

Monti & Barabino

**Technical Supplies
For Industrial and Naval field
Since 1880**



FLEXIBLE HOSES



Monti & Barabino, established in 1880, is based in Genoa and operates in the field of Technical Items supplies for the Industrial and Maritime Sectors.

The extremely wide experience matured in more than 135 years of activity and its highly qualified personnel composed by technicians, marine engineers, naval architects etc., enables the Company to offer the most complete and efficient technical and commercial assistance.

Moreover, the products stocked in its large warehouse allows it to promptly satisfy any kind of enquiry, while its workshop is able to manufacture all types of packings and gaskets comprising the moulding of rubber and elastomer of various types, including silicon, Fluoropolymer, Polyurethane, etc.

Since February 2004, Monti & Barabino S.p.A. improved its Quality Management System in accordance with **UNI EN ISO 9001** regulations, obtaining the certification through **R.I.N.A.** This prestigious acknowledgement is a confirmation of our constant effort in offering excellent quality and service to all those Customers who have chosen and will choose our Company as their supplier.



Our workshop, acting as  Official distributor, is able to offer:

- FLEXIBLE HOSES FOR LOW, MEDIUM AND VERY HIGH PRESSURE
- MED APPROVED FLEXIBLE HOSES
- TYPE APPROVED SHIP TO SHORE AND INDUSTRIAL COMPOSITE HOSES
- HIGH PRESSURE STEAM HOSES
- HIGH PRESSURE CLEANING HOSES
- RUBBER, STAINLESS STEEL AND TEXTILE EXPANSION JOINTS

Moreover:

- HYDRAULIC TEST FACILITIES
- MANAGEMENT OF TESTING PROCEDURES IN PRESENCE OF CLASSIFICATION BODIES
- PRESSED FITTINGS ON LARGE BORE RUBBER HOSES UP TO 10"





MECHANICAL WORKSHOP and **PIPE WORKSHOP** are available for the execution of customized processes on our semi-finished products. Thanks to the wide availability of **WAREHOUSE** we are able to satisfy your needs in a short time, organizing and managing your shipments in a very short time.

We perform CNC turning and cutting on rubber and metal semi-finished products; we mold details and rubber gaskets.



We produce gaskets in any material, even according to Customer's design, including padded copper and spiral wound gaskets.

We sew and assemble insulating mats and textile joints: wide choice of fabrics for high temperatures.



Laser marking of finished products and components

We are an authorized **Parker** assembling center, hydraulic hoses up to 3" and industrial hoses up to 10". Ask for our **FLEXIBLE HOSES** and **ACCESSORIES CATALOG**




Approved welders able to manufacture special fittings according to Customer's specifications.

We perform internal hydrostatic tests, also in the presence of an external Certifying Body.





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Technical Handbook



Hose and Fittings Terminology

The basics

Selecting the right hose and fittings combination usually belongs to the last steps in the design of a hydraulic system and its importance is often overlooked and underestimated.

The right hose and fitting combination is however, vital for the overall functionality and long term service life of the complete system.

This technical handbook and catalogue will provide a guide to correct hose and fitting selection, as well as highlighting the important safety aspects to their usage as hose assemblies in the field.

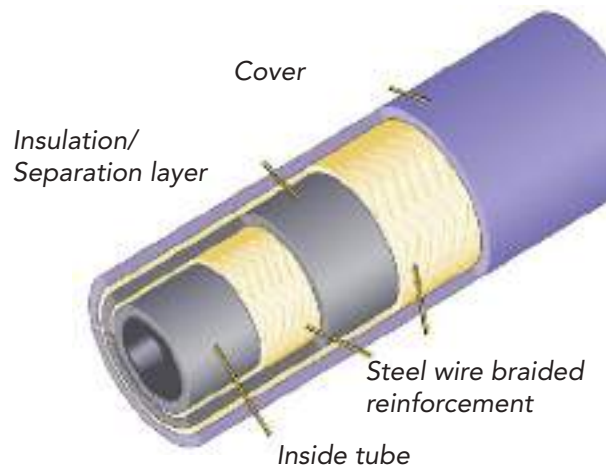
Hose

Typically a rubber hose is constructed of an extruded inside synthetic rubber tube that has the sole purpose to keep the conveyed fluid in the hose.

The elastomeric nature of rubber requires that a reinforcement layer be wound or braided around the tube in order to hold the internal pressure.

The reinforcement layer(s) are either textile or steel (or both).

To protect these inner layers of the hose from the ambient conditions, an outer synthetic rubber cover is extruded around the reinforcement.



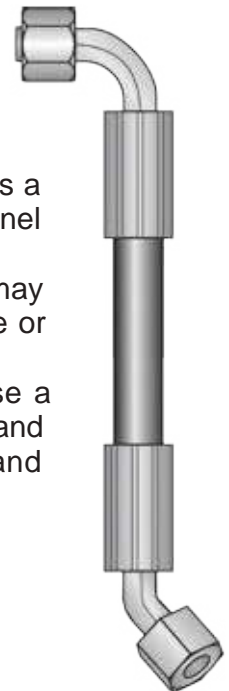
Hose Assemblies

Hose Assemblies Installation

The combination of a hose and hose fitting(s) to make a hose assembly, is a critical process that needs to be carried out by professionally trained personnel who follow strict assembly instructions.

Improperly assembled hose fittings can separate from the hose and may cause serious injury or property damage from whipping hose, or from fire or explosion of vapor expelled from the hose.

The hose assembly must be operated within specific limits to maximise a safe and long term service life. These limits are defined in this catalogue and also by both governmental standards and institutional organisation's and specifications such as the ISO 17165-2, SAE J1273 or EN982.



Working Pressure

Hose and fitting selection must be made so that the published maximum recommended working pressure of the Hose and fitting are equal to, or greater than the maximum system pressure. Surge pressures or peak transient pressures in the system must be below the maximum working pressure of the hose assembly.

Surge pressures and peak pressures can usually only be determined by sensitive electrical instrumentation that measures and indicates pressures at milli-second intervals. Mechanical pressure gauges indicate only average pressures and cannot be used to determine surge pressures or peak transient pressures.

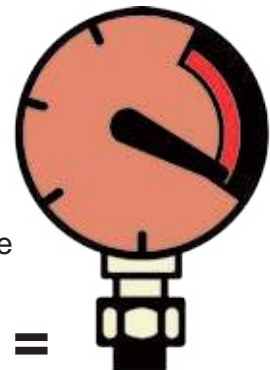


Proof Pressure Test

This test is typically carried out on customer request according to a method defined by the ISO 1402 standard. The test should be made at normal ambient temperature with a proof test bench using water or another suitable liquid. The hose assembly should be pressurised for between 30 to 60 seconds at twice the working pressure of the hose assembly. There should be no leakage or pressure drop. A complete test report should be provided together with the hose assembly to the customer.

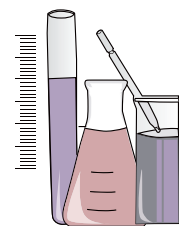
Burst Pressure

All hoses in this catalogue have a pressure design factor of 4:1, implying therefore that the burst pressure (hose destruction) is minimum 4 times the published working pressure. Published burst pressure ratings for hose are for manufacturing test purposes only – burst pressure should never play a role in the selection of a hose.



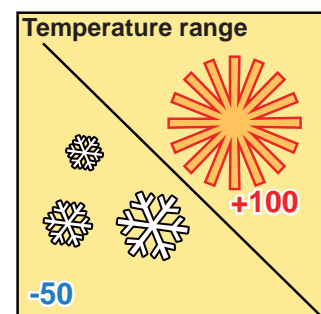
Fluid Compatibility

The hose assembly (hose inner tube, hose outer cover and hose fittings) must be chemically compatible to both the fluid being conveyed by the hose as well as the medium surrounding it (the chemical resistance table contained in the catalogue, indicates only the resistance of the hose innertube to the respective fluid).



Temperature Range

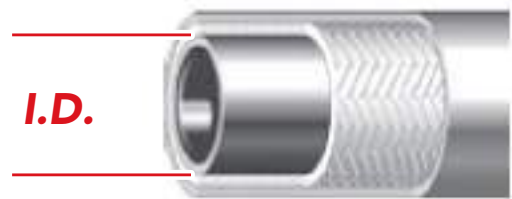
In order not to negatively effect the properties of the rubber hoses it should be made certain that fluid and ambient temperatures, both steady and transient, do not exceed the limitations of the hose as published in the catalogue. Temperatures below and above the recommended limit will degrade the hose and failure may occur and release fluid. The mechanical properties of the hose are also influenced by low or high temperatures and should be considered when designing the system.



Hose Size

The power transmitted by means of a pressurised fluid varies with pressure and rate of flow. The size of the components must be adequate to keep pressure drops to a minimum and avoid aging due to heat generation or excessive fluid velocity.

Parker uses the internationally recognised hose dash size as a measurement of the size of their hoses. This size is a measurement of the inside tube of the hose – not the wall outer diameter.



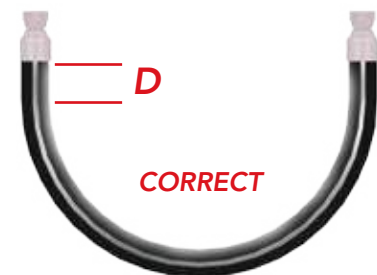
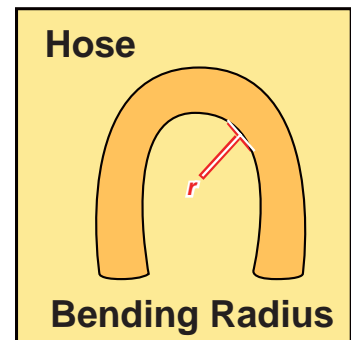
Hose Bending Radius

The minimum bend radius of a hose refers to the minimum radius that the hose may be bent through whilst operating at the maximum allowable published working pressure.

Bending radius is not a measurement or indicator of hose flexibility.

The catalogue specified values of bending radii are based on international or Parker specifications and have been proven through rigorous impulse testing of the hose assemblies.

Bending the hose below the minimum bending radius leads to loss of mechanical strength and hence possible hose failure. A minimum straight length of 1,5 times the hose's outside diameter (D) shall be allowed between the hose fitting and the point at which the bend starts.



Hose Assembly Routing

The routing of a hose assembly in such a manner so as to avoid any damage to the hose by stretching, compression, kinking or abrasion over sharp edges is essential, to assure maximum service life and safety.



The **routing** of the hose assembly and the environment in which the hose assembly operates directly influence the service life of the hose assembly. The following diagrams indicate the correct routing of hose assemblies that will maximise its service life and assure a safe working functionality.

When hose installation is straight, it must be assured that there is enough slack in the hose to allow for changes in length that occur when pressure is applied. When pressurized, hose that is too short may pull loose from its hose fittings or stress the hose fitting connections, causing premature metallic or seal failures.

The **hose length** must be determined so that the hose assembly has enough slack to allow the system components to move or vibrate without creating tension in the hose.

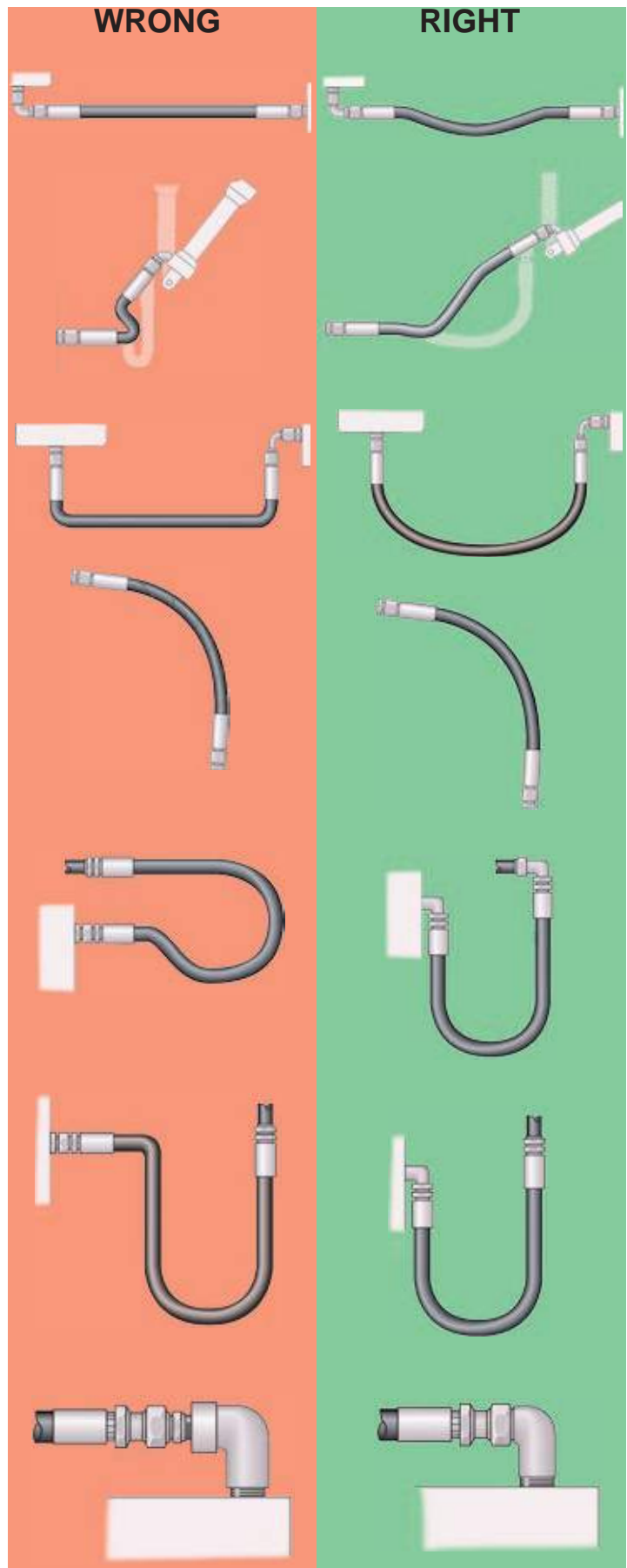
However, care needs to be taken not to allow too much slack and therefore introduce the risk of the hose snagging on other equipment or rubbing on other components.

Mechanical straining of the hoses needs to be avoided, so the hose must not be bent below its minimum bending radius or twisted during installation.

The minimum bending radii for each hose is stated in the hose tables in the catalogue.

The plane of movement must also be considered and the hose routing selected accordingly.

Hose routing also plays an important role on the selection of the hose fittings, as the correct fittings can avoid straining the hoses, unnecessary hose length or multiple threaded joints.



Correct clamping (holding/supporting) of the hose should be exercised to securely route the hose or to avoid the hose contacting surfaces that will cause the hose damage.

It is however, vital that the hose be allowed to keep its functionality as a “flexible-pipe” and not be restricted from changing in length when under pressure.

It should also be noted that hoses for high- and low-pressure lines shall not be crossed or clamped together, as the difference in changes in length could wear the hose covers.

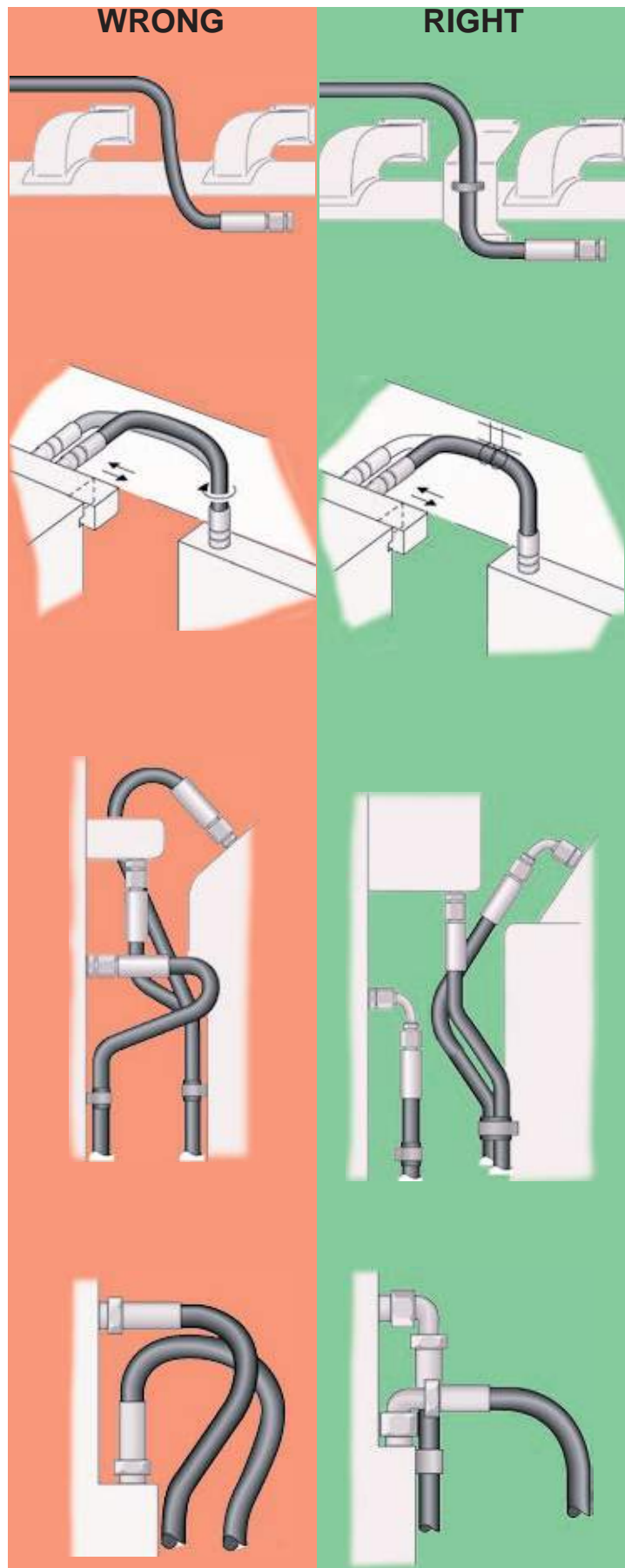
Hose should not be bent in more than one plane. If hose follows a compound bend, it shall be coupled into separate segments or clamped into segments that each flex in only one plane.

Hoses should be kept away from hot parts as high ambient temperatures shorten hose life.

Protective insulation may need to be used in unusually high ambient temperature areas.

Whilst the importance of the functionality is prime the aesthetics and practicality of the installation should also be considered in the design.

It should be considered that maintenance might be necessary at some stage in the future, so prohibitive design routings should be avoided.



Abrasive influences

In general care should be taken that the hose is not exposed to direct surface contact that will cause abrasive wearing of the outer cover (either hose to object or hose to hose contact). If however, the application is such that this cannot be avoided, either a hose with a higher abrasion resistant hose cover or a protective sleeve need to be used.

Parker **TOUGH COVER (TC)** or **SUPER TOUGH (ST)** covers offer 80 times or respectively 1000 times the abrasion resistance of standard rubber covers.



Cutting and hose length

Hose is cut to the desired length according to specifications. The correct hose cutting tool ensures a square, clean cut without damaging the pressure reinforcement. Depending on the hose type, different kinds of blades must be used: 1) smooth blade, 2) scolloped blade

Parker representatives can support you with training or advice!

All male threads are measured up to the end of the fitting.

US fittings (JIC, SAE, NPSM), except ORFS fittings, are measured up to the end of the nut.

All elbow fittings with swivel nuts are measured up to the summit of the head/centre line.

All DIN, BSP and ORFS fittings are measured up to the end of the sealing head.

Straight flange fittings are measured up to the face.

Flange elbows are measured up to the centre line of the face.

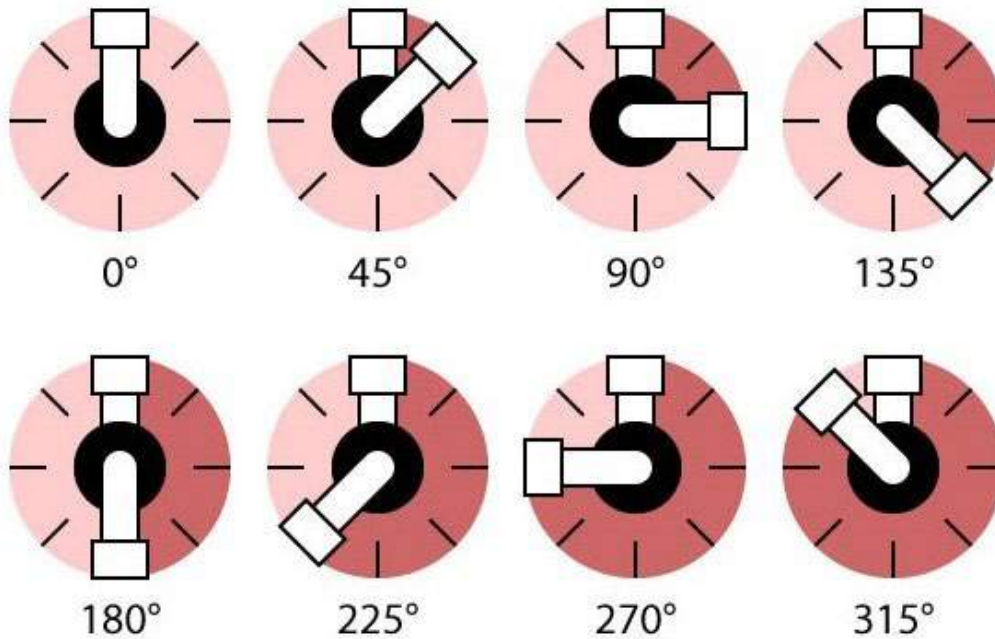
Tolerances for hose assemblies

Length tolerance according to DIN 20066:2002-10 and EN 853 to EN 857

Hose assembly length	up to DN25 (size-16)	from DN32 (size-20) up to DN50 (size-32)	from DN60 (size-40)
up to 630	+7 -3	+12 -4	+25 -6
over 630 up to 1250	+12 -4	+20 -6	
over 1250 up to 2500	+20 -6	+25 -6	
over 2500 up to 8000		+1,5% -0,5%	
over 8000		+3% -1%	



FITTING POSITIONS



Description	Construction	Standard						
			GL	DNV	RINA	LR	ABS	MED
Parker 301SN	2 braids, wire	DIN EN 853-2SN SAE 100R2AT	✓	✓	✓	✓	✓	
Parker 421SN	1 braids, wire	DIN EN 853-1SN-ISO 1436 SAE 100R1AT	✓	✓	✓	✓	✓	
Parker H-31	4 spiral, wire	Exceeds DIN EN856-4SP ISO3862-4SP	✓	✓	✓	✓	✓	
Parker H-29	4 spiral, wire	Exceeds DIN EN856-4SH ISO3862-4SH	✓	✓		✓	✓	
Parker R-42	4/6 spiral, wire	Exceeds DIN EN856-4SH ISO3862-4SH	✓	✓			✓	
MB Carbur-Oil	2 braids, wire, silica and inox sleeve	ISO 15540, ISO 15541			✓			✓
MB Lube Oil Silver 301	2 braids, wire, and inox sleeve	ISO 15540, ISO 15541			✓			✓
MB Lube Oil Gold 29	4 spiral, wire and inox sleeve	ISO 15540, ISO 15541			✓			✓
MB Lube Oil Gold 31	4 spiral, wire and inox sleeve	ISO 15540, ISO 15541			✓			✓
MB Lube Oil Platinum 42	4/6 spiral, wire and inox sleeve	ISO 15540, ISO 15541			✓			✓
MB Chem-Oil	PTFE, glass and inox sleeve							
MB HFO FUEL	1 braid, wire, silica and inox sleeve				✓			✓

Classification Bodies

The mission of classification bodies is to contribute to the development and implementation of technical standards for the protection of life, property and the environment.

(1) Germanischer Lloyd (GL)

German independent organisation of technical experts approving products for the German merchandise marine and the energy sector - GLIS (oil and gas, wind energy, etc...)

(2) Det Norske Veritas (DNV)

Norwegian service company for managing risk in ship classification, off-shore industry, etc...

(3) RINA (Registro Italiano Navale)

Italian company offering certification, verification, control, assistance in marine, energy & process, transport and industry.

(4) Deutsche Bahn (DB) - German Standard DIN 5510 - Part 2

The German rail authority (DB) approves the behaviour of the products in respect to their resistance to burning and their ability to self extinguish after a flaming, according to the DIN 5510-2 requirements.

(5) Lloyd's Register (LR)

English independent organisation providing certification around the world. Marine services, Rail services and Energy services are their main activities.

(6) Ministry of Defence (MOD)

British ministry of defence providing approvals for military equipment according to the MOD DefStan (Defence Standard) 47-2 specification.

(7) American Bureau of Shipping (ABS)

US company providing rules for safety in the marine environment.

(8) US Department of Transportation (DOT)

USA organisation providing certifications to ensure a fast, safe, efficient, accessible and convenient transportation system in this country.

(9) US Coast Guard (USCG)

Provides maritime safety, law enforcement, recreational boating safety, and environmental protection information for merchant mariners. The approved hoses are not accepted for all applications automatically. If the column contains "H", the hose is accepted for Hydraulic Systems only and not for Fuel and lube systems.

(10) Mine Safety and Health Administration (MSHA)

US organisation for safety in the mining industry

(11) Bureau Veritas (BV)

Bureau Veritas is today the most widely recognized certification body in the world, offering solutions in the key strategic fields of operations: Quality, Health & Safety, Environment and Social Responsibility.

(12) French Standard NF F-16-101/102 (NF)

Tests the fire behaviour and fire effluents of the hose cover material for rail applications.

(13) British Standard (BS 6853)

Tests the fire behaviour and fire effluents of the hose cover material for rail applications.

(14) MarED

MarED is the Group of Notified Bodies for the Implementation of the Marine Equipment Directive.

EN European Norm

ISO International Organisation for Standardization

SAE Society of Automotive Engineers (US organisation)

CONVERSION CHART

	Unit	Base Unit	Conversion Unit	Factor
Length	1 inch	in	mm	25,4
	1 millimetre	mm	in	0,03934
	1 foot	ft	m	0,3048
	1 metre	m	ft	3,28084
Area	1 square-inch	sq in	cm ²	6,4516
	1 square-centimetre	cm ²	sq in	0,1550
Volume	1 gallon (UK)	gal	l	4,54596
	1 litre	l	gal (UK)	0,219976
	1 gallon (US)	gal	l	3,78533
	1 litre	l	gal (US)	0,264177
Weight	1 pound	lb	kg	0,453592
	1 kilogramme	kg	lb	2,204622
Torque	1 pound foot	lb • ft	kg • m	1,488164
	1 newton metre	kg • m	lb • ft	0,671969
Pressure	1 pound per square inch	psi	bar	0,06895
	1 bar	bar	psi	14,5035
	1 pound per square inch	psi	MPa	0,006895
	1 mega pascal	MPa	psi	145,035
	1 kilo pascal	kPa	bar	0,01
	1 bar	bar	kPa	100
	1 mega pascal	MPa	bar	10
	1 bar	bar	MPa	0,1
Velocity	1 foot per second	ft / s	m / s	0,3048
	1 metre per second	m / s	ft / s	3,28084
Flow rate	1 gallon per minute (UK)	gal / min.	l / min.	4,54596
	1 litre per minute	l / min.	gal / min. (UK)	0,219976
	1 gallon per minute (US)	gal / min.	l / min.	3,78533
	1 litre per minute	l / min.	gal / min. (US)	0,264178
Temperature	Fahrenheit degree	°F	°C	5/9 • (°F-32)
	Celsius degree	°C	°F	°C • (9 / 5) +32

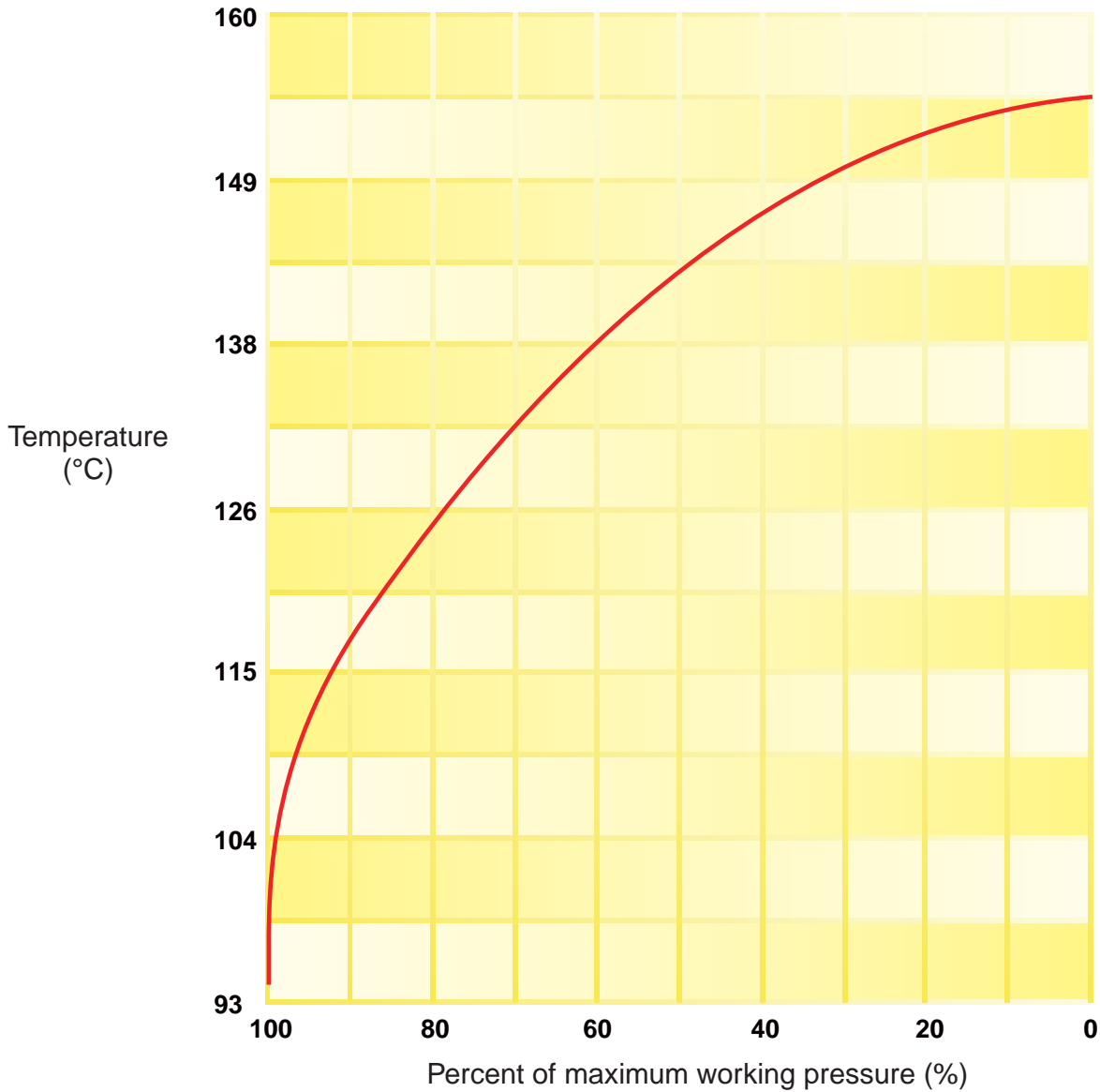
(UK) Unit of United Kingdom

(US) Unit of USA



TEMPERATURE / PRESSURE CHART

Reference 201, 206, 213 and 293 hose.



