70 MM	24	24-27
<b>DIE SET N. 27 - LENGTH 90 MM</b>	<b>27</b>	<b>27-30</b>
DIE SET N. 30 - LENGTH 90 MM	30	30-33
<b>DIE SET N. 33 - LENGTH 90 MM</b>	<b>33</b>	<b>33-36</b>
<b>DIE SET N. 36 - LENGTH 90 MM</b>	<b>36</b>	<b>36-39</b>
<b>DIE SET N. 39 - LENGTH 90 MM</b>	<b>39</b>	<b>39-42</b>
<b>DIE SET N. 42 - LENGTH 90 MM</b>	<b>42</b>	<b>42-45</b>
<b>DIE SET N. 45 - LENGTH 100 MM</b>	<b>45</b>	<b>45-48</b>
<b>DIE SET N. 48 - LENGTH 100 MM</b>	<b>48</b>	<b>48-51</b>
<b>DIE SET N. 51 - LENGTH 100 MM</b>	<b>51</b>	<b>51-57</b>
DIE SET N. 54 - LENGTH 110 MM	54	54-57
<b>DIE SET N. 57 - LENGTH 100 MM</b>	<b>57</b>	<b>57-62</b>
DIE SET N. 54 - LENGTH 110 MM	54	54-57
<b>DIE SET N. 62 - LENGTH 100 MM</b>	<b>62</b>	<b>62-66</b>
<b>DIE SET N. 66 - LENGTH 110 MM</b>	<b>66</b>	<b>66-70</b>
<b>DIE SET N. 70 - LENGTH 100 MM</b>	<b>70</b>	<b>70-72</b>
DIE SET N. 73 - LENGTH 125 MM	73	73-76
DIE SET N. 75 - LENGTH 125 MM	75	75-76
DIE SET N. 76 - LENGTH 125 MM	76	76-86
DIE SET N. 80 - LENGTH 125 MM	80	80-86
DIE SET N. 86 - LENGTH 125 MM	86	86-90
DIE SET N. 90 - LENGTH 125 MM	90	90-95
DIE SET N. 95 - LENGTH 125 MM	95	95-105
DIE SET N. 99 - LENGTH 125 MM	99	99-109
DIE SET N. 112 - LENGTH 125 MM	112	112-117
DIE SET N. 117 - LENGTH 125 MM	117	117-122
DIE SET N. 122 - LENGTH 125 MM	122	122-127
KIT 12 DIES MV350L (N.15 TO N.66)	-	-
<b>KIT 17 DIES MV350L (N.15 TO N.70)</b>	<b>-</b>	<b>-</b>

MS 140

PG.570

DESCRIPTION	N°	CRIMP RANGE
DIE SET N. 4 - LENGTH 56 MM	4	04-05
DIE SET N. 6 - LENGTH 56 MM	6	06-08
DIE SET N. 7 - LENGTH 56 MM	7	07-08
DIE SET N. 8 - LENGTH 56 MM	8	08-09
DIE SET N. 9 - LENGTH 56 MM	9	09-10
DIE SET N. 10 - LENGTH 56 MM	10	10-12
DIE SET N. 12 - LENGTH 70 MM	12	12-15
DIE SET N. 14 - LENGTH 70 MM	14	14-15
<b>DIE SET N. 15 - LENGTH 70 MM</b>	<b>15</b>	<b>15-18</b>
DIE SET N. 17 - LENGTH 70 MM	17	17-18
<b>DIE SET N. 18 - LENGTH 70 MM</b>	<b>18</b>	<b>18-21</b>
DIE SET N. 20 - LENGTH 70 MM	20	20-21
<b>DIE SET N. 21 - LENGTH 70 MM</b>	<b>21</b>	<b>21-24</b>
<b>DIE SET N. 24 - LENGTH 70 MM</b>	<b>24</b>	<b>24-27</b>
<b>DIE SET N. 27 - LENGTH 70 MM</b>	<b>27</b>	<b>27-30</b>
<b>DIE SET N. 30 - LENGTH 70 MM</b>	<b>30</b>	<b>30-33</b>
<b>DIE SET N. 33 - LENGTH 70 MM</b>	<b>33</b>	<b>33-36</b>
<b>DIE SET N. 36 - LENGTH 75 MM</b>	<b>36</b>	<b>36-39</b>
<b>DIE SET N. 39 - LENGTH 70 MM</b>	<b>39</b>	<b>39-42</b>
<b>DIE SET N. 42 - LENGTH 70-28 MM</b>	<b>42</b>	<b>42-45</b>
<b>DIE SET N. 45 - LENGTH 70 MM</b>	<b>45</b>	<b>45-48</b>
<b>DIE SET N. 48 - LENGTH 70 MM</b>	<b>48</b>	<b>48-51</b>
DIE SET N. 51 - LENGTH 75 MM	51	51-57
KIT 10 DIES MS140 (N.15 TO N.48)	-	-
<b>KIT 12 DIES MS140 (N.15 TO N.48)</b>	-	-

MS 320

PG.571

DESCRIPTION	N°	CRIMP RANGE
DIE SET N. 4 - LENGTH 56 MM	4	04-05
DIE SET N. 6 - LENGTH 56 MM	6	06-08
DIE SET N. 7 - LENGTH 56 MM	7	07-08
DIE SET N. 8 - LENGTH 56 MM	8	08-09
DIE SET N. 10 - LENGTH 90 MM	10	10-12
DIE SET N. 12 - LENGTH 90 MM	12	12-15
DIE SET N. 14 - LENGTH 90 MM	14	14-15
<b>DIE SET N. 15 - LENGTH 70 MM</b>	<b>15</b>	<b>15-18</b>
DIE SET N. 17 - LENGTH 90 MM	17	17-18
<b>DIE SET N. 18 - LENGTH 70 MM</b>	<b>18</b>	<b>18-21</b>
DIE SET N. 20 - LENGTH 90 MM	20	20-21
<b>DIE SET N. 21 - LENGTH 90 MM</b>	<b>21</b>	<b>21-24</b>
<b>DIE SET N. 24 - LENGTH 90 MM</b>	<b>24</b>	<b>24-27</b>
<b>DIE SET N. 27 - LENGTH 90 MM</b>	<b>27</b>	<b>27-30</b>
<b>DIE SET N. 30 - LENGTH 90 MM</b>	<b>30</b>	<b>30-33</b>
<b>DIE SET N. 33 - LENGTH 90 MM</b>	<b>33</b>	<b>33-36</b>
<b>DIE SET N. 36 - LENGTH 90 MM</b>	<b>36</b>	<b>36-39</b>
<b>DIE SET N. 39 - LENGTH 90 MM</b>	<b>39</b>	<b>39-42</b>
<b>DIE SET N. 42 - LENGTH 90 MM</b>	<b>42</b>	<b>42-45</b>
<b>DIE SET N. 45 - LENGTH 95 MM</b>	<b>45</b>	<b>45-48</b>
<b>DIE SET N. 48 - LENGTH 100 MM</b>	<b>48</b>	<b>48-51</b>
<b>DIE SET N. 51 - LENGTH 100 MM</b>	<b>51</b>	<b>51-57</b>
DIE SET N. 54 - LENGTH 100 MM	54	54-57
<b>DIE SET N. 57 - LENGTH 100 MM</b>	<b>57</b>	<b>57-62</b>
DIE SET N. 60 - LENGTH 100 MM	60	60-62
DIE SET N. 62 - LENGTH 110 MM	62	62-66
<b>DIE SET N. 62 - LENGTH 125 MM</b>	<b>62</b>	<b>62-66</b>
DIE SET N. 66 - LENGTH 100 MM	66	66-70
<b>DIE SET N. 66 - LENGTH 125 MM</b>	<b>66</b>	<b>66-70</b>
DIE SET N. 70 - LENGTH 100 MM	70	70-72
<b>DIE SET N. 70 - LENGTH 125 MM</b>	<b>70</b>	<b>70-72</b>
<b>DIE SET N. 73 - LENGTH 120 MM</b>	<b>73</b>	<b>73-76</b>
<b>DIE SET N. 76 - LENGTH 120 MM</b>	<b>76</b>	<b>76-86</b>
DIE SET N. 80 - LENGTH 100 MM	80	80-86
DIE SET N. 86 - LENGTH 100-65 MM	86	86-90
DIE SET N. 90 - LENGTH 100 MM, REINFORCED PIN	90	90-95
DIE SET N. 95 - LENGTH 100 MM, REINFORCED PIN	95	95-105
DIE SET N. 99 - LENGTH 100 MM	99	99-109
DIE SET N. 112 - LENGTH 100 MM	112	112-117
DIE SET N. 117 - LENGTH 100 MM	117	117-122
DIE SET N. 122 - LENGTH 100 MM	122	122-127
KIT 13 DIES MS320 (N.15 TO N.73)	-	-
<b>KIT 19 DIES MS320 (N.15 TO N.76)</b>	-	-

MS 480

PG.573

DESCRIPTION	N°	CRIMP RANGE
DIE SET N. 4 - LENGTH 56 MM	4	04-05
DIE SET N. 6 - LENGTH 56 MM	6	06-08
DIE SET N. 7 - LENGTH 56 MM	7	07-08
DIE SET N. 8 - LENGTH 56 MM	8	08-09
DIE SET N. 10 - LENGTH 90 MM	10	10-12
DIE SET N. 12 - LENGTH 90 MM	12	12-15
DIE SET N. 14 - LENGTH 90 MM	14	14-15
<b>DIE SET N. 15 - LENGTH 90 MM</b>	<b>15</b>	<b>15-18</b>
DIE SET N. 17 - LENGTH 90 MM	17	17-18
<b>DIE SET N. 18 - LENGTH 90 MM</b>	<b>18</b>	<b>18-21</b>
DIE SET N. 20 - LENGTH 90 MM	20	20-21
<b>DIE SET N. 21 - LENGTH 90 MM</b>	<b>21</b>	<b>21-24</b>
<b>DIE SET N. 24 - LENGTH 90 MM</b>	<b>24</b>	<b>24-27</b>
<b>DIE SET N. 27 - LENGTH 90 MM</b>	<b>27</b>	<b>27-30</b>
<b>DIE SET N. 30 - LENGTH 100 MM</b>	<b>30</b>	<b>30-33</b>
<b>DIE SET N. 33 - LENGTH 90 MM</b>	<b>33</b>	<b>33-36</b>
<b>DIE SET N. 36 - LENGTH 90 MM</b>	<b>36</b>	<b>36-39</b>
<b>DIE SET N. 39 - LENGTH 90 MM</b>	<b>39</b>	<b>39-42</b>
<b>DIE SET N. 42 - LENGTH 90 MM</b>	<b>42</b>	<b>42-45</b>
<b>DIE SET N. 45 - LENGTH 100 MM</b>	<b>45</b>	<b>45-48</b>
<b>DIE SET N. 48 - LENGTH 100 MM</b>	<b>48</b>	<b>48-51</b>
<b>DIE SET N. 51 - LENGTH 110 MM</b>	<b>51</b>	<b>51-57</b>
DIE SET N. 54 - LENGTH 110 MM	54	54-57
<b>DIE SET N. 57 - LENGTH 110 MM</b>	<b>57</b>	<b>57-62</b>
DIE SET N. 60 - LENGTH 110 MM	60	60-62
DIE SET N. 62 - LENGTH 110 MM	62	62-66
<b>DIE SET N. 62* - LENGTH 125 MM</b>	<b>62*</b>	<b>62-66</b>
DIE SET N. 66 - LENGTH 110 MM	66	66-70
<b>DIE SET N. 66* - LENGTH 125 MM</b>	<b>66*</b>	<b>66-70</b>
DIE SET N. 70 - LENGTH 110 MM	70	70-72
<b>DIE SET N. 70* - LENGTH 125 MM</b>	<b>70*</b>	<b>70-72</b>
<b>DIE SET N. 73 - LENGTH 125-28 MM, REINFORCED PIN</b>	<b>73</b>	<b>73-76</b>
<b>DIE SET N. 76 - LENGTH 135 MM</b>	<b>76</b>	<b>76-86</b>
DIE SET N. 80 - LENGTH 125 MM	80	80-86
DIE SET N. 82 - LENGTH 135 MM	82	82-90
DIE SET N. 86 - LENGTH 150 MM	86	86-90
DIE SET N. 86 - LENGTH 125-48 MM	86	
DIE SET N. 90 - LENGTH 125 MM	90	90-95
DIE SET N. 95 - LENGTH 150 MM	95	95-105
DIE SET N. 95 - LENGTH 125-48 MM	95	
DIE SET N. 99 - LENGTH 125 MM, REINFORCED PIN	99	99-105
DIE SET N. 105 - LENGTH 150 MM	105	105-112
DIE SET N. 112 - LENGTH 150 MM	112	112-122
DIE SET N. 117 - LENGTH 125 MM	117	117-122
DIE SET N. 122 - LENGTH 130 MM, REINFORCED PIN	122	122 -130
DIE SET N. 130 - LENGTH 145 MM	130	130-140
KIT 13 DIES MS480 (N.15 TO N.73)	-	-
<b>KIT 19 DIES MS480 (N.15 TO N.76)</b>	<b>-</b>	<b>-</b>

MS 800

PG.575

DESCRIPTION	N°	CRIMP RANGE
DIE SET N. 4 - LENGTH 56 MM	4	04-05
DIE SET N. 6 - LENGTH 56 MM	6	06-08
DIE SET N. 7 - LENGTH 56 MM	7	07-08
DIE SET N. 8 - LENGTH 56 MM	8	08-09
DIE SET N. 10 - LENGTH 56 MM	10	10-12
DIE SET N. 12 - LENGTH 90 MM	12	12-15
DIE SET N. 15 - LENGTH 90 MM	15	15-18
DIE SET N. 17 - LENGTH 90 MM	17	17-18
DIE SET N. 18 - LENGTH 90 MM	18	18-21
DIE SET N. 20 - LENGTH 90 MM	20	20-21
DIE SET N. 21 - LENGTH 90 MM	21	21-24
DIE SET N. 24 - LENGTH 90 MM	24	24-27
DIE SET N. 27 - LENGTH 90 MM	27	27-30
DIE SET N. 30 - LENGTH 90 MM	30	30-33
DIE SET N. 33 - LENGTH 90 MM	33	33-36
DIE SET N. 36 - LENGTH 90 MM	36	36-39
<b>DIE SET N. 39 - LENGTH 90 MM</b>	<b>39</b>	<b>39-42</b>
<b>DIE SET N. 42 - LENGTH 90 MM</b>	<b>42</b>	<b>42-45</b>
<b>DIE SET N. 45 - LENGTH 100 MM</b>	<b>45</b>	<b>45-48</b>
<b>DIE SET N. 48 - LENGTH 100 MM</b>	<b>48</b>	<b>48-51</b>
<b>DIE SET N. 51 - LENGTH 110 MM</b>	<b>51</b>	<b>51-57</b>
DIE SET N. 54 - LENGTH 110 MM	54	54-57
<b>DIE SET N. 57 - LENGTH 110 MM</b>	<b>57</b>	<b>57-62</b>
DIE SET N. 60 - LENGTH 110 MM	60	60-62
DIE SET N. 62 - LENGTH 110 MM	62	62-66
<b>DIE SET N. 62* - LENGTH 125 MM</b>	<b>62*</b>	<b>62-66</b>
DIE SET N. 66 - LENGTH 110 MM	66	66-70
<b>DIE SET N. 66* - LENGTH 125 MM</b>	<b>66*</b>	<b>66-70</b>
DIE SET N. 70 - LENGTH 110 MM	70	70-72
<b>DIE SET N. 70* - LENGTH 125 MM</b>	<b>70*</b>	<b>70-72</b>
<b>DIE SET N. 73 - LENGTH 125-28 MM, REINFORCED PIN</b>	<b>73</b>	<b>73-76</b>
DIE SET N. 76 - LENGTH 125 MM	76	76-86
<b>DIE SET N. 76* - LENGTH 135 MM</b>	<b>76*</b>	<b>76-86</b>
DIE SET N. 80 - LENGTH 125 MM	80	80-86
DIE SET N. 82 - LENGTH 135 MM	82	82-90
<b>DIE SET N. 86 - LENGTH 150 MM</b>	<b>86</b>	<b>86-90</b>
<b>DIE SET N. 90 - LENGTH 125 MM</b>	<b>90</b>	<b>90-95</b>
<b>DIE SET N. 95 - LENGTH 150 MM</b>	<b>95</b>	<b>95-105</b>
<b>DIE SET N. 105 - LENGTH 180 MM</b>	<b>105</b>	<b>105-112</b>
<b>DIE SET N. 112 - LENGTH 150 MM</b>	<b>112</b>	<b>112-122</b>
<b>DIE SET N. 130 - LENGTH 180 MM</b>	<b>130</b>	<b>130-140</b>
KIT 13 DIES MS800 (N.15 TO N.73)	-	-
<b>KIT 18 DIES MS800 (N.39 TO N.130)</b>	-	-



## MS 320 OPEN HEAD

PG.577

DESCRIPTION	N°	CRIMP RANGE
DIE SET N. 73 - LENGTH 125 MM	73	73-80
DIE SET N. 80 - LENGTH 125 MM	80	80-86
DIE SET N. 84 - LENGTH 125 MM	84	86-90
DIE SET N. 86 - LENGTH 125 MM	86	86-90
DIE SET N. 90 - LENGTH 125 MM	90	90-95
DIE SET N. 95 - LENGTH 125 MM	95	95-105
DIE SET N. 99 - LENGTH 125 MM	99	99-106
DIE SET N. 106 - LENGTH 125 MM	106	106-112
DIE SET N. 112 - LENGTH 125 MM	112	112-117
DIE SET N. 117 - LENGTH 125 MM	117	117-122
DIE SET N. 122 - LENGTH 125 MM	122	122-125
DIE SET N.125 - LENGTH 125 MM	125	125-128
DIE SET N. 128 - LENGTH 125 MM	128	128-130
DIE SET N. 130 - LENGTH 125 MM	130	130-140
DIE SET N. 135 - LENGTH 125 MM	135	135-145
DIE SET N. 150 - LENGTH 125 MM	150	150-160
DIE SET N. 156 - LENGTH 125 MM	156	156-166
DIE SET N. 158 - LENGTH 125 MM	158	158-168
DIE SET N. 165 - LENGTH 125 MM	165	165-185
DIE SET N. 175 - LENGTH 125 MM	175	175-195
DIE SET N. 181 - LENGTH 125 MM	181	181-201
DIE SET N. 185 - LENGTH 125 MM	185	185-205
DIE SET N. 188 - LENGTH 125 MM	188	188-208
DIE SET N. 190 - LENGTH 125 MM	190	190-210

- OTHER DIMENSIONS UPON REQUEST

## MS 450-200

PG.578

DESCRIPTION	N°	CRIMP RANGE
DIE SET N. 4 - LENGTH 56 MM	4	04-05
DIE SET N. 6 - LENGTH 56 MM	6	06-08
DIE SET N. 7 - LENGTH 56 MM	7	07-08
DIE SET N. 8 - LENGTH 56 MM	8	08-09
DIE SET N. 10 - LENGTH 56 MM	10	10-12
DIE SET N. 12 - LENGTH 56 MM	12	12-15
DIE SET N. 15 - LENGTH 56 MM	15	15-18
DIE SET N. 17 - LENGTH 56 MM	17	17-18
DIE SET N. 18 - LENGTH 56 MM	18	18-21
DIE SET N. 20 - LENGTH 56 MM	20	20-21
DIE SET N. 21 - LENGTH 56 MM	21	21-24
DIE SET N. 24 - LENGTH 70 MM	24	24-27
DIE SET N. 27 - LENGTH 90 MM	27	27-30
DIE SET N. 30 - LENGTH 90 MM	30	30-33
DIE SET N. 33 - LENGTH 90 MM	33	33-36
DIE SET N. 36 - LENGTH 90 MM	36	36-39
DIE SET N. 39 - LENGTH 90 MM	39	39-42
DIE SET N. 42 - LENGTH 90 MM	42	42-45
DIE SET N. 45 - LENGTH 100 MM	45	45-48
DIE SET N. 48 - LENGTH 100 MM	48	48-51
DIE SET N. 51 - LENGTH 110 MM	51	51-57
DIE SET N. 54 - LENGTH 110 MM	54	54-57
DIE SET N. 57 - LENGTH 110 MM	57	57-62
DIE SET N. 60 - LENGTH 110 MM	60	60-62
DIE SET N. 62 - LENGTH 110 MM	62	62-66
DIE SET N. 62* - LENGTH 125 MM	62*	62-66
DIE SET N. 66 - LENGTH 110 MM	66	66-70
DIE SET N. 66* - LENGTH 125 MM	66*	66-70
DIE SET N. 70 - LENGTH 100 MM	70	70-72
DIE SET N. 70* - LENGTH 125 MM	70*	70-72
DIE SET N. 73 - LENGTH 125-28 MM, REINFORCED PIN	73	73-76
DIE SET N. 76 - LENGTH 125 MM	76	76-86
DIE SET N. 76* - LENGTH 135 MM	76*	76-86
DIE SET N. 80 - LENGTH 125 MM	80	80-82
DIE SET N. 82 - LENGTH 135 MM	82	82-90
DIE SET N. 86* - LENGTH 150 MM (FOR DIAMONDSPIR 2½")	86*	86-90
DIE SET N. 90 - LENGTH 125 MM	90	90-95
DIE SET N. 95 - LENGTH 150 MM (FOR DIAMONDSPIR 2½")	95*	95-105
DIE SET N. 99 - LENGTH 125 MM	99	95-105
DIE SET N. 105 - LENGTH 150 MM	105	99-109
DIE SET N. 112 - LENGTH 150 MM	112	112-122
DIE SET N. 117 - LENGTH 110 MM	117	117-127
DIE SET N. 122 - LENGTH 130 MM, REINFORCED PIN	122	122-130
KIT 13 DIE SET XLCRIMP450-200 (15 TO 73)	-	-
KIT 19 DIE SET XLCRIMP450-200(15 TO 76)	-	-

- OTHER DIMENSIONS UPON REQUEST

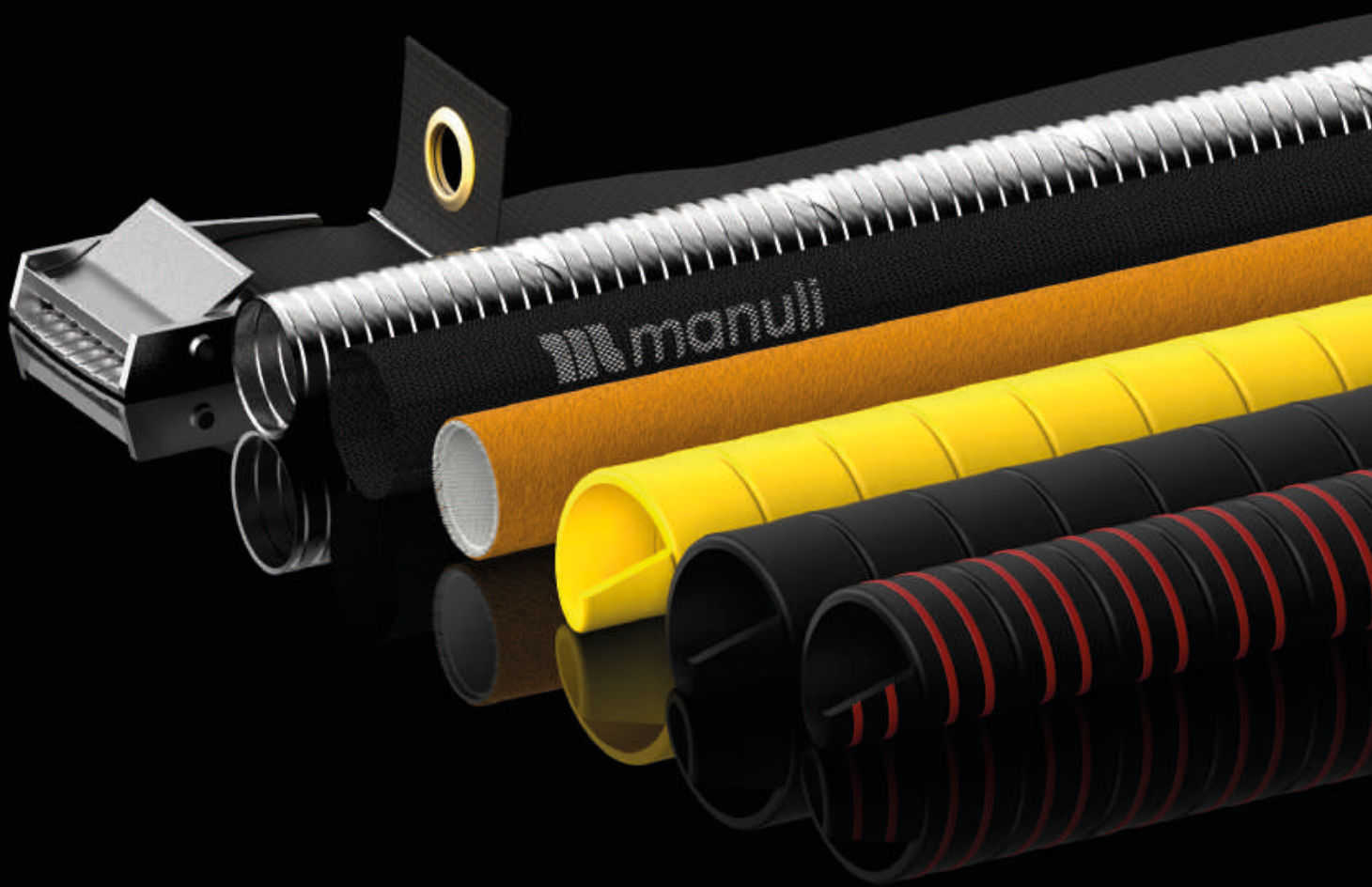
## MS 550/MS 550-16

PG.579

DESCRIPTION	N°	CRIMP RANGE
DIE SET N. 73 - LENGTH 125 MM	73	73-80
DIE SET N. 80 - LENGTH 125 MM	80	80-86
DIE SET N. 86 - LENGTH 125 MM	86	86-90
DIE SET N. 90 - LENGTH 125 MM	90	90-95
DIE SET N. 95 - LENGTH 125 MM	95	95-105
DIE SET N. 99 - LENGTH 125 MM	99	99-112
DIE SET N. 112 - LENGTH 125 MM	112	112-117
DIE SET N. 117 - LENGTH 125 MM	117	117-122
DIE SET N. 122 - LENGTH 125 MM	122	122-130
DIE SET N. 130 - LENGTH 200 MM	130	130-140
DIE SET N. 140 - LENGTH 200 MM	140	140-150
DIE SET N. 150 - LENGTH 200 MM	150	150-160
DIE SET N. 156 - LENGTH 200 MM	156	156-166
DIE SET N. 160 - LENGTH 200 MM	160	160-180
DIE SET N. 165 - LENGTH 200 MM	165	165-185
DIE SET N. 170 - LENGTH 200 MM	170	170-190
DIE SET N. 176 - LENGTH 200 MM	176	176-196
DIE SET N. 178 - LENGTH 200 MM	178	178-198
DIE SET N. 180 - LENGTH 200 MM	180	180-200
DIE SET N. 200 - LENGTH 200 MM	200	200-220
DIE SET N. 215 - LENGTH 200 MM	215	215-235
DIE SET N. 225 - LENGTH 200 MM	225	225-245
DIE SET N. 230 - LENGTH 200 MM	230	230-250
DIE SET N. 235 - LENGTH 200 MM	235	235-255
DIE SET N. 250 - LENGTH 200 MM	250	250-270
DIE SET N. 260 - LENGTH 200 MM	260	260-280
DIE SET N. 265 - LENGTH 200 MM	265	265-285
DIE SET N. 280 - LENGTH 200 MM	280	280-300
DIE SET N. 282 - LENGTH 200 MM	282	282-302
DIE SET N. 285 - LENGTH 200 MM	285	285-305
DIE SET N. 290 - LENGTH 200 MM	290	290-310
DIE SET N. 308 - LENGTH 200 MM	308	308-328
DIE SET N. 317 - LENGTH 200 MM	317	317-337
DIE SET N. 330 - LENGTH 200 MM	330	330-350
DIE SET N. 340 - LENGTH 200 MM	340	340-360

- OTHER DIMENSIONS UPON REQUEST





HOSE PROTECTIONS



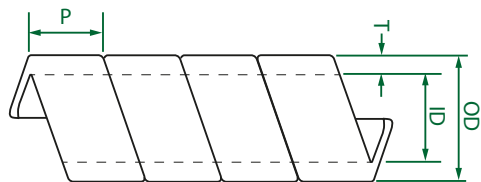
# HOSE PROTECTIONS INDEX

The Manuli Hydraulics range of hose protections is the culmination of decades of experience in the hydraulic connectors industry. Our hose protections are designed to meet the most stringent of international safety standards, whilst also actively preventing hose damage and potential injury.

