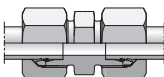
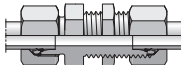
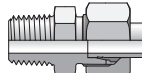
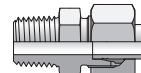
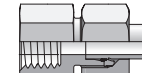
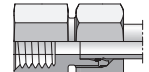
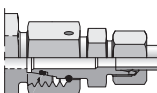
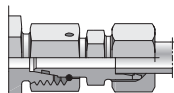
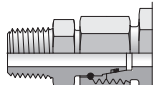
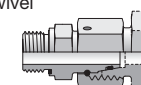
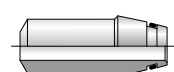
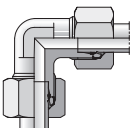
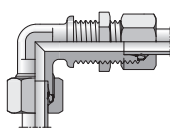
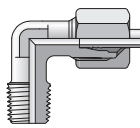
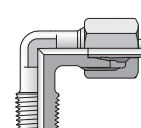
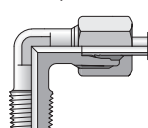
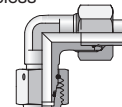
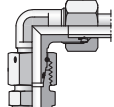
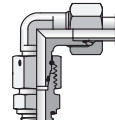
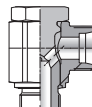
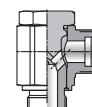
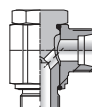


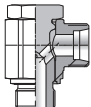
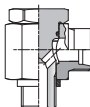
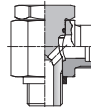
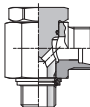
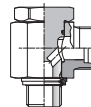
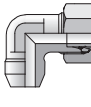
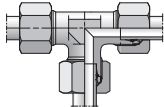
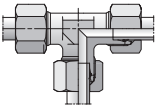
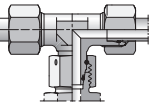
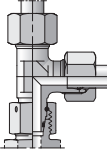
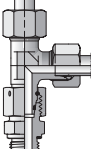
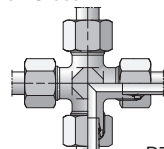
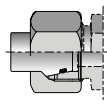
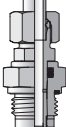
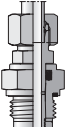
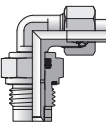
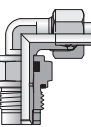
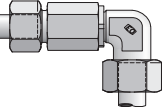
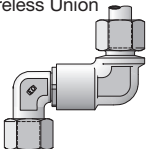
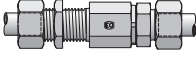
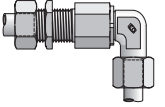
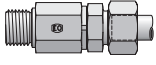
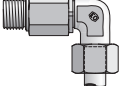
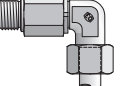
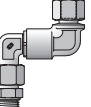
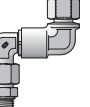
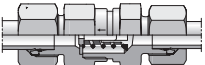
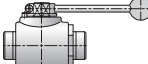
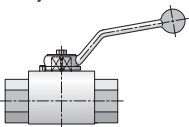
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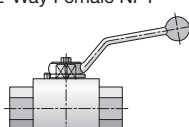
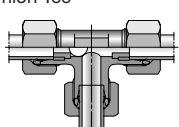
EO & EO-2

Metric Bite Type Fittings

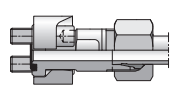
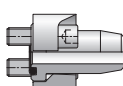
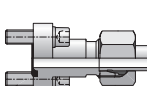
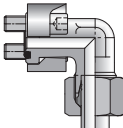
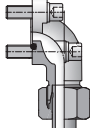


Nuts, Sleeves, Locknut, Inserts	M Nut  D14	FM Functional Nut  D15	DPR Progressive Ring  D17	D Cutting Ring  D18	PSR Progressive Ring  D18
GM Bulkhead Locknut  D19	E Insert for Plastic Tube  D20	VH Insert for Metal Tube  D21	Straights	G Union  D22	GR Reducer Union  D23
SV Bulkhead Union  D24	ESV Weld Bulkhead Union  D25	GE-UNF/UN SAE-ORB / Flareless  D26	GE-NPT NPT / Flareless  D27	GEO ISO 6149 / Flareless  D29	GE-R-ED BSPP-ED / Flareless  D30
GE-R BSPP / Flareless  D32	GE-R keg BSPT / Flareless  D34	GE-M-ED Metric-ED / Flareless  D35	GE-M Metric / Flareless  D36	GE-M keg Metric Taper / Flareless  D37	GAI-R Female BSPP / Flareless  D38
GAI-M Female Metric / Flareless  D39	AS Butt Weld / Flareless  D40	Straight Swivels	RED Tube End Reducer  D41	DA Extender  D45	GZ Swivel Union  D46
GZR Swivel Union Reducer  D47	EGE-NPT NPT / Flareless Swivel  D49	EGEO ISO 6149 / Flareless Swivel  D50	EGE-R-ED BSPP-ED / Flareless Swivel  D51	EGE-M-ED Metric-ED / Flareless Swivel  D52	SKA Butt Weld / Flareless Swivel  D53
90° Elbows	W Union Elbow  D54	WSV Bulkhead Union Elbow  D55	WE-NPT NPT / Flareless  D56	WE-R keg BSPT / Flareless  D57	WE-M Metric Taper / Flareless  D58
EW Flareless Swivel / Flareless  D59	EW-R-ED BSPP-ED / Flareless  D60	EW-M-ED Metric-ED / Flareless  D61	WHK-M-CS Banjo Metric / Flareless  D62	WHK-M Banjo Metric / Flareless  D63	WHK-R-CS Banjo BSPP / Flareless  D64

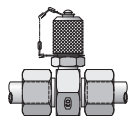
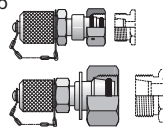
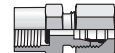
WHK-R Banjo BSPP / Flareless  D65	WH-R Banjo BSPP / Flareless  D66	WH-M Banjo Metric / Flareless  D67	WH-R-KDS Banjo BSPP / Flareless  D68	WH-M-KDS Banjo Metric / Flareless  D69	WAS Butt Weld / Flareless  D70
Tees 	T Union Tee  D71	TR Reducer Tee  D72	ET Swivel Branch Tee  D74	EL Swivel Run Tee  D75	EL-R-ED BSPP-ED Run Tee  D76
Cross 	K Union Cross  D77	Caps and Plugs 	VKA Flareless Cap  D78	ROV Flareless Plug  D79	VKAM Blanking Plug  D80
Plain Bearing Rotary Fittings 	DVGE-R BSPP-ED / Flareless  D81	DVGE-M Metric-ED / Flareless  D82	DVWE-R BSPP-ED / Flareless  D83	DVWE-M Metric-ED / Flareless  D84	
Ball Bearing Rotary Fittings 	DG101 Flareless Union  D85	DG103 Flareless Union  D86	DG105 Flareless Union  D87	DG107 Union Bulkhead  D88	DG108 90° Union Bulkhead  D89
DG102-R BSPP-ED / Flareless  D90	DG102-M Metric-ED / Flareless  D91	DG104-R 90° BSPP-ED / Flareless  D92	DG104-M 90° Metric-ED / Flareless  D93	DG106-R 24° Flareless / BSPP with EOlastic Seal  D94	DG106-M 24° Flareless / Metric Parallel  D95
Check Valves 	RHD Union  D96	RHV-R-ED BSPP-ED / Flareless  D97	RHV-M-ED Metric-ED / Flareless  D98	RHZ-R-ED BSPP-ED / Flareless  D99	RHZ-M-ED Metric-ED / Flareless  D100
RHDI Female BSPP Union  D101	RVP Cartridge  D102	I-TL Internal Parts  D103	Ball Valves 	KH 2-Way Flareless Union  D104	KH-BSPP 2-Way Female BSPP  D106

KH-NPT 2-Way Female NPT  D108	 Alternating Valves	WV Union Tee  D110
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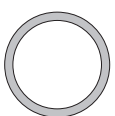
Flange Adapters (Shown in Section K)

 Flange Adapters	GFS Code 61, 62 / Metric Flareless  K14	AS Code 61, 62 / Weld Butt Tube Metric  K28	BFG DIN Flange / Metric Flareless  K15	WFS Code 61, 62 / Metric Flareless  K35	BFW DIN Flange / Metric Flareless  K36
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Diagnostic and Specialty Adapters (Shown in Section L)

 Test Point Connectors	GMA3 EO Tube / EO Tube / EMA-3 Diagnostic Tip  L5	VKA3 EO Swivel / Diagnostic Tip  L8	MAVE BSPP Gauge / EO Swivel  L6	MAV BSPP Gauge / EO Tube  L6
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O-Rings and Seals (Shown in Section M)

 O-Rings and Seals	DKI Pressure Gauge Sealing Ring  M8	EO EOlastic Seal Ring  M6	OR EO O-Ring  M9	DOZ EO-2 Sealing Ring  M7	RR Metric Retaining Ring  M5
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EO Progressive Ring Fittings — Introduction

The flareless bite type fitting was pioneered by Ermeto in Germany in the early 1930's. When Parker Hannifin acquired Ermeto, it introduced the EO fittings to the US. Today, the EO fittings are the most widely used bite type fittings in the world.

The EO progressive ring fitting is a flareless metric fitting (for metric tube) that consists of a body, a progressive ring (ferrule) and a nut. On assembly, two cutting edges of the progressive ring "bite" into the outer surface of the tube ensuring the necessary holding power and seal for high operating pressures.

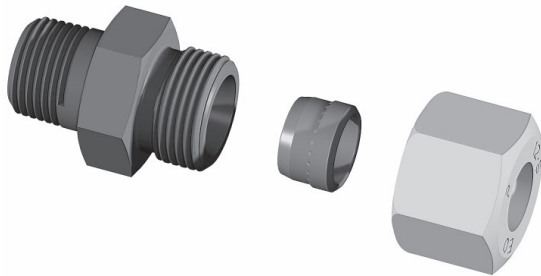


Fig. D1 — EO fitting components: Body, progressive ring and nut

The fittings and components listed in this catalog are intended solely for the assembly of connections for fluid applications.

Three series of EO tube fittings (LL, L and S) and accessories are manufactured in accordance with DIN 2353 (summary) which today is represented by international standard 8434-1 on the basis of decades of experience.*

To ensure functional safety of EO tube fittings, only EO parts should be used in their assembly. Routing of tubes should be carried out in accordance with Parker/EO recommended practices. Assembly instructions are available.

Design and Construction

The three components of EO fittings are designed and manufactured to produce a strong, reliable, leak-free joint upon proper assembly.

The EO Body. EO fitting bodies are available in over thirty configurations. The shaped products (i.e., elbows, tees, crosses) are hot forged, then machined to the stringent EO fitting specifications. The forging process used by Parker further improves the strength and metallurgical properties of the fitting material.

Straight products are made from cold drawn bar stock. The cold drawing operation ensures consistently tight dimensional tolerances, as well as significantly improved strength.

The EO Progressive Ring (Cutting Ring). EO progressive rings are precision machined with all dimensions and surfaces, particularly the critical bite edges, monitored on an ongoing basis. The rings are then heat treated in a manner that provides

the hardness, strength, and toughness necessary to satisfy the demanding service conditions that exist in industry today. The original progressive ring, known as DPR, is now being replaced with the new generation, called PSR. PSR is stronger and features a "positive stop" to eliminate over-tightening.

The EO Nut. EO fitting nuts are either cold formed, hot formed or machined from cold drawn material. The cold forming and cold drawing operations provide a more tightly packed grain structure, thus improving the material's strength. In addition, cold forming significantly improves the fatigue properties or endurance limits of the nuts.

Standard Material Specifications

Steel fittings:

EO tube fittings — Materials according to DIN 3859-1

Stainless steel fittings:

EO tube fittings — X6CrNiMoTi 17122 in accordance with DIN 17440 / EN 10088, material no. 1.4571.

Brass fittings:

EO tube fittings — CUZN35Ni2 in accordance with DIN 17660, material no. 2.0540.

Elastomer seals: NBR (BUNA-N), FKM (Fluorocarbon)

Surface Finish - Steel fittings:

Standard LL Series	Body, Nuts, and Rings	— Zinc-Nickel Plating, Parker's ToughShield Plus
L+S Series	Body and Nuts	— Zinc-Nickel Plating, Parker's ToughShield Plus
	Progressive Rings (PSR)	— Zinc-Nickel Plating, Parker's ToughShield Plus

Short codes for surface protection procedure in accordance with DIN 267 part 9 or DIN 50942.

How EO Fittings Work: Function of Progressive Ring Fittings

The EO progressive ring fitting produces a low to high pressure, leak free connection of tubes and components in fluid systems. The basic function of the EO progressive ring is the controlled progressive bite of the ring into the tube due to a unique internal geometry.

The front cutting edge has already started cutting into the tube before the second cutting edge starts. As soon as both cutting edges have cut the tube to the designed depth further advance is limited by the stop edge.

Owing to the design of both cutting edges and stop edge all forces arising are equally distributed. This distribution along with the specially designed interior collar of the ring guarantees increased robustness, particularly with regard to vibration and flexure stresses. The design and function of the progressive cutting ring ensure that service vibration loading is not present in the areas of the tubing where the bite is made.

*The selection of LL, L or S design should be made by the user on the basis of intended system pressure. The pertinent maximum recommended working pressures are shown throughout this catalog in individual data charts of the various fitting configurations.

The stop edge causes a sharp increase in tightening forces which is clearly perceptible. After assembly, a visible collar of cut tube material must completely fill the space in front of the first cutting edge. With stainless steel tube and hose connections made from free cutting steel, the collar is less due to the harder material.

During assembly, it is absolutely essential that the tube is held firmly against the stop in the inner cone of the fitting; if not, the cutting process will not take place satisfactorily. Reassembly can be performed an unlimited number of times.

Assembly and Installation

Please refer to Section R for the assembly and installation instructions for EO and EO-2 Metric Bite type fittings.

Weld Nipples

EO weld nipple fittings with an O-ring seal between weld nipple and body give impressive pull out resistance and sealing integrity, and a sensible alternative to the progressive ring. Fittings bodies and nuts are fully interchangeable for weld nipple and progressive ring fittings of the same series and tube outside diameter. Weld nipples SKA conform to DIN 3865 form A, which today is represented by international standard ISO 8434-4.

Ball Bearing Rotary Fittings

DG Ball Bearing Rotary Fittings: These compact, maintenance-free construction, service proven fittings combine ball and plain bearings with constant lubrication and relatively wear resistant annular piston seals. They are rated for working pressures up to 250 bar, have a low starting torque and have a suitable pressure/RPM rate.

Ball bearing rotary fittings are designed for connecting a fixed point to a rotating, swiveling or moving machine part via tubing or hoses. Thus axial torsion of tubing or hoses can be prevented. They are suitable for hydraulic oils and lubricants of mineral oil base, not suitable for water or gases. Nominal temperature range is -25°C to +80°C.

Fitting Instructions:

The life of rotary fitting depends considerably in a stress-free line connection. Therefore, the direct connection with tube is to be avoided. For connection to hoses the use of swivel nut fittings is recommended with short, straight lines (approx. length 5x hose O.D.). Thus shocks and vibrations can be absorbed.

Assemble tube ends in accordance with the Tube End Assembly Information on pages R12 through R13. Assemble BSPP and metric stud ends in accordance with torque values on page R5.

Plain Bearing Rotary Fittings

Plain Bearing Rotary Fittings: These compact, maintenance-free construction, service proven fittings are rated for low pressure tube and hose with slow rotating, swiveling or moving machine parts up to 64 bar (L series) and 160 bar (S series).

Plain bearing rotary fittings are designed for connecting a fixed point to a rotating, swiveling or moving machine part via tubing or hoses. Thus axial torsion of tubing or hoses can be prevented. They are suitable for hydraulic oils and lubricants of mineral oil base, not suitable for water or gases. Nominal temperature range is -35°C to +100°C.

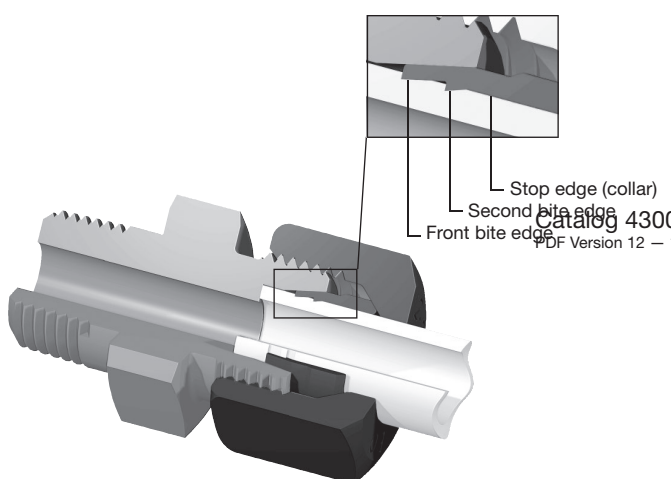


Fig. D2 — How EO fittings work

Tube O.D.	Nominal bore (mm)	Permissible number of revolutions (rpm) under a working pressure** of:					Torque at 250 bar/Nm
		25 bar	64 bar	100 bar	160 bar	250 bar	
6 8	5.0	1500	750	400	200	85	0.08
12 16	9.5	800	400	200	100	45	0.24
20 25	16.0	300	150	75	38	15	0.8
30 38	26.0	200	100	50	25	10	2.0

Table D1 — Ball Bearing Recommended RPM and Starting Torques

**A minimum working pressure of 10 bar is necessary.

Series L Tube O.D.	6	8	10	12	15	18	22	28	35	
Permissible RPM	28	28	21	17	13	10	10	7	7	
Series S Tube O.D.	6	8	10	12	14	16	20	25	30	38
Permissible RPM	11	11	9	7	5	5	4	4	3	3

Table D2 — Plain Bearing Recommended RPM

Fitting Instructions:

The life of a rotary fitting depends considerably in a stress-free line connection. Therefore, the direct connection with tube is to be avoided. For connection to hoses, the use of swivel nut fittings is recommended with short, straight lines (approx. length 5x hose O.D.). Thus, shocks and vibrations can be absorbed.

Non-Return Valves

Characteristics: Sealing is achieved by using a 90° cone with a packing washer of synthetic material. Valve has a lift stop which provides safe free outlet, shock-absorbing, muffled opening and no reduction of cross section. Maximum flow velocity not more than 8 m/sec (for higher flow velocities special tests are required).

Opening Pressure: Approximately 1 bar standard (on request also 0.2, 0.5, 2, 3, 4, 5 & 6 bar are available). Please specify nonstandard opening pressures on order as follows: Tube Fitting part number, opening pressure, material. Ex: RHD12L2BCF is a RHD12LCF with 2 bar opening pressure. Tolerance of (cracking) pressure is $\pm 20\%$.

Tube Recommendations

For steel and stainless steel tube recommendations, as well as tube wall thickness information, please refer to Metric Tube, Section P.

Seamless cold drawn steel tubes made from material St. 35.4 or from conditioned base material St. 37.4 in accordance with DIN 1630, state of delivery NBK (normal annealed) with tube outer and inner diameter tolerances in accordance with DIN 2391/ISO 3304. Max. hardness: HRB 75.

For stainless steel fittings:
Material no. 1.4571 and 1.4541

Seamless drawn tubes made from austenitic, stainless steel materials no. 1.4571 and 1.4541, in accordance with DIN/EN/ISO 1127. Max. hardness: HRB 90.

These tubes are particularly recommended for tube fittings, since the tube outer diameter and wall thickness, tolerances correspond to those of steel tubes in accordance with DIN 2391/ISO 3304.

For brass fittings:

Seamless drawn copper tube made from material with short code SF-Cu F37 in accordance with DIN 1786.

Tube wall thicknesses:

In order to determine the necessary tube wall thicknesses for applications, refer to the calculated pressures provided in the tables for EO metric tubing. The calculated pressures DIN 2413-I are for static and DIN 2413-III for dynamic loads.

The maximum wall thickness is based on the pressure holding capacity of the fitting. In some cases, the wall thickness of the tube might be too thin for reliable service and an insert must be used to prevent excessive tube collapse. See assembly section for recommended tube wall thicknesses.

Plastic tube:

EO fittings are suitable for use with various types of plastic tubes such as nylon, polyethylene, etc. When used with plastic tube, an insert (see page D20) must be used to prevent tube pull out due to tensile loading.

Features, Advantages & Benefits

- **Visible Bite** — The critical front bite of the progressive ring is clearly visible to tube fitters & inspectors. The presence of the recommended bite virtually eliminates any risk of catastrophic blow-off. This is a very important safety feature.
- **Sealing Capability** — EO fittings have demonstrated a remarkable ability to remain leak free under various service conditions ranging from sealing high vacuum and small molecules gases to high pressure hydraulic fluids.
- **Distributed Stresses** — Stresses due to service flexural loading are distributed at several points in the joint, thus stress concentration in the bite is minimized.
- **Vibration Control** — The rear bevel of the ferrule firmly grips tubing, thus dampening the effects of system vibration in the joint.
- **Progressive Ring Design** — The progressive ring design provides a second bite for improved reliability and higher working pressure capability. This design also decreases the risk of improper assembly because of the sharp, high torque rise which occurs when the fitting is properly tightened.
- **Envelope Size** — EO fittings are relatively small and compact, making it a suitable selection for plumbing in limited or tight space.
- **Temperature Rating** — EO fittings are suitable for sub-zero through elevated temperature applications. Service temperature rating is limited by the material chosen.
- **Compatibility** — Since EO fittings can be manufactured from a wide range of metals, its compatibility factor with various fluids and atmospheric conditions is virtually limitless. One simply has to select and specify EO fittings from an acceptable material that best satisfies the service conditions.
- **Tube Wall** — EO fittings are suitable for use with light wall, medium wall, heavy wall, and extra heavy wall tubing. (Light wall tube may require support sleeve (VH), as shown in Assembly/Installation Section.)
- **Re-Usability / Remakeability** — Joints can be disassembled and reassembled many times to facilitate system maintenance. This reduces the labor and material costs that would otherwise result from tube and fittings replacement.
- **Assembly** — No expensive, complicated tooling is necessary to assemble EO fittings. Assembly is simple when the procedures described in the Assembly / Installation section are followed (see pages R35 - R43).
- **Materials** — EO fittings can be manufactured from almost any metallic material. The more popular materials currently used for EO fittings are: stainless steel, carbon steel, and brass. On request, the Tube Fitting Division will machine EO fittings from other appropriate material specified by users.
- **Manufacture** — EO fittings are manufactured under tight quality control which ensures that the product routinely satisfies or surpasses the requirements of the pertinent industrial standards.
- **World Wide Popularity** — The bite type fitting design has worldwide acceptance and is especially popular in Europe.
- **Superior Plating:** Parker's EO/EO2 steel fittings come standard with ToughShield™ Plus zinc-nickel plating, giving them unmatched protection against red rust. In ASTM B117 / ISO 9227 neutral salt spray testing, fittings and adapters with ToughShield Plus plating remained rust free for

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up to 3,000 hours. This performance far exceeds the SAE industry requirement, even on post plating deformed parts like crimp nuts and back-up washers where SAE allows for large exceptions. Learn more and see the difference at toughshield.com.

- **Finish** — Steel EO fittings have a Zinc-Nickel plating, Parker's ToughShield Plus. This finish provides good corrosion protection.
- **Silver Plated Nuts** — Stainless steel tube nuts are pre-lubricated with silver plated threads (size 15L-42L, 12S-38S). Thread galling is eliminated and assembly torque is reduced as much as 40 percent. This increases the speed and efficiency for stainless steel fitting assembly.
- **Availability** — EO fittings are available as standard in over thirty different configurations, and as many as twenty-seven different size combinations in some configurations.
- **Configurations** — Popular configurations for EO fittings are shown in the Visual Index. Other configurations can be manufactured on request.

EO-2 Fitting System — Introduction

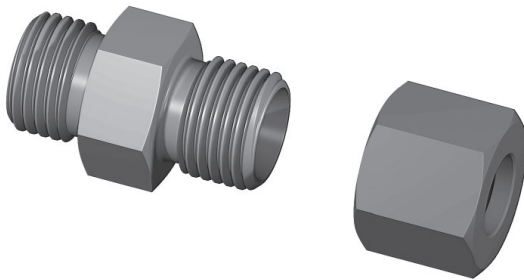


Fig. D3 — EO-2: Fitting body and functional nut

The EO-2 high pressure tube fitting generation is the most recent development of the Tube Fitting Division Europe. It was introduced in an effort to eliminate leakage in all fluid systems.

The common feature of all EO-2 fittings is elastomeric seals on all joints. This assures leakfree operation without retightening — even under severe working conditions. Another breakthrough in bite-type technology is the simple assembly and cost-saving handling of the unique EO-2 Functional Nut.

EO-2 is a true metric design according to 24° bite-type standards such as: ISO 8434-1, DIN 2353 or DIN 3861. It covers all three series (LL, L and S) of the broad EO tube fitting program.

This resulted in a great acceptance with equipment manufactures that are targeting an absolute leakfree systems without sacrificing the convenience of using metric bite type fittings.

Design and Construction

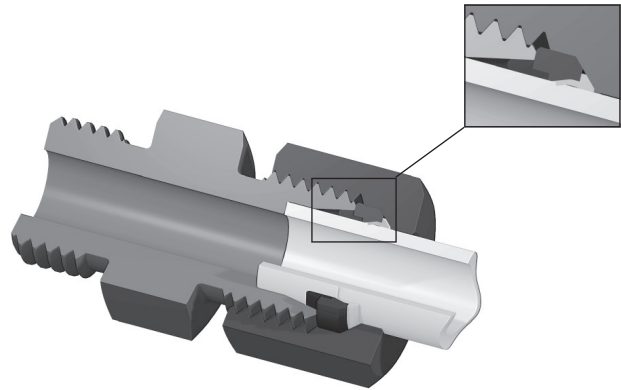


Fig. D4 — EO-2: The metallic support of the sealing ring acts just like an integrated preassembly tool.

Elastomeric Sealing

The elastomeric seal assures a hermetically sealed tube joint. It is located in between the inner cone of the fitting body and the tube surface, thus blocking the only possible leak path. Due to its large cross-section, the seal effectively compensates for all manufacturing tolerances on tube and fitting cone.

The sealing effect is pressure supported which makes the EO-2 fitting suitable for high pressure applications. The static compression also eliminates air-ingress into the fluid system at underpressure conditions.

Elastomerically sealed EO-2 fittings do not require any retightening even in heavy-duty applications. Seal extrusion is prevented by proper housing without gaps or dead volume. The sealing lip is bonded to a metallic support ring.

Standard Material Specifications

Steel fittings:

EO-2 tube fittings — Materials according to DIN 3859-1

Stainless steel fittings:

EO-2 tube fittings — X6CrNiMoTi 17122 in accordance with DIN 17440 / EN 10088, material no. 1.4571.

Brass fittings:

EO-2 tube fittings — CUZN35Ni2 in accordance with DIN 17660, material no. 2.0540.

Elastomer seals: NBR (BUNA-N), FPM (Fluorocarbon)

Surface Finish - Steel fittings:

Standard

LL Series	Body, Nuts, and Rings	- Zinc-Nickel Plating, Parker's ToughShield Plus
L+S Series	Body and Nuts	- Zinc-Nickel Plating, Parker's ToughShield Plus

Short codes for surface protection procedure in accordance with DIN 267 part 9 or DIN 50942.

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How EO-2 Fittings Work

The retaining ring bites into the tube in accordance to the proven bite ring principle. The elastomeric seal reduces the danger of over- or underassembly by a special EO-2 design feature: Before assembly there is a gap in between the flat surfaces of the retaining ring and the metallic support ring of the seal. As soon as the retaining ring has reached the proper incision depth, the gap closes, resulting in a sharp increase of assembly torque. This results in uniform and reliable fitting assemblies. The assembly result can easily be inspected by just checking if the gap is closed.

The separation of sealing and holding functions to two separate elements finally allows a more effective solution of the over- and undertightening problems typically associated with bite type fittings.

Assembly and Installation

Please refer to Section R for the assembly and installation instructions for EO and EO-2 Metric Bite type fittings.