EXAMPLE: 201-8 hose to be used at 121 °C

Maximum Working Pressure up to 100 °C	x	Multiplication Factor from Chart	=	Maximum Working Pressure at 121 °C
13,8 MPa (2000 psi)	x	85%	=	11,7 MPa (1700 psi)



FLOW CAPACITY NOMOGRAM

Flow Capacities of Parker Hose at Recommended Flow Velocities

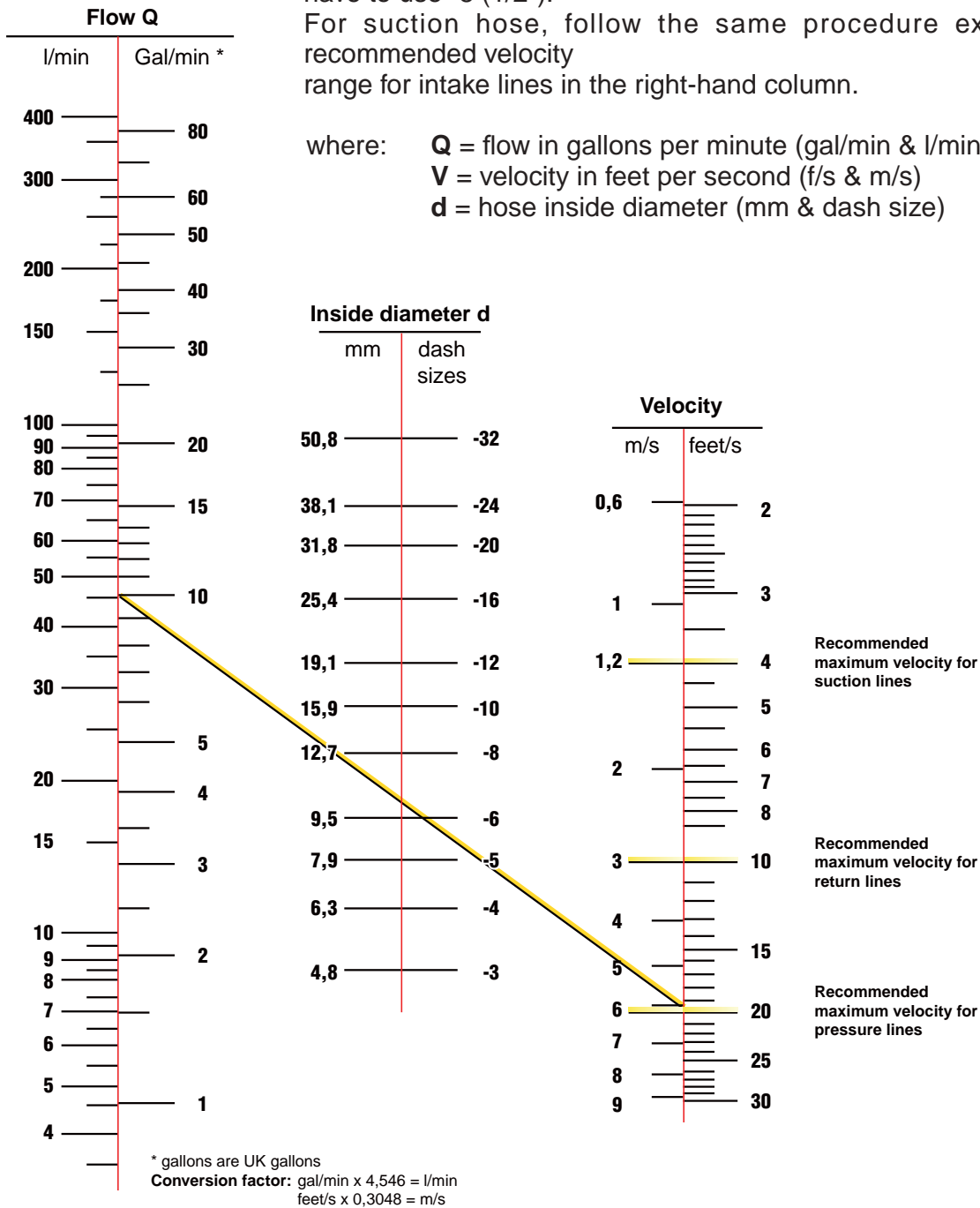
The chart below is provided as an aid in the determination of the correct hose size.

Example: at 10 gallons per minute (gal/min), what is the proper hose size within the recommended velocity range for pressure lines?

Locate 10 gallons per minute in the left-hand column and 20 feet per second in the right-hand column (the maximum recommended velocity range for pressure lines). Lay a straight line across these two points. The inside diameter shown in the centre column is above -6 so we have to use -8 (1/2").

For suction hose, follow the same procedure except use recommended velocity range for intake lines in the right-hand column.

where: **Q** = flow in gallons per minute (gal/min & l/min)
V = velocity in feet per second (f/s & m/s)
d = hose inside diameter (mm & dash size)



* Recommended velocities are according to hydraulic fluids of maximum viscosity 315 S.S.U. at 38°C working at roomtemperature within 18° and 68°C.

The Correct Method to Fit Female Swivel Ends

To ensure a leakproof seal between swivel female hose ends shown in this catalogue and the appropriate adaptors it is necessary to follow the procedure below which is different from hydraulic tube assembly.

Flats From Wrench Resistance (FFWR)

Parker's recommended assembly method for JIC 37° flare, SAE 45° flare and ORFS swivel female is Flats From Wrench Resistance (FFWR). The torque values assigned by size are for reference only, and are only applicable to Parker system components using the FFWR method with trivalent chromate passivation on zinc plating of carbon steel components without lubrication.

Metal-to-metal seal

Screw the nut up hand tight and then tighten further with a spanner according to the values mentioned in the table below. Ensure that in all cases the hose is correctly aligned before tightening the nut onto the corresponding adaptor.

Spanner torque values

Metric swivel female

Thread metric	Tube O.D.	Nm	
		nominal	min. - max.
M12x1,5	06L	16	15-17
M14x1,5	08L	16	15-17
M16x1,5	10L	26	25-28
M18x1,5	12L	37	35-39
M22x1,5	15L	47	45-50
M26x1,5	18L	89	85-94
M30x2	22L	116	110-121
M36x2	28L	137	130-143
M45x2	35L	226	215-237
M52x2	42L	347	330-363
M14x1,5	06S	26	25-28
M16x1,5	08S	42	40-44
M18x1,5	10S	53	50-55
M20x1,5	12S	63	60-66
M22x1,5	14S	79	75-83
M24x1,5	16S	84	80-88
M30x2	20S	126	120-132
M36x2	25S	179	170-187
M42x2	30S	263	250-275
M52x2	38S	368	350-385

BSP swivel female

Thread BSP	size	Nm	
		nominal	min. - max.
G1/4	-4	20	15-25
G3/8	-6	34	27-41
G1/2	-8	60	42-76
G5/8	-10	69	44-94
G3/4	-12	115	95-135
G1	-16	140	115-165
G1.1/4	-20	210	140-280
G1.1/2	-24	290	215-365
G2	-32	400	300-500

Note: Values given in tables are typical to achieve the recommended assembly methods when fitting material is steel zinc plated. For other materials different values will be applicable. (see our recommendations for other materials on this page)

JIC 37° swivel female

Thread UNF	size	Flats From Wrench Resistance (FFWR)	Swivel Nut Torque Nm (Ref)
7/16-20	-4	2	18
1/2-20	-5	2	23
9/16-18	-6	1-1/2	30
3/4-16	-8	1-1/2	57
7/8-14	-10	1-1/2	81
1.1/16-12	-12	1-1/4	114
1.5/16-12	-16	1	160
1.5/8-12	-20	1	228
1.7/8-12	-24	1	265
2.1/2-12	-32	1	360

ORFS swivel female

Thread UNF	size	Flats From Wrench Resistance (FFWR)	Swivel Nut Torque Nm (Ref)
9/16-18	-4	1/2to3/4	26
11/16-16	-6	1/2to3/4	42
13/16-16	-8	1/2to3/4	57
1-14	-10	1/2to3/4	85
1.3/16-12	-12	1/3to1/2	122
1.7/16-12	-16	1/3to1/2	156
1.11/16-12	-20	1/3to1/2	200
2-12	-24	1/3to1/2	256
2-1/2x12	-32	-	-

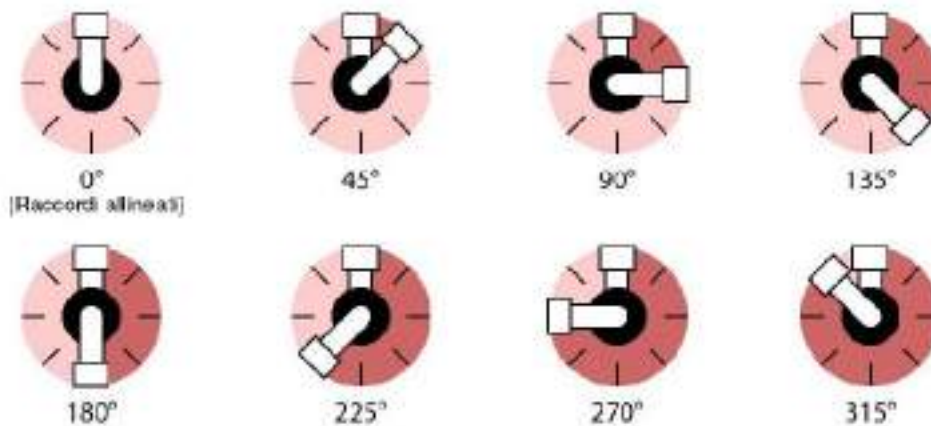
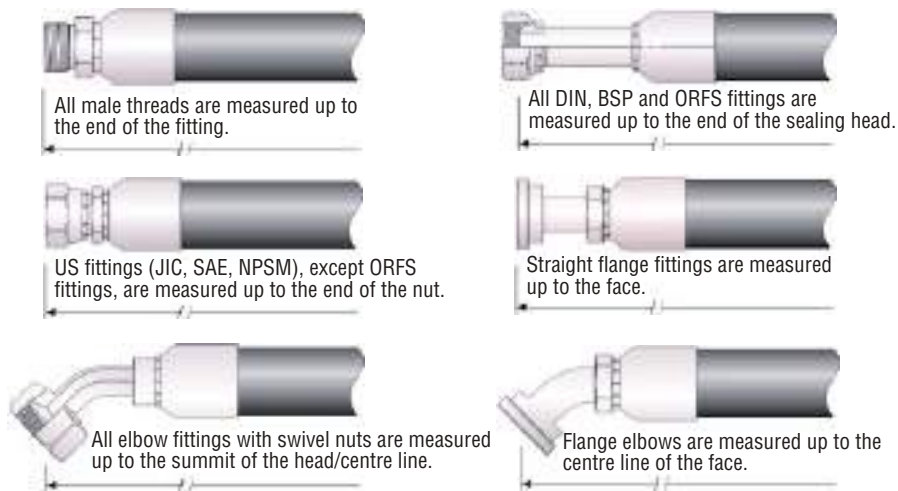
Note: The assembly torques listed are higher than the test torques published in SAE J1453.

The torque values for other materials are as follows:

- Brass fittings and adaptors
 - 65 % of the torque value for steel.
- Stainless steel and Monel
 - Use 5% higher than listed for steel.
 - Threads to be lubricated for these materials.
- Dissimilar metals
 - Use torque value designated for the lower of the two metals.
- All fittings are dry except as noted above.

MEASURING A HOSE ASSEMBLY

FLUID		
PRESSURE		bar
TEMPERATURE		°C
QUANTITY		
ND		"
COUPLING A		
COUPLING B		
POSITIONING		
LENGTH		mm
CERTIFICATION	Type Approval <input type="checkbox"/>	MED <input type="checkbox"/>
TEST REQUIRED	YES <input type="checkbox"/>	NO <input type="checkbox"/>
CLASSIFICATION BODY		
NOTE		



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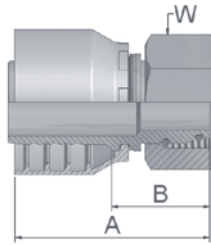


Hydraulic Fittings



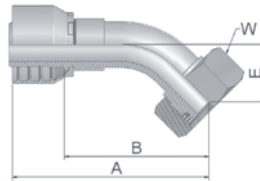
**Female Metric 24°
Light Series with O-Ring
Swivel – Straight**

ISO 12151-2-SWS-L – DKOL



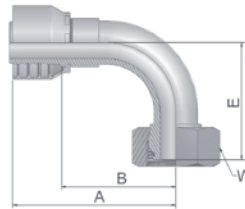
**Female Metric 24°
Light Series with O-Ring
Swivel – 45° Elbow**

ISO 12151-2-SWE 45°-L – DKOL 45°



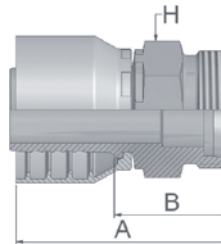
**Female Metric 24°
Light Series with O-Ring
Swivel – 90° Elbow**

ISO 12151-2-SWE-L – DKOL 90°



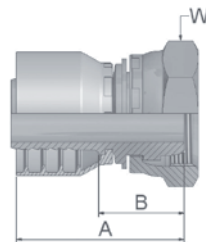
**Male Metric 24°
Light Series – Rigid
Straight**

ISO 12151-2-S-L – CEL



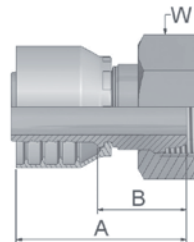
**Female Metric
Very Light Series LL
Swivel – Straight (Ball
Nose)**

DKM



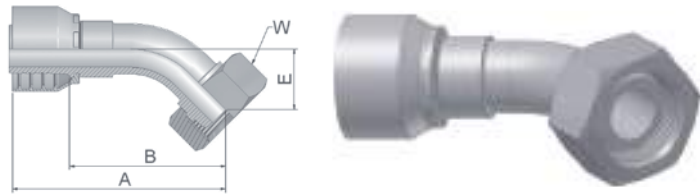
**Female Metric
Light Series – Swivel
Straight (Ball Nose)**

DKL



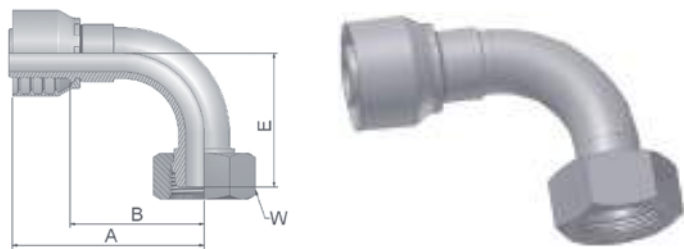
**Female Metric
Light Series – Swivel
45° Elbow (Ball Nose)**

DKL 45°



**Female Metric
Light Series – Swivel
90° Elbow (Ball Nose)**

DKL 90°



**Female Metric 24° – Swivel
Heavy Series with O-Ring
Straight**

ISO 12151-2-SWS-S – DKOS



**Female Metric 24° – Swivel
Heavy Series with O-Ring
45° Elbow**

ISO 12151-2 – SWE 45°-S – DKOS 45°



**Female Metric 24° – Swivel
Heavy Series with O-Ring
90° Elbow**

ISO 12151-2-SWE-S – DKOS 90°



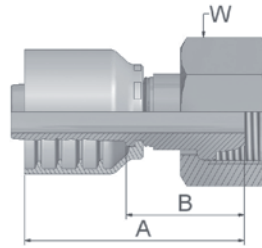
**Male Metric 24° – Rigid
Heavy Series – Straight**

ISO 12151-2-S-S – CES



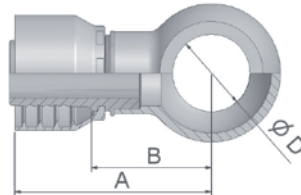
**Female Metric – Swivel
Heavy Series – Straight
(Ball Nose)**

DKS



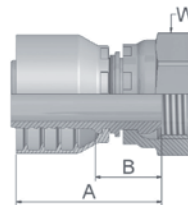
**Metric Banjo
Straight**

DIN 7642



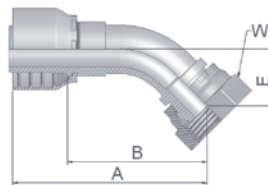
**Female BSP Parallel Pipe
Swivel – Straight (60° Cone)**

BS5200-A – DKR



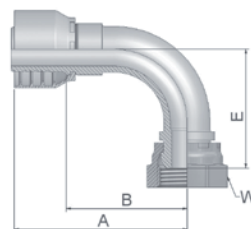
**Female BSP Parallel Pipe
Swivel
45° Elbow (60° Cone)**

BS 5200-D – DKR 45°



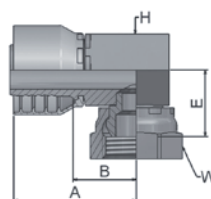
**Female BSP Parallel Pipe
Swivel
90° Elbow (60° Cone)**

BS 5200-B – DKR 90°



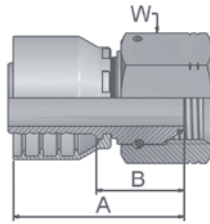
**Female BSP Parallel Pipe
Swivel – 90° Elbow
Block Type (60° Cone)**

BS 5200-E – DKR 90°



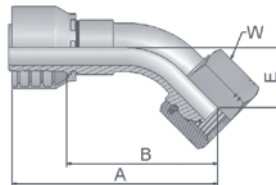
BSP Swivel Female with O-Ring (60° Cone)

BS 5200 – ISO 12151-6 – DKOR



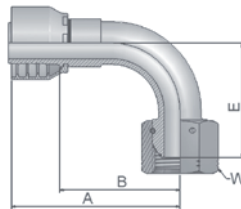
BSP Swivel Female with O-Ring 45° Elbow (60° Cone)

BS 5200 – ISO 12151-6 – DKOR 45°



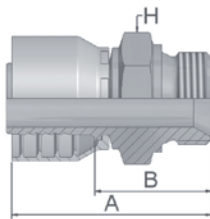
BSP Swivel Female with O-Ring 90° Elbow (60° Cone)

BS 5200 – ISO 12151-6 – DKOR 90°



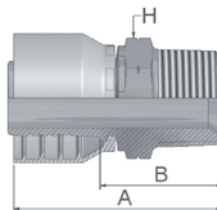
Male BSP Parallel Pipe Rigid – Straight (60° Cone)

BS5200 – AGR



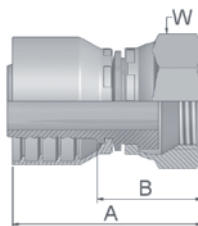
Male BSP Taper Pipe – Rigid Straight

BS5200 – AGR-K



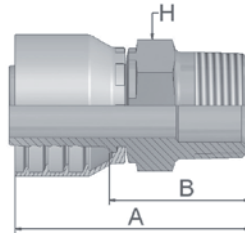
Female BSP Parallel Pipe Swivel

Straight (Flat Seat)



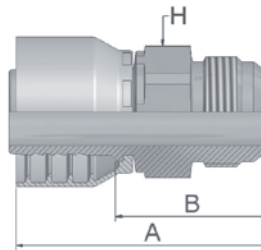
**Male NPTF Pipe
Rigid – Straight**

SAE J476A / J516 – AGN



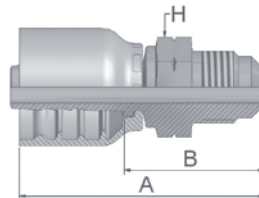
**Male JIC 37° – Rigid
Straight**

ISO12151-5-S – AGJ



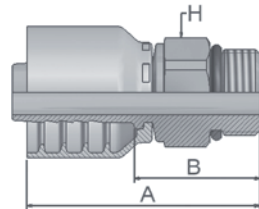
**Male SAE 45° – Rigid
Straight**

SAE J516



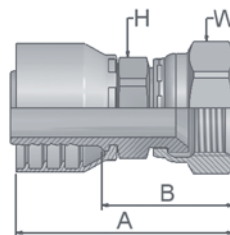
**Male SAE Straight Thread
with O-Ring – Rigid
Straight**

ISO 11926 – SAE J516



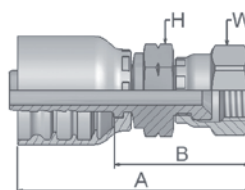
**Female – JIC 37°
SAE 45° Dual Flare
Swivel – Straight**

ISO12151-5-SWS – DKJ



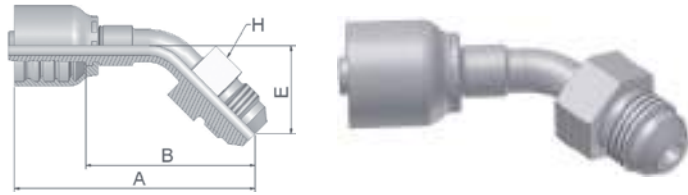
**Female SAE 45° – Swivel
Straight**

SAE J516



Male JIC 37° – Rigid 45° Elbow

ISO 12151-5 – AGJ 45°



Female JIC 37° SAE 45° – Dual Flare Swivel Female 45° Elbow

ISO 12151-5-SWE 45° – DKJ 45°



Female JIC 37° SAE 45° – Dual Flare Swivel Female 90° Elbow

ISO 12151-5-SWES – DKJ 90°



Female JIC 37° / 45° Swivel Female 90° Elbow (Long)

ISO 12151-5-SWEL – DKJ 90°L



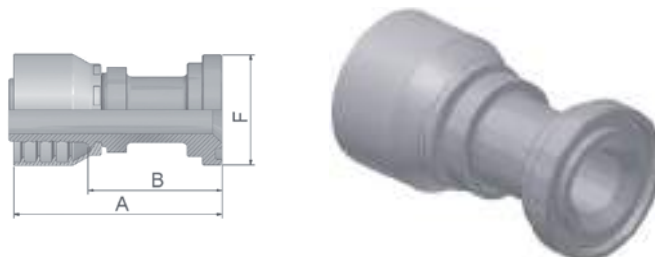
Female JIC 37° – Swivel 90° Elbow – Medium Drop

ISO 12151-5-SWEM – DKJ 90° M



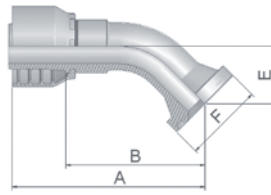
SAE Code 61 – Flange Head Straight

ISO 12151-3-S-L – SFL
3000 psi



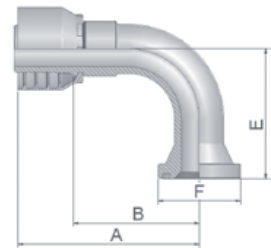
**SAE Code 61 – Flange Head
45° Elbow
ISO 12151-3 – E45-L – SFL 45°**

3000 psi



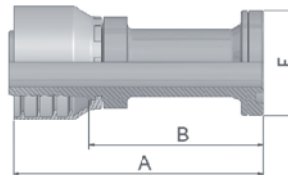
**SAE Code 61 – Flange Head
90° Elbow
ISO 12151-3 – E- L – SFL 90°**

3000 psi



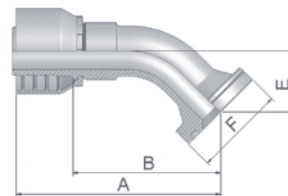
**SAE Code 62 Flange
Straight
ISO 12151-3-S-S – SFS**

6000 psi



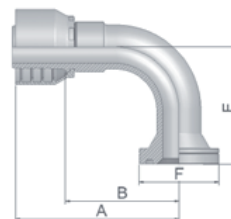
**SAE Code 62 Flange
45° Elbow – Heavy Series
ISO 12151-3 – E45-S – SFS 45°**

6000 psi



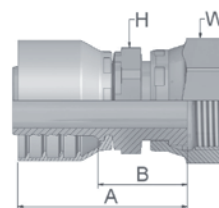
**SAE Code 62 Flange
90° Elbow
ISO 12151-3 – E-S – SFS 90°**

6000 psi



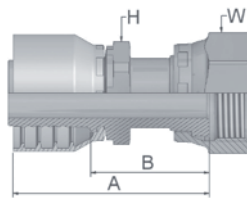
**Female ORFS
Swivel – Straight
Short**

ISO 12151-1 – SWSA
SAE J516 – ORFS



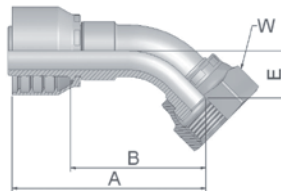
ORFS Swivel Female (Long)

ISO 12151-1-SWSB
SAE J516 – ORFS



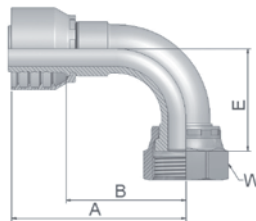
Female ORFS – Swivel 45° Elbow

ISO 12151-1 – SWE 45°
SAE J516 – ORFS 45°



Female ORFS – Swivel 90° Elbow – Short Drop

ISO 12151-1 – SWES
SAE J516 – ORFS 90°



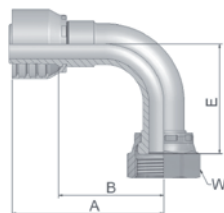
Female ORFS – Swivel 90° Elbow – Long Drop

ISO 12151-1 – SWEL
SAE J 516 – ORFS 90° L



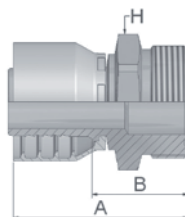
Female ORFS – Swivel 90° Elbow – Medium Drop

ISO 12151-1 – SWEM – ORFS 90° M



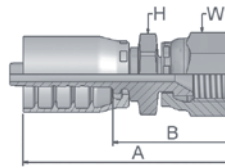
ORFS Male

ISO 12151-1-S – SAE J516



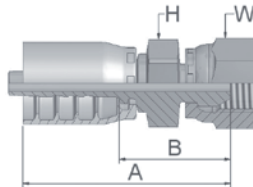
Female BSP Parallel Pipe Swivel – Straight (30° Flare)

ISO 228-1 – JIS B8363 – GUI



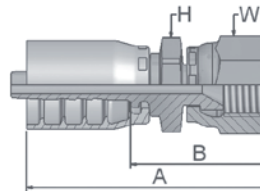
Female BSP Parallel Pipe Swivel – Straight (60° Cone)

ISO 228-1 – JIS B8363 – GUO



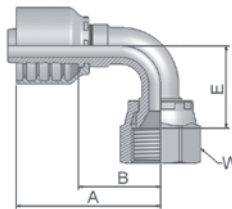
Female Metric – Swivel Straight (30° Flare)