PROTECTION TYPE	KEY FEATURES						
	Material	Size (mm)	Colour	Temperature Range	Specifications	Key Properties	Page No.
PROTECTION SPRING <b>PS</b> 	POLYETHYLENE	9 - 84	BLACK OR YELLOW	-40°C TO +90°C	MANULI® DESIGN	HIGH FLEXIBILITY; HIGH ABRASION RESISTANCE	608
MINING PROTECTION SPRING <b>MPS</b> 	POLYETHYLENE (ANTISTATIC)	12 - 84	BLACK WITH TWO RED LINES	-40°C TO +90°C	MANULI® DESIGN; FRAS; MSHA; ISO 6805	HIGH ABRASION RESISTANCE; FLAME RETARDANT & ANTISTATIC PROPERTIES	609
HT PROTECTION SPRING <b>HTPS</b> 	POLYAMMIDE	10 - 60	BLACK	-40°C TO +120°C	MANULI® DESIGN; MSHA	HIGH TEMPERATURE AND ABRASION RESISTANCE; FLAME RETARDANT; VERY HIGH FLEXIBILITY	610
TEXTILE SLEEVE <b>TSL</b> 	POLYESTER FIBRES	18 - 110	BLACK	-50°C TO +100°C (PEAKS +140°C)	MANULI® DESIGN; FRAS; MSHA; MDG41	FLUID ENERGY DIFFUSION; ANTI-ABRASIVE; FLAME RETARDANT & ANTISTATIC PROPERTIES	611
FIRE SLEEVE <b>FSL</b> 	SILICONE SLEEVE WITH GLASS FIBRE BRAID	13 - 76	ORANGE	-60°C TO +260°C (PEAKS +1500°C)	MANULI® DESIGN; NFF16-101 & P92-507 (CLASS FO & M2)	EXTREME HEAT RESISTANCE; EXTREME FLEXIBILITY AT LOW TEMPERATURES	612
HEAT SHRINKABLE SLEEVE <b>HSSL</b> 	POLYOLEFIN	31 - 51	BLACK	-55°C TO +125°C	UL224 VW-1	SELF EXTINGUISHING FLAME RESISTANCE; LOW VOLTAGE ELECTRICAL INSULATION	613
STAINLESS STEEL ARMOUR GUARD <b>SSAG</b> 	STAINLESS STEEL	10 - 51	SILVER	-	API 16D FIRE TEST	HIGH ABRASION RESISTANCE; EXTREME HEAT RESISTANCE	614
TEXTILE CLINCH STRAP <b>TCS</b> 	POLYESTER FIBRES	400 - 1500	BLACK	-50°C TO +100°C	MANULI® DESIGN; FRAS; MSHA	FLAME RETARDANT & ANTISTATIC PROPERTIES	615

PROTECTION SPRING

PS



PART. REF	DESCRIPTION	DIMENSIONS													
-----------	-------------	------------	--	--	--	--	--	--	--	--	--	--	--	--	--

		INTERNAL DIAMETER (ID)		OUTSIDE DIAMETER (OD)		WALL THICKNESS (T)		PITCH (P)		WRAPPING RANGE		WEIGHT		STANDARD PACK LENGTH	
		MM	IN	MM	IN	MM	IN	MM	IN	MM	IN	G/M	LB/FT	M	FT
JP11B01009E099	BLACK PROTECTION SPRING DN 9	9.0	0.35	13.0	0.51	2.00	0.079	11.0	0.43	9-13	0.35-0.51	50	0.03	20	66
JP11B01012E099	BLACK PROTECTION SPRING DN 12	12.0	0.47	16.5	0.65	2.25	0.089	13.0	0.51	12-17	0.47-0.66	60	0.04	20	66
JP11B01015E099	BLACK PROTECTION SPRING DN 15	15.0	0.59	20.0	0.79	2.50	0.098	15.5	0.61	15-22	0.59-0.86	90	0.06	20	66
JP11B01019E099	BLACK PROTECTION SPRING DN 19	19.0	0.75	24.5	0.96	2.75	0.108	19.0	0.75	19-28	0.74-1.1	150	0.10	20	66
JP11B01023E099	BLACK PROTECTION SPRING DN 23	23.0	0.91	30.0	1.18	3.50	0.138	23.0	0.91	23-33	0.9-1.29	225	0.15	20	66
JP11B01031E099	BLACK PROTECTION SPRING DN 31	30.5	1.20	39.0	1.54	4.25	0.167	29.0	1.14	30-44	1.18-1.73	350	0.24	20	66
JP11B01038E099	BLACK PROTECTION SPRING DN 38	38.0	1.50	46.5	1.83	4.25	0.167	36.0	1.42	38-65	1.49-2.55	400	0.27	20	66
JP11B01047E099	BLACK PROTECTION SPRING DN 47	47.0	1.85	58.0	2.28	5.50	0.217	39.5	1.56	47-70	1.85-2.75	600	0.40	20	66
JP11B01061E099	BLACK PROTECTION SPRING DN 61	61.0	2.40	73.0	2.87	6.00	0.236	44.0	1.73	61-90	2.4-3.54	950	0.64	20	66
JP11B01071E099	BLACK PROTECTION SPRING DN 71	70.5	2.78	84.5	3.33	7.00	0.276	51.0	2.01	70-150	2.75-5.9	1150	0.77	20	66
JP11B01084E099	BLACK PROTECTION SPRING DN 84	84.0	3.31	99.0	3.90	7.50	0.295	56.0	2.20	84-200	3.3-7.87	1500	1.01	10	33
JP11Y01009E099	YELLOW PROTECTION SPRING DN 9	9.0	0.35	13.0	0.51	2.00	0.079	11.0	0.43	9-13	0.35-0.51	50	0.03	20	66
JP11Y01012E099	YELLOW PROTECTION SPRING DN 12	12.0	0.47	16.5	0.65	2.25	0.089	13.0	0.51	12-17	0.47-0.66	60	0.04	20	66
JP11Y01015E099	YELLOW PROTECTION SPRING DN 15	15.0	0.59	20.0	0.79	2.50	0.098	15.5	0.61	15-22	0.59-0.86	90	0.06	20	66
JP11Y01019E099	YELLOW PROTECTION SPRING DN 19	19.0	0.75	24.5	0.96	2.75	0.108	19.0	0.75	19-28	0.74-1.1	150	0.10	20	66
JP11Y01023E099	YELLOW PROTECTION SPRING DN 23	23.0	0.91	30.0	1.18	3.50	0.138	23.0	0.91	23-33	0.9-1.29	225	0.15	20	66
JP11Y01031E099	YELLOW PROTECTION SPRING DN 31	30.5	1.20	39.0	1.54	4.25	0.167	29.0	1.14	30-44	1.18-1.73	350	0.24	20	66
JP11Y01038E099	YELLOW PROTECTION SPRING DN 38	38.0	1.50	46.5	1.83	4.25	0.167	36.0	1.42	38-65	1.49-2.55	400	0.27	20	66
JP11Y01047E099	YELLOW PROTECTION SPRING DN 47	47.0	1.85	58.0	2.28	5.50	0.217	39.5	1.56	47-70	1.85-2.75	600	0.40	20	66
JP11Y01061E099	YELLOW PROTECTION SPRING DN 61	61.0	2.40	73.0	2.87	6.00	0.236	44.0	1.73	61-90	2.4-3.54	950	0.64	20	66
JP11Y01071E099	YELLOW PROTECTION SPRING DN 71	70.5	2.78	84.5	3.33	7.00	0.276	51.0	2.01	70-150	2.75-5.9	1150	0.77	20	66
JP11Y01084E099	YELLOW PROTECTION SPRING DN 84	84.0	3.31	99.0	3.90	7.50	0.295	56.0	2.20	84-200	3.3-7.87	1500	1.01	10	33

KEY FEATURES

- High abrasion resistance
- High flexibility
- Resistant to water, oils, fuels and hydraulic fluids
- Easy to install, no clamps needed
- High ozone and external agents resistance

CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F

90 °C, 194 °F

MAX. OPERATING TEMPERATURE

90 °C, 194 °F

MATERIAL

Polyethylene

APPLICABLE SPECS

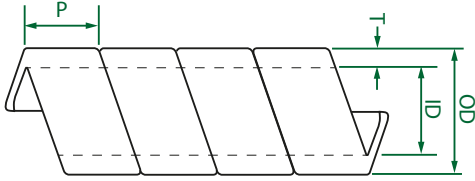
Manuli® Design

HOSE PROTECTIONS 608



MINING PROTECTION SPRING

MPS



PART. REF	DESCRIPTION	DIMENSIONS													
-----------	-------------	------------	--	--	--	--	--	--	--	--	--	--	--	--	--

		INTERNAL DIAMETER (ID)		OUTSIDE DIAMETER (OD)		WALL THICKNESS (T)		PITCH (P)		WRAPPING RANGE		WEIGHT		STANDARD PACK LENGTH	
		MM	IN	MM	IN	MM	IN	MM	IN	MM	IN	G/M	LB/FT	M	FT
JP11B02012E099	MINING PROTECTION SPRING DN 12	12.0	0.47	16.5	0.65	2.25	0.089	13.00	0.51	12-17	0.47-0.66	60	0.04	20	66
JP11B02015E099	MINING PROTECTION SPRING DN 15	15.0	0.59	20.0	0.79	2.50	0.098	15.50	0.61	15-22	0.59-0.86	90	0.06	20	66
JP11B02019E099	MINING PROTECTION SPRING DN 19	19.0	0.75	24.5	0.96	2.75	0.108	19.00	0.75	19-28	0.74-1.10	150	0.10	20	66
JP11B02023E099	MINING PROTECTION SPRING DN 23	23.0	0.91	30.0	1.18	3.50	0.138	23.00	0.91	23-33	0.91-1.29	225	0.15	20	66
JP11B02031E099	MINING PROTECTION SPRING DN 31	30.5	1.20	39.0	1.54	4.25	0.167	29.00	1.14	30-44	1.18-1.73	350	0.24	20	66
JP11B02038E099	MINING PROTECTION SPRING DN 38	38.0	1.50	46.5	1.83	4.25	0.167	36.00	1.42	38-65	1.49-2.55	400	0.27	20	66
JP11B02047E099	MINING PROTECTION SPRING DN 47	47.0	1.85	58.0	2.28	5.50	0.217	39.50	1.56	47-70	1.85-2.75	600	0.40	20	66
JP11B02061E099	MINING PROTECTION SPRING DN 61	61.0	2.40	73.0	2.87	6.00	0.236	44.00	1.73	61-90	2.40-3.54	950	0.64	20	66
JP11B02071E099	MINING PROTECTION SPRING DN 71	70.5	2.78	84.5	3.33	7.00	0.276	51.00	2.01	70-150	2.75-5.9	1150	0.77	20	66
JP11B02084E099	MINING PROTECTION SPRING DN 84	84.0	3.31	99.0	3.90	7.50	0.295	56.00	2.20	84-200	3.31-7.87	1500	1.01	10	33

KEY FEATURES

- High abrasion resistance
- High flexibility
- Flame retardant and antistatic properties
- Resistant to water, oils, fuels and hydraulic fluids
- Easy to install, no clamps needed
- High visibility in field due to red central lines

CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F  
90 °C, 194 °F

MAX. OPERATING TEMPERATURE

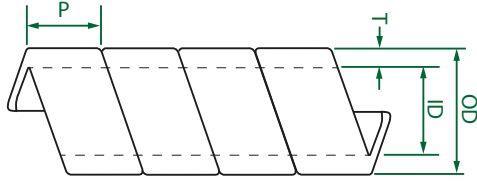
90 °C, 194 °F

MATERIAL

Polyethylene (antistatic)

APPLICABLE SPECS

Manuli® Design, MSHA, FRAS, ISO 6805



HIGH TEMPERATURE PROTECTION SPRING

HTPS

PART. REF	DESCRIPTION	DIMENSIONS													
		INTERNAL DIAMETER (ID)		OUTSIDE DIAMETER (OD)		WALL THICKNESS (T)		PITCH (P)		WRAPPING RANGE		WEIGHT		STANDARD PACK LENGTH	
		MM	IN	MM	IN	MM	IN	MM	IN	MM	IN	G/M	LB/FT	M	FT
JP12B03010I099	HT PROTECTION SPRING DN 10	9.5	0.37	11.5	0.45	1.00	0.039	6.9	0.27	9-13	0.35-0.51	27	0.02	24	79.2
JP12B03011I099	HT PROTECTION SPRING DN 11	11.0	0.43	13.0	0.51	1.00	0.039	6.9	0.27	11-13	0.43-0.52	35	0.025	24	78.7
JP12B03013I099	HT PROTECTION SPRING DN 13	12.7	0.50	16.3	0.64	1.80	0.071	13.0	0.51	13-17	0.51-0.67	45	0.03	24	79.2
JP12B03014I099	HT PROTECTION SPRING DN 14	14.0	0.55	17.6	0.69	1.80	0.071	13.0	0.51	14-17	0.55-0.67	50	0.035	24	78.7
JP12B03016I099	HT PROTECTION SPRING DN 16	16.0	0.63	19.6	0.77	1.80	0.071	13.0	0.51	16-22	0.63-0.87	55	0.04	24	79.2
JP12B03019I099	HT PROTECTION SPRING DN 19	19.0	0.75	23.6	0.93	2.30	0.091	16.0	0.63	19-28	0.75-1.10	100	0.07	24	79.2
JP12B03025I099	HT PROTECTION SPRING DN 25	25.4	1.00	30.0	1.18	2.30	0.091	16.0	0.63	25-40	0.98-1.57	110	0.07	24	79.2
JP12B03028I099	HT PROTECTION SPRING DN 28	28.0	1.10	35.2	1.39	3.60	0.142	25.0	0.98	28-48	1.10-1.89	225	0.15	24	79.2
JP12B03035I099	HT PROTECTION SPRING DN 35	35.0	1.38	42.2	1.66	3.60	0.142	25.0	0.98	35-50	1.38-1.97	270	0.18	24	79.2
JP12B03050I099	HT PROTECTION SPRING DN 50	50.0	1.97	60.0	2.36	5.00	0.197	35.0	1.38	50-70	1.97-2.76	540	0.36	12	39.6
JP12B03060I099	HT PROTECTION SPRING DN 60	60.0	2.36	70.0	2.76	5.00	0.197	35.0	1.38	60-80	2.36-3.15	640	0.43	12	39.6

KEY FEATURES

- High temperature resistance
- High abrasion resistance
- Very high flexibility
- Very low bend radius
- Flame retardant, MSHA approved
- Resistant to water, oils, fuels and hydraulic fluids
- Easy to install, no clamps needed

CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F

120 °C, 248 °F

MAX. OPERATING TEMPERATURE

120 °C, 248 °F

MATERIAL

Polyamide

APPLICABLE SPECS

Manuli® Design, MSHA

TEXTILE SLEEVE

TSL



PART. REF	DESCRIPTION	DIMENSIONS							
		INTERNAL DIAMETER (ID)		EXTERNAL FLATTENED WIDTH		WEIGHT		STANDARD PACK LENGTH	
		MM	IN	MM	IN	G/M	LB/FT	M	FT
JP23B06018I099	TEXTILE SLEEVE DN 18	18.0	0.71	32.0	1.26	2.0	4.4	50	165
JP23B06023I099	TEXTILE SLEEVE DN 23	23.0	0.91	40.0	1.57	2.2	4.8	50	165
JP23B06029I099	TEXTILE SLEEVE DN 29	29.0	1.14	49.0	1.93	2.5	5.5	50	165
JP23B06036I099	TEXTILE SLEEVE DN 36	36.0	1.42	56.0	2.20	3.0	6.6	50	165
JP23B06040I099	TEXTILE SLEEVE DN 40	40.0	1.57	63.0	2.48	3.2	7.0	50	165
JP23B06056I099	TEXTILE SLEEVE DN 56	56.0	2.20	88.0	3.46	4.0	8.8	50	165
JP23B06063I099	TEXTILE SLEEVE DN 63	63.0	2.48	105.0	4.13	5.0	11.0	50	165
JP23B06071I099	TEXTILE SLEEVE DN 71	71.0	2.79	115.0	4.53	5.5	12.1	50	165
JP23B06093I099	TEXTILE SLEEVE DN 93	93.0	3.66	146.0	5.75	7.2	15.8	50	165
JP23B06110I099	TEXTILE SLEEVE DN 110	110.0	4.33	176.0	6.93	8.5	18.7	50	165

KEY FEATURES

- High abrasion resistance
- Resistant to water, oils, fuels and hydraulic fluids
- Fluid energy diffusion in case of hose failure to prevent direct jetting
- Easy to install with simple clamps to extremities
- Flame retardant and antistatic properties

CONTINUOUS SERVICE TEMPERATURE RANGE

-50 °C, -58 °F  
100 °C, 212 °F

MAX. OPERATING TEMPERATURE

140 °C, 284 °F

MATERIAL

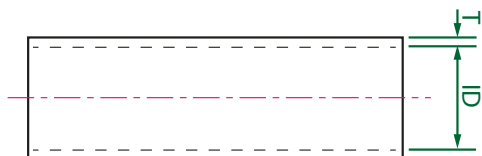
Polyester fibres

APPLICABLE SPECS

Manuli® Design, MSHA, FRAS, MDG41

FIRE SLEEVE

FSL



PART. REF	DESCRIPTION	DIMENSIONS							
-----------	-------------	------------	--	--	--	--	--	--	--

		INTERNAL DIAMETER (ID)		APPROX. WALL THICKNESS (T)		WEIGHT		STANDARD PACK LENGTH	
		MM	IN	MM	IN	G/M	LB/FT	M	FT
JP24A05013I099	FIRE SLEEVE DN 13	13.0	0.51	4.0	0.16	200.0	0.13	50	165.0
JP24A05016I099	FIRE SLEEVE DN 16	16.0	0.63	4.0	0.16	220.0	0.15	50	165.0
JP24A05019I099	FIRE SLEEVE DN 19	19.0	0.75	4.0	0.16	240.0	0.16	50	165.0
JP24A05022I099	FIRE SLEEVE DN 22	22.0	0.87	4.0	0.16	260.0	0.17	50	165.0
JP24A05025I099	FIRE SLEEVE DN 25	25.0	0.98	4.0	0.16	290.0	0.19	50	165.0
JP24A05032I099	FIRE SLEEVE DN 32	32.0	1.26	4.0	0.16	380.0	0.26	50	165.0
JP24A05038I099	FIRE SLEEVE DN 38	38.0	1.50	4.0	0.16	440.0	0.30	50	165.0
JP24A05045I099	FIRE SLEEVE DN 45	45.0	1.77	4.0	0.16	490.0	0.33	25	82.5
JP24A05051I099	FIRE SLEEVE DN 51	51.0	2.01	4.0	0.16	540.0	0.36	25	82.5
JP24A05064I099	FIRE SLEEVE DN 64	64.0	2.52	4.0	0.16	680.0	0.46	20	66.0
JP24A05076I099	FIRE SLEEVE DN 76	76.0	2.99	4.0	0.16	880.0	0.59	20	66.0

KEY FEATURES

- Extreme heat resistance
- Extreme flexibility at low temperatures
- Designed to protect and insulate hydraulic hoses and bundles of hoses against flames, metal projections, melting glass etc.
- Easy to install, no clamps needed

CONTINUOUS SERVICE TEMPERATURE RANGE

-60 °C, -76 °F

260 °C, 500 °F

MAX. OPERATING TEMPERATURE

1100 °C, 2012 °F for 15 minutes; 1500 °C, 2732 °F for 1 minute;

MATERIAL

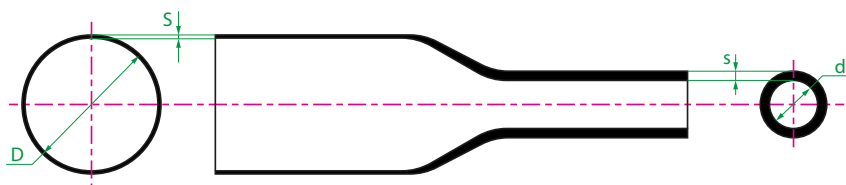
Silicone sleeve with glass-fibre braid

APPLICABLE SPECS

Manuli® Design, NFF16-101 and P92-507 (class FO and M2)

HEAT SHRINKABLE SLEEVE

HSSL



PART. REF	DESCRIPTION	DIMENSIONS											
		INTERNAL DIAMETER (D) - EXPANDED TUBE		INTERNAL DIAMETER (d) - RECOVERED TUBE		WALL THICKNESS (S) - EXPANDED TUBE		WALL THICKNESS (s) - RECOVERED TUBE		WEIGHT		STANDARD PACK LENGTH	
		MM	IN	MM	IN	MM	IN	MM	IN	G/M	LB/FT	M	FT
JP21B11076I099	HEAT SHRINKABLE SLEEVE DN 31 / DN 38	76.2	3.00	38.1	1.50	0.6	0.024	2.0	0.079	310	0.21	15	49.2
JP21B11102I099	HEAT SHRINKABLE SLEEVE DN 51	101.6	4.00	50.8	2.00	1.0	0.039	2.5	0.098	520	0.35	15	49.2

KEY FEATURES

- Self extinguishing
- Low voltage electrical insulation
- Easy to install with simple hot air jetting
- Protects ferrule from dirt and moisture ingress

CONTINUOUS SERVICE TEMPERATURE RANGE

-55 °C, -67 °F  
125 °C, 257 °F

MAX. OPERATING TEMPERATURE

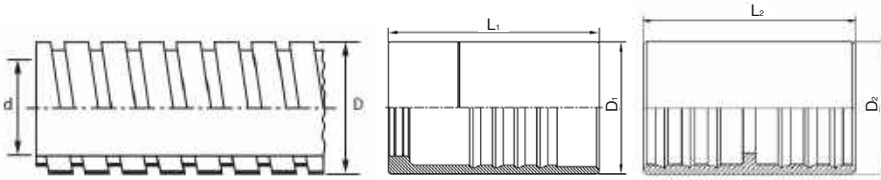
125 °C, 257 °F

MATERIAL

X-linked polyolefin heat shrinkable thin wall

APPLICABLE SPECS

UL 224 VW-1 for flame resistance



STAINLESS STEEL ARMOUR GUARD

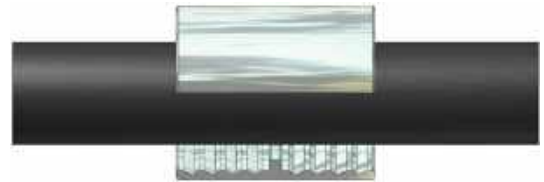
SSAG

PART. REF	DESCRIPTION	DIMENSIONS								METAL SLEEVE		ARMOUR JOINT			
		INTERNAL DIAMETER (d)		OUTSIDE DIAMETER (D)		MIN. BEND RADIUS		WEIGHT		D1	L1	PART. REF	D2	L2	
		MM	IN	MM	IN	MM	IN	G/M	LB/FT	MM	MM		MM	MM	
JP45G090280099	STAINLESS STEEL ARMOUR GUARD DN10	25	1"	32.0	1.26	127	5.00	565	0.38	IO2110-06GA	40.5	60	IO84210-06	40.5	65
JP45G090320099	STAINLESS STEEL ARMOUR GUARD DN 12	31	1.1/4"	36.5	1.44	150	5.91	703	0.47	IO2110-08GA	46.8	75	IO84210-08	46.8	65
JP45G090400099	STAINLESS STEEL ARMOUR GUARD DN 16	38	1.1/2"	44.5	1.75	180	7.09	939	0.63	IO2110-10GA	53.2	90	IO84210-10	53.2	65
JP45G090450099	STAINLESS STEEL ARMOUR GUARD DN 19	46	1.3/4"	51.0	2.01	240	9.45	1,118	0.75	IO2110-12GA	59.5	105	IO84210-12	59.5	70
JP45G090500099	STAINLESS STEEL ARMOUR GUARD DN 25	51	2"	57.5	2.26	300	11.81	1,301	0.87	IO2110-16GA	66.0	120	IO84210-16	66.0	75
JP45G090650099	STAINLESS STEEL ARMOUR GUARD DN 31	63	2.1/2"	70.0	2.76	420	16.54	1,636	1.10	IO2110-20GA	78.6	135	IO84210-20	78.6	95
JP45G090750099	STAINLESS STEEL ARMOUR GUARD DN 38	76	3"	82.5	3.27	500	19.69	1,920	1.29	IO2110-24GA	91.5	150	IO84210-24	91.5	105
JP45G090900099	STAINLESS STEEL ARMOUR GUARD DN 51	89	3.1/2"	96.0	3.78	630	24.80	2,386	1.60	IO2110-32GA	106.5	165	IO84210-32	106.5	115

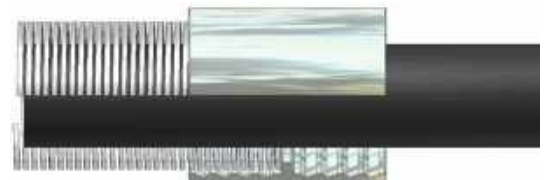
ARMOUR JOINING PROCEDURE

Individual pieces of the metal sleeve can be joined using a dedicated Armour Joint. The procedure for joining the pieces of flexible armour is as follows:

1. Slide the Armour Joint onto the hose.



2. Insert the first piece of flexible armour into the Armour Joint until it reaches the internal stop.

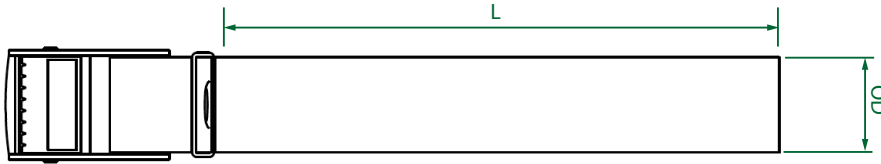


3. Insert the second piece of flexible armour into the other side of the Armour Joint until it also reaches the internal stop.