Integrated Assembly Tool

The metallic support ring of the seal is made of a specially designed material and heat-treatment to act as an assembly tool. This makes sure that the retaining ring securely cuts into the tube surface without damaging the sensitive inner cone of the fitting body.

This unique feature of EO-2 fittings even allows direct assembly of tube without any additional pre-assembly process. An EOMAT machine (or other hydraulic tool) is strongly recommended to allow easy assembly of large dimension tube and drastically save total assembly time, effort and costs. The integrated assembly tool of EO-2 fittings even helps to save further costs and trouble when using an EOMAT-type presetting machine: As the presetting cone is only in contact with the elastomeric sealing lip, it cannot be worn out or damaged even after thousands of assemblies. This not only saves replacement costs but also avoids leakage problems caused by worn presetting tools.

The Functional Nut

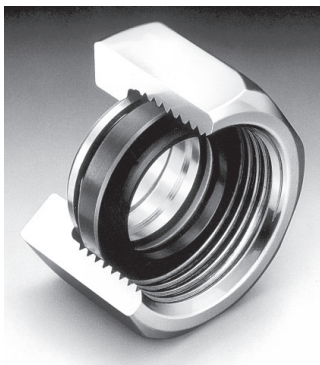


Fig. D5 — The unique Functional Nut allows easy handling and quick assembly.

The unique Functional Nut simplifies handling of fitting components and helps to minimize storage and procurement costs.

The sealing and retaining rings are combined as a pair and are inserted into the internal thread of the nut in such a manner that they cannot fall out, so that these three parts form one functional element.

Individual components such as seal or retaining ring cannot be forgotten, confused or assembled in the wrong orientation. Time and cost are saved by eliminating searching and arranging the components to make up individual joints.

Functional Nuts are completely interchangeable with the full range of EO tube fitting ends.

After assembly and disassembly, the sealing ring can be replaced individually without cutting off the tube end.

Tube Recommendations

For steel fittings:

Seamless cold drawn steel tubes made from material St. 35.4 or from conditioned base material St. 37.4 in accordance with DIN 1630, state of delivery NBK (normal annealed) with tube outer and inner diameter tolerances in accordance with DIN 2391/ISO 3304. Max. hardness: HRB 75.

For stainless steel fittings:

Material no. 1.4571 and 1.4541

Seamless drawn tubes made from austenitic, stainless steel materials no. 1.4571 and 1.4541, in accordance with DIN/EN/ISO 1127. Max. hardness: HRB 90.

These tubes are particularly recommended for tube fittings, since the tube outer diameter and wall thickness, tolerances correspond to those of steel tubes in accordance with DIN 2391/ISO 3304.

Tube wall thicknesses:

In order to determine the necessary tube wall thicknesses for applications, refer to the calculated pressures provided in the tables for EO metric tubing. The calculated pressures DIN 2413-I are for static and DIN 2413-III for dynamic loads.

The maximum wall thickness is based on the pressure holding capacity of the fitting. In some cases, the wall thickness of the tube might be too thin for reliable service and an insert must be used to prevent excessive tube collapse. See assembly section for recommended tube wall thicknesses.

Plastic tube:

EO-2 fittings are suitable for use with various types of plastic tubes such as nylon, polyethylene, etc. When used with plastic tube, an insert (see page D20) must be used to prevent tube pull out due to tensile loading.

Features, Advantages and Benefits of the EO-2 Fitting System

In addition to the general advantages of the EO tube fitting system, the unique EO-2 fitting features offer even more specific benefits:

- **Sealing Capability** — An elastomeric seal forms the primary sealing element, thus assuring leak-free sealing. Even low-viscosity media such as water or gas are hermetically sealed. Hydraulic systems, therefore, do not “sweat” at fittings.
- **High Pressure Resistance** — EO-2 fittings are rated up to Pmax 900 bar. Sealing lip and seal arrangements have both been designed so that the sealing effect is supported by system pressure. The interaction of the retaining ring and the integrated preassembly tool results in uniform and reliable fitting assembly.
- **Durability** — The elastomeric seal does not require any retightening even after years of operation under severe working conditions.
- **Bite Control** — The ideal bite depth is controlled by the fitting design rather than by the fitters force. Closing the gap at the end of the manual assembly, the fitter gets clear signal that setting is completed and the joint is ready for inspection.
- **Functional Nut** — Individual components such as the retaining ring or seal cannot be lost, forgotten, confused or assembled in the wrong orientation. This dramatically saves assembly cost and helps to avoid dangerous assembly errors.
- **Assembly Cost** — With less than 10 seconds cycle time on the EOMAT III/A (actual presetting process: 1.4 seconds), the cost of presetting EO-2 is extremely low.
- **Integrated Preassembly Tool** — Each EO-2 Functional Nut comes assembled with an integrated assembly tool that makes sure that the retaining ring securely cuts into the tube surface without damaging the sensitive inner cone of the fitting body. This greatly reduces the danger of tube blow-off, even when using stainless steel tube.
- **Unlimited Presetting Tool Lifetime** — When EOMAT machines are used for cost-efficient presetting, the preassembly tools do not wear out as they are only in contact with the rubber seal. This avoids dangerous blow-off which can result when traditional bite-type fittings are assembled using worn presetting tools.
- **Make-up** — From the wrench-tight position of the preset EO-2 joint, one short pull on the wrench (approx. 1/6 to 1/4 turn) gives the assembly a quick high rise to required torque. EO-2 fittings have a solid “hit-home-feel” and excellent over-torque resistance.
- **Visible Inspection** — There is no doubt if an EO-2 Functional Nut has been preset correctly or not. Inspection is as simple as checking if the gap between retaining ring and sealing ring is completely closed. The tube end does not have to be disassembled out of the fitting for bite inspection.
- **No Phantom Leaks** — Lubrication is not mandatory for the assembly of steel EO-2 fittings. The machine operator will not be irritated about lubricant coming out of the fittings once the hydraulic system gets hot.
- **Re-Usability / Remakeability** — EO-2 fittings can be disassembled and reassembled many times. There is no wear or widening of the vulnerable inner cone. Damaged seals can easily be replaced. All spare DOZ-seals are marked by size-code (e.g.: 12-L).
- **On-Site Maintenance** — For the maintenance and replacement of EO-2 fittings a set of wrenches is sufficient. Additional in line components, such as test points (GMA), ball valves (KH) or T-fittings can be added to an existing assembly within minutes.
- **Interchangeability** — The EO-2 Functional Nut can be used for the whole variety of the broad range of more than 50 configurations in some 25 sizes of standard EO LL, L and S-series fittings. Changeover from Progressive ring or weld nipple is easy by the simple use of EO-2 Functional Nuts.
- **Reliability** — Millions of EO-2 fittings are working trouble-free in applications like: Mobile construction equipment, stationary machine tools, hydraulic presses, plastic injection molding machines, shipbuilding, offshore exploration, submarines, railway trains and military equipment. Leakage does not occur on EO-2 pipework.
- **Trouble-Free** — Regular bite type fittings allow typical assembly-errors such as: confusion of bite type ring material and size. Also, the use of worn-out preassembly tool may result in fitting failure. The clever EO-2 design eliminates most of these mistakes without making the assembly process more complicated.
- **Popularity** — EO-2 fittings are as easy to assemble as traditional bite type fittings, but they eliminate most of their typical assembly problems. EO-2 fittings are therefore appreciated by an increasing number of original equipment manufacturers. EO-2 also has become the fitting of choice of end-users that appreciate the leakfree performance, the easy maintenance and the global availability of the metric soft-seal bite type system.

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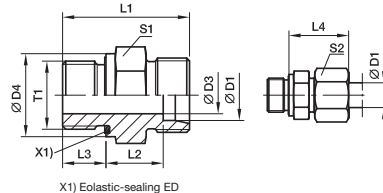
How to order



DIN fittings

GE-R-ED Male stud connector

Male BSPP thread – ED-seal (ISO 1179) / EO 24° cone end



X1) Elastic-sealing ED

Series	D1	T1	D3	D4	L1	L2	L3	L4	S1	S2	Weight g/1 piece	Part Number*	CF	71	MS
LL ²⁾	04 G 1/8 A	3	14	20.0	9.5	6.5	19	14	10	10	11	GE04LLREDOMD	100	100	63
	06 G 1/8 A	4	14	20.0	8.0	6.5	20	14	12	10	11	GE06LLREDOMD	100	100	63
L ³⁾	06 G 1/8 A	4	14	23.5	8.5	8.0	23	14	14	13	13	GE06LR1/8EDOMD	500	315	200
	06 G 1/4 A	4	19	29.0	10.0	12.0	25	19	14	28	28	GE06LR1/4EDOMD	500	315	200
	06 G 3/8 A	4	22	30.5	11.5	12.0	26	22	14	44	44	GE06LR3/8EDOMD	420	315	200
	06 G 1/2 A	4	27	33.0	12.0	14.0	27	27	14	61	61	GE06LR1/2EDOMD	400	315	200
	08 G 1/4 A	6	19	29.0	10.0	12.0	25	19	17	27	27	GE08LR1/4EDOMD	500	315	200
	08 G 1/8 A	4	14	24.5	9.5	8.0	24	14	17	16	16	GE08LR1/8EDOMD	500	315	200
	08 G 3/8 A	6	22	30.5	11.5	12.0	26	22	17	45	45	GE08LR3/8EDOMD	420	315	200
	08 G 1/2 A	6	27	33.0	12.0	14.0	27	27	17	74	74	GE08LR1/2EDOMD	400	315	200
	10 G 1/4 A	6	19	30.0	11.0	12.0	26	19	19	29	29	GE10LR1/4EDOMD	500	315	200
	10 G 1/8 A	4	14	25.5	10.5	8.0	25	17	19	21	21	GE10LR1/8EDOMD	500	315	200
	10 G 3/8 A	8	22	31.5	12.5	12.0	27	22	19	43	43	GE10LR3/8EDOMD	420	315	200
	10 G 1/2 A	8	27	34.0	13.0	14.0	28	27	19	71	71	GE10LR1/2EDOMD	400	315	200
	12 G 3/8 A	9	22	31.5	12.5	12.0	27	22	22	41	41	GE12LR3/4EDOMD	420	315	200
	12 G 1/8 A	4	14	26.5	11.5	8.0	26	19	22	26	26	GE12LR1/8EDOMD	500	315	200
	12 G 1/4 A	6	19	31.0	12.0	12.0	27	19	22	26	26	GE12LR1/4EDOMD	500	315	200
	12 G 1/2 A	10	27	34.0	13.0	14.0	28	27	22	1	1	GE12LR1/2EDOMD	315	200	100
	12 G 3/4 A	10	32	37.0	14.0	16.0	29	32	22	1	1	GE12LR3/4EDOMD	160	100	100
	15 G 1/2 A	11	27	35.0	14.0	14.0	29	27	27	27	27	GE15LR3/8EDOMD	315	200	200
	15 G 3/8 A	9	22	32.5	13.5	12.0	29	24	27	27	27	GE15LR3/8EDOMD	315	200	200
	15 G 3/4 A	12	32	38.0	15.0	16.0	30	32	27	11	11	GE15LR3/4EDOMD	160	100	100
	18 G 1/2 A	14	27	36.0	14.5	14.0	31	27	32	77	77	GE18LR1/2EDOMD	400	315	200
	18 G 3/8 A	9	22	33.5	14.0	12.0	30	27	32	66	66	GE18LR3/8EDOMD	400	315	200
	18 G 3/4 A	15	32	38.0	14.5	16.0	31	32	32	110	110	GE18LR1/2EDOMD	250	160	100
	22 G 3/4 A	18	32	40.0	16.5	16.0	33	32	36	102	102	GE22LR1/2EDOMD	250	160	100
	22 G 1/2 A	14	27	38.0	16.5	14.0	33	32	36	91	91	GE22LR1/2EDOMD	250	160	100
	22 G 1 A	19	40	43.0	17.5	18.0	34	41	36	189	189	GE22LR1EDOMD	250	160	100
	28 G 1 A	23	40	43.0	17.5	18.0	34	41	41	179	179	GE28LR1EDOMD	250	160	100
	28 G 3/4 A	18	32	41.0	17.5	16.0	34	41	41	150	150	GE28LR3/4EDOMD	250	160	100
	28 G 1 1/4 A	24	50	48.0	18.5	20.0	35	50	41	316	316	GE28LR11/4EDOMD	250	160	100
	35 G 1 1/4 A	30	50	48.0	17.5	20.0	39	50	50	272	272	GE35LR1EDOMD	250	160	100
	35 G 1 A	23	40	46.0	17.5	18.0	39	46	50	226	226	GE35LR1EDOMD	250	160	100
	35 G 1 1/2 A	30	55	52.0	19.5	22.0	41	55	50	423	423	GE35LR11/2EDOMD	250	160	100
	42 G 1 1/2 A	36	55	52.0	19.0	22.0	42	55	60	343	343	GE42LR1EDOMD	250	160	100
	42 G 1 A	23	40	48.0	19.0	18.0	42	55	60	324	324	GE42LR1EDOMD	250	160	100
	42 G 1 1/4 A	30	50	50.0	19.0	20.0	42	55	60	348	348	GE42LR11/4EDOMD	250	160	100

¹⁾ Pressure shown = item deliverable
²⁾ LL = very light series; ³⁾ L = light series
PN (bar) = PN (MPa)
10

Delivery without nut and ring. Information on ordering complete fittings or alternative sealing materials see page 17.

*Please add the suffixes below according to the material/surface required.

Material	Standard sealing material (no additional suffix needed)
Steel, zinc plated, Cr(VI)-free	NBR
Stainless Steel	VIT
Brass	NBR

GE18LREDOMDCF

GE18LREDOMD71

GE18LREDOMDMS

The right way to order made easy!

Step 1 Selecting part number

- 1.1 All fitting sizes available in our fitting program are clearly listed in the index at the front of this catalogue.
- 1.2 Open the catalogue at the corresponding page containing detailed information of the product of your choice.
- 1.3 Select the required fitting size! The basic part number is printed in bold type on the right-hand side of the table of dimensions.

Example: **GE16SREDOMD**

Step 2 Selecting material, surface and sealing-material

Now simply add the corresponding code for the surface and material variant of the product you require to the basic part number. This code is contained in the table printed at the bottom of every page.

2.1 Alternative sealing material

Example: Cr(VI)-free steel fitting with ED-seal in FKM material.
GE16SRED+OMD+VIT+CF
= **GE16SREDVITOMDCF**

Example: Stainless steel fitting with ED-seal in NBR material (e. g. Perbunan).
GE16SREDOMD+NBR+71
= **GE16SREDNBROMD71**

Step 3 When ordering fittings complete with nuts and rings

- 3.1. Metal sealed cutting rings PSR/DPR/D: For these types please delete the 'OMD' or 'X' suffixes.
Example: **GE16SREDCF**
- 3.2. Soft sealed EO-2 functional nut: For these types please delete the 'OMD' or 'X' suffixes and add a 'Z' before the series suffix (LL, L, S)
Example: **order with EO-2 functional nut**
GE16(+Z)SREDCF
= **GE16ZSREDCF**

Perbunan = registered trademark of Bayer



I51

Catalogue 4100-10/UK

The fitting material information is located in a table at the bottom of every page in the EO/EO-2 section.

Dimensions and pressures for reference only, subject to change.

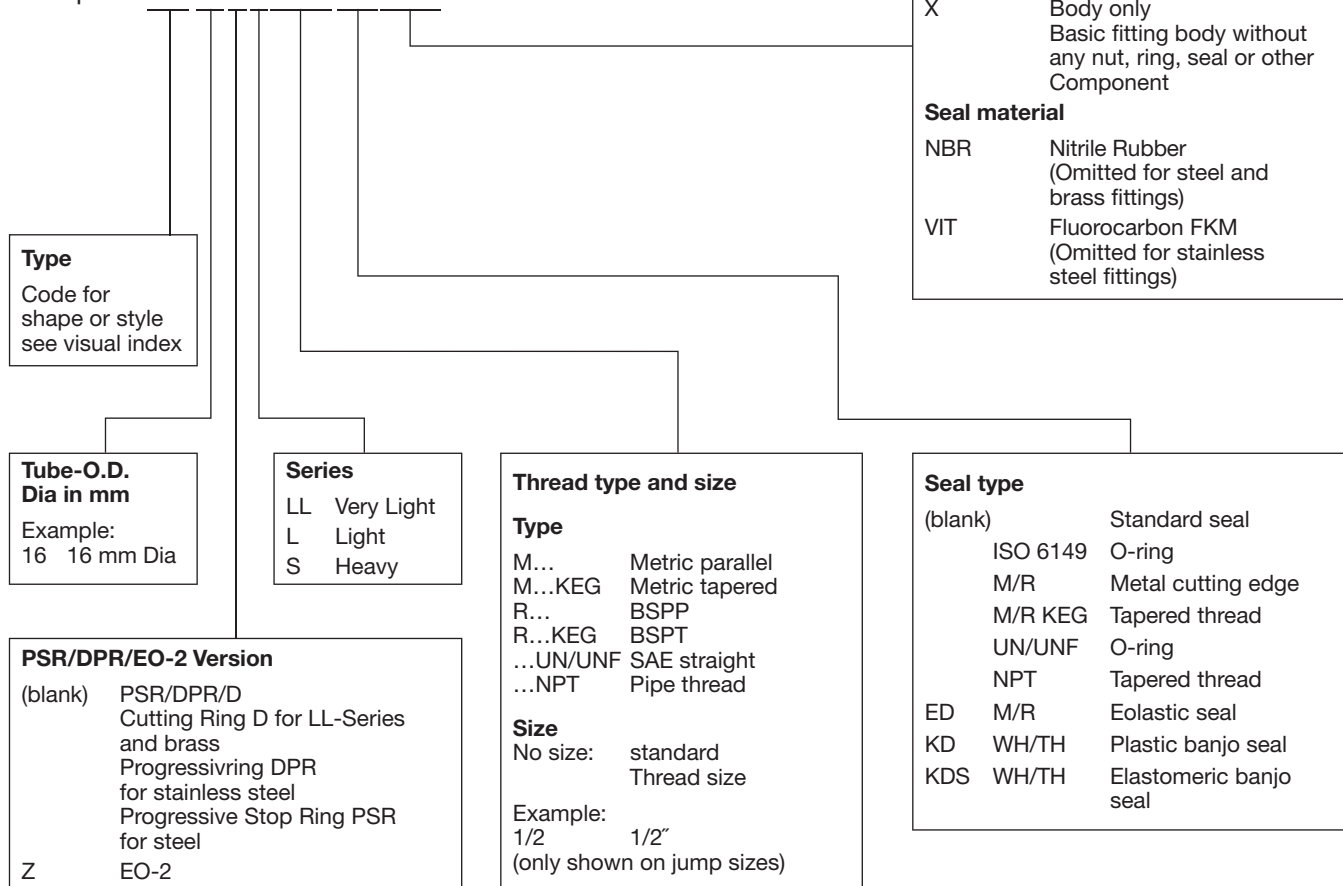


D11

Parker Hannifin Corporation
Tube Fittings Division
Columbus, Ohio
<http://www.parker.com/tfd>

How to order EO-Fittings:

Nomenclature
Example: **GE16ZSR3/8ED CF**



Examples

Part number	Description	Part number	Description
GE12ZSR1/2EDCF	Straight male stud, EO-2, 20 mm tube O.D., heavy series, G 1/2 BSPP, Elastomeric seal, complete with nut and ring, zinc-nickel plated steel fitting. all seals NBR	EVT08LOMDMS	Adjustable standpipe branch tee, 8 mm tube O.D., light series, brass fitting without nut and ring, standpipe preassembled with nut and ring.
GE12LR71X	Straight male stud, 12 mm tube O.D., light series, G 3/8 BSPP, metal seal type B, stainless steel fitting, body only	EL38VITOMDCF	Adjustable swivel nut run tee 38 mm tube O.D., heavy series, zinc-nickel plated steel fitting without nut and ring. Swivel nut end with FKM seal
		DOZ04LL	Spare seal for EO-2 joints, 4 mm O.D., very light series, steel with nitrile rubber seal

Perbunan = registered trademark of Bayer

Dimensions and pressures for reference only, subject to change.

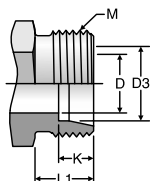


EO and EO-2 Metric Tube Ends

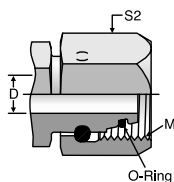
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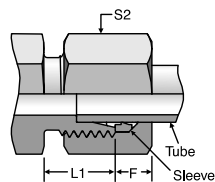
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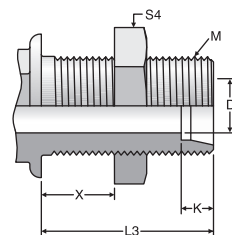
**EO/EO-2 Male
Tube End**



EO/EO-2 Swivel



EO/EO-2 Assembly



EO/EO-2 Bulkhead

	End Size	Thread	Drill	Tube Nut Assembled Allowance	Tube Depth	Male Turn Back	Bulkhead Length	Tube/Swivel Nut Hex	Bulkhead Nut Hex	Max Bulkhead Thickness
Size	D3 (mm)	M Metric	D (mm)	F (mm)	K (mm)	L1 (mm)	L3 (mm)	S2 (mm)	S4 (mm)	X (mm)
4LL	4	M8x1	3	5.5	4.2	8	—	10	—	—
6LL	6	M10x1	4.5	6	5.7	8	—	12	—	—
8LL	8	M12x1	6	6	5.7	9	—	14	—	—
10LL	10	M14x1	8	6	5.7	9	—	17	—	—
12LL	12	M16x1	10	6	6.2	9	—	19	—	—
6L	6	M12x1.5	4	8	7.2	10	34	14	17	16
8L	8	M14x1.5	6	8	7.2	10	34	17	19	16
10L	10	M16x1.5	8	8	7.2	11	35	19	22	16
12L	12	M18x1.5	10	8	7.2	11	36	22	24	16
15L	15	M22x1.5	12	8	7.2	12	38	27	30	16
18L	18	M26x1.5	15	9	7.7	12	40	32	36	16
22L	22	M30x2	19	9	7.7	14	42	36	41	16
28L	28	M36x2	24	9	7.7	14	43	41	46	16
35L	35	M45x2	30	11	10.7	16	47	50	55	16
42L	42	M52x2	36	12	11.2	16	47	60	65	16
6S	6	M14x1.5	4	8	7.2	12	36	17	19	16
8S	8	M16x1.5	5	8	7.2	12	36	19	22	16
10S	10	M18x1.5	7	9	7.7	12	37	22	24	16
12S	12	M20x1.5	8	9	7.7	12	38	24	27	16
14S	14	M22x1.5	10	10	8.2	14	40	27	30	16
16S	16	M24x1.5	12	10	8.7	14	41	30	32	16
20S	20	M30x2	16	11	10.7	16	44	36	41	16
25S	25	M36x2	20	12	12.2	18	47	46	46	16
30S	30	M42x2	25	13	13.7	20	51	50	50	16
38S	38	M52x2	32	15	16.2	22	53	60	65	16

Note: For port and stud end dimensions reference section E: Pipe Fittings and Port Adapters.

Dimensions and pressures for reference only, subject to change.



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M

Nut

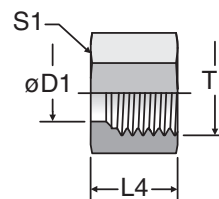


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TUBE FAB
EQUIP

GEN TECH

Series	D1 	T1	L4	S1	Weight g/1 piece	Part Number*	PN (bar) ¹⁾		
							CFX	71X	MSX
LL ²⁾	04	M 08×1.0	11.0	10	4	M04LL	100	100	63
	06	M 10×1.0	11.5	12	6	M06LL	100	100	63
	08	M 12×1.0	12.0	14	7	M08LL	100	100	63
	10	M 14×1.0	12.5	17	11	M10LL	100	100	63
	12	M 16×1.0	13.0	19	13	M12LL	100	100	63
L ³⁾	06	M 12×1.5	14.5	14	10	M06L	500	315	200
	08	M 14×1.5	14.5	17	15	M08L	500	315	200
	10	M 16×1.5	15.5	19	18	M10L	500	315	200
	12	M 18×1.5	15.5	22	25	M12L	400	315	200
	15	M 22×1.5	17.0	27	42	M15L	400	315	200
	18	M 26×1.5	18.0	32	62	M18L	400	315	200
	22	M 30×2.0	20.0	36	82	M22L	250	160	100
	28	M 36×2.0	21.0	41	89	M28L	250	160	100
	35	M 45×2.0	24.0	50	137	M35L	250	160	100
	42	M 52×2.0	24.0	60	216	M42L	250	160	100
S ⁴⁾	06	M 14×1.5	16.5	17	17	M06S	800	630	400
	08	M 16×1.5	16.5	19	20	M08S	800	630	400
	10	M 18×1.5	17.5	22	31	M10S	800	630	400
	12	M 20×1.5	17.5	24	34	M12S	630	630	400
	16	M 24×1.5	20.5	30	66	M16S	630	400	250
	20	M 30×2.0	24.0	36	102	M20S	420	400	250
	25	M 36×2.0	27.0	46	202	M25S	420	400	250
	30	M 42×2.0	29.0	50	219	M30S	420	400	250
	38	M 52×2.0	32.5	60	339	M38S	420	315	200

¹⁾ Pressure shown = item deliverable

²⁾ LL = very light series; ³⁾ L = light series; ⁴⁾ S = heavy series

$$\frac{\text{PN (bar)}}{10} = \text{PN (MPa)}$$

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

*Please add the **suffixes**
below according to the material/
surface required.