JIS B8363 – MU



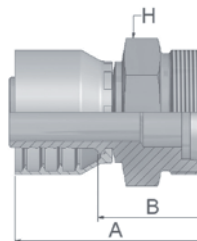
Female Metric – Swivel 90° Elbow (30° Flare)

JIS B8363



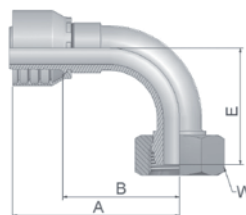
Male French Gas Series

Rigid – Straight (24° Cone)

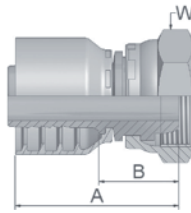


Female French Gas Series

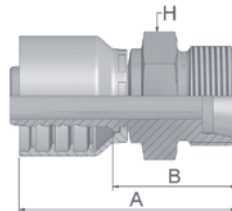
Swivel – 90° Elbow



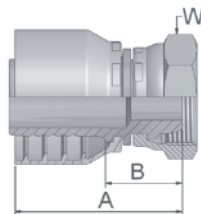
**Female French Gas Series
Swivel – Straight
(Ball Nose)**



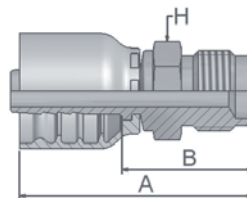
**French Male Metric Series
(24° Cone)**



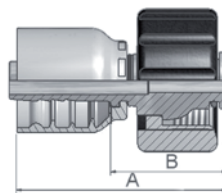
**French Female Metric Series
Swivel – (Ball Nose)**



**Metric Male for Agriculture
Valves**



Power Cleaner Connection



Special fittings can be machined upon request

FLAT FLANGE ASA 150					
DN	D	d	N° Holes	Ø	Pitch
1/2"	88,9	22,3	4	15,9	60,3
3/4"	98,4	27,4	4	15,9	69,8
1"	107,9	34,5	4	15,9	79,4
1" 1/4	117,5	43,2	4	15,9	88,9
1" 1/2	127,0	49,5	4	15,9	98,4
2"	152,4	62,0	4	19,0	120,6
2" 1/2	177,8	74,7	4	19,0	139,7
3"	190,5	90,7	4	19,0	152,4
3" 1/2	215,9	103,4	8	19,0	177,8
4"	228,6	116,1	8	19,0	190,5
5"	254,0	143,8	8	22,2	215,9
6"	279,4	170,7	8	22,2	241,3
8"	342,9	221,5	8	22,2	298,4
10"	406,4	276,3	12	25,4	361,9
12"	482,6	327,1	12	25,4	431,8
14"	533,4	359,1	12	28,6	476,2
16"	596,9	410,5	16	28,6	539,7
18"	635,0	461,8	16	31,7	577,8
20"	698,5	513,1	20	31,7	635,0
22"	749,3	564,4	20	34,9	692,1
24"	812,8	615,9	20	34,9	749,3
26"	869,9	666,7	24	34,9	806,4
30"	984,2	768,3	28	34,9	914,4
34"	1111,2	869,9	32	41,3	1028,7
36"	1168,4	920,7	32	41,3	1085,8
42"	1346,2	1073,1	36	41,3	1257,3

FLAT FLANGE ASA 300					
DN	D	d	N° Holes	Ø	Pitch
1/2"	95,2	22,3	4	15,9	66,7
3/4"	117,5	27,7	4	19,0	82,5
1"	123,8	34,5	4	19,0	88,9
1" 1/4	133,3	43,2	4	19,0	98,4
1" 1/2	155,6	49,5	4	22,2	114,3
2"	165,1	62,0	8	19,0	127,0
2" 1/2	190,5	74,7	8	22,2	149,2
3"	209,5	90,7	8	22,2	168,3
3" 1/2	228,6	103,4	8	22,2	184,1
4"	254,0	116,1	8	22,2	200,0
5"	279,4	143,8	8	22,2	234,9
6"	317,5	170,7	12	22,2	269,9
8"	381,0	221,5	12	25,4	330,2
10"	444,5	276,3	16	28,6	387,3
12"	520,7	327,1	16	31,7	450,8
14"	584,2	359,1	20	31,7	514,3
16"	647,7	410,5	20	34,9	571,5
18"	711,2	461,8	24	34,9	628,6
20"	774,7	513,1	24	34,9	685,8
22"	838,2	564,4	24	41,3	742,9
24"	914,4	615,9	24	41,3	812,8
26"	971,5	666,7	28	44,4	876,3
30"	1092,2	768,3	28	47,6	996,9
34"	1206,5	868,9	28	50,8	1104,9
36"	1270	920,7	32	54,0	1168,4
42"	1447,8	1073,1	36	54,0	1339,8

FLAT FLANGE PN 6					
DN	D	d	N° Holes	Ø	Pitch
15	80	22	4	12	55
20	90	28	4	12	65
25	100	34	4	12	75
32	120	43	4	14	90
40	130	49	4	14	100
50	140	62	4	14	110
65	160	77	4	14	130
80	190	90	4	18	150
100	210	116	4	18	170
125	240	141	8	18	200
150	265	170	8	18	225
175	295	196	8	18	255
200	320	221	8	18	280
250	375	275	12	18	335
300	440	326	12	22	395
350	490	358	12	22	445
400	540	409	16	22	495
450	595	460	16	22	550
500	645	510	20	22	600
600	755	612	20	25	705
700	860	716	24	25	810
800	975	818	24	29	920
900	1075	920	24	29	1020
1000	1175	1020	28	29	1120

FLAT FLANGE PN 10					
DN	D	d	N° Holes	Ø	Pitch
15	95	22	4	14	65
20	105	28	4	14	75
25	115	34	4	14	85
32	140	43	4	18	100
40	150	49	4	18	110
50	165	62	4	18	125
65	185	77	4	18	145
80	200	90	4	18	160
100	220	116	8	18	180
125	250	141	8	18	210
150	285	170	8	22	240
175	315	196	8	22	270
200	340	221	8	22	295
250	395	275	12	22	350
300	445	326	12	22	400
350	505	358	16	22	460
400	565	409	16	25	515
450	615	460	20	25	565
500	670	510	20	25	620
600	780	612	20	30	725
700	895	716	24	30	840
800	1015	818	24	33	950
900	1115	920	28	33	1050
1000	1230	1020	28	36	1160

FLAT FLANGE PN 16					
DN	D	d	N° Holes	Ø	Pitch
15	95	22	4	14	65
20	105	28	4	14	75
25	115	34	4	14	85
32	140	43	4	18	100
40	150	49	4	18	110
50	165	62	4	18	125
65	185	77	4	18	145
80	200	90	8	18	160
100	220	116	8	18	180
125	250	141	8	18	210
150	285	170	8	22	240
175	315	196	8	22	270
200	340	221	12	22	295
250	405	275	12	25	355
300	460	326	12	25	410
350	520	358	16	25	470
400	580	409	16	30	525
450	640	460	20	30	585
500	715	510	20	33	650
600	840	612	20	36	770
700	910	716	24	36	840
800	1025	818	24	39	950
900	1125	920	28	39	1050
1000	1255	1020	28	42	1170

Identifying Fitting Types

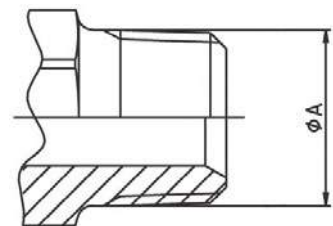
In general fittings can be identified by their visual appearance, their sealing surface/ sealing type or by their thread type/form. Viewing the following pages the visual identification will be self explanatory. The sealing mechanism and the method of thread identification however, needs further explanation.

Determining Sealing Mechanisms:

- Thread interface
- O-ring
- Matching angle or metal to metal joint
- Mated angle with O-ring

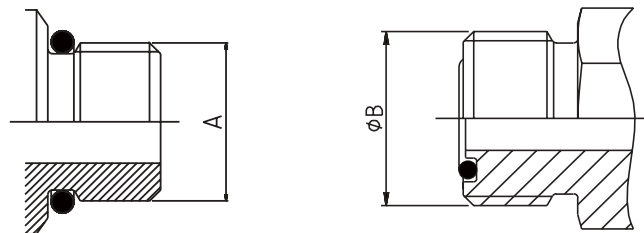
Thread Interface

The sealing is assured by the flattening of the edges of the threads when the male is screwed into the female fitting. Typically the front of the male fittings are narrower than the back of the fittings – often referred to as tapered threads.



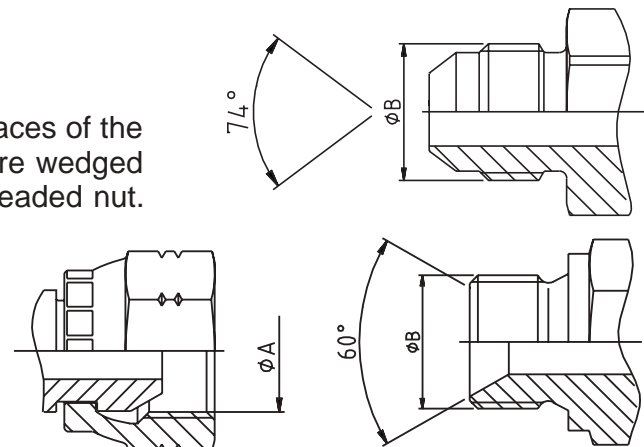
O-ring

The O-ring on the male is compressed against the corresponding female and assures the seal. This type of sealing mechanism should be the preferred choice for high-pressure applications.



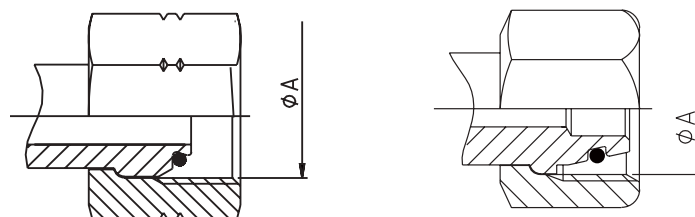
Matching Angle or Metal to Metal Joint

The seal takes place where the two angled faces of the male and corresponding female meet and are wedged into one another by the tightening of the threaded nut. The sealing surfaces can either be convex or concave (seat) on the male or in the head of the pipe of the female as shown.



Matching Angle with O-ring

These fittings combine the functionality of both the matching angle seal with the O-ring. The O-ring is in the angled sealing surface of the fitting so that when the threaded male and female are screwed together the sealing surfaces wedge together and at the same time deform the O-ring between them.

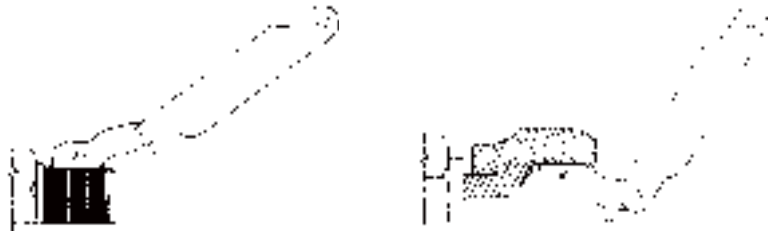


Determining Thread Type

In general the appearance of the threads of various fittings looks similar and hinders the easy identification of the thread. To assure the correct identification, the threads must be measured and compared to the tables listed in the following section.

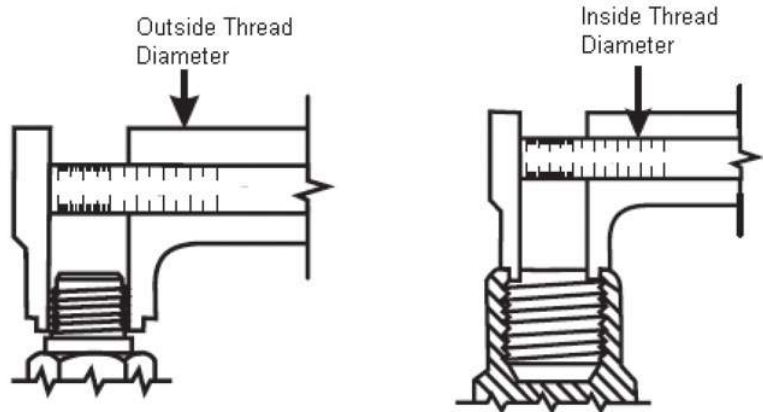
Thread Gauge

Using a thread gauge, the number of threads per inch can be determined. Holding the gauge and coupling threads in front of a lighted background helps to obtain an accurate measurement.



Caliper Measure

A vernier caliper should be used to measure the thread diameter of the largest point. (Outside diameter (O.D.) of male threads – Inside Diameter (I.D.) of female threads.)



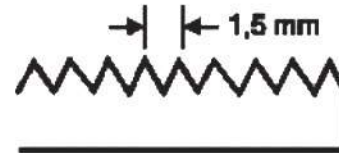
German DIN Hose Fittings (DIN – Deutsches Institut für Normung)

Often referred to as metric fittings these fittings seal using the angled sealing surfaces (metal to metal) or the combination of metal to metal with O-rings.

They are available in **very light (LL)**, **light series (L)** or **heavy series (S)**

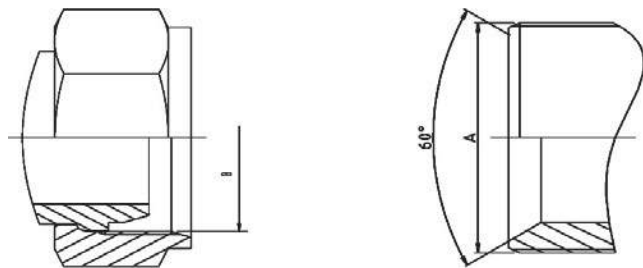
The sealing face angles are either 24° with or without O-rings, or 24°/60° universal cones. Identification is made by measuring the thread size and also the tube outside diameter.

Defined by the outside diameter and the pitch (distance between 2 crests of the thread)
example: M22x1.5 - pitch of 1,5mm



DIN Very Light Series (LL)

The male 60° cone will mate with the female 60° cone only. The male has a 60° sealing angle (seat) and straight metric thread. The female has a 60° seat and straight metric thread.



Standard

DIN 20078 Part 3¹⁾

Parker end configurations

C0

DN	Metric thread	ØA (mm)	ØB (mm)
20	M30x1.5	30,00	28,50
25	M38x1.5	38,00	36,50
32	M45x1.5	45,00	43,50
40	M52x1.5	52,00	50,50
50	M65x2	65,00	63,00

DIN Light (L) and Heavy Series (S) without O-ring

The male 60° cone will mate with the female universal 24° or 60° cone only.

The male has a 60° sealing angle (seat) and straight metric threads. The female has a 24° and 60° universal seat and straight metric threads.

Standard

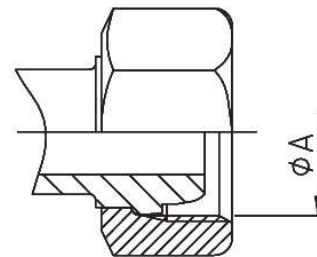
DIN 20078 Part 2¹⁾

(previously known as DIN 20078 A, D & E)

Parker end configurations light series:

C3, C4, C5, C6

(Often also referred to as “Ball nose cones”)



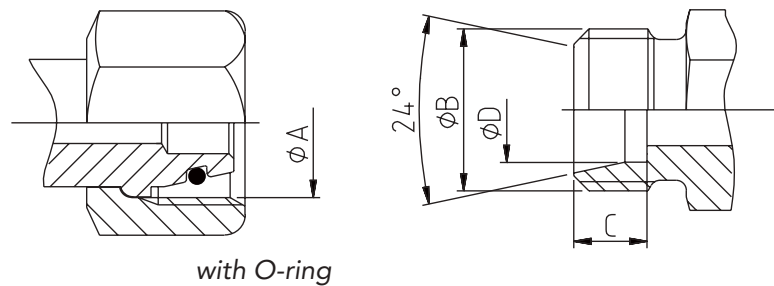
without O-ring

1) obsolete standard, no exact replacement

DIN 24° Light (L) and Heavy Series (S) with O-ring

The male has a 24° sealing angle cone seat with straight metric threads.

The female has a 24° convex cone with O-ring and a swivel straight metric threaded nut.



Standard

ISO 12151-2 / ISO 8434-1 & ISO 8434-4

(Previously DIN 20 078 Part 4, 5, 8, 9)

Parker end configurations light series

CA, CE, CF, D0

Parker end configurations heavy series

C9, 0C, 1C, D2

Tube OD	Specif.	Metric thread	ØA (mm)	ØB (mm)	C (mm)	ØD (mm)
6,00	6L	M12X1.5	10,50	12,00	7,00	6,20
6,00	6S	M14X1.5	12,50	14,00	7,00	6,20
8,00	8L	M14x1.5	12,50	14,00	7,00	8,20
8,00	8S	M16x1.5	14,50	16,00	7,00	8,20
10,00	10L	M16x1.5	14,50	16,00	7,00	10,20
10,00	10S	M18x1.5	16,50	18,00	7,50	10,20
12,00	12L	M18x1.5	16,50	18,00	7,00	12,20
12,00	12S	M20x1.5	18,50	20,00	7,50	12,20
14,00	14S	M22x1.5	20,50	22,00	8,00	14,20
15,00	15L	M22x1.5	20,50	22,00	7,00	15,20
16,00	16S	M24x1.5	22,50	24,00	8,50	16,20
18,00	18L	M26x1.5	24,50	26,00	7,50	18,20
20,00	20S	M30x2	27,90	30,00	10,50	20,20
22,00	22L	M30x2	27,90	30,00	7,50	22,20
25,00	25S	M36x2	33,90	36,00	12,00	25,20
28,00	28L	M36x2	33,90	36,00	7,50	28,20
30,00	30S	M42x2	39,90	42,00	13,50	30,20
35,00	35L	M45x2	42,90	45,00	10,50	35,30
38,00	38S	M52x2	49,90	52,00	16,00	38,30
42,00	42L	M52x2	49,90	52,00	11,00	42,30

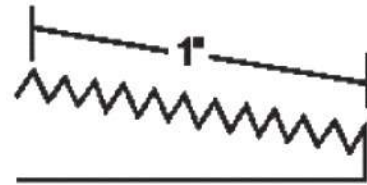
British Standard Pipe (BSP)

Also referred to as Whitworth threads, the BSP thread type fittings seal using metal to metal angled surfaces or a combination of metal to metal and an O-ring.

The angle of the sealing surfaces is 60° for both forms.

There are two popular thread forms, British Standard Pipe Parallel (BSPP) and British Standard Pipe Tapered (BSPT).

Identification is made by measuring the outside diameter of the thread and the number of threads per inch (25.4 mm)

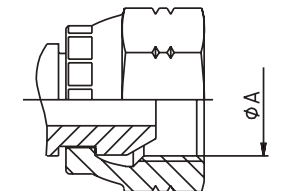


BSPP

metal to metal without O-ring
Standard

BS5200

Parker end configurations
92, B1, B2, B4, D9



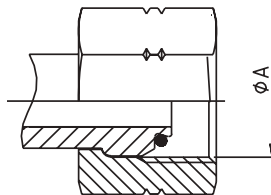
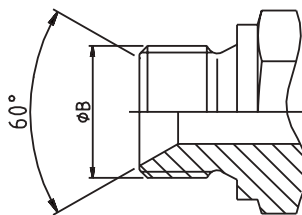
Tube OD	Size	BSP thread	ØA (mm)	ØB (mm)
6/10	-2	1/8-28	8,60	9,70
8/13	-4	1/4-19	11,50	13,20
12/17	-6	3/8-19	14,90	16,70
15/21	-8	1/2-14	18,60	20,90
18/23	-10	5/8-14	20,60	22,90
20/27	-12	3/4-14	24,10	26,40
26/34	-16	1"-11	30,30	33,20
33/42	-20	1.1/4-11	38,90	41,90
40/49	-24	1.1/2-11	44,90	47,80
50/60	-32	2-11	56,70	59,60

BSPP

metal to metal with O-ring
Standard

ISO 12151-6 ²⁾

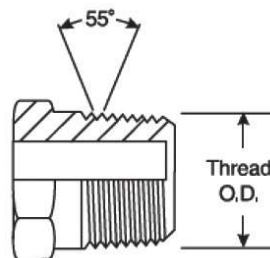
Parker end configurations
EA, EB, EC, EE, D9



BSPT

fittings seal through the thread interface mechanism. Care should be taken not to confuse the BSPT fitting with the NPTF male fitting. BSPT has a 55° thread angle. NPTF has 60° thread angle.

Parker end configuration
91

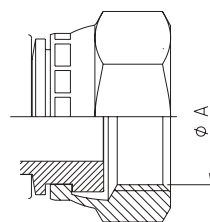


Tube OD	Size	BSP thread	ØA (mm)
5/10	-2	1/8-28	9,73
8/13	-4	1/4-19	13,16
12/17	-6	3/8-19	16,66
15/21	-8	1/2-14	20,96
20/27	-12	3/4-14	26,44
26/34	-16	1"-11	33,25
33/42	-20	1.1/4-11	41,91
40/49	-24	1.1/2-11	47,80
50/60	-32	2-11	59,61

BSP Flat Seal

These fittings have BSP parallel threads but the sealing surface is flat. The seal is made when the composite seal is compressed against the female flat face.

Parker end configurations
B5, B6, B7



Tube OD	Size	BSP thread	ØA (mm)
6/10	-2	1/8-28	8,6
8/13	-4	1/4-19	11,5
12/17	-6	3/8-19	14,9
15/21	-8	1/2-14	18,6
18/23	-10	5/8-14	20,6
20/27	-12	3/4-14	24,1
26/34	-16	1"-11	30,3

French Metric 24° Cone Gas Fittings

Typical to the French market the French Gas fittings have a 24° sealing surfaces seat with metric straight threads. Although similar to German DIN fittings the threads differ in some sizes as the French Gas fittings have fine threads in all sizes whereas the German DIN fittings use standard threads in the larger sizes.

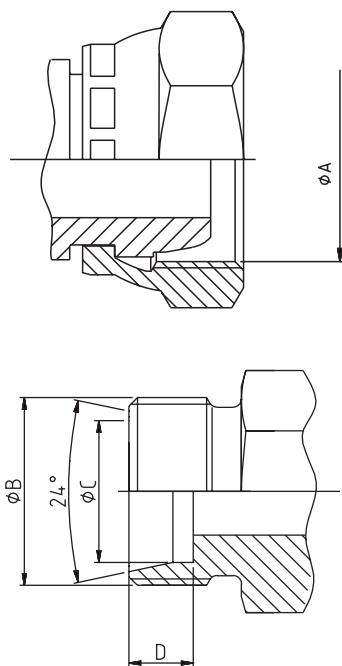
The sealing mechanism is metal to metal.

The fittings are not specified in any international standard.

Parker end configurations

F6, F9 (metric tube)

FG, F2, F4 (gas tube)



Tube OD	Size	BSP thread	ØA (mm)	ØB (mm)	ØC (mm)	D (mm)
6,00	6N	M12x1	11,00	12,00	6,20	9,00
8,00	8N	M14x1.5	12,50	14,00	8,15	9,00
10,00	10N	M16x1.5	14,50	16,00	10,20	9,00
12,00	12N	M18x1.5	16,50	18,00	12,15	9,00
13,25	13G	M20x1.5	18,50	20,00	13,50	9,00
14,00	14N	M20x1.5	18,50	20,00	14,15	9,00
15,00	15N	M22x1.5	20,50	22,00	15,15	9,00
16,00	16N	M24x1.5	22,50	24,00	16,15	9,00
16,75	17G	M24x1.5	22,50	24,00	17,00	9,00
18,00	18N	M27x1.5	25,50	27,00	18,15	9,00
20,00	20N	M27x1.5	25,50	27,00	20,15	9,00
21,25	21G	M30x1.5	28,50	30,00	21,50	9,00
22,00	22N	M30x1.5	28,50	30,00	22,15	9,00
25,00	25N	M33x1.5	31,50	33,00	25,15	9,00
26,75	27G	M36x1.5	34,50	36,00	27,00	9,00
28,00	28N	M36x1.5	34,50	36,00	28,25	9,00
30,00	30N	M39x1.5	37,50	39,00	30,25	9,00
32,00	32N	M42x1.5	40,50	42,00	32,25	9,00
33,25	34G	M45x1.5	43,50	45,00	33,80	9,00
35,00	35N	M45x1.5	43,50	45,00	35,25	9,00
38,00	38N	M48x1.5	46,50	48,00	38,25	9,00
40,00	40N	M52x1.5	50,50	52,00	40,35	9,00
42,25	42G	M52x1.5	50,50	52,00	42,55	9,00
48,25	49G	M58x2	55,90	58,00	49,00	11,00

Dryseal American Standard Taper Pipe Thread (NPTF)

This type of fitting uses the thread interface to seal and as such has a tapered thread that deforms and forms the seal.

They have 30° sealing angle surfaces, forming a 60° inverted (concave) seat.

The fittings are most frequently seen on machines of US origin.

The NPTF male will mate with the NPTF, NPSF, or NPSM females.

Care should be taken not to confuse the NPTF fitting with the BSPT male fitting. NPTF fittings have a 60° thread angle.

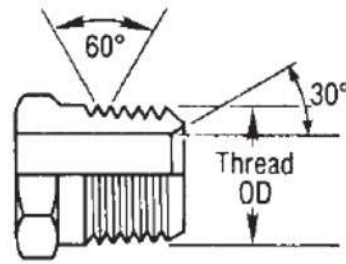
BSPT has a 55° thread angle.

Standard

SAE J516

Parker end configuration

01



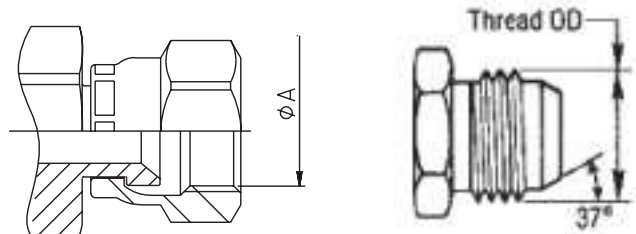
ØA dimension is measured on the 4th pitch of the thread

Size	NPTF thread	ØA (mm)	ØB (mm)
-2	1/8-27	10,24	8,73
-4	1/4-18	13,61	11,90
-6	3/8-18	17,05	15,90
-8	1/2-14	21,22	19,05
-12	3/4-14	26,56	24,60
-16	1-11,5	33,22	30,95
-20	1.1/4-11,5	41,98	39,69
-24	1.1/2-11,5	48,05	45,24
-32	2-11,5	60,09	57,15

SAE JIC 37°

Commonly referred to as just JIC fittings these metal to metal sealing type fittings have a 37° flare (sealing surface angle) and straight United National Fine straight Threads (UNF).

The original design specification for the fittings comes from the Society of Automotive Engineers (SAE) and these fittings are the most common American fitting type in Europe.



Standard

ISO 12151-5²⁾, ISO8434-2 and SAE J516

Parker JIC hose fittings are fully compatible with Parker Triple-lock Tube Fittings and adapters.

Parker end configurations

03, 06/68, 37/3V, 39/3W, 41/3Y, L9

2) standard in preparation

Tube OD	Tube D (mm)	UNF thread	Size	ØA (mm)	ØB (mm)
3/16"		3/8-24	-3	8,60	9,50
1/4"	6	7/16-20	-4	10,00	11,10
5/16"	8	1/2-20	-5	11,60	12,70
3/8"	10	9/16-18	-6	13,00	14,30
1/2"	12	3/4-16	-8	17,60	19,10
5/8"	14-15-16	7/8-14	-10	20,50	22,20
3/4"	18-20	1.1/16-12	-12	24,60	27,00
7/8"	22	1.3/16-12	-14	28,30	30,10
1"	25	1.5/16-12	-16	31,30	33,30
1.1/4"	30-32	1.5/8-12	-20	39,20	41,30
1.1/2"	38	1.7/8-12	-24	45,60	47,60
2"		2.1/2-12	-32	61,50	63,50

SAE 45° Flare

The angle of the flare is commonly used as a name when referring to these metal to metal sealing fittings.

The female fittings have a 90° concave inverted seat, created by the 45° angle sealing surfaces.

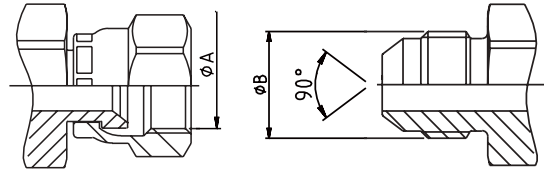
The SAE 45° flare male will mate with an SAE 45° flare female only or a dual seat JIC 37°/SAE45°.