TEXTILE CLINCH STRAP

TCS



PART. REF	DESCRIPTION	DIMENSIONS													
-----------	-------------	------------	--	--	--	--	--	--	--	--	--	--	--	--	--

		INTERNAL DIAMETER (ID)		OUTSIDE DIAMETER (OD)		WALL THICKNESS (T)		PITCH (P)		WRAPPING RANGE		WEIGHT		STANDARD PACK LENGTH	
		MM	IN	MM	IN	MM	IN	MM	IN	MM	IN	G/M	LB/FT	M	FT
JP12B03010I099	HT PROTECTION SPRING DN 10	9.5	0.37	11.5	0.45	1.00	0.039	6.9	0.27	9-13	0.35-0.51	27	0.02	24	79.2
JP12B03013I099	HT PROTECTION SPRING DN 13	12.7	0.50	16.3	0.64	1.80	0.071	13.0	0.51	13-17	0.51-0.67	45	0.03	24	79.2
JP12B03016I099	HT PROTECTION SPRING DN 16	16.0	0.63	19.6	0.77	1.80	0.071	13.0	0.51	16-22	0.63-0.87	55	0.04	24	79.2
JP12B03019I099	HT PROTECTION SPRING DN 19	19.0	0.75	23.6	0.93	2.30	0.091	16.0	0.63	19-28	0.75-1.10	100	0.07	24	79.2
JP12B03025I099	HT PROTECTION SPRING DN 25	25.4	1.00	30.0	1.18	2.30	0.091	16.0	0.63	25-40	0.98-1.57	110	0.07	24	79.2
JP12B03028I099	HT PROTECTION SPRING DN 28	28.0	1.10	35.2	1.39	3.60	0.142	25.0	0.98	28-48	1.10-1.89	225	0.15	24	79.2
JP12B03035I099	HT PROTECTION SPRING DN 35	35.0	1.38	42.2	1.66	3.60	0.142	25.0	0.98	35-50	1.38-1.97	270	0.18	24	79.2
JP12B03050I099	HT PROTECTION SPRING DN 50	50.0	1.97	60.0	2.36	5.00	0.197	35.0	1.38	50-70	1.97-2.76	540	0.36	12	39.6
JP12B03060I099	HT PROTECTION SPRING DN 60	60.0	2.36	70.0	2.76	5.00	0.197	35.0	1.38	60-80	2.36-3.15	640	0.43	12	39.6

KEY FEATURES

- High temperature resistance
- High abrasion resistance
- Very high flexibility
- Very low bend radius
- Flame retardant, MSHA approved
- Resistant to water, oils, fuels and hydraulic fluids
- Easy to install, no clamps needed

CONTINUOUS SERVICE TEMPERATURE RANGE

-40 °C, -40 °F  
 90 °C, 194 °F

MAX. OPERATING TEMPERATURE

90 °C, 194 °F

MATERIAL

Polyamide

APPLICABLE SPECS

Manuli® Design, MSHA











Inside Diameter (I.D.)



Outside Diameter (O.D.)



Minimum Bend Radius



Reinforcement Outside Diameter (R.O.D.)



Maximum Working Pressure



Ferrule / Socket



Weight



**Burst Pressure:** The minimum guaranteed burst pressure of the hose; Equivalent or superior to the minimum requirements of the reference specifications.

**Insert:**



- MF MF2000® Multifit type
- IP MF2000® Interlock Plus type
- SP MF2000® Spiralfit type
- SPGX MF2000® Spiralfit GX type
- IS MF2000® Interlock Super type
- BL MF2000® Blastlock type
- PL MF2000® Push-Lock type



**Working pressure:** The maximum pressure at which correct functioning of the quick coupling is assured. The working pressure is assured in both connected and disconnected states.



**Flow Rate:** The quantity of fluid which passes through a cross section of the quick coupling in a specified unit of time.



**Connection Effort:** The effort required to lock the male insert into the female.



**Oil Spillage:** The quantity of fluid lost from the coupling during the connection/disconnection process.



**Connection/Disconnection under pressure:** Ability to connect and disconnect with the quick coupling under pressure.

**Continuous service:** Refers to the working temperature range

**Max. operating temperature (Intermittent service):** Peaks of temperature of short duration and total cumulative duration lower than 5% of the total service life.

**Recommended fluids:** Fluid types that the hose can convey with excellent / good chemical compatibility.

**Hose service life:** Cumulative duration of time in which the hose is under operative conditions.

DASH SIZE	STANDARD HYDRAULIC HOSES		SAE 100 R5 HOSES	
	DN	inch	DN	inch
-03	5	3/16	-	-
-04	6	1/4	5	3/16
-05	8	5/16	6	1/4
-06	10	3/8	8	5/16
-08	12	1/2	10	13/32
-10	16	5/8	12	1/2
-12	19	3/4	16	5/8
-16	25	1	22	7/8
-20	31	1 1/4	29	1 1/8
-24	38	1 1/2	35	1 3/8
-32	51	2	46	1 13/16
-40	63	2 1/2	60	2 3/8
-48	76	3	-	-
-56	89	3 1/2	-	-
-64	102	4	-	-

### NUT TIGHTENING METHODS

**NOTE:** Torque values provided are always to be considered in DRY conditions - that is, when no oil or lubrication is used on the threads or sealing surfaces.

#### TORQUE WRENCH METHOD

If practicable the use of a suitable, calibrated torque wrench is strongly recommended

1. Screw the fitting by hand on the male fitting / adaptor
2. In the case of a straight fitting, whilst blocking the counter-hex with a standard wrench apply the required torque to the nut
3. In the case of an elbow fitting, block the tail of the fitting with a suitable tool and then apply the required torque to the nut



#### FLATS / ROTATION ANGLE METHOD

If the use of a torque wrench is not possible, the flat rule (or nut rotation angle rule) can be applied.

1. Screw the fitting by hand on the male adaptor until the metal to metal contact between the sealing surfaces is reached
2. Mark the relative position between the nut and the adapter
3. Apply the prescribed number of flats by blocking the counter-hex with a standard wrench (straight fitting) or the tail with a proper tool (elbow fitting)



#### WARNING

Result from flat rule method can be affected from the operator:

- During the start phase different hand tightening to achieve the metal to metal contact can change the start position
- During the final phase marks on nut and adaptor can be not very accurate and the final position can be misread

## TORQUING METHODS

In the following tables the tightening values are given according to one or more of the following methods:

**ASSEMBLY TORQUE** - This is the preferred and most precise method, which should be used whenever possible. Value given is the torque in N.m to be applied using a suitable calibrated torque wrench

**ROTATION ANGLE** - Value is the number of degrees that the nut should be rotated through AFTER metal-to-metal contact is made from finger-tightening

**NUMBER OF FLATS** - Value is the number of flats that the nut should be rotated through AFTER metal-to-metal contact is made from finger-tightening

## NUT TIGHTENING TORQUE VALUES FOR BSP FITTINGS

Size	BSP Thread Size	MANULI BSP FITTINGS WITH O-RING (ISO STYLE A)	MANULI BSP FITTINGS WITHOUT O-RING (ISO STYLE B)
		Assembly Torque* [N.m] <sup>+10</sup> <sub>-0</sub>	Assembly Torque* [N.m] <sup>+10</sup> <sub>-0</sub>
1/4"	G 1/4" -19	20	20
3/8"	G 3/8" -19	38	35
1/2"	G 1/2" -14	55	60
5/8"	G 5/8" -14	60	70
3/4"	G 3/4" -14	90	115
1"	G 1" -11	120	140
1 1/4"	G 1 1/4" -11	190	210
1 1/2"	G 1 1/2" -11	250	290
2"	G 2" -11	300	400

\* **IMPORTANT:** Recommended MRI Torque Values are only applicable for nut tightening in **DRY conditions** (no oil or lubrication on threads and sealing surfaces)

## NUT TIGHTENING TORQUE VALUES FOR ORFS FITTINGS

Size	ORFS Thread Size	MANULI ORFS FITTINGS		
		Assembly Torque* [N.m] <sup>+10</sup> <sub>-0</sub>	Rotation Angle [degrees]	No. of Flats [Flats]
1/4"	9/16" -18	26	45°	3/4
3/8"	11/16" -16	42	45°	3/4
1/2"	13/16" -16	57	60°	3/4
5/8"	1" -14	85	45°	1
3/4"	1 3/16" -12	122	45°	3/4
1"	1 7/16" -12	156	45°	3/4
1 1/4"	1 11/16" -12	200	45°	3/4
1 1/2"	2" -12	256	45°	3/4

\* **IMPORTANT:** Recommended MRI Torque Values are only applicable for nut tightening in **DRY conditions** (no oil or lubrication on threads and sealing surfaces)

**NUT TIGHTENING TORQUE VALUES FOR JIC FITTINGS**

Size	JIC Thread Size	MANULI JIC CRIMPED BACK NUT FITTINGS			MANULI JIC SLIP-ON NUT & THRUST-WIRE FITTINGS
		Assembly Torque* [N.m] <sup>+10</sup> <sub>-0</sub>	Rotation Angle [degrees]	No. of Flats [Flats]	Assembly Torque* [N.m] <sup>+10</sup> <sub>-0</sub>
1/4"	7/16" -20	16	90°	1 1/2	16
3/8"	9/16" -18	28	90°	1 1/2	28
1/2"	3/4" -16	53	120°	2	53
5/8"	7/8" -14	85	120°	2	85
3/4"	1 1/16" -12	119	60°	1	119
1"	1 5/16" -12	147	60°	1	147
1 1/4"	1 5/8" -12	172	60°	1	172
1 1/2"	1 7/8" -12	215	60°	1	215
2"	2 1/2" - 12	332	60°	1	332

\* **IMPORTANT:** Recommended MRI Torque Values are only applicable for nut tightening in **DRY conditions** (no oil or lubrication on threads and sealing surfaces)

**NUT TIGHTENING TORQUE VALUES FOR METRIC FITTINGS**

Metric Thread Size	MANULI DKOL FITTINGS		MANULI DKOS FITTINGS	
	Pipe O.D [mm]	Assembly Torque* [N.m] <sup>+10</sup> <sub>-0</sub>	Pipe O.D [mm]	Assembly Torque* [N.m] <sup>+10</sup> <sub>-0</sub>
M12 x 1.5	6L	13		
M14 x 1.5	8L	23	6S	23
M16 x 1.5	10L	32	8S	32
M18 x 1.5	12L	38	10S	38
M20 x 1.5			12S	45
M22 x 1.5	15L	53	14S	53
M24 x 1.5			16S	59
M26 x 1.5	18L	77		
M30 x 2	22L	100	20S	100
M36 x 2	28L	114	25S	114
M42 x 2			30S	180
M45 x 2	35L	200		
M52 x 2	42L	255	38S	255

\* **IMPORTANT:** Recommended MRI Torque Values are only applicable for nut tightening in **DRY conditions** (no oil or lubrication on threads and sealing surfaces)



**NUT TIGHTENING TORQUE VALUES FOR NPTF-NPSM FITTINGS**

NPTF-NPSM Thread Size	MANULI NPTF MALE MATED WITH NPTF PORT	MANULI NPTF MALE MATED WITH NPSM FEMALE
	Max. Assembly Torque* † [N.m]	Max. Assembly Torque* [N.m]
1/8" -27	20	10
1/4" -18	30	15
3/8" -18	40	20
1/2" -14	55	27
3/4" -14	70	35
1" -11.5	90	45
1 1/4" -11 1/2	100	50
1 1/2" -11 1/2	120	60
2" - 11 1/2	150	75

\* **IMPORTANT:** Recommended MRI Torque Values are only applicable for nut tightening in **DRY conditions** (no oil or lubrication on threads and sealing surfaces)

† If thread sealant is used, maximum values show above should be decreased by 25%

**WARNING:** Compatibility of hose and fittings with conveyed fluid is an essential factor in avoiding chemical reactions that may result in release of fluids or failure of the hose or connection. This chemical compatibility guide must not be used in conjunction with any other compatibility guides from previous or future catalogue editions, bulletins or publications. Incorrect use of these charts could result in personal injury or property damage.

## HOSE SELECTION BY MEDIUM AND HOSE TYPE

This hose compatibility chart is a reference of Manuli Hydraulics hose compatibility with various fluid media. It is intended as a guide to chemical compatibility with inner tube materials and assembly lubricants applied internally to the hose. The Fluid Compatibility Chart lists the relative resistance of hose tube and fitting materials to more common:

- hydraulic oils
- other diversified oils families (for hydrokinetic and lubrication applications)
- chemicals

The ratings shown do not cover all possible variations of all factors, such as temperature, concentration, degradation or fluid contamination, etc. Testing under actual conditions is the best way to assure chemical compatibility for critical applications.

## PART 1: HYDROSTATIC OILS COMPATIBILITY CHART (ACTUAL HYDRAULIC SYSTEMS AND APPLICATIONS)

The specific recommendations regarding **hydraulic fluids** are based upon specific laboratory bench tests with fluids, performed according to ISO 1817 and internal methodology, integrated with field experiences and the advices of various polymers or fluid suppliers. **It must be stressed, however, that this information is offered only as a guide and is not a guarantee.** Final hose selection also depends upon pressure, fluid and ambient temperatures, concentration, duration of exposure and special requirements or variations, which may not be known by Manuli Hydraulics. Legal and other regulations must be followed with particular attention.

All the combined factors in working operations may impact on the service life of the hose assembly and must be carefully considered before releasing a hose for a specific application: the chemical compatibility with the service fluid is only one of the factors to be considered.

It is always recommended to test the specific fluid brand name with the requested hose, in order to verify chemical compatibility. Manuli Hydraulics constantly performs compatibility tests as service to market, progressively updating the compatibility chart.

## PART 2: HYDROKINETIC APPLICATIONS AND LUBRICANT OILS COMPATIBILITY CHART (AUTOMATED TRANSMISSIONS AND VARIOUS LUBRICATION SYSTEMS)

This second part of the compatibility chart list a particular family of oils, not designed for standard hydraulics (hydrostatic applications), rather studied for many diversified applications such as lubrication for gear, compressors, turbines, diathermic oils for cooling or heat transmission, and ATF (Automatic Transmission Fluids) oils for the hydrokinetic (hydrodynamic) applications. These fluids are often very aggressive on traditional tube rubbers, more than hydraulic oils, due to the nature of the fluids and additives, aimed to give properties of long life duration and high temperature resistance; that's why their chemical compatibility with tube rubbers must be carefully checked before eventual use.

**WARNING:** Compatibility of hose and fittings with conveyed fluid is an essential factor in avoiding chemical reactions that may result in release of fluids or failure of the hose or connection. This chemical compatibility guide must not be used in conjunction with any other compatibility guides from previous or future catalogue editions, bulletins or publications. Incorrect use of these charts could result in death, personal injury or property damage.

It is to be underlined that Manuli hoses are designed in principle for use with hydraulic oils only, and that diversified applications such as the ones with these categories of other oils, must be verified case by case with lab and/or field tests by users under their sole and exclusive responsibility and no liability whatsoever can be attributed to Manuli Hydraulics in that regard.

For more detailed information contact Manuli Hydraulics or visit [www.manuli-hydraulics.com](http://www.manuli-hydraulics.com)

### **PART 3: BEHAVIOUR TO CHEMICALS (GUIDELINES FROM LITERATURE) FOR NON-HYDRAULIC APPLICATIONS**

**WARNING: Manuli hoses are designed for hydraulics use and applications, they are not intended for industrial diversified applications with various chemicals.**

The recommendations regarding generic chemicals are mainly based on literature data in conjunction with polymers used for the tube compound. The field results of the fluid conveyed in the hose should be carefully tested and field validated by users.

No test on finished hose assemblies in combination with the mentioned chemicals has been normally performed.

**The possible good rating and on field performance of the hose with a chemical mentioned in the list does not mean in any case the release by Manuli Hydraulics of the product for that application or any guarantee. The possible validation for use is under the sole and exclusive responsibility of the end user and no liability whatsoever can be attributed to Manuli Hydraulics in that regard. In fact Manuli Hydraulics hoses are designed for hydraulics use and applications, they are not intended for industrial diversified applications with various chemicals.**

The outer cover of the hose is intended to protect the reinforcement layer(s) from mechanical influences (abrasion, weathering etc.); cover compounds are not designed to exhibit the same chemical resistance as the tube compounds. Manuli Hydraulics should be consulted about the compatibility of the cover, should the application involve the extended exposure or immersion in a liquid: **anyway the hydraulic hoses of the Manuli Hydraulics product range are not designed in general for immersion in the service fluid.**

This type of special applications should be avoided or carefully studied with additional external protections for the hoses, selection of special hose types, e.g. with thermoplastic cover and validation on the specific application. The turbulence of the fluid, the high temperature and nature of the fluid as well as other elements may impact the properties or integrity of the hose cover material (the cover compound of the hose is designed to resist to oil drops and external agents, not immersion in the service fluid).

For more detailed information contact Manuli Hydraulics or visit [www.manuli-hydraulics.com](http://www.manuli-hydraulics.com)

**WARNING: No tests on finished hose assemblies in combination with the mentioned chemicals has been normally performed. The possible good rating and on field performance of the hose with a chemical mentioned in the list, does not mean in any case the release by Manuli Hydraulics of the product for that application or any guarantee. The possible validation for use is under the sole and exclusive responsibility of the end user and no liability whatsoever can be attributed to Manuli Hydraulics in that regard. In fact Manuli Hydraulics hoses are designed for hydraulics use and applications, they are not intended for industrial diversified applications with various chemicals. No tests on finished hose assemblies in combination with the mentioned chemicals has been normally performed.**

**WARNING: Compatibility of hose and fittings with conveyed fluid is an essential factor in avoiding chemical reactions that may result in release of fluids or failure of the hose or connection. This chemical compatibility guide must not be used in conjunction with any other compatibility guides from previous or future catalogue editions, bulletins or publications. Incorrect use of these charts could result in death, personal injury or property damage.**

## LEGEND OF THE HOSE TYPES BY TUBE COMPOUNDS

TUBE COMPOUND CATEGORIES	HOSE CATEGORIES	HOSE TYPES
NITRILE	STD WIRE BRAID	ROCKMASTER, HARVESTER/17, SHIELDMASTER, GOLDENISO, COVER, CRYOFLEX
NITRILE	STD WIRE SPIRAL	ROCKMASTER, GOLDENISO, SHIELDMASTER, ANACONDA, FOREMASTER, CRYOFLEX, DIAMONDSPIR, XTRAFLOW/4WS, HYDROROPE, HERCULES
NITRILE	HI-PER WIRE BRAID	FOREMASTER, GOLDENISO/PILOT, ROCKMASTER/1SC, SYNERGY, INFINITY
NITRILE	TEXTILE REINF.	ASTRO, SPIRTEX, MULTITEX, PUSHFIT
CHLOROPRENE		ETERNITY/2, /2K, GOLDENBLAST
CHLOROSULPHONATED POLYETHYLENE		EQUATOR/1 (BLUE & BLACK), EQUATOR/2 (BLUE & BLACK), XTRAFLOW/HT
CHLORINATED POLYETHELENE		MASTERTEX
POLYESTER		HYDROPLAST, HYDROTWIN

## HOW TO USE THE CHART

- Hydraulic fluids are listed in alphabetic order with the manufacturer brand name and ISO identification symbol (DIN when available), chemicals are listed alphabetically
- Find the hose type and read the compatibility rating (see rating scale)
- Define the proper hose selection for the application by choosing the best rating

## LEGEND OF RATINGS

**E = Excellent** - Small or negligible changes of compound properties: no problem for use. Service life can exceed the expectations.

**G = Good** - There are only minor changes of some compound properties. Service life is normally in line with state of the art (standard) expectations.

**FT = Field Test recommended** - A field test is recommended to allow the end user to either validate the selection in the actual working conditions or to reject the selection. Results of compatibility from lab testing show significant changes on some compound properties, service life can be reduced. Higher durability can be achieved with reduced severity of working conditions (temperature in particular) or with an upgraded hose selection. After the results of the recommended field test, if the end user decides to use the selected hoses under his validation, the end users assumes all responsibility with regard to any possible effects and consequences arising out of the using of hoses in the actual working conditions and Manuli Hydraulics cannot be held responsible for any claims in relation to or connected with the hoses for which it was recommended to perform a field test.

**X = Not recommended** - Unsuitable, severe effects on physical properties.

## REMARKS

O-Rings used with couplings must also be considered for chemical compatibility with the fluid to be conveyed. This includes fittings containing internal O-Rings; for example Metric Female 24° Cone seat fittings, etc. Standard O-Ring of Manuli Hydraulics fittings are made of Nitrile rubber (NBR), highly chemically compatible with all hydraulic fluids. If you use special fluids or very high temperatures, different O-Ring materials should be used, contact Manuli Hydraulics for specific information. See Technical Manual for dimensions of O-Rings.

Compatibility of hose fittings with conveyed fluids is an essential factor in avoiding chemical reactions that may result in release of fluids and failure of the connection with the potential of causing severe personal injury or property damage. Standard Manuli Hydraulics fittings are made of carbon steel with Hexavalent chromium free plating.

**WARNING:** Compatibility of hose and fittings with conveyed fluid is an essential factor in avoiding chemical reactions that may result in release of fluids or failure of the hose or connection. This chemical compatibility guide must not be used in conjunction with any other compatibility guides from previous or future catalogue editions, bulletins or publications. Incorrect use of these charts could result in death, personal injury or property damage.

## OILS CLASSIFICATION - ACCORDING TO ISO 6743-4

ISO 6743-4 is an important norm regarding “Lubricants, industrial oils and related products (class L)”. The norm defines a very wide family of oils, used in many different sectors and applications.

The oils must be carefully understood and properly managed to avoid problems and possible mistakes. The Part 4 of the norm in particular regards the Hydraulic Oils (Family H), for hydrostatic and hydrokinematic applications, the other parts of the norm regard other fluids, of different nature or aimed to different applications than hydraulics.

Manuli Hydraulics hoses are designed and qualified for use with Hydraulic Oils (Family H of the ISO 6743-4), and the behaviour of the particular oil formulation has to be verified case by case.

The applications with oils of the families different than H must be checked carefully but in principle Manuli Hydraulics hoses are not designed for use with them.

Here below the classification of oils by ISO 6743 spec.

Part 1: Family A (Total Loss systems)

Part 2: Family F (Spindle bearings, bearings and associated clutches)

Part 3A: Family D (Compressors)

Part 3B: Family D (Gas and refrigeration compressors)

### **Part 4: Family H (Hydraulic Systems)**

Part 5: Family T (Turbines)

Part 6: Family C (Gears)

Part 7: Family M (Metalworking)

Part 8: Family R (Temporary protection against corrosion)

Part 9: Family X (Greases)

Part 10: Family Y (Miscellaneous)

Part 11: Family P (Pneumatic tools)

Part 12: Family Q (Heat Transfer Fluids)

Part 13: Family G (Slideways)

Part 14: Family U (Heat treatment)

Part 15: Family E (Internal combustion engines)

Part 99: General

**WARNING:** Compatibility of hose and fittings with conveyed fluid is an essential factor in avoiding chemical reactions that may result in release of fluids or failure of the hose or connection. This chemical compatibility guide must not be used in conjunction with any other compatibility guides from previous or future catalogue editions, bulletins or publications. Incorrect use of these charts could result in death, personal injury or property damage.

The Family H in particular, object of use with Manuli Hydraulics hoses is composed by the following families of oils, identified by ISO dedicated symbols, used also in the compatibility chart.

GENERAL APPLICATION	PARTICULAR APPLICATION	MORE SPECIFIC APPLICATIONS	COMPOSITION AND PROPERTIES	SYMBOL ISO-L
<b>HYDRAULIC SYSTEMS</b>	<b>HYDROSTATIC APPLICATIONS</b>	(STD HYDRAULIC APPLICATIONS)	NON-INHIBITED REFINED MINERAL OILS	HH
			REFINED MINERAL OILS WITH IMPROVED ANTI-RUST AND ANTI-OXIDATION PROPERTIES	HL
			OILS OF HL TYPE WITH IMPROVED ANTI-WEAR PROPERTIES	HM
			OILS OF HM TYPE WITH IMPROVED VISCOSITY/TEMPERATURE PROPERTIES	HV
		APPLICATIONS WHERE ENVIRONMENTALLY ACCEPTABLE FLUIDS ARE REQUESTED	TRIGLYCERIDES	HETG
			POLYGLYCOLS	HEPG
			SYNTHETIC ESTERS	HEES
			POLYALPAOLEFIN AND RELATED HYDROCARBON PRODUCTS	HEPR
		HYDRAULIC SLIDE-WAY SYSTEMS	OILS OF HM TYPE WITH ANTI-STICK/SLIP PROPERTIES	HG
		OILS IN WATER EMULSION	OILS IN WATER EMULSION	HFAE
			CHEMICAL SOLUTION IN WATER	HFAS
			WATER IN OIL EMULSION	HFB
			WATER POLYMER SOLUTIONS	HFC
			SYNTHETIC FLUIDS CONTAINING NO WATER AND CONSISTING OF PHOSPHATE ESTERS	HFDR
			SYNTHETIC FLUIDS CONTAINING NO WATER AND OF OTHER COMPOSITION	HFDU

**XXX**      GENERALLY GOOD COMPATIBILITY WITH HOSES, ANYWAY THE BEHAVIOUR OF THE PARTICULAR OIL FORMATION TO BE VERIFIED CASE BY CASE

**HFAS & HFDR**      NO COMPATIBILITY WITH MANULI HYDRAULICS HOSES. DEDICATED HOSES ARE REQUESTED

**NOTE:** ATF OILS ARE NOT CLASSIFIED AS HYDRAULIC OILS

**WARNING:** Compatibility of hose and fittings with conveyed fluid is an essential factor in avoiding chemical reactions that may result in release of fluids or failure of the hose or connection. This chemical compatibility guide must not be used in conjunction with any other compatibility guides from previous or future catalogue editions, bulletins or publications. Incorrect use of these charts could result in death, personal injury or property damage.