Part number suffixes		
Material	Suffix surface and material	Example
Steel	CFX	M16SCFX
Stainless Steel	EODURX	M16SEODURX
Brass	MSX	M16SMSX

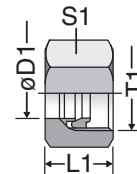
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FM

EO-2 Dual Function Nut



X1) Retaining ring

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FAQs

ASSEMBLY

TUBE FAB
EQUIP

GEN TECH

Series	D1	T1	L1	S1	Part Number				Weight g/1 piece
					FM...CF Steel, zinc plated Cr(VI) free passiv. +Sealing Sealing NBR	PN (bar)	FM...VITCF Steel, zinc plated Cr(VI) free passiv. +Sealing Sealing FKM	PN (bar)	
LL	04	M 08×1.0	11.0	10	FM04LLCF	100	—	100	5
	06	M 10×1.0	11.5	12	—	—	—	—	6
L	06	M 12×1.5	14.5	14	FM06LCF	500	FM06LVITCF	500	12
	08	M 14×1.5	14.5	17	FM08LCF	500	FM08LVITCF	500	17
	10	M 16×1.5	15.5	19	FM10LCF	500	FM10LVITCF	500	22
	12	M 18×1.5	15.5	22	FM12LCF	400	FM12LVITCF	400	30
	15	M 22×1.5	17.0	27	FM15LCF	400	FM15LVITCF	400	48
	18	M 26×1.5	18.0	32	FM18LCF	400	FM18LVITCF	400	70
	22	M 30×2.0	20.0	36	FM22LCF	250	FM22LVITCF	250	94
	28	M 36×2.0	21.0	41	FM28LCF	250	FM28LVITCF	250	106
	35	M 45×2.0	24.0	50	FM35LCF	250	FM35LVITCF	250	160
	42	M 52×2.0	24.0	60	FM42LCF	250	FM42LVITCF	250	244
S	06	M 14×1.5	16.5	17	FM06SCF	800	FM06SVITCF	800	20
	08	M 16×1.5	16.5	19	FM08SCF	800	FM08SVITCF	800	23
	10	M 18×1.5	17.5	22	FM10SCF	800	FM10SVITCF	800	37
	12	M 20×1.5	17.5	24	FM12SCF	630	FM12SVITCF	630	39
	16	M 24×1.5	20.5	30	FM16SCF	630	FM16SVITCF	630	72
	20	M 30×2.0	24.0	36	FM20SCF	420	FM20SVITCF	420	121
	25	M 36×2.0	27.0	46	FM25SCF	420	FM25SVITCF	420	221
	30	M 42×2.0	29.0	50	FM30SCF	420	FM30SVITCF	420	248
	38	M 52×2.0	32.5	60	FM38SCF	420	FM38SVITCF	420	367

PN (bar) = PN (MPa)
10

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

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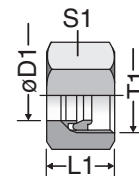
D15

Parker Hannifin Corporation
Tube Fittings Division
Columbus, Ohio
<http://www.parker.com/tfd>

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FM

EO-2 Dual Function Nut



X1) Retaining ring

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TUBE FAB
EQUIP

GEN TECH

Series	D1 	T1	L1	S1	Part Number								Weight g/1 piece
					FM...71 Stainless Steel		FM...NBR71 Stainless Steel		FM...SSA Steel, zinc plated Cr(VI) free passiv. +Sealing, Retaining ring: Stainless Steel		FM...VITSSA Steel, zinc plated Cr(VI) free passiv. +Sealing, Retaining ring: Stainless Steel		
					Sealing FKM	PN (bar)	Sealing NBR	PN (bar)	Sealing NBR	PN (bar)	Sealing FKM	PN (bar)	
LL	04	M 08×1.0	11.0	10	—	—	—	—	FM04LLSSA	100	—	—	5
	06	M 10×1.0	11.5	12	—	—	—	—	FM06LLSSA	100	—	—	6
L	06	M 12×1.5	14.5	14	FM06L71	315	FM06LNBR71	315	FM06LSSA	315	FM06LVITSSA	315	12
	08	M 14×1.5	14.5	17	FM08L71	315	FM08LNBR71	315	FM08LSSA	315	FM08LVITSSA	315	17
	10	M 16×1.5	15.5	19	FM10L71	315	FM10LNBR71	315	FM10LSSA	315	FM10LVITSSA	315	22
	12	M 18×1.5	15.5	22	FM12L71	315	FM12LNBR71	315	FM12LSSA	315	FM12LVITSSA	315	30
	15	M 22×1.5	17.0	27	FM15L71	315	FM15LNBR71	315	FM15LSSA	315	FM15LVITSSA	315	48
	18	M 26×1.5	18.0	32	FM18L71	315	FM18LNBR71	315	FM18LSSA	315	FM18LVITSSA	315	70
	22	M 30×2.0	20.0	36	FM22L71	160	FM22LNBR71	160	FM22LSSA	160	FM22LVITSSA	160	94
	28	M 36×2.0	21.0	41	FM28L71	160	FM28LNBR71	160	FM28LSSA	160	FM28LVITSSA	160	106
	35	M 45×2.0	24.0	50	FM35L71	160	FM35LNBR71	160	FM35LSSA	160	FM35LVITSSA	160	160
	42	M 52×2.0	24.0	60	FM42L71	160	FM42LNBR71	160	FM42LSSA	160	FM42LVITSSA	160	244
S	06	M 14×1.5	16.5	17	FM06S71	630	FM06SNBR71	630	FM06SSSA	630	FM06SVITSSA	630	20
	08	M 16×1.5	16.5	19	FM08S71	630	FM08SNBR71	630	FM08SSSA	630	FM08SVITSSA	630	23
	10	M 18×1.5	17.5	22	FM10S71	630	FM10SNBR71	630	FM10SSSA	630	FM10SVITSSA	630	37
	12	M 20×1.5	17.5	24	FM12S71	630	FM12SNBR71	630	FM12SSSA	630	FM12SVITSSA	630	39
	16	M 24×1.5	20.5	30	FM16S71	400	FM16SNBR71	400	FM16SSSA	400	FM16SVITSSA	400	72
	20	M 30×2.0	24.0	36	FM20S71	400	FM20SNBR71	400	FM20SSSA	400	FM20SVITSSA	400	121
	25	M 36×2.0	27.0	46	FM25S71	400	FM25SNBR71	400	FM25SSSA	400	FM25SVITSSA	400	221
	30	M 42×2.0	29.0	50	FM30S71	400	FM30SNBR71	400	FM30SSSA	400	FM30SVITSSA	400	248
	38	M 52×2.0	32.5	60	FM38S71	315	FM38SNBR71	315	FM38SSSA	315	FM38SVITSSA	315	367

$$\frac{\text{PN (bar)}}{10} = \text{PN (MPa)}$$

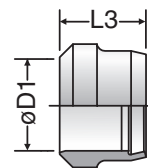
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DPR

Progressive Ring
For L and S series only



Progressive
ring: DPR

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ASSEMBLY

TUBE FAB
EQUIP

GEN TECH

Series	D1 	L3	Progressive ring DPR Part Number		PN (bar)	Weight g/1 piece
			Stainless Steel	Stainless Steel SPH		
L	06	9.0	DPR06L71X	DPR06LSPH71X	315	1.7
	08	9.0	DPR08L71X	DPR08LSPH71X	315	2.2
	10	9.5	DPR10L71X	DPR10LSPH71X	315	3.1
	12	9.8	DPR12L71X	DPR12LSPH71X	315	3.5
	15	9.5	DPR15L71X	DPR15LSPH71X	315	4.5
	18	9.5	DPR18L71X	DPR18LSPH71X	315	5.5
	22	10.5	DPR22L71X	DPR22LSPH71X	160	7.3
	28	11.0	DPR28L71X	DPR28LSPH71X	160	9.4
	35	13.5	DPR35L71X	DPR35LSPH71X	160	20.0
	42	13.5	DPR42L71X	DPR42LSPH71X	160	23.0
S	06	9.0	DPR06L71X	DPR06LSPH71X	630	1.7
	08	9.0	DPR08L71X	DPR08LSPH71X	630	3.2
	10	9.5	DPR10L71X	DPR10LSPH71X	630	3.1
	12	9.8	DPR12L71X	DPR12LSPH71X	630	3.5
	16	9.5	DPR16S71X	DPR16SSPH71X	400	5.6
	20	12.5	DPR20S71X	DPR20SSPH71X	400	11.4
	25	12.5	DPR25S71X	DPR25SSPH71X	400	13.3
	30	12.5	DPR30S71X	DPR30SSPH71X	400	19.3
	38	13.0	DPR38S71X	DPR38SSPH71X	315	22.5

$$\frac{\text{PN (bar)}}{10} = \text{PN (MPa)}$$

Dimensions and pressures for reference only, subject to change.



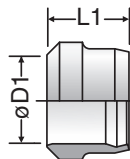
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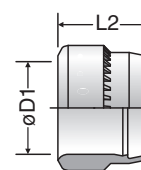
Cutting (Locking) Ring
For LL series and all brass

PSR

Progressive Ring
For L and S series only



Cutting ring:
D



Progressive stop ring:
PSR

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ASSEMBLY

TUBE FAB
EQUIP

GEN TECH

Series	D1	L1	Cutting ring D Part Number						L2	Progressive stop ring PSR Part Number		Weight g/1 pc.
			Steel, zinc plated Cr(VI) free	PN (bar)	Stainless Steel	PN (bar)	Brass	PN (bar)		Steel, zinc plated Cr(VI) free	PN (bar)	
LL	04	6.0	D04LLX	100	D04LL71X	100	D04LLMSX	63	—	—	—	0.3
	06	7.0	D06LLX	100	D06LL71X	100	D06LLMSX	63	—	—	—	0.8
	08	7.0	D08LLX	100	D08LL71X	100	D08LLMSX	63	—	—	—	1.0
	10	7.0	D10LLX	100	D10LL71X	100	D10LLMSX	63	—	—	—	1.3
	12	7.5	D12LLX	100	D12LL71X	100	D12LLMSX	63	—	—	—	1.6
	15	7.5	D15LLX	100	D15LL71X	100	D15LLMSX	63	—	—	—	1.6
L	06	9.5	—	—	—	—	D06LMSX	200	9.5	PSR06LX	500	1.7
	08	9.0	—	—	—	—	D08LMSX	200	9.5	PSR08LX	500	2.2
	10	10.0	—	—	—	—	D10LMSX	200	10.0	PSR10LX	500	3.1
	12	10.0	—	—	—	—	D12LMSX	200	10.0	PSR12LX	400	3.5
	15	10.0	—	—	—	—	D15LMSX	200	10.0	PSR15LX	400	4.5
	18	10.0	—	—	—	—	D18LMSX	200	10.0	PSR18LX	400	5.5
	22	10.5	—	—	—	—	D22LMSX	100	10.5	PSR22LX	250	7.3
	28	10.5	—	—	—	—	D28LMSX	100	10.5	PSR28LX	250	9.4
	35	13.0	—	—	—	—	D35LMSX	100	13.0	PSR35LX	250	20.0
	42	13.5	—	—	—	—	D42LMSX	100	13.0	PSR42LX	250	23.0
	06	9.5	—	—	—	—	D06LMSX	400	9.5	PSR06LX	800	1.7
	08	9.0	—	—	—	—	D08LMSX	400	9.5	PSR08LX	800	3.2
S	10	10.0	—	—	—	—	D10LMSX	400	10.0	PSR10LX	800	3.1
	12	10.0	—	—	—	—	D12LMSX	400	10.0	PSR12LX	630	3.5
	16	10.5	—	—	—	—	D16SMSX	250	10.0	PSR16SX	630	5.6
	20	12.5	—	—	—	—	D20SMSX	250	13.0	PSR20SX	420	11.4
	25	12.5	—	—	—	—	D25SMSX	250	13.0	PSR25SX	420	13.3
	30	13.0	—	—	—	—	D30SMSX	250	13.0	PSR30SX	420	19.3
	38	13.5	—	—	—	—	D38SMSX	200	13.0	PSR38SX	420	22.5

PN (bar)
10 = PN (MPa)

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

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GM

Bulkhead Locknut

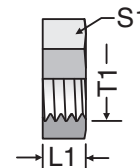


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FAQs

ASSEMBLY

TUBE FAB
EQUIP

GEN TECH

Series	Tube O.D.	T1	L1	S1	Weight g/1 piece	Part Number		
						Steel CF	Stainless Steel 71	Brass MS
L ³⁾	06	M 12×1.5	6	17	7	GM06LCFX	GM06L71X	GM06LMSX
	08	M 14×1.5	6	19	8	GM08LCFX	GM08L71X	GM08LMSX
	10	M 16×1.5	6	22	11	GM10LCFX	GM10L71X	GM10LMSX
	12	M 18×1.5	6	24	12	GM12LCFX	GM12L71X	GM12LMSX
	15	M 22×1.5	7	30	23	GM15LCFX	GM15L71X	GM15LMSX
	18	M 26×1.5	8	36	37	GM18LCFX	GM18L71X	GM18LMSX
	22	M 30×2.0	8	41	46	GM22LCFX	GM22L71X	GM22LMSX
	28	M 36×2.0	9	46	58	GM28LCFX	GM28L71X	GM28LMSX
	35	M 45×2.0	9	55	71	GM35LCFX	GM35L71X	GM35LMSX
	42	M 52×2.0	10	65	123	GM42LCFX	GM42L71X	GM42LMSX
S ⁴⁾	06	M 14×1.5	6	19	8	GM08LCFX	GM08L71X	GM06LMSX
	08	M 16×1.5	6	22	11	GM10LCFX	GM10L71X	GM10LMSX
	10	M 18×1.5	6	24	12	GM12LCFX	GM12L71X	GM12LMSX
	12	M 20×1.5	6	27	15	GM12SCFX	GM12S71X	GM12SMSX
	16	M 24×1.5	7	32	24	GM16SCFX	GM16S71X	GM16SMSX
	20	M 30×2.0	8	41	46	GM22LCFX	GM22L71X	GM22LMSX
	25	M 36×2.0	9	46	58	GM28LCFX	GM28L71X	GM28LMSX
	30	M 42×2.0	9	50	58	GM30SCFX	GM30S71X	GM30SMSX
	38	M 52×2.0	10	65	123	GM42LCFX	GM42L71X	GM42LMSX

³⁾ L = light series; ⁴⁾ S = heavy series

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

Dimensions and pressures for reference only, subject to change.



D19

Parker Hannifin Corporation
Tube Fittings Division
Columbus, Ohio
<http://www.parker.com/tfd>

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E

Tube Insert
For Plastic Tube

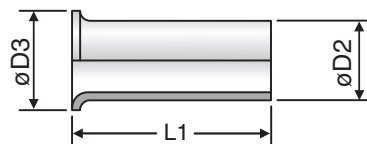


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TUBE FAB
EQUIP

GEN TECH

Tube O.D.	Tube I.D.	D2	D3	L1	Weight g/1 piece	Part Number Brass
04	2.0	2.0	3.5	8	1	E04/02X
04	2.5	2.5	4.0	8	1	E04/2.5X
05	3.0	3.0	5.0	14	1	E0506/03X
06	3.0	3.0	5.0	14	1	E0506/03X
05	4.0	4.0	5.0	14	1	E0506/04X
06	4.0	4.0	5.0	14	1	E0506/04X
08	4.0	4.0	6.6	14	1	E08/04X
06	5.0	5.0	6.0	14	1	E06/05X
08	5.0	5.0	6.0	14	1	E08/05X
10	6.0	6.0	8.0	15	1	E0810/06X
08	6.0	6.0	8.0	15	1	E0810/06X
10	8.0	8.0	10.0	15	1	E10/08X
12	8.0	8.0	12.0	15	2	E12/08X
12	9.0	9.0	12.0	15	2	E12/09X
12	10.0	10.0	12.0	15	2	E1215/10X
15	12.0	12.0	14.8	15	3	E15/12X
15	12.5	12.5	14.8	15	3	E1516/12.5X
16	12.5	12.5	14.8	15	3	E1516/12.5X
18	14.0	14.0	17.8	15	4	E18/14X
18	16.0	16.0	17.8	20	4	E1820/16X
20	16.0	16.0	17.8	20	4	E1820/16X
22	18.0	18.0	21.8	16	5	E22/18X

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

Dimensions and pressures for reference only, subject to change.



D20

Parker Hannifin Corporation
Tube Fittings Division
Columbus, Ohio
<http://www.parker.com/tfd>

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VH

Tube Insert
For Thin Walled Metal Tube

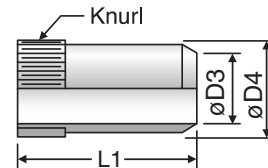


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TUBE FAB
EQUIP

GEN TECH

Tube I.D.	D3	D4	L1	Weight g/1 piece	Steel CF	Part Number Stainless Steel 71	Brass MS
4.00	2.6	3.8	14.0	0.7	VH04CFX	VH0471X	VH04MSX
4.50	3.1	4.3	14.0	0.8	VH04.5CFX	VH04.571X	VH04.5MSX
5.00	3.6	4.8	14.0	0.8	VH05CFX	VH0571X	VH05MSX
6.00	4.6	5.8	14.0	1.0	VH06CFX	VH0671X	VH06MSX
6.50	5.1	6.3	14.0	1.0	VH06.5CFX	VH06.571X	VH06.5MSX
7.00	5.6	6.8	15.5	1.3	VH07CFX	VH0771X	VH07MSX
8.00	6.6	7.8	15.5	1.6	VH08CFX	VH0871X	VH08MSX
9.00	7.6	8.8	15.5	1.8	VH09CFX	VH0971X	VH09MSX
10.00	8.6	9.8	15.5	2.1	VH10CFX	VH1071X	VH10MSX
10.05	8.6	9.8	15.5	2.1	VH10.05CFX	VH10.0571X	VH10.05MSX
10.50	9.1	10.3	15.5	2.3	VH10.5CFX	VH10.571X	VH10.5MSX
11.00	9.6	10.8	15.5	2.6	VH11CFX	VH1171X	VH11MSX
12.00	10.2	11.8	17.0	3.7	VH12CFX	VH1271X	VH12MSX
12.95	11.2	12.8	17.0	3.9	VH12.95CFX	VH12.9571X	VH12.95MSX
13.00	11.2	12.8	17.0	3.9	VH13CFX	VH1371X	VH13MSX
14.00	12.2	13.8	17.0	4.3	VH14CFX	VH1471X	VH14MSX
15.00	13.2	14.8	20.0	5.7	VH15CFX	VH1571X	VH15MSX
16.00	14.2	15.8	20.0	5.8	VH16.00CFX	VH16.0071X	VH16.00MSX
16.20	14.2	15.8	20.0	5.8	VH16CFX	VH1671X	VH16MSX
17.00	15.2	16.8	20.0	6.3	VH17CFX	VH1771X	VH17MSX
18.00	16.2	17.8	20.0	6.3	VH18CFX	VH1871X	VH18MSX
19.00	17.2	18.8	16.0	5.8	VH19CFX	VH1971X	VH19MSX
19.90	18.2	19.8	21.5	7.9	VH19.90CFX	VH19.9071X	VH19.90MSX
20.00	18.2	19.8	21.5	7.9	VH20CFX	VH2071X	VH20MSX
21.00	19.2	20.8	21.5	8.0	VH21CFX	VH2171X	VH21MSX
22.00	20.2	21.8	23.5	9.7	VH22CFX	VH2271X	VH22MSX
23.00	21.2	22.8	23.5	10.6	VH23CFX	VH2371X	VH23MSX
24.00	22.2	23.8	23.5	11.1	VH24CFX	VH2471X	VH24MSX
24.90	23.3	24.8	23.5	10.8	VH24.90CFX	VH24.9071X	VH2490MSX
25.00	23.2	24.8	23.5	10.8	VH25CFX	VH2571X	VH25MSX
26.00	24.2	25.8	23.5	12.7	VH26CFX	VH2671X	VH26MSX
27.00	25.2	26.8	23.5	12.2	VH27CFX	VH2771X	VH27MSX
30.00	27.8	29.8	26.5	18.7	VH30CFX	VH3071X	VH30MSX
31.00	28.8	30.8	26.5	20.7	VH31CFX	VH3171X	VH31MSX
32.00	29.8	31.8	26.5	19.2	VH32CFX	VH3271X	VH32MSX
32.10	29.8	31.8	26.5	19.2	VH32.10CFX	VH32.1071X	VH32.10MSX
33.00	30.8	32.8	26.5	19.9	VH33CFX	VH3371X	VH33MSX
34.00	31.8	33.8	26.5	26.5	VH34CFX	VH3471X	VH34MSX
37.80	35.8	37.7	31.0	19.5	VH37.8CFX	VH37.871X	VH37.8MSX
38.00	35.8	37.8	21.0	19.7	VH38CFX	VH3871X	VH38MSX
39.00	36.8	38.8	21.0	19.5	VH39CFX	VH3971X	VH39MSX

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Dimensions and pressures for reference only, subject to change.



D21

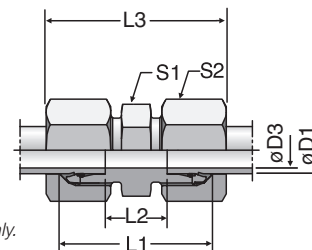
Parker Hannifin Corporation
Tube Fittings Division
Columbus, Ohio
<http://www.parker.com/tfd>

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G

Union

24° Flareless / 24° Flareless



Product images are shown with nuts and sleeves for dimensional allowances only.
Part numbers are body level only. See note below product table for details

Series	D1	D3	L1	L2	L3	S1	S2	Weight g/1 piece	Part Number*	PN (bar) ¹⁾		
										CFX	71X	MSX
LL ²⁾	04	3.0	20	12	31	9	10	5	G04LL	100	100	63
	06	4.5	20	9	32	11	12	7	G06LL	100	100	63
	08	6.0	23	12	35	12	14	10	G08LL	100	100	63
	10	8.0	23	12	35	14	17	13	G10LL	100	100	63
	12	10.0	23	11	35	17	19	16	G12LL	100	100	63
L ³⁾	06	4.0	24	10	39	12	14	12	G06L	500	315	200
	08	6.0	25	11	40	14	17	16	G08L	500	315	200
	10	8.0	27	13	42	17	19	23	G10L	500	315	200
	12	10.0	28	14	43	19	22	28	G12L	400	315	200
	15	12.0	30	16	46	24	27	51	G15L	400	315	200
	18	15.0	31	16	48	27	32	69	G18L	400	315	200
	22	19.0	35	20	52	32	36	90	G22L	250	160	100
	28	24.0	36	21	54	41	41	137	G28L	250	160	100
	35	30.0	41	20	63	46	50	214	G35L	250	160	100
	42	36.0	43	21	66	55	60	296	G42L	250	160	100
S ⁴⁾	06	4.0	30	16	45	14	17	26	G06S	800	630	400
	08	5.0	32	18	47	17	19	37	G08S	800	630	400
	10	7.0	32	17	49	19	22	44	G10S	800	630	400
	12	8.0	34	19	51	22	24	60	G12S	630	630	400
	16	12.0	38	21	57	27	30	90	G16S	630	400	250
	20	16.0	44	23	66	32	36	143	G20S	420	400	250
	25	20.0	50	26	74	41	46	251	G25S	420	400	250
	30	25.0	54	27	80	46	50	330	G30S	420	400	250
	38	32.0	61	29	90	55	60	545	G38S	420	315	200

¹⁾ Pressure shown = item deliverable

²⁾ LL = very light series; ³⁾ L = light series; ⁴⁾ S = heavy series

$$\frac{\text{PN (bar)}}{10} = \text{PN (MPa)}$$

*Part numbers shown are body only level. To order with a nut and progressive ring (sleeve) included, please see pages D11 and D12 for part number ordering instructions. Instructions for ordering the fitting as EO-2 are also included on these pages.

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

*Please add the **suffixes**
below according to the material/
surface required.

Part number suffixes		
Material	Suffix surface and material	Example
Steel	CFX	G16SCFX
Stainless Steel	71X	G16S71X
Brass	MSX	G16SMSX

Dimensions and pressures for reference only, subject to change.



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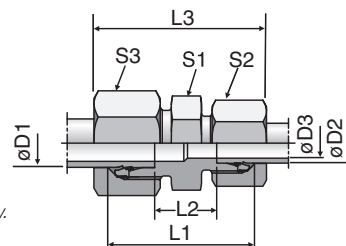
TUBE FAB
EQUIP

GEN TECH

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GR

Union Reducer
24° Flareless / 24° Flareless



Product images are shown with nuts and sleeves for dimensional allowances only.
Part numbers are body level only. See note below product table for details

Series	D1	D2	D3	L1	L2	L3	S1	S2	S3	Weight g/1 piece	Part Number*	PN (bar) ¹⁾		
												CFX	71X	MSX
LL ²⁾	06	04	3.0	20	10.5	32	11	10	12	7	GR06/04LL	100	100	63
	08	04	3.0	22	12.5	34	12	10	14	9	GR08/04LL	100	100	63
	08	06	4.5	22	11.0	34	12	12	14	11	GR08/06LL	100	100	63
L ³⁾	08	06	4.0	25	11.0	40	14	14	17	16	GR08/06L	500	315	200
	10	06	4.0	26	12.0	41	17	14	19	21	GR10/06L	500	315	200
	10	08	6.0	26	12.0	41	17	17	19	21	GR10/08L	500	315	200
	12	06	4.0	27	13.0	42	19	14	22	26	GR12/06L	400	315	200
	12	08	6.0	27	13.0	42	19	17	22	26	GR12/08L	400	315	200
	12	10	8.0	28	14.0	43	19	19	22	29	GR12/10L	400	315	200
	15	10	8.0	29	15.0	45	24	19	27	46	GR15/10L	400	315	200
	15	12	10.0	29	15.0	45	24	22	27	45	GR15/12L	400	315	200
	18	10	8.0	30	15.5	46	27	19	32	65	GR18/10L	400	315	200
	18	12	10.0	30	15.5	46	27	22	32	64	GR18/12L	400	315	200
	18	15	12.0	31	16.5	48	27	27	32	65	GR18/15L	400	315	200
	22	12	10.0	32	17.5	48	32	22	36	80	GR22/12L	250	160	100
	22	15	12.0	33	18.5	50	32	27	36	89	GR22/15L	250	160	100
	22	18	15.0	33	18.0	50	32	32	36	89	GR22/18L	250	160	100
	28	18	15.0	34	19.0	52	41	32	41	142	GR28/18L	250	160	100
	28	22	19.0	36	21.0	54	41	36	41	139	GR28/22L	250	160	100
	35	22	19.0	39	21.0	59	46	36	50	202	GR35/22L	250	160	100
	35	28	24.0	39	21.0	59	46	41	50	206	GR35/28L	250	160	100
	42	35	30.0	43	21.5	66	55	50	60	330	GR42/35L	250	160	100
S ⁴⁾	08	06	4.0	32	18.0	47	17	17	19	35	GR08/06S	800	630	400
	10	06	4.0	32	17.5	48	19	17	22	41	GR10/06S	800	630	400
	10	08	5.0	32	17.5	48	19	19	22	42	GR10/08S	800	630	400
	12	06	4.0	34	19.5	50	22	17	24	56	GR12/06S	630	630	400
	12	08	5.0	34	19.5	50	22	19	24	57	GR12/08S	630	630	400
	12	10	7.0	34	19.0	51	22	22	24	59	GR12/10S	630	630	400
	16	10	7.0	36	20.0	54	27	22	30	80	GR16/10S	630	400	250
	16	12	8.0	36	20.0	54	27	24	30	87	GR16/12S	630	400	250
	16	14	10.0	36	21.5	57	27	27	30	79	GR16/14S	630	400	250
	20	10	7.0	40	22.0	60	32	22	36	129	GR20/10S	420	400	250
	20	12	8.0	40	22.0	60	32	24	36	131	GR20/12S	420	400	250
	20	16	12.0	42	23.0	63	32	30	36	134	GR20/16S	420	400	250
	25	16	12.0	46	25.5	68	41	30	46	236	GR25/16S	420	400	250
	25	20	16.0	48	25.5	71	41	36	46	235	GR25/20S	420	400	250
	30	20	16.0	50	26.0	74	46	36	50	299	GR30/20S	420	400	250
	30	25	20.0	52	26.5	77	46	46	50	317	GR30/25S	420	400	250
	38	30	25.0	59	29.5	87	55	50	60	522	GR38/30S	420	315	200

¹⁾ Pressure shown = item deliverable

²⁾ LL = very light series; ³⁾ L = light series; ⁴⁾ S = heavy series

PN (bar)
10 = PN (MPa)

*Part numbers shown are body only level. To order with a nut and progressive ring (sleeve) included, please see pages D11 and D12 for part number ordering instructions. Instructions for ordering the fitting as EO-2 are also included on these pages.

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

Part number suffixes		
Material	Suffix surface and material	Example
Steel	CFX	GR16/12SCFX
Stainless Steel	71X	GR16/12S71X
Brass	MSX	GR16/12SMSX

*Please add the suffixes below according to the material/surface required.

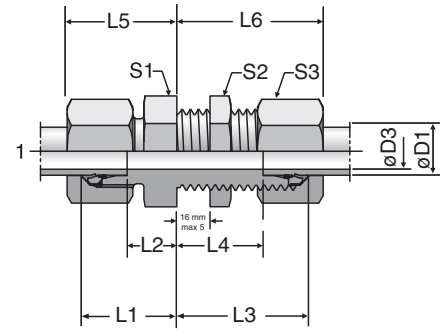
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SV

Bulkhead Union
24° Flareless / 24° Flareless



Product images are shown with nuts and sleeves for dimensional allowances only.
Part numbers are body level only. See note below product table for details

Series	D1	D3	L1	L2	L3	L4	L5	L6	S1	S2	S3	Weight g/1 piece	Part Number*	PN (bar) ¹⁾		
														CF	71	MS
L ³⁾	06	4	14	7.0	34	27.0	22	42	17	17	14	39	SV06LOMD	500	315	200
	08	6	15	8.0	34	27.0	23	42	19	19	17	50	SV08LOMD	500	315	200
	10	8	17	10.0	35	28.0	25	43	22	22	19	67	SV10LOMD	500	315	200
	12	10	17	10.0	36	29.0	25	44	24	24	22	78	SV12LOMD	400	315	200
	15	12	19	12.0	38	31.0	27	46	27	30	27	128	SV15LOMD	400	315	200
	18	15	21	13.5	40	32.5	30	49	32	36	32	198	SV18LOMD	400	315	200
	22	19	24	16.5	42	34.5	33	51	36	41	36	254	SV22LOMD	250	160	100
	28	24	26	18.5	43	35.5	35	52	41	46	41	335	SV28LOMD	250	160	100
	35	30	29	18.5	47	36.5	40	58	50	55	50	546	SV35LOMD	250	160	160
	42	36	30	19.0	47	36.0	42	59	60	65	60	758	SV42LOMD	250	160	160
S ⁴⁾	06	4	19	12.0	36	29.0	27	44	19	19	17	65	SV06SOMD	800	630	400
	08	5	20	13.0	36	29.0	28	44	22	22	19	87	SV08SOMD	800	630	400
	10	7	22	14.5	37	29.5	31	46	24	24	22	112	SV10SOMD	800	630	400
	12	8	22	14.5	38	30.5	31	47	27	27	24	141	SV12SOMD	630	630	400
	16	12	25	16.5	40	31.5	35	50	32	32	30	201	SV16SOMD	630	400	250
	20	16	28	17.5	44	33.5	39	55	41	41	36	462	SV20SOMD	420	400	250
	25	20	32	20.0	47	35.0	44	59	46	46	46	492	SV25SOMD	420	400	250
	30	25	35	21.5	51	37.5	48	64	50	50	50	631	SV30SOMD	420	400	250
	38	32	38	22.0	53	37.0	53	68	65	65	60	1083	SV38SOMD	420	315	

¹⁾ Pressure shown = item deliverable

³⁾ L = light series; ⁴⁾ S = heavy series

⁵⁾ Bulkhead thickness min.