Standard

SAE J516

Parker end configurations

04, 08/68, 77/3V, 79/3W, 81/3Y



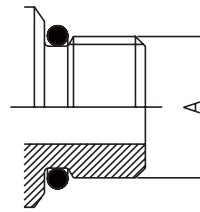
Tube OD	Size	UNF thread	ØA (mm)	ØB (mm)
1/4"	-4	7/16-20	9,90	11,10
5/16"	-5	1/2-20	11,50	12,70
3/8"	-6	5/8-18	14,30	15,90
1/2"	-8	3/4-16	17,50	19,10
5/8"	-10	7/8-14	20,60	22,20
3/4"	-12	1.1/16-14	25,00	27,00

SAE O-ring (Boss Type)

This male fitting has straight threads, a sealing face and an O-ring. It is compatible only with female boss type fittings generally found in the ports of the machines. Sealing is achieved through the O-ring of the male and through the sealing face of the female.

Parker end configuration

05



UNF thread	Size	ØA (mm)
5/16-24	-2	7,93
3/8-24	-3	9,52
7/16-20	-4	11,11
1/2-20	-5	12,70
9/16-18	-6	14,28
3/4-16	-8	19,10
7/8-14	-10	22,22
11/16-12	-12	27,00
13/16-12	-14	30,10
15/16-12	-16	33,30
15/8-12	-20	41,30
17/8-12	-24	47,60
21/2-12	-32	63,50

O-ring Face Seal (ORFS)

ORFS fittings are becoming the most popular international fitting type used on global OEM machines due to their high level of sealing and their good vibration resistance. The fittings use the O-ring compression mechanism to seal.

The female fittings have flat faces and straight threaded UNF swivel nuts. The male fittings have the O-ring in a groove in the flat face.

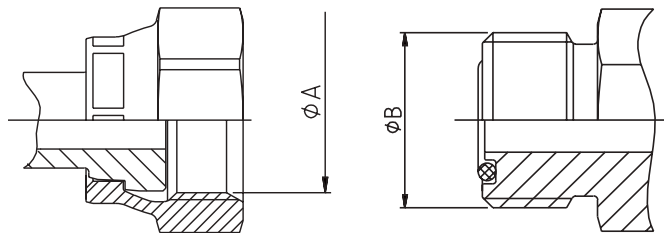
Seen as a major advantage, these fittings offer the possibility to build the hose assemblies into fixed distances/spaces, without having to move back other system components due the flat faces of the male and female fittings – the hose assembly can be slotted in.

Standard

ISO 12151-1, ISO8434-3 and SAE J516

Parker end configurations

JC, JM/J0, JS, JU, J1, J3, J5, J7, J9



Tube OD	Tube D (mm)	UNF thread	Size	ØA (mm)	ØB (mm)
1/4"	6	9/16-18	-4	13,00	14,20
3/8"	10	11/16-16	-6	15,90	17,50
1/2"	12	13/16-16	-8	19,10	20,60
5/8"	16	1-14	-10	23,80	25,40
3/4"	20	1.3/16-12	-12	28,20	30,10
1"	25	1.7/16-12	-16	34,15	36,50
1.1/4"	32	1.11/16-12	-20	40,50	42,90
1.1/2"	38	2-12	-24	48,80	50,80

Flange Fittings

Code 61 and Code 62

The 4-bolt split flange (or full flange) fitting is used worldwide for connecting high pressure hoses typically to pumps, motors and cylinders, where the hose assemblies are subjected to large pressure loadings.

The sealing mechanism is through compression of the O-ring in the face of the flange head against the surface of the port/ connection.

The flange fittings are generally separated into two pressure classes referred to as 3000 psi (SFL) or 6000 psi (SFS).

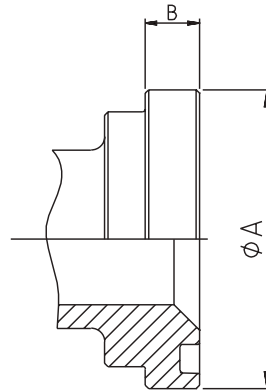
ISO 12151-3 refers to the flange fittings as code 61 for the 3000 psi and code 62 for the 6000 psi. In addition to these flanges, customer specific Komatsu® and CATERPILLAR® flanges can also be found in the market.

– Standard Code 61

for 3000 to 5000 psi max., depending on size

– High Pressure Code 62

for 6000 psi max. regardless of size



Parker end configurations

Code 61 (3000 psi)

15, 16, 17, 19, P5, P7, P9

5000 psi (Code 61 dimensions)

4A, 4F, 4N

Code 62 (6000 psi)

6A, 6F, 6N, PA, PF, PN, 89

Caterpillar flange

XA, XF, XG, XN

Flange (inch)	Size	code 61	code 61
1/2	-8	34,5/5000	41,3/6000
3/4	-12	34,5/5000	41,3/6000
1	-16	34,5/5000	41,3/6000
1.1/4	-20	27,5/4000	41,3/6000
1.1/2	-24	20,7/3000	41,3/6000
2	-32	20,7/3000	41,3/6000

Code 61 - SAE 3000 PSI

Flange (inch)	Size	ØA (mm)	B (mm)	O-Ring
1/2"	-8	30,18	6,73	18,64X3,53
3/4"	-12	38,10	6,73	24,99X3,53
1"	-16	44,45	8,00	32,92X3,53
1.1/4"	-20	50,80	8,00	37,69X3,53
1.1/2"	-24	60,33	8,00	47,22X3,53
2"	-32	71,42	9,53	56,74X3,53
2.1/2"	-40	84,12	9,53	69,44X3,53
3"	-48	101,60	9,53	85,32X3,53

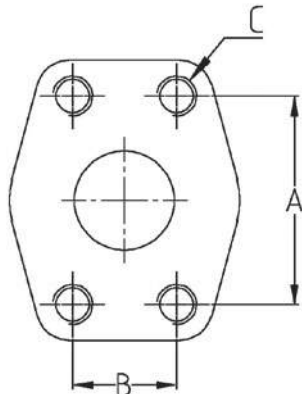
Code 62 - SAE 6000 PSI

Flange (inch)	Size	ØA (mm)	B (mm)	O-Ring
1/2"	-8	31,75	7,75	18,64X3,53
3/4"	-12	41,28	8,76	24,99X3,53
1"	-16	47,63	9,53	32,92X3,53
1.1/4"	-20	53,98	10,29	37,69X3,53
1.1/2"	-24	63,50	12,57	47,22X3,53
2"	-32	79,38	12,57	56,74X3,53

4-Bolt Split Flange

A 4-bolt split flange is used to attach the flange fittings to their ports.

- Standard Code 61 for 3000 to 5000 psi max., depending on size
- High Pressure Code 62 for 6000 psi max. regardless of size



port dimensions

Code 61 - SAE 3000 PSI

Flange	Size	A (mm)	B (mm)	(INCH)	C (METR.)
1/2"	-8	38.1	17.5	5/16-18	M8x1,25
3/4"	-12	47.6	22.3	3/8-16	M10x1,5
1"	-16	52.4	26.2	3/8-16	M10x1,5
1-1/4"	-20	58.7	30.2	7/16-14	M10x1,5
1-1/2"	-24	69.9	35.7	1/2-13	M12x1,75
2"	-32	77.8	42.8	1/2-13	M12x1,75*

Code 62 - SAE 6000 PSI

Flange	Size	A (mm)	B (mm)	(INCH)	C (METR.)
1/2"	-8	40.5	18.2	5/16-18	M8x1,25
3/4"	-12	50.8	23.8	3/8-16	M10x1,5
1"	-16	57.2	27.8	7/16-14	M12x1,75
1-1/4"	-20	66.7	31.8	1/2-13	M12x1,75*
1-1/2"	-24	79.4	36.5	5/8-11	M16x2
2"	-32	96.8	44.4	3/4-10	M20x2,5

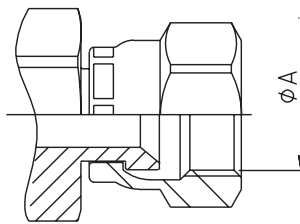
*M14x2 still used in the market but no longer in accordance with ISO 6162

Japanese fittings - JIS

Japanese Industrial Standard (JIS) are seen on most Japanese equipment and use a 30° sealing angle seat and either British Standard Pipe Parallel or metric threads.

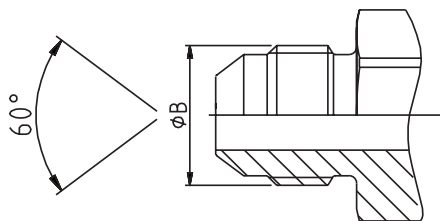
Care must be taken not to confuse the JIS fittings with BSP or JIC fittings.

The sealing mechanism of the fittings is the 30° metal to metal angled surfaces.



Parker end configurations

MU, XU (Metric)
FU (BSP)



JIS 30° metric

Symbol	Metric thread	ØA (mm)	ØB (mm)
MU-6	M14x1.5	12,50	14,00
MU-9	M18x1.5	16,50	18,00
MU-12	M22x1.5	20,50	22,00
MU-15	M27x2	25,00	27,00
MU-19	M27x2	25,00	27,00
MU-25	M33x2	31,00	33,00
MU-32	M42x2	40,00	42,00
MU-38	M50x2	48,00	50,00
MU-50	M60x2	58,00	60,00

JIS 30° BSP

Symbol	BSP thread	ØA (mm)	ØB (mm)
GUI-3	1/8-28	8,60	9,70
GUI-5/-6	1/4-19	11,50	13,20
GUI-8/-9	3/8-19	14,90	16,70
GUI-12	1/2-14	18,60	20,90
GUI-15/-19	3/4-14	24,10	26,40
GUI-25	1"-11	30,30	33,20
GUI-32	1.1/4-11	38,90	41,90
GUI-38	1.1/2-11	44,90	47,80
GUI-50	2-11	56,70	59,60

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Hydraulic Hoses

Product Range



421SN

No-Skive

DIN EN 853 1SN – ISO 1436 Type 1

Primary Applications

General medium pressure hydraulic applications

Type Approvals

See pag 8

Applicable Specifications

DIN EN 853 1SN – ISO 1436

Type 1 – SAE 100R1AT

Construction

Tube: Nitrile (NBR)

Reinforcement: One high-tensile steel wire braid

Cover: Synthetic rubber

Temperature Range

-40 °C up to +100 °C

Exception: Air max. +70 °C

Water max. +85 °C



- **No-Skive** thin cover hose construction
- Nitrile (NBR) inner tube
– extended fluid compatibility

Recommended Fluids

Petroleum and water-glycol based fluids, lubricating oils, air and water. For air above 1.7 MPa, the hose cover must be pin-pricked.

Fitting Series



Part Number	Hose I.D.				Hose O.D. mm	Pressure Rating				min. bend radius mm	weight kg
	DN	Inch	Size	mm		max. working pressure		min. burst pressure			
						MPa	psi	MPa	psi		
421SN-4	6	1/4	-4	6.3	13.4	22.5	3250	90.0	13000	100	0.24
421SN-5	8	5/16	-5	7.9	15.0	21.5	3125	86.0	12500	115	0.27
421SN-6	10	3/8	-6	9.5	17.4	18.0	2600	72.0	10400	130	0.34
421SN-8	12	1/2	-8	12.7	20.7	16.0	2325	64.0	9300	180	0.43
421SN-10	16	5/8	-10	15.9	23.9	13.0	1875	52.0	7500	200	0.49
421SN-12	20	3/4	-12	19.1	27.8	10.5	1525	42.0	6100	240	0.63
421SN-16	25	1	-16	25.4	35.8	8.8	1275	35.0	5075	300	0.94
421SN-20	32	1-1/4	-20	31.8	44.8	6.3	900	25.2	3600	420	1.19
421SN-24	40	1-1/2	-24	38.1	51.1	5.0	725	20.0	2900	500	1.49
421SN-32	50	2	-32	50.8	64.7	4.0	575	16.0	2300	630	2.23

The combination of high temperature and high pressure could reduce the hose life.

301SN

No-Skive

DIN EN 853 2SN – ISO 1436 Type 2

Primary Applications

General medium pressure hydraulic applications

Type Approvals

See pag 8

Applicable Specifications

DIN EN 853 2SN – ISO 1436

Type 2 – SAE 100R2AT

Construction

Tube: Nitrile (NBR)

Reinforcement: Two high-tensile steel wire braids

Cover: Synthetic rubber

Temperature Range

-40 °C up to +100 °C

Exception: Air max. +70 °C

Water max. +85 °C



- **No-Skive** thin cover hose construction
- Nitrile (NBR) inner tube
– extended fluid compatibility
- Suitable with 48 series fittings

Recommended Fluids

Petroleum and water-glycol based fluids, lubricating oils, air and water. For air above 1.7 MPa, the hose cover must be pin-pricked.

Fitting Series



Part Number	Hose I.D.				Hose O.D. mm	Pressure Rating				min. bend radius mm	weight kg
	DN	Inch	Size	mm		max. working pressure		min. burst pressure			
						MPa	psi	MPa	psi		
301SN-4	6	1/4	-4	6.3	15.0	40.0	5800	160.0	23200	100	0.39
301SN-5	8	5/16	-5	7.9	16.6	35.0	5075	140.0	20300	115	0.42
301SN-6	10	3/8	-6	9.5	19.0	33.0	4775	132.0	19100	130	0.55
301SN-8	12	1/2	-8	12.7	22.2	27.5	4000	110.0	16000	180	0.67
301SN-10	16	5/8	-10	15.9	25.4	25.0	3600	100.0	14500	200	0.77
301SN-12	20	3/4	-12	19.1	29.3	21.5	3100	86.0	12400	240	1.00
301SN-16	25	1	-16	25.4	38.1	16.5	2400	66.0	9600	300	1.49
301SN-20	32	1-1/4	-20	31.8	47.5	12.5	1800	50.0	7200	420	1.73
301SN-24	40	1-1/2	-24	38.1	55.0	9.0	1300	36.0	5200	500	2.14
301SN-32	50	2	-32	50.8	67.0	8.0	1150	32.0	4600	630	2.96

The combination of high temperature and high pressure could reduce the hose life.

462TC

Elite No-Skive Compact Tough Cover
Exceeds EN 857-2SC – ISO 11237 Type 2SC

Primary Applications

Demanding medium pressure hydraulic applications in all markets

Type Approvals

Vedi pag 8

Applicable Specifications

Exceed EN 857-2SC – ISO 11237 Type 2SC

Construction

Inner tube: Nitrile (NBR)

Reinforcement: Two high-tensile steel wire braids

Cover: Highly abrasion resistance
MSHA approved

Temperature Range

-40 °C up to +100 °C

Exception: Air max. +70 °C

Water max. +85 °C



- **No-Skive** hose construction – Compact design
- Nitrile (NBR) inner tube – extended fluid compatibility
- Exceeding EN/ISO specifications for pressure, bend radius and abrasion resistance
- Highly abrasion resistant **TOUCH COVER**
- MSHA approved

Recommended Fluids

Hydraulic fluids on a mineral-oil basis, water-glycol and lubricating oils, air and water. For air and gas applications with a pressure exceeding 1.7 MPa, the cover must be pin-pricked.

Fitting Series

Size -4
up to -16



Size -20
up to -32



Size -40
up to -48

2 piece
48

Part Number	Hose I.D.				Hose O.D. mm	Pressure Rating				min. bend radius mm	weight kg
	DN	Inch	Size	mm		max. dynamic working pressure		min. burst pressure			
						MPa	psi	MPa	psi		
462TC-4	6	1/4	-4	6.4	13.4	42.5	6160	170.0	24640	75	0.30
462TC-5	8	5/16	-5	7.9	15.0	40.0	5800	160.0	23200	85	0.35
462TC-6	10	3/8	-6	9.5	17.2	35.0	5075	14.0	20300	90	0.42
462TC-8	12	1/2	-8	12.7	20.4	31.0	4495	124.0	17980	130	0.52
462TC-10	16	5/8	-10	15.9	23.9	28.0	4060	112.0	16240	160	0.66
462TC-12	19	3/4	-12	19.1	27.7	28.0	4060	112.0	16240	195	0.86
462TC-16	25	1	-16	25.4	35.4	21.0	3045	84.0	12180	250	1.17
462TC-20*	31	1 1/4	-20	31.8	45.1	17.2	2495	68.8	9980	335	1.80
462TC-24*	38	1 1/2	-24	38.1	52.0	14.6	2118	58.4	8472	400	2.20
462TC-32*	51	2	-32	50.8	64.0	11.2	1624	44.8	6496	500	2.90
462TC-40**	63	2 1/2	-40	63.5	76.0	7.0	1015	28.0	4060	760	3.00
462TC-48**	76	3	-48	76.2	87.5	7.0	1015	28.0	4060	760	3.00

The combination of high temperature and high pressure could reduce the hose life.

* Size -20 up to -32 only with fitting series 48

** Size -40 up to -48 only with 2piece fitting series 48

H29

ParLock Multispiral

Exceeds ISO 3862 Type 4SH – EN 856 Type 4SH

Primary Applications

General high pressure hydraulic applications

Type Approvals

See pag 8

Applicable Specifications

Exceeds ISO 3862 Type 4SH – EN 856 Type 4SH

Construction

Tube: Synthetic rubber

Reinforcement: Four spirals of high-tensile steel wire

Cover: Synthetic rubber

Temperature Range

-40 °C up to +100 °C

Exception: Air max. +70 °C

Water max. +85 °C



- Interlock technology
- Reinforcement of four high tensile steel wires

Recommended Fluids

Petroleum and water-glycol based fluids, lubricating oils, air and water. For air above 1.7 MPa, the hose cover must be pin-pricked.

Fitting Series
Internal and external skiving



Part Number	Hose I.D.				Hose O.D. mm	Pressure Rating				min. bend radius mm	weight kg
	DN	Inch	Size	mm		max. dynamic working pressure		min. burst pressure			
						MPa	psi	MPa	psi		
H29-12	20	3/4	-12	19.1	32.2	43.0	6250	172.0	25000	280	1.7
H29-16	25	1	-16	25.4	38.7	40.0	5800	160.0	23200	340	2.2
H29-20	32	1 1/4	-20	31.8	45.5	35.0	5000	140.0	20000	460	2.6
H29-24	38	1 1/2	-24	38.1	53.5	31.0	4500	124.0	18000	560	3.4
H29-32	50	2	-32	50.8	68.1	28.0	4050	112.0	16200	700	4.8

The combination of high temperature and high pressure could reduce the hose life.

H31

ParLock Multispiral

Exceeds ISO 3862 Type 4SP – EN 856 Type 4SP

Primary Applications

General high pressure hydraulic applications

Type Approvals

See pag 8

Applicable Specifications

Exceeds ISO 3862 Type 4SP – EN 856 Type 4SP

Construction

Tube: Synthetic rubber

Reinforcement: Four spirals of high-tensile steel wire

Cover: Synthetic rubber

Temperature Range

-40 °C up to +100 °C

Exception: Air max. +70 °C

Water max. +85 °C



- Interlock technology
- Reinforcement of four high tensile steel wires

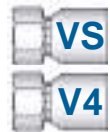
Recommended Fluids

Petroleum and water-glycol based fluids, lubricating oils, air and water. For air above 1.7 MPa, the hose cover must be pin-pricked.

Fitting Series

External skiving (size -4 up to -8)

Internal and external skiving (size -10 up to -16)



Part Number	Hose I.D.				Hose O.D. mm	Pressure Rating				min. bend radius mm	weight kg
	DN	Inch	Size	mm		max. dynamic working pressure		min. burst pressure			
						MPa	psi	MPa	psi		
H31-4	6	1/4	-4	6.3	17.8	50.0	7250	200.0	29000	120	0.73
H31-6	10	3/8	-6	9.5	21.4	44.5	6450	178.0	25800	130	0.91
H31-8	12	1/2	-8	12.7	24.6	41.5	6000	166.0	24000	180	1.08
H31-10	16	5/8	-10	15.9	28.5	39.0	5650	156.0	22600	225	1.39
H31-12	20	3/4	-12	19.1	32.0	35.0	5000	140.0	20300	280	1.73
H31-16	25	1	-16	25.4	39.7	31.0	4500	124.0	18000	355	2.31

The combination of high temperature and high pressure could reduce the hose life.

R42

ParLock Multispiral

Exceeds ISO 3862 Type R15 – Parker Specifications

Primary Applications

General high pressure hydraulic applications

Type Approvals

See pag 8

Applicable Specifications

Exceeds ISO 3862 Type R15 – Parker Specifications

Construction

Tube: Synthetic rubber

Reinforcement: Four or six spirals of high-tensile steel wire

Cover: Synthetic rubber

Temperature Range

-40 °C up to +125 °C

Exception: Air max. +70 °C

Water max. +85 °C



- Interlock technology
- Reinforcement of four or six high tensile steel wires
- Constant working pressure of 42.0 MPa

Recommended Fluids

Petroleum and water-glycol based fluids, lubricating oils, air and water. For air above 1.7 MPa, the hose cover must be pin-pricked.

Fitting Series

Internal and external skiving (size -10, -12, -16)



Internal and external skiving (size -20, -24, -32)



Part Number	Hose I.D.				Hose O.D. mm	Pressure Rating				min. bend radius mm	weight kg
	DN	Inch	Size	mm		max. dynamic working pressure		min. burst pressure			
						MPa	psi	MPa	psi		
R42-10	16	5/8	-10	15.9	28.50	42.0	6 000	168.0	24 000	225	1.39
R42-12	20	3/4	-12	19.1	32.00	42.0	6 000	168.0	24 000	280	1.70
R42-16	25	1	-16	25.4	39.00	42.0	6 000	168.0	24 000	300	2.30
R42-20	32	1-1/4	-20	31.8	50.75	42.0	6 000	168.0	24 000	400	3.80
R42-24	40	1-1/2	-24	38.1	57.00	42.0	6 000	168.0	24 000	500	4.80
R42-32	50	2	-32	50.8	71.50	42.0	6 000	168.0	24 000	700	7.00

The combination of high temperature and high pressure could reduce the hose life.

787TC

No-Skive GlobalCore Compact Spiral™

Tough Cover

Sizes -4 to -6 exceed ISO 18752-AC
 Sizes -8 to -32 exceed ISO 18752-DC

Primary Applications

On- & offshore, construction, injection moulding, mining

Type Approvals

See pag 8

Applicable Specifications

Exceeds SAE 100R13 – ISO 3862 Type R13 –
 EN 856 Type R13 – ISO 18752-AC/DC

Construction

Inner tube: Proprietary synthetic rubber

Reinforcement: Two braid steel wire for sizes -4 to -6, four or six compact spiral steel wire for sizes -8 to -32

Cover: Highly abrasion resistance
 MSHA approved synthetic rubber

Temperature Range

-40 °C up to +125 °C (sizes -4 to -6 up to +100 °C)

Exception: Air max +70 °C
 Water max +85 °C



- 1/2 the bend radius of SAE 100R13
- Constant working pressure of 35.0 MPa
- Reduced O.D. and new construction lead to superior flexibility
- 1/3 less effort to bend
- Weight reduction – up to 26 %
- Highly abrasion resistant **TOUCH COVER**
- MSHA approved
- Hose is suitable for temporary immersion in mineral oil up to 70 °C with frequent inspections

Recommended Fluids

Petroleum based hydraulic fluids and lubricating oils. Wide Compatibility exceeding Column III, with additional chemical resistance, especially for diesel and biodiesel.

Fitting Series

Series 43/48
 for sizes -4 and -6



Series 77
 for sizes -8 up to -32



Part Number	Hose I.D.				Hose O.D. mm	Pressure Rating				min. bend radius mm	weight kg
	DN	Inch	Size	mm		max. dynamic working pressure		min. burst pressure			
						MPa	psi	MPa	psi		
787TC-4	6	1/4	4	6,3	13,0	35,0	5000	140,0	2000	50	0,31
787TC-6	10	3/8	-6	10,0	17,2	35,0	5000	140,0	2000	63	0,42
787TC-8	12	1/2	-8	12,7	21,1	35,0	5000	140,0	2000	90	0,67
787TC-10	16	5/8	-10	15,9	23,9	35,0	5000	140,0	2000	100	0,80
787TC-12	19	3/4	-12	19,1	27,9	35,0	5000	140,0	2000	120	1,16
787TC-16	25	1	-16	25,4	35,7	35,0	5000	140,0	2000	150	1,74
787TC-20	31	1 1/4	-20	31,8	44,9	35,0	5000	140,0	2000	210	2,89
787TC-24	38	1 1/2	-24	38,1	52,8	35,0	5000	140,0	2000	255	3,96
787TC-32	51	2	-32	50,8	67,6	35,0	5000	140,0	2000	318	6,50

Replace the hose when any deformation or damage on the hose cover are visible.
 The combination of high temperature and high pressure could reduce the hose life.

797TC

No-Skive GlobalCore Compact Spiral™

Tough Cover

Size -4 exceeds ISO 18752-AC

Sizes -8 to -20 exceed ISO 18752-DC

Sizes -6, -24, -32 exceed ISO 18752-CC

Primary Applications

On- & offshore, construction, injection moulding, mining

Type Approvals

See pag 8

Applicable Specifications

Exceeds SAE 100R15 – ISO 3862 Type R15 – ISO 18752-AC/CC/DC

Construction

Inner tube: Proprietary synthetic rubber

Reinforcement: Two braid steel wire for size -4, four or six compact spiral steel wire for sizes - 6 to -32

Cover: Highly abrasion resistance
MSHA approved synthetic rubber

Temperature Range

-40 °C up to +125 °C (size -4 up to +100 °C)

Exception: Air max +70 °C

Water max +85 °C



- 1/2 the bend radius of SAE 100R15
- Constant working pressure of 42.0 MPa
- Reduced O.D. and new construction lead to superior flexibility
- 1/3 less effort to bend
- Weight reduction – up to 26 %
- Highly abrasion resistant **TOUCH COVER**
- MSHA approved
- Hose is suitable for temporary immersion in mineral oil up to 70 °C with frequent inspections

Recommended Fluids

Petroleum based hydraulic fluids and lubricating oils. Wide Compatibility exceeding Column III, with additional chemical resistance, especially for diesel and biodiesel.

Fitting Series

Series 43/48 for size-4



Series 43 for size -6



Series 77 for sizes -8 up to -32



Part Number	Hose I.D.				Hose O.D. mm	Pressure Rating				min. bend radius mm	weight kg
	DN	Inch	Size	mm		max. dynamic working pressure		min. burst pressure			
						MPa	psi	MPa	psi		
797TC-4	6	1/4	4	6,3	13,0	42,0	6000	168,0	24000	50	0,31
797TC-6	10	3/8	-6	10,0	17,0	42,0	6000	168,0	24000	63	0,46
797TC-8	12	1/2	-8	12,7	21,1	42,0	6000	168,0	24000	100	0,67
797TC-10	16	5/8	-10	15,9	23,9	42,0	6000	168,0	24000	115	0,80
797TC-12	19	3/4	-12	19,1	27,9	42,0	6000	168,0	24000	135	1,16
797TC-16	25	1	-16	25,4	35,7	42,0	6000	168,0	24000	165	1,74
797TC-20	31	1 1/4	-20	31,8	44,9	42,0	6000	168,0	24000	225	2,89
797TC-24	38	1 1/2	-24	38,1	52,8	42,0	6000	168,0	24000	305	3,96
797TC-32	51	2	-32	50,8	67,6	42,0	6000	168,0	24000	380	6,50

Replace the hose when any deformation or damage on the hose cover are visible.
The combination of high temperature and high pressure could reduce the hose life.

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**MED
APPROVED**

Fire Resistant Hoses



MB CARBUR OIL PLUS **FUEL LINE HOSES LR MED APPROVED**



S.O.L.A.S. regulations, Safety Of Life At Sea, are generally regarded as the most important of all international treaties concerning the safety at sea. The actual regulations, dated 1974, with its amendments has been adopted also in Europe as a guidelines for the maritime field.

In compliance with the above mentioned regulation, fuel line hoses shall be constructed in accordance with **MED 2002/75/EC** directive concerning fire resistance requirements of the fuel pipelines.

MB CARBUR-OIL PLUS completely satisfy the technical requirements recommended in the **96/98/CE** directive and further amendments **ISO 15540:1999** and **ISO 15541:1999** where technical parameters are fixed. The rubber hose is covered with a special fire resistant fiberglass sleeve. A stainless steel AISI 304 external reinforcement protect the hose and give higher mechanical resistance.



To satisfy the above mentioned requirements, **MB CARBUR OIL PLUS** has been tested by applying a flame for 30 minutes at the required temperature of 800 +/- 50°C with a working pressure of 5 bar. The specimen is than tested at a pressure twice the working parameter for 15 minutes, in order to confirm that the flexible hose is in conformity with the specifications.

Technical parameters

DN	Pressure MPa		Bending radius	Weight	Temperature range
	WP	BP	mm	Gr/mt	°C
6	42,5	170,0	75	300	from - 40° up to + 100°
8	40,0	160,0	85	350	
10	35,0	140,0	90	420	
12	31,0	124,0	130	520	
16	28,0	112,0	160	660	
19	28,0	112,0	195	860	
25	21,0	84,0	250	1170	
31	17,2	68,8	335	1800	Air max 70° Water max 85°
38	14,6	58,4	400	2200	
51	11,2	44,8	500	2900	
63	7,0	28,0	760	3000	
76	7,0	28,0	760	3300	

1 MPa = 1 N/mm² = 10 Bar

Characteristics

Rubber hose

Seamless synthetic rubber lining, oil and fuel resistant, reinforced with two high tensile strength steel wire braids. External lining in black synthetic rubber, abrasion, oils, ozone resistant and weather proof. Constructed in accordance with ISO 11237 and EN 857-2SC specifications.