PART 1: HYDROSTATIC APPLICATION OILS COMPATIBILITY CHART

(ACTUAL HYDRAULIC SYSTEMS AND APPLICATIONS)

HYDRAULIC FLUID	TYPE		WIRE SPIRAL	WIRE BRAID				TEXTILE BRAID	TPE TEXTILE BRAID
	ISO 6743-4	DIN 51524	ROCKMASTER GOLDENISO SHIELDMASTER ANACONDA FOREMASTER CRYOFLEX DIAMONDSPIR XTRAFLOW/4WS HYDROROPE HERCULES	ETERNITY/2	ROCKMASTER HARVESTER/17 SHIELDMASTER GOLDENISO COVER CRYOFLEX	FOREMASTER GOLDENISO/PILOT ROCKMASTER/1SC SYNERGY INFINITY	EQUATOR XTRAFLOW/HT	ASTRO SPIRITEX MULTITEX PUSH FIT	HYDROPLAST HYDROTWIN
ACT ECOSAFE FR 46	HFDU	-	E	E	FT	G	FT	G	-
ACT FR WG 200 D	HFC	-	E	X	E	-	X	E	-
ADDINOL ÖKOSYNTH SUPER HEES 46	HEES	-	G	FT	G	G	FT	G	-
ADDINOL ÖKOSYNTH SUPER HEES 46 S	HEES	-	G	FT	G	G	FT	G	-
AGIP ARNICA 46	HV	HVLP	E	G	G	G	E	G	-
AGIP ARNICA EXTRA PLUS	HEES	HVLP	G	G	G	G	FT	G	E
AGIP ARNICA PLUS	HEES	HVLP	E	E	G	G	FT	E	E
AGIP ARNICA S46	HFDU	-	E	E	G	G	FT	E	E
AGIP OSO 32	HM	HLP	E	E	G	G	E	E	G
AGIP OSO 46 S	HM	HLP	E	G	G	G	G	G	G
AGIP OSO D 46	HM	HLPD	G	G	G	E	G	G	-
AGROL MENDO 46	HEES	-	-	FT	-	-	FT	-	-
AKZO FYRQUEL	HFDR	-	X	X	X	X	-	X	-
AMBRA HITECH 46	HL	HLP	E	E	G	G	G	E	G
ANDEROL 8768 (PAO)	HEPR	-	G	G	FT	FT	FT	G	-
API HS 46	HV	HVLP	E	G	G	G	E	-	-
ARAL VITAM EHF 46	HEES	-	E	E	G	G	G	G	G
ARAL VITAM GF 68	HL	HLP	E	E	E	G	E	E	E
AVIA AVILUB HLP 546	HM	HVLP	G	G	G	G	E	G	-
AVIA AVILUB SF 568	HM	HLP	-	-	-	-	G	-	-
AVIA BIOFLUID BP 32	HEES	-	G	FT	G	E	X	G	-
AVIA FLUID RSL 32	HS	-	E	G	G	G	-	-	-
AVIA FLUID RSL 68	HM	HLP	G	G	G	G	E	G	-
AVIA HVI 46	HV	HVLPD	G	G	G	G	E	G	-
AVIA SYNTOFLUID F 46	HEES	-	E	G	E	G	G	G	E
AVIA SYNTOFLUID N 32	HEES	-	G	G	E	G	G	E	G
AVIA SYNTOFLUID N 46	HEES	-	E	E	G	G	G	E	G
AVIA SYNTOFLUID PE B 30 (PAO)	HEPR	-	E	G	G	G	G	G	G
AVIA SYNTOFLUID PE B 50 (PAO)	HEPR	-	E	E	G	G	G	G	-
BASF PLURASAFE XTREME FR HYD FLUID	HFDR	-	X	X	X	X	X	X	X
BECHEM HYDROSTAR PM 46	HH	-	E	E	G	-	G	E	-
BINOL HYDRA P 1146	HETG	-	E	E	G	G	-	G	-
BP A 0629L/028	HS	-	G	FT	G	G	E	G	G

**WARNING:** Compatibility of hose and fittings with conveyed fluid is an essential factor in avoiding chemical reactions that may result in release of fluids or failure of the hose or connection. This chemical compatibility guide must not be used in conjunction with any other compatibility guides from previous or future catalogue editions, bulletins or publications. Incorrect use of these charts could result in death, personal injury or property damage.

HYDRAULIC FLUID	TYPE		WIRE SPIRAL	WIRE BRAID				TEXTILE BRAID	TPE TEXTILE BRAID
	ISO 6743-4	DIN 51524	ROCKMASTER GOLDENISO SHIELDMASTER ANACONDA FOREMASTER CRYOFLEX DIAMONDSPIR XTRAFLOW/4WS HYDROROPE HERCULES	ETERNITY/2	ROCKMASTER HARVESTER/17 SHIELDMASTER GOLDENISO COVER CRYOFLEX	FOREMASTER GOLDENISO/PILOT ROCKMASTER/1SC SYNERGY INFINITY	EQUATOR XTRAFLOW/HT	ASTRO SPIRTEX MULTITEX PUSH FIT	HYDROPLAST HYDROTWIN
BP BARTRAN HV	HV	HVLP	E	G	G	G	E	G	-
BP BIOHYD SE-S 46	HEES	-	G	G	E	G	FT	E	-
BP ENERGOL HLP 46	HL	HLP	G	G	G	-	-	-	-
BREMER & LEGUIL RIVOLTA SBH 11	HEES	-	G	FT	E	G	X	G	G
BREMER RIVOLTA SBH 23	HEES	-	E	G	E	G	G	G	E
CALTEX RANDO DSZ 46	HV	HVLP	G	G	FT	G	G	FT	-
CALTEX RANDO HD	HM	HLP	E	G	G	G	G	G	G
CALTEX RANDO HD LVZ 46	HV	HVLP	G	G	G	G	G	FT	-
CASTROL AERO HF 585 B (MIL 56006H)	HH	HL	E	FT	G	-	FT	E	FT
CASTROL ANVOL SWX 68 (POE BASED)	HFDU	-	E	FT	E	-	FT	G	-
CASTROL BIOBAR VG 68	HEES	-	E	FT	E	E	X	G	-
CASTROL BIOTECH ALPIN 22	HETG	-	E	E	E	-	FT	E	-
CASTROL BRAYCO 717 (MIL 17111C)	HS	-	G	FT	G	-	FT	G	G
CASTROL BRAYCO MICRONIC 882	HH	HL	G	G	G	G	G	G	G
CASTROL CARELUBE HTG	HETG	-	E	FT	E	E	FT	E	G
CASTROL CARELUBE HY 46	HEES	-	G	G	G	G	FT	G	G
CASTROL HYSPIH HDH 7000	HM	-	E	G	G	-	E	E	-
CASTROL HYSPIH HLPD 46	HM	HLP	-	E	G	G	G	G	G
CASTROL HYSPIH HVI 46 D	HV	HLPD	E	G	G	G	G	G	G
CASTROL HYSPIH ZZ32	HM	HLP	G	G	G	G	E	G	G
CASTROL ILOCUT 546 MP	HM	-	-	G	G	G	E	G	-
CASTROL LIFT OIL	HH	HL	G	G	G	G	G	G	G
CASTROL PRODUCT L 320	HH	HL	E	G	G	-	X	G	-
CASTROL PRODUCT L 571	HH	HL	E	G	G	G	X	G	-
CASTROL TRIBOL HM 943-46	HM	-	G	G	G	G	G	-	-
CAT HYDO ADVANCE 10	HM	-	E	E	G	G	G	-	-
CENEX INDOL PREMIUM AW 4646	HM	HLP	G	E	G	G	-	G	-
CEPSA HYDRAULICO HM 46	HM	HLP	E	E	G	-	E	G	E
CHEVRON ETL 10328	HV	HVLP	G	E	G	G	G	G	-
CHEVRON EXTRA HYD OIL VG 46	HM	-	G	G	G	G	FT	-	-
CHEVRON HYDRAULIC AW 46	HM	HLP	E	G	G	G	E	G	-
CHEVRON MACHINE OIL AW 220	HV	HLP	G	G	G	G	G	G	G
CHEVRON MACHINE OIL AW ISO 46	HV	HLP	G	G	G	G	G	G	G
CHEVRON RANDO HD 68	HM	HLP	G	G	G	G	G	G	-
CHEVRON RYCON MV	HM	-	E	G	G	G	G	G	-
COAST OIL A/W 68	HM	-	G	G	G	-	G	-	-

**WARNING:** Compatibility of hose and fittings with conveyed fluid is an essential factor in avoiding chemical reactions that may result in release of fluids or failure of the hose or connection. This chemical compatibility guide must not be used in conjunction with any other compatibility guides from previous or future catalogue editions, bulletins or publications. Incorrect use of these charts could result in death, personal injury or property damage.



HYDRAULIC FLUID	TYPE		WIRE SPIRAL	WIRE BRAID				TEXTILE BRAID	TPE TEXTILE BRAID
	ISO 6743-4	DIN 51524	ROCKMASTER GOLDENISO SHIELDMASTER ANACONDA FOREMASTER CRYOFLEX DIAMONDSPIR XTRAFLOW/4WS HYDROROPE HERCULES	ETERNITY/2	ROCKMASTER HARVESTER/17 SHIELDMASTER GOLDENISO COVER CRYOFLEX	FOREMASTER GOLDENISO/PILOT ROCKMASTER/1SC SYNERGY INFINITY	EQUATOR XTRAFLOW/HT	ASTRO SPIRTEX MULTITEX PUSH FIT	HYDROPLAST HYDROTWIN
CONDAT D 46	HFDU	-	E	FT	G	-	FT	G	-
CONOCO ECOTERRA	HM	HLP	G	G	FT	FT	G	-	-
DEA ECONA E 46	HEES	-	G	FT	E	G	FT	E	E
DOMUS FLUID 46	HEES	-	G	G	G	G	-	G	G
DOT 3	HPG	-	-	-	X	X	X	X	G
DOT 4	HPG	-	-	-	X	X	X	X	G
ELAN HYDRAULIC 46	HV	HVLP	E	G	G	G	E	G	G
ESSO HYDRAULIKOEL HE 46	HEES	-	E	E	E	G	G	E	E
ESSO NUTO H46	HM	HLP	G	G	G	G	E	G	E
EUROLUB HLP 46	HM	-	G	G	FT	G	G	-	-
EXXON HUMBLE H 46	HM	HLP	E	G	G	G	E	G	-
EXXON RL 002775B	HM	-	G	G	G	G	FT	-	-
EXXON UNIVIS N46	HV	HVLP	E	G	G	G	E	G	-
FINKE AVIATICON HY HE	HEES	-	G	G	E	-	-	E	G
FOLTZERMSRINGOLI HYDRA 46	HH	-	G	G	G	G	E	G	-
FRAGOLHE 46	HEES	-	E	FT	G	-	FT	G	E
FUCHS AQUACENT LT 68	HFB	-	G	FT	G	G	FT	G	-
FUCHS ECO HYD 46S NWG	HEES	-	G	FT	G	-	X	G	-
FUCHS OM 13	HH	HL	G	G	G	-	G	E	E
FUCHS OM 65	HH	HL	G	G	G	-	-	G	G
FUCHS PLANTOHYD 46S	HEES	-	E	FT	E	G	FT	E	E
FUCHS PLANTOHYD N 46	HETG	-	G	FT	E	G	FT	E	E
FUCHS PLANTOHYD SUPER S46	HEES	-	G	X	E	G	X	-	-
FUCHS PLANTOSYN 3268 ECO	HEES	-	G	FT	E	G	G	E	G
FUCHS PLANTOSYN 46 HVI	HEES	-	E	FT	G	-	FT	G	G
FUCHS RENOLIN B 46 HVI	HV	HVLP	E	G	G	G	E	G	G
FUCHS RENOLIN B15 VG46	HV	HVLP'	G	G	G	-	-	-	-
FUCHS RENOLIN D15 VG 46	HM	HLPD	E	G	G	G	-	G	-
FUCHS RENOLIN MINE AW 68	HM	-	G	G	FT	G	-	-	G
FUCHS RENOLIN MR 520	HV	HVLPD	G	G	G	G	G	E	E
FUCHS TITAN H 46	HV	HVLP	G	G	G	G	G	G	G
FUCHS TITAN HV 68	HV	HVLP	G	G	G	G	G	G	G
GULF ARMONY AW 46	HM	HLP	E	E	G	G	E	G	E
HOUGHTON COSMOLUBRIC HF 130 (POE BASED)	HFDU	-	G	G	G	-	FT	G	-
HOUGHTON HYDRAVIS BC 84005 (60°C)	HFC	-	E	G	E	G	FT	E	E
HOUGHTON ISOCORE E 68 PLUS	HFC	-	E	G	E	-	FT	G	-
HOUGHTON SAFE 620	HFC	-	G	G	G	-	X	-	-

**WARNING:** Compatibility of hose and fittings with conveyed fluid is an essential factor in avoiding chemical reactions that may result in release of fluids or failure of the hose or connection. This chemical compatibility guide must not be used in conjunction with any other compatibility guides from previous or future catalogue editions, bulletins or publications. Incorrect use of these charts could result in death, personal injury or property damage.

HYDRAULIC FLUID	TYPE		WIRE SPIRAL	WIRE BRAID				TEXTILE BRAID	TPE TEXTILE BRAID
	ISO 6743-4	DIN 51524	ROCKMASTER GOLDENISO SHIELDMASTER ANACONDA FOREMASTER CRYOFLEX DIAMONDSPIR XTRAFLOW/4WS HYDROROPE HERCULES	ETERNITY/2	ROCKMASTER HARVESTER/17 SHIELDMASTER GOLDENISO COVER CRYOFLEX	FOREMASTER GOLDENISO/PILOT ROCKMASTER/15C SYNERGY INFINITY	EQUATOR XTRAFLOW/HT	ASTRO SPIRTEX MULTITEX PUSH FIT	HYDROPLAST HYDROTWIN
HOUGHTON SAFE OX 40	HFC	-	E	G	E	G	FT	E	E
HOUGHTON VITAL FLUID L46AL	HFDU	-	G	G	E	G	FT	-	-
HOUGHTON-SAFE 273 CTF	HFC	-	E	FT	E	G	X	E	E
IDEMITSU DAPHNE 46	HH	HL	G	G	G	G	G	G	-
IDEMITSU SUPER HYDRO 28XT-B	HM	HLP	E	E	G	G	E	G	G
IGOL MATIC ZNS 46	HV	-	E	G	G	-	E	-	-
IGOL TICMA FLUID	HV	-	E	G	G	-	E	G	-
IGOL TICMA FLUID BIO 46	HEES	-	G	G	G	-	FT	G	-
INGERSOLL RAND SSR ULTRACOOOLANT (POLYGLICOLE COMP. COOLANT)	HEPG	-	G	G	G	G	G	G	-
INGERSOLL RAND TECHTROL GOLD(POLYGLICOLE COMP. COOLANT)	HEPG	-	G	FT	G	G	G	G	-
IRVING HYDRAULICS 46	HM	HLP	G	G	G	-	E	G	-
JCB OPTIMUM PERFORMANCE HYD OIL 46	HV	HVLP	G	E	G	G	G	G	G
JIANGSU GAOKE L-HM32	HM	HLP	-	-	G	-	E	-	-
JOHN DEERE BIO GUARD II	HETG	-	E	E	E	G	E	G	G
KENDALL HYKEN GLACIAL BLUE HYD FLUID	HV	-	G	FT	G	G	FT	G	G
KLUBER HYSYN FG46	HS	-	G	G	FT	FT	G	FT	-
KLUBER KLUBERBIO EG 2-100	HEES	-	G	G	G	G	-	G	-
KLUBER KLUBERBIO EG 2-68	HEES	-	G	G	G	G	-	G	-
KLUBER KLUBERBIO LR 9 68	HEES	-	E	FT	G	G	X	G	-
KLUBERFOOD 4 NH1 46	HM	HLP	G	FT	FT	-	FT	FT	-
KOMATSU GENUINE BIO 46 G4	HEES	-	E	G	G	G	G	G	E
KOMATSU KPO 10 POWERTRAIN TO 10	HH	-	E	E	G	E	G	G	E
KUNLUN LHM 46	HM	HLP	E	G	G	G	E	G	G
LIEBHERR HYD BASIC 68	HM	HLPD	E	G	G	-	-	-	-
LIEBHERR HYDRAULIC HVI	HV	HVLPD	E	G	G	G	-	G	-
LIEBHERR HYDRAULIC PLUS	HEPR	HVLPD	G	G	G	G	-	-	-
LIEBHERR HYDRAULIC PLUS ARCTIC	HEPR	HVLPD	E	E	G	-	-	-	-
LUKOIL GEYSER ST	HM	-	E	G	G	G	E	G	G
LUKOIL GEYSER ZF	-	HLP	G	G	G	G	E	G	G
MACDERMID OCEANIC BTC 181	HS	-	E	G	G	G	-	G	G
METLUBE HFR 220	HFDU	-	G	G	G	G	E	FT	-
MICRO QUIMICA MICROCORTE 530	HFB	-	FT	X	FT	-	X	FT	-
MILLERS MILLFOOD 32	HS	-	G	G	G	-	E	G	E
MILLERS MILLMAX 22	HM	-	E	G	G	G	G	G	-

**WARNING:** Compatibility of hose and fittings with conveyed fluid is an essential factor in avoiding chemical reactions that may result in release of fluids or failure of the hose or connection. This chemical compatibility guide must not be used in conjunction with any other compatibility guides from previous or future catalogue editions, bulletins or publications. Incorrect use of these charts could result in death, personal injury or property damage.

HYDRAULIC FLUID	TYPE		WIRE SPIRAL	WIRE BRAID				TEXTILE BRAID	TPE TEXTILE BRAID
	ISO 6743-4	DIN 51524	ROCKMASTER GOLDENISO SHIELDMASTER ANACONDA FOREMASTER CRYOFLEX DIAMONDSPIR XTRAFLOW/4WS HYDROROPE HERCULES	ETERNITY/2	ROCKMASTER HARVESTER/17 SHIELDMASTER GOLDENISO COVER CRYOFLEX	FOREMASTER GOLDENISO/PILOT ROCKMASTER/1SC SYNERGY INFINITY	EQUATOR XTRAFLOW/HT	ASTRO SPIRTEX MULTITEX PUSH FIT	HYDROPLAST HYDROTWIN
MOBIL AERO HF 46 (MIL 5606H)	HH	HL	E	G	G	-	FT	G	-
MOBIL DTE 10 EXCEL 46	HV	HVLP	G	E	G	G	FT	G	-
MOBIL DTE 10 EXCEL 68	HV	HVLP	G	G	G	G	FT	-	-
MOBIL DTE 13	HV	HVLP	E	G	G	-	E	G	-
MOBIL DTE 24	HV	HVLP	G	G	G	G	E	G	-
MOBIL DTE 25	HV	HVLP	E	G	G	G	E	G	E
MOBIL DTE 25 ULTRA	HV	HVLP	G	E	G	E	G	G	G
MOBIL DTE 26	HV	HVLP	G	G	G	-	E	FT	E
MOBIL DTE EXCEL 46	HM	HLP	E	E	G	G	E	G	G
MOBIL DTE EXCEL 68	HM	HLP	G	-	G	G	E	-	-
MOBIL DTE FM 32	HM	-	E	G	G	-	G	G	-
MOBIL EAL 224 H	HETG	-	G	G	E	G	-	E	G
MOBIL HYDROFLUID HFDU	HFDU	-	E	E	E	E	G	E	E
MOBIL SHC 524	HM	-	E	G	G	G	E	-	-
MOBIL SHC CIBUS 46	HV	HVLP	G	G	G	G	G	G	-
MOBIL UNIVIS N 46	HV	HVLP	E	G	G	G	G	G	G
MORRIS TRIAD 32	HM	-	-	G	G	G	G	-	-
MOTOREX ALPINE COREX POLAR S370	HV	HVLP	G	FT	FT	G	FT	G	-
MOTOREX COREX HV 22	HM	-	E	G	G	G	E	G	G
MOTOREX COREX HV 46	HM	-	G	E	G	G	G	-	-
MOTOREX COREX HW	HV	HVLP	E	G	G	E	E	E	G
MOTOREX OEKOSYNTH HEES 46	HEES	-	G	X	G	G	X	G	-
MOTUL SHOCK OIL VI 400	HEES	-	G	FT	G	G	X	G	-
NALCO VARIDOS FSK 40%	HFB	-	E	G	E	E	FT	E	-
NESTE BIO HYDRAULI LONGLIFE 46	HEES	-	G	FT	G	G	FT	G	-
NESTE BIO HYDRAULI SE 46	HEES	-	G	FT	G	G	FT	G	-
NESTE BIO HYDRAULI SE 46 PLUS	HEES	-	E	G	E	E	FT	G	G
NESTE HYDRAULI 32 SUPER	HV	HVLP	E	G	G	G	E	-	-
NESTE HYDRAULI 46 SUPER	HV	HVLP	E	G	G	G	E	-	-
NESTE HYDRAULI 68 SUPER	HV	HVLP	G	E	G	G	E	G	E
NEW PROCESS AG NP HYD OIL PC HV1 46	HV	HVLP	-	FT	FT	G	G	-	-
NOALOIL IDRO 32	-	HLP	E	G	G	-	E	G	G
NYCO HYDRAULIC OIL FH 3 (MIL H 46170 C-1)	HH	HL	E	G	G	G	E	G	-
NYCO HYDRAULIC OIL FH 51 (MIL 5606H)	HH	HL	E	G	G	G	FT	G	-
NYCO HYDRAULIC OIL FH 6 (MIL 6083H)	HH	HL	G	G	E	-	FT	E	FT

**WARNING:** Compatibility of hose and fittings with conveyed fluid is an essential factor in avoiding chemical reactions that may result in release of fluids or failure of the hose or connection. This chemical compatibility guide must not be used in conjunction with any other compatibility guides from previous or future catalogue editions, bulletins or publications. Incorrect use of these charts could result in death, personal injury or property damage.

HYDRAULIC FLUID	TYPE		WIRE SPIRAL	WIRE BRAID				TEXTILE BRAID	TPE TEXTILE BRAID
	ISO 6743-4	DIN 51524	ROCKMASTER GOLDENISO SHIELDMASTER ANACONDA FOREMASTER CRYOFLEX DIAMONDSPIR XTRAFLOW/4WS HYDROROPE HERCULES	ETERNITY/2	ROCKMASTER HARVESTER/17 SHIELDMASTER GOLDENISO COVER CRYOFLEX	FOREMASTER GOLDENISO/PILOT ROCKMASTER/19C SYNERGY INFINITY	EQUATOR XTRAFLOW/HT	ASTRO SPIRTEX MULTITEX PUSH FIT	HYDROPLAST HYDROTWIN
OEST DOPP-SYNTH 60	HLP	-	G	X	G	G	X	G	-
OEST DOPP-SYNTH 70	HLP	-	G	X	G	-	X	G	-
OMD 90	HH	HL	G	G	G	-	-	G	G
OMV BIOHYD MS 46 (100°C)	HEES	-	G	G	G	G	-	G	G
OMV HLP AL 46	HL	HLP	E	G	FT	-	E	FT	-
OMV HLP M32	HV	HVLP	G	G	G	E	-	G	-
OMV HYD HLP M15	HV	HVLP	E	FT	G	G	-	G	-
PANOLIN EP GEAR SYNTH 30 VDT	HEES	-	G	X	G	G	X	G	G
PANOLIN GRO SYNTH 46	HEES	-	G	FT	G	G	FT	-	E
PANOLIN HLP SYNTH 15	HEES	-	G	X	X	X	X	G	-
PANOLIN HLP SYNTH 32	HEES	-	G	X	G	G	X	G	-
PANOLIN HLP SYNTH 46	HEES	-	E	FT	G	G	X	G	G
PANOLIN HLP SYNTH E 46	HEES	-	E	FT	G	G	X	G	E
PANOLIN HLP UNI 46	HV	HVLP	E	G	G	G	G	G	-
PANOLIN ORCON HYD 46	HV	HVLP	G	G	G	G	G	G	-
PANOLIN TRAFOSYNTH 2	HEES	-	G	X	G	-	X	G	-
PENTOSIN CHF 11 S (POWER STEERING)	HS	-	E	G	G	G	E	G	-
PETRO CANADA HYDREX AW 46	HM	HLP	E	G	G	G	FT	FT	-
PETRO CANADA HYDREX MV 60	HV	HVLP	E	E	G	G	FT	G	-
PETROCANADA HYDREX XV	HV	HVLP	G	G	FT	G	FT	-	-
PETROCANADA SYNTHETIC AW 46	HM	HLP	G	G	FT	G	G	-	-
PETROFER ULTRA SAFE 620	HFC	-	G	G	E	G	X	E	-
PFINDER APRESOL	HH	-	G	G	G	-	E	G	E
Q8 HANDEL 46	HV	HVLP	E	G	G	E	G	E	-
Q8 HANDEL 68	HV	HVLP	G	G	G	-	E	G	E
Q8 HAYDN 32	HM	HLP	E	G	G	G	E	G	-
Q8 HAYDN 46	HM	HLP	E	G	G	E	G	-	-
Q8 HELLER 46	HV	HVLP	E	G	G	-	E	G	-
Q8 HINDEMITH LT	HV	HVLP	G	FT	G	G	FT	G	-
Q8 HOGARTH 46	HV	HVLP	G	G	G	G	G	G	-
Q8 HOLBEIN ECO 46	HV	HVLP	E	G	E	E	G	G	-
Q8 HOLBEIN NWG 32	HEES	-	G	FT	G	-	X	G	-
Q8 HUMMEL 46	HM	HLP	E	E	G	-	G	-	-
QUAKER GREENSAVE N 40	HETG	-	G	G	G	-	FT	G	G
QUAKER QUINTOLUBRIC 888	HFDU	-	G	G	G	G	FT	G	-
QUAKER QUINTOLUBRIC 888-46	HFDU	-	G	FT	G	G	FT	-	-
QUAKER QUINTOLUBRIC 888-68	HFDU	-	G	FT	G	-	FT	-	-

**WARNING:** Compatibility of hose and fittings with conveyed fluid is an essential factor in avoiding chemical reactions that may result in release of fluids or failure of the hose or connection. This chemical compatibility guide must not be used in conjunction with any other compatibility guides from previous or future catalogue editions, bulletins or publications. Incorrect use of these charts could result in death, personal injury or property damage.