06–18 L and 06–16 S = 3 mm

22–42 L and 20–38 S = 4 mm

$\frac{PN (bar)}{10} = PN (MPa)$

*Part numbers shown are body only level. To order with a nut and progressive ring (sleeve) included, please see pages D11 and D12 for part number ordering instructions. Instructions for ordering the fitting as EO-2 are also included on these pages.

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*Please add the **suffixes**
below according to the material/
surface required.

Part number suffixes		
Material	Suffix surface and material	Example
Steel	CF	SV16SOMDCF
Stainless Steel	71	SV16SOMD71
Brass	MS	SV16SOMDMS

Dimensions and pressures for reference only, subject to change.



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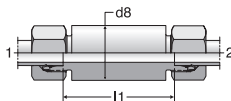
TUBE FAB
EQUIP

GEN TECH

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ESV

Weld Bulkhead Fitting
24° Flareless / 24° Flareless



Product images are shown with nuts and sleeves for dimensional allowances only.

Part numbers are body level only. See note below product table for details

Series	D1 	D3	D4	L1	L2	L3	S1	Weight g/1 piece	Part Number	PN (bar) ¹⁾	
										Steel	Stainless Steel
L ³⁾	06	4	18	70	56	85	14	103	ESV06L	500	315
	08	6	20	70	56	85	17	121	ESV08L	500	315
	10	8	22	72	58	87	19	142	ESV10L	500	315
	12	10	25	72	58	87	22	176	ESV12L	400	315
	15	12	28	84	70	100	27	262	ESV15L	400	315
	18	15	32	84	69	101	32	333	ESV18L	400	315
	22	19	36	88	73	105	36	394	ESV22L	250	160
	28	24	40	88	73	106	41	448	ESV28L	250	160
	35	30	50	92	71	114	50	713	ESV35L	250	160
	42	36	60	92	70	115	60	997	ESV42L	250	160
S ⁴⁾	06	4	20	74	60	89	17	135	ESV06S	800	630
	08	5	22	74	60	89	19	163	ESV08S	800	630
	10	7	25	74	59	91	22	201	ESV10S	800	630
	12	8	28	74	59	91	24	249	ESV12S	630	630
	16	12	35	88	71	107	30	441	ESV16S	630	400
	20	16	38	92	71	114	36	509	ESV20S	420	400
	25	20	45	96	72	120	46	720	ESV25S	420	400
	30	25	50	100	73	126	50	873	ESV30S	420	400
	38	32	60	104	72	133	60	1248	ESV38S	420	315

¹⁾ Pressure shown = item deliverable

³⁾ L = light series; ⁴⁾ S = heavy series

$$\frac{\text{PN (bar)}}{10} = \text{PN (MPa)}$$

Delivery without nut and ring. Information on ordering complete fittings or alternative sealing materials see page D11.

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*Please add the **suffixes**
below according to the material/
surface required.

Part number suffixes		
Material	Suffix surface and material	Example
Steel		ESV16SX
Stainless Steel	71X	ESV16S71X

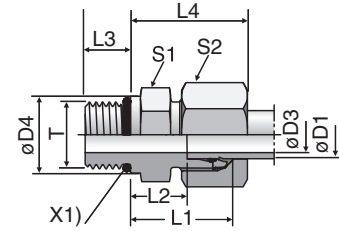
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GE-UNF/UN

Male Connector
24° Flareless / SAE-ORB



X1) O-ring OR

Product images are shown with nuts and sleeves for dimensional allowances only.
Part numbers are body level only. See note below product table for details

Series	D1	T	D3	D4	L1	L2	L3	L4	S1	S2	Weight g/1 piece	Part Number*	PN (bar) ¹⁾	
													CF	71
L ³⁾	08	7/16-20UNF-2A	5.0	–	26	10.0	9.0	25	17	17	21	GE08L7/16UNFOMD	315	315
	10	7/16-20UNF-2A	5.0	–	27	11.0	9.0	26	17	19	23	GE10L7/16UNFOMD	315	315
	12	9/16-18UNF-2A	7.0	–	28	11.0	10.0	26	19	22	32	GE12L9/16UNFOMD	315	315
	12	3/4-16UNF-2A	10.0	–	31	13.0	11.0	28	24	22	52	GE12L3/4UNFOMD	315	315
	12	7/8-14UNF-2A	10.0	–	34	14.3	12.7	29	27	22	77	GE12L7/8UNFOMD	315	315
	15	3/4-16UNF-2A	11.0	–	32	14.0	11.0	29	24	27	57	GE15L3/4UNFOMD	315	315
	15	7/8-14UNF-2A	12.0	–	35	15.3	12.7	30	27	27	81	GE15L7/8UNFOMD	315	315
	18	3/4-16UNF-2A	11.0	23.9	33	14.5	11.0	31	27	32	68	GE18L3/4UNFOMD	315	315
	18	7/8-14UNF-2A	14.0	–	35	14.8	12.7	31	27	32	72	GE18L7/8UNFOMD	315	315
	22	7/8-14UNF-2A	14.0	–	37	16.8	12.7	33	32	36	94	GE22L7/8UNFOMD	160	160
	22	1 1/16-12UN-2A	18.0	–	39	16.5	15.0	33	32	36	103	GE22L11/16UNOMD	160	160
	22	1 5/16-12UN-2A	19.0	–	40	17.5	15.0	34	41	36	163	GE22L15/16UNOMD	160	160
	28	1 1/16-12UN-2A	18.0	33.3	40	17.5	15.0	34	41	41	152	GE28L11/16UNOMD	160	160
	28	1 5/16-12UN-2A	23.0	–	40	17.5	15.0	34	41	41	163	GE28L15/16UNOMD	160	160
	35	1 5/16-12UN-2A	23.0	39.6	43	17.5	15.0	39	46	50	222	GE35L15/16UNOMD	160	160
	35	1 5/8-12UN-2A	29.0	–	43	17.5	15.0	39	50	50	257	GE35L15/8UNOMD	160	160
	42	1 5/8-12UN-2A	29.0	47.7	45	19.0	15.0	42	55	60	339	GE42L15/8UNOMD	160	160
S ⁴⁾	08	7/16-20UNF-2A	4.0	–	31	13.0	11.0	30	17	19	33	GE08S7/16UNFOMD	630	630
	10	9/16-18UNF-2A	6.0	–	32	12.5	12.0	31	19	22	42	GE10S9/16UNFOMD	630	630
	12	9/16-18UNF-2A	6.0	19.0	32	12.5	12.0	31	22	24	50	GE12S9/16UNFOMD	630	630
	12	3/4-16UNF-2A	8.0	–	36	14.5	14.0	34	24	24	73	GE12S3/4UNFOMD	630	630
	16	3/4-16UNF-2A	10.0	–	35	12.5	14.0	34	24	30	90	GE16S3/4UNFOMD	400	400
	16	7/8-14UNF-2A	12.0	–	40	15.5	16.0	37	27	30	95	GE16S7/8UNFOMD	400	400
	20	3/4-16UNF-2A	10.0	23.9	42	17.5	14.0	42	32	36	132	GE20S3/4UNFOMD	400	400
	20	7/8-14UNF-2A	12.0	26.9	44	17.5	16.0	42	32	36	141	GE20S7/8UNFOMD	400	400
	20	1 1/16-12UN-2A	16.0	–	46	17.0	18.5	42	32	36	163	GE20S11/16UNOMD	400	400
	25	1 1/16-12UN-2A	16.0	33.3	50	19.5	18.5	47	36	46	206	GE25S11/16UNOMD	400	400
	25	1 5/16-12UN-2A	20.0	–	50	19.5	18.5	47	41	46	258	GE25S15/16UNOMD	400	400
	30	1 5/16-12UN-2A	20.0	39.6	52	20.0	18.5	50	46	50	327	GE30S15/16UNOMD	400	400
	30	1 5/8-12UN-2A	24.0	–	52	20.0	18.5	50	50	50	422	GE30S15/8UNOMD	400	400
	38	1 5/8-12UN-2A	24.0	47.7	57	22.5	18.5	57	55	60	554	GE38S15/8UNOMD	315	315

¹⁾ Pressure shown = item deliverable

³⁾ L = light series; ⁴⁾ S = heavy series

$\frac{\text{PN (bar)}}{10} = \text{PN (MPa)}$

*Part numbers shown are body only level. To order with a nut and progressive ring (sleeve) included, please see pages D11 and D12 for part number ordering instructions. Instructions for ordering the fitting as EO-2 are also included on these pages.



WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

*Please add the **suffixes**
below according to the material/
surface required.

Part number suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Steel	CF	GE16S3/4UNFOMDCF	NBR
Stainless Steel	71	GE16S3/4UNFOMD71	VIT

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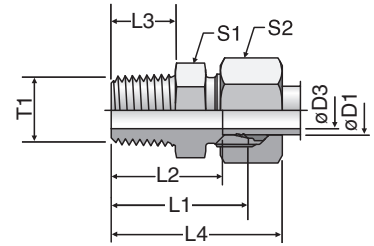
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GE-NPT

Male Connector
24° Flareless / NPTF



Product images are shown with nuts and sleeves for dimensional allowances only.
Part numbers are body level only. See note below product table for details

Series	D1	T1	D3	L1	L2	L3	L4	S1	S2	Weight g/1 piece	Part Number*	PN (bar) ¹⁾		
												CFX	71X	MSX
LL ²⁾	04	1/8-27 NPT	3.0	22.0	18.0	10.0	28	11*	10	9	GE04LL1/8NPT	100	100	
	06	1/8-27 NPT	4.5	22.0	16.5	10.0	28	11*	12	9	GE06LL1/8NPT	100	100	63
	08	1/8-27 NPT	5.0	24.0	18.5	10.0	30	12	14	11	GE08LL1/8NPT	100	100	63
L ³⁾	06	1/8-27 NPT	4.0	24.0	17.0	10.0	32	12	14	12	GE06L1/8NPT	315	315	200
	06	1/4-18 NPT	4.0	30.0	23.0	14.5	38	17	14	27	GE06L1/4NPT	315	315	200
	06	3/8-18 NPT	4.0	30.0	23.0	14.5	38	19	14	32	GE06L3/8NPT	315	315	
	06	1/2-14 NPT	4.0	36.0	29.0	19.5	44	22	14	53	GE06L1/2NPT	315	315	
	08	1/8-27 NPT	4.0	25.0	18.0	10.0	33	14	17	16	GE08L1/8NPT	315	315	
	08	1/4-18 NPT	6.0	30.0	23.0	14.5	38	17	17	25	GE08L1/4NPT	315	315	200
	08	3/8-18 NPT	6.0	30.0	23.0	14.5	38	19	17	34	GE08L3/8NPT	315	315	
	08	1/2-14 NPT	6.0	36.0	29.0	19.5	44	22	17	54	GE08L1/2NPT	315	315	
	10	1/8-27 NPT	4.0	25.0	18.0	10.0	33	17	19	19	GE10L1/8NPT	315	315	
	10	1/4-18 NPT	7.0	31.0	24.0	14.5	39	17	19	25	GE10L1/4NPT	315	315	200
	10	3/8-18 NPT	7.0	32.0	25.0	14.5	40	19	19	40	GE10L3/8NPT	315	315	
	10	1/2-14 NPT	8.0	37.0	30.0	19.5	45	22	19	54	GE10L1/2NPT	315	315	
	10	3/4-14 NPT	8.0	38.0	31.0	19.5	46	30	19	93	GE10L3/4NPT	315	315	
	12	1/8-27 NPT	4.0	26.0	19.0	10.0	34	19	22	52	GE12L1/8NPT	315	315	
	12	1/4-18 NPT	7.0	32.0	25.0	14.5	40	19	22	31	GE12L1/4NPT	315	315	200
	12	3/8-18 NPT	8.0	32.0	25.0	14.5	40	19	22	37	GE12L3/8NPT	315	315	200
	12	1/2-14 NPT	10.0	37.0	30.0	19.5	45	22	22	62	GE12L1/2NPT	315	315	200
	15	3/8-18 NPT	8.0	33.0	26.0	14.5	41	24	27	53	GE15L3/8NPT	315	315	
	15	1/2-14 NPT	12.0	38.0	31.0	19.5	46	24	27	63	GE15L1/2NPT	315	315	200
	15	3/4-14 NPT	12.0	39.0	32.0	19.5	47	30	27	112	GE15L3/4NPT	315	315	
	15	1-11.5 NPT	12.0	45.0	38.0	24.5	53	36	27	158	GE15L1NPT	315	315	
	18	3/8-18 NPT	8.0	34.0	26.5	14.5	43	27	32	69	GE18L3/8NPT	315	315	
	18	1/2-14 NPT	12.0	39.0	31.5	19.5	48	27	32	79	GE18L1/2NPT	315	315	200
	18	3/4-14 NPT	15.0	39.0	31.5	19.5	48	30	32	104	GE18L3/4NPT	315	315	
	18	1-11.5 NPT	15.0	45.0	37.5	24.5	54	36	32	159	GE18L1NPT	315	315	
	22	3/8-18 NPT	8.0	36.5	29.0	14.5	45	32	36	91	GE22L3/8NPT	160	160	
	22	1/2-14 NPT	12.0	41.0	33.5	19.5	50	32	36	96	GE22L1/2NPT	160	160	
	22	3/4-14 NPT	16.0	41.0	33.5	19.5	50	32	36	108	GE22L3/4NPT	160	160	100
	22	1-11.5 NPT	19.0	47.0	39.5	24.5	56	36	36	174	GE22L1NPT	160	160	
	28	3/4-14 NPT	16.0	42.0	34.5	19.5	51	41	41	157	GE28L3/4NPT	160	160	
	28	1-11.5 NPT	21.0	47.0	39.5	24.5	56	41	41	197	GE28L1NPT	160	160	100
	28	1 1/4-11.5 NPT	24.0	49.0	41.5	25.0	58	46	41	266	GE28L11/4NPT	160	160	
	35	1-11.5 NPT	22.0	50.0	39.5	24.5	61	46	50	280	GE35L1NPT	160	160	
	35	1 1/4-11.5 NPT	28.0	51.0	40.5	25.0	62	46	50	285	GE35L11/4NPT	160	160	
	42	1 1/4-11.5 NPT	28.0	53.0	42.0	25.0	65	55	60	382	GE42L11/4NPT	160	160	
	42	1 1/2-11.5 NPT	36.0	53.0	42.0	26.0	65	55	60	377	GE42L11/2NPT	160	160	

¹⁾ Pressure shown = item deliverable

²⁾ LL = very light series; ³⁾ L = light series

$\frac{PN \text{ (bar)}}{10} = PN \text{ (MPa)}$

*Part numbers shown are body only level. To order with a nut and progressive ring (sleeve) included, please see pages D11 and D12 for part number ordering instructions. Instructions for ordering the fitting as EO-2 are also included on these pages.

*S1=SW12 in 1.4571

*Please add the suffixes
below according to the material/
surface required.

Part number suffixes		
Material	Suffix surface and material	Example
Steel	CFX	GE18L1/2NPTCFX
Stainless Steel	71X	GE18L1/2NPT71X
Brass	MSX	GE18L1/2NPTMSX

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

Dimensions and pressures for reference only, subject to change.



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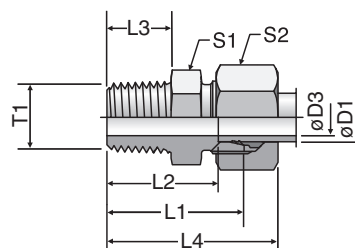
TUBE FAB EQUIP

GEN TECH

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GE-NPT

Male Connector
24° Flareless / NPTF



Product images are shown with nuts and sleeves for dimensional allowances only.
Part numbers are body level only. See note below product table for details

Series	D1	T1	D3	L1	L2	L3	L4	S1	S2	Weight g/1 piece	Part Number*	PN (bar) ¹⁾		
												CFX	71X	MSX
S ⁴⁾	06	1/8-27 NPT	4	28	21.0	10.0	36	14	17	21	GE06S1/8NPT	630	630	
	06	1/4-18 NPT	4	35	28.0	14.5	43	17	17	37	GE06S1/4NPT	630	630	400
	06	3/8-18 NPT	4	33	26.0	14.5	41	19	17	40	GE06S3/8NPT	630	630	
	06	1/2-14 NPT	4	42	35.0	19.5	50	22	17	71	GE06S1/2NPT	630	630	
	08	1/4-18 NPT	5	35	28.0	14.5	43	17	19	38	GE08S1/4NPT	630	630	400
	08	3/8-18 NPT	5	35	28.0	14.5	43	19	19	46	GE08S3/8NPT	630	630	
	08	1/2-14 NPT	5	42	35.0	19.5	50	22	19	73	GE08S1/2NPT	630	630	400
	10	1/4-18 NPT	5	35	27.5	14.5	44	19	22	45	GE10S1/4NPT	630	630	
	10	3/8-18 NPT	7	35	27.5	14.5	44	19	22	49	GE10S3/8NPT	630	630	400
	10	1/2-14 NPT	7	42	34.5	19.5	51	22	22	73	GE10S1/2NPT	630	630	400
	10	3/4-14 NPT	7	44	36.5	19.5	53	30	22	125	GE10S3/4NPT	630	630	
	12	1/4-18 NPT	5	37	29.5	14.5	46	22	24	57	GE12S1/4NPT	630	630	
	12	3/8-18 NPT	8	37	29.5	14.5	46	22	24	62	GE12S3/8NPT	630	630	400
	12	1/2-14 NPT	8	42	34.5	19.5	51	22	24	83	GE12S1/2NPT	630	630	400
	12	3/4-14 NPT	8	44	36.5	19.5	53	30	24	126	GE12S3/4NPT	630	630	
	16	3/8-18 NPT	8	39	30.5	14.5	49	27	30	84	GE16S3/8NPT	400	400	
	16	1/2-14 NPT	12	48	39.5	19.5	58	32	30	97	GE16S1/2NPT	400	400	250
	16	3/4-14 NPT	12	46	37.5	19.5	56	30	30	130	GE16S3/4NPT	400	400	
	16	1-11.5 NPT	12	51	42.5	24.5	61	36	30	178	GE16S1NPT	400	400	
	20	1/2-14 NPT	12	48	37.5	19.5	59	32	36	144	GE20S1/2NPT	400	400	
	20	3/4-14 NPT	16	48	37.5	19.5	59	32	36	149	GE20S3/4NPT	400	400	250
	20	1-11.5 NPT	16	55	44.5	24.5	66	36	36	243	GE20S1NPT	400	400	
	25	3/4-14 NPT	16	52	40.0	19.5	64	41	46	240	GE25S3/4NPT	400	400	
	25	1-11.5 NPT	20	57	45.0	24.5	69	41	46	278	GE25S1NPT	400	400	
	25	1 1/4-11.5 NPT	20	58	46.0	25.0	70	46	46	396	GE25S11/4NPT	400	400	
	25	1 1/2-11.5 NPT	20	61	49.0	26.0	73	50	46	469	GE25S11/2NPT	400	400	
	30	3/4-14 NPT	16	54	40.5	19.5	67	46	50	307	GE30S3/4NPT	400	400	
	30	1-11.5 NPT	20	59	45.5	24.5	72	46	50	343	GE30S1NPT	400	400	100
	30	1 1/4-11.5 NPT	25	60	46.5	25.0	73	46	50	397	GE30S11/4NPT	400	400	
	30	1 1/2-11.5 NPT	25	60	46.5	26.0	73	50	50	440	GE30S11/2NPT	400	400	
	38	1-11.5 NPT	22	64	48.0	24.5	79	55	60	510	GE38S1NPT	315	315	
	38	1 1/4-11.5 NPT	25	65	49.0	25.0	80	55	60	535	GE38S11/4NPT	315	315	
	38	1 1/2-11.5 NPT	32	65	49.0	26.0	80	55	60	571	GE38S11/2NPT	315	315	

¹⁾ Pressure shown = item deliverable

⁴⁾ S = heavy series

PN (bar)
10 = PN (MPa)

*Part numbers shown are body only level. To order with a nut and progressive ring (sleeve) included, please see pages D11 and D12 for part number ordering instructions. Instructions for ordering the fitting as EO-2 are also included on these pages.

*S1=SW12 in 1.4571

*Please add the **suffixes** below according to the material/surface required.

Part number suffixes		
Material	Suffix surface and material	Example
Steel	CFX	GE16S1/2NPTCFX
Stainless Steel	71X	GE16S1/2NPT71X
Brass	MSX	GE16S1/2NPTMSX

Dimensions and pressures for reference only, subject to change.



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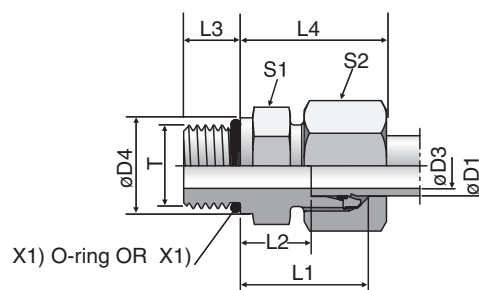
TUBE FAB
EQUIP

GEN TECH

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GEO

Male Connector
24° Flareless / ISO 6149



Product images are shown with nuts and sleeves for dimensional allowances only.
Part numbers are body level only. See note below product table for details

Series	D1	T	D3	D4	L1	L2	L3	L4	S1	S2	Weight g/1 piece	Part Number*	PN (bar) ¹⁾	
													CF	71
LL ²⁾	04	M 08×1.0	3.0	10.8	20.0	9.5	6.5	19.0	11*	10	8	GEO04LLMOMD	100	100
	04	M 10×1.0	3.0	12.8	20.0	9.5	6.5	19.0	13	10	11	GEO04LLM10X1OMD	100	
	06	M 10×1.0	4.5	12.8	20.0	8.0	6.5	19.5	13	12	10	GEO06LLMOMD	100	
L ³⁾	06	M 10×1.0	4.5	14.0	24.0	8.5	8.5	23.0	14	14	15	GEO06LMOMD	500	315
	08	M 12×1.5	6.0	17.0	28.0	10.0	11.0	25.0	17	17	23	GEO08LMOMD	500	315
	10	M 14×1.5	7.5	19.0	29.0	11.0	11.0	26.0	19	19	28	GEO10LMOMD	500	315
	12	M 16×1.5	9.0	22.0	31.0	12.5	11.5	27.0	22	22	40	GEO12LMOMD	400	315
	15	M 18×1.5	11.0	24.0	33.0	13.5	12.5	29.0	24	27	56	GEO15LMOMD	400	315
	18	M 22×1.5	14.0	27.0	35.0	14.5	13.0	31.0	27	32	80	GEO18LMOMD	400	315
	22	M 27×2.0	18.0	32.0	40.0	16.5	16.0	33.0	32	36	104	GEO22LM27X2OMD	250	160
	28	M 33×2.0	23.0	41.0	41.0	17.5	16.0	34.0	41	41	171	GEO28LMOMD	250	160
	35	M 42×2.0	30.0	50.0	44.0	17.5	16.0	39.0	50	50	278	GEO35LMOMD	250	160
	42	M 48×2.0	36.0	55.0	47.5	19.0	17.5	42.0	55	60	340	GEO42LMOMD	250	160
S ⁴⁾	06	M 12×1.5	4.0	17.0	31.0	13.0	11.0	28.0	17	17	29	GEO06SMOMD	800	630
	08	M 14×1.5	6.0	19.0	33.0	15.0	11.0	30.0	19	19	41	GEO08SMOMD	800	630
	10	M 16×1.5	7.0	22.0	35.0	15.0	12.5	31.0	22	22	55	GEO10SMOMD	800	630
	12	M 18×1.5	9.0	24.0	38.5	17.0	14.0	33.0	24	24	73	GEO12SMOMD	630	630
	16	M 22×1.5	12.0	27.0	42.0	18.5	15.0	37.0	27	30	102	GEO16SMOMD	630	400
	20	M 27×2.0	15.0	32.0	49.5	20.5	18.5	42.0	32	36	169	GEO20SMOMD	420	400
	25	M 33×2.0	20.0	41.0	53.5	23.0	18.5	47.0	41	46	274	GEO25SMOMD	420	400
	30	M 42×2.0	26.0	50.0	56.0	23.5	19.0	50.0	50	50	412	GEO30SMOMD	420	400
	38	M 48×2.0	32.0	55.0	63.5	26.0	21.5	57.0	55	60	580	GEO38SMOMD	420	315

¹⁾ Pressure shown = item deliverable

²⁾ LL = very light series; ³⁾ L = light series; ⁴⁾ S = heavy series

$\frac{PN (bar)}{10} = PN (MPa)$

***Part numbers shown are body only level. To order with a nut and progressive ring (sleeve) included, please see pages D11 and D12 for part number ordering instructions. Instructions for ordering the fitting as EO-2 are also included on these pages.**

***S1=SW12 in 1.4571**

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

*Please add the **suffixes**
below according to the material/
surface required.

Part number suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Steel	CF	GEO16SMOMDCF	NBR
Stainless Steel	71	GEO16SMOMD71	VIT

Dimensions and pressures for reference only, subject to change.