External cover

In order to protect the external lining against mechanical damage, the hose is covered with an AISI 304 stainless steel high strength braid.

MED APPROVED RUBBER JOINT ALSO AVAILABLE

MB LUBE OIL SILVER 301

Hydraulic applications hoses RINA - MED APPROVED



S.O.L.A.S. regulations, Safety Of Life At Sea, are generally regarded as the most important of all international treaties concerning the safety of merchant ships. The actual regulations, dated 1974, with its amendments has been adopted also in Europe as a guidelines for the maritime field.

In compliance with the above mentioned regulation, petroleum base fluids, lubrication oil, fresh and sea water and compressed air hoses shall be constructed in accordance with **MED 2002/75/EC** directive concerning fire resistance requirements of the fuel pipelines.



MB LUBE OIL SILVER 301 completely satisfy the technical requirements recommended in the **96/98/CE** directive and further amendments **ISO 15540:1999** and **ISO 15541:1999** where technical parameters are fixed. The rubber hose is covered with a Stainless Steel AISI 304 external reinforcement to provide higher mechanical resistance.

To satisfy the above mentioned requirements, **MB LUBE OIL SILVER 301** has been tested by applying a flame for 30 minutes at the required temperature of 800 +/- 50°C with a working pressure of 5 bar. The specimen is than tested at a pressure twice the working parameter for 15 minutes, in order to confirm that the flexible hose is in conformity with the specifications.

Technical parameters

DN	Pressure MPa		Bending radius	Weight	Temperature range
	WP	BP	mm	Gr/mt	°C
6,3	40,0	160,0	100	390	from - 40 up to + 100
8	35,0	140,0	115	420	
10	33,0	132,0	130	550	
12,5	27,5	110,0	180	670	
16	25,0	100,0	200	770	
19	21,5	86,0	240	1000	
25	16,5	66,0	300	1490	
31,5	12,5	50,0	420	1730	
38	9,0	36,0	500	2140	
51	8,0	32,0	630	2960	

1 MPa = 1 N/mm² = 10 Bar

Characteristics

Rubber hose

Seamless synthetic rubber lining, oil and fuel resistant, reinforced with two high tensile strength steel wire braids. External lining in black synthetic rubber, abrasion, oils, ozone resistant and weather proof. In compliance with SAE J517 and EN 853 specifications, suitable to be used on medium pressure lubricant lines.

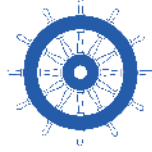
External cover

In order to protect the external lining against mechanical damage, the hose is covered with an AISI 304 stainless steel high strength braid.

MED APPROVED RUBBER JOINT ALSO AVAILABLE

MB LUBE OIL GOLD 29

Hydraulic applications hoses RINA - MED APPROVED



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In compliance with the above mentioned regulation, petroleum base fluids, lubrication oil, fresh and sea water and compressed air hoses shall be constructed in accordance with **MED 2002/75/EC** directive concerning fire resistance requirements of the fuel pipelines.

MB LUBE OIL GOLD 29 completely satisfy the technical requirements recommended in the **96/98/CE** directive and further amendments **ISO 15540:1999** and **ISO 15541:1999** where technical parameters are fixed. The rubber hose is covered with a special fire resistant Stainless Steel AISI 304 to provide external reinforcement and higher mechanical resistance.



To satisfy the above mentioned requirements, **MB LUBE OIL GOLD 29** has been tested by applying a flame for 30 minutes at the required temperature of 800 +/- 50°C with a working pressure of 5 bar. The specimen is than tested at a pressure twice the working parameter for 15 minutes, in order to confirm that the flexible hose is in conformity with the specifications.

Technical parameters

DN	Pressure MPa		Bending radius	Weight	Temperature range
	WP	BP	mm	Gr/mt	°C
20	42,0	168,0	280	1700	- 40 a + 100
25	38,0	152,0	340	1600	
32	32,5	130,0	460	1400	
38	29,0	116,0	560	1240	
50	25,0	100,0	700	1120	

1 MPa = 1 N/mm² = 10 Bar

Characteristics

Rubber hose

Seamless synthetic rubber lining, oil and fuel resistant, reinforced with two high tensile strength steel wire braids. External lining in black synthetic rubber, abrasion, oils, ozone resistant and weather proof. In compliance with ISO 3862 4SH and DIN EN 856 specifications, suitable to be used on high pressure lubricant lines.

External cover

In order to protect the external lining against mechanical damage, the hose is covered with an AISI 304 stainless steel high strength braid.

MED APPROVED RUBBER JOINT ALSO AVAILABLE

MB LUBE OIL GOLD 31

Hydraulic applications hoses RINA - MED APPROVED



S.O.L.A.S. regulations, Safety Of Life At Sea, are generally regarded as the most important of all international treaties concerning the safety of merchant ships. The actual regulations, dated 1974, with its amendments has been adopted also in Europe as a guidelines for the maritime field.

In compliance with the above mentioned regulation, petroleum base fluids, lubrication oil, fresh and sea water and compressed air hoses shall be constructed in accordance with **MED 2002/75/EC** directive concerning fire resistance requirements of the fuel pipelines.

MB LUBE OIL GOLD 31 completely satisfy the technical requirements recommended in the **96/98/CE** directive and further amendments **ISO 15540:1999** and **ISO 15541:1999** where technical parameters are fixed. The rubber hose is covered with a special fire resistant Stainless Steel AISI 304 to provide external reinforcement and higher mechanical resistance.



To satisfy the above mentioned requirements, **MB LUBE OIL GOLD 31** has been tested by applying a flame for 30 minutes at the required temperature of 800 +/- 50°C with a working pressure of 5 bar. The specimen is than tested at a pressure twice the working parameter for 15 minutes, in order to confirm that the flexible hose is in conformity with the specifications.

Technical parameters

DN	Pressure Mpa		Bending radius	Weight	Temperature range
	WP	BP	mm	Gr/mt	°C
10	44,5	178,0	130	0,91	da - 40 a + 100
12,5	41,5	166,0	180	1,08	
16	35,0	140,0	225	1,39	
19	35,0	140,0	280	1,73	
25	28,0	112,0	355	2,31	

1 MPa = 1 N/mm² = 10 Bar

Characteristics

Rubber hose

Seamless synthetic rubber lining, oil and fuel resistant, reinforced with two high tensile strength steel wire braids. External lining in black synthetic rubber, abrasion, oils, ozone resistant and weather proof. Constructed in compliance with EN 856 4SP - ISO 3862 specifications, is designed to be used on high pressure lubricant lines.

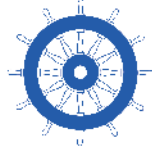
External cover

In order to protect the external lining against mechanical damage, the hose is covered with an AISI 304 stainless steel high strength braid.

MED APPROVED RUBBER JOINT ALSO AVAILABLE

MB LUBE OIL PLATINUM 42

Hydraulic applications hoses RINA - MED APPROVED



S.O.L.A.S. regulations, Safety Of Life At Sea, are generally regarded as the most important of all international treaties concerning the safety of merchant ships. The actual regulations, dated 1974, with its amendments has been adopted also in Europe as a guidelines for the maritime field.

In compliance with the above mentioned regulation, petroleum base fluids, lubrication oil, fresh and sea water and compressed air hoses shall be constructed in accordance with **MED 2002/75/EC** directive concerning fire resistance requirements of the fuel pipelines.



MB LUBE OIL PLATINUM 42 completely satisfy the technical requirements recommended in the **96/98/CE** directive and further amendments **ISO 15540:1999** and **ISO 15541:1999** where technical parameters are fixed. The rubber hose is covered with a special fire resistant Stainless Steel AISI 304 to provide external reinforcement and higher mechanical resistance.

To satisfy the above mentioned requirements, **MB LUBE OIL PLATINUM 42** has been tested by applying a flame for 30 minutes at the required temperature of 800 +/- 50°C with a working pressure of 5 bar. The specimen is than tested at a pressure twice the working parameter for 15 minutes, in order to confirm that the flexible hose is in conformity with the specifications.

Technical parameters

DN	Pressure MPa		Bending radius	Weight	Temperature range
	WP	BP	mm	Gr/mt	°C
16	42,0	168,0	225	1390	da - 40 a + 125
20	42,0	168,0	280	1700	
25	42,0	168,0	300	2300	
32	42,0	168,0	400	3800	
40	42,0	168,0	500	4800	
50	42,0	168,0	700	7000	

1 MPa = 1 N/mm² = 10 Bar

Characteristics

Rubber hose

Seamless synthetic rubber lining, oil and fuel resistant, reinforced with two high tensile strength steel wire braids. External lining in black synthetic rubber, abrasion, oils, ozone resistant and weather proof. In compliance with ISO 3862 R15 specifications, is designed to be used on very high pressure lubricant lines.

External cover

In order to protect the external lining against mechanical damage, the hose is covered with an AISI 304 stainless steel high strength braid.

MED APPROVED RUBBER JOINT ALSO AVAILABLE

MB HFO FUEL OIL PLUS

Heavy fuel line hoses up to 150°C LR MED APPROVED



S.O.L.A.S. regulations, Safety Of Life At Sea, are generally regarded as the most important of all international treaties concerning the safety at sea. The actual regulations, dated 1974, with its amendments has been adopted also in Europe as a guidelines for the maritime field.

In compliance with the above mentioned regulation, fuel line hoses shall be constructed in accordance with **MED 2002/75/EC** directive concerning fire resistance requirements of the fuel pipelines.

MB HFO FUEL OIL PLUS completely satisfy the technical requirements recommended in the **96/98/CE** directive and further amendments **ISO 15540:1999** and **ISO 15541:1999** where technical parameters are fixed. The rubber hose is covered with a special fire resistant fiberglass sleeve. A stainless steel AISI 304 external reinforcement protect the hose and give higher mechanical resistance.



To satisfy the above mentioned requirements, **MB HFO FUEL OIL PLUS** has been tested by applying a flame for 30 minutes at the required temperature of 800 +/- 50°C with a working pressure of 5 bar. The specimen is than tested at a pressure twice the working parameter for 15 minutes, in order to confirm that the flexible hose is in conformity with the specifications.

***RUBBER HOSE MADE WITH SPECIAL ELASTOMER
SUITABLE FOR VERY HIGH STRENGTH, HEAT
RESISTANCE AND VIBRATIONS DAMPING***

Technical parameters

DN	Pressure MPa		Bending radius	Weight	Temperature range
	WP	BP	mm	Gr/mt	°C
6	192	770	100	240	Da - 46 a + 150°C
10	157	630	125	340	
12	140	560	180	430	
16	105	420	200	490	
19	87	350	240	650	
25	70	280	300	980	
31	43	172	420	1400	
38	35	140	500	1460	
51	26	104	630	2180	

1 MPa = 1 N/mm² = 10 Bar

Characteristics

Rubber hose

Seamless synthetic rubber lining, oil and fuel resistant, reinforced with one high tensile strength steel wire braids. External lining in black synthetic rubber, abrasion, oils, ozone resistant and weather proof.

Fire protection

Made of flame-proof silica yarn braid, with excellent resistance against very high temperature (up to 1000°C) and thermal shock. When in contact with flame doesn't spread dangerous fumes and, thanks to the particular structure, is non-toxic.

External cover

In order to protect the external lining against mechanical damage, the hose is covered with an AISI 304 stainless steel high strength braid.

MED APPROVED RUBBER JOINT ALSO AVAILABLE

MB HFO FUEL OIL DW PLUS DOUBLE WALL HEAVY FUEL LINE HOSES UP TO 150°C LR MED APPROVED



In compliance with the S.O.L.A.S regulation, fuel line hoses shall be constructed in accordance with **MED 2002/75/EC** directive concerning fire resistance requirements of the fuel pipelines.

MB HFO FUEL OIL DW PLUS is the new generation of Heavy Fuel MED approved hoses which completely satisfy the technical requirements recommended in the **96/98/CE - 2014/90 EU** directives and further amendments **ISO 15540:1999** and **ISO 15541:1999** where technical parameters are fixed.

The standard version of MB HFO FUEL OIL DW MED Approved rubber hose has been redesigned and is now covered with MB S1 Stainflex , Type Approved stainless steel hose. It creates a second safety chamber which is able to keep up to 12 Bar (174 PSI) in the event of breakage of the inner tube. An external reinforcement made with fire resistant silicone coated fiberglass cover protect the hose and give higher temperature and mechanical resistance.

A drain coupling allows the installation of a gauge indicator in order to be promptly advised in case of failure.

Technical features

DN	Pressure MPa		Bending radius	Weight	Temperature range	Outer diam.
	WP	BP	mm	Gr/mt	°C	mm
25	70	280	300	1330	- 46 / + 150°C	76
31	43	172	420	2654		96
38	35	140	500	2910		108
51	26	104	630	3884		135

10 Bar= 10 N/mm² = 1 Mpa

Features

Due to the special manufacturing required for assembling **MB HFO FUEL OIL DW PLUS** it is available with flanges only.

MB HFO DW PLUS must be replaced in the event of damages or breakings of the inner rubber hose.



INNER HOSE	EXTERNAL COVER	FIRE PROTECTION
MB HFO FUEL OIL PLUS	MB S1 STAINFLEX	SILICONE COATED FIBERGLASS

MB MED FIREPROOF RUBJOINT

Fuel line rubber joint - MED APPROVAL



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In compliance with the above mentioned regulation, fuel line hoses shall be constructed in accordance with **MED 2002/75/EC** directive concerning fire resistance requirements of the fuel pipelines.

MB MED FIREPROOF RUBJOINT completely satisfy the technical requirements recommended in the **96/98/CE** directive and further amendments **ISO 15540:1999** and **ISO 15541:1999** where technical parameters are fixed. The expansion joint is covered with a special fire resistant fiberglass sleeve, easy to be installed thanks to stainless steel springs and hooks.



To satisfy the above mentioned requirements, **MB MED FIREPROOF RUBJOINT** has been tested by applying a flame for 30 minutes at the required temperature of 800 +/- 50°C with a working pressure of 5 bar. The specimen is than tested at a pressure twice the working parameter for 15 minutes, in order to confirm that the flexible hose is in conformity with the specifications.

Dimensions e Technical data

Working Pressure 1,6 MPa (Safety factor 1:4)

1 MPa = 1 N/mm²= 10 Bar

DN	Lenght	E	F	Compensation				Vacuum		Weight
								NO SPRING	SPRING	
mm	mm	mm	mm	C	A	L	AN			Kg
25/32	130	77	72	30	20	20	35°	0,8	1,0	2,8
40	130	85	80	30	20	20	35°	0,8	1,0	3,3
50	130	95	90	30	20	20	35°	0,7	1,0	3,7
65	130	110	105	30	20	20	30°	0,6	1,0	4,8
80	130	125	120	30	20	20	30°	0,5	1,0	5,3
100	130	145	140	30	20	20	25°	0,5	1,0	6,2
125	130	170	165	30	20	20	25°	0,4	1,0	8,2
150	130	195	190	30	20	20	15°	0,3	1,0	11,2
200	130	245	240	30	20	20	15°	0,3	1,0	16,8
250	130	295	290	30	20	20	10°	0,2	1,0	21,6
300	130	345	340	30	20	20	10°	0,2	1,0	30,1

C= compression

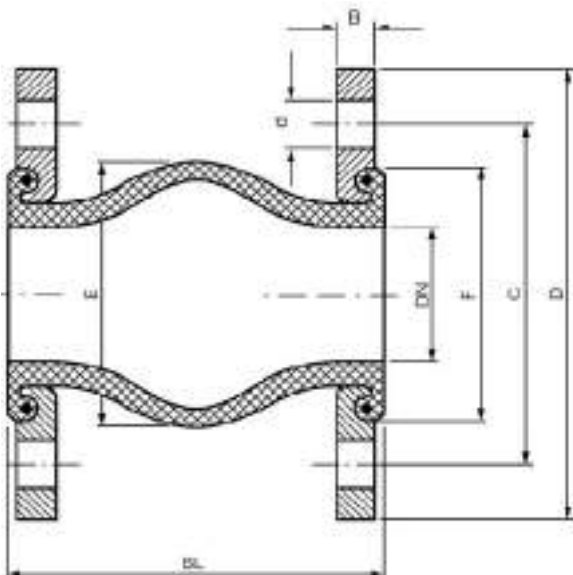
A= elongation

L= lateral

AN= angular

For flanges dimensions see standard regulations

MED APPROVED FUEL LINES ALSO AVAILABLE



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Multipurpose Hoses



PRESSIONE 10 -PRESSIONE 20

Rubber hose for air and water delivery



Construction

Tube	Black, smooth, SBR rubber
Reinforcement	Textile cords
Cover	Black, smooth synthetic elastomer resistant to weathering, abrasion and ageing.

Application

Used for handling water and non aggressive liquids. It is recommended for irrigation, dewatering and for all applications where a basic air / water is required.

Temperature range from -10°C to + 60°C.

Inside Diam. mm	Outside Diam. mm	Pressure bar		Bending Radius mm	Weight g/mt
		Working	Burst		
10	17	10	30	80	205
13	19			104	205
16	23			128	295
19	26			152	345
22	30			176	455
25	33			200	510
32	44	7	28	256	955
6	14	20	60	48	185
8	17			64	260
10	19			80	300
13	23			104	415
16	24			152	575
19	30			200	775

Illustrations and values here shown are to be considered as indicative and may be changed without notice.

WATER FLAT 10

Rubber hose for water delivery



Construction

Tube	Black, smooth, SBR rubber
Reinforcement	Textile cords
Cover	Black, smooth SBR rubber resistant to weathering, abrasion and ageing.

Application

Used for handling water and non aggressive liquids. It is recommended for irrigation, dewatering and for all applications where a basic, durable, easy to handle and easy to place hose is required. Structure resistant to twisting, rough manipulation and harsh environment so to perform always at the best.

Temperature range from -30°C to + 80°C.

Inside Diam. mm	Outside Diam. mm	Pressure bar		Bending Radius mm	Weight Kg/mt
		Working	Burst		
25	31	10	30	n.a.	0,38
30	36				0,45
32	38				0,47
35	41				0,51
38	45				0,65
40	47				0,68
45	52				0,75
50	57				0,83
60	67				0,99
70	77				1,12
75	82				1,2
80	87				1,27
90	97				1,42
100	108				1,78
120	128				2,12
150	160				3,29

Illustrations and values here shown are to be considered as indicative and may be changed without notice.

WATER SUCTION 10

Reinforced rubber hose for water suction and delivery



Construction

Tube	Black, smooth, SBR rubber
Reinforcement	Textile cords/Spring
Cover	Black, smooth SBR rubber resistant to weathering, abrasion and ageing.
Suction	Max 0,8 bar (600 mm Hg)

Application

Engineered for suction and delivery of water and non aggressive liquids when it is necessary to have a lightweight and a reliable flexible hose.

Temperature range from -30°C to + 80°C.

Inside Diam. mm	Outside Diam. mm	Pressure bar		Bending Radius mm	Weight Kg/mt
		Working	Burst		
19	29	10	30	110	0,67
25	35			150	0,83
30	40			180	0,95
35	45			210	1,08
38	48			230	1,16
40	50			240	1,21
45	55			270	1,35
50	60			300	1,5
60	71			360	1,94
70	81,5			420	2,59
75	86,5			450	2,75
80	92,5			480	3,02
90	103,5			540	3,66
100	114			600	3,98
110	124			660	4,34
120	134			720	4,73
125	140			750	5,66
150	170	900	7,73		

Illustrations and values here shown are to be considered as indicative and may be changed without notice.

CARBOIL 10

Spring reinforced rubber hose for oil and fuel



Construction

Tube	Black, smooth, NBR rubber, resistant to oil fuel with aromatic content max 50%
Reinforcement	Textile/Spring
Cover	Black, smooth antistatic NBR rubber with excellent resistance to oil, fuel, weathering, abrasion and ageing.
Suction	Max 0,8 bar (600 mm Hg)

Application

Designed for suction and delivery of mineral oils and fuels (with aromatic content not exceeding 50 %) in road and rail tankers, service stations and refineries.

Temperature range from -30°C to + 80°C.

Inside Diam. mm	Outside Diam. mm	Pressure bar		Bending Radius mm	Weight Kg/mt
		Working	Burst		
19	29	10	30	76	0,61
25	35			100	0,75
30	40			120	0,84
32	42			128	0,90
35	45			140	0,96
38	48			152	1,03
40	50			160	1,07
45	55			180	1,19
51	61			204	1,33
60	72			240	1,99
70	82			280	2,30
76	88			304	2,48
80	94			320	2,66
90	104			360	3,04
102	116			408	3,40

Illustrations and values here shown are to be considered as indicative and may be changed without notice.

STEAM HP 18 BS 5342

Hot steam rubber hose



Construction

Tube	Black, smooth, EPDM rubber, resistant to saturated steam.
Reinforcement	Inserts of steel wire.
Cover	Red, pin pricked, smooth (wrapped finish), EPDM rubber with excellent resistance to high temperatures, weathering, abrasion and ageing.

Application

Steel cord hose for saturated steam at a maximum working pressure 18 bar (261psi), used in the chemical industry, petrochemical and industrial applications in general. Not recommended for steam cleaner. The hose can be used for peaks of superheated steam at 230°C and at 18 bar. Attention: the use of superheated steam reduces the hose life. For longer life drain after use.

Temperature range from -40°C to +210°C

Inside Diam.	Outside Diam.	Pressure bar		Bending Radius	Weight
		Working	Burst		
mm	mm			mm	Kg/mt
19	32	18	180	250	0,74
25	38			300	0,98
32	46,5			350	1,30
38	54			420	1,62
51	66,5			500	2,31

Illustrations and values here shown are to be considered as indicative and may be changed without notice.

463

No-Skive Compact

High pressure water cleaning applications

Primary Applications

High pressure water cleaners

Construction

Tube: Synthetic rubber

Reinforcement: Two high-tensile steel wire braids

Cover: Synthetic rubber in black or blue colour

Temperature Range

-40 °C up to +100 °C

Exception: Water max. +120 °C



- 2 wire **No-Skive** Compact design
- For water up to +120 °C constant temperature
- Suitable with **No-Skive** 46 series fittings

Fitting Series



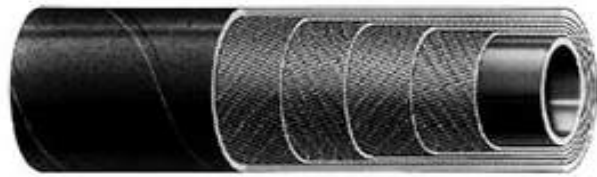
Part Number	Hose I.D.				Hose O.D. mm	Pressure Rating				min. bend radius mm	weight kg
	DN	Inch	Size	mm		max. working pressure		min. burst pressure			
						MPa	psi	MPa	psi		
463-5	8	5/16	-5	7.9	15.0	40.0	5800	120.0	17400	75	0.31
463-5-BLU	8	5/16	-5	7.9	15.0	40.0	5800	120.0	17400	75	0.31
463-6	10	3/8	-6	9.5	17.4	40.0	5800	120.0	17400	90	0.38
463-6-BLU	10	3/8	-6	9.5	17.4	40.0	5800	120.0	17400	90	0.38
463-8	12	1/2	-8	12.7	20.6	35.0	5075	105.0	15225	110	0.48
463-8-BLU	12	1/2	-8	12.7	20.6	35.0	5075	105.0	15225	110	0.48

The combination of high temperature and high pressure could reduce the hose life.

Also available on reels under part number 463-xx-RL

CHIMICA 10

Rubber hose for chemicals delivery



Construction

Tube	black, smooth antistatic EPM rubber
Reinforcement	Synthetic textile fabrics.
Cover	black, antistatic (R < 106/m) black, EPDM rubber, abrasion and weather-resistant.

Application

Suitable for delivery of highly aggressive chemicals.
Temperature range from -35°C to + 100°C.

Inside Diam. mm	Outside Diam. mm	Pressure bar		Bending Radius mm	Weight Kg/mt
		Working	Burst		
20	29	10	40	200	0,45
25	34			250	0,53
30	42			300	0,85
32	44			320	0,89
35	48			350	1,05
38	52			380	1,21
40	55			400	1,41
45	61			450	1,67
50	68			500	2,08

Illustrations and values here shown are to be considered as indicative and may be changed without notice.

MILLENNIUM

Wire reinforced rubber hose for food products delivery



M.O.C.A.

Construction

- Tube** White, smooth, food quality, taste free and odourless synthetic rubber. 100% phthalates free.
- Cover** Blue, smooth or corrugated (wrapped finish) synthetic rubber, ozone and weathering resistant.
- Reinforcement** High strength synthetic cord and embedded helix wire.

Application

Delivery of many food products as olive oil, wine, beer, fruit juices, fatty foods, milk and alcohol up to 96°. From DN 25 to DN 100 corrugated version for application of special clamps for a fast and easy crimping. Operating temperature from -30/ to +100°C (130° peak temperature for sanitation).

Inside Diam. mm	Outside Diam. mm	Outer Cover	Pressure Bar	Safety Factor	Vacuum Bar	Bending Radius mm	Weight Kg/mt
19	30,5	Smooth	10	1:3	0,6	60	0,6
25	36,5	Corrugated				75	0,7
32	43,5					95	0,9
40	52					120	1,2
50	63,5					150	1,4
60	72,5					180	1,7
80	95					240	2,4
100	115,5					350	3,0

Illustrations and values here shown are to be considered as indicative and may be changed without notice.

RADIATORE 5 DIN73411 - SAE20R1 D-2



Construction

Tube	Black, smooth, EPDM rubber
Reinforcement	Textile cords
Cover	Black, smooth EPDM elastomer resistant to weathering, abrasion and ageing.

Application

Radiator rubber hose.

Working Temperature -40°C / + 120°C.

Inside Diam. mm	Outside Diam. mm	Pressure bar		Weight g/mt
		Working	Burst	
18	26	5	15	380
20	28			390
22	30			42
25	33			470
28	36			510
30	38			550
32	40			580
35	43			620
38	48			860
40	50			890
42	52			930
45	55			990
51	61			1120
55	65			1190
60	70			1290
63	73			1350
70	80			1450
76	86			1560
80	90			1640
90	100			2030
102	114	2270		

Illustrations and values here shown are to be considered as indicative and may be changed without notice.

MOTORGAS

Marine wet exhaust gas hose



Construction

Tube	Black, smooth, synthetic rubber compound, gas exhaust resistant
Reinforcement	High strength synthetic cord
Cover	black, wrapped finished synthetic rubber compound; weather and abrasion resistant.

Applications

Flexible and lightweight rubber hose for gas exhaust mixed with water used in pleasure boats of up to 24 m length.

Operating temperature from -30°C to + 100°C.

TYPE APPROVED ISO 13363:04 tipo 1B. SAE J 2006:03 tipo R1.

<i>Inner Diam.</i>	<i>Outer Diam.</i>	<i>Burst Pressure</i>	<i>Weight</i>
<i>mm</i>	<i>mm</i>	<i>Bar</i>	<i>Kg/mt</i>
19	29	2,5	0,44
38	48		0,79
51	61		1,03
76	86		1,47
80	90		1,60
90	102,5		2,80
102	114,5		3,10
105	117,5		3,30
110	125		3,40
114	129		3,45
120	135		3,50
125	140		3,60
130	146		3,76
152	168		4,36
160	176		4,58
182	202		6,75
203	223		7,50
254	274		9,28
300	321		10,98
450	472		17,62

Different diameters available upon request

Illustrations and values here shown are to be considered as indicative and may be changed without notice.

MOTORGAS/S

Marine wet exhaust gas hose - reinforced



Construction

Tube	Black, smooth, synthetic rubber compound, gas exhaust resistant
Reinforcement	High strength synthetic cord plus embedded helix wire
Cover	Black, wrapped finished synthetic rubber compound; weather and abrasion resistant

Applications

Flexible and lightweight rubber hose for gas exhaust mixed with water used in pleasure boats of up to 24 m length

Operating temperature from -30°C to + 100°C

TYPE APPROVED ISO 13363:04 tipo 2B. SAE J 2006:03 tipo R2.

SMOOTH COVER				CORRUGATED COVER			
Inner Diam.	Outer Diam.	Weight	Bending Radius	Inner Diam.	Weight	Bending Radius	Burst Pressure
mm	mm	Kg/mt	mm	mm	Kg/mt	mm	Bar
20	29	0,52	80	76	1,77	230	2,5
25	34	0,64	100	80	1,85	240	
30	39	0,75	120	90	2,07	315	
32	41	0,79	130	102	2,41	350	
35	44	0,85	140	110	2,62	440	
38	47	0,91	150	114	2,71	500	
40	50	1,02	160	120	2,81	530	
45	55	1,17	170	125	2,96	560	
51	61	1,31	180	127	3,01	560	
55	65	1,41	190	130	3,07	582	
60	70	1,52	190	152	3,57	680	
65	75	1,64	210	203	5,6	1100	
75	85	1,86	250	205	5,65	1200	
				254	8,1	1400	

Different diameters available upon request

Illustrations and values here shown are to be considered as indicative and may be changed without notice.