HYDRAULIC FLUID	TYPE		WIRE SPIRAL	WIRE BRAID				TEXTILE BRAID	TPE TEXTILE BRAID
	ISO 6743-4	DIN 51524	ROCKMASTER GOLDENISO SHIELDMASTER ANACONDA FOREMASTER CRYOFLEX DIAMONDSPIR XTRAFLOW/4WS HYDROROPE HERCULES	ETERNITY/2	ROCKMASTER HARVESTER/17 SHIELDMASTER GOLDENISO COVER CRYOFLEX	FOREMASTER GOLDENISO/PILOT ROCKMASTER/1SC SYNERGY INFINITY	EQUATOR XTRAFLOW/HT	ASTRO SPIRTEX MULTITEX PUSH FIT	HYDROPLAST HYDROTWIN
QUAKER QUINTOLUBRIC 914	HFA	-	G	-	G	G	-	G	-
QUAKER QUINTOLUBRIC N 822-300	HFDU	-	G	FT	G	-	-	G	-
QUAKER QUINTOLUBRIC N 852	HEES	-	G	X	G	G	X	E	-
RAUTIO ERGO MIX	HH	-	E	G	G	-	E	-	-
REPSOL TELEX 32	HM	HLP	G	E	G	E	G	G	G
ROLOIL ESTIN S46	HFDU	-	G	FT	G	G	X	G	-
ROSNEFT GIDROTECH HVLP 46	HV	HVLP	E	G	G	G	G	G	G
SAFETY KLEEN PERFORMANCE PLUS AW 32	HM	-	G	G	FT	G	G	-	-
SHAEFFER 112 HTC	HM	HLP	G	G	G	G	E	-	-
SHAEFFER 112 NZ HTC 32	HM	HLPD	G	G	FT	G	G	FT	-
SHAEFFER 254 SUPREME ISO 32 TH 220	HM	HLP	G	FT	FT	G	G	FT	-
SHAEFFER 275 S DILEX SUPREME MEHF HYD	HV	HLPD	G	E	G	E	E	FT	-
SHELL AEROSHELL FLUID 41 (MIL 5606H)	HH	HL	E	G	G	-	FT	G	-
SHELL AEROSHELL FLUID 602 (MIL-PRF 87252C)	HEPR	-	E	E	G	G	E	G	G
SHELL ASTRON HL 46	HH	-	E	E	G	G	G	-	-
SHELL DONAX TA (TORQUE CONV. ALLISON C-3)	HM	-	-	-	G	G	G	-	-
SHELL HYDRAULIC OIL PW 46	HV	HVLP	E	G	G	E	G	G	G
SHELL IRUS FLUID DU-NA 46	HFDU	-	E	E	E	-	G	G	-
SHELL IRUS FLUID DU-NA 68	HFDU	-	E	E	E	-	G	G	-
SHELL MORLINA 220	HL	HLP	G	G	G	G	E	FT	G
SHELL MORLINA S2 BL10	HL	HLP	G	X	G	G	X	G	G
SHELL MORLINA S2 BL5	HL	HLP	G	X	G	G	X	G	G
SHELL NATURELLE HF-E15	HEES	-	E	FT	G	G	X	G	G
SHELL NATURELLE HF-E46	HEES	-	E	FT	G	G	X	E	G
SHELL TARGON AL PLUS	HH	-	E	FT	E	-	FT	G	-
SHELL TELLUS ARCTIC 32	HH	HL	G	G	G	G	G	G	E
SHELL TELLUS S 46	HM	HLP	E	G	G	G	E	G	E
SHELL TELLUS S1 M 46 (EX TELLUS H 46)	HM	-	G	G	G	G	-	-	-
SHELL TELLUS S2 M 100 (EX TELLUS 100)	HM	-	E	G	G	G	G	G	G
SHELL TELLUS S2 M 46 (EX TELLUS 46)	HM	HLP	E	G	G	G	E	G	E
SHELL TELLUS S2 M 68 (EX TELLUS 68)	HM	HLP	E	G	G	G	E	G	-
SHELL TELLUS S2 MA 46	HM	HVLP	E	G	G	E	G	G	-
SHELL TELLUS S2 MX 46	HM	HLP	G	G	G	G	G	G	G

**WARNING:** Compatibility of hose and fittings with conveyed fluid is an essential factor in avoiding chemical reactions that may result in release of fluids or failure of the hose or connection. This chemical compatibility guide must not be used in conjunction with any other compatibility guides from previous or future catalogue editions, bulletins or publications. Incorrect use of these charts could result in death, personal injury or property damage.

HYDRAULIC FLUID	TYPE		WIRE SPIRAL	WIRE BRAID				TEXTILE BRAID	TPE TEXTILE BRAID
	ISO 6743-4	DIN 51524	ROCKMASTER GOLDENISO SHIELDMASTER ANACONDA FOREMASTER CRYOFLEX DIAMONDSPIR XTRAFLOW/4WS HYDROROPE HERCULES	ETERNITY/2	ROCKMASTER HARVESTER/17 SHIELDMASTER GOLDENISO COVER CRYOFLEX	FOREMASTER GOLDENISO/PILOT ROCKMASTER/19C SYNERGY INFINITY	EQUATOR XTRAFLOW/HT	ASTRO SPIRTEX MULTITEX PUSH FIT	HYDROPLAST HYDROTWIN
SHELL TELLUS S2 V 32 (EX TELLUS T 32)	HV	HVLP	E	G	G	E	E	G	G
SHELL TELLUS S2 V 46 (EX TELLUS T 46)	HV	HVLP	E	G	G	E	E	G	G
SHELL TELLUS S2 V 68 (EX TELLUS T 68)	HV	HVLP	E	G	G	-	E	G	-
SHELL TELLUS S2 VX 46	HV	HVLP	G	G	G	G	G	G	G
SHELL TELLUS S3 M 46	HM	-	G	G	G	G	G	G	G
SHELL TELLUS S3 V 32 (EX TELLUS STX)	HV	HVLP	E	G	FT	G	E	G	G
SHELL TELLUS S3 V 46 (EX TELLUS STX)	HV	HVLP	E	G	FT	G	E	G	G
SHELL TELLUS S4 ME 46 (EX TELLUS EE 46)	HM	HLP	E	FT	-	-	-	-	-
SHELL TELLUS S4 VX 32	HV	HVLP	G	FT	-	-	-	-	-
SHELL TELLUS TX 68	HV	-	G	FT	G	E	G	G	-
SHENYANG TELI AERONAUTIC HYDRAULIC OIL 10#	HV	-	G	-	G	G	FT	-	-
SINCLAIR AW 46	HM	-	G	G	G	G	G	G	-
SINENG LHM 46	HM	-	G	G	-	-	-	-	-
SINOPEC L HM 32	HM	HLP	E	-	G	-	G	-	-
SMALLMAN CROWNPRESS 46	HH	-	G	G	G	-	E	G	E
SOLUTIA SKYDROLL 500	HFDR	-	X	X	X	-	X	X	X
STATOIL HYDRAWAY EXTREME 46	HM	HLP	E	G	G	E	E	-	-
STATOIL HYDRAWAY HVXA 15	HV	HVLP	G	-	G	G	-	G	-
STATOIL HYDROCOR CC44	HFC	-	E	G	E	E	FT	G	-
STUART ISOCORE E 68 PLUS	HPG	-	E	G	G	G	FT	E	-
SUNOCO SUNVIS 746	HM	HLP	E	G	G	G	E	FT	G
SUNOCO SUNVIS 846	HV	HVLP	E	G	G	G	G	G	G
SUNOCO SUNVIS 846 WR	HV	HLP	E	G	G	G	G	G	G
TAMOIL GREEN HYDRO SAFETY 46	HETG	-	E	E	G	-	-	E	G
TEBOIL HYDRAULIC ARCTIC	HH	-	G	G	E	G	G	E	E
TEBOIL ECO 46	HEES	-	E	E	G	G	FT	G	G
TERRESOLVE GREENSCARE 46	HETG	-	G	G	G	G	G	G	-
TEXACO BIOSTAR HYDRAULIC 32	HETG	-	E	FT	E	G	FT	E	-
TEXACO HYDRA 46	HEES	-	E	FT	G	G	FT	G	G
TEXACO RANDO HD 46	HM	HLP	E	G	G	G	G	FT	G
TEXACO RANDO HD LVZ 46	HV	HVLP	G	G	G	G	G	FT	-
TEXACO RANDO HD VZ 46	HV	HVLP	G	G	G	G	G	G	G
TEXACO RANDO HD VZ 68	HV	HVLP	G	G	G	G	G	G	-
TEXACO RANDO HD Z 46	HV	HVLP	E	G	G	G	G	G	-
TEXACO RANDO HD Z LT 32	HM	HVLP	G	G	G	G	G	G	G

**WARNING:** Compatibility of hose and fittings with conveyed fluid is an essential factor in avoiding chemical reactions that may result in release of fluids or failure of the hose or connection. This chemical compatibility guide must not be used in conjunction with any other compatibility guides from previous or future catalogue editions, bulletins or publications. Incorrect use of these charts could result in death, personal injury or property damage.

HYDRAULIC FLUID	TYPE		WIRE SPIRAL	WIRE BRAID				TEXTILE BRAID	TPE TEXTILE BRAID
	ISO 6743-4	DIN 51524	ROCKMASTER GOLDENISO SHIELDMASTER ANACONDA FOREMASTER CRYOFLEX DIAMONDSPIR XTRAFLOW/4WS HYDROROPE HERCULES	ETERNITY/2	ROCKMASTER HARVESTER/17 SHIELDMASTER GOLDENISO COVER CRYOFLEX	FOREMASTER GOLDENISO/PILOT ROCKMASTER/1SC SYNERGY INFINITY	EQUATOR XTRAFLOW/HT	ASTRO SPIRTEX MULTITEX PUSH FIT	HYDROPLAST HYDROTWIN
TEXACO RANDO WM 32	HV	HVLP	G	FT	G	G	-	G	-
TEXACO SYNSTAR HT 68	HFDU	-	G	G	E	G	FT	E	G
TOTAL AZOLLA HZS 46	HM	HLP	E	G	G	G	E	-	-
TOTAL AZOLLA ZS 46	HM	HLP	E	G	G	G	E	G	G
TOTAL BIOHYDRAN SE 46	HEES	-	G	FT	G	G	X	E	G
TOTAL EQUIVIS ZS 46	HV	HVLP	G	G	G	-	-	FT	-
TOTAL HYDRANSAFE HFDU 46	HFDU	-	E	-	G	-	-	-	-
TOTAL LHM (BRAKE FLUID)	HS	-	G	X	FT	FT	X	G	-
UKABIOL HY 46 HTG	HETG	-	G	G	E	G	G	E	G
UNIL HYDRO S46	HM	HLP	G	G	G	G	E	FT	G
UNIL OPAL HV 46	HV	HVLP	G	G	G	G	E	-	-
UNIL OPAL HVB 46	HV	HLPD	G	G	G	G	E	-	-
UNIL OPAL PO 6	HV	HVLP	E	G	G	G	G	G	G
UNIL UNIHVD ISO WG 46	HV	HLPD	E	G	G	G	E	G	G
VALVOLINE ULTRAMAX HVLP 68	HV	HVLP	G	E	G	G	E	-	-
VICKERS ECOSURE HSE 68	HEES	-	G	FT	G	G	X	FT	-
WISURA WM 3021 2,8% IN H2O	HFA	-	E	E	E	-	X	E	E
WURTH TRIATHLON HLP 46	HM	HLP	E	G	FT	G	-	-	-
YORK 777	HEES	-	G	FT	G	G	X	G	E
ZELLER+GMELIN DIVINOL DHG 46	HL	HLP	E	G	G	G	E	G	G
ZELLER+GMELIN DIVINOL HE 46	HEES	-	E	FT	G	E	-	G	-

**WARNING:** Compatibility of hose and fittings with conveyed fluid is an essential factor in avoiding chemical reactions that may result in release of fluids or failure of the hose or connection. This chemical compatibility guide must not be used in conjunction with any other compatibility guides from previous or future catalogue editions, bulletins or publications. Incorrect use of these charts could result in death, personal injury or property damage.

PART 2: HYDROKINETIC APPLICATIONS AND LUBRICANT OILS COMPATIBILITY CHART

(AUTOMATIC TRANSMISSION AND VARIOUS LUBRICATION SYSTEMS)

FLUID NAME	TYPE		WIRE SPIRAL	WIRE BRAID				TEXTILE BRAID	TPE TEXTILE BRAID
	ISO 6743-4	DIN 51524	ROCKMASTER GOLDENISO SHIELDMASTER ANACONDA FOREMASTER CRYOFLEX DIAMONDSPIR XTRAFLOW/4WS HYDROROPE HERCULES	ETERNITY/2	ROCKMASTER HARVESTER/17 SHIELDMASTER GOLDENISO COVER CRYOFLEX	FOREMASTER GOLDENISO/PILOT ROCKMASTER/1SC SYNERGY INFINITY	EQUATOR XTRAFLOW/HT	ASTRO SPIRTEX MULTITEX PUSH FIT	HYDROPLAST HYDROTWIN

**AUTOMATIC TRANSMISSION FLUID (ATF)**

AGIP ATF 2D GEAR (ATF DEXRON II, MERCON II SPEC)	HA	-	G	G	FT	-	G	FT	E
AVIA FLUID ATF 86	HA	-	G	G	FT	G	E	G	G
BP AUTRAN MBX (ATF DEXRON IID) - 100°C	HA	-	E	G	G	G	E	G	-
CASTROL TRANSYND RD (ATF ALLISON C4)	HA	-	G	G	G	G	E	-	E
CHEVRON DRIVETRAIN HD (ATF CATERPILLAR TO4)	HA	-	G	G	FT	G	G	FT	-
CONOCO POWERDRIVE 10W	HA	-	G	FT	-	G	G	-	-
CONOCO VERSATRANS LV ATF	HA	-	-	G	FT	G	FT	FT	-
GOLDENWEST DEXRON III M	HA	-	G	G	FT	G	E	-	-
MAG 1 FULLY SYNTHETIC ATF (ATF MERCON V, DEXRON III)	HA	-	-	G	FT	-	G	-	-
MILLERS MILLERMATIC ATF UN (ATF DEXRON II)	HA	-	-	FT	FT	-	G	-	-
MOBIL ATF 320	HA	-	G	G	FT	G	E	FT	G
SHELL ATF III D (ATF DEXRON III)	HA	-	G	FT	FT	G	E	-	-
SHELL DONAX ATF III (ATF DEXRON III)	HA	-	E	G	FT	-	E	G	-
SHELL DONAX TX (ATF DEXRON III)	HA	-	G	FT	FT	-	G	-	-
SHELL SPIRAX S2 ATF AX	HA	-	E	-	-	-	E	-	-
SHELL SPIRAX S6ATF ZM	HA	-	FT	G	X	-	FT	-	-
SHELL TELLUS S4 TXM (UTTO)	HA	-	E	G	G	G	E	G	-
TAMOIL ATF II D (ATF DEXRON IID) - 100°C	HA	-	G	G	G	-	E	-	-
TOTAL FLUID NA H3	HA	-	G	G	FT	G	E	-	-

**GEAR (MECHANICAL TRANSMISSION) FLUID**

AMSOIL PTN 320 (GEAR OIL)	C		G	G	FT	FT	G	FT	-
CASTROL OPTIGEAR SYNTHETIC X320 (GEAR OIL)	C		G	G	FT	FT	G	FT	-
CASTROL OPTIGEAR SYNTHETIC X320 WTO (GEAR OIL)	C		-	G	-	-	G	-	-
EXXON MOBIL 424 (GEAR OIL)	C		G	G	G	-	G		
FUCHS PENTOGEAR 320 WT (GESR OIL)	C		G	-	G	G	E	-	-
FUCHS PLANTO HYTRAC (UTTO GEAR OIL)	C		G	FT	G	G	FT	G	-
FUCHS RENOLIN UNISYN CLP 320 (GEAR OIL)	C		G	G	G	G	E	G	-
FUCHS RENOLIN UNISYN XT 320 (GEAR OIL)	C		G	-	G	G	E	-	-

**WARNING:** Compatibility of hose and fittings with conveyed fluid is an essential factor in avoiding chemical reactions that may result in release of fluids or failure of the hose or connection. This chemical compatibility guide must not be used in conjunction with any other compatibility guides from previous or future catalogue editions, bulletins or publications. Incorrect use of these charts could result in death, personal injury or property damage.



FLUID NAME	TYPE		WIRE SPIRAL	WIRE BRAID				TEXTILE BRAID	TPE TEXTILE BRAID
	ISO 6743-4	DIN 51524	ROCKMASTER GOLDENISO SHIELDMASTER ANACONDA FOREMASTER CRYOFLEX DIAMONDSPIR XTRAFLOW/4WS HYDROPE HERCULES	ETERNITY/2	ROCKMASTER HARVESTER/17 SHIELDMASTER GOLDENISO COVER CRYOFLEX	FOREMASTER GOLDENISO/PILOT ROCKMASTER/1SC SYNERGY INFINITY	EQUATOR XTRAFLOW/HT	ASTRO SPIRITEX MULTITEX PUSH FIT	HYDROPLAST HYDROTWIN
FUCHS RENOLIT CX FO 20 (GEAR GREASE)	C		E	E	E	E	G	G	G
FUCHS RENOLIT CX SPS (GEAR GREASE)	C		E	E	E	E	G	G	G
LIEBHERR GEAR BASIC 90 LS (GEARBOX OIL)	C		G	G	G	-	-	G	-
MAV SINT PLUS 2005 ISO46 (GEAR OIL)	C		G	G	FT	G	FT	G	-
MOBIL MOBILGEAR SHC XMP 320 (GEAR OIL)	C		E	G	G	G	E	G	-
MOBIL SHC GEAR 320 WT (GEAR OIL)	C		E	G	G	G	E	G	-
MOBIL SHC PM 320 (GEAR OIL)	C		G	G	FT	-	E	-	-
PENZOIL LONG LIFE GEARPLUS 75W 90	C		E	G	G	E	G	G	-
SHELL DONAX TD (UTTO GEAR OIL)	C		E	G	G	G	E	-	-
SHELL OMALA HD 150 (GEAR OIL)	C		G	G	FT	-	FT	G	G
SHELL OMALA S5 WIND 320 (GEAR OIL)	C		G	G	FT	G	G	G	-
SHELL SPIRAX ASX (GEAR OIL SAE 80W140)	C		G	FT	FT	FT	FT	G	
SHELL TEGULA V32 (GEAR OIL)	C		E	G	G	-	E	G	E
SINOPEC GREATWALL WT 320 (GEAR OIL)	C		G	G	G	G	E	G	G
TEXACO TEXTRAN TDH PREMIUM (UTTO GEAR OIL)	C		G	G	G	G	E	G	
VALTRA TRANSMISSION OIL XT 60 (GEARBOX)	C		G	G	FT	-	E	FT	-

**COMPRESSOR OILS**

ANDEROL 497 (DI-ESTER BASED COMPRESSOR OIL)	D		G	FT	G	-	FT	G	-
ATLAS COPCO HD ROTO FLUID PLUS	D		-	-	-	-	G	-	-
ATLAS COPCO PAROIL S BULK (SYNT. ESTER POLYOLEFINE BLEND COMPR.)	D		G	G	FT	-	FT	FT	
ATLAS COPCO ROTO EXTREME DUTY FLUID	D		-	-	-	-	FT	-	-
ATLAS COPCO ROTO FOODGRADE FLUID (SYNT BLEND COMPR. OIL)	D		-	-	-	-	G	-	-
ATLAS COPCO ROTO H (MINERAL BASED COMPRESSOR OIL)	D		G	G	FT	-	G	G	E
ATLAS COPCO ROTO INJECT FLUID PLUS (MINERAL BASED COMPR. OIL)	D		G	G	FT	-	G	G	E
ATLAS COPCO ROTO INJECT FLUID (MINERAL BASED COMPR. OIL)	D		E	G	G	-	G	G	E
ATLAS COPCO ROTO XTEND DUTY (PAO COMPR. OIL)	D		-	-	-	-	G	-	-
ATLAS COPCO ROTO Z	D		-	-	-	-	G	-	-

**WARNING:** Compatibility of hose and fittings with conveyed fluid is an essential factor in avoiding chemical reactions that may result in release of fluids or failure of the hose or connection. This chemical compatibility guide must not be used in conjunction with any other compatibility guides from previous or future catalogue editions, bulletins or publications. Incorrect use of these charts could result in death, personal injury or property damage.

FLUID NAME	TYPE		WIRE SPIRAL	WIRE BRAID				TEXTILE BRAID	TPE TEXTILE BRAID
	ISO 6743-4	DIN 51524	ROCKMASTER GOLDENISO SHIELDMASTER ANACONDA FOREMASTER CRYOFLEX DIAMONDSPIR XTRAFLOW/4WS HYDROROPE HERCULES	ETERNITY/2	ROCKMASTER HARVESTER/17 SHIELDMASTER GOLDENISO COVER CRYOFLEX	FOREMASTER GOLDENISO/PILOT ROCKMASTER/1SC SYNERGY INFINITY	EQUATOR XTRAFLOW/ HT	ASTRO SPIRTEX MULTITEX PUSH FIT	HYDROPLAST HYDROTWIN
BARHAT PETROLEUM AIRLUBE XD	D		-	-	-	-	G	-	-
CASTROL ICEMATIC SW 100 (POE BASED COMPRESSOR OIL)	D		G	G	G	-	-	G	E
CHEVRON MACHINE OIL ISO 32 (COMPRESSOR OIL)	D		G	G	G	-	G	G	G
FUCHS DEA TRITON SE 55 (POE BASED)	D		G	G	G	G	-	G	E
FUCHS RENISO C85 E	D		G	FT	G	G	-	G	-
FUCHS RENISO PAG 1234	D		G	G	G	G	-	G	G
INGERSOLL RAND SSR ULTRA PLUS COOLANT (POE BASED COMPR. OIL)	D		G	G	G	-	E	G	G
ISAFLEX KOMPRESSOIL SE	D		-	FT	G	G	FT	-	-
KLUBER SUMMIT HYSIN F 46	D		G	G	FT	G	-	-	-
KLUBER SUMMIT HYSYN FG 46 (SYNT HYDROCARBON COMP. OIL)	D		G	G	FT	G	G	FT	-
LUBRIZOL EMKARATE RL 100S	D		G	G	-	-	-	FT	G
MOBIL ARCTIC EAL 32 (POE BASED A/C COMP. OIL)	D		-	FT	G	-	X	G	G
MOBIL GLYCOL 30 (PAG BASED COMP.OIL)	D		E	E	E	E	E	E	G
MOBIL RARUS SHC 1026 (COMPRESSOR OIL)	D		E	G	G	-	E	G	-
PAG SP 10 (COMPRESSOR OIL)	D		G	G	G	-	-	FT	E
SHELL CORENA D (COMPRESSOR OIL)	D		G	G	FT	-	E	FT	G
SULLAIR AWF	D		-	-	-	-	G	-	-
TOTAL DACNIS SH 46 (PAO BASED COMP. OIL)	D		-	G	G	G	E	G	-
TOTAL DACNIS VS 46 (MINERAL BASED COMP. OIL)	D		G	G	G	G	E	FT	-
VALVOLINE VALCOMP SYNTH 68 COMP. OIL	D		-	-	-	-	G	-	-

ENGINE OILS

AGIP SINT 2000 (ENGINE OIL 10W40)	E		G	G	G	-	G	E	G
AGIP TECSINT SL5W40 (ENGINE OIL 5W40)	E		E	G	FT	-	G	-	-
ARAL TURBORAL (ENGINE OIL 15W40)	E		E	G	-	-	-	-	-
BP VANELLUS C 5 (ENGINE OIL 15W40)	E		E	G	G	G	G	-	-
CHEVRON DELO 400LE (ENGINE OIL 15W40)	E		G	G	FT	G	G	G	-
CHEVRON RPM 30 (ENGINE OIL)	E		G	G	G	G	E	G	-
FUCHS PLANTOHYDRAMOT SL 5W40 (STOU ENGINE OIL)	E		G	G	FT	G	G	G	-
FUCHS TITAN GTI PRO C 2 (ENGINE OIL 5W30)	E		G	G	G	-	FT	G	-

**WARNING:** Compatibility of hose and fittings with conveyed fluid is an essential factor in avoiding chemical reactions that may result in release of fluids or failure of the hose or connection. This chemical compatibility guide must not be used in conjunction with any other compatibility guides from previous or future catalogue editions, bulletins or publications. Incorrect use of these charts could result in death, personal injury or property damage.

FLUID NAME	TYPE		WIRE SPIRAL	WIRE BRAID				TEXTILE BRAID	TPE TEXTILE BRAID
	ISO 6743-4	DIN 51524	ROCKMASTER GOLDENISO SHIELDMASTER ANACONDA FOREMASTER CRYOFLEX DIAMONDSPIR XTRAFLOW/4WS HYDROPE HERCULES	ETERNITY/2	ROCKMASTER HARVESTER/17 SHIELDMASTER GOLDENISO COVER CRYOFLEX	FOREMASTER GOLDENISO/PILOT ROCKMASTER/1SC SYNERGY INFINITY	EQUATOR XTRAFLOW/ HT	ASTRO SPIRITEX MULTITEX PUSH FIT	HYDROPLAST HYDROTWIN
IGOL MARINE 15W-40 (ENGINE OIL )	E		G	G	G	-	-	-	-
JCB ENGINE OIL EP (ENGINE OIL 15W40)	E		E	G	G	-	G	G	G
MOBIL DELVAC MX (ENGINE OIL 15W40)	E		E	G	-	-	-	-	-
MOBIL DELVAC 1310 (ENGINE OIL 10W20)	E		E	G	G	-	G	E	G
Q8 T1000 (ENGINE OIL 15W40 - STUO)	E		G	G	G	G	G	G	G
Q8 T720 (ENGINE OIL 15W40)	E		E	G	G	-	E	G	-
Q8 T760 (ENGINE OIL 15W40)	E		G	G	FT	G	G	G	G
SHELL HELIX ULTRA (ENGINE OIL 5W40)	E		G	G	G	-	E	G	-
SHELL RIMULA R3 (ENGINE OIL 10W)	E		E	G	G	-	E	G	E
SHELL RIMULA R3 MV (ENGINE OIL)	E		E	E	G	G	-	G	G
SHELL RIMULA R4 X (ENGINE OIL 15W40)	E		E	G	-	-	-	-	-
SHELL RIMULA X30 (ENGINE OIL 10W)	E		E	G	G	G	E	G	E
SHELL ROTELLA TMG (ENGINE OIL 15W40)	E		G	G	G	G	E	G	
SHELL V OIL 1404	E		G	G	G	-	G	G	G
<b>TURBINE OILS</b>									
MOBIL JET OIL II	T		E	FT	G	E	FT	E	-
NYCO TURBONICOIL TN 13 B	T		G	X	X	FT	X	E	-
<b>HEAT TRANSFER FLUIDS</b>									
CHEVRON HAVOLINE XLC (FLUID COOLER)	Q		E	G	G	-	X	G	-
MOBIL THERM 605	Q		G	G	G	-	E	G	-
NESTE FLUID COOLER BIO	Q		E	G	G	G	-	G	-
NESTE SUPER FLUID COOLER XLC	Q		E	G	G	-	-	G	-
PETROCANADA CALFLO (HEAT TRANSFER FLUID)	Q		G	G	G	E	G	G	-
PETRONAS PARAFLO HT (OAT) AT 100°C	Q		E	G	G	-	X	G	-
WATER GLYCOL EMULSION (50%) AT 100°C	Q		E	G	G	-	X	G	E
<b>METAL WORKING</b>									
BUDEMEIM PHOSPHATHERM 948	M		E	E	E	-	X	E	-
CASTROL VARIOCUT G613 HC (CUTTING OIL)	M		-	FT	-	FT	X	-	-

**WARNING:** Compatibility of hose and fittings with conveyed fluid is an essential factor in avoiding chemical reactions that may result in release of fluids or failure of the hose or connection. This chemical compatibility guide must not be used in conjunction with any other compatibility guides from previous or future catalogue editions, bulletins or publications. Incorrect use of these charts could result in death, personal injury or property damage.