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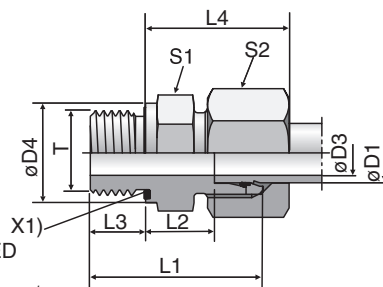
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GE-R-ED

Male Connector
24° Flareless / BSPP



X1) Elastic-sealing ED

Product images are shown with nuts and sleeves for dimensional allowances only.
Part numbers are body level only. See note below product table for details

Series	D1	T1	D3	D4	L1	L2	L3	L4	S1	S2	Weight g/1 piece	Part Number*	PN (bar) ¹⁾		
													CF	71	MS
LL ²⁾	04	G 1/8 A	3	14	20.0	9.5	6.5	19	14	10	10	GE04LLREDOMD	100	100	63
	06	G 1/8 A	4	14	20.0	8.0	6.5	20	14	12	11	GE06LLREDOMD	100	100	63
L ³⁾	06	G 1/8 A	4	14	23.5	8.5	8.0	23	14	14	13	GE06LREDOMD	500	315	200
	06	G 1/4 A	4	19	29.0	10.0	12.0	25	19	14	28	GE06LR1/4EDOMD	500	315	200
	06	G 3/8 A	4	22	30.5	11.5	12.0	26	22	14	44	GE06LR3/8EDOMD	420	315	200
	06	G 1/2 A	4	27	33.0	12.0	14.0	27	27	14	61	GE06LR1/2EDOMD	400	315	200
	08	G 1/4 A	6	19	29.0	10.0	12.0	25	19	17	27	GE08LREDOMD	500	315	200
	08	G 1/8 A	4	14	24.5	9.5	8.0	24	14	17	16	GE08LR1/8EDOMD	500	315	200
	08	G 3/8 A	6	22	30.5	11.5	12.0	26	22	17	45	GE08LR3/8EDOMD	420	315	200
	08	G 1/2 A	6	27	33.0	12.0	14.0	27	27	17	74	GE08LR1/2EDOMD	400	315	200
	10	G 1/4 A	6	19	30.0	11.0	12.0	26	19	19	29	GE10LREDOMD	500	315	200
	10	G 1/8 A	4	14	25.5	10.5	8.0	25	17	19	21	GE10LR1/8EDOMD	500	315	200
	10	G 3/8 A	8	22	31.5	12.5	12.0	27	22	19	43	GE10LR3/8EDOMD	420	315	200
	10	G 1/2 A	8	27	34.0	13.0	14.0	28	27	19	71	GE10LR1/2EDOMD	400	315	200
	12	G 3/8 A	9	22	31.5	12.5	12.0	27	22	22	41	GE12LREDOMD	420	315	200
	12	G 1/8 A	4	14	26.5	11.5	8.0	26	19	22	26	GE12LR1/8EDOMD	420	315	200
	12	G 1/4 A	6	19	31.0	12.0	12.0	27	19	22	31	GE12LR1/4EDOMD	400	315	200
	12	G 1/2 A	10	27	34.0	13.0	14.0	28	27	22	67	GE12LR1/2EDOMD	400	315	200
	12	G 3/4 A	10	32	37.0	14.0	16.0	29	32	22	118	GE12LR3/4EDOMD	250	160	100
	15	G 1/2 A	11	27	35.0	14.0	14.0	29	27	27	72	GE15LREDOMD	400	315	200
	15	G 3/8 A	9	22	32.5	13.5	12.0	29	24	27	54	GE15LR3/8EDOMD	400	315	200
	15	G 3/4 A	12	32	38.0	15.0	16.0	30	32	27	116	GE15LR3/4EDOMD	250	160	100
	18	G 1/2 A	14	27	36.0	14.5	14.0	31	27	32	71	GE18LREDOMD	400	315	200
	18	G 3/8 A	9	22	33.5	14.0	12.0	30	27	32	66	GE18LR3/8EDOMD	400	315	200
	18	G 3/4 A	15	32	38.0	14.5	16.0	31	32	32	110	GE18LR3/4EDOMD	250	160	100
	22	G 3/4 A	18	32	40.0	16.5	16.0	33	32	36	102	GE22LREDOMD	250	160	100
	22	G 1/2 A	14	27	38.0	16.5	14.0	33	32	36	91	GE22LR1/2EDOMD	250	160	100
	22	G 1 A	19	40	43.0	17.5	18.0	34	41	36	189	GE22LR1EDOMD	250	160	100
	28	G 1 A	23	40	43.0	17.5	18.0	34	41	41	170	GE28LREDOMD	250	160	100
	28	G 3/4 A	18	32	41.0	17.5	16.0	34	41	41	159	GE28LR3/4EDOMD	250	160	100
	28	G 1 1/4 A	24	50	46.0	18.5	20.0	35	50	41	316	GE28LR11/4EDOMD	250	160	100
	35	G 1 1/4 A	30	50	48.0	17.5	20.0	39	50	50	272	GE35LREDOMD	250	160	100
	35	G 1 A	23	40	46.0	17.5	18.0	39	46	50	226	GE35LR1EDOMD	250	160	100
	35	G 1 1/2 A	30	55	52.0	19.5	22.0	41	55	50	423	GE35LR11/2EDOMD	250	160	100
	42	G 1 1/2 A	36	55	52.0	19.0	22.0	42	55	60	343	GE42LREDOMD	250	160	100
	42	G 1 A	23	40	48.0	19.0	18.0	42	55	60	324	GE42LR1EDOMD	250	160	100
	42	G 1 1/4 A	30	50	50.0	19.0	20.0	42	55	60	348	GE42LR11/4EDOMD	250	160	100

¹⁾ Pressure shown = item deliverable

²⁾ LL = very light series; ³⁾ L = light series

$\frac{PN \text{ (bar)}}{10} = PN \text{ (MPa)}$

*Part numbers shown are body only level. To order with a nut and progressive ring (sleeve) included, please see pages D11 and D12 for part number ordering instructions. Instructions for ordering the fitting as EO-2 are also included on these pages.

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*Please add the **suffixes** below according to the material/surface required.

Part number suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Steel	CF	GE18LREDOMDCF	NBR
Stainless Steel	71	GE18LREDOMD71	VIT
Brass	MS	GE18LREDOMDMS	NBR

Dimensions and pressures for reference only, subject to change.



D30

Parker Hannifin Corporation
Tube Fittings Division
Columbus, Ohio
<http://www.parker.com/tfd>

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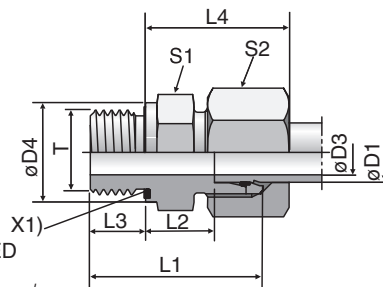
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GE-R-ED

Male Connector
24° Flareless / BSPP



X1) Eolastic-sealing ED

Product images are shown with nuts and sleeves for dimensional allowances only.
Part numbers are body level only. See note below product table for details

Series	D1	T1	D3	D4	L1	L2	L3	L4	S1	S2	Weight g/1 piece	Part Number*	PN (bar) ¹⁾		
													CF	71	MS
S ⁴⁾	06	G 1/4 A	4	19	32.0	13.0	12	28	19	17	35	GE06SREDOMD	800	630	400
	06	G 1/8 A	4	14	27.5	12.5	8	27	14	17	21	GE06SR1/8EDOMD	500	315	
	06	G 3/8 A	4	22	34.5	15.5	12	30	22	17	52	GE06SR3/8EDOMD	630	630	
	06	G 1/2 A	4	27	39.0	18.0	14	33	27	17	83	GE06SR1/2EDOMD	630	400	
	08	G 1/4 A	5	19	34.0	15.0	12	30	19	19	41	GE08SREDOMD	800	630	400
	08	G 3/8 A	5	22	34.5	15.5	12	30	22	19	57	GE08SR3/8EDOMD	800	630	
	08	G 1/2 A	5	27	39.0	18.0	14	33	27	19	89	GE08SR1/2EDOMD	630	400	
	10	G 3/8 A	7	22	34.5	15.0	12	31	22	22	55	GE10SREDOMD	800	630	400
	10	G 1/4 A	5	19	34.0	14.5	12	31	19	22	42	GE10SR1/4EDOMD	800	630	
	10	G 1/2 A	7	27	39.0	17.5	14	34	27	22	97	GE10SR1/2EDOMD	630	630	
	12	G 3/8 A	8	22	36.5	17.0	12	33	22	24	62	GE12SREDOMD	630	630	400
	12	G 1/4 A	5	19	36.0	16.5	12	33	22	24	61	GE12SR1/4EDOMD	630	630	
	12	G 1/2 A	8	27	39.0	17.5	14	34	27	24	99	GE12SR1/2EDOMD	630	630	
	16	G 1/2 A	12	27	41.0	18.5	14	37	27	30	91	GE16SREDOMD	630	400	250
	16	G 3/8 A	8	22	38.5	18.0	12	36	27	30	83	GE16SR3/8EDOMD	630	400	
	16	G 3/4 A	12	32	45.0	20.5	16	39	32	30	152	GE16SR3/4EDOMD	420	400	
	20	G 3/4 A	16	32	47.0	20.5	16	42	32	36	149	GE20SREDOMD	420	400	250
	20	G 1/2 A	12	27	45.0	20.5	14	42	32	36	142	GE20SR1/2EDOMD	420	400	
	20	G 1 A	16	40	51.0	22.5	18	44	41	36	265	GE20SR1EDOMD	420	400	
	20	G 1 1/4 A	16	50	53.0	22.5	20	44	50	36	404	GE20SR11/4EDOMD	420	400	
	25	G 1 A	20	40	53.0	23.0	18	47	41	46	266	GE25SREDOMD	420	400	250
	25	G 1/2 A	12	27	49.0	23.0	14	47	41	46	228	GE25SR1/2EDOMD	420	400	
	25	G 3/4 A	16	32	51.0	23.0	16	47	41	46	255	GE25SR3/4EDOMD	420	400	
	25	G 1 1/4 A	20	50	55.0	23.0	20	47	50	46	411	GE25SR11/4EDOMD	420	400	
	25	G 1 1/2 A	20	55	60.0	26.0	22	50	55	46	549	GE25SR11/2EDOMD	315	315	
	30	G 1 1/4 A	25	50	57.0	23.5	20	50	50	50	418	GE30SREDOMD	420	400	250
	30	G 1 A	20	40	55.0	23.5	18	50	46	50	344	GE30SR1EDOMD	420	400	
	30	G 1 1/2 A	25	55	62.0	26.5	22	53	55	50	530	GE30SR11/2EDOMD	315	315	
	38	G 1 1/2 A	32	55	64.0	26.0	22	57	55	60	563	GE38SREDOMD	420	315	200
	38	G 1 1/4 A	25	50	62.0	26.0	20	57	55	60	575	GE38SR11/4EDOMD	420	315	

¹⁾ Pressure shown = item deliverable

⁴⁾ S = heavy series

$$\frac{\text{PN (bar)}}{10} = \text{PN (MPa)}$$

***Part numbers shown are body only level. To order with a nut and progressive ring (sleeve) included, please see pages D11 and D12 for part number ordering instructions. Instructions for ordering the fitting as EO-2 are also included on these pages.**

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*Please add the **suffixes** below according to the material/surface required.

Part number suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Steel	CF	GE16SREDOMDCF	NBR
Stainless Steel	71	GE16SREDOMD71	VIT
Brass	MS	GE16SREDOMDMS	NBR

Dimensions and pressures for reference only, subject to change.

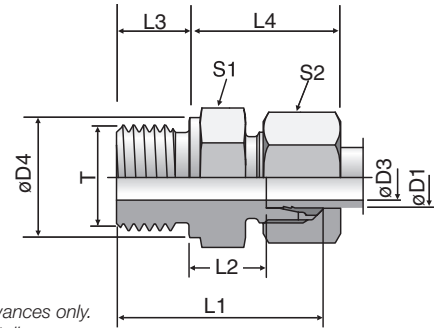


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GE-R

Male Connector

24° Flareless / BSPT or BSPP



Product images are shown with nuts and sleeves for dimensional allowances only.
Part numbers are body level only. See note below product table for details

Series	D1	T	D3	D4	L1	L2	L3	L4	S1	S2	Weight g/1 piece	Part Number*	PN (bar) ¹⁾		
													CFX	71X	MSX
L ³⁾	06	G 1/8 A	4	14	23.5	8.5	8	23.0	14	14	14	GE06LR	315	315	200
	06	G 1/4 A	4	18	29.0	10.0	12	25.0	19	14	60	GE06LR1/4	315	315	200
	06	G 3/8 A	4	22	30.5	11.5	12	26.0	22	14	45	GE06LR3/8	315	315	200
	06	G 1/2 A	4	26	33.0	12.0	14	27.0	27	14	60	GE06LR1/2	315	315	200
	08	G 1/4 A	6	18	29.0	10.0	12	25.0	19	17	26	GE08LR	315	315	200
	08	G 1/8 A	4	14	24.5	8.5	8	23.0	14	17	16	GE08LR1/8	315	315	200
	08	G 3/8 A	6	22	30.5	11.5	12	26.0	22	17	44	GE08LR3/8	315	315	200
	08	G 1/2 A	6	26	33.0	12.0	14	27.0	27	17	74	GE08LR1/2	315	315	200
	10	G 1/4 A	6	18	30.0	11.0	12	26.0	19	19	31	GE10LR	315	315	200
	10	G 1/8 A	4	14	25.5	10.5	8	25.0	17	19	21	GE10LR1/8	315	315	200
	10	G 3/8 A	8	22	31.5	12.5	12	27.0	22	19	44	GE10LR3/8	315	315	200
	10	G 1/2 A	8	26	34.0	13.0	14	28.0	27	19	72	GE10LR1/2	315	315	200
	12	G 3/8 A	9	22	31.5	12.5	12	27.0	22	22	43	GE12LR	315	315	200
	12	G 1/8 A	4	14	26.5	11.5	8	26.0	19	22	27	GE12LR1/8	315	315	200
	12	G 1/4 A	6	18	31.0	12.0	12	27.0	19	22	32	GE12LR1/4	315	315	200
	12	G 1/2 A	10	26	34.0	13.0	14	28.0	27	22	67	GE12LR1/2	315	315	200
	12	G 3/4 A	10	32	37.0	14.0	16	29.0	32	22	120	GE12LR3/4	315	315	200
	15	G 1/2 A	11	26	35.0	14.0	14	29.0	27	27	72	GE15LR	250	250	160
	15	G 3/8 A	9	22	32.5	13.5	12	29.0	24	27	56	GE15LR3/8	250	250	160
	15	G 3/4 A	12	32	38.0	15.0	16	30.0	32	27	118	GE15LR3/4	250	250	160
	18	G 1/2 A	14	26	36.0	14.5	14	31.0	27	32	72	GE18LR	250	250	160
	18	G 3/8 A	9	22	33.5	14.0	12	29.5	27	32	69	GE18LR3/8	250	250	160
	18	G 3/4 A	15	32	38.0	14.5	16	30.0	32	32	112	GE18LR3/4	250	250	160
	22	G 3/4 A	18	32	40.0	16.5	16	33.0	32	36	103	GE22LR	160	160	100
	22	G 1/2 A	14	26	38.0	16.5	14	33.0	32	36	91	GE22LR1/2	160	160	100
	22	G 1 A	19	39	43.0	17.5	18	33.5	41	36	184	GE22LR1	160	160	100
	28	G 1 A	23	39	43.0	17.5	18	34.0	41	41	168	GE28LR	160	160	100
	28	G 1/2 A	14	26	39.0	17.5	14	34.0	41	41	141	GE28LR1/2	160	160	100
	28	G 3/4 A	18	32	41.0	17.5	16	34.0	41	41	156	GE28LR3/4	160	160	100
	28	G 1 1/4 A	24	50	46.0	18.3	20	35.0	50	41	314	GE28LR11/4	160	160	100
	35	G 1 1/4 A	30	49	48.0	17.5	20	39.0	50	50	276	GE35LR	160	160	100
	35	G 1/2 A	14	26	42.0	17.5	14	39.0	46	50	194	GE35LR1/2	160	160	100
	35	G 3/4 A	18	32	44.0	17.5	16	39.0	46	50	202	GE35LR3/4	160	160	100
	35	G 1 A	23	39	46.0	17.5	18	39.0	46	50	234	GE35LR1	160	160	100
	35	G 1 1/2 A	30	55	52.0	19.5	22	41.0	55	50	355	GE35LR11/2	160	160	100
	42	G 1 1/2 A	36	55	52.0	19.0	22	42.0	55	60	349	GE42LR	160	160	100
	42	G 1 A	23	39	48.0	19.0	18	42.0	55	60	327	GE42LR1	160	160	100
	42	G 1 1/4 A	30	49	50.0	19.0	20	42.0	55	60	336	GE42LR11/4	160	160	100

¹⁾ Pressure shown = item deliverable

³⁾ L = light series

$\frac{PN \text{ (bar)}}{10} = PN \text{ (MPa)}$

*Part numbers shown are body only level. To order with a nut and progressive ring (sleeve) included, please see pages D11 and D12 for part number ordering instructions. Instructions for ordering the fitting as EO-2 are also included on these pages.

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*Please add the suffixes below according to the material/surface required.

Part number suffixes		
Material	Suffix surface and material	Example
Steel	CFX	GE18LR1CFX
Stainless Steel	71X	GE18LR71X
Brass	MSX	GE18LRMSX

Dimensions and pressures for reference only, subject to change.



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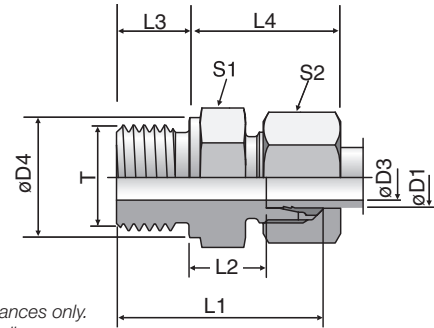
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GE-R

Male Connector

24° Flareless / BSPT or BSPP



Product images are shown with nuts and sleeves for dimensional allowances only.
Part numbers are body level only. See note below product table for details

Series	D1	T	D3	D4	L1	L2	L3	L4	S1	S2	Weight g/1 piece	Part Number*	PN (bar) ¹⁾		
													CFX	71X	MSX
S ⁴⁾	06	G 1/4 A	4	18	32.0	13.0	12	28	19	17	35	GE06SR	400	400	250
	06	G 1/8 A	3	14	27.5	12.5	8	27	14	17	22	GE06SR1/8	400	400	
	06	G 3/8 A	4	22	34.5	15.5	12	30	22	17	57	GE06SR3/8	400	400	
	06	G 1/2 A	4	26	39.0	18.0	14	33	27	17	83	GE06SR1/2	400	400	
	08	G 1/4 A	5	18	34.0	15.0	12	30	19	19	41	GE08SR	400	400	250
	08	G 3/8 A	5	22	34.5	15.5	12	30	22	19	59	GE08SR3/8	400	400	
	08	G 1/2 A	5	26	39.0	18.0	14	33	27	19	100	GE08SR1/2	400	400	
	10	G 3/8 A	7	22	34.5	15.0	12	31	22	22	56	GE10SR	400	400	250
	10	G 1/4 A	5	18	34.0	14.5	12	31	19	22	43	GE10SR1/4	400	400	
	10	G 1/2 A	7	26	39.0	17.5	14	34	27	22	97	GE10SR1/2	400	400	
	12	G 3/8 A	8	22	36.5	17.0	12	33	22	24	62	GE12SR	400	400	250
	12	G 1/4 A	5	18	36.0	16.5	12	33	22	24	57	GE12SR1/4	400	400	
	12	G 1/2 A	8	26	39.0	17.5	14	34	27	24	57	GE12SR1/2	400	400	
	16	G 1/2 A	12	26	41.0	18.5	14	37	27	30	92	GE16SR	400	400	250
	16	G 3/8 A	8	22	38.5	18.0	12	36	27	30	83	GE16SR3/8	400	400	
	16	G 3/4 A	12	32	45.0	20.5	16	39	32	30	157	GE16SR3/4	400	400	
	20	G 3/4 A	16	32	47.0	20.5	16	42	32	36	151	GE20SR	400	400	250
	20	G 1/2 A	12	26	45.0	20.5	14	42	32	36	142	GE20SR1/2	400	400	
	20	G 1 A	16	39	51.0	22.5	18	44	41	36	273	GE20SR1	250	250	
	20	G 1 1/4 A	16	49	53.0	22.5	20	44	50	36	387	GE20SR11/4	160	160	
	25	G 1 A	20	39	53.0	23.0	18	47	41	46	267	GE25SR	250	250	160
	25	G 3/4 A	16	32	51.0	23.0	16	47	41	46	245	GE25SR3/4	250	250	
	25	G 1 1/4 A	20	49	55.0	23.0	20	47	50	46	422	GE25SR11/4	160	160	
	30	G 1 1/4 A	25	49	57.0	23.5	20	50	50	50	422	GE30SR	160	160	100
	30	G 1 A	20	39	55.0	23.5	18	50	46	50	337	GE30SR1	160	160	
	38	G 1 1/2 A	32	55	64.0	26.0	22	57	55	60	560	GE38SR	160	160	100
	38	G 1 1/4 A	25	49	62.0	26.0	20	57	55	60	578	GE38SR11/4	160	160	

¹⁾ Pressure shown = item deliverable

³⁾ L = light series

$\frac{PN \text{ (bar)}}{10} = PN \text{ (MPa)}$

*Part numbers shown are body only level. To order with a nut and progressive ring (sleeve) included, please see pages D11 and D12 for part number ordering instructions. Instructions for ordering the fitting as EO-2 are also included on these pages.

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

*Please add the suffixes
below according to the material/
surface required.

Part number suffixes		
Material	Suffix surface and material	Example
Steel	CFX	GE16SRCFX
Stainless Steel	71X	GE16SR71X
Brass	MSX	GE16SRMSX

Dimensions and pressures for reference only, subject to change.



D33

Parker Hannifin Corporation
Tube Fittings Division
Columbus, Ohio
<http://www.parker.com/tfd>

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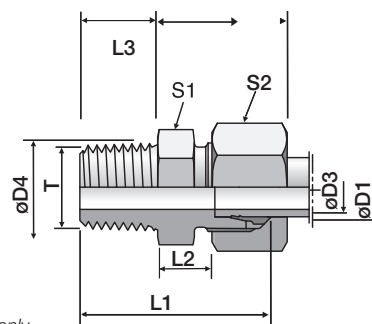
GEN TECH

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GE-R keg

Male Connector

24° Flareless / BSPT or BSPP



Product images are shown with nuts and sleeves for dimensional allowances only.
Part numbers are body level only. See note below product table for details

Series	D1	T	D3	L1	L2	L3	L4	S1	S2	Weight g/1 piece	Part Number*	PN (bar) ¹⁾		
												CFX	71X	MSX
LL ²⁾	04	R 1/8 tap.	3.0	20	16.0	8	26	11*	10	8	GE04LLR	100	100	63
	06	R 1/8 tap.	4.5	20	14.5	8	26	11*	12	8	GE06LLR	100	100	63
	08	R 1/8 tap.	6.0	22	16.5	8	28	12	14	10	GE08LLR	100	100	63
	08	R 1/4 tap.	6.0	26	20.5	12	32	14	14	18	GE08LLR1/4	100	100	63
	10	R 1/4 tap.	8.0	26	20.5	12	32	14	17	15	GE10LLR	100		63
	12	R 1/4 tap.	8.0	26	20.0	12	32	17	19	18	GE12LLR	100		63
	12	R 3/8 tap.	10.0	26	20.0	12	32	17	19	23	GE12LLR3/8	100		63
	12	R 3/8 tap.	10.0	26	20.0	12	32	17	19	23	GE12LLR3/8	100		63
L ³⁾	06	R 1/8 tap.	4.0	22	15.0	8	30	12	14	11	GE06LR1/8KEG	315	315	
	06	R 1/4 tap.	4.0	27	20.0	12	35	17	14	24	GE06LR1/4KEG	315	315	200
	08	R 1/8 tap.	4.0	23	16.0	8	31	14	17	15	GE08LR1/8KEG	315	315	200
	08	R 1/4 tap.	6.0	27	20.0	12	35	17	17	22	GE08LR1/4KEG	315	315	
	10	R 1/4 tap.	7.0	28	21.0	12	36	17	19	24	GE10LR1/4KEG	315	315	
	12	R 1/4 tap.	7.0	29	22.0	12	37	19	22	53	GE12LR1/4KEG	315	315	200
	12	R 3/8 tap.	9.0	29	22.0	12	37	19	22	33	GE12LR3/8KEG	315	315	
	12	R 1/2 tap.	10.0	31	24.0	14	39	24	22	53	GE12LR1/2KEG	315	315	200
	15	R 3/8 tap.	9.0	30	23.0	12	38	24	27	49	GE15LR3/8KEG	315	315	200
	15	R 1/2 tap.	11.0	32	25.0	14	40	24	27	59	GE15LR1/2KEG	315	315	
	18	R 1/2 tap.	14.0	33	25.5	14	42	27	32	64	GE18LR1/2KEG	315	315	
	22	R 3/4 tap.	17.0	37	29.5	16	46	32	36	99	GE22LR3/4KEG	160	160	
	28	R 1 tap.	23.0	40	32.5	18	49	41	41	154	GE28LR1KEG	160	160	
	35	R 1 1/4 tap.	30.0	45	34.5	20	56	46	50	238	GE35LR11/4KEG	160	160	
	42	R 1 1/2 tap.	36.0	49	38.0	22	61	55	60	335	GE42LR11/2KEG	160	160	

¹⁾ Pressure shown = item deliverable

²⁾ S = heavy series

$\frac{PN (bar)}{10} = PN (MPa)$

*Part numbers shown are body only level. To order with a nut and progressive ring (sleeve) included, please see pages D11 and D12 for part number ordering instructions. Instructions for ordering the fitting as EO-2 are also included on these pages.

³⁾ S1 = 12 for 1.4571

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

*Please add the **suffixes**
below according to the material/
surface required.

Part number suffixes		
Material	Suffix surface and material	Example
Steel	CFX	GE06LR1/4KEGCFX
Stainless Steel	71X	GE06LR1/4KEG71X
Brass	MSX	GE06LR1/4KEGMSX

Dimensions and pressures for reference only, subject to change.



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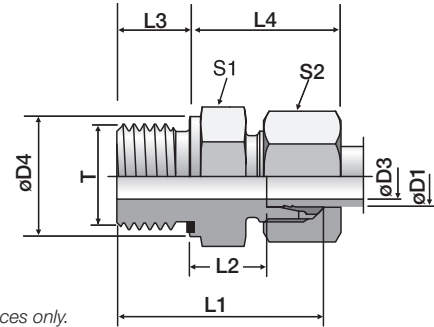
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GEN TECH

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GE-M-ED

Male Connector
24° Flareless / Metric with
EOlastic Seal



Product images are shown with nuts and sleeves for dimensional allowances only.
Part numbers are body level only. See note below product table for details

Series	D1	T	D3	D4	L1	L2	L3	L4	S1	S2	Weight g/1 piece	Part Number*	PN (bar) ¹⁾	
													CF	71
L ³⁾	06	M 10×1.0	4	14	23.5	8.5	8	23	14	14	13	GE06LMEDOMD	500	315
	08	M 12×1.5	6	17	29.0	10.0	12	25	17	17	22	GE08LMEDOMD	500	315
	10	M 14×1.5	7	19	30.0	11.0	12	26	19	19	29	GE10LMEDOMD	500	315
	10	M 12×1.5	6	17	30.0	11.0	12	26	17	19	23	GE10LM12X1.5EDOMD	315	315
	10	M 16×1.5	8	22	31.5	12.5	12	27	22	19	40	GE10LM16X1.5EDOMD	420	315
	10	M 18×1.5	8	24	31.5	12.5	12	27	24	19	50	GE10LM18X1.5EDOMD	400	315
	10	M 22×1.5	8	27	35.0	14.0	14	29	27	19	80	GE10LM22X1.5EDOMD	400	315
	12	M 16×1.5	9	22	31.5	12.5	12	27	22	22	40	GE12LMEDOMD	400	315
	12	M 14×1.5	7	19	30.0	11.0	12	26	19	22	30	GE12LM14X1.5EDOMD	400	315
	12	M 18×1.5	10	24	31.5	12.5	12	27	24	22	47	GE12LM18X1.5EDOMD	400	315
	12	M 22×1.5	10	27	35.0	14.0	14	29	27	22	75	GE12LM22X1.5EDOMD	400	315
	15	M 18×1.5	11	24	32.5	13.5	12	29	24	27	51	GE15LMEDOMD	400	315
	15	M 16×1.5	9	22	32.0	13.0	12	28	24	27	64	GE15LM16X1.5EDOMD	400	315
	15	M 22×1.5	12	27	36.0	15.0	14	30	27	27	77	GE15LM22X1.5EDOMD	400	315
	18	M 22×1.5	14	27	36.0	14.5	14	31	27	32	74	GE18LMEDOMD	400	315
	18	M 18×1.5	11	24	33.5	14.0	12	30	27	32	68	GE18LM18X1.5EDOMD	400	315
	22	M 26×1.5	18	32	40.0	16.5	16	33	32	36	103	GE22LMEDOMD	250	160
	22	M 22×1.5	14	32	38.0	16.5	14	33	32	36	97	GE22LM22X1.5EDOMD	250	160
	28	M 33×2.0	23	40	43.0	17.5	18	34	41	41	168	GE28LMEDOMD	250	160
	35	M 42×2.0	30	50	48.0	17.5	20	39	50	50	281	GE35LMEDOMD	250	160
	42	M 48×2.0	36	55	52.0	19.0	22	42	55	60	356	GE42LMEDOMD	250	160
S ⁴⁾	06	M 12×1.5	4	17	32.0	13.0	12	28	17	17	30	GE06SMEDOMD	800	630
	08	M 14×1.5	5	19	34.0	15.0	12	30	19	19	42	GE08SMEDOMD	800	630
	10	M 16×1.5	7	22	34.5	15.0	12	31	22	22	54	GE10SMEDOMD	800	630
	12	M 18×1.5	8	24	36.5	17.0	12	33	24	24	71	GE12SMEDOMD	630	630
	12	M 14×1.5	5	19	36.0	16.5	12	33	22	24	60	GE12SM14X1.5EDOMD	630	630
	12	M 22×1.5	8	27	39.0	17.5	14	34	27	24	102	GE12SM22X1.5EDOMD	630	400
	16	M 22×1.5	12	27	41.0	18.5	14	37	27	30	95	GE16SMEDOMD	630	400
	16	M 18×1.5	8	24	38.5	18.0	12	36	27	30	88	GE16SM18X1.5EDOMD	630	400
	20	M 27×2.0	16	32	47.0	20.5	16	42	32	36	150	GE20SMEDOMD	420	400
	25	M 33×2.0	20	40	53.0	23.0	18	47	41	46	264	GE25SMEDOMD	420	400
	30	M 42×2.0	25	50	57.0	23.5	20	50	50	50	422	GE30SMEDOMD	420	400
	38	M 48×2.0	32	55	64.0	26.0	22	57	55	60	569	GE38SMEDOMD	420	315

¹⁾ Pressure shown = item deliverable

³⁾ L = light series; ⁴⁾ S = heavy series

$$\frac{\text{PN (bar)}}{10} = \text{PN (MPa)}$$

*Part numbers shown are body only level. To order with a nut and progressive ring (sleeve) included, please see pages D11 and D12 for part number ordering instructions. Instructions for ordering the fitting as EO-2 are also included on these pages.