EXTERNALLY REINFORCED P.T.F.E. CONVULTED HOSE

Introduction

A convoluted hose in P.T.F.E., externally reinforced with an AISI 304 braid . The internal lining is suitable for all those applications where chemical resistance, together with great flexibility and easy handling, is required. Also supplied in fire retardant version, with an external silicone coated flame resistant fiberglass sleeve. Working temperature from -60°C up to 230 °C.



Dimensions and technical data

DN	Inner diameter	Outer diameter	Pressure Bar		Bending radius	Weight
	mm MIN	mm MAX	MAX	BURST	mm	Gr/mt
1/4"	6,1	6,7	172	516	18	178
5/16"	7,9	8,5	155	465	25	195
3/8"	9,5	10,2	138	414	22	212
1/2"	12,45	13,08	103	309	25	303
5/8"	15,7	16,38	83	249	51	361
3/4"	19	19,65	69	207	64	430
7/8"	21,84	22,86	57	171	76	517
1"	25,5	26,16	46	138	89	653
1.1/4"	31,95	32,46	34	102	125	750
1.1/2"	38	38,9	30	90	150	800
2	50,9	51,9	23	69	200	950

Our technical department is available for more details

Illustrations and values here shown are to be considered as indicative and may be changed without notice.

ELECTRICALLY HEATED HOSES



Generality

Special hoses expressly designed for conveying of liquids and gas, with constant holding of temperature. Available in different versions, are used in many applications such as Chemical, Pharmaceutical, Food and Packaging industries in the presence of **Temperatures up to 350°C and Pressure up to 345 Bar**, depending on the model.



Structure

A **sensor**, inserted in the inner part, detects the temperature of the material and allows an external device to control the heating element to hold the temperature constant. The **high tensile plastic end covers** and the polyamide sheath assure optimal mechanical strength. The **end fittings** are crimped.

**PRESSURE TEST CARRIED
OUT ON EACH HOSE**

Features

Smooth bore PTFE core with an high resistance external braid in stainless steel AISI 304. Recommended for low operating pressures it can reach 265 bar and up to 250°C. Nominal diameter of the internal hose from 3/16" to 1.1/8", lenght on request.



Smooth bore PTFE core with an high resistance external double braid in stainless steel AISI 304. Recommended for medium and pulsating operating pressures it can reach 320 bar and up to 250°C. Nominal diameter of the internal hose from 3/16" to 2", lenght on request.



Smooth bore PTFE HD core with an high resistance external double braid in stainless steel AISI 304. Recommended for medium operating pressures and pulsating pressures, it can reach 345 bar and up to 250°C. Nominal diameter of the internal hose from 1/4" to 1" 1/4, lenght on request.



Heavy wall PTFE corrugated core externally reinforced with a steel spiral wire and an high resistance braid in stainless steel AISI 304 to ensure a further protection in case of impact or crushing. The thickness of the PTFE increases the resistance for vacuum applications. Suitable for heavy duty applications, it can reach 100 bar and up to 200°C. Nominal diameter of the internal hose from 1/2" to 3", lenght on request.



Externally corrugated core, slightly wavy internally, with an high resistance external braid in stainless steel AISI 304. It is featured by top hygienic level and high resistance to gas permeability and flexibility. It can reach 80 bar and up to 250°C. Nominal diameter of the internal hose from 3/8" to 2", lenght on request.



INOX version made on AISI 321 hose with parallel ondulation for a very high flexibility with one or more AISI 304 high resistance metallic braid structure. It can reach 132 bar and up to 350°C. Nominal diameter of the internal hose from 1/4" to 6", lenght on request.



Large bore rubber hoses

Monti & Barabino makes available to the customers a brand-new workshop, completely renovated and equipped with the best machinery for crimping and testing of hoses and bellows.



We can supply large bore rubber hoses for marine, offshore, dockside, dredging and heavy industry. Our great experience in the supply of large bore hoses enables Monti & Barabino to support you for any special needs.



Center of hydrostatic testing for pipes and bellows, even in the presence of Classification Bodies.
In home manufacturing of special couplings as per Customer's drawing.



Monti & Barabino is also a welding center with certified skilled and certified staff.



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Stainless Steel Hoses



STAINFLEX MB-S1

Stainless Steel flexible hose, RINA approved



STAINFLEX MB-S1 is a corrugated stainless steel 321 or 316. The internal corrugated structure is covered with external stainless steel braid, in order to give corrugated hose the ability to withstand pressure.

Suitable to be used with a wide range of different fluids, STAINFLEX MB-S1 is recommended where an high resistance to vibrations and movements is required, also in presence of severe working conditions. STAINFLEX MB-S1 is RINA approved.

Features

- resistance to high temperatures above 600°C and at very low temperatures.
- Impermeability to gases
- Good vibration resistance
- Excellent behavior in the presence of cyclic movements of large amplitude.
- High corrosion and chemical resistance.
- Excellent resistance to different types of fuel oil, even at high temperatures.



Applications

- Shipbuilding industry (engines - machinery - Hull lines)
- Steel industry, mechanical, aerospace
- Refrigeration and cryogenic, thermal power plants.
- Chemical, petrochemical, food and pharmaceutical industries
- Glass industry






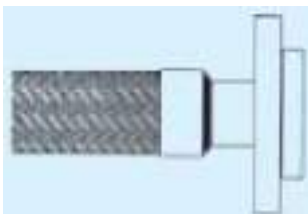
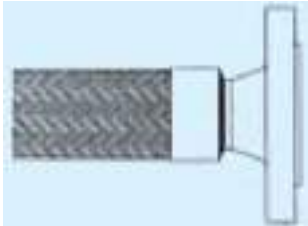
Sizes and characteristics

DN		3/8"	1/2"	3/4"	1"	1 1/4"	1 1/2"	2"	2 1/2"	3"	4"
		10	13	20	25	32	40	50	65	80	100
W.P. kg/cm² @ 20°C		98	64	43	55	36	38	26	24	28	19
Bending radius mm	Static	40	50	70	90	110	130	175	200	205	230
	Dinamic	150	200	200	200	250	250	350	410	450	560

Conversion factor Pressure / Temperature

TEMP. °C	150	200	250	300	350	400	450	500	550	600
Factor x	0,81	0,76	0,71	0,67	0,64	0,62	0,59	0,57	0,54	0,50

Illustrations and values here shown are to be considered as indicative and may be changed without notice.

CONNECTION	TYPE	DESCRIPTION
	A	Female fitting with swivel nut, parallel threaded, 60° or flat seal. Other threads on request
	N	Male fitting, tapered pipe thread. Other threads on request
	G	Male connector, parallel threaded. Other threads on request
	3PZ	Female fitting in three pieces with cone seal, threaded cylindrical gas. Other threads on request
	F	Smooth couplings, suitable to be welded.
	FGIR	Swivel flanges according to UNI/DIN/ANSI standard
	FFIX	Fixed flanges according to UNI/DIN/ANSI standard

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Plastic hoses



PVC SPIRAL REINFORCED PVC HOSE FOR LIQUIDS

Generality

PVC hose with rigid PVC spiral, for delivery and suction of food liquids. Smooth inner surface, convulted outer surface. Operating temperature from -5 to +60°C. Suitable for food according to Reg. CE 1935/2004 and UE 10/2011 for contact with foodstuff that requires a simulating liquid type A B C.



$\varnothing i$	$\varnothing e$	Weight	Bending Radius	Working Pressure	Burst Pressure	Vacuum	Coil Length
mm		g/m	mm	bar		m H ₂ O	mt
20	26,2	275	75	8,0	24,0	7	50
25	31,6	330	120	8,0	24,0	7	50
30	37,0	420	140	7,0	21,0	7	50
35	41,8	500	160	7,0	21,0	7	50
40	47,6	610	180	6,5	19,5	7	50
45	52,8	670	200	6,5	19,5	7	50
50	58,2	810	220	6,0	18,0	7	50
60	69,0	970	270	5,0	15,0	7	50
70	79,2	1200	320	4,0	12,0	7	50
75	85,4	1380	350	4,0	12,0	7	50
80	90,6	1560	360	4,0	12,0	7	25
90	100,4	1800	430	4,0	12,0	7	25
100	112,0	2160	480	4,0	12,0	7	25
110	122,0	2400	530	4,0	12,0	6	25
120	132,4	2850	680	3,0	9,0	6	25
125	137,6	3130	730	3,0	9,0	6	25
150	164,4	4250	810	3,0	9,0	5	25
200	218,2	6400	900	2,0	6,0	5	25

Illustrations and values here shown are to be considered as indicative and may be changed without notice.

STEEL SPIRAL REINFORCED PVC HOSE

Generality

Soft PVC hose with embedded galvanised steel spiral, for suction and delivery of food liquids. Smooth surfaces.

Operating temperature from -5 to +65°C. Suitable for food according to Reg. CE 1935/2004 and UE 10/2011 for contact with foodstuff that requires a simulating liquid type A B C.



$\varnothing i$	$\varnothing e$	Weight	Bending Radius	Working Pressure	Burst Pressure	Vacuum	Coil Length
mm		g/m	mm	bar		m H ₂ O	mt
10	16,0	155	20	7,0	21,0	8,5	60
12	18,0	180	25	7,0	21,0	8,5	60
14	20,0	200	30	6,0	18,0	8,5	60
16	22,0	225	35	6,0	18,0	8,5	60
18	24,5	280	40	6,0	18,0	8,5	60
20	27,0	340	50	5,0	15,0	8,5	60
22	29,0	360	55	5,0	15,0	8,5	60
25	33,0	510	60	5,0	15,0	8,5	60
30	39,0	600	70	4,5	13,5	8,5	60
32	41,0	650	75	4,5	13,5	8,5	60
35	44,0	730	80	4,0	12,0	8,5	60
38	47,0	800	90	4,0	12,0	8,5	30
40	49,5	870	95	3,0	9,0	8,5	30
45	55,0	1100	110	3,0	9,0	8,0	30
50	60,0	1200	125	3,0	9,0	8,0	30
60	72,0	1800	140	2,5	7,5	8,0	30
75	89,0	2500	200	2,0	6,0	7,0	30
80	94,0	2700	220	2,0	6,0	7,0	30
100	114,0	3250	300	2,0	6,0	7,0	30

Illustrations and values here shown are to be considered as indicative and may be changed without notice.

LAYFLAT PVC HOSE

Generality

Flexible layflat PVC hose with polyester yarn reinforcement, resistant to elongation, for pressurised delivery of liquids in general. Smooth surfaces. Operating temperature from -5 to +60°C.



$\varnothing i$	$\varnothing e$	Weight	Bending Radius	Working Pressure	Burst Pressure	Tensile Strength	Coils length
mm		g/m	mm	bar		kg	mt
20	24,0	150	-	10	30	110	50/100
25	29,0	190	-	10	30	120	50/100
30	34,0	220	-	10	30	165	50/100
32	36,0	240	-	10	30	165	50/100
35	39,0	290	-	10	30	180	50/100
38	42,0	300	-	10	30	190	50/100
40	44,0	320	-	10	30	205	50/100
45	49,0	360	-	10	30	235	50/100
51	55,0	410	-	10	30	250	50/100
60	65,0	550	-	8	24	450	50/100
63	68,5	570	-	8	24	480	50/100
70	75,0	650	-	8	24	535	50/100
76	81,0	700	-	8	24	600	50/100
80	85,0	750	-	8	24	620	50/100
90	95,0	860	-	8	24	700	50/100
102	108,0	1000	-	8	24	785	50/100
110	116,0	1150	-	8	24	865	50/100
127	133,0	1350	-	6	18	970	50/100
152	158,0	1600	-	4	12	1080	50/100
204	210,0	2400	-	3	9	1495	50/100

Illustrations and values here shown are to be considered as indicative and may be changed without notice.

PVC SPIRAL REINFORCED PVC HOSE FOR AIR

Generality

PVC hose with rigid PVC spiral, for suction and ducting of air, fumes, chips, dusts, textile filaments and ventilation. Self-extinguishing in compliance with UL 94 V2. Smooth inner surface, convoluted outer surface. Operating temperature from -10 to +60°C



$\varnothing i$	$\varnothing e$	Weight	Bending Radius	Working Pressure	Burst Pressure	Vacuum	Coil Length
mm	mm	g/m	mm	bar		m H ₂ O	mt
20	26,0	170	20,0			5	50
25	30,6	185	25,0			5	50
30	35,6	225	30,0			5	50
32	38,2	255	32,0			5	50
35	41,4	300	35,0			5	50
38	44,4	310	38,0			5	50
40	46,6	330	40,0			4	50
45	51,6	370	45,0			4	50
50	57,4	440	50,0			4	50
60	68,0	560	60,0			4	50
63	71,5	600	63,5			4	50
70	78,2	640	70,0			4	50
75	84,4	730	75,0			4	50
80	89,6	790	80,0			4	30
90	100,2	950	90,0			4	30
100	109,4	980	100,0			4	30
110	120,0	1120	110,0			4	30
120	131,0	1300	120,0			4	30
125	136,5	1360	125,0			4	30
130	141,4	1440	130,0			4	30
140	152,5	1600	140,0			4	30
150	163,0	1760	150,0			4	30
160	173,0	1930	160,0			4	20
180	194,0	2300	180,0			4	20
200	214,0	2650	200,0			4	20
250	266,2	3600	250,0			4	15
300	320,0	4500	300,0			4	10

Illustrations and values here shown are to be considered as indicative and may be changed without notice.

SUCTION PU HOSE - STEEL SPIRAL REINFORCED

Generality

Polyurethane (PU) hose with copper-plated steel spiral, for suction and transport of dusts, chips and abrasive material.

Convuluted surfaces. Operating temperature from -40 to +90°C



$\varnothing i$	$\varnothing e$	Weight	Bending Radius	Working Pressure	Burst Pressure	Vacuum	Coil Length
mm		g/m	mm	bar		m H ₂ O	mt
20	25,5	100	5	0,70	2,10	0,40	6 / 30
25	30,0	115	6	0,60	1,80	0,40	6 / 30
30	35,0	130	7	0,60	1,80	0,30	6 / 30
35	40,0	140	8	0,55	1,65	0,28	6 / 30
40	45,0	150	10	0,50	1,50	0,25	6 / 30
45	50,0	170	12	0,48	1,44	0,23	6 / 30
50	55,0	185	13	0,45	1,35	0,20	6 / 15
60	65,0	220	15	0,40	1,20	0,16	6 / 15
70	75,0	330	18	0,35	1,05	0,14	6 / 15
80	85,0	370	20	0,27	0,81	0,10	6 / 15
90	95,0	420	22	0,23	0,69	0,10	6 / 15
100	106,0	480	20	0,20	0,60	0,09	6 / 15
110	116,0	520	22	0,20	0,60	0,09	6 / 15
120	126,0	550	24	0,19	0,57	0,09	6 / 15
125	131,0	590	25	0,19	0,57	0,08	6 / 15
130	136,0	610	26	0,18	0,54	0,08	6 / 15
140	146,0	660	28	0,15	0,45	0,08	6 / 15
150	158,0	700	30	0,11	0,33	0,06	6 / 15
160	168,0	750	32	0,10	0,30	0,06	6 / 15
170	178,0	780	34	0,09	0,27	0,06	6 / 15
180	188,0	830	36	0,09	0,27	0,06	6 / 15
200	208,0	920	40	0,08	0,24	0,05	6 / 15
220	228,0	1070	45	0,07	0,21	0,05	6 / 15
250	260,0	1250	50	0,05	0,15	0,04	6 / 15
300	310,0	1500	60	0,03	0,09	0,03	6 / 10
350	360,0	1750	70	0,02	0,06	0,03	6 / 10
400	412,0	2000	80	0,02	0,06	0,02	6 / 10
450	462,0	2300	90	0,01	0,03	0,01	6 / 10
500	512,0	2500	100	0,01	0,03	0,01	6 / 10
600	612,0	3000	120	0,01	0,03	0,01	6 / 10

Illustrations and values here shown are to be considered as indicative and may be changed without notice.

SUCTION PU HOSE - STEEL SPIRAL REINFORCED

Generality

Hose made of polyester textile covered with PVC with galvanised steel spiral between two layers of tissue, for air-conditioning, suction of fumes and warm air.

Convulted surfaces. Operating temperature from -20 to +110°C. Self extinguishing DM 26.06.1984 with test methods UNI 8457-8757/A1-9174-9174/A1.



$\varnothing i$	$\varnothing e$	Weight	Bending Radius	Working Pressure	Burst Pressure	Vacuum	Coil Length
mm		g/m	mm	bar		m H ₂ O	mt
40	44	85	20	0,55	1,65	1,00	12
51	54	105	25	0,50	1,50	0,95	12
63	66	130	31	0,45	1,35	0,90	12
70	73	145	35	0,43	1,29	0,85	12
76	79	155	36	0,40	1,20	0,80	12
82	85	170	41	0,38	1,14	0,75	12
89	92	180	44	0,30	0,90	0,70	12
102	105	215	51	0,25	0,75	0,65	12
114	117	240	57	0,21	0,63	0,55	12
121	124	255	60	0,20	0,60	0,50	12
127	130	265	63	0,18	0,54	0,45	12
133	136	280	66	0,16	0,48	0,40	12
140	143	295	70	0,15	0,45	0,38	12
152	156	380	76	0,14	0,42	0,35	12
165	169	420	82	0,12	0,36	0,30	12
178	182	450	89	0,10	0,30	0,25	12
203	207	510	101	0,08	0,24	0,20	12
228	232	570	114	0,06	0,18	0,15	12
254	258	640	127	0,05	0,15	0,12	12
279	283	700	139	0,04	0,12	0,10	12
304	308	770	152	0,03	0,09	0,05	12
330	334	830	165	0,02	0,06	0,03	12
355	359	890	177	0,02	0,06	0,02	12
406	410	1030	203	0,02	0,06	0,01	12
457	462	1300	228	0,01	0,03	0,0005	12
508	513	1450	254	0,01	0,03	0,0004	12
558	563	1580	279	0,01	0,03	0,0003	12
610	615	1730	305	0,01	0,03	0,0002	12

Illustrations and values here shown are to be considered as indicative and may be changed without notice.

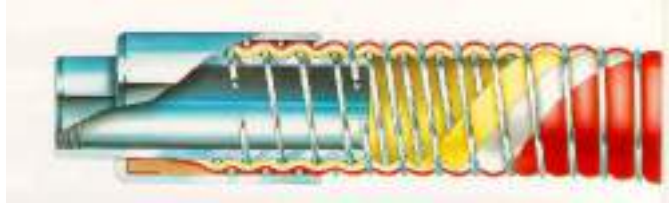
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Composite Hoses



EKOFLEX® COMPOSITE HOSES



EKOFLEX® composite hoses are manufactured from many spirally wrapped plies of thermoplastic fabrics and films held together by internal and external wire helices.

The fabrics and outer wire provide most of the longitudinal and radial strength of the hose and the films prevent the contents from escaping. This type of hose is not vulcanised or bonded like rubber hose, the integrity of the hose is maintained by the tension of the interlocking inner and outer wire helices.

This method of construction makes the wall of the hose highly corrugated. This imparts a high degree of flexibility but also allows elongation under pressure to be quite high compared to most rubber hoses.

EKOFLEX® hoses, compared to rubber hoses intended for similar applications, are generally much lighter and more flexible. This is the main advantage of composite hoses, particularly where they have to be handled frequently e.g. road tanker, ship to shore and in Plant service, also for heavy duty load and discharge operations.



FUELMASTER: lightweight fuel hose designed for load and offload of leaded & unleaded petrol, diesel, fuel oils, hydrocarbons with 100% aromatic content and Aviation spirit.

OILMASTER: suitable for suction and discharge of leaded & unleaded petrol, diesel lubricating oils and fuel oils, Hydrocarbons with 100% aromatic content.

CHEMIFLEX: designed for load and offload of chemicals, acids alkalis and much more.

TYPE APPROVED HOSES AVAILABLE ON REQUEST

INNER WIRE

- Carbon Steel
- Carbon Steel PP coated
- Stainless Steel 316
- Aluminium

INNER LAYER

- PP
- PTFE

INTERNAL LAYER

- PP
- PA
- PTFE

OUTER COVER

- PVC coated PA
- PVC coated Polyester

OUTER WIRE

- Carbon Steel
- Stainless Steel 316
- Aluminium



EKOFLEX® COMPOSITE HOSE BIODIESEL

STRUCTURE

BIODIESEL composite hoses are constituted by polypropylene tissues and film with an outer waterproof and abrasion resistant layer. The different layers are held together by an inner and an outer spiral. This structure provides exceptional strength and flexibility.

FEATURES

BIODIESEL hose has been designed to convey bioethanol based products. It is used in general purpose applications such as tanks loading / unloading operations. Thanks to its structural qualities of strength and durability, they are handy and light. **BIODIESEL** hoses can be supplied with a wide range of fittings, also in stainless steel.



Color

GREEN.

Inner wires

Galvanised Steel.

Safety

- All hoses are tested to 1.5 times the working pressure for more security and reliability. Test certificates can be supplied on request.
- Reduced risks of pollution and costs from spillage of product.
- The indicated burst pressure is considered at room temperature.

Working temperature

From - 20 ° C to + 80 ° C

Inner Diam.		Working Pressure		Burst Pressure		Bending Radius		Weight	Max Length
mm	inches	Bar	P.S.I.	Bar	P.S.I.	mm	inches	Kg / Mt	Mt
25	1	14	200	56	800	100	4	0,8	20
38	1 1/2	14	200	56	800	140	5 1/2	1,2	20
50	2	14	200	56	800	180	7	1,9	20
65	2 1/2	14	200	56	800	205	8	2,5	20
75	3	14	200	56	800	280	11	3	20
100	4	14	200	56	800	395	15 1/2	5,2	20

Illustrations and values here shown are to be considered as indicative and may be changed without notice.

OTHER SIZES AVAILABLE UPON REQUEST

EKOFLEX® COMPOSITE HOSE OILMASTER

STRUCTURE

OILMASTER composite hoses are constituted by polypropylene tissues and film with an outer waterproof and abrasion resistant layer. The different layers are held together by an inner and an outer spiral. This structure provides exceptional strength and flexibility.

FEATURES

OILMASTER hose has been designed to convey petroleum based products. It is used in general purpose applications such as tanks loading / unloading operations. It's structure provides exceptional strength and flexibility for a long lasting service.

OILMASTER hoses can be supplied with a wide range of fittings , also in stainless steel.

Color

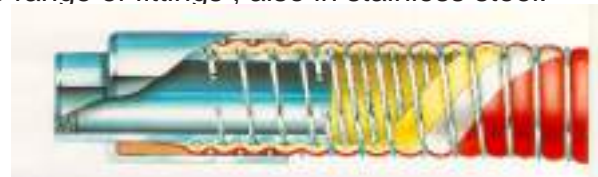
BLACK.

Inner wires

Galvanised Steel.

Safety:

- All hoses are tested to 1.5 times the working pressure for more security and reliability, according to BS 3492:492:1987 BX. Test certificates can be supplied on request.
- Reduced risks of pollution and costs from spillage of product.
- The indicated burst pressure is considered at room temperature



Working temperature:

From - 20 ° C to + 80 ° C

Inner Diam.		Working Pressure		Burst Pressure		Bending Radius		Weight	Max Length
mm	inches	Bar	P.S.I.	Bar	P.S.I.	mm	inches	Kg / Mt	Mt
25	1	14	200	56	800	100	4	0,8	20
38	1 1/2	14	200	56	800	140	5 1/2	1,2	20
50	2	14	200	56	800	180	7	1,9	20
65	2 1/2	14	200	56	800	205	8	2,5	20
75	3	14	200	56	800	280	11	3	20
100	4	14	200	56	800	395	15 1/2	5,2	20

Illustrations and values here shown are to be considered as indicative and may be changed without notice.

OTHER SIZES AVAILABLE UPON REQUEST

EKOFLEX® COMPOSITE HOSE FUELMASTER STANDARD LD10

STRUCTURE

EKOFLEX® LD 10 composite hoses are constituted by polypropylene tissues and film with an outer waterproof and abrasion resistant layer. The different layers are held together by an inner and an outer spiral. This structure provides exceptional strength and flexibility. In case of standard duty applications a version with inner or outer aluminium wire is available.

FEATURES

EKOFLEX® LD 10 hose has been designed to convey a wide range of different products. It is used for low pressure general purpose applications such as tanks loading / unloading operations.

It's structure provides exceptional resistance against chemicals along with strength and flexibility for a long lasting service. **EKOFLEX® LD 10** is antistatic and suitable to be used with aromatic hydrocarbons, for both suction and discharge. **EKOFLEX® LD 10** hoses can be supplied with a wide range of fittings, also in stainless steel.

Color

- LD 10 CHEM GREEN: chemicals
- LD 10 OIL BLU: hydrocarbons
- LD 10 VAP GIALLO: steam recovery

Spirali

- **P**: Mild steel Polypropylene covered
- **Z**: Galvanised Steel
- **A**: Aluminium



Safety

- All hoses are tested to 1.5 times the working pressure for more security and reliability, according to BS 5842:1980 clause 6.4. Test certificates can be supplied on request.
- Reduced risks of pollution and costs from spillage of product.
- The indicated burst pressure is considered at room temperature, according to BS 5173 sezione 102.10: 1990.
- Electrical continuity, guaranteed by two spirals joined together to end fittings, helps to dissipate accumulated charges and to avoid electrostatic charging. The electrical resistance of the hose is less than 10 ohms, as specified by the norm BS 5842:1980 clause 6.2.

Working temperature

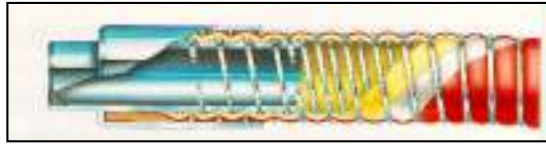
From - 40 ° C to + 80 ° C

Inner Diam.		Working Pressure		Burst Pressure		Bending Radius		Weight (Kg/mt)			Max Length
mm	Inches	Bar	P.S.I.	Bar	P.S.I.	mm	Inches	ZZ	AZ	AA	Mt
40	1 1/2"	10	150	50	750	85	3 1/2"	1,3	1	0,6	25
50	2	10	150	50	750	125	5	2,9	1,5	1	25
63	2 1/2"	10	150	50	750	150	6	2,6	2	1,3	25
76	3	10	150	50	750	185	7	3,4	2,6	1,6	25
80	3	10	150	50	750	185	7	3,5	2,7	1,7	25
100	4	10	150	50	750	275	10	4,6	3,5	2,3	25

Illustrations and values here shown are to be considered as indicative and may be changed without notice.

OTHER SIZES AVAILABLE UPON REQUEST

EKOFLEX® COMPOSITE HOSE CHEMIFLEX STANDARD



STRUCTURE

CHEMIFLEX STANDARD composite hoses are constituted by polypropylene tissues and film with an outer waterproof and abrasion resistant layer. The different layers are held together by an inner and an outer spiral. This structure provides exceptional strength and flexibility. When a lightweight hose is required, outer and inner aluminium springs are available.

FEATURES

CHEMIFLEX STANDARD hose has been designed to convey chemicals in general purpose applications, such as tanks loading / unloading operations in the presence of acids, alkalis, solvents e petroleum based products. It's structure provides exceptional strength and flexibility for a long lasting service.

CHEMIFLEX STANDARD is suitable to be used for tank trucks or rail tanks and can be supplied with a wide range of fittings, also in stainless steel.

Inner wires

P: mild steel with polypropylene cover

G: galvanised steel

S: stainless Steel Aisi 316.

Color

PG version: GREY



Safety

- All hoses are tested to 1.5 times the working pressure for more security and reliability, according to BS 5842:1980. Test certificates can be supplied on request.
- Reduced risks of pollution and costs from spillage of product.
- The indicated burst pressure is considered at room temperature.

Working temperature

From - 20 ° C up to + 80 ° C

Inner Diam.		Working Pressure		Burst Pressure		Bending Radius		Weight (Kg/mt)	Max Lenght
mm	inches	Bar	P.S.I.	Bar	P.S.I.	mm	inches		Mt
25	1	14	200	56	800	100	4	0,8	20
38	1 1/2	14	200	56	800	140	5 1/2	1,2	20
50	2	14	200	56	800	180	7	1,9	20
65	2 1/2	14	200	56	800	205	8	2,5	20
75	3	14	200	56	800	280	11	3	20
100	4	14	200	56	800	395	15 1/2	4,8	20

Illustrations and values here shown are to be considered as indicative and may be changed without notice.