PART 3: BEHAVIOUR TO CHEMICALS FOR NON-HYDRAULIC APPLICATIONS

(GUIDELINES FROM LITERATURE)

FLUID	NITRILE	CHLOROPRENE	CHLOROSULPHONATED POLYETHYLENE	CHLORINATED POLYETHYLENE	POLYESTER
ACETALDHEIDE	X	FT	X	FT	G
ACETIC ACID, 10%	X	FT	G	G	G
ACETIC ACID GLACIAL	X	X	FT	G	FT
ACETONE	FT	FT	X	G	G
AIR (60°C)	G	G	E	E	E
AIR (100°C)	FT	G	E	E	G
AIR (150°C)	X	X	G	G	X
AMMONIA, GASEOUS	FT	G	-	-	X
AMMONIA, LIQUID COLD	E	E	G	-	X
AMMONIA, LIQUID 70°C	X	FT	FT	-	X
AMMONIUM HYDROXIDE, 10%	G	G	E	E	-
AMMONIUM HYDROXIDE, CONC	FT	FT	FT	FT	-
AMMONIUM NITRATE (AQUEOUS SOLUTIONS)	G	G	G	G	G
AMMONIUM PHOSPHATE, MON-DI-TRI BASIC (AQ. SOL)	E	E	E	E	FT
AMMONIUM SULPHATE (AQUEOUS SOLUTION)	E	E	E	E	FT
ANILINE	X	FT	X	X	X
AQUA REGIA	FT	FT	X	FT	-
ASTM OIL N°1, 100°C	E	E	G	G	E
ASTM OIL N°2, 100°C	E	G	FT	FT	E
ASTM OIL N°3, 100°C	E	FT	FT	FT	E
BENZENE	X	X	X	FT	FT
BORIC ACID 10% 100°C	G	G	G	X	G
BRAKE FLUID (SAE J 1703D)	X	-	X	G	-
BRINE	E	FT	FT	G	G
BUTANOL	E	G	G	G	E
CALCIUM BICARBONATE	E	E	E	E	-
CALCIUM HYDROXIDE (AQUEOUS SUSPENSIONS)	E	E	G	G	-
CARBONIC ANHYDRIDE	G	E	G	G	E
CHLORINE	X	X	X	X	X
CHLOROFORM	FT	FT	X	X	X
CITRIC ACID, 33%	G	G	G	-	E
CRUDE OIL	E	X	X	X	G
DETERGENT WATER SOLUTION	G	G	FT	G	G
DIBENZYL ETHER	X	X	X	X	-
DIETHYL PHTALATE (DEPH)	FT	X	X	X	E
EPICHLORHYDRINE	X	X	FT	X	X
ETHYL ACETATE	FT	X	FT	FT	FT
ETHYL ALCOHOL	E	E	E	E	E

APPENDIX 642

**WARNING:** Compatibility of hose and fittings with conveyed fluid is an essential factor in avoiding chemical reactions that may result in release of fluids or failure of the hose or connection. This chemical compatibility guide must not be used in conjunction with any other compatibility guides from previous or future catalogue editions, bulletins or publications. Incorrect use of these charts could result in death, personal injury or property damage.

FLUID	NITRILE	CHLOROPRENE	CHLOROSULPHONATED POLYETHYLENE	CHLORINATED POLYETHYLENE	POLYESTER
ETHYL ETHER	G	FT	-	-	-
ETHYLENE	E	G	-	-	G
ETHYLENE GLYCOLE	E	E	G	G	E
ETHYLENE GLYCOLE (100°C)	E	G	G	G	G
FORMALDHEYDE	FT	G	FT	G	G
FORMIC ACID 23°C (SATURATED SOLUTION)	G	G	G	X	G
FORMIC ACID 75°C (SATURATED SOLUTION)	FT	G	FT	X	FT
GLYCERINE	E	E	E	E	E
HEPTANE	G	FT	X	FT	E
HYDRAULIC OILS (SEE DETAILED TABLE)	*	*	*	*	*
HYDROCHLORIC ACID, 10%	G	G	G	X	G
HYDROCHLORIC ACID, 37%	FT	FT	FT	X	X
HYDROCHLORIC ACID, 37% 70°C	X	X	X	X	X
HYDROCYANIC ACID 20%	FT	FT	-	-	-
HYDROGEN SULPHIDE	FT	G	FT	X	E
ISOBUTYL ALCOHOL	G	G	G	G	E
ISOPROPYL ALCOHOL	G	E	E	E	E
ISO-OCTANE	G	FT	X	FT	E
KEROSENE (AROMATICS 40%MAX, 70°C)	G	FT	X	FT	-
LEAD FREE PETROL	G	FT	X	FT	E
MAGNESIUM HYDROXIDE (AQUEOUS SOLUTIONS)	G	E	E	E	-
MERCURY	E	E	E	E	E
METHANOL	G	E	E	E	G
METHYL METHACRYLATE	X	X	X	X	-
METHYLETHYLKETONE (MEK)	X	FT	X	FT	E
NITRIC ACID, CONCENTRATED 65%	X	X	X	X	X
NITRIC ACID, DILUTED 10% 50°C	FT	X	X	FT	X
NITRIC ACID FUMING	X	X	X	X	X
NITROGEN	E	E	E	E	E
OLEIC ACID	G	FT	FT	FT	E
OLEUM	X	X	X	X	X
OXALIC ACID 25% 80°C	G	E	G	X	-
OXYGEN (80°C)	FT	G	FT	G	E
PARAFFIN	E	E	FT	E	E
PENTANE	G	FT	X	FT	E
PETROL	E	FT	X	FT	E
PETROLEUM, 70°C	E	G	X	FT	E
PHENOL	X	X	X	X	FT
PHOSPHORIC ACID 20%	G	E	E	X	-
PHOSPHORIC ACID 60% 50°C	FT	G	FT	X	-

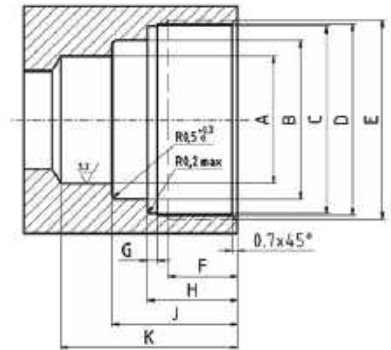
**WARNING:** Compatibility of hose and fittings with conveyed fluid is an essential factor in avoiding chemical reactions that may result in release of fluids or failure of the hose or connection. This chemical compatibility guide must not be used in conjunction with any other compatibility guides from previous or future catalogue editions, bulletins or publications. Incorrect use of these charts could result in death, personal injury or property damage.

FLUID	NITRILE	CHLOROPRENE	CHLOROSULPHONATED POLYETHYLENE	CHLORINATED POLYETHYLENE	POLYESTER
PHOSPHORIC ACID 85%	FT	G	FT	X	-
PHOSPHOROUS TRI-CHLORIDE	X	X	X	X	-
PICRIC ACID 10% 100°C	FT	FT	G	G	-
POTASSIUM CHLORIDE (AQUEOUS SOLUTION)	E	E	E	E	-
POTASSIUM HYDROXIDE 70°C (MEDIUM HIGH CONC.)	G	G	-	-	E
POTASSIUM SULPHATE (AQUEOUS SOLUTION)	E	E	E	E	-
SEA WATER	E	G	FT	G	E
SOAPS	E	G	G	G	E
SODA CAUSTIC	FT	G	G	FT	G
SODIUM BICARBONATE	E	E	E	E	G
SODIUM CHLORIDE (AQUEOUS SOLUTION)	E	E	G	G	E
SODIUM HYDROXIDE	FT	G	G	FT	E
SODIUM HYDROXIDE 70°C (MEDIUM HIGH CONC.)	FT	G	G	FT	F
SODIUM HYPOCHLORITE (AQUEOUS SOLUTIONS)	FT	G	FT	X	E
SODIUM SILICATE (AQUEOUS SOLUTIONS)	E	E	E	E	-
SODIUM SULPHATE (AQUEOUS SOLUTION)	E	E	E	E	-
SODIUM SULPHIDE	E	E	E	E	-
STEARIC ACID	E	E	FT	E	E
SULPHUR	X	X	G	G	-
SULPHUR DIOXIDE	X	X	X	X	-
SULPHURIC ACID (HOT CONCENTRATED 96°C)	X	X	X	X	X
SULPHURIC ACID (DILUTED 20%)	X	X	FT	FT	E
SULPHURIC ANHYDRIDE	X	FT	FT	FT	-
SULPHUROUS ACID	X	X	FT	FT	X
TANNIC ACID	G	G	G	X	E
TANNIN	E	E	E	E	E
TARTARIC ACID 20%	E	G	G	X	-
TETRAETHYL LEAD	G	FT	X	-	-
TOLUENE	X	X	X	X	E
TURPENTINE	G	X	X	X	-
UREA	E	E	G	G	-
VINYL ACETATE	FT	FT	FT	G	-
VINYL CHLORIDE	X	X	X	X	-
WATER	E	G	X	G	E
XYLENE	FT	X	X	X	G
ZINC CHLORIDE (AQUEOUS SOLUTIONS)	E	E	G	X	E
ZINC SULPHATE (AQUEOUS SOLUTIONS)	E	E	G	X	-

**WARNING:** Compatibility of hose and fittings with conveyed fluid is an essential factor in avoiding chemical reactions that may result in release of fluids or failure of the hose or connection. This chemical compatibility guide must not be used in conjunction with any other compatibility guides from previous or future catalogue editions, bulletins or publications. Incorrect use of these charts could result in death, personal injury or property damage.

## DIRECT TO PORT CONCEPTS

The male threadless termination can be connected directly to the port, by means of pre-installed cartridge, with a simple axial pushing action of the fitting into the port.

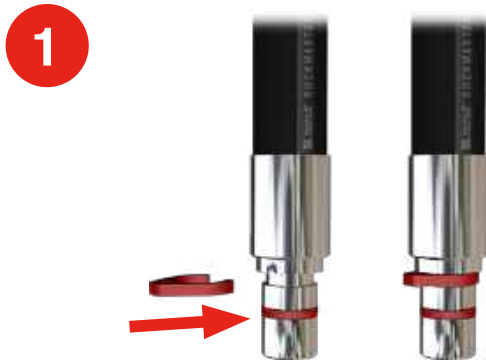


## FEMALE PORT DESIGN

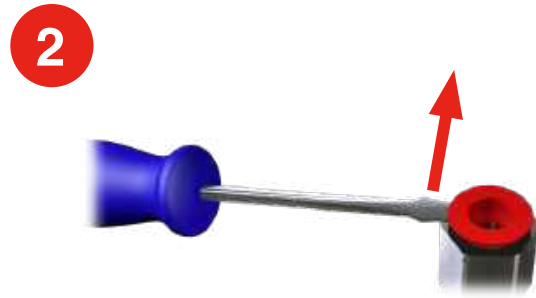
SIZE	DIMENSIONS (MM)					RECOMMENDED TORQUE
	A	B	C	D	E	
-04	10.03 + 0.08	12.75 + 0.1	16.55 + 0.07	17.0 + 0.1	M18 X 1	23 - 35 NM
-06	13.03 + 0.08	16.9 + 0.2	20.55 + 0.07	21.0 + 0.1	M22 X 1	30 - 40 NM
-08	16.03 + 0.08	19.9 + 0.2	23.55 + 0.07	24.0 + 0.1	M25 X 1	40 - 50 NM
-12	23.03 + 0.08	27.9 + 0.2	31.05 + 0.07	31.5 + 0.1	M33 X 1.5	70 - 80 NM

SIZE	DIMENSIONS (MM)					RECOMMENDED TORQUE
	F	G	H	I	J	
-04	8.5 + 1	1.1 - 0.1	10.35 + 0.1	14.15 + 0.2	19.56 + 0.15	23 - 35 NM
-06	8.7 + 1	1.15 - 0.1	11.1 + 0.1	15.5 + 0.2	21.95 + 0.15	30 - 40 NM
-08	8.7 + 1	1.25 - 0.1	11.3 + 0.1	15.7 + 0.2	22.15 + 0.15	40 - 50 NM
-12	11.5 + 1	1.7 - 0.1	16.5 + 0.1	21.4 + 0.2	31.35 + 0.15	70 - 80 NM

**ASSEMBLING PROCEDURE**



Fit the safety clip into the dedicated groove on the male fitting.



Use a flat-headed screwdriver, or similar tool, to remove the protective cap on the cartridge.



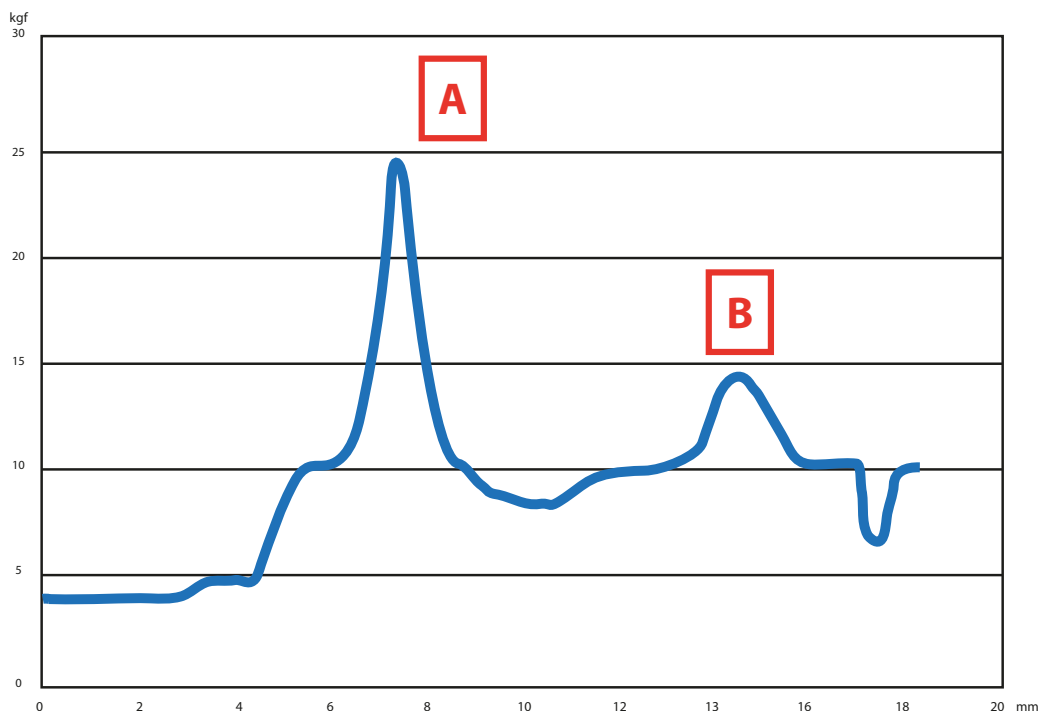
Connect the fitting by pushing it into the cartridge. The fitting is correctly locked and connected when the safety clip touches the cartridge.

**ASSEMBLING INSTRUCTIONS**

When inserting the male fitting into the cartridge, the axial force required to ensure correct and secure assembly will vary throughout the insertion process (see graph opposite). In particular there will be a two points where the amount of force required will be noticeably higher.

The first peak (A), occurs when the internal collars of the cartridge are opening; For a -08 fitting this would typically be around 20 kgf.

The second peak (B), occurs when the plastic retaining ring is being inserted into the cartridge. This peak is significantly lower than the first.





## DIS-ASSEMBLING PROCEDURE



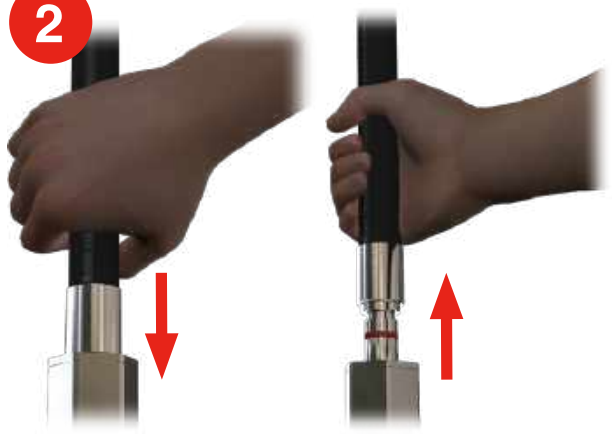
Before disconnection, ensure the system is not under pressure

1



Use a flat-headed screwdriver, or similar tool, to remove the safety clip.

2

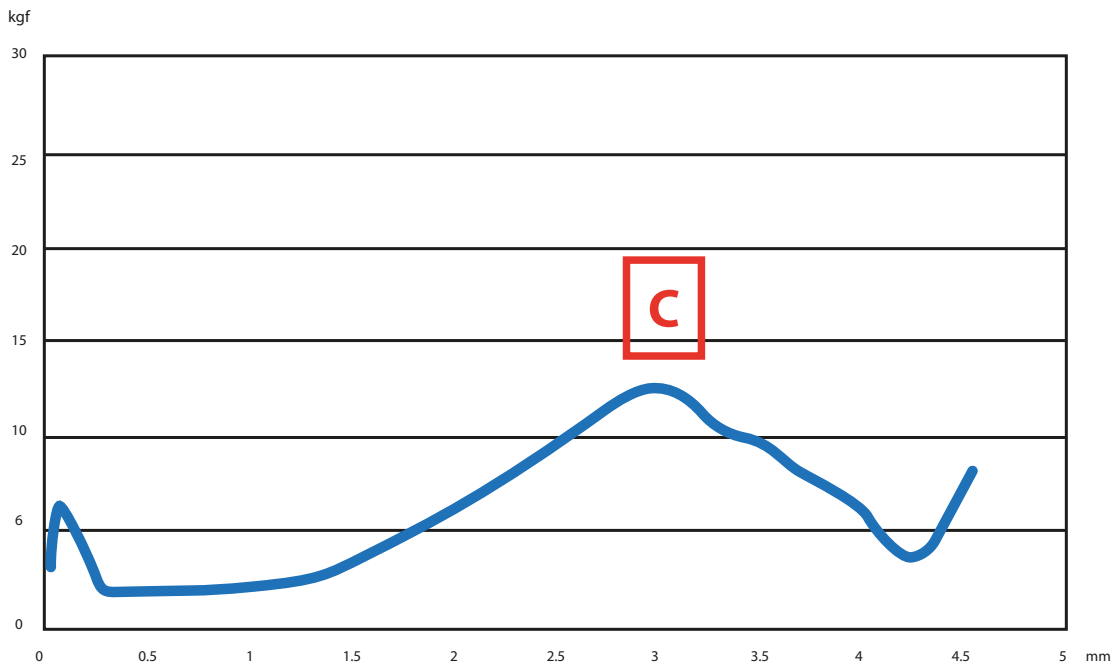


Push the fitting in until the collar touches the cartridge, then pull out to complete the disconnection process. Use a flat-headed screwdriver, or similar tool, to remove the protective cap on the cartridge.

## DIS-ASSEMBLING INSTRUCTIONS

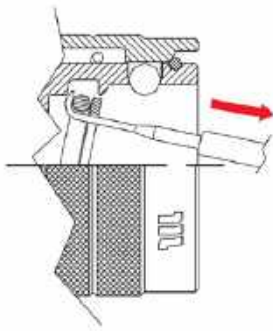
The maximum axial force required to separate the components (after the initial “push”) is approximately 10 kgf for a -08 fitting - see graph opposite.

The peak (C) represents the force required to open the internal retaining ring to allow the withdrawal of the male fitting.



O-RING AND BACK-UP RING SEAL REPLACEMENT ON FEMALE COUPLINGS

1

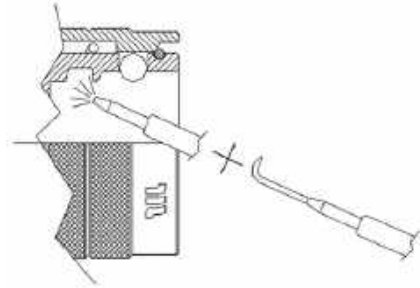


Remove the damaged O-ring and back-up ring.



Do not use sharpened tools. Take care not to damage the components.

2

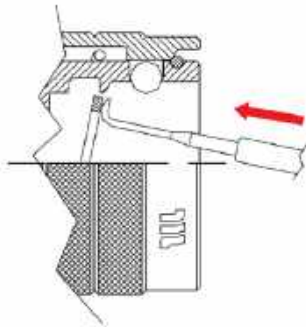


Clean the seal area.



Remove all residual parts of damaged O-ring and back-up ring.

3

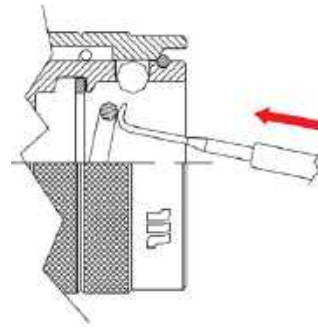


Insert the new back-up ring.



Take care not to deform or scratch the back-up ring. Ensure the back-up ring is correctly located in its seat.

4

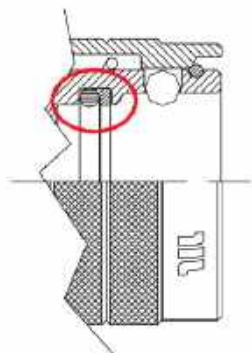


Insert the new O-ring.



Lubricate the O-ring before inserting. Take care not to scratch the O-ring. Ensure the O-ring is correctly located in its seat.

5



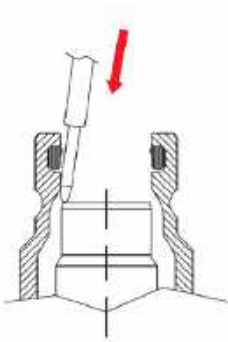
The replacement process is now complete.



Lubricate the seal system.

**POLYURETHANE SEAL REPLACEMENT ON MALE FLAT-FACE COUPLINGS**

**1**

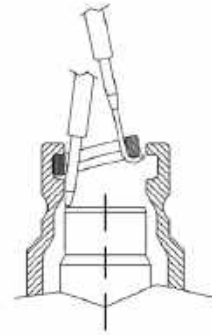


Use a suitable tool to pull back the valve and hold it in place.



**Do not use sharpened tools. Take care not to damage the components.**

**2**

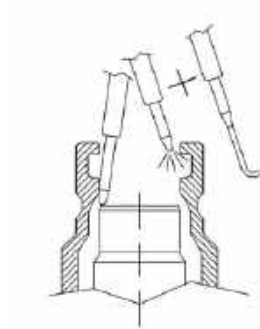


Remove the damaged seal.



**Take care not to damage the components.**

**3**

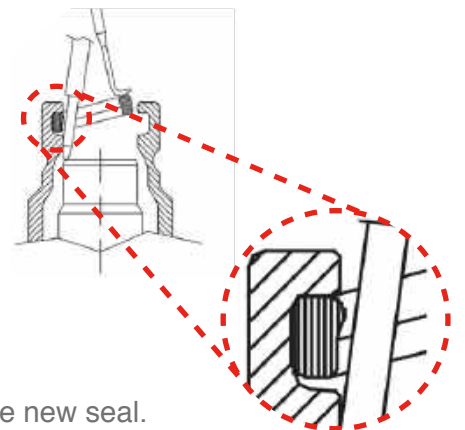


Clean the seal area.



**Remove all residual parts of polyurethane seal.**

**4**

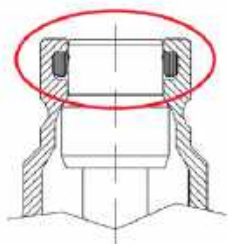


Insert the new seal.



**Ensure the seal is correctly oriented. Lubricate the seal before inserting. Take care not to scratch the seal. Ensure the seal is correctly located in its seat.**

**5**

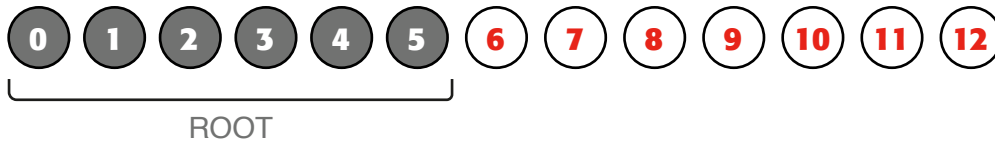


Release the valve to complete the replacement process.



**Lubricate the seal system.**

HOSE



"H" letter always means "Hoses"



**Family**

"Five digit number" that defines a specific hose family - see "Hose Family Table".

Digit "1"	Hose Type	Digits "1-2"	Hose Type
0	Hydraulic rubber hose	10	Hydraulic rubber hose
2	Thermoplastic hose	16	Textile braided - Traded
3	Traded hose		
7	Oil & marine hose		
8	Industrial hose		
9	PTFE hose		



Progressive **letter** (A, B, ... ) is used to identify an updated structure

In case a **number** is used, it must be read together with digits "7" and "8" to identify the hose's diameter in mm



**Diameter** in millimetres

In case digit "6" is a number, the hose diameter in millimetres should be read including it.