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

*Please add the **suffixes**
below according to the material/
surface required.

Part number suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Steel	CF	GE16SMEDOMDCF	NBR
Stainless Steel	71	GE16SMEDOMD71	VIT

Dimensions and pressures for reference only, subject to change.



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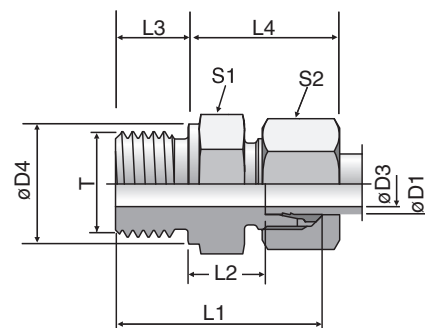
TUBE FAB
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GEN TECH

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GE-M

Male Connector
24° Flareless / Metric



Product images are shown with nuts and sleeves for dimensional allowances only.
Part numbers are body level only. See note below product table for details

Series	D1	T	D3	D4	L1	L2	L3	L4	S1	S2	Weight g/1 piece	Part Number*	PN (bar) ¹⁾		
													CFX	71X	MSX
L ³⁾	06	M 10×1.0	4	14	23.5	8.5	8	23	14	14	13	GE06LM	315	315	200
	08	M 12×1.5	6	17	29.0	10.0	12	25	17	17	22	GE08LM	315	315	200
	10	M 14×1.5	7	19	30.0	11.0	12	26	19	19	31	GE10LM	315	315	200
	10	M 10×1.0	4	14	25.5	10.5	8	25	17	19	20	GE10LM10X1	315	315	
	10	M 12×1.5	6	17	30.0	11.0	12	26	17	19	25	GE10LM12X1.5	315	315	
	10	M 16×1.5	8	21	31.5	12.0	12	27	22	19	41	GE10LM16X1.5	315	315	
	10	M 18×1.5	8	23	31.5	12.5	12	27	24	19	50	GE10LM18X1.5	315	315	
	10	M 22×1.5	8	27	35.0	14.0	14	29	27	19	72	GE10LM22X1.5	315	315	
	12	M 14×1.5	7	19	30.0	11.0	12	26	19	22	30	GE12LM14X1.5	315	315	
	12	M 16×1.5	9	21	31.5	12.5	12	27	22	22	40	GE12LM	315	315	
	12	M 18×1.5	10	23	31.5	12.5	12	27	24	22	47	GE12LM18X1.5	315	315	
	12	M 22×1.5	10	27	35.0	14.0	14	29	27	22	76	GE12LM22X1.5	315	315	
	15	M 16×1.5	9	21	32.0	13.0	12	28	24	27	50	GE15LM16X1.5	250	250	
	15	M 18×1.5	11	23	32.5	13.5	12	29	24	27	52	GE15LM	250	250	160
	15	M 22×1.5	12	27	36.0	15.0	14	30	27	27	77	GE15LM22X1.5	250	250	
	18	M 18×1.5	11	23	33.5	14.0	12	30	27	32	68	GE18LM18X1.5	250	250	
	18	M 22×1.5	14	27	36.0	14.5	14	31	27	32	77	GE18LM	250	250	160
	22	M 22×1.5	14	27	38.0	16.5	14	33	32	36	92	GE22LM22X1.5	160	160	
	22	M 26×1.5	18	31	40.0	16.5	16	33	32	36	102	GE22LM	160	160	100
	28	M 33×2.0	23	39	43.0	17.5	18	34	41	41	168	GE28LM	160	160	100
	35	M 42×2.0	30	49	48.0	17.5	20	39	50	50	280	GE35LM	160	160	100
	42	M 48×2.0	36	55	52.0	19.0	22	42	55	60	354	GE42LM	160	160	100
S ⁴⁾	06	M 12×1.5	4	17	32.0	13.0	12	28	17	17	30	GE06SM	400	400	250
	06	M 14×1.5	4	19	34.0	15.0	12	30	19	17	42	GE06SM14X1.5	400	400	
	08	M 14×1.5	5	19	34.0	15.0	12	30	19	19	43	GE08SM	400	400	250
	10	M 16×1.5	7	21	34.5	15.0	12	31	22	22	54	GE10SM	400	400	250
	12	M 18×1.5	8	23	36.5	17.0	12	33	24	24	72	GE12SM	400	400	250
	12	M 14×1.5	5	19	36.0	16.5	12	33	22	24	60	GE12SM14X1.5	400	400	
	12	M 22×1.5	8	27	39.0	17.5	14	34	27	24	103	GE12SM22X1.5	400	400	
	16	M 18×1.5	8	23	38.5	18.0	12	36	27	30	88	GE16SM18X1.5	400	400	
	16	M 22×1.5	12	27	41.0	18.5	14	37	27	30	97	GE16SM	400	400	250
	20	M 27×2.0	16	32	47.0	20.5	16	42	32	36	155	GE20SM	400	400	250
	25	M 33×2.0	20	39	53.0	23.0	18	47	41	46	268	GE25SM	250	250	160
	30	M 42×2.0	25	49	57.0	23.5	20	50	50	50	421	GE30SM	160	160	100
	38	M 48×2.0	32	55	64.0	26.0	22	57	55	60	568	GE38SM	160	160	100

¹⁾ Pressure shown = item deliverable

³⁾ L = light series; ⁴⁾ S = heavy series

PN (bar)
10 = PN (MPa)

*Part numbers shown are body only level. To order with a nut and progressive ring (sleeve) included, please see pages D11 and D12 for part number ordering instructions. Instructions for ordering the fitting as EO-2 are also included on these pages.

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

*Please add the **suffixes**
below according to the material/
surface required.

Part number suffixes		
Material	Suffix surface and material	Example
Steel	CFX	GE16SMCFX
Stainless Steel	71X	GE16SM71X
Brass	MSX	GE16SMMSX

Dimensions and pressures for reference only, subject to change.



D36

Parker Hannifin Corporation
Tube Fittings Division
Columbus, Ohio
<http://www.parker.com/tfd>

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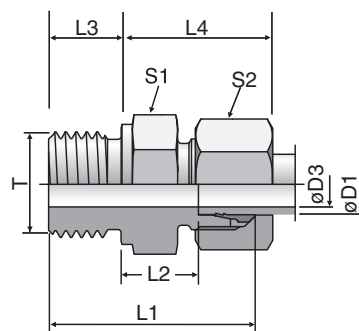
TUBE FAB
EQUIP

GEN TECH

[Click here for CADs, Support Resources or to Configure Parts Online](#)

GE-M keg

Male Connector
24° Flareless / Metric



Product images are shown with nuts and sleeves for dimensional allowances only.
Part numbers are body level only. See note below product table for details

Series	D1	T	D3	L1	L2	L3	L4	S1	S2	Weight g/1 piece	Part Number*	PN (bar) ¹⁾		
												CFX	71X	MSX
LL ²⁾	04	M 06×1.0 tap.	2.0	20	16.0	8	26	9*	10	5	GE04LLM6X1KEG	100		
	04	M 08×1.0 tap.	3.0	20	16.0	8	26	10*	10	7	GE04LLM	100	100	63
	06	M 10×1.0 tap.	4.5	20	14.5	8	26	11*	12	9	GE06LLM	100	100	63
	06	M 08×1.0 tap.	3.5	20	14.5	8	26	11*	12	9	GE06LLM8X1KEG	100		
	08	M 10×1.0 tap.	6.0	22	16.5	8	28	12*	14	10	GE08LLM	100	100	63

¹⁾ Pressure shown = item deliverable

²⁾ LL = very light series

$\frac{PN \text{ (bar)}}{10} = PN \text{ (MPa)}$

*Part numbers shown are body only level. To order with a nut and progressive ring (sleeve) included, please see pages D11 and D12 for part number ordering instructions. Instructions for ordering the fitting as EO-2 are also included on these pages.

*S1=SW12 in 1.4571

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

*Please add the **suffixes**
below according to the material/
surface required.

Part number suffixes		
Material	Suffix surface and material	Example
Steel	CFX	GE06LLMCFX
Stainless Steel	71X	GE06LLM71X
Brass	MSX	GE06LLMMSX

Dimensions and pressures for reference only, subject to change.



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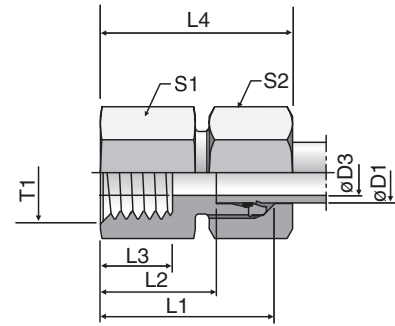
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TUBE FAB
EQUIP

GEN TECH

GAI-R

Female Connector
24° Flareless / BSPP



Product images are shown with nuts and sleeves for dimensional allowances only.
Part numbers are body level only. See note below product table for details

Series	D1	T1	D3	L1	L2	L3	L4	S1	S2	Weight g/1 piece	Part Number*	PN (bar) ¹⁾		
												CFX	71X	MSX
L ³⁾	06	G 1/8	4	26.0	19.0	8.0	34	14	14	18	GAI06LR	315	315	200
	06	G 1/4	4	31.0	24.0	12.0	39	19	14	39	GAI06LR1/4	315	315	200
	08	G 1/4	6	31.0	24.0	12.0	39	19	17	39	GAI08LR	315	315	200
	08	G 3/8	6	32.0	25.0	12.0	40	24	17	61	GAI08LR3/8	315	315	200
	08	G 1/2	6	36.0	29.0	14.0	44	27	17	80	GAI08LR1/2	315	315	200
	10	G 1/4	8	32.0	25.0	12.0	40	19	19	40	GAI10LR	315	315	200
	10	G 3/8	8	33.0	26.0	12.0	41	24	19	63	GAI10LR3/8	315	315	200
	10	G 1/2	8	37.0	30.0	14.0	45	27	19	81	GAI10LR1/2	315	315	200
	12	G 3/8	10	33.0	26.0	12.0	41	24	22	64	GAI12LR	315	315	200
	12	G 1/2	10	37.0	30.0	14.0	45	27	22	83	GAI12LR1/2	315	315	200
	15	G 1/2	12	38.0	31.0	14.0	46	27	27	87	GAI15LR	315	315	200
	18	G 1/2	15	38.0	30.5	14.0	47	27	32	89	GAI18LR	315	315	200
	18	G 3/8	15	34.0	26.5	12.0	43	27	32	95	GAI18LR3/8	315	315	200
	22	G 3/4	19	43.0	35.5	16.0	52	36	36	173	GAI22LR	160	160	100
	28	G 1	24	45.5	38.0	18.0	55	41	41	211	GAI28LR	160	160	100
S ⁴⁾	35	G 1 1/4	30	51.5	41.0	20.0	63	55	50	469	GAI35LR	160	160	100
	42	G 1 1/2	36	53.5	42.5	22.0	65	60	60	540	GAI42LR	160	160	100
	06	G 1/4	4	33.0	26.0	12.0	41	19	17	43	GAI06SR	400	400	
	08	G 1/4	5	33.0	26.0	12.0	41	19	19	47	GAI08SR	400	400	
	10	G 3/8	7	34.0	26.5	12.0	43	24	22	68	GAI10SR	400	400	
	12	G 3/8	8	34.0	26.5	12.0	43	24	24	71	GAI12SR	400	400	
	12	G 1/2	8	38.0	30.5	14.0	47	30	24	121	GAI12SR1/2	400	400	
	16	G 1/2	12	40.0	31.5	14.0	50	30	30	126	GAI16SR	400	400	
	20	G 3/4	16	45.0	34.5	16.0	56	36	36	196	GAI20SR	315	315	
	25	G 1	20	49.5	37.5	18.0	62	41	46	246	GAI25SR	315	315	
	30	G 1 1/4	25	55.5	42.0	22.0	69	55	50	537	GAI30SR	315	315	
	38	G 1 1/2	32	59.5	43.5	22.0	74	60	60	649	GAI38SR	250	250	

¹⁾ Pressure shown = item deliverable

³⁾ L = light series; ⁴⁾ S = heavy series

PN (bar)
10 = PN (MPa)

*Part numbers shown are body only level. To order with a nut and progressive ring (sleeve) included, please see pages D11 and D12 for part number ordering instructions. Instructions for ordering the fitting as EO-2 are also included on these pages.

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

*Please add the **suffixes**
below according to the material/
surface required.

Part number suffixes		
Material	Suffix surface and material	Example
Steel	CFX	GAI16SRCFX
Stainless Steel	71X	GAI16SR71X
Brass	MSX	GAI16SRMSX

Dimensions and pressures for reference only, subject to change.



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GAI-M

Female Connector
24° Flareless / Metric

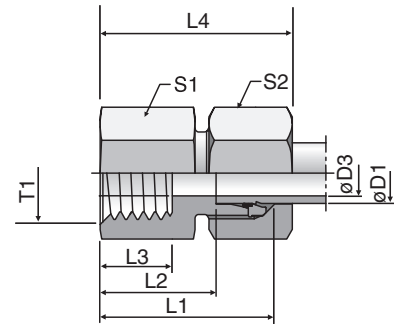


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Product images are shown with nuts and sleeves for dimensional allowances only.
Part numbers are body level only. See note below product table for details

Series	D1	T1	D3	L1	L2	L3	L4	S1	S2	Weight g/1 piece	Part Number*	PN (bar) ¹⁾	
												CFX	71X
L ³⁾	06	M 10×1.0	4	26.5	19.5	8.0	34	14	14	18	GAI06LM	315	315
	08	M 12×1.5	6	31.0	24.0	12.0	39	17	17	32	GAI08LM	315	315
	10	M 14×1.5	8	32.0	25.0	12.0	40	19	19	39	GAI10LM	315	315
	12	M 16×1.5	10	33.0	26.0	12.0	41	22	22	52	GAI12LM	315	315
	15	M 18×1.5	12	35.0	28.0	12.0	43	24	27	68	GAI15LM	315	315
	18	M 22×1.5	15	37.0	29.5	14.0	46	30	32	111	GAI18LM	315	315
	22	M 26×1.5	19	42.0	34.5	16.0	51	32	36	123	GAI22LM	160	160
	28	M 33×2.0	24	45.0	37.5	18.0	54	41	41	211	GAI28LM	160	160
	35	M 42×2.0	30	51.0	40.5	20.0	62	55	50	459	GAI35LM	160	160
	42	M 48×2.0	36	53.0	42.0	22.0	65	60	60	522	GAI42LM	160	160
S ⁴⁾	06	M 12×1.5	4	33.0	26.0	12.0	41	17	17	35	GAI06SM	400	400
	08	M 14×1.5	5	33.0	26.0	12.0	41	17	19	42	GAI08SM	400	400
	10	M 16×1.5	7	34.0	26.5	12.0	43	22	22	58	GAI10SM	400	400
	12	M 18×1.5	8	35.0	27.5	12.0	44	24	24	70	GAI12SM	400	400
	16	M 22×1.5	12	39.0	30.5	14.0	49	30	30	114	GAI16SM	400	400
	20	M 27×2.0	16	45.0	34.5	16.0	56	36	36	189	GAI20SM	315	315
	25	M 33×2.0	20	49.0	37.0	18.0	61	41	46	235	GAI25SM	315	315
	30	M 42×2.0	25	55.0	41.5	20.0	68	55	50	490	GAI30SM	315	315
	38	M 48×2.0	32	59.0	43.0	22.0	74	60	60	597	GAI38SM	250	250

¹⁾ Pressure shown = item deliverable

³⁾ L = light series; ⁴⁾ S = heavy series

$\frac{\text{PN (bar)}}{10} = \text{PN (MPa)}$

*Part numbers shown are body only level. To order with a nut and progressive ring (sleeve) included, please see pages D11 and D12 for part number ordering instructions. Instructions for ordering the fitting as EO-2 are also included on these pages.

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

*Please add the **suffixes**
below according to the material/
surface required.

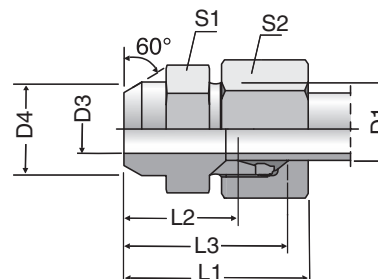
Part number suffixes		
Material	Suffix surface and material	Example
Steel	CFX	GAI16SMCFX
Stainless Steel	71X	GAI16SM71X

Dimensions and pressures for reference only, subject to change.



AS

Weld Connector
24° Flareless / Butt Weld



Product images are shown with nuts and sleeves for dimensional allowances only.
Part numbers are body level only. See note below product table for details

6000 PSI Series

Series 3) 4)	Tube	D3	D4	L1	L2	L3	S1	S2	Weight (steel) kg/piece	Part Number	PN (bar) ¹⁾	
											S	SS
L ³⁾	06	4	10	21	14.0	29	12	14	11	AS06L	315	315
	08	6	12	23	16.0	31	14	17	15	AS08L	315	315
	10	8	14	25	18.0	33	17	19	22	AS10L	315	315
	12	10	16	25	18.0	33	19	22	25	AS12L	315	315
	15	12	19	29	22.0	37	22	27	44	AS15L	315	315
	18	15	22	31	23.5	40	27	32	67	AS18L	315	315
	22	19	27	36	28.5	45	32	36	98	AS22L	160	160
	28	24	32	38	30.5	47	41	41	165	AS28L	160	160
	35	30	40	43	32.5	54	46	50	232	AS35L	160	160
	42	36	46	46	35.0	58	55	60	342	AS42L	160	160
S ⁴⁾	06	4	11	26	19.0	34	14	17	21	AS06S	630	630
	08	5	13	28	21.0	36	17	19	31	AS08S	630	630
	10	7	15	30	22.5	39	19	22	41	AS10S	630	630
	12	8	17	32	24.5	41	22	24	93	AS12S	630	630
	16	12	21	35	26.5	45	27	30	82	AS16S	400	400
	20	16	26	40	29.5	51	32	36	131	AS20S	400	400
	25	20	31	44	32.0	56	41	46	219	AS25S	400	400
	30	25	36	49	35.5	62	46	50	297	AS30S	400	400
	38	32	44	54	38.0	69	55	60	448	AS38S	315	315

¹⁾ Pressure shown = Item deliverable

$$\frac{\text{PN (bar)}}{10} = \text{PN (MPa)}$$

The pressures given here are the maximum allowable for the flange fittings. If the pipe or tube used has a lower pressure rating, then the welded assembly rating will be the lower one, assuming the weld is adequately strong.

Stainless steel parts may have dimensional deviations. Additional information on request.

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

*Please add the **suffixes**
below according to the material/
surface required.

Part number suffixes					
Material	Suffix surface and material	Example only flange adapter	Example incl. splitflanges, metr. bolts and O-ring	Example incl. splitflanges, UNC bolts and O-ring	Standard sealing material (no additional suffix needed)
Steel	S	AS62/16X3S	AS62/16X3SM	AS62/16X3SU	NBR
Stainless steel	SS	AS62/16X3SS	AS62/16X3SSM	—	VIT

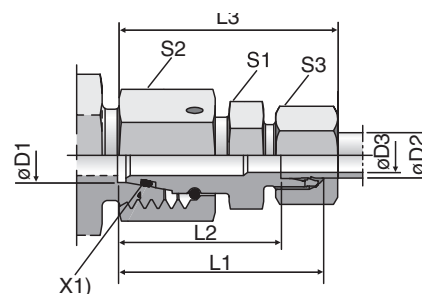
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RED

Tube End Reducer
Flareless Swivel / 24° Flareless



X1) O-ring OR

L-Series

Product images are shown with nuts and sleeves for dimensional allowances only.
Part numbers are body level only. See note below product table for details

Series 2) 3) 4)	D1	D2	D3	L1	L2	L3	S1	S2	S3	Weight g/1 piece	Part Number*	PN (bar) ¹⁾	
												CF	71
L/LL	06	04	2.5	28.5	24.5	34.0	9	14	10	17	RED06L/04LLOMD	100	100
L	08	06	4.0	30.5	23.5	38.0	12	17	14	29	RED08/06LOMD	500	315
L	10	06	4.0	32.0	25.0	40.0	14	19	14	36	RED10/06LOMD	500	315
L	10	08	6.0	32.0	25.0	40.0	14	19	17	38	RED10/08LOMD	500	315
L	12	06	4.0	32.0	25.0	40.0	17	22	14	49	RED12/06LOMD	400	315
L	12	08	6.0	32.0	25.0	40.0	17	22	17	49	RED12/08LOMD	400	315
L	12	10	8.0	33.0	26.0	41.0	17	22	19	51	RED12/10LOMD	400	315
L	15	06	4.0	35.5	28.5	43.0	19	27	14	81	RED15/06LOMD	400	315
L	15	08	6.0	35.5	28.5	43.0	19	27	17	85	RED15/08LOMD	400	315
L	15	10	8.0	36.5	29.5	44.0	19	27	19	83	RED15/10LOMD	400	315
L	15	12	10.0	36.5	29.5	44.0	19	27	22	83	RED15/12LOMD	400	315
L	18	06	4.0	35.0	28.0	43.0	24	32	14	109	RED18/06LOMD	400	315
L	18	08	6.0	35.0	28.0	43.0	24	32	17	111	RED18/08LOMD	400	315
L	18	10	8.0	36.0	29.0	44.0	24	32	19	110	RED18/10LOMD	400	315
L	18	12	10.0	36.0	29.0	44.0	24	32	22	110	RED18/12LOMD	400	315
L	18	15	12.0	37.0	30.0	45.0	24	32	27	115	RED18/15LOMD	400	315
L/S	18	16	12.0	40.0	31.5	49.5	27	32	30	138	RED18L/16SOMD	400	315
L	22	06	4.0	39.0	32.0	47.0	27	36	14	158	RED22/06LOMD	250	160
L	22	08	6.0	39.0	32.0	47.0	27	36	17	158	RED22/08LOMD	250	160
L	22	10	8.0	40.0	33.0	48.0	27	36	19	159	RED22/10LOMD	250	160
L	22	12	10.0	40.0	33.0	48.0	27	36	22	157	RED22/12LOMD	250	160
L	22	15	12.0	41.0	34.0	49.0	27	36	27	164	RED22/15LOMD	250	160
L/S	22	16	12.0	43.0	34.5	52.5	27	36	30	173	RED22L/16SOMD	250	160
L	22	18	15.0	41.0	33.5	50.0	27	36	32	167	RED22/18LOMD	250	160
L/S	22	20	16.0	45.0	34.5	56.0	32	36	36	203	RED22L/20SOMD	250	160
L	28	06	4.0	41.0	34.0	49.0	32	41	14	219	RED28/06LOMD	250	160
L	28	08	6.0	41.0	34.0	49.0	32	41	17	221	RED28/08LOMD	250	160
L	28	10	8.0	42.0	35.0	50.0	32	41	19	213	RED28/10LOMD	250	160
L	28	12	10.0	42.0	35.0	50.0	32	41	22	213	RED28/12LOMD	250	160
L	28	15	12.0	43.0	36.0	51.0	32	41	27	218	RED28/15LOMD	250	160
L/S	28	16	12.0	45.0	36.5	54.5	32	41	30	227	RED28L/16SOMD	250	160
L	28	18	15.0	43.0	35.5	52.0	32	41	32	220	RED28/18LOMD	250	160
L	28	22	19.0	45.0	37.5	54.0	32	41	36	222	RED28/22LOMD	250	160
L/S	28	25	20.0	50.0	38.0	62.0	41	41	46	300	RED28L/25SOMD	250	160
L	35	06	4.0	44.0	37.0	52.0	41	50	14	318	RED35/06LOMD	250	160
L	35	08	6.0	44.0	37.0	52.0	41	50	17	318	RED35/08LOMD	250	160
L	35	10	8.0	45.0	38.0	53.0	41	50	19	318	RED35/10LOMD	250	160
L	35	12	10.0	45.0	38.0	53.0	41	50	22	324	RED35/12LOMD	250	160
L	35	15	12.0	46.0	39.0	54.0	41	50	27	328	RED35/15LOMD	250	160
L	35	18	15.0	46.0	38.5	55.0	41	50	32	328	RED35/18LOMD	250	160
L	35	22	19.0	48.0	40.5	57.0	41	50	36	331	RED35/22LOMD	250	160

(continued on the following page)

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Dimensions and pressures for reference only, subject to change.



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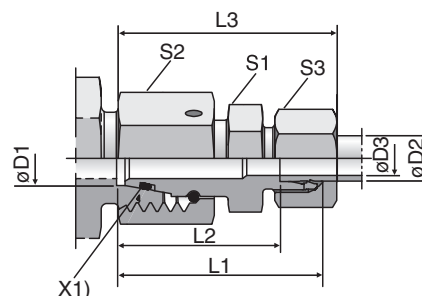
TUBE FAB
EQUIP

GEN TECH

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RED

Tube End Reducer
Flareless Swivel / 24° Flareless



X1) O-ring OR

L-Series

Product images are shown with nuts and sleeves for dimensional allowances only.
Part numbers are body level only. See note below product table for details

Series 2) 3) 4)	D1	D2	D3	L1	L2	L3	S1	S2	S3	Weight g/1 piece	Part Number*	PN (bar) ¹⁾	
												CF	71
L/S	35	25	20.0	52.0	40.0	64.0	41	50	46	366	RED35L/25SOMD	250	160
L	35	28	24.0	48.0	40.5	57.0	41	50	41	327	RED35/28LOMD	250	160
L/S	35	30	25.0	55.0	41.5	68.0	46	50	50	435	RED35L/30SOMD	250	160
L	42	10	8.0	48.5	41.5	56.0	50	60	19	537	RED42/10LOMD	250	160
L	42	12	10.0	48.5	41.5	56.0	50	60	22	538	RED42/12LOMD	250	160
L	42	15	12.0	49.5	42.5	58.0	50	60	27	534	RED42/15LOMD	250	160
L	42	18	15.0	49.5	42.0	58.0	50	60	32	544	RED42/18LOMD	250	160
L	42	22	19.0	51.5	44.0	60.0	50	60	36	543	RED42/22LOMD	250	160
L	42	28	24.0	51.5	44.0	61.0	50	60	41	539	RED42/28LOMD	250	160
L/S	42	30	25.0	57.5	44.0	70.5	50	60	50	588	RED42L/30SOMD	250	160
L	42	35	30.0	53.5	43.0	65.0	50	60	50	541	RED42/35LOMD	250	160
L/S	42	38	32.0	61.5	45.5	76.0	55	60	60	701	RED42L/38SOMD	250	160

¹⁾ Pressure shown = item deliverable

²⁾ LL = very light series; ³⁾ L = light series; ⁴⁾ S = heavy series

$\frac{PN \text{ (bar)}}{10} = PN \text{ (MPa)}$

*Part numbers shown are body only level. To order with a nut and progressive ring (sleeve) included, please see pages D11 and D12 for part number ordering instructions. Instructions for ordering the fitting as EO-2 are also included on these pages.