OTHER SIZES AVAILABLE UPON REQUEST

EKOFLEX® COMPOSITE HOSE CHEMIFLEX PTFE

STRUCTURE

CHEMIFLEX PTFE composite hoses are constituted by PTFE tissues and film with an outer waterproof and abrasion resistant layer. The different layers are held together by an inner and an outer spiral. This structure provides exceptional strength and flexibility.

FEATURES

CHEMIFLEX PTFE has been designed to convey a wide range of aggressive chemicals at high temperatures. It is used in low pressure applications such as tanks loading / unloading operations. A very high resistance to aggressive chemicals is granted and, together with the structural qualities of strength and durability, they are handy and light. **CHEMIFLEX PTFE** hoses can be supplied with a wide range of fittings, also in stainless steel.

Inner wires

S: Stainless Steel Aisi 316.

G: Galvanised Steel

The HT version (High Temperature) combines the excellent resistance of PTFE to chemicals with a higher temperature resistance. Generally, this version is used for applications such as loading / unloading of bitumen or molten sulfur.



Safety

- All hoses are tested to 1.5 times the working pressure for more security and reliability, complies with BS 5842:1980. Test certificates can be supplied on request.
- Reduced risks of pollution and costs from spillage of product.
- The indicated burst pressure is considered at room temperature

Working temperature

From - 30 ° C up to + 115 ° C

Inner Diam.		Working Pressure		Burst Pressure		Bending Radius		Weight (Kg/mt)	Max Lenght
mm	inches	Bar	P.S.I.	Bar	P.S.I.	mm	inches		Mt
25	1	14	200	56	800	100	4	0,8	20
38	1 1/2	14	200	56	800	140	5 1/2	1,2	20
50	2	14	200	56	800	180	7	1,9	20
65	2 1/2	14	200	56	800	205	8	2,5	20
75	3	14	200	56	800	280	11	3	20
100	4	14	200	56	800	395	15 1/2	5,2	20

Illustrations and values here shown are to be considered as indicative and may be changed without notice.

OTHER SIZES AVAILABLE UPON REQUEST

EKOFLEX® COMPOSITE HOSE CHEMIFLEX PTFE HT

STRUCTURE

CHEMIFLEX PTFE HT composite hoses are constituted by PTFE tissues and film with an outer waterproof and abrasion resistant layer. The different layers are held together by an inner and an outer spiral. This structure provides exceptional strength and flexibility.



FEATURES

CHEMIFLEX PTFE HT has been designed to convey a wide range of aggressive chemicals at high temperatures. It is used in low pressure applications such as tanks loading / unloading operations in the presence of bitumen, and molten sulfur or other similar product when the standard version is not suitable. A very high resistance to aggressive chemicals is granted and, together with the structural qualities of strength and durability, they are handy and light. **CHEMIFLEX PTFE HT** hoses can be supplied with a wide range of fittings, also in stainless steel.

Color

SGA: RED

GGA: BLUE / YELLOW STRIPE

Inner wires

S: Stainless Steel Aisi 316

G: Galvanised Steel



← - EKOFLEX® COMPOSITE HOSE CHEMIFLEX PTFE HT -

Safety

- All hoses are tested to 1.5 times the working pressure for more security and reliability, complies with BS 5842:1980. Test certificates can be supplied on request.
- Reduced risks of pollution and costs from spillage of product.
- The indicated burst pressure is considered at room temperature

Working temperature

From - 30° C up to + 160 ° C



Inner Diam.		Working Pressure		Burst Pressure		Bending Radius		Weight (Kg/mt)	Max Length Mt
mm	inches	Bar	P.S.I.	Bar	P.S.I.	mm	inches		
25	1	14	200	56	800	100	4	0,8	20
38	1 1/2	14	200	56	800	140	5 1/2	1,2	20
50	2	14	200	56	800	180	7	1,9	20
65	2 1/2	14	200	56	800	205	8	2,5	20
75	3	14	200	56	800	280	11	3	20
100	4	14	200	56	800	395	15 1/2	5,2	20

Illustrations and values here shown are to be considered as indicative and may be changed without notice.

OTHER SIZES AVAILABLE UPON REQUEST

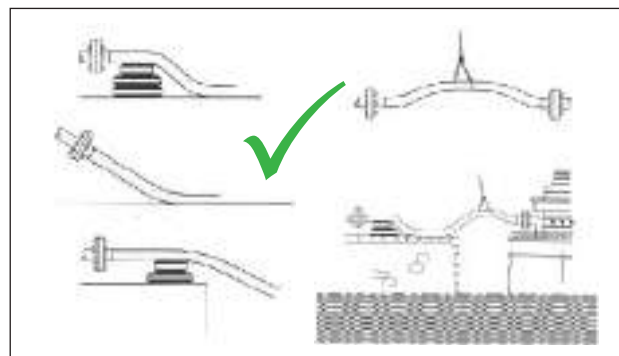
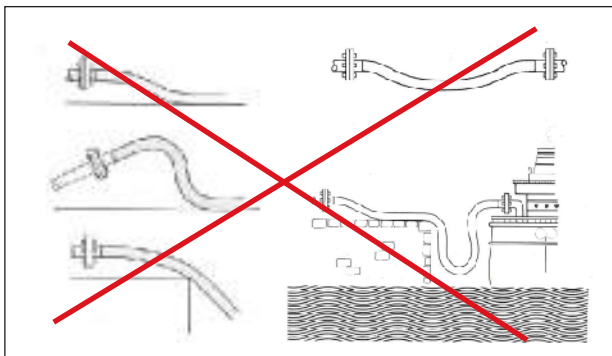
EKOFLEX® COMPOSITE HOSES HANDLING, TESTING & INSPECTION GUIDELINES

INSTALLATION & HANDLING

Incorrect installation of the hoses can stress the assembly leading to a shortened working life.

Hose assemblies must not be twisted either on installation or in use, considering the factory's minimum bending radius specification.

Hose saddles are recommended. Supports of rope, wire or chain should not be used on composite hoses in order to avoid any possible damage of the structure.



CLEANING & STORAGE

Hoses should be cleaned after use and before testing, depending on the hose use and its location. Flushing out can be done by using room temperature detergents or solvents, clean water or sea water (clean water draining is strictly recommended to minimise risk of corrosion).

Loose steam and compressed air can be used on open ended hoses, not exceeding the maximum working temperature & pressure and **avoiding the use of steam lances**. Compressed air may be used on polypropylene lined hoses but is not recommended for PTFE lined hoses.

Mechanical methods of cleaning (e.g. pigging) must not be used under any circumstances.

During any cleaning operations the hose must be electrically earthed to avoid static charge build-up, especially near flammable areas. Hoses should be stored straight, not coiled.



← - HANDLING, TESTING & INSPECTION GUIDELINES**INSPECTION**

The deadlines of the checks are set by the end users independently. Before each operations hoses should be visually examined and at determined period **visual inspection, hydrostatic and electrical continuity test** should be carried out.

Worn or damaged hoses may be dangerous.

**VISUAL INSPECTION**

Hoses should be given a brief visual examination before each operation and a more thorough visual inspection at predefined intervals. The inspection should pay attention to corrosion or abrasion of the hose outer lining and couplings and signs of displacement of the wires from their normal pitch.

**PRESSURE TEST**

At periods not exceeding one year hoses compliant with the visual inspection should be hydraulically tested. Lay the hose straight out, drain and thoroughly clean before pressurize to 1,5 working pressure for 10 minutes. The maximum change in lenght at proof pressure should be less than 10% of the standard lenght at rest.

**ELECTRICAL CONTINUITY**

At periods not exceeding six months hoses compliant with the visual inspection should be electrically tested. Lay the hose straight out, drain and thoroughly clean before, avoid contact on metallic parts to earth and check that the hose is electrically continuous from end to end using a multimeter. Resistance should be less than 10 Ohm.



***HOSE NOT IN COMPLIANCE WITH THE TEST MUST BE WITHDRAWN
FROM SERVICE IMMEDIATELY***

***The provided guidelines are intended for carrying out checks on composite hoses only and are not to be considered as binding provisions.
The end user is authorized to modify the procedures
on the basis of specific requirements.***

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Offshore Hoses



PELICAN EN 1765 TYPE S15

Bunkering operations hose

Construction

Tube: Black, smooth, NBR rubber compound oil and fuel resistant (aromatic content up to 50%).

Reinforcement: Synthetic textile fabrics, embedded steel wire helix and built-in copper wire for dielectric continuity, if required.

Cover: Black, smooth, NBR/PVC rubber compound, oil, fuel, abrasion, ageing and weather resistant

Temperature Range -20°C / +82°C



Application

Expressly designed for the loading, discharging and transferring of fuels between a bunker barge, a marine terminal or a marine facility from/to a receiving ship. Bunkering operations needs to be performed diligently, safely to prevent fuel spillage into the waters of the Port or onto the quayside. Recommended in combination with Parker Large bore crimped fittings range. Do not use with LPG and CNG.

<i>Inside Diam.</i>	<i>Outside Diam.</i>	<i>Vacuum Rating</i>	<i>Pressure</i>	<i>Safety Factor</i>	<i>Bending Radius</i>	<i>Weight</i>
<i>mm</i>	<i>mm</i>	<i>bar</i>	<i>bar</i>		<i>mm</i>	<i>Kg/mt</i>
51	71	0,85	15	4:1	350	3,00
76	96				450	4,15
102	128				600	6,65
127	152				750	8,75
152	184				850	12,00
203	243				1100	23,52
254	298				1350	32,84

Illustrations and values here shown are to be considered as indicative and may be changed without notice.

MB OIL AND LIQUID MUD

Wire reinforced rubber hose for liquid mud transfer

Construction

Tube: Black, smooth, conductive NBR rubber.
Reinforcement: High tensile textile cords with embedded steel helix wire - antistatic wire
Cover: Black, conductive CR rubber abrasion, ozone, hydrocarbon and fire resistant.



Temperature range from -30°C to + 90°C
 (-22°F to + 194°F)



Tensile end load resistance

DN 3" 6000 KG
 DN ≥ 4" 10000 KG



Application

Suitable for fuel and liquid mud transfer from supply vessels to offshore platforms. Specially designed for reeling applications. Electrically continuous.

Size	Inside Diam.	Outside Diam.	Pressure bar / PSI		Bending Radius	Weight
	mm	mm	Working	Burst	mm	Kg/mt
3"	76	98	40/600	160/2320	380	4,90
4"	102	128			510	7,50
5"	127	157			635	11,20

Illustrations and values here shown are to be considered as indicative and may be changed without notice.

MB POTABLE WATER

Wire reinforced rubber hose for potable water transfer

Construction

Tube: White, smooth NR rubber.

Reinforcement: High tensile textile cords with embedded steel helix wire

Cover: Orange NBR/PVC rubber abrasion, ozone and hydrocarbon resistant.

Temperature range from -30°C to + 80°C (-22°F to + 176°F)

Tensile end load resistance

DN 2" 2000 KG

DN 3" 4000 KG

DN 4" 7000 KG



Application

Potable water transfer from supply vessels to offshore platforms. Sterilize with 5% soda solution. Also suitable in self floating version.

Size	Inside Diam.	Outside Diam.	Pressure bar / PSI		Bending Radius	Weight
	mm	mm	Working	Burst	mm	Kg/mt
2"	51	67	20 / 300	80 / 1200	255	2,30
3"	76	94			380	3,80
4"	102	122			510	5,60

Illustrations and values here shown are to be considered as indicative and may be changed without notice.

MB BULK / CEMENT

Wire reinforced rubber hose for dry cement transfer

Construction

Tube: Black, smooth, conductive NR rubber, abrasion resistant

Reinforcement: High tensile textile cords with embedded steel helix wire - antistatic wire

Cover: Black, conductive CR rubber abrasion, ozone, hydrocarbon and fire resistant.



Temperature range from -30°C to + 80°C (-22°F to +176°F)



Tensile end load resistance

DN 4" 7000 KG

DN 5" 10000 KG



Application

Bulk material, barite and dry cement transfer from supply vessels to offshore platforms. Also available in self floating version. Electrically continuous.

Size	Inside Diam.	Outside Diam.	Pressure bar / PSI		Bending Radius	Weight
	mm	mm	Working	Burst	mm	Kg/mt
4"	102	124	20 / 300	80 / 1200	510	6,00
5"	127	151			635	8,50

Illustrations and values here shown are to be considered as indicative and may be changed without notice.

OFFSHORE HOSES INSPECTION GUIDELINES

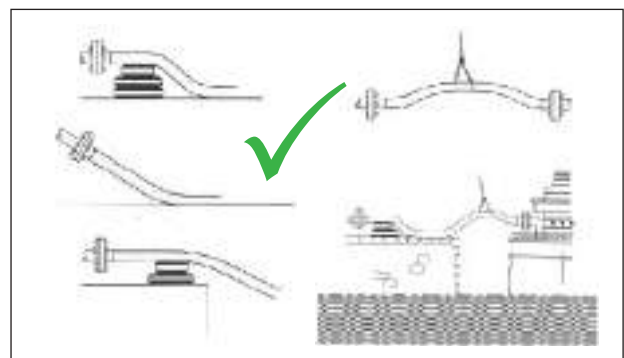
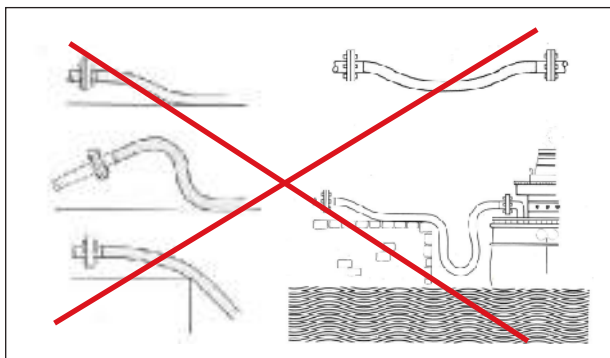
The following instructions are intended to improve the safety during loading and unloading operations are carried out in safety and, at the same time, that the duration and maintenance of the efficiency of the hoses used in the loading and unloading operations is preserved. It is advisable to carry out visual inspections at scheduled intervals or in any case always before each use and storage.

INSTALLATION & HANDLING

Incorrect installation of the hose can cause its breakage or premature wear.

Hoses must be handled and installed free from tension, compression or other deformation, accordingly to the minimum bending radius recommended by the manufacturer.

The hose should not be suspended near the fittings, a hose saddle or other suitable equipment is strictly recommended. Ropes or chains could damage the structure of the flexible hoses.



CLEANING & STORAGE

It is advisable to wash the hoses after each use. The flushing can be performed with suitable detergents or solvents at room temperature, fresh water or sea water. In this case a final flushing with fresh water is recommended to avoid corrosion.

Rubber hoses are subject to an inevitable deterioration of mechanical and physical properties of the internal and external layers of its structure. We recommend a visual inspection of the hoses before any operation and to follow the guidelines below:

- Hoses must be stored in a relaxed condition, free from stress, compression or deformations, in horizontal position, avoiding contact with sharp object which could pierce or cut the outer layer.
- The recommended storage temperature is from 10 to 25°C. Hoses should not be stored at temperature above 40°C Or below 0°C.
- The warehouse must be dark, avoiding direct sunlight, intense artificial light or sources of heat.
- Protect the hoses with suitable packaging in order to prevent accidental contacts with solvents, fuels, oils, greases and chemical products in general.

INSPECTION

Before use every hose must be checked for integrity and correspondence to the required use. In particular, for hoses with non-pressed or vulcanized fittings, it is advisable to check that the locking collars are properly tight.

The correct storage and handling of the hoses does not relieve the obligation of periodic maintenance of the flexible hoses, which is in any case necessary. The terms by which the maintenance must be carried are established autonomously by the end user and on the basis of the operating conditions.

Hose repairs are not advisable. Worn or damaged hoses can be dangerous and should not be used.



VISUAL INSPECTION

A visual check **before each operation** is recommended. A more thorough check at predefined intervals, with particular attention to any signs of wear on the outer layer or fittings must be scheduled.



PRESSURE TEST

To be carried out at least once a year on hoses that have passed the visual inspection, taking care to drain and clean the hose perfectly. In straight and horizontal position put it under pressure at 1.5 times the operating pressure for 10 minutes.



HOSE NOT IN COMPLIANCE WITH THE TEST MUST BE WITHDRAWN FROM SERVICE IMMEDIATELY

The provided guidelines are intended for carrying out checks on flexible hoses only and are not to be considered as binding provisions.

The end user is authorized to modify the procedures on the basis of specific requirements.

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Couplings and Clamping Systems



FLANGED FITTINGS

According to UNI / ASA / JIS standard or customized

For further information consult the catalog "STAINLESS STEEL FITTINGS AND ADAPTERS" section 3 by **Monti & Barabino**.

FLAT FLANGE ASA 150					
ND	D	d	N° Holes	Ø	Pitch
1/2"	88,9	22,3	4	15,9	60,3
3/4"	98,4	27,4	4	15,9	69,8
1"	107,9	34,5	4	15,9	79,4
1" 1/4	117,5	43,2	4	15,9	88,9
1" 1/2	127,0	49,5	4	15,9	98,4
2"	152,4	62,0	4	19,0	120,6
2" 1/2	177,8	74,7	4	19,0	139,7
3"	190,5	90,7	4	19,0	152,4
3" 1/2	215,9	103,4	8	19,0	177,8
4"	228,6	116,1	8	19,0	190,5
5"	254,0	143,8	8	22,2	215,9
6"	279,4	170,7	8	22,2	241,3
8"	342,9	221,5	8	22,2	298,4
10"	406,4	276,3	12	25,4	361,9

FLAT FLANGE ASA 300					
ND	D	d	N° Holes	Ø	Pitch
1/2"	95,2	22,3	4	15,9	66,7
3/4"	117,5	27,7	4	19,0	82,5
1"	123,8	34,5	4	19,0	88,9
1" 1/4	133,3	43,2	4	19,0	98,4
1" 1/2	155,6	49,5	4	22,2	114,3
2"	165,1	62,0	8	19,0	127,0
2" 1/2	190,5	74,7	8	22,2	149,2
3"	209,5	90,7	8	22,2	168,3
3" 1/2	228,6	103,4	8	22,2	184,1
4"	254,0	116,1	8	22,2	200,0
5"	279,4	143,8	8	22,2	234,9
6"	317,5	170,7	12	22,2	269,9
8"	381,0	221,5	12	25,4	330,2
10"	444,5	276,3	16	28,6	387,3

FLAT FLANGE PN 6					
ND	D	d	N° Holes	Ø	Pitch
15	80	22	4	12	55
20	90	28	4	12	65
25	100	34	4	12	75
32	120	43	4	14	90
40	130	49	4	14	100
50	140	62	4	14	110
65	160	77	4	14	130
80	190	90	4	18	150
100	210	116	4	18	170
125	240	141	8	18	200
150	265	170	8	18	225
175	295	196	8	18	255
200	320	221	8	18	280
250	375	275	12	18	335

FLAT FLANGE PN 10					
ND	D	d	N° Holes	Ø	Pitch
15	95	22	4	14	65
20	105	28	4	14	75
25	115	34	4	14	85
32	140	43	4	18	100
40	150	49	4	18	110
50	165	62	4	18	125
65	185	77	4	18	145
80	200	90	4	18	160
100	220	116	8	18	180
125	250	141	8	18	210
150	285	170	8	22	240
175	315	196	8	22	270
200	340	221	8	22	295
250	395	275	12	22	350

FLAT FLANGE PN 16					
ND	D	d	N° Holes	Ø	Pitch
15	95	22	4	14	65
20	105	28	4	14	75
25	115	34	4	14	85
32	140	43	4	18	100
40	150	49	4	18	110
50	165	62	4	18	125
65	185	77	4	18	145
80	200	90	8	18	160
100	220	116	8	18	180
125	250	141	8	18	210
150	285	170	8	22	240
175	315	196	8	22	270
200	340	221	12	22	295
250	405	275	12	25	355

QUICK RELEASE COUPLINGS



Generality

Recommended for all those applications where the leakage of oil or an other fluid may be dangerous for the safety of the workers and in every field where is necessary to avoid the risk of environment pollution. For safety reasons the accidental disconnection under pressure is not allowed.

Features

Shut off system by means of poppet for standard applications or flat valve where no leakage and low pressure drops are required. More series available on request. Ball bearing or screw-on latching system.

MATERIALS		Carbon Steel, Stainless Steel AISI 316, Brass
SIZES		from 1/4" to 2"
PRESSURE		Standard version up to a 60 Mpa, special series for very high pressure.
GASKET	NBR	Suitable for petroleum derivates, neutral or slightly acidic salt solutions, alcohols, ethers, glycols, fats, oils and greases. Temperatures from -20° to 100° C.
	FKM	Recommended for aromatic products, hydrocarbons, liquid chlorine, carbon disulfide and molten sulphur. Not compatible with esters of the ketone family. Service temperature up to + 180° C.
	FFKM	Heavy duty applications, in presence of aggressive chemicals and very high temperatures.

CAM LOCK® QUICK CONNECTIONS

Generality

Cam Lock quick couplings have been studied to obtain a quick and safe connection between two lines: it is sufficient to insert the male adaptor into the female coupler until the bottom gasket is in contact with the edge of the adaptor. Pressing the cam levers down the coupling will be blocked.

Technical features

The ends of Cam Lock quick coupling can be independently supplied threaded, flanged, for welding or to fitted in rubber hoses.

Usually threads and flanges are in compliance with the Italian and international standards, but special execution can be effected to meet the particular needs of the customer.

MATERIAL		Aluminium, bronze, carbon steel, polypropylene stainless steel (AISI 304 - 316 - 316 L - Hastelloy - Monel - Inconel).
SIZE		1/2 up to 8"
THREADING		ASA, UNI, WITHWORTH, BRIGGS, NTP, NPS
PRESSURE		Up to 2":40 kg/cm and vacuum
		3"/4":20 kg/cm and vacuum
		5"/6":14 kg/cm and vacuum
		8":10 kg/cm and vacuum
GASKETS	BUNA	Suitable for petroleum derivatives, neutral or slightly acidic salt solutions, alcohols, ethers, glycols, fats, oils and greases. Temperatures from -40° to 120° C.
	DUTRAL	Recommended for alkaline and acid solution and aldehydes such as formaldehyde. Steam resistant up to a maximum temperature of 150° C.
	VITON	Recommended for aromatic products, hydrocarbons, liquid chlorine, carbon disulfide and molten sulphur. Viton is not compatible with esters of the ketone family. Service temperature up to + 204° C.
	PTFE	Suitable to be used with acids, solvents and steam up to 260°C. A Viton, Silicon, Neoprene, Hypalon core is also available.

FIG A | Male, BSP female threaded

Size	BSP	Øe	Mat.
1/2"	1/2"	24	Brass / Alum / SS
3/4"	3/4"	32	
1"	1"	37	
1"1/4	1"1/4	45	
1"1/2	1"1/2	54	
2"	2"	63	
2"1/2	2"1/2	76	
3"	3"	91,5	
4"	4"	119	



FIG B | Female, BSP male threaded

Size	BSP	Øi	Mat.
1/2"	1/2"	25	Brass / Alum / SS
3/4"	3/4"	32,5	
1"	1"	37,5	
1"1/4	1"1/4	45	
1"1/2	1"1/2	55	
2"	2"	64	
2"1/2	2"1/2	77,5	
3"	3"	93	
4"	4"	121	



FIG C | Female hose liner

Size	Hose	Øi	Mat.
1/2"	16	25	Brass / Alum / SS
3/4"	21	32,5	
1"	26	37,5	
1"1/4	34	45	
1"1/2	42	55	
2"	52	64	
2"1/2	68	77,5	
3"	80	93	
4"	100	121	



← - CAM LOCK® QUICK CONNECTIONS -

FIG D | Female, BSP female threaded

Size	BSP	Øi	Mat.
1/2"	1/2"	25	Brass / Alum / SS
3/4"	3/4"	32,5	
1"	1"	37,5	
1"1/4	1"1/4	45	
1"1/2	1"1/2	55	
2"	2"	64	
2"1/2	2"1/2	77,5	
3"	3"	93	
4"	4"	121	



FIG E | Male hose liner

Size	Hose	Øe	Mat.
1/2"	16	24	Brass / Alum / SS
3/4"	21	32	
1"	26	37	
1"1/4	34	45	
1"1/2	42	54	
2"	52	63	
2"1/2	68	76	
3"	80	91,5	
4"	103	119	



FIG F | Male, BSP male threaded

Size	BSP	Øe	Mat.
1/2"	1/2"	24	Brass / Alum / SS
3/4"	3/4"	32	
1"	1"	37	
1"1/4	1"1/4	45	
1"1/2	1"1/2	54	
2"	2"	63	
2"1/2	2"1/2	76	
3"	3"	91,5	
4"	4"	119	



FIG L | Female plug

Size	Øi	Mat.
1/2"	25	Brass / Alum / SS
3/4"	32,5	
1"	37,5	
1"1/4	45	
1"1/2	55	
2"	64	
2"1/2	77,5	
3"	93	
4"	121	



FIG P | Male plug

Size	Mat.
1/2"	Brass / Alum / SS
3/4"	
1"	
1"1/4	
1"1/2	
2"	
2"1/2	
3"	
4"	



FIG P | Male plug



FIG LAS / Flanged Male



Gasket

Size	Øi	Øe	Tk	Mat.
1/2"	26	17	4	Buna / Viton / FEP
3/4"	35	22	5,5	
1"	40	27	6,4	
1"1/4	50	35		
1"1/2	56	41		
2"	67	51		
2"1/2	80	60		
3"	96	76		
4"	124	102		
6"	180	152		



DRY DISCONNECT COUPLINGS

Generality



Special fittings for rapid and dry connection of pipes, expressly designed to meet the most demanding requirements in the field of fluid handling. Equipped with piston valves for flow interception, they ensure a quick, safe, leak-free coupling.

Available in a wide range of materials from 3/4 "up to 6", they are used for industrial and naval applications where a safe coupling is required to convey the most aggressive or valuable products.



Advantages

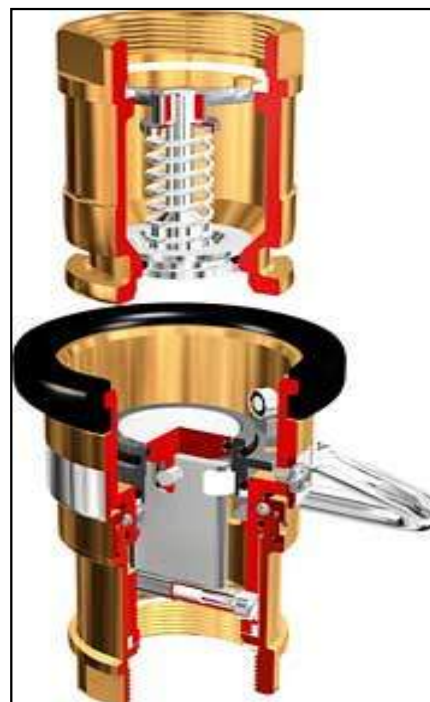
The express coupling and the valve sealing system result in considerable time savings and no product loss.

They are **SAFE** and **ECOLOGICAL**: the flow is interrupted if the joints are not perfectly coupled, avoiding accidental spillage of product.



Features

- Working Pressure **10 Bar** (safety factor 5:1)
- Working Temperature from **-40° up to +200° C** (depending on the material)
- Threaded or flanged version
- High efficiency.
- Sturdy and reliable structure
- Available in Bronze, Aluminium or Stainless Steel 316.
- Gaskets available in Teflon®, Viton®, EPDM, HNBR, Karlez®, Chemraz® or PUR.
- Perfect sealing of the valves during the opening and closing of the joint.
- Fast connection and disconnection even in the presence of pressure and flow.
- It is possible to “customize” the connection to exclude accidental connections between different product lines.

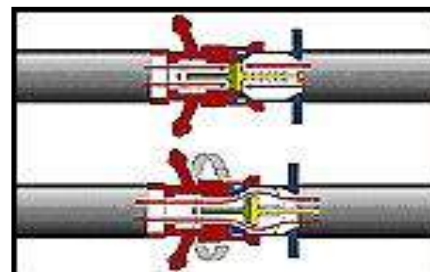


Functioning

With a clockwise rotation of 15° the two parts are joined together. In this position the valves remain closed and the coupling can be opened only when a further rotation of 90° is achieved. To interrupt the flow, the operation is repeated in the opposite sequence.

Compatibility'

According to NATO STANAG 3756, interchangeable with the versions Mann Tek, Emco, Avery Hardoll e Todo. Standard threadings in accordance to DIN/ISO 228 (NPT upon request).