## HOSE (CONTINUED)

## DIGIT "9"



Value	Package	Marking Technology
<b>O</b>	Box	Ink transfer
<b>B</b>	Reel	Ink transfer
<b>P</b>	Plastic reel	Ink transfer
<b>R</b>	Roll	Ink transfer
<b>W</b>	Wooden reel	Ink transfer
<b>E</b>	Defined in digit "10"	Embossed / embedded
<b>I</b>	Defined in digit "10"	Inkjet
<b>M</b>	Defined in digit "10"	Mylar

## DIGIT "10"



Value	Package	Special
<b>L</b>	Box ( $\leq$ DN51); Wooden reel ( $>$ DN51)	Branding with License Number
<b>O</b>	Box	-
<b>B</b>	Reel	-
<b>P</b>	Plastic reel	-
<b>R</b>	Roll	-
<b>W</b>	Wooden reel	-
<b>A</b>	Box	100 ft (spiralled) / 50 ft (GoldenBlast)
<b>Q</b>	Box	40 m (GoldenBlast)
<b>S, V, Z, Y</b>	Box	Special length
<b>C</b>	-	Branding without "Made in..." declaration

## DIGIT "11"



Value	Special
<b>S, V, Z, Y</b>	Special length
<b>C</b>	Branding without "Made in..." declaration
<b>9</b>	Manuli standard branding
<b>O-8</b>	Private brand
<b>4</b>	Soft Seal Sleeve

HOSE (CONTINUED)

**DIGIT "12"**    0   1   2   3   4   5   6   7   8   9   10   11   12

Value	Special
9	Manuli standard branding
0-8	Private brand

Notes for digits "9-10-11-12"

If the above convention is NOT followed then the branding is considered "Private". Exceptions related to "Manuli Brand" hoses are: x900; xx90; x556; x833; x962; xx97; xx95

HOSE FAMILIES

FIRST 6 DIGITS	PROD. TECH.	PROD. TECH. DESCRIPTIONS	FAMILY	FAMILY DESCRIPTION
H01006	1	WIRE BRAIDED	6	TRACTOR/1SN
H01007	1	WIRE BRAIDED	7	ROCKMASTER/1SN
H01013	1	WIRE BRAIDED	13	TRACTOR/1SC
H01015	1	WIRE BRAIDED	15	PILOT
H01025	1	WIRE BRAIDED	25	TRACTOR/2SC
H01027	1	WIRE BRAIDED	27	TRACTOR/2SN
H01030	1	WIRE BRAIDED	30	ROCKMASTER/2SC
H01031	1	"WIRE BRAIDED; WIRE SPIRALLED"	31	SHIELDMASTER/4000
H01032	1	"WIRE BRAIDED; WIRE SPIRALLED"	32	SHIELDMASTER/5000
H01033	1	WIRE BRAIDED	33	CPH/2SC
H01034	1	WIRE BRAIDED	34	JACKMASTER
H01035	1	WIRE BRAIDED	35	ROCKMASTER/2ST
H01038	1	WIRE BRAIDED	38	ROCKMASTER/2SN
H01039	1	WIRE BRAIDED	39	NOZONE/2K
H01056	1	WIRE BRAIDED	56	HARVESTER/17
H01058	1	WIRE BRAIDED	58	EQUATOR/1 BLACK
H01059	1	WIRE BRAIDED	59	EQUATOR/1 BLUE
H01060	1	WIRE BRAIDED	60	EQUATOR/2 BLACK
H01061	1	WIRE BRAIDED	61	EQUATOR/2 BLUE
H01084	1	WIRE BRAIDED	84	LYTE-FLEX
H01101	1	WIRE BRAIDED	101	ROCKMASTER/2 PLUS
H01102	1	WIRE BRAIDED	102	ETERNITY/2
H01104	1	"WIRE BRAIDED; WIRE SPIRALLED"	104	SHIELDMASTER/5000 MINE
H01105	1	WIRE BRAIDED	105	SHIELDMASTER/2SC MINE
H01106	1	WIRE BRAIDED	106	SHIELDMASTER/2000

HOSE FAMILIES (CONTINUED)

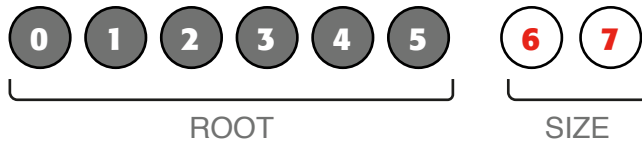
FIRST 6 DIGITS	PROD. TECH.	PROD. TECH. DESCRIPTIONS	FAMILY	FAMILY DESCRIPTION
H01108	1	WIRE BRAIDED	108	ROCKMASTER/1SC
H01110	1	WIRE BRAIDED	110	REFRISTAR
H01112	1	WIRE BRAIDED	112	TWINPOWER/PLUS
H01113	1	WIRE BRAIDED	113	FLUICONNECTO 2SN
H01119	1	WIRE BRAIDED	119	TWINPOWER 4000
H01120	1	WIRE BRAIDED	120	TWINPOWER 5000
H01122	1	WIRE BRAIDED	122	SHIELDMASTER/2 PLUS MINE
H01124	1	WIRE BRAIDED	124	FIREND
H01125	1	WIRE BRAIDED	125	GOLDENISO/21 ANTIWEAR
H01126	1	WIRE BRAIDED	126	GOLDENISO/28 ANTIWEAR
H01127	1	WIRE BRAIDED	127	TREX
H01128	1	WIRE BRAIDED	128	XTRAFLOW/ HT
H01129	1	WIRE BRAIDED	129	XTRAFLOW/2WB
H01133	1	WIRE BRAIDED	133	ULTRASTAR
H01134	1	WIRE BRAIDED	134	GOLDENISO/35 LONGLIFE
H01135	1	WIRE BRAIDED	135	LUBEMASTER
H01154	1	WIRE BRAIDED	154	SHIELDMASTER/21
H01155	1	"WIRE BRAIDED; WIRE SPIRALLED"	155	SHIELDMASTER/28
H01157	1	WIRE BRAIDED	157	FOREMASTER/28
H01156	1	WIRE BRAIDED	156	FOREMASTER/21
H01158	1	WIRE BRAIDED	158	CRYOFLEX/21
H01159	1	WIRE BRAIDED	159	CRYOFLEX/35
H01A32	1	"WIRE BRAIDED; WIRE SPIRALLED "	A32	SHIELDMASTER/6000
H01A78	1	WIRE BRAIDED	A78	SUPERJET/PLUS
H01A79	1	WIRE BRAIDED	A79	SUPERJET/PLUS BLUE
H01A94	1	WIRE BRAIDED	A94	PROJET
H01A95	1	WIRE BRAIDED	A95	PROJET BLUE
H02001	2	SMOOTH HOSES	1	SUPERJET
H02002	2	SMOOTH HOSES	2	SUPERJET BLUE
H02003	2	SMOOTH HOSES	3	K-JET
H02004	2	SMOOTH HOSES	4	TRACTOR/1SN
H02008	2	SMOOTH HOSES	8	K-JET BLUE
H02011	2	SMOOTH HOSES	11	GOLDENISO/14
H05002	5	WIRE BRAIDED (R5 HOSE TYPE)	2	COVER
H09002	9	TEXTILE	2	REFRIMASTER
H09045	9	TEXTILE	45	ASTRO/2
H09046	9	TEXTILE	46	ASTRO/3
H09066	9	TEXTILE	66	PUSHFIT
H09067	9	TEXTILE	67	MULTITEX

## HOSE FAMILIES (CONTINUED)

FIRST 6 DIGITS	PROD. TECH.	PROD. TECH. DESCRIPTIONS	FAMILY	FAMILY DESCRIPTION
H09069	9	TEXTILE	69	MASTERTEX
H09071	9	TEXTILE	71	REFRIMASTER PLUS
H09073	9	TEXTILE	73	MULTITEX
H10008	10	WIRE SPIRALLED	8	ROCKMASTER/4SP
H10018	10	WIRE SPIRALLED	18	DIAMONDSPIR
H10031	10	WIRE SPIRALLED	31	ROCKMASTER/12
H10035	10	WIRE SPIRALLED	35	ROCKMASTER/13
H10044	10	WIRE SPIRALLED	44	ROCKMASTER/4SH
H10049	10	WIRE SPIRALLED	49	ROCKMASTER/15
H10066	10	WIRE SPIRALLED	66	GOLDENBLAST/PLUS
H10067	10	WIRE SPIRALLED	67	GOLDENBLAST/SIX
H10072	10	WIRE SPIRALLED	72	GOLDENBLAST
H10086	10	WIRE SPIRALLED	86	SHIELDMASTER/6000 MINE
H10089	10	WIRE SPIRALLED	89	GOLDENISO/45 LONGLIFE
H10091	10	WIRE SPIRALLED	91	XTRAFLOW/4WS
H10093	10	WIRE SPIRALLED	93	GOLDENISO/21 XTRAFLEX
H10095	10	WIRE SPIRALLED	95	GOLDENISO/28 XTRAFLEX
H10096	10	WIRE SPIRALLED	96	GOLDENISO/35 XTRAFLEX
H10097	10	WIRE SPIRALLED	97	GOLDENISO/42 XTRAFLEX
H10098	10	WIRE SPIRALLED	98	GOLDENISO/38 LONGLIFE
H10102	10	WIRE SPIRALLED	102	DIAMONDSPIR/21
H10103	10	WIRE SPIRALLED	103	DIAMONDSPIR/35
H10104	10	WIRE SPIRALLED	104	DIAMONDSPIR/14
H10108	10	WIRE SPIRALLED	108	GOLDENISO/50 DIAMOND
H10109	10	WIRE SPIRALLED	109	GOLDENISO/56 DIAMOND
H10113	10	WIRE SPIRALLED	113	SHIELDMASTER/17 WS
H10119	10	"WIRE BRAIDED; WIRE SPIRALLED"	119	SHIELDMASTER/35
H10120	10	"WIRE BRAIDED; WIRE SPIRALLED"	120	SHIELDMASTER/42
H10125	10	WIRE SPIRALLED	125	HERCULES/HT
H10132	10	WIRE SPIRALLED	132	ANACONDA
H10133	10	WIRE SPIRALLED	133	FOREMASTER/35
H10134	10	WIRE SPIRALLED	134	FOREMASTER/42
H30005	30	TEXTILE, HELIX WIRE	5	SPIRTEX/K
H30010	30	THERMOPLASTIC	10	HYDROPLAST
H30011	30	THERMOPLASTIC	11	HYDROTWIN



FERRULES



Value	Ferrule Type
M	Ferrule MF2000
C	Ferrule or clamp A/C
K	Reusable ferrule



Value	Description
0	Always



Refer to Ferrule Series table



Value	Issue of Ferrule
0	First issue of ferrule series
1	Second issue of ferrule series
2	Third issue of ferrule series
3	Fourth issue of ferrule series



Value	Special
0	Standard
1	Customised version
2	Customised version
...	...

## FERRULES (CONTINUED)

DIGITS "6-7"



Hose bore size

## FERRULE SERIES

DIGITS	DESCRIPTION
1	SKIVE FERRULE FOR W.B HOSES
3	NO-SKIVE FERRULE FOR TEXTILE BRAIDED HOSES / STAR-CRIMP FERRULE AC FOR REFRISTAR
4	REUSABLE STAR-FIT FERRULE AC FOR REFRISTAR
7	REFRIMASTER FERRULE AC
8	NO-SKIVE FERRULE FOR COMPACT HOSES
9	SKIVE FERRULE FOR W.B AND W.S HOSES
10	REFRIMASTER CLAMP
13	DOUBLE SKIVE FERRULE FOR H.D. SPIRAL HOSES (INTERLOCK 4-6 PLY)
14	DOUBLE SKIVE FERRULE FOR H.D. SPIRAL HOSES (INTERLOCK 4 PLY)
15	DOUBLE SKIVE FERRULE FOR H.D. SPIRAL HOSES (INTERLOCK PLUS 4 PLY)
16	DOUBLE SKIVE FERRULE FOR H.D. SPIRAL HOSES (INTERLOCK PLUS 6 PLY)
17	DOUBLE SKIVE FERRULE FOR EXTRA DUTY SPIRAL HOSES (BLASTLOCK-XTRALOCK 4 PLY)
18	DOUBLE SKIVE FERRULE FOR EXTRA DUTY SPIRAL HOSES (BLASTLOCK-XTRALOCK 6 PLY)
19	
24	NO-SKIVE FERRULE FOR MINIFIT
26	DOUBLE SKIVE FERRULE FOR EXTRA DUTY SPIRAL HOSES (INTERLOCK SUPER)
28	DOUBLE SKIVE FERRULE FOR EXTRA DUTY SPIRAL HOSES (INTERLOCK SUPER)
31	NO-SKIVE FERRULE FOR 1 W.B. HOSES
33	NO-SKIVE FERRULE FOR W.B. HOSES
34	NO-SKIVE FERRULE FOR W.B. HOSES
35	
54	NO-SKIVE FERRULE FOR 4 W.S. - 2 W.B. HOSES (SPIRALFIT)
55	NO-SKIVE FERRULE FOR 4 W.S. - 6 W.S. HOSES (SPIRALFIT)
90	FRIGOSTAR CLAMP

## TWO-PIECE HYDRAULIC FITTINGS



Value	Description
M	MF2000 Connector (Multifit, Interlock, Xtralock, ...)
O	Accessories (banjo, flange clamps, bolt, ...)
L	Push-Lock Connector



Value	Description
1	Male or Double connector type Multifit
2	Female or Flange type Multifit
3	Male or Double connector type Interlock and Interlock Plus
4	Female or Flange type Interlock and Interlock Plus
5	Male or Double connector type Blastlock
6	Female or Flange type Blastlock
7	Male or Double connector type Spiralfit
8	Female or Flange type Spiralfit / Accessories (flange clamps and bolt)
A	Male or Double connector type Interlock Super
B	Female or Flange type Interlock Super
S	Female type Minifit
T	Male type Minifit



The numbers in these positions specify the termination end or the second tail.

See "Termination Ends Type" table for coding details.

## TWO-PIECE HYDRAULIC FITTINGS (CONTINUED)

## DIGIT "4"

0 1 2 3 4 5 — 6 7 — 8 9 10 11 12

Value	Bending Angle
0	Special Bending Angle
1	Straight
2	22,5° Swept
3	30° Swept
4	45° Swept
5	Double connector
6	60° Swept
7	67,5° Swept
8	Compact type
9	90° Swept

## DIGIT "5"

0 1 2 3 4 5 — 6 7 — 8 9 10 11 12

Value	Description
0	No Nut / Male / Double skive Flange type Interlock/InterlockPlus/Xtralock
1	Crimped-back Nut / No-skive or External-skive Flange type Multifit/Spiralfit
2	Thrust-wire Nut
3	Slip-on Nut
4	Double Thrust-wire Nut
7	One-piece flange clamp (only for O8... Codes)
8	ISO/SAE code 61 split flange clamp (only for O8... Codes)
9	ISO/SAE code 62 split flange clamp (only for O8... Codes)

## DIGITS "6-7"

0 1 2 3 4 5 — 6 7 — 8 9 10 11 12

Tail size

## DIGITS "8-9"

0 1 2 3 4 5 — 6 7 — 8 9 10 11 12

Termination end size

## DIGITS "10-11-12"

0 1 2 3 4 5 — 6 7 — 8 9 10 11 12

These digits specify various customisations related to dimensions, threads, drops, ...

ONE-PIECE HYDRAULIC FITTINGS



Value	Description
<b>0PK</b>	One-Piece (MF3000) No Skive Kompact
<b>0PF</b>	One-Piece (MF3000) No Skive Flat



Value	Description
<b>1</b>	Male
<b>2</b>	Female or Flange type



The numbers in these positions specify the termination end or the second tail.  
 See "Termination Ends Type" table for coding details.



Value	Bending Angle
<b>0</b>	Special Bending Angle
<b>1</b>	Straight
<b>2</b>	22,5° Swept
<b>3</b>	30° Swept
<b>5</b>	45° Swept
<b>6</b>	60° Swept
<b>7</b>	67,5° Swept
<b>8</b>	Compact type
<b>9</b>	90° Swept

ONE-PIECE HYDRAULIC FITTINGS (CONTINUED)



Value	Description
0	Flange type Interlock/Xtralock/Multispiral or Male
1	Crimped-back Nut or Flange type Multifit
2	Thrust-wire Nut
3	Slip-on Nut



Tail size



Termination end size



These digits specify various customisations related to dimensions, threads, drops, ...

TERMINATION END TYPES

DIGIT	FITTINGS	Q.SAFE	DESCRIPTION (MALE END)	DESCRIPTION (FEMALE END)
00	00	-	DOUBLE CONNECTOR (SAME TAIL IN TWO-ENDS CONNECTORS) / NO END (PLUG)	NO END (PLUG)
01	-	01	BSP MALE DIN 3852-11 - ISO 1179-2 HEAVY DUTY "FORM E"	FIXED FEMALE GAS JIS B 2351 "TYPE O"
02	-	02	BSP MALE TAPERED THREAD LONG	BSP FEMALE TAPERED
03	03		BSP MALE PARALLEL THREAD O'R FLAT FACE (ISO 1179-3)	BSP BANJO
04	-	04	BSP MALE BULKHEAD	BSP FIXED FEMALE DIN 3852-2 "FORM X" / ISO 1179-1
05	05	05	BSP MALE 60° CONE SEAT BS5200 / ISO 8434-6	BSP FEMALE 60° CONE BS5200 / ISO 8434-6
06	06	-	BSP MALE FLAT FACE	BSP FEMALE FLAT SEAT
07	07	-	BSPT MALE	JIS B 8363 (BSP - NISSAN) SWIVEL FEMALE
08	08	08	METRIC BOLT DIN 7643	BSP O-RING FEMALE 60° CONE BS5200 / ISO 8434-6
09	09	-	BSP MALE O'RING BOSS ADJUSTABLE ISO 1179-3	METRIC BANJO DIN 7642
10	10	-	METRIC MALE 60° CONE SUPERLIGHT DIN 3863	METRIC FEMALE 60° CONE SUPERLIGHT DIN 3863
11	11	11	METRIC MALE 24° CONE SEAT LIGHT TYPE DIN 3861 / ISO 8434-1	-
12	12	12	METRIC MALE 24° CONE SEAT HEAVY TYPE DIN 3861 / ISO 8434-1	METRIC FEMALE 24° CONE O'RING HEAVY TYPE DIN 3865 / ISO 8434-1 LONG DROP
13	13	-	-	METRIC FEMALE MULTISEAL CONE DIN 3868
14		14	METRIC MALE DIN 3852-11 "FORM E" B/ ISO 9974-2	METRIC FIXED FEMALE DIN 3852-1 "FORM X" AND "FORM Y"
15	15	-	-	METRIC FEMALE 24° CONE O'RING LIGHT TYPE DIN 3865 / ISO 8434-1
16	16	-	-	METRIC FEMALE 24° CONE O'RING HEAVY TYPE DIN 3865 / ISO 8434-1
17	17	-	FRENCH MILLIMETRIC METRIC MALE 24° CONE SEAT	FRENCH MILLIMETRIC METRIC FEMALE
18	18	-	FRENCH GAZ METRIC MALE 24° CONE SEAT	FRENCH GAZ METRIC FEMALE
19	-	19	METRIC MALE (ADJUSTABLE + NON-ADJUSTABLE HEAVY) ISO 6149-2	METRIC FIXED FEMALE ISO 6149-1
20	20	-	-	DIN METRIC STANDPIPE L.T. DIN 2353
21	21	-	-	DIN METRIC STANDPIPE H.T. DIN 2353
23	-	23	JIC BULKHEAD MALE 37° CONE ISO 8434-2 / SAE J514	-
24	24	24	ORFS MALE ISO 8434-3 / SAE J1453	ORFS FEMALE ISO 8434-3 / SAE J1453
25	25	25	JIC MALE (37° CONE) ISO 8434-2 / SAE J514	JIC FEMALE (37° CONE SEAT) ISO 8434-2 / SAE J514
26	26	-	-	SAE FEMALE (45° CONE SEAT) SAE J512
27	27	27	ORFS BULKHEAD MALE ISO 8434-3 / SAE J1453	JIC FEMALE DOUBLE HEXAGON 37° CONE SEAT
28	28	28	NPTF MALE 60° CONE SEAT SAE J476A	NPSM SWIVEL FEMALE 60° CONE SAE J514
30	30	30	MALE O'RING BOSS TYPE SAE J1926-3	FEMALE PORT SAE J1926-1

## TERMINATION END TYPES (CONTINUED)

DIGIT	FITTINGS	Q.SAFE	DESCRIPTION (MALE END)	DESCRIPTION (FEMALE END)
32	-	32	MALE O-RING BOSS (ADJUSTABLE + NON-ADJUSTABLE HEAVY) SAE J1926-2	-
33	33	-	FLANGE HEAD (NOT INCLUDING CLAMPS) CODE 61 WITHOUT O-RING (ADAPTERS)	FLANGE ISO/SAE 61 (ISO 6162-1 / SAE J518 CODE 61)
34	34	34	API MALE	NPTF FIXED FEMALE SAE J476A
35	35	-	NPT MALE	NPT FIXED FEMALE
36	36	-	FLANGE HEAD (NOT INCLUDING CLAMPS) CODE 62 WITHOUT O-RING (ADAPTERS)	FLANGE ISO/SAE 62 (ISO 6162-2 / SAE J518 CODE 62)
37	37	37	METRIC MALE 60° CONE SUPERLIGHT DIN 3863 BULKHEAD	FLANGE ISO/SAE 62 PLUS / FLANGE (A/C)
38	38	-	JIS B8363 TOYOTA MALE	JIS B 8363 (TOYOTA) SWIVEL FEMALE
39	39	-	JIS MALE O-RING BOSS - JIS B 8363 TYPE CO	SUPERCAT FLANGE
40	40	-	KOMATSU METRIC MALE 60° CONE SEAT	JIS B 8363 (KOMATSU) SWIVEL FEMALE
41	41	-	NPTF SWIVEL MALE SAE J476A	KOMATSU FLANGE
43	43	-	SAE O-RING BOSS SWIVEL MALE	-
44	44	-	-	ORFS FEMALE LONG DROP ELBOW ISO 12151-1 / SAE
47	47	-	-	JIC (37° CONE) FEMALE LONG DROP ELBOW ISO 12151-5 / SAE J516
49	49	-	-	WASH CLEANING
55	55	-	BSP PARALLEL THREAD 60° CONE BS5200 (ONLY FOR BLASTLOCK TAIL)	BSP PARALLEL THREAD 60° CONE BS5200 (ONLY FOR BLASTLOCK TAIL)
66	66	-	-	METRIC FEMALE 24° CONE O-RING HEAVY TYPE DIN 3865 / ISO 8434-2 (ONLY FOR BLASTLOCK)
77	-	77	DIN BULKHEAD MALE 24° CONE LIGHT TYPE ISO 8434-1	-
78	78	-	NPTF MALE 60° CONE SEAT SAE J476A (ONLY FOR BLASTLOCK)	-
84	84	-	-	XTRAFLLANGE/61 (ISO6162-1 / SAE J518 CODE 61 PORT COMPATIBLE)
85	85	-	-	XTRAFLLANGE/62 (ISO 6162-2 / SAE J518 CODE 62 PORT COMPATIBLE)
95	95	-	BRAZING PIPE (FITTINGS)	BRAZING SOCKET (FITTINGS) / BEVELED TO WELD (ONLY DRILLING)

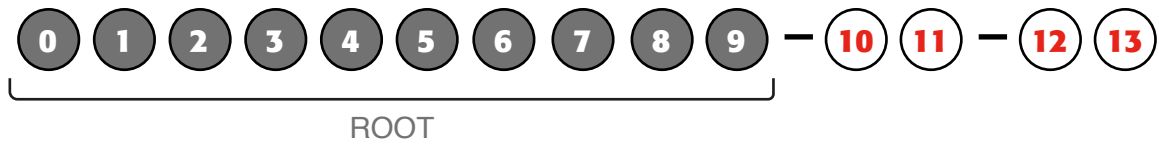


## TERMINATION END TYPES (CONTINUED)

DIGITS	EASY-FIT / FAST-FIT
2H	EASY-FIT HIGH PRESSURE (OEJN)
3H	FAST-FIT

DIGITS	ACCESSORIES FOR CONNECTORS (08...)
02	BSP BOLT
08	METRIC BOLT DIN 7643
20	ANTI-KINK SLEEVE
21	METAL SLEEVE
33	CLAMPS FOR FLANGE ISO/SAE 61
36	CLAMPS FOR FLANGE ISO/SAE 62
42	ARMOUR - JOINT
84	XTRAFLLANGE/61 CLAMPS
85	XTRAFLLANGE/62 CLAMPS
2H	CARTRIDGE FOR EASY-FIT HIGH PRESSURE

HYDRAULIC QUICK COUPLINGS



**Value**                      **Description**

Q	Quick Coupling
---	----------------



**Value**                      **Description**

0	Hydraulic
---	-----------



Quick Coupling Series - refer to "Quick Coupling Series" table



**Value**                      **Material**

1	Steel
2	AISI 316
3	AISI 303
4	Brass
5	Aluminium

HYDRAULIC QUICK COUPLINGS (CONTINUED)



Value	Seal Material
0	None
1	NBR (Nitrile)
2	HNBR
3	FKM (Viton, FPM)
4	CR (Neoprene)
5	EPDM
6	FFPM (Kalrez)
7	NBR - Low Temperature
8	VMQ (Silicone Rubber)
9	AU (Polyurethane)
A	PTFE



The numbers in these positions specify the termination end.  
See "Termination Ends Type" table for coding details.



Value	Description
0	Male
1	Female



A letter in this position indicates a customised version.

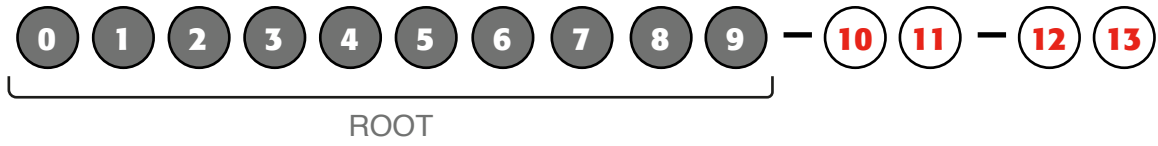


The numbers in this position indicate the Quick Coupling size.



The numbers in this position indicate the thread size.

HYDRAULIC QUICK COUPLING TAILS



Value	Description
Q	Quick Coupling



Value	Description
3	Q.Tail



Quick Coupling Series - refer to "Quick Coupling Series" table



Value	Material
1	Steel
2	AISI 316
3	AISI 303
4	Brass
5	Aluminium

HYDRAULIC QUICK COUPLING TAILS (CONTINUED)



Value	Seal Material
0	None
1	NBR (Nitrile)
2	HNBR
3	FKM (Viton, FPM)
4	CR (Neoprene)
5	EPDM
6	FFPM (Kalrez)
7	NBR - Low Temperature
8	VMQ (Silicone Rubber)
9	AU (Polyurethane)



Value	Insert Type
MF	Multifit type



Value	Insert Angle
1	Straight



A letter in this position indicates a customised version.

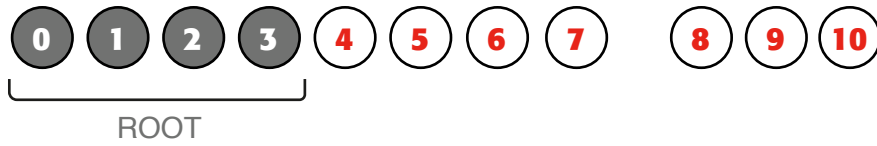


The numbers in this position indicate the Quick Coupling size.



The numbers in this position indicate the Insert size.