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

*Please add the **suffixes**
below according to the material/
surface required.

Part number suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Steel	CF	RED18/15LOMDCF	NBR
Stainless Steel	71	RED18/15LOMD71	VIT

Dimensions and pressures for reference only, subject to change.



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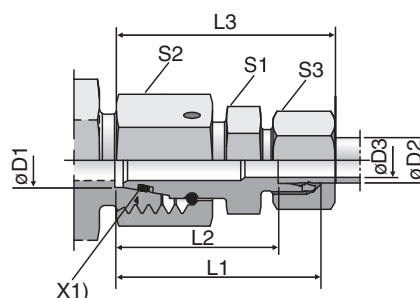
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RED

Tube End Reducer

Flareless Swivel / 24° Flareless



X1) O-ring OR

S-Series

Product images are shown with nuts and sleeves for dimensional allowances only.
Part numbers are body level only. See note below product table for details

Series 3)	D1	D2	D3	L1	L2	L3	S1	S2	S3	Weight g/1 piece	Part Number*	PN (bar) ¹⁾	
												CF	71
S	08	06	4	34.0	27.0	42	14	19	17	42	RED08/06SOMD	800	630
S	10	06	4	34.5	27.5	42	17	22	17	55	RED10/06SOMD	800	630
S	10	08	5	34.5	27.5	42	17	22	19	58	RED10/08SOMD	800	630
S	12	06	4	36.0	29.0	44	17	24	17	66	RED12/06SOMD	630	630
S	12	08	5	36.0	29.0	44	17	24	19	68	RED12/08SOMD	630	630
S	12	10	7	37.0	29.5	46	19	24	22	75	RED12/10SOMD	630	630
S	16	06	4	39.0	32.0	47	22	30	17	112	RED16/06SOMD	630	400
S	16	08	5	39.0	32.0	47	22	30	19	114	RED16/08SOMD	630	400
S	16	10	7	39.0	31.5	48	22	30	22	115	RED16/10SOMD	630	400
S	16	12	8	39.0	31.5	48	22	30	24	118	RED16/12SOMD	630	400
S/L	16	15	11	39.0	32.0	47	24	30	27	120	RED16S/15LOMD	400	315
S	20	06	4	43.0	36.0	51	27	36	17	172	RED20/06SOMD	420	400
S	20	08	5	43.0	36.0	51	27	36	19	174	RED20/08SOMD	420	400
S	20	10	7	43.0	35.5	52	27	36	22	174	RED20/10SOMD	420	400
S	20	12	8	43.0	35.5	52	27	36	24	177	RED20/12SOMD	420	400
S/L	20	15	12	43.0	36.0	51	27	36	27	173	RED20S/15LOMD	400	315
S	20	16	12	45.0	36.5	55	27	36	30	182	RED20/16SOMD	420	400
S/L	20	18	14	43.0	35.5	51	27	36	32	178	RED20S/18LOMD	400	315
S	25	06	4	45.5	38.5	53	32	46	17	294	RED25/06SOMD	420	400
S	25	08	5	45.5	38.5	53	32	46	19	295	RED25/08SOMD	420	400
S	25	10	7	45.5	38.0	54	32	46	22	296	RED25/10SOMD	420	400
S	25	12	8	45.5	38.0	54	32	46	24	299	RED25/12SOMD	420	400
S	25	16	12	47.5	39.0	57	32	46	30	304	RED25/16SOMD	420	400
S/L	25	18	15	45.5	38.0	54	32	46	32	299	RED25S/18LOMD	400	315
S	25	20	16	49.5	39.0	61	32	46	36	315	RED25/20SOMD	420	400
S/L	25	22	18	47.5	40.0	56	32	46	36	304	RED25S/22LOMD	250	160
S	30	06	4	51.0	44.0	59	41	50	17	412	RED30/06SOMD	420	400
S	30	08	5	51.0	44.0	59	41	50	19	404	RED30/08SOMD	420	400
S	30	10	7	51.0	43.5	60	41	50	22	405	RED30/10SOMD	420	400
S	30	12	8	51.0	43.5	60	41	50	24	405	RED30/12SOMD	420	400
S	30	16	12	53.0	44.5	63	41	50	30	412	RED30/16SOMD	420	400
S	30	20	16	55.0	44.5	66	41	50	36	421	RED30/20SOMD	420	400
S/L	30	22	19	53.0	45.5	61	41	50	36	406	RED30S/22LOMD	250	160
S	30	25	20	57.0	45.0	69	41	50	46	439	RED30/25SOMD	420	400
S/L	30	28	23	53.0	45.5	62	41	50	41	406	RED30S/28LOMD	250	160
S	38	06	4	54.5	47.5	62	50	60	17	556	RED38/06SOMD	420	315
S	38	08	5	54.5	47.5	62	50	60	19	581	RED38/08SOMD	420	315
S	38	10	7	54.5	47.0	63	50	60	22	579	RED38/10SOMD	420	315
S	38	12	8	54.5	47.0	63	50	60	24	577	RED38/12SOMD	420	315
S	38	16	12	56.5	48.0	66	50	60	30	580	RED38/16SOMD	420	315

(continued on the following page)

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

Dimensions and pressures for reference only, subject to change.



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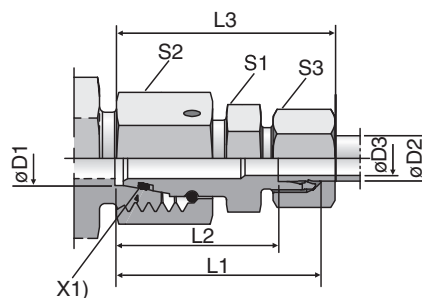
TUBE FAB
EQUIP

GEN TECH

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RED

Tube End Reducer
Flareless Swivel / 24° Flareless



X1) O-ring OR

S-Series

Product images are shown with nuts and sleeves for dimensional allowances only.
Part numbers are body level only. See note below product table for details

Series 3) 4)	D1	D2	D3	L1	L2	L3	S1	S2	S3	Weight g/1 piece	Part Number*	PN (bar) ¹⁾	
												CF	71
S	38	20	16	58.5	48.0	70	50	60	36	601	RED38/20SOMD	420	315
S	38	25	20	60.5	48.5	73	50	60	46	615	RED38/25SOMD	420	315
S/L	38	28	24	56.5	49.0	65	50	60	41	573	RED38S/28LOMD	250	160
S	38	30	25	62.5	49.0	76	50	60	50	625	RED38/30SOMD	420	315
S/L	38	35	30	58.5	48.0	69	50	60	50	588	RED38S/35LOMD	250	160

¹⁾ Pressure shown = item deliverable

³⁾ L = light series; ⁴⁾ S = heavy series

$\frac{\text{PN (bar)}}{10} = \text{PN (MPa)}$

*Part numbers shown are body only level. To order with a nut and progressive ring (sleeve) included, please see pages D11 and D12 for part number ordering instructions. Instructions for ordering the fitting as EO-2 are also included on these pages.

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

*Please add the **suffixes**
below according to the material/
surface required.

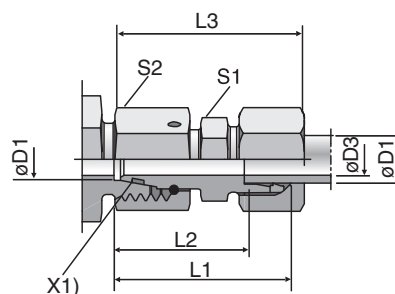
Part number suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Steel	CF	RED16/12SOMDCF	NBR
Stainless Steel	71	RED16/12SOMD71	VIT

Dimensions and pressures for reference only, subject to change.

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DA

Distance Piece Adapter
Flareless Swivel / 24° Flareless



X1) O-ring OR

Product images are shown with nuts and sleeves for dimensional allowances only.
Part numbers are body level only. See note below product table for details

Series	D1	D3	L1	L2	L3	S1	S2	Weight g/1 piece	Part Number*	PN (bar) ¹⁾		
										CF	71	MS
L ³⁾	06	2.5	43.0	36	51	12	14	33	DA06LOMD	500	315	200
	08	4.0	43.0	36	51	14	17	46	DA08LOMD	500	315	200
	10	6.0	43.0	36	51	17	19	60	DA10LOMD	500	315	200
	12	8.0	43.0	36	51	19	22	75	DA12LOMD	400	315	200
	15	10.0	43.0	36	51	24	27	118	DA15LOMD	400	315	200
	18	13.0	43.5	36	52	27	32	153	DA18LOMD	400	315	200
	22	17.0	47.5	40	56	32	36	210	DA22LOMD	250	160	100
	28	22.0	47.5	40	57	41	41	279	DA28LOMD	250	160	100
	35	28.0	60.5	50	72	46	50	468	DA35LOMD	250	160	100
	42	34.0	71.0	60	83	55	60	802	DA42LOMD	250	160	100
S ⁴⁾	06	2.5	43.0	36	51	14	17	48	DA06SOMD	800	630	400
	08	4.0	43.0	36	51	17	19	64	DA08SOMD	800	630	400
	10	6.0	43.5	36	52	19	22	81	DA10SOMD	800	630	400
	12	8.0	43.5	36	52	22	24	97	DA12SOMD	630	630	400
	16	11.0	48.5	40	58	27	30	166	DA16SOMD	630	400	250
	20	14.0	56.5	46	68	32	36	265	DA20SOMD	420	400	250
	25	18.0	62.0	50	74	41	46	466	DA25SOMD	420	400	250
	30	23.0	69.5	56	83	46	50	601	DA30SOMD	420	400	250
	38	30.0	76.0	60	91	55	60	871	DA38SOMD	420	315	200

¹⁾ Pressure shown = item deliverable

³⁾ L = light series; ⁴⁾ S = heavy series

$\frac{PN (bar)}{10} = PN (MPa)$

*Part numbers shown are body only level. To order with a nut and progressive ring (sleeve) included, please see pages D11 and D12 for part number ordering instructions. Instructions for ordering the fitting as EO-2 are also included on these pages.

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

*Please add the **suffixes**
below according to the material/
surface required.

Part number suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Steel	CF	DA16SOMDCF	NBR
Stainless Steel	71	DA16SOMD71	VIT
Brass	MS	DA16SOMDMS	NBR

Dimensions and pressures for reference only, subject to change.



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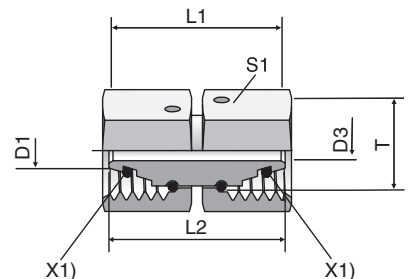
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GZ

Swivel Union
Flareless Swivel /
Flareless Swivel



X1) O-ring OR

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Series	D1	T	D3	L1	L2	S1	Weight g/1 piece	Part Number*	PN (bar) ¹⁾	
									CF	71
L ³⁾	06	M 12×1.5	2.5	32	32	14	28	GZ06L	500	315
	08	M 14×1.5	4.0	32	32	17	41	GZ08L	500	315
	10	M 16×1.5	6.0	33	33	19	53	GZ10L	500	315
	12	M 18×1.5	8.0	33	33	22	71	GZ12L	400	315
	15	M 22×1.5	10.0	38	38	27	129	GZ15L	400	315
	18	M 26×1.5	13.0	36	38	32	165	GZ18L	400	315
	22	M 30×2.0	17.0	42	44	36	243	GZ22L	250	160
	28	M 36×2.0	22.0	46	48	41	319	GZ28L	250	160
	35	M 45×2.0	28.0	48	52	50	449	GZ35L	250	160
	42	M 52×2.0	34.0	52	57	60	737	GZ42L	250	160
S ⁴⁾	06	M 14×1.5	2.5	32	33	17	41	GZ06S	800	630
	08	M 16×1.5	4.0	33	34	19	54	GZ08S	800	630
	10	M 18×1.5	6.0	33	35	22	74	GZ10S	800	630
	12	M 20×1.5	8.0	36	38	24	95	GZ12S	630	630
	16	M 24×1.5	11.0	39	42	30	172	GZ16S	630	400
	20	M 30×2.0	14.0	44	48	36	261	GZ20S	420	400
	25	M 36×2.0	18.0	46	53	46	477	GZ25S	420	400
	30	M 42×2.0	23.0	52	62	50	605	GZ30S	420	400
	38	M 52×2.0	30.0	52	67	60	826	GZ38S	420	315

¹⁾ Pressure shown = item deliverable

³⁾ L = light series; ⁴⁾ S = heavy series

$\frac{\text{PN (bar)}}{10} = \text{PN (MPa)}$



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*Please add the **suffixes**
below according to the material/
surface required.

Part number suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional. suffix needed)
Steel	CF	GZ16SCF	NBR
Stainless Steel	71	GZ16S71	VIT

Dimensions and pressures for reference only, subject to change.

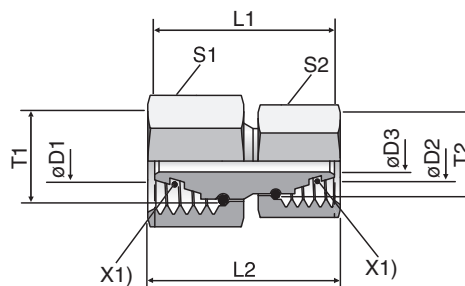


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GZR

Swivel Union Reducer

Flareless Swivel / Flareless Swivel



X1) O-ring OR

Series 3) 4)	D1 	D2 	T1	T2	D3	L1	L2	S1	S2	Weight g/1 piece	Part Number*	PN (bar) ¹⁾	
												CF	71
L/S	06	06	M 14×1.5	M 12×1.5	2.5	32.5	32.0	17	14	34	GZR06L/06S	500	500
L	08	06	M 14×1.5	M 12×1.5	2.5	33.0	32.0	17	14	36	GZR08/06L	500	500
L/S	08	08	M 16×1.5	M 14×1.5	4.0	32.5	33.0	19	17	48	GZR08L/08S	500	500
L	10	06	M 16×1.5	M 12×1.5	2.5	34.0	33.0	19	14	44	GZR10/06L	500	500
L	10	08	M 16×1.5	M 14×1.5	4.0	34.0	34.0	19	17	50	GZR10/08L	500	500
L/S	10	10	M 18×1.5	M 16×1.5	6.0	34.0	33.5	22	19	63	GZR10L/10S	500	500
L	12	06	M 18×1.5	M 12×1.5	2.5	34.0	33.0	22	14	56	GZR12/06L	400	400
L	12	08	M 18×1.5	M 14×1.5	4.0	34.0	33.0	22	17	62	GZR12/08L	400	400
L	12	10	M 18×1.5	M 16×1.5	6.0	34.0	33.0	22	19	65	GZR12/10L	400	400
L/S	12	12	M 20×1.5	M 18×1.5	8.0	36.5	36.0	24	22	85	GZR12L/12S	400	400
L	15	08	M 22×1.5	M 14×1.5	4.0	39.0	38.0	27	17	98	GZR15/08L	400	400
L	15	10	M 22×1.5	M 16×1.5	6.0	39.0	38.0	27	19	101	GZR15/10L	400	400
L	15	12	M 22×1.5	M 18×1.5	8.0	39.0	38.0	27	22	108	GZR15/12L	400	400
L	18	10	M 26×1.5	M 16×1.5	6.0	37.0	37.5	32	19	125	GZR18/10L	400	400
L	18	12	M 26×1.5	M 18×1.5	8.0	36.5	37.5	32	22	132	GZR18/12L	400	400
L	18	15	M 26×1.5	M 22×1.5	10.0	38.5	39.5	32	27	155	GZR18/15L	400	400
L/S	18	16	M 26×1.5	M 24×1.5	11.0	39.0	41.5	32	30	177	GZR18L/16S	400	400
L	22	12	M 30×2.0	M 18×1.5	8.0	42.5	43.5	36	22	195	GZR22/12L	250	250
L	22	15	M 30×2.0	M 22×1.5	10.0	42.5	43.5	36	27	215	GZR22/15L	250	250
L	22	18	M 30×2.0	M 26×1.5	13.0	42.0	44.0	36	32	228	GZR22/18L	250	250
L/S	22	20	M 30×2.0	M 30×2.0	14.0	44.0	47.0	36	36	266	GZR22L/20S	250	250
L	28	15	M 36×2.0	M 22×1.5	10.0	46.5	47.5	41	27	143	GZR28/15L	250	250
L	28	18	M 36×2.0	M 26×1.5	13.0	39.5	48.0	41	32	311	GZR28/18L	250	250
L	28	22	M 36×2.0	M 30×2.0	17.0	46.0	46.0	41	36	309	GZR28/22L	250	250
L/S	28	25	M 36×2.0	M 36×2.0	18.0	46.0	50.5	41	46	419	GZR28L/25S	250	250
L	35	18	M 45×2.0	M 26×1.5	13.0	48.0	51.0	50	32	430	GZR35/18L	250	250
L	35	22	M 45×2.0	M 30×2.0	17.0	48.0	51.0	50	36	429	GZR35/22L	250	250
L	35	28	M 45×2.0	M 36×2.0	22.0	48.0	51.0	50	41	415	GZR35/28L	250	250
L/S	35	30	M 45×2.0	M 42×2.0	23.0	52.0	59.0	50	50	577	GZR35L/30S	250	250
L	42	22	M 52×2.0	M 30×2.0	17.0	52.0	55.5	60	36	653	GZR42/22L	250	250
L	42	28	M 52×2.0	M 36×2.0	22.0	52.0	55.5	60	41	648	GZR42/28L	250	250
L	42	35	M 52×2.0	M 45×2.0	28.0	52.0	56.5	60	50	662	GZR42/35L	250	250
L/S	42	38	M 52×2.0	M 52×2.0	30.0	52.0	62.0	60	60	822	GZR42L/38S	250	250
S	08	06	M 16×1.5	M 14×1.5	2.5	33.0	34.0	19	17	49	GZR08/06S	800	800
S	10	06	M 18×1.5	M 14×1.5	2.5	33.0	34.5	22	17	60	GZR10/06S	800	800
S	10	08	M 18×1.5	M 16×1.5	4.0	33.0	34.5	22	19	66	GZR10/08S	800	800
S	12	06	M 20×1.5	M 14×1.5	2.5	36.0	37.5	24	17	77	GZR12/06S	630	630
S	12	08	M 20×1.5	M 16×1.5	4.0	36.0	37.5	24	19	82	GZR12/08S	630	630
S	12	10	M 20×1.5	M 18×1.5	6.0	36.0	38.0	24	22	89	GZR12/10S	630	630
S	16	10	M 24×1.5	M 18×1.5	6.0	39.0	41.5	30	22	138	GZR16/10S	630	630
S	16	12	M 24×1.5	M 20×1.5	8.0	39.0	41.5	30	24	143	GZR16/12S	630	630
S/L	16	15	M 24×1.5	M 22×1.5	10.0	39.5	41.0	30	27	153	GZR16S/15L	400	400
S	20	12	M 30×2.0	M 20×1.5	8.0	44.0	47.0	36	24	204	GZR20/12S	420	420

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Dimensions and pressures for reference only, subject to change.



D47

Parker Hannifin Corporation
Tube Fittings Division
Columbus, Ohio
<http://www.parker.com/tfd>

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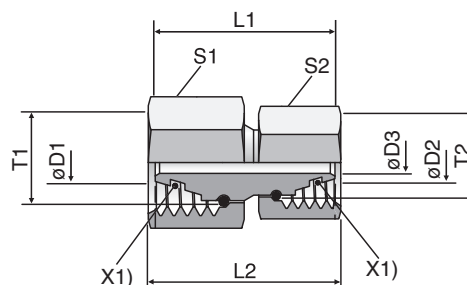
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GZR

Swivel Union Reducer

Flareless Swivel / Flareless Swivel



X1) O-ring OR

Series 3) 4)	D1 	D2 	T1	T2	D3	L1	L2	S1	S2	Weight g/1 piece	Part Number*	PN (bar) ¹⁾	
												CF	71
S	20	16	M 30×2.0	M 24×1.5	11.0	44	47.5	36	30	232	GZR20/16S	420	420
S/L	20	18	M 30×2.0	M 26×1.5	13.0	44	47.0	36	32	224	GZR20S/18L	400	400
S	25	16	M 36×2.0	M 24×1.5	11.0	46	51.0	46	30	224	GZR25/16S	420	420
S	25	20	M 36×2.0	M 30×2.0	14.0	46	51.5	46	36	364	GZR25/20S	420	420
S/L	25	22	M 36×2.0	M 30×2.0	17.0	46	50.5	46	36	475	GZR25S/22L	250	250
S	30	16	M 42×2.0	M 24×1.5	11.0	52	58.5	50	30	475	GZR30/16S	420	420
S	30	20	M 42×2.0	M 30×2.0	14.0	52	59.0	50	36	500	GZR30/20S	420	420
S	30	25	M 42×2.0	M 36×2.0	18.0	52	60.5	50	46	589	GZR30/25S	420	420
S/L	30	28	M 42×2.0	M 36×2.0	22.0	52	58.0	50	41	476	GZR30S/28L	250	250
S	38	20	M 52×2.0	M 30×2.0	14.0	52	61.5	60	36	671	GZR38/20S	420	420
S	38	25	M 52×2.0	M 36×2.0	18.0	52	63.0	60	46	759	GZR38/25S	420	420
S	38	30	M 52×2.0	M 42×2.0	23.0	52	64.5	60	50	767	GZR38/30S	420	420
S/L	38	35	M 52×2.0	M 45×2.0	28.0	52	61.5	60	50	662	GZR38S/35L	250	250

¹⁾ Pressure shown = item deliverable

³⁾ L = light series; ⁴⁾ S = heavy series

$\frac{\text{PN (bar)}}{10} = \text{PN (MPa)}$

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*Please add the **suffixes** below according to the material/surface required.

Part number suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Steel	CF	GZR16/12SCF	NBR
Stainless steel	71	GZR16/12S71	VIT

Dimensions and pressures for reference only, subject to change.



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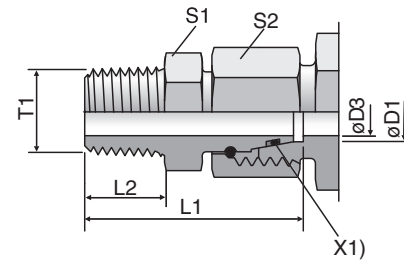
TUBE FAB EQUIP

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EGE-NPT

Swivel Connector
Flareless Swivel / NPT



X1) O-ring OR

Series	D1	T1	D3	L1	L2	S1	S2	Weight g/1 piece	Part Number*	PN (bar) ¹⁾ CF
L ³⁾	06	1/8-27 NPT	2.5	31.5	10.0	11	14	23	EGE06L1/8NPT	315
	08	1/4-18 NPT	4.0	37.5	14.5	14	17	41	EGE08L1/4NPT	315
	10	1/4-18 NPT	6.0	38.0	14.5	14	19	44	EGE10L1/4NPT	315
	12	3/8-18 NPT	8.0	40.0	14.5	19	22	69	EGE12L3/8NPT	315
	15	1/2-14 NPT	10.0	49.5	19.5	22	27	127	EGE15L1/2NPT	315
	18	1/2-14 NPT	12.0	49.0	19.5	24	32	142	EGE18L1/2NPT	315
	22	3/4-14 NPT	16.0	52.0	19.5	27	36	200	EGE22L3/4NPT	160
	28	1-11.5 NPT	22.0	61.0	24.5	36	41	306	EGE28L1NPT	160
	35	1 1/4-11.5 NPT	28.0	65.5	25.0	46	50	486	EGE35L11/4NPT	160
	42	1 1/2-11.5 NPT	34.0	68.5	26.0	50	60	662	EGE42L11/2NPT	160
S ⁴⁾	06	1/4-18 NPT	2.5	37.5	14.5	14	17	42	EGE06S1/4NPT	630
	08	1/4-18 NPT	4.0	38.0	14.5	14	19	47	EGE08S1/4NPT	630
	10	3/8-18 NPT	6.0	40.5	14.5	19	22	75	EGE10S3/8NPT	630
	12	3/8-18 NPT	8.0	42.0	14.5	19	24	81	EGE12S3/8NPT	630
	16	1/2-14 NPT	11.0	51.0	19.5	22	30	145	EGE16S1/2NPT	400
	20	3/4-14 NPT	14.0	54.0	19.5	27	36	221	EGE20S3/4NPT	400
	25	1-11.5 NPT	18.0	63.5	24.5	36	46	422	EGE25S1NPT	400
	30	1 1/4-11.5 NPT	23.0	70.5	25.0	46	50	628	EGE30S11/4NPT	400
	38	1 1/2-11.5 NPT	30.0	73.5	26.0	50	60	770	EGE38S11/2NPT	315

¹⁾ Pressure shown = item deliverable

³⁾ L = light series; ⁴⁾ S = heavy series

$\frac{\text{PN (bar)}}{10} = \text{PN (MPa)}$

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

*Please add the **suffixes**
below according to the material/
surface required.

Part number suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Steel	CF	EGE16S1/2NPTCF	NBR

Dimensions and pressures for reference only, subject to change.



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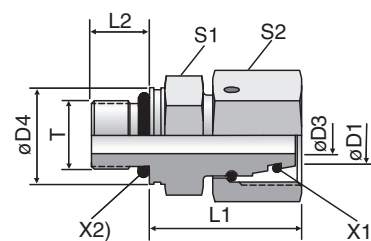
GEN TECH

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EGEO

Swivel Connector

Metric ISO 6149 / Flareless Swivel



X2) O-ring OR

X1) O-ring OR

Series	D1	T	D3	D4	L1	L2	S1	S2	Weight g/1 piece	Part Number*	PN (bar) ¹⁾ CF
L ³⁾	06	M 10×1.0	2.5	13.8	24.5	8.5	14	14	29	EGEO06LM	500
	08	M 12×1.5	4.0	16.8	26.5	11.0	17	17	43	EGEO08LM	500
	10	M 14×1.5	6.0	18.8	27.5	11.0	19	19	57	EGEO10LM	500
	12	M 16×1.5	8.0	21.8	30.5	11.5	22	22	85	EGEO12LM	400
	15	M 18×1.5	10.0	23.8	31.5	12.5	24	27	115	EGEO15LM	400
	18	M 22×1.5	13.0	26.8	31.5	13.0	27	32	152	EGEO18LM	400
	22	M 27×2.0	17.0	31.8	32.5	16.0	32	36	207	EGEO22LM27X2	250
	28	M 33×2.0	22.0	40.8	35.0	16.0	41	41	294	EGEO28LM	250
	35	M 42×2.0	28.0	49.8	42.5	16.0	50	50	516	EGEO35LM	250
	42	M 48×2.0	34.0	54.8	46.5	17.5	55	60	718	EGEO42LM	250
S ⁴⁾	06	M 12×1.5	2.5	16.8	27.0	11.0	17	17	49	EGEO06SM	800
	08	M 14×1.5	4.0	18.8	29.5	11.0	19	19	69	EGEO08SM	800
	10	M 16×1.5	6.0	21.8	32.0	12.5	22	22	96	EGEO10SM	800
	12	M 18×1.5	8.0	23.8	34.0	14.0	24	24	116	EGEO12SM	630
	16	M 22×1.5	11.0	26.8	37.0	15.0	27	30	179	EGEO16SM	630
	20	M 27×2.0	14.0	31.8	43.0	18.5	32	36	280	EGEO20SM	420
	25	M 33×2.0	18.0	40.8	48.0	18.5	41	46	502	EGEO25SM	420
	30	M 42×2.0	23.0	49.8	51.0	19.0	50	50	697	EGEO30SM	420
	38	M 48×2.0	30.0	54.8	60.0	21.5	55	60	965	EGEO38SM	420

¹⁾ Pressure shown = item deliverable

³⁾ L = light series; ⁴⁾ S = heavy series

$$\frac{\text{PN (bar)}}{10} = \text{PN (MPa)}$$

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

*Please add the **suffixes**
below according to the material/
surface required.