QUICK COUPLINGS

1608 | Male coupling, female threaded

Size	Thread	Øe	Mat.
1" 1/2" R	1"1/2	62	Brass
2R	1"1/2	78	
2R	2"		
3R	2"	108	
3R	2"1/2		
3R	3"		
4R	2"1/2	132	
4R	3"		
4R	4"		
4R	Cassoni		



1642 | Lever female quick coupling

Size	Hose size	Øi	Mat.
3R	40	101	Brass
3R	45		
3R	50		
3R	60		
3R	63		
3R	70		
3R	75		
3R	80		
3R	100		
4R	80	124	
4R	100		



1695 | Flaps female quick coupling

Size	Hose size	Øi	Mat.
2R	40	73	Brass
2R	40		
2R	50		
2R	60	101	
3R	40		
3R	45		
3R	50		
3R	60		
3R	63		
3R	70		
3R	75		
3R	80		
3R	100	124	
4R	80		
4R	100		



1609 | Female plug

Size	Mat.
1" 1/2 R	Aluminium / Brass
2R	



1643 | Male quick coupling

Size	Hose size	Øi	Mat.
3R	40	108	Brass
3R	45		
3R	50		
3R	60		
3R	63		
3R	70		
3R	75		
3R	80		
3R	100		
4R	80	132	
4R	100		



1644 | Double male quick coupling

Size		Mat.
3R	3R	Brass
3R	4R	
4R	4R	
Size		Mat.
1" 1/2 R	1"1/2R	Brass
2R	2R	
3R	3R	
3R	4R	
4R	4R	



1646 | Male / female adapter

Female	Male	Mat.
1" 1/2 R	1" 1/2	Brass
2R	1" 1/2	
2R	2"	
3R	1" 1/2	
3R	2"	
3R	2" 1/2	
3R	3"	
3R	4"	



1646 | Flaps Male / female adapter

Female	Male	Mat.
1"1/2R	1"1/2	Brass
2R	1"1/2	



← - QUICK COUPLINGS -

1648 | BSP male / quick male adapter

Fast Size	Male	Mat.
1" 1/2 R	1" 1/2	Brass
1" 1/2 R	2"	
2R	1" 1/2	
2R	2"	
3R	1" 1/2	
3R	2"	
3R	2" 1/2	
3R	3"	
4R	2" 1/2	
4R	3"	
4R	4"	



1649 | BSP female / quick male adapter

Fast Size	Female	Mat.
1"1/2R	1"1/2	Brass
1"1/2R	2"	
2R	1"1/2	
2R	2"	
2R	3"	
3R	2"1/2	
3R	3"	
3R	3"1/4	
3R	4"	
3R	Cassoni	
4R	2"1/2	
4R	3"	



1694 | Male / female quick adapter

Female	Male	Mat.
1"1/2	2"	Brass
2"	1"1/2	
3"	2"	
3"	4"	
4"	3"	



1694/1 | Flap male / female quick adapter

Fast F	Fast M	Mat.
1"1/2	2"	Brass
2"	1"1/2	

1812 | Quick male plug

Fast Size	Mat.
1"1/2R	Brass
2R	
3R	Al
4R	



1857 | Quick female / BSP female adapter

Fast Size	Female	Mat.
1"1/2R	1"1/2	Brass
2R	2"	
2R	2"	
3R	1"1/2	
3R	2"	
3R	2"1/2	
3R	3"	
4R	2"1/2	
4R	3"	
4R	4"	



3008 | Gasket

Size	Øi	Øe	tk	Mat.
1"1/2R	38	47	3	BunaN / Viton / PTFE
2R	50	66		
3R	74	86	4	
4R	90	108		



THREADED COUPLINGS

1650 | Male + female BSP couplings

Size	Hose	Mat.
1"1/2	40	Brass / SS304
2"	40	
2"	45	
2"	50	
2"1/2	50	
2"1/2	60	
2"1/2	63	
3"	75	
3"	80	
4"	75	
4"	80	
4"	100	
Cassoni	80	
Cassoni	100	



1653 | Female ring BSP

Size	Mat.
1"1/2	Brass / SS304
2"	
2"1/2	
3"	
4"	
Cassoni	



1651 | Swivel female BSP

Size	Hose	Øi	Mat.
1"1/2	40	44,85	Brass / SS304
2"	40	56,66	
2"	45		
2"	50		
2"1/2	40	72,23	
2"1/2	45		
2"1/2	50		
2"1/2	60		
2"1/2	63		
3"	75	84,93	
3"	80		
4"	75	110,07	
4"	80		
4"	100		
Cassoni	80	108	
Cassoni	100		



1833 | Swivel female / threaded male BSP

Female size	Male size	Mat.
2"	1"1/2	Brass / SS304
2"	2"	
2"1/2	1"1/2	
2"1/2	2"	
2"1/2	2"1/2	



1654 | Threaded male BSP

Size	Hose	Øe thread	Mat.
1/2"	15	20,96	Brass / SS304
3/4"	20	26,44	
1"	25	33,25	
1"1/4	32	41,91	
1"1/2	40	47,8	
2"	40	59,61	
2"	45		
2"	50		
2"1/2	40	75,18	
2"1/2	45		
2"1/2	50		
2"1/2	60		
2"1/2	63		
3"	75	87,88	
3"	80		
4"	75	113,03	
4"	80		
4"	100		
4" CASS.	100	113	



1655 | Male / fixed female adapter BSP

Female	Male	Mat.
1"1/2	1"1/2	Brass / SS304
1"1/2	2"	
2"	1"1/2	
2"	2"	
2"	2"1/2	
2"1/2	2"1/2	
2"1/2	4"	
2"1/2	Cassoni	
3"	2"1/2	
3"	3"	
3"	4"	
3"	Cassoni	
4"	4"	
4"	Cassoni	
DIN60	1"1/2	
DIN60	2"	



← - THREADED COUPLINGS -

1656 | Male / swivel female adapter BSP

Female	Male	Mat.
2"1/2	2"	Brass / SS304
2"1/2	2"1/2	
2"1/2	3"	
3"	2"	
3"	2"1/2	
3"	3"	
4"	2"	
4"	2"1/2	
4"	3"	
4"	4"	
Cassoni	2"	
Cassoni	2"1/2	
Cassoni	3"	
Cassoni	4"	



1657 | Male / male adapter

Male	Male	Mat.
3/4"	1"	Brass / SS304
1"	1"1/2	
1"1/2	2"	
1"1/2	2"1/2	
2"	2"1/2	
2"1/2	4"	
2"1/2	Cassoni	
3"	2"	
3"	2"1/2	
3"	4"	
3"	Cassoni	



1658 | Double male adapter

Size	Mat.
3/4"	Brass /SS304
1"	
1"1/2	
2"	
2"1/2	
3"	
4"Gas	
Cassoni	



1659 | Double swivel female

Size	Mat.
3/4"	Brass SS304
1"	
1"1/2	
2"	
2"1/2	
3"	
4"Gas	
Cassoni	



1661 | Male plug BSP

Size	Mat.
3/4"	Brass / SS304 / Alum.
1"	
1"1/2	
2"	
2"1/2	
3"	
4"Gas	
Cassoni	



1662 | Female plug BSP

Size	Mat.
3/4"	Brass / SS304
1"	
1"1/2	
2"	
2"1/2	
3"	
4"Gas	
Cassoni	



AFNOR FRENCH COUPLINGS - GUILLEMIN

Symmetrical half coupling female threaded

Size	BSP	Int. Distance	Mat.
1"1/2	1"1/2	55	Brass / Alum / SS
2	2	69	
2"1/2	2"1/2	84	
3"	3"	103	
4"	4"	123	



Plug

Size	Mat.
1 1/2"	Brass / Alum / SS
2	
2"1/2	
3"	
4"	



Symmetrical half coupling male threaded

Size	BSP	Int. Distance	Mat.
1 1/2"	1"1/2	55	Brass / Alum / SS
2	2	69	
2"1/2	2"1/2	84	
3"	3"	103	
4"	4"	123	



Hose liner

Size	Hose	Int. Distance	Mat.
1 1/2"	40	55	Brass / Alum / SS
2	50	69	
2"1/2	65	84	
3"	75	103	
4"	100	123	



Gasket

DN	Mat.
1 1/2"	Buna / Viton / PTFE
2	
2"1/2	
3"	
4"	



STORZ COUPLINGS

Symmetrical half coupling female threaded

ND	BSP	Mat.
25	1"	Brass / Alum / SS
32	1"1/4	
38	1"1/2	
52	1"1/2	
52	2"	
65	2"1/2	
75	3"	
100	4"	
110	4"	
150	6"	



Symmetrical half coupling male threaded

ND	BSP	Mat.
25	1"	Brass / Alum / SS
32	1"1/4	
38	1"1/2	
52	1"1/2	
52	2"	
65	2"1/2	
75	3"	
100	4"	
110	4"	
150	6"	



Hose liner

ND	Hose	Int. Distance	Mat.
25	25	31	Brass / Alum / SS
32	32	44	
38	38	52	
52	45	66	
52	52	66	
65	65	81	
75	75	89	
100	100	115	
110	100	133	
150	150	160	



← - STORZ COUPLINGS -

Plug

ND	Mat.
25	Brass / Alum / SS
32	
38	
52	
52	
65	
75	
100	
110	
150	



Gasket

ND	Mat.
25	NBR / Viton / PTFE / Silicone
32	
38	
52	
52	
65	
75	
100	
110	
150	



GERMAN COUPLINGS - DIN 28450

Male plug

Size	Mat.
2"	Brass / Alum / SS
3"	
4"	



Female plug

Size	Mat.
2"	Brass / Alum / SS
3"	
4"	



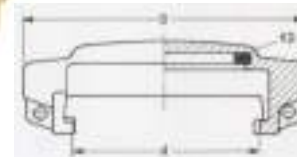
Gasket

Size	Mat.
2"	NBR / Viton / PTFE
3"	
4"	



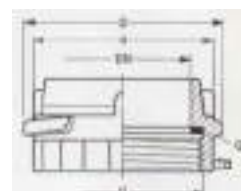
Female hose liner

Size	Hose	Mat.	d	D
2"	50	Brass / Alum / SS	70	105
3"	75		102	145
3"	80		128	175
4"	100			



Male hose liner

Size	Hose	Mat.	d	D
2"	50	Brass / Alum / SS	67	77
3"	75		101	110
3"	80		125	140
4"	100			



← - GERMAN COUPLINGS - DIN 28450 -

Male, female threaded

Size	BSP	Mat.
2"	1"1/2	Brass / Alum / SS
2"	2"	
3"	2"1/2	
3"	3"	
4"	4"	



Female, female threaded

Size	BSP	Mat.
2"	2"	Brass / Alum / SS
3"	3"	
4"	4"	



FIREFIGHTING UNI COUPLINGS

Male hose liner

UNI	Øe thread	Mat.
25	34	Brass
45	56	
70	85	
80	95	
100	115	
125	140	
150	165	



Female hose liner

UNI	Øi nut	Mat.
25	30,5	Brass
45	51,5	
70	79	
80	90	
100	109	
125	131	
150	155	



Female plug

UNI	Øi nut	Mat.
25	30,5	Brass
45	51,5	
70	79	
80	90	
100	109	
125	131	
150	155	



Male plug

UNI	Øe thread	Mat.
25	34	Brass
45	56	
70	85	
80	95	
100	115	
125	140	
150	165	



← - FIREFIGHTING UNI COUPLINGS -**Gasket**

UNI	Øe	Øi	Thk
25	34	22	2
45	56	41	3
70	85	65	4
80	95	75	4
100	115	93	5
125	140	118	5
150	165	142	6



DIN 11851 COUPLINGS

Welding male + nut

DIN	Mat.	Øe weld.	Øi nut	Øe nut
25	SS 316 / SS 304	44	48,2	63
32		50	54,2	70
40		56	61,2	78
50		68	74,2	92
65		86	91,2	112
80		100	104,3	127
100		121	124,3	148



Welding female

DIN	Øe thread	Mat.
25	52	SS 316 / SS 304
32	58	
40	65	
50	78	
65	95	
80	110	
100	130	



Threaded plug

DIN	Mat.
25	SS 316 / SS 304
32	
40	
50	
65	
80	
100	



Nut plug

DIN	Mat.
25	SS 316 / SS 304
32	
40	
50	
65	
80	
100	



← - DIN 11851 COUPLINGS -

Gasket

DIN	Mat.
25	PTFE
32	
40	
50	
65	
80	
100	



AIR EXPRESS COUPLINGS

Symmetrical half coupling male threaded

BSP	Int. Distance	Mat
3/8"	43	Cast Iron
1/2"		
3/4"		
1"		
1"1/4		
1"1/2		



Symmetrical half coupling female threaded

BSP	Int. Distance	Mat.
3/8"	43	Cast Iron
1/2"		
3/4"		
1"		
1"1/4		
1"1/2		



Hose liner

HOSE	Int. Distance	Mat.
13	43	Cast Iron
15		
20		
25		
30		
35		



NBR Gasket

Øi	Øe	Thk
20/23	34/29	11
All sizes		



WATER EXPRESS COUPLINGS

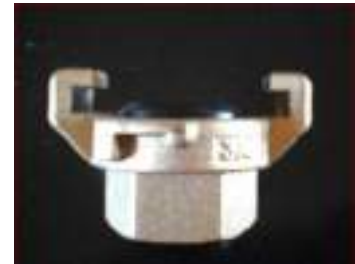
Symmetrical half coupling male threaded

BSP	Int. Distance	Mat.
3/8"	40	Carbon Steel
1/2"		
3/4"		
1"		
1"1/4		



Symmetrical half coupling female threaded

BSP	Int. Distance	Mat.
3/8"	40	Carbon Steel
1/2"		
3/4"		
1"		
1"1/4		



Hose liner

HOSE	Int. Distance	Mat.
13	40	Carbon Steel
15		
20		
25		
30		



NBR Gasket

Øi	Øe	Thk
21/23	33	9,5
All sizes		



DIN 2826 STEAM COUPLINGS

NPT threaded female

ND	Hose	Øi	Mat.
13	1/2"	18,6	Carbon Steel
19	3/4"	24,1	
25	1"	30,3	
32	1 " 1/4	38,9	
38	1" 1/2	44,9	
51	2	56,7	



NPT threaded male

ND	Hose	Øe thread	Mat.
13	1/2"	20,96	Carbon Steel
19	3/4"	26,44	
25	1"	33,25	
32	1 " 1/4	41,91	
38	1" 1/2	47,8	
51	2	59,61	



Safety clamps

ND	Øe hose	Mat.	
13	1/2"	24 / 27 mm	Carbon Steel
19	3/4"	30 / 33 mm	
25	1"	35,5 / 40 mm	
32	1 " 1/4	45,5 / 53 mm	
38	1" 1/2	51 / 56 mm	
51	2	63,5 / 70 mm	
63	2" 1/2	78 / 89 mm	
75	3"	89 / 95 mm	
100	4"	117,5 / 127 mm	



TRI CLAMP COUPLINGS

Clamp

ND	Ø	Mat.
1/2"	28,6	SS 316
3/4"	28,6	
1"	53,6	
1" 1/2	53,6	
2"	67	
2" 1/2	80,6	
3"	94	
4"	122	



Half coupling

ND	Øe	Mat.
1/2"	25,4	SS 316
3/4"	25,4	
1"	50,5	
1" 1/2	50,5	
2"	63,9	
2" 1/2	77,3	
3"	91	
4"	119	



Plug

ND	Øe	Thk	Mat.
1/2"	25,4	6,3	SS 316
3/4"	25,4		
1"	50,5		
1" 1/2	50,5		
2"	63,9		
2" 1/2	77,3		
3"	91	7,9	
4"	119		



Gasket

ND	Thk	Øi	Øe
1/2"	5	9,4	21,8
3/4"		15,8	
1"		22	50,4
1" 1/2		35	
2"		48	63
2" 1/2		60,5	76,5
3"		73	90
4"		97	118



GAROLLA COUPLINGS

Clamp

ND	Mat.
40	SS 304
50	
60	
70	
80	
100	
120	



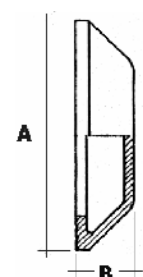
Half coupling

ND	Hose	Øe	Mat.
40	42	67	SS 304
50	50	77	
60	60	88	
70	70	98	
80	80	107	
100	100	130	
120	120	156	



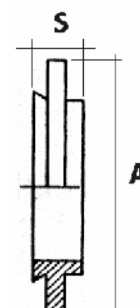
Plug

ND	Øe A	B	Mat.
40	67	18	SS 304
50	77		
60	88		
70	98		
80	108		
100	128		
120	158		



Gasket

ND	Mat.	S	A
40	Silicone	14	67
50			77
60			88
70			98
80			108
100			128
120		16	158



CLAMPING SYSTEMS

Screw clamps

Perforated band clamps, available in different band widths, suitable for light applications. They are supplied with separate screw to ease assembly on large diameters, starting 165 mm diameter.



Mini clamps

Mini clamps have small diameter ranges suggested for light applications. The band has bevelled edges.



Bronze clamps

Bolt clamps made of two halves. Suitable for heavy duty applications where a quick clamping, safe and easy to install system is required.



Fast clamp

A set composed of 25 mt continuous stainless steel band and separated housings. It's the solution to make a 14 mm band width clamp of every size, whenever needed. Provided with 25 housing boxes.



Band it®

The system is composed of band and buckles that can be used for fastening virtually any shape and diameter.

Recommended where superior strength is required. Available in Aisi 201 for standard applications or in Aisi 316 upon request.



Safety clamps

Aluminium clamping system with bolt closure. Sistema di serraggio in alluminio con chiusura a bullone. Available for a wide range of diameters, easy to be assemble and disassembled, to be used with couplings provided with safety anti-slip seaming.



DN	Hose Øi	Max Øe
1/2"	13	22 - 25
3/4"	19	30 - 33
1"	25	36 - 39
1 1/4"	32	43 - 46
1 3/8"	35	46 - 48
1 1/2"	38	50 - 53
1 3/4"	45	58 - 61
2"	50	63 - 67
2 1/2"	63/65	78 - 82
3"	75	88 - 93
	80	94 - 97
4"	100	114 - 119
5"	125	143 - 147
6"	150	167 - 173
8"	200	222 - 229

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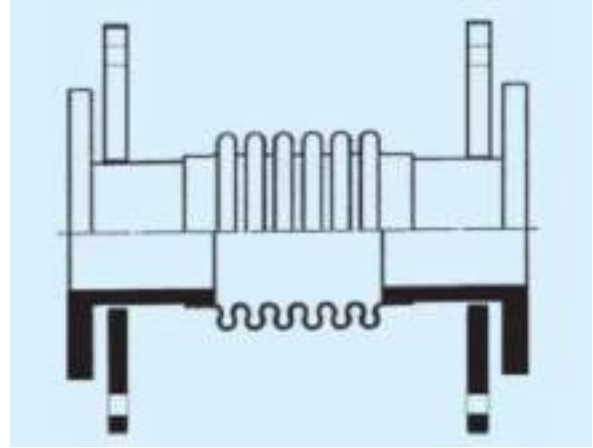


Expansion Joints



EXPANFLEX MB-E1

Stainless Steel expansion joints, RINA approved



EXPANFLEX MB-E1 is an axial Type Approved multiwall expansion joint, without circumferential weld. Made in AISI 321 Stainless Steel T.I.G. welded, or with other grades of Stainless Steel upon request.

EXPANFLEX MB-E1 is designed with flanged or weld ends, in accordance with UNI , ASA or Customer specifications. An internal sleeve made of Stainless Steel can be supplied upon request.

DN	Pressure	Compensation mm			Temperature range
	MPa	Tot	+	-	°C
40	2,5	30,0	8	22	From -200 up to 600°C with weld ends in Stainless Steel
50					
65					
80	32,0	23			
100	1,6	35,0	9	26	From -20 up to 350°C with weld ends in Carbon Steel
125					
150					
200	1,0				

1 MPa = 1 N/mm² = 10 Bar

Special and large diameters available upon request

Characteristics

Excellent reliability, no ageing, absence of permeability, resistant to corrosion, high working temperature. The corrugations are formed by a controlled process which made **MB EXPANFLEX MB-E1** free from friction and lamination, allowing constancy and accuracy of the corrugation profile with minimal material yielding. Internal sleeve made from rolled and welded austenitic stainless steel plate is available upon request.

Suitable applications

Correction of static offsets and compensation for thermal expansion and movements in presence of hydraulic oil, diesel fuel, naptha, brine, fresh water, sea water, air vent, compressed air, desalination, lubricant oil, steam up to 220°C



TYPE APPROVED RUBBER EXPANSION JOINTS



Generality

Joints rubber bellows expressly designed to ensure the compensation of thermal expansion and vibration damping in the pipelines. The floating flanges, available in carbon steel or AISI 316, UNI or ASA, ensure ease and speed of installation.

Applications

The bodies are made of different elastomers to ensure a solution for every application. Available in different lengths, are suitable in plants and premises for industrial and civil applications to compensate for extension caused by temperature change and axial movements, as well as to dampen vibrations and noise arising from pumps, motors, turbines etc.

Approvals

Type Approved by the major Classification Societies.

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Accessories



MB - SAFEBLOCK

Safety wire rope for high pressure hoses



MB SAFEBLOCK is a special safety system for high pressure flexible hoses, expressly designed to arrest the movement of the hose in case of disconnection of the fittings, preventing serious damages to person and machineries in the vicinity.

MB SAFEBLOCK is easy to install and can be applied without being fully extended, thanks to the slip knot system that allows a stronger and more firm grip on the pipe. Produced in **SINGLE** or **DOUBLE** version, it can be combined with different types of accessories, depending on the support on which the cable will be installed reducing the possibility of accidents for the operators.

In compliance with **ISO 4413 HYDRAULIC FLUID POWER, GENERAL RULES RELATING TO SYSTEM:**

“Should the rupture of a hose assembly represent a whiplash hazard, the latter shall be restrained or shielded”.



MB FLANGE SPRAY SHIELD ANTI SPLASH PROTECTION



Generality

The flanged couplings conveying aggressive chemical fluids, flammable or dangerous, are considered dangerous in case of accidental leakages that may cause serious risks to personnel and nearby machineries. MB Flange Spray Shield has been expressly designed to prevent possible damages caused by fluid spills due to sudden leakages, with the aim to indicate and temporarily contain the fluid allowing the operators to intercept the pipeline and repair the malfunction.

Structure

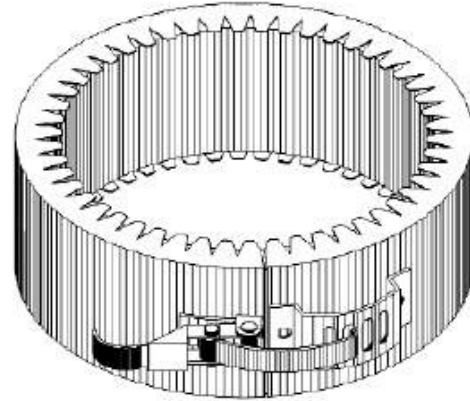
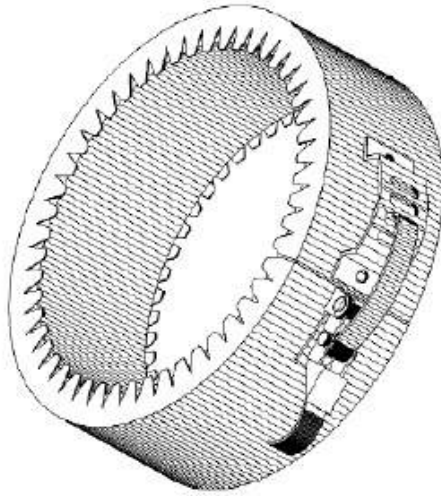
MB Flange Spray Shield is made of Stainless Steel 316 with adjustable locking system. Manufactured for UNI, ASA or customized flanges, every shield is marked with DN and PN in order to facilitate the installation during the maintenance operations.

Upon request **MB Flange Spray Shield** can be manufactured by using synthetic fabrics with laces and velcro closing system. Also available with pH indicator or transparent fabrics in order to facilitate inspections and maintenance operations. A cleaning drainage can be installed to discharge the collected fluid.

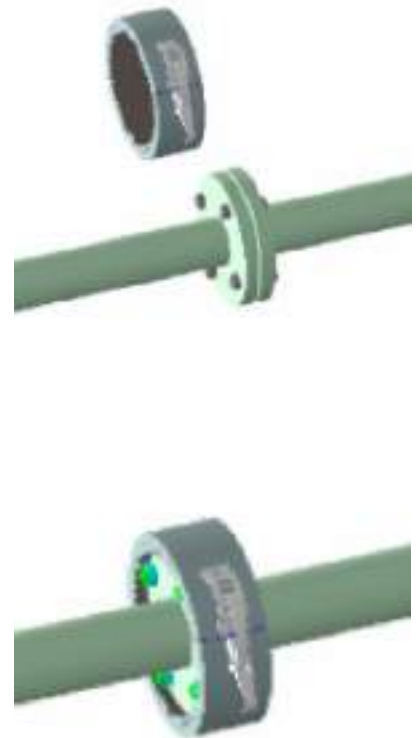


← - MB FLANGE SPRAY SHIELD ANTI SPLASH PROTECTION -

Installation and maintenance instructions

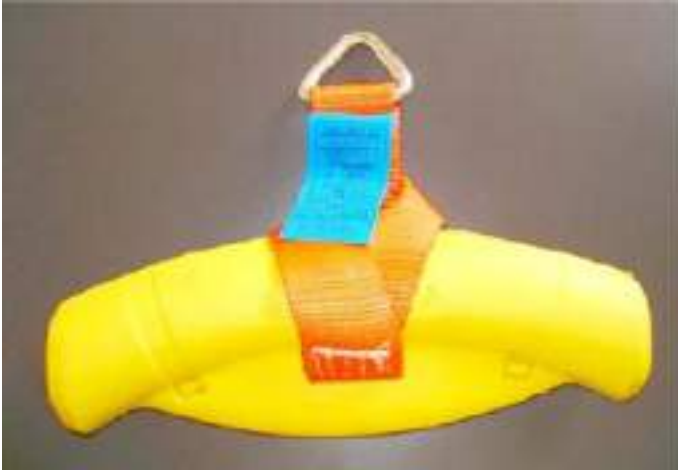


- Be careful to wrap MB Flange Spray Shield around connection with hook locking system toward top.
- Once installed MB Flange Spray Shield the pipeline will be safe, no special tools are required to put in service the safety device.
- In case of spray or leaks MB Flange Spray Shield will contain fluids protecting nearby personnel, environment and technical equipment.
- The exceeding fluid will overflow MB Flange Spray Shield once it is saturated.
- M&B recommend to inspect MB Flange Spray Shield if it has been in contact with chemicals before reusing.
- MB Flange Spray Shield must be replaced if it result damaged or in presence of any signs of wear.
- The Customer is recommended to plan regular inspection of MB Flange Spray Shield.
- Life of MB Flange Spray Shield depends on the working environment. Every device is supposed to be changed as needed.
- The Customer is recommended to consult M&B in case of any questions regarding MB Flange Spray Shield and it's applications.



HOSE SADDLE

Made in wearproof polyurethane, expressly designed for lifting and hooking flexible hoses during load and offload operations. Available in a wide range of sizes, up to 12”.



Features

- Effective protection against environmental pollution and fluid waste.
- Maintenance free, suitable to prevent damages to the hose structure.
- It's particular shape is designed to prevent skidding and twisting of the flexible hose.
- Antispark, antistatic and insulating, with a range of temperature -40°C to + 130°C ageing and weathering resistant.
- Oil and fuel resistant, suitable to be used in contact with a wide range of chemicals.
- Easy and cheap maintenance of the lifting belt.
- Various sizes available, from 1” up to 12”.

MB S.G.S. Silicone coated fiberglass sleeving

Silicone Sleeving is a braided sleeving which is manufactured from E-berglass yarn. It is used in demanding environments where temperatures reach up to 1000 degrees F (538 degrees C.). Due to its unique construction, wall thickness at a nominal weight increase thereby providing better insulation against heat. Because it is manufactured by the unique braiding process, it is extremely flexible, allows for expansion, and easily conforms. It finds ready application as an insulation and/or protective covering in a variety of industries.



It is used to insulate steam tracer lines in oil refineries, as thermal and electrical insulation for the wire and cable industry, in glass manufacturing, for covering lines in metal refining, foundries and steel mills, and wherever else a high temperature barrier might be required.

Sleeve	Fiberglass Filament	
Fire resistance	Self-extinguishes	
Coating	Red Silicone	
Max continuous operating temperature	Fiberglass	560 °C
	Silicone	260° C
Peak operating temperatures	10 - 20 min	1000° C
	15 - 30 sec	1600° C
Inside diameter	10 - 125 mm	



LASER MACHINES

Product traceability



Description

The TowerMark is an extremely versatile marking system and can be used both manually and in combination with a robot for loading/unloading.

The large viewing glass and interior lighting system provide a clear view of the objects. With these features the operator can easily find the correct position and focus on all flat, cylindrical and complex geometries with curves and special angles.

Applications

The laser marking system allows a clear and precise identification of the product, ensuring the durability in time of the information given on the object and therefore the traceability of what has been provided.

The versatility of the system allows to work on different materials, writing directly on the finished product or identification plates.

The marking can be completed by more complex codes such as barcodes and data matrix, suitable to be used for a computerized management of the product.





Monti & Barabino S.p.A.



Progettazione e realizzazione grafica:
Andrea Zuffa Graphic Designer
www.andreazuffa.it



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