HYDRAULIC QUICK COUPLING PLUGS, SEALS & CARTRIDGES



**DIGIT "0"**



**Value**                      **Description**

Q	Quick Coupling
---	----------------

**DIGIT "1"**



**Value**                      **Description**

1	Plugs and Seals
---	-----------------

**DIGITS "2-3"**



Quick Coupling Series - refer to "Quick Coupling Series" table

**DIGIT "4"**



**Value**                      **Material**

0	None
1	Steel
2	AISI 316
3	AISI 303
4	Brass
5	Aluminium
A	PE (polyethylene)
B	PVC
C	PA (polyamide)
D	POM (acetalic resin)

HYDRAULIC QUICK COUPLING PLUGS, SEALS & CARTRIDGES (CONTINUED)

**DIGIT "5"**



Value	Seal Material
0	None
1	NBR (Nitrile)
2	HNBR
3	FKM (Viton, FPM)
4	CR (Neoprene)
5	EPDM
6	FFPM (Kalrez)
7	PTFE
8	VMQ (Silicone Rubber)
9	AU (Polyurethane)

**DIGIT "6"**



Value	Function
0	Simple cap / plug
1	EcoCap (with oil recycle)
2	Automatic cap
3	Seal
4	Parking
5	Cartridge

**DIGIT "7"**



Value	Colour
N	Not specified or natural
R	Red
B	Blue
Y	Yellow
G	Green
K	Black
W	Brown
H	White
O	Orange
E	Grey

## HYDRAULIC QUICK COUPLING PLUGS, SEALS &amp; CARTRIDGES (CONTINUED)

## DIGITS "8-9"



Quick coupling size - corresponds to nominal internal hose diameter recommended for use with the coupling (see ISO 4397)

## DIGIT "10"



Free digit for Version or other.



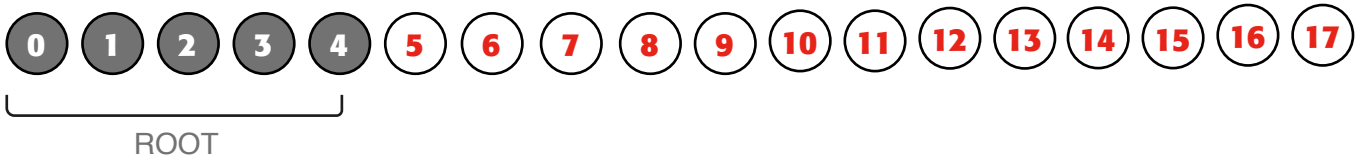
## HYDRAULIC QUICK COUPLING SERIES

QC SERIES	PLUG & SEALS SERIES	DESCRIPTION	
01	A0	MALE ACCORDING TO ISO 7241-1 STANDARDS, SERIES A	FREE FLOW
02		MALE ACCORDING TO ISO 7241-1 STANDARDS, SERIES A	POPPET VALVE
03		MALE ACCORDING TO ISO 7241-1 STANDARDS, SERIES A	BALL VALVE
04		MALE ACCORDING TO ISO 7241-1 STANDARDS, SERIES A	POPPET VALVE, SPECIAL GUIDEVALVE
05		MALE ACCORDING TO ISO 7241-1 STANDARDS, SERIES A	BALL VALVE, SPECIAL GUIDEVALVE
06		MALE ACCORDING TO ISO 7241-1 STANDARDS, SERIES A	CONNECTABLE UNDER PRESSURE
07	A1	FEMALE ACCORDING TO ISO 7241-1 STANDARDS, SERIES A	FREE FLOW
08		FEMALE ACCORDING TO ISO 7241-1 STANDARDS, SERIES A	ONE-WAY RELEASE, POPPET VALVE
09		FEMALE ACCORDING TO ISO 7241-1 STANDARDS, SERIES A	ONE-WAY RELEASE, BALL VALVE
10		FEMALE ACCORDING TO ISO 7241-1 STANDARDS, SERIES A	ONE-WAY RELEASE, CONNECTABLE UNDER PRESSURE
11		FEMALE ACCORDING TO ISO 7241-1 STANDARDS, SERIES A	ONE-WAY RELEASE, CONNECTABLE WITH MALE UNDER PRESSURE
12		FEMALE ACCORDING TO ISO 7241-1 STANDARDS, SERIES A	ONE-WAY RELEASE, CONNECTABLE WITH BOTH PARTS UNDER PRESSURE
13		FEMALE ACCORDING TO ISO 7241-1 STANDARDS, SERIES A	TWO-WAYS RELEASE, POPPET VALVE
14		FEMALE ACCORDING TO ISO 7241-1 STANDARDS, SERIES A	TWO-WAYS RELEASE, BALL VALVE
15		FEMALE ACCORDING TO ISO 7241-1 STANDARDS, SERIES A	TWO-WAYS RELEASE, CONNECTABLE UNDER PRESSURE
16		FEMALE ACCORDING TO ISO 7241-1 STANDARDS, SERIES A	TWO-WAYS RELEASE, CONNECTABLE WITH MALE UNDER PRESSURE
17		FEMALE ACCORDING TO ISO 7241-1 STANDARDS, SERIES A	TWO-WAYS RELEASE, CONNECTABLE WITH BOTH PARTS UNDER PRESSURE
18		FEMALE ACCORDING TO ISO 7241-1 STANDARDS, SERIES A	RIGID, TWO-WAYS RELEASE, CONNECTABLE WITH MALE UNDER PRESSURE
19		FEMALE ACCORDING TO ISO 7241-1 STANDARDS, SERIES A	RIGID, TWO-WAYS RELEASE, CONNECTABLE WITH BOTH PARTS UNDER PRESSURE
20	A2	MALE ACCORDING TO ISO 7241-1 STANDARDS, SERIES B	FREE FLOW
21		MALE ACCORDING TO ISO 7241-1 STANDARDS, SERIES B	POPPET VALVE
22		MALE ACCORDING TO ISO 7241-1 STANDARDS, SERIES B	BALL VALVE
23	A3	FEMALE ACCORDING TO ISO 7241-1 STANDARDS, SERIES B	FREE FLOW
24		FEMALE ACCORDING TO ISO 7241-1 STANDARDS, SERIES B	ONE-WAY RELEASE, POPPET VALVE
25		FEMALE ACCORDING TO ISO 7241-1 STANDARDS, SERIES B	ONE-WAY RELEASE, BALL VALVE
26		FEMALE ACCORDING TO ISO 7241-1 STANDARDS, SERIES B	SAFETY SLEEVE, POPPET VALVE
27		FEMALE ACCORDING TO ISO 7241-1 STANDARDS, SERIES B	SAFETY SLEEVE, BALL VALVE
28	A4	MALE STANDARD SERIES	FREE FLOW
29		MALE STANDARD SERIES	POPPET VALVE
30		MALE STANDARD SERIES	BALL VALVE
31	A5	FEMALE STANDARD SERIES	FREE FLOW
32		FEMALE STANDARD SERIES	ONE-WAY RELEASE, POPPET VALVE
33		FEMALE STANDARD SERIES	ONE-WAY RELEASE, BALL VALVE
34		FEMALE STANDARD SERIES	SAFETY SLEEVE, POPPET VALVE

## HYDRAULIC QUICK COUPLING SERIES (CONTINUED)

QC SERIES	PLUG & SEALS SERIES	DESCRIPTION	
35	A5	FEMALE STANDARD SERIES	SAFETY SLEEVE, BALL VALVE
36		FEMALE STANDARD SERIES	TWO-WAYS RELEASE, POPPET VALVE
37	A6	COMPACT MALE	FREE FLOW
38	A7	COMPACT FEMALE	FREE FLOW
39	A8	FLAT FACE MALE ACCORDING TO ISO 16028	
40		FLAT FACE MALE ACCORDING TO ISO 16028	CONNECTABLE UNDER PRESSURE
41	A9	FLAT FACE FEMALE ACCORDING TO ISO 16028	WITH SAFETY SLEEVE
42		FLAT FACE FEMALE ACCORDING TO ISO 16028	WITHOUT SAFETY SLEEVE
43	A8	FLAT FACE MALE ACCORDING TO ISO 16028	WORKING PRESSURE 35MPA
44	A9	FLAT FACE FEMALE ACCORDING TO ISO 16028	WORKING PRESSURE 35MPA
45	AC	MALE FOR DIAGNOSTIC PURPOSE ACCORDING TO ISO 15171	
46	AD	FEMALE FOR DIAGNOSTIC PURPOSE ACCORDING TO ISO 15171	
47	AE	MALE FOR HYDRAULIC BRAKING CIRCUIT ACCORDING TO ISO 5676	
48	AF	FEMALE FOR HYDRAULIC BRAKING CIRCUIT ACCORDING TO ISO 5676	
49	AG	SCREW TYPE MALE FOR HYDRAULIC BRAKING CIRCUIT	
50	AH	SCREW TYPE FEMALE FOR HYDRAULIC BRAKING CIRCUIT	
51	AI	SCREW TYPE MALE FOR GERMAN MARKET	
52	AJ	SCREW TYPE FEMALE FOR GERMAN MARKET	
53	AK	SCREW TYPE MALE FOR VERY HIGH PRESSURE	
54	AL	SCREW TYPE FEMALE FOR VERY HIGH PRESSURE	
55	AM	SCREW TYPE MALE FOR HYDRAULIC CYLINDER	
56	AN	SCREW TYPE FEMALE FOR HYDRAULIC CYLINDER	
57	AP	SCREW TYPE MALE FOR TRUCK	
58	AQ	SCREW TYPE FEMALE FOR TRUCK	
59	AR	COMPACT FLAT FACE MALE SCREW TYPE	
60	AS	COMPACT FLAT FACE FEMALE SCREW TYPE	
61	AI	SCREW TYPE MALE FOR GERMAN MARKET	HEAVY DUTY
62	AJ	SCREW TYPE FEMALE FOR GERMAN MARKET	HEAVY DUTY
63	AT	SCREW TYPE MALE FOR U.S. MARKET	(NOT AVAILABLE IN OTHER MARKETS - NO CATALOGUE)
64	AU	SCREW TYPE FEMALE FOR U.S. MARKET	(NOT AVAILABLE IN OTHER MARKETS - NO CATALOGUE)
65	A1	FEMALE ACCORDING TO ISO 7241-1 STANDARD, SERIES A	RIGID, TWO WAYS RELEASE
66	AV	FLAT FACE MALE SCREW TYPE	
67	AW	FLAT FACE FEMALE SCREW TYPE	

**ASSEMBLY MACHINES**



Value	Description
<b>E</b>	Always means "Equipment"



Value	Description
<b>O</b>	Assembly Machines
<b>S</b>	Spare Parts



The letter in this position identifies the equipment type.

Value	Equipment Type
<b>A</b>	Assembly
<b>C</b>	Cutting
<b>S</b>	Skiving
<b>L</b>	Cleaning
<b>M</b>	Marking
<b>I</b>	Insert Pushing
<b>T</b>	Test Bench
<b>F</b>	Flushing

## ASSEMBLY MACHINES (CONTINUED)

## DIGIT "3"



The number in this position identifies the supplier.

Value	Supplier
1	Finnpower
2	Uniflex
3	Techmafex
4	OP
5	Hydroscand

## DIGIT "4"



The number in this position identifies the platform.

Value	Platform
1	MRI 1 Portable machines
2	MRI 2 Small benchtop < 2" 2T
3	MRI 3 Benchtop for professional service >2" 2T
4	MRI 4 Production stand type machines
5	MRI 5 Top level stand type machines (Industrial, Special), eg. rotary hose crimper
6	MRI 6 Second hand machines

## DIGIT "5"



The number in this position identifies the version.

Value	Version
1	Basic MRI except for mobile machines ('V' machines)
2	Medium MRI 2 and MRI 3 (Benchtop)
3	Top MRI 4 and some MRI 5 (XL)
4	Top Bis MRI 5 sup, at 100t
5	Mobile 'V' machines (12V, 24V)

ASSEMBLY MACHINES (CONTINUED)



The number or letter in this position identifies the power system.

Value	Power System
0	Manual
1	12V
2	24V
3	220/240V 1PH 50HZ
4	380/415V 3PH 50HZ
5	110V 1PH 60 HZ
6	208/240V 3PH 60HZ (to be associated with code 9)
7	220/240V 3PH 50HZ
8	220/240V 1PH 60HZ
9	208/240V 3PH 60HZ
A	220/240V 1PH 50HZ
B	380/415V 3PH 60HZ
C	208/240V 3PH 60HZ
D	440V 3PH 50HZ
E	220/240V 1PH 60HZ
F	440/480V 3PH 60HZ
G	200V 3PH 50HZ
H	110V 1PH 50HZ
I	240V 1PH 50HZ
K	220/380/440V 3PH 50HZ
L	208V 1PH 60HZ



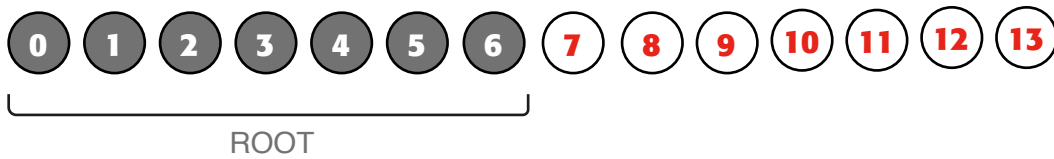
The letter in this position identifies the version.

Value	Description
S	Die sets included
N	Die sets not included



Free digits for special characteristics

## HOSE PROTECTIONS



### DIGIT "0"



Value	Description
J	Always means "Accessories"

### DIGIT "1"



Value	Description
P	Always means "Protection"

### DIGIT "2"



Value	Protection Type
1	Spring
2	Sleeve
3	Clinch
4	Flexible armour

### DIGIT "3"



Value	Material
1	Polyethylene
2	Polyammide
3	Polyester
4	Silicone
5	Stainless steel
6	Steel

HOSE PROTECTIONS (CONTINUED)

**DIGIT "4"**      0   1   2   3   4   5   6   7   8   9   10   11   12   13

Value	Colour
B	Black
Y	Yellow
A	Orange
G	Grey
M	Metal
T	Other

**DIGITS "5-6"**      0   1   2   3   4   5   6   7   8   9   10   11   12   13

Value	Product Family
01	Protection spring
02	Mining protection spring
03	HT Protection spring
04	Light protection spring
05	Fire sleeve
06	Textile sleeve
07	Round metal sleeve
08	Heat protection spring
09	BOP hose flexible armour
10	Clinch

**DIGITS "7-8-9"**      0   1   2   3   4   5   6   7   8   9   10   11   12   13

The numbers in these positions indicate the internal diameter in mm.

HOSE PROTECTIONS (CONTINUED)



Letters and numbers in these positions describe branding, packaging or special length information.

**Value                      Branding Information**

<b>E</b>	Embossed / Embedded
<b>I</b>	Inkjet
<b>T</b>	Textile

**Value                      Packaging Information**

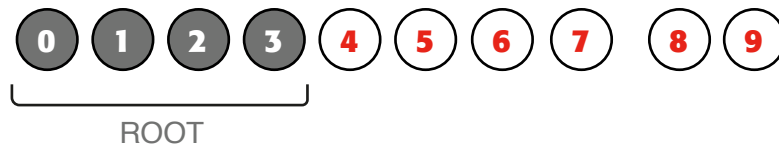
<b>0</b>	Embossed/Embedded
----------	-------------------

**Value                      Branding**

<b>99</b>	Standard
-----------	----------



**RING & SEAL**



**DIGIT "0"**



Value	Description
J	Always means "Accessories"

**DIGIT "1"**



Value	Description
0	Always means "Rings"

**DIGITS "2-3"**



Value	Description	Value	Description
01	O'ring for SAE 3000 and 6000 PSI flange	17	Kit copper sealing rings
02	O'ring imperial size	18	Kit O'ring metric size
03	O'ring metric size	19	O'ring for ORFS
04	O'ring for Staple Lock	20	O'ring for H.P washer fitting
05	O'ring for MSAE	21	O'ring for refri fitting
06	O'ring and metallic anti-extrusion ring for metric series	22	Cylindrical seal for refri connector
07	O'ring for BSPP	23	O'ring for Super Staple Lock
08	Metallic anti-extrusion ring for male BSPP	24	Metal sealing ring for banjos
09	O'ring for ETCAO	25	Metal sealing ring for pressure gauge connectors
10	Flat seal built in	26	Soft sealing ring for banjos
11	Copper sealing ring	27	Elastomeric (captive) seal - NBR
12	Bonded seal ring	28	Elastomeric (captive) seal - Viton
13	Flange counter-ring for "Caterpillar" insert	29	Interlock Plus O-Ring
14	Seal type for SAE 3000 and 6000 PSI flange	30	One-piece Polyurethane seal for Staple Low Pressure (Yellow)
15	Support plastic ring (open ring)	31	One-Piece Polyurethane seal for Staple High Pressure (Red)
16	kit bonded seal rings		

## RING &amp; SEAL (CONTINUED)

## DIGITS "4-5"



The numbers in these positions indicate the external diameter in mm.

## DIGITS "6-7"



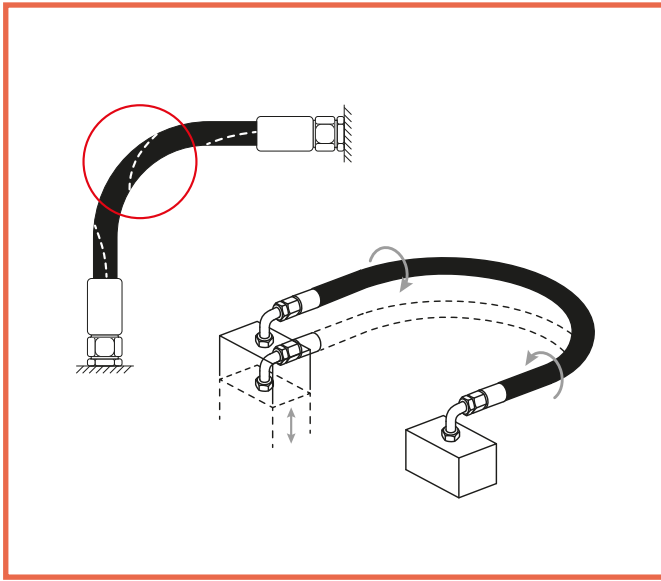
The numbers in these positions indicate the internal diameter in mm.

## DIGITS "8-9"

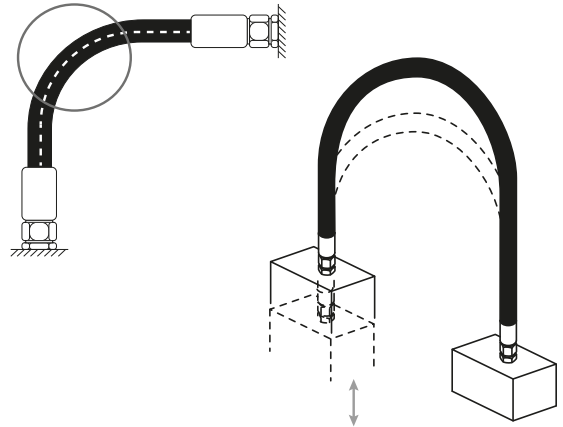


The numbers in these positions indicate the axial thickness in mm.

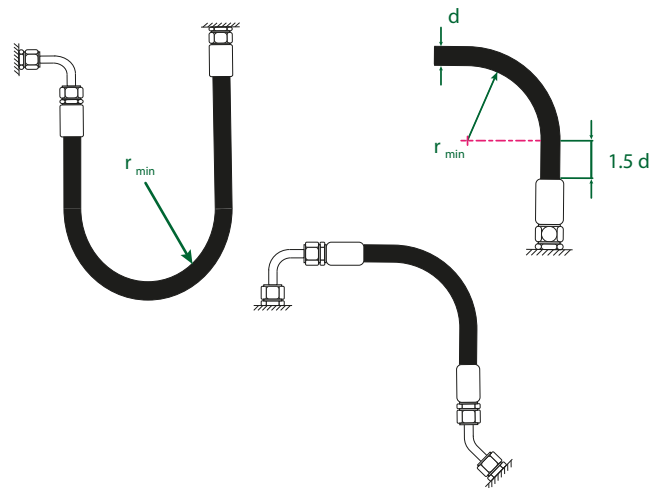
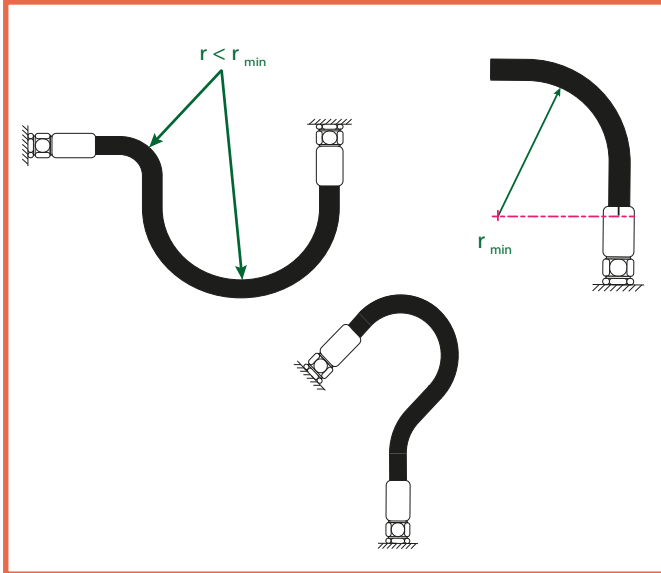
INCORRECT USE



CORRECT USE

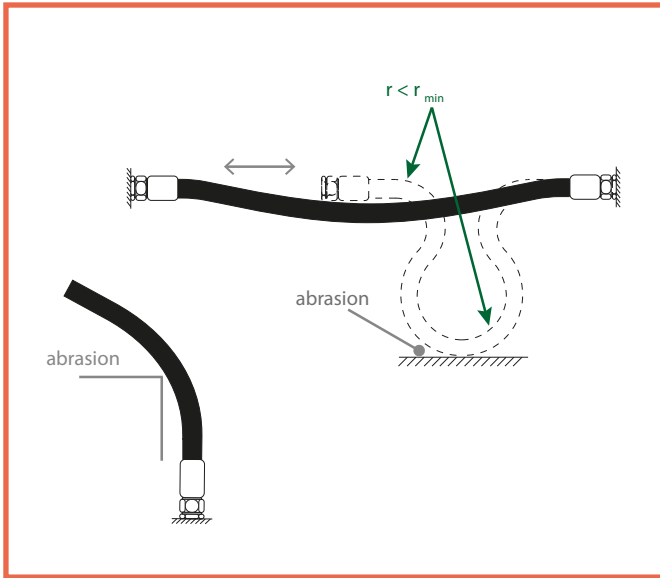


- Avoid twisting the hose assembly when installing.
- Avoid situations where moving parts will cause twisting effects on the hose assemblies after installation.

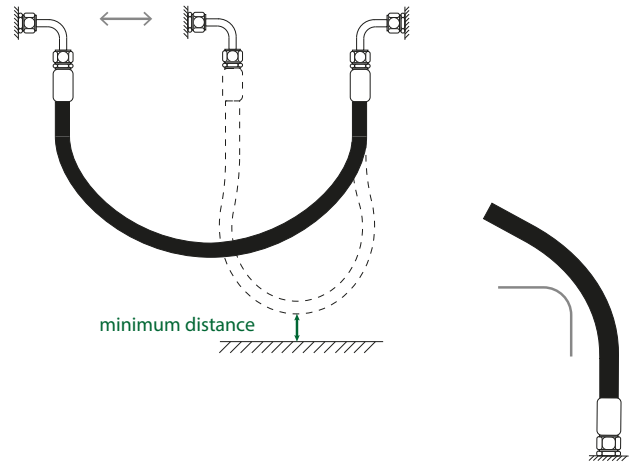


- Select the correct fittings to avoid tight bend radii.
- Ensure a minimum distance of 1.5 x "d" after the ferrule before hose bending.

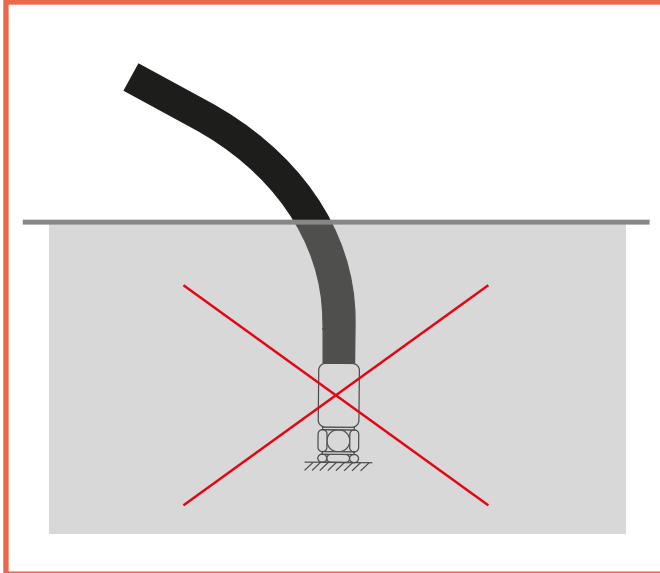
INCORRECT USE



CORRECT USE



- Avoid interference with objects that can cause abrasion or damage to the hose.
- In flexing applications ensure that the hose is not subjected to tensile stresses or to impacts / abrasion from the surrounding environment.



The Manuli hydraulic hose product range is not designed for immersion in the service fluid. This type of special application should be avoided or carefully studied with reference to the hose specifications

For detailed information concerning recommended practices for hydraulic hose assemblies, please refer to **SAE J1273** and **ISO/TS 17165-2**. This document should be used as a guide when selecting, routing, fabricating, installing, replacing, maintaining and storing hose for hydraulic systems.

### PRODUCT SELECTION AND INSTALLATION

The information in this document concerning hoses, fittings and other items manufactured and provided by Manuli Rubber Industries and its subsidiaries, is provided for the express purpose of aiding in the correct selection of products for particular applications. However it is the responsibility of the customer to ensure that they consider the specific details of the application during the selection process.

Important factors to consider include:

- Hose size
- Hose length
- Fluid compatibility
- Ambient and operating temperatures
- System operating pressures
- Static head pressures
- Installation design
- Minimum bend radii
- Possible abrasion of the hose
- Movement and flexing of the hose during operation

Improper selection and / or installation of hydraulic hose assemblies can result in reduced assembly life, equipment failure, property damage, bodily injury or death.

### HOSE INTEGRATION

Manuli hoses and fittings are designed to be part of an integrated hose assembly system. As such they should only be used together or in conjunction with other types of fittings recommended by Manuli Rubber Industries and its subsidiaries. Failure to observe these requirements may result in a reduced lifespan of the hose assemblies or other failures which can cause equipment failure, property damage, bodily injury or death.

Manuli provides guidelines for the proper assembly, installation, maintenance and use of its products and further information on recommended practices is available in [SAE J1273](#) and [ISO/TS 17165-2](#).

Should you have any questions regarding proper assembly, installation or application usage of any Manuli product, please contact our Technical Centre in Italy.

### WARNING!

**Improper selection or use of any of the products found in this document may result in property damage, bodily injury or death. Consider all aspects of your application carefully to ensure that the products selected are the most appropriate for the task.**

Manuli Rubber Industries reserves the right to modify the data provided in this catalogue without notice.

© Copyright 2019 Manuli Rubber Industries S.p.A. All rights reserved.

No part of this document may be reproduced or transmitted, in any form or by any means, without the express written permission of Manuli Rubber Industries.





©Copyright 2020 Manuli Hydraulics.  
All rights reserved.

[www.manuli-hydraulics.com](http://www.manuli-hydraulics.com)