Part number suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Steel	CF	EGEO16SMCF	NBR

Dimensions and pressures for reference only, subject to change.



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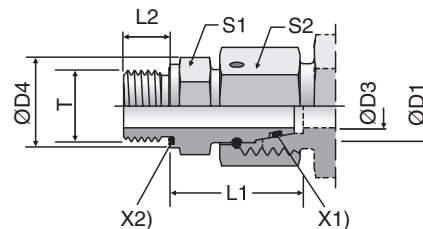
TUBE FAB
EQUIP

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EGE-R-ED

Swivel Connector
Flareless Swivel / BSPP with
EOlastic Seal



X2) Eolastic-sealing ED X1) O-ring OR

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Series	D1	T	D3	D4	L1	L2	S1	S2	Weight g/1 piece	Part Number*	PN (bar) ¹⁾	
											CF	71
L ³⁾	06	G 1/8 A	2.5	14	24.5	8	14	14	27	EGE06LRED	500	315
	08	G 1/4 A	4.0	19	29.5	12	19	17	28	EGE08LRED	500	315
	10	G 1/4 A	6.0	19	27.5	12	19	19	54	EGE10LRED	500	315
	10	G 3/8 A	6.0	22	29.0	12	22	19	70	EGE10LR3/8ED	400	315
	12	G 3/8 A	8.0	22	34.0	12	22	22	95	EGE12LRED	400	315
	12	G 1/4 A	6.0	19	27.5	12	19	22	65	EGE12LR1/4ED	400	315
	12	G 1/2 A	8.0	27	29.5	14	27	22	114	EGE12LR1/2ED	400	315
	15	G 1/2 A	10.0	27	32.0	14	27	27	137	EGE15LRED	400	315
	18	G 1/2 A	13.0	27	31.5	14	27	32	143	EGE18LRED	400	315
	18	G 3/4 A	13.0	32	29.5	16	32	32	182	EGE18LR3/4ED	250	160
	22	G 3/4 A	17.0	32	32.5	16	32	36	200	EGE22LRED	250	160
	28	G 1 A	22.0	40	35.0	18	41	41	289	EGE28LRED	250	160
	35	G 1 1/4 A	28.0	50	42.5	20	50	50	500	EGE35LRED	250	160
	42	G 1 1/2 A	34.0	55	46.5	22	55	60	718	EGE42LRED	250	160
S ⁴⁾	06	G 1/4 A	2.5	19	27.0	12	19	17	53	EGE06SRED	800	630
	08	G 1/4 A	4.0	19	29.5	12	19	19	64	EGE08SRED	800	630
	10	G 3/8 A	6.0	22	32.0	12	22	22	93	EGE10SRED	800	630
	12	G 3/8 A	8.0	22	34.0	12	22	24	100	EGE12SRED	630	630
	12	G 1/4 A	5.0	19	31.5	12	19	24	140	EGE12SR1/4ED	630	630
	12	G 1/2 A	8.0	27	35.0	14	27	24	140	EGE12SR1/2ED	630	630
	16	G 1/2 A	11.0	27	37.0	14	27	30	170	EGE16SRED	630	400
	20	G 3/4 A	14.0	32	43.0	16	32	36	273	EGE20SRED	420	400
	25	G 1 A	18.0	40	48.0	18	41	46	493	EGE25SRED	420	400
	30	G 1 1/4 A	23.0	50	51.0	20	50	50	691	EGE30SRED	420	400
	38	G 1 1/2 A	30.0	55	60.0	22	55	60	934	EGE38SRED	420	315

¹⁾ Pressure shown = item deliverable

³⁾ L = light series; ⁴⁾ S = heavy series

$\frac{\text{PN (bar)}}{10} = \text{PN (MPa)}$

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

*Please add the **suffixes**
below according to the material/
surface required.

Part number suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Steel	CF	EGE16SREDCF	NBR
Stainless Steel	71	EGE16SRED71	VIT

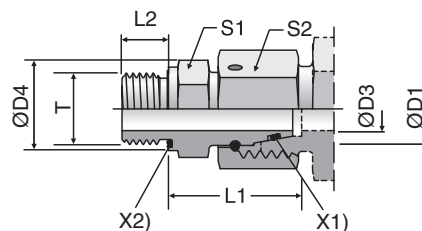
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EGE-M-ED

Swivel Connector
Flareless Swivel / Metric with
EOlastic Seal



X2) Eolastic-sealing ED X1) O-ring OR

Series	D1	T	D3	D4	L1	L2	S1	S2	Weight g/1 piece	Part Number*	PN (bar) ¹⁾	
											CF	71
L ³⁾	06	M 10×1.0	2.5	14	24.5	8	14	14	27	EGE06LMED	500	315
	08	M 12×1.5	4.0	17	26.5	12	17	17	45	EGE08LMED	500	315
	10	M 14×1.5	6.0	19	27.5	12	19	19	57	EGE10LMED	500	315
	12	M 16×1.5	8.0	22	30.5	12	22	22	82	EGE12LMED	400	315
	12	M 22×1.5	8.0	27	27.0	14	27	22	92	EGE12LM22X1.5ED	400	315
	15	M 18×1.5	10.0	24	31.5	12	24	27	113	EGE15LMED	400	315
	15	M 22×1.5	10.0	27	32.0	14	27	27	142	EGE15LM22X1.5ED	400	315
	18	M 22×1.5	13.0	27	31.5	14	27	32	148	EGE18LMED	400	315
	22	M 26×1.5	17.0	32	32.5	16	32	36	203	EGE22LMED	250	160
	28	M 33×2.0	22.0	40	35.0	18	41	41	289	EGE28LMED	250	160
S ⁴⁾	35	M 42×2.0	28.0	50	42.5	20	50	50	511	EGE35LMED	250	160
	42	M 48×2.0	34.0	55	46.5	22	55	60	711	EGE42LMED	250	160
	06	M 12×1.5	2.5	17	27.0	12	17	17	47	EGE06SMED	800	630
	08	M 14×1.5	4.0	19	29.5	12	19	19	65	EGE08SMED	800	630
	10	M 16×1.5	6.0	22	32.0	12	22	22	91	EGE10SMED	800	630
	12	M 18×1.5	8.0	24	34.0	12	24	24	112	EGE12SMED	630	630
	16	M 22×1.5	11.0	27	37.0	14	27	30	174	EGE16SMED	630	400
	20	M 27×2.0	14.0	32	43.0	16	32	36	274	EGE20SMED	420	400
	25	M 33×2.0	18.0	40	48.0	18	41	46	497	EGE25SMED	420	400
	30	M 42×2.0	23.0	50	51.0	20	50	50	691	EGE30SMED	420	400
	38	M 48×2.0	30.0	55	60.0	22	55	60	957	EGE38SMED	420	315

¹⁾ Pressure shown = item deliverable

³⁾ L = light series; ⁴⁾ S = heavy series

$\frac{\text{PN (bar)}}{10} = \text{PN (MPa)}$

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

*Please add the **suffixes**
below according to the material/
surface required.

Part number suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Steel	CF	EGE16SMEDCF	NBR
Stainless Steel	71	EGE16SMED71	VIT

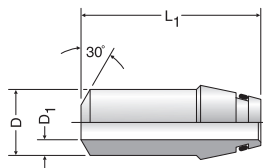
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SKA

Weld Nipple
24° Flareless /
ISO 8434-4 Butt Weld



TUBE FITTING PART #	D (mm)	D1 (mm)	L1 (mm)	Pressure Rating (bar)	
				EO	
				CF	71
SKA10X1	10	8	32.5	249	240
SKA10X1.5	10	7	32.5	358	350
SKA10X2	10	6	32.5	460	445
SKA12X1.5	12	9	32.5	305	300
SKA12X2	12	8	32.5	393	380
SKA12X2.5	12	7	32.5	476	460
SKA16X1.5	16	13	39.0	234	225
SKA16X2	16	12	39.0	305	295
SKA16X2.5	16	11	39.0	372	360
SKA16X3	16	10	39.0	400	390
SKA20X2	20	16	45.0	249	240
SKA20X2.5	20	15	45.0	305	300
SKA20X3	20	14	45.0	358	350
SKA20X4	20	12	45.0	400	390
SKA25X3	25	19	49.5	294	285
SKA25X4	25	17	49.5	379	365
SKA25X5	25	15	49.5	400	390
SKA30X3	30	24	52.0	249	240
SKA30X4	30	22	52.0	323	314
SKA30X5	30	20	52.0	393	380
SKA30X6	30	18	52.0	400	390
SKA38X4	38	30	56.5	261	254
SKA38X5	38	28	56.5	315	315
SKA38X6	38	26	56.5	315	315
SKA38X7	38	24	56.5	315	315

WARNING: This product can expose you to chemicals including Cadmium which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

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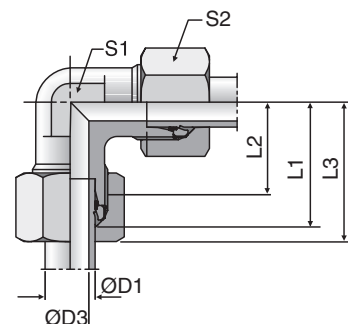


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W

Elbow Union

24° Flareless / 24° Flareless



Product images are shown with nuts and sleeves for dimensional allowances only.
Part numbers are body level only. See note below product table for details

Series	D1	D3	L1	L2	L3	S1	S2	Weight g/1 piece	Part Number*	PN (bar) ¹⁾		
										CFX	71X	MSX
LL ²⁾	04	3.0	15	11.0	21	9	10	13	W04LL	100	100	63
	06	4.5	15	9.5	21	9	12	15	W06LL	100	100	63
	08	6.0	17	11.5	23	12	14	23	W08LL	100	100	63
	10	8.0	18	12.5	24	12	17	32	W10LL	100	100	63
	12	10.0	19	13.0	25	14	19	41	W12LL	100	100	63
L ³⁾	06	4.0	19	12.0	27	12	14	29	W06L	500	315	200
	08	6.0	21	14.0	29	12	17	43	W08L	500	315	200
	10	8.0	22	15.0	30	14	19	54	W10L	500	315	200
	12	10.0	24	17.0	32	19	22	80	W12L	400	315	200
	15	12.0	28	21.0	36	19	27	81	W15L	400	315	200
	18	15.0	31	23.5	40	24	32	140	W18L	400	315	200
	22	19.0	35	27.5	44	27	36	178	W22L	250	160	100
	28	24.0	38	30.5	47	36	41	340	W28L	250	160	100
	35	30.0	45	34.5	56	41	50	458	W35L	250	160	100
	42	36.0	51	40.0	63	50	60	776	W42L	250	160	100
S ⁴⁾	06	4.0	23	16.0	31	12	17	52	W06S	800	630	400
	08	5.0	24	17.0	32	14	19	74	W08S	800	630	400
	10	7.0	25	17.5	34	19	22	97	W10S	800	630	400
	12	8.0	29	21.5	38	19*	24	137	W12S	630	630	400
	16	12.0	33	24.5	43	24	30	162	W16S	630	400	250
	20	16.0	37	26.5	48	27	36	221	W20S	420	400	250
	25	20.0	42	30.0	54	36	46	424	W25S	420	400	250
	30	25.0	49	35.5	62	41	50	603	W30S	420	400	250
	38	32.0	57	41.0	72	50	60	1010	W38S	420	315	200

¹⁾ Pressure shown = item deliverable

²⁾ LL = very light series; ³⁾ L = light series; ⁴⁾ S = heavy series

*S1 = 17 in 1.4571

$\frac{PN (bar)}{10} = PN (MPa)$

*Part numbers shown are body only level. To order with a nut and progressive ring (sleeve) included, please see pages D11 and D12 for part number ordering instructions. Instructions for ordering the fitting as EO-2 are also included on these pages.

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

*Please add the **suffixes**
below according to the material/
surface required.

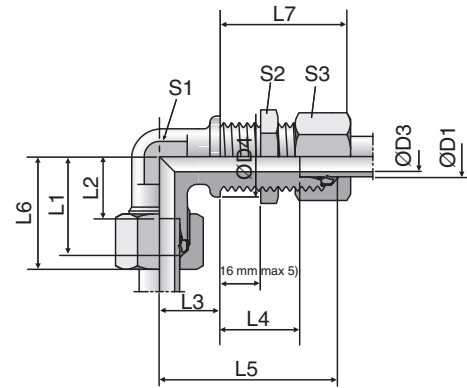
Part number suffixes		
Material	Suffix surface and material	Example
Steel	CFX	W16SCFX
Stainless Steel	71X	W16S71X
Brass	MSX	W16SMSX

Dimensions and pressures for reference only, subject to change.

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WSV

Bulkhead Union Elbow
24° Flareless / 24° Flareless



Product images are shown with nuts and sleeves for dimensional allowances only.
Part numbers are body level only. See note below product table for details

Series	D1	D3	D4	L1	L2	L3	L4	L5	L6	L7	S1	S2	S3	Weight g/1 piece	Part Number*	PN (bar) ¹⁾		
																CF	71	MS
L ³⁾	06	4	17	19	12.0	14	27.0	48	27	42	12	17	14	51	WSV06LOMD	315	315	200
	08	6	19	21	14.0	17	27.0	51	29	42	12	19	17	61	WSV08LOMD	315	315	200
	10	8	22	22	15.0	18	28.0	53	30	43	14	22	19	78	WSV10LOMD	315	315	200
	12	10	24	24	17.0	20	29.0	56	32	44	17	24	22	85	WSV12LOMD	315	315	200
	15	12	27	28	21.0	23	31.0	61	36	46	19	30	27	150	WSV15LOMD	315	315	200
	18	15	32	31	23.5	24	32.5	64	40	49	24	36	32	238	WSV18LOMD	315	315	200
	22	19	36	35	27.5	30	34.5	72	44	51	27	41	36	327	WSV22LOMD	160	160	
	28	24	42	38	30.5	34	35.5	77	47	52	36	46	41	482	WSV28LOMD	160	160	
	35	30	50	45	34.5	39	36.5	86	56	58	41	55	50	729	WSV35LOMD	160	160	
	42	36	60	51	40.0	43	36.0	90	63	59	50	65	60	1091	WSV42LOMD	160	160	
S ⁴⁾	06	4	19	23	16.0	17	29.0	53	31	44	12	19	17	72	WSV06SOMD	630	630	
	08	5	22	24	17.0	18	29.0	54	32	44	14	22	19	99	WSV08SOMD	630	630	
	10	7	24	25	17.5	20	29.5	57	34	46	17	24	22	128	WSV10SOMD	630	630	
	12	8	27	29	21.5	21	30.5	59	38	47	17	27	24	168	WSV12SOMD	630	630	
	16	12	30	33	24.5	24	31.5	64	43	50	24	32	30	249	WSV16SOMD	400	400	
	20	16	36	37	26.5	30	33.5	74	48	55	27	41	36	390	WSV20SOMD	400	400	
	25	20	42	42	30.0	34	35.0	81	54	59	36	46	46	618	WSV25SOMD	400	400	
	30	25	50	49	35.5	39	37.5	90	62	64	41	50	50	889	WSV30SOMD	400	400	
	38	32	60	57	41.0	43	37.0	96	72	68	50	65	60	1337	WSV38SOMD	315	315	

¹⁾ Pressure shown = item deliverable

³⁾ L = light series; ⁴⁾ S = heavy series

⁵⁾ Bulkhead thickness min.

06-18 L and 06-16 S = 3 mm

22-42 L and 20-38 S = 4 mm

PN (bar)
10 = PN (MPa)

*Part numbers shown are body only level. To order with a nut and progressive ring (sleeve) included, please see pages D11 and D12 for part number ordering instructions. Instructions for ordering the fitting as EO-2 are also included on these pages.

*Please add the **suffixes**
below according to the material/
surface required.

Part number suffixes		
Material	Suffix surface and material	Example
Steel	CF	WSV16SOMDCF
Stainless Steel	71	WSV16SOMD71
Brass	MS	WSV18LOMDMS

Dimensions and pressures for reference only, subject to change.



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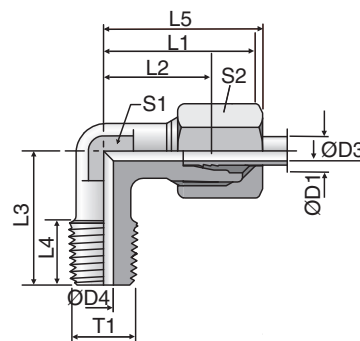
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WE-NPT

Male Elbow

24° Flareless / NPT



Product images are shown with nuts and sleeves for dimensional allowances only.
Part numbers are body level only. See note below product table for details

Series	D1	T1	D3	D4	L1	L2	L3	L4	L5	S1	S2	Weight g/1 piece	Part Number*	PN (bar) ¹⁾		
														CFX	71X	MSX
LL ²⁾	04	1/8-27 NPT	3.0	4.0	15	11.0	17	10.0	21	9	10	18	WE04LL1/8NPT	100		
	06	1/8-27 NPT	4.5	4.5	15	9.5	17	10.0	21	9	12	17	WE06LL1/8NPT	100		
	08	1/8-27 NPT	6.0	5.0	17	11.5	20	10.0	23	12	14	25	WE08LL1/8NPT	100		
L ³⁾	06	1/8-27 NPT	4.0	4.0	19	12.0	20	10.0	27	12	14	29	WE06L1/8NPT	315	315	200
	06	1/4-18 NPT	4.0	7.0	21	14.0	26	14.5	29	12	14	44	WE06L1/4NPT	315	315	200
	06	3/8-18 NPT	4.0	8.0	25	18.0	28	14.5	33	17	14	55	WE06L3/8NPT	315	315	200
	08	1/8-27 NPT	6.0	4.0	21	14.0	26	10.0	29	12	17	48	WE08L1/8NPT	315	315	200
	08	1/4-18 NPT	6.0	6.0	21	14.0	26	14.5	29	12	17	47	WE08L1/4NPT	315	315	200
	10	1/4-18 NPT	8.0	7.0	22	15.0	27	14.5	30	14	19	61	WE10L1/4NPT	315	315	200
	10	3/8-18 NPT	8.0	8.0	24	17.0	28	14.5	32	17	19	92	WE10L3/8NPT	315	315	200
	12	1/4-18 NPT	10.0	7.0	24	17.0	28	14.5	32	17	22	82	WE12L1/4NPT	315	315	200
	12	3/8-18 NPT	10.0	8.0	24	17.0	28	14.5	32	17	22	92	WE12L3/8NPT	315	315	200
	12	1/2-14 NPT	10.0	11.0	28	21.0	34	19.5	36	19	22	90	WE12L1/2NPT	315	315	200
	15	1/2-14 NPT	12.0	11.0	28	21.0	34	19.5	36	19	27	89	WE15L1/2NPT	315	315	200
	18	1/2-14 NPT	15.0	12.0	31	23.5	36	19.5	40	24	32	150	WE18L1/2NPT	315	315	200
	22	3/4-14 NPT	19.0	16.0	35	27.5	42	19.5	44	27	36	176	WE22L3/4NPT	160	160	100
	28	1-11.5 NPT	24.0	21.0	38	30.5	48	24.5	47	36	41	314	WE28L1NPT	160	160	100
	35	1 1/4-11.5 NPT	30.0	28.0	45	34.5	54	25.0	56	41	50	465	WE35L11/4NPT	160	160	100
	42	1 1/2-11.5 NPT	36.0	34.0	51	40.0	61	26.0	63	50	60	849	WE42L11/2NPT	160	160	100
S ⁴⁾	06	1/4-18 NPT	4.0	4.0	23	16.0	26	14.5	31	12	17	56	WE06S1/4NPT	630	630	400
	08	1/4-18 NPT	5.0	5.0	24	17.0	27	14.5	32	14	19	73	WE08S1/4NPT	630	630	400
	08	3/8-18 NPT	5.0	8.0	25	18.0	28	14.5	33	17	19	77	WE08S3/8NPT	630	630	400
	08	1/2-14 NPT	5.0	10.0	30	23.0	34	19.5	38	19	19	75	WE08S1/2NPT	630	630	400
	10	1/4-18 NPT	7.0	5.0	25	17.5	28	14.5	34	17	22	96	WE10S1/4NPT	630	630	400
	10	3/8-18 NPT	7.0	7.0	25	17.5	28	14.5	34	17	22	98	WE10S3/8NPT	630	630	400
	12	1/4-18 NPT	8.0	5.0	29	21.5	29	14.5	38	17	24	73	WE12S1/4NPT	630	630	400
	12	3/8-18 NPT	8.0	8.0	29	22.5	28	14.5	38	17	24	123	WE12S3/8NPT	630	630	400
	12	1/2-14 NPT	8.0	10.0	30	22.5	34	19.5	39	19	24	107	WE12S1/2NPT	630	630	400
	16	1/2-14 NPT	12.0	12.0	33	24.5	36	19.5	43	24	30	157	WE16S1/2NPT	400	400	250
	20	3/4-14 NPT	16.0	16.0	37	26.5	42	19.5	48	27	36	205	WE20S3/4NPT	400	400	250
	25	1-11.5 NPT	20.0	20.0	42	30.0	48	24.5	54	36	46	381	WE25S1NPT	400	400	250
	30	1 1/4-11.5 NPT	25.0	25.0	49	35.5	54	25.0	62	41	50	598	WE30S11/4NPT	400	400	250
	38	1 1/2-11.5 NPT	32.0	32.0	57	41.0	61	26.0	72	50	60	1029	WE38S11/2NPT	315	315	200

¹⁾ Pressure shown = item deliverable

²⁾ LL = very light series; ³⁾ L = light series; ⁴⁾ S = heavy series

$\frac{\text{PN (bar)}}{10} = \text{PN (MPa)}$

*Part numbers shown are body only level. To order with a nut and progressive ring (sleeve) included, please see pages D11 and D12 for part number ordering instructions. Instructions for ordering the fitting as EO-2 are also included on these pages.

*Please add the suffixes below according to the material/surface required.

Part number suffixes		
Material	Suffix surface and material	Example
Steel	CFX	WE16S1/2NPTCFX
Stainless Steel	71X	WE16S1/2NPT71X
Brass	MSX	WE16S1/2NPTMSX

Dimensions and pressures for reference only, subject to change.



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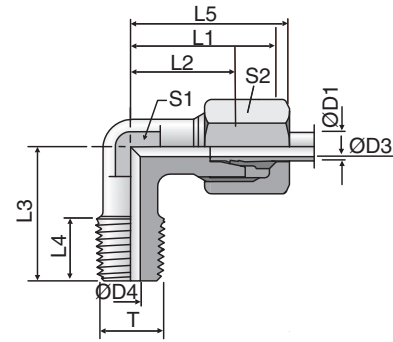
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WE-R keg

Male Elbow

24° Flareless / BSPT



Product images are shown with nuts and sleeves for dimensional allowances only.
Part numbers are body level only. See note below product table for details

Series	D1	T	D3	D4	L1	L2	L3	L4	L5	S1	S2	Weight g/1 piece	Part Number*	PN (bar) ¹⁾		
														CFX	71X	MSX
LL ²⁾	04	R 1/8 tap.	3.0	4.0	15	11.0	17	8	21	9	10	17	WE04LLR	100	100	63
	06	R 1/8 tap.	4.5	4.5	15	9.5	17	8	21	9	12	17	WE06LLR	100	100	63
	08	R 1/8 tap.	6.0	6.0	17	11.5	20	8	23	12	14	24	WE08LLR	100	100	63
	10	R 1/4 tap.	8.0	7.0	18	12.5	23	12	24	12	17	36	WE10LLR	100		
	12	R 1/4 tap.	10.0	7.0	19	13.0	23	12	25	14	19	46	WE12LLR	100		
L ³⁾	06	R 1/8 tap.	4.0	4.0	19	12.0	20	8	27	12	14	30	WE06LR	315	315	200
	06	R 1/4 tap.	4.0	6.0	21	14.0	26	12	29	12	14	47	WE06LR1/4	315	315	
	08	R 1/4 tap.	6.0	6.0	21	14.0	26	12	29	12	17	46	WE08LR	315	315	200
	08	R 1/8 tap.	6.0	4.0	21	14.0	26	8	29	12	17	49	WE08LR1/8	315	315	
	08	R 3/8 tap.	6.0	9.0	24	17.0	28	12	32	17	17	94	WE08LR3/8	315	315	
	10	R 1/4 tap.	8.0	7.0	22	15.0	27	12	30	14	19	61	WE10LR	315	315	200
	10	R 3/8 tap.	8.0	9.0	24	17.0	28	12	32	17	19	87	WE10LR3/8	315	315	
	12	R 3/8 tap.	10.0	9.0	24	17.0	28	12	32	17	22	88	WE12LR	315	315	200
	12	R 1/4 tap.	10.0	7.0	24	17.0	27	12	32	17	22	80	WE12LR1/4	315	315	
	12	R 1/2 tap.	10.0	11.0	28	21.0	34	14	36	19	22	89	WE12LR1/2	315	315	
	15	R 1/2 tap.	12.0	11.0	28	21.0	34	14	36	19	27	94	WE15LR	315	315	200
	18	R 1/2 tap.	15.0	14.0	31	23.5	36	14	40	24	32	141	WE18LR	315	315	200
S ⁴⁾	06	R 1/4 tap.	4.0	4.0	23	16.0	26	12	31	12	17	56	WE06SR	400	400	250
	06	R 3/8 tap.	4.0	7.0	25	18.0	28	12	33	17	17	61	WE06SR3/8	400	400	
	08	R 1/4 tap.	5.0	5.0	24	17.0	27	12	32	14	19	73	WE08SR	400	400	250
	08	R 3/8 tap.	5.0	7.0	25	18.0	28	12	33	17	19	63	WE08SR3/8	400	400	
	10	R 3/8 tap.	7.0	7.0	25	17.5	28	12	34	17	22	104	WE10SR	400	400	250
	10	R 1/4 tap.	7.0	5.0	25	17.5	28	12	34	17	22	59	WE10SR1/4	400	400	
	10	R 1/2 tap.	7.0	10.0	30	22.5	32	14	39	19	22	98	WE10SR1/2	400	400	
	12	R 3/8 tap.	8.0	8.0	29	21.5	28	12	38	17	24	126	WE12SR	400	400	250
	12	R 1/2 tap.	8.0	11.0	30	22.5	32	14	39	19	24	97	WE12SR1/2	400	400	
	16	R 1/2 tap.	12.0	12.0	33	24.5	32	14	43	24	30	150	WE16SR	400	400	250

¹⁾ Pressure shown = item deliverable

²⁾ LL = very light series; ³⁾ L = light series; ⁴⁾ S = heavy series

PN (bar) = PN (MPa)
10

***Part numbers shown are body only level. To order with a nut and progressive ring (sleeve) included, please see pages D11 and D12 for part number ordering instructions. Instructions for ordering the fitting as EO-2 are also included on these pages.**

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

Part number suffixes		
Material	Suffix surface and material	Example
Steel	CFX	WE16SRCFX
Stainless Steel	71X	WE16SR71X
Brass	MSX	WE16SRMSX

*Please add the suffixes below according to the material/surface required.

Dimensions and pressures for reference only, subject to change.



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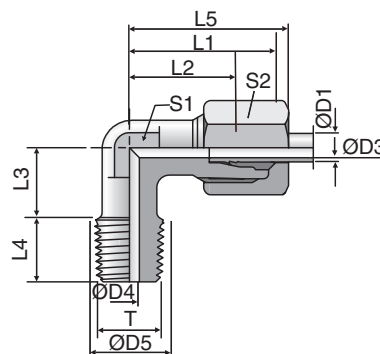
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WE-M

Male Elbow

24° Flareless / Metric Taper Thread



Product images are shown with nuts and sleeves for dimensional allowances only.
Part numbers are body level only. See note below product table for details

Series	D1	T	D3	D4	D5	L1	L2	L3	L4	L5	S1	S2	Weight g/1 piece	Part Number*	PN (bar) ¹⁾	
															CFX	71X
L ³⁾	22	M 26×1.5	19	18	31	35	27.5	26	16	44	27	36	173	WE22LM	160	160
	28	M 33×2.0	24	23	39	38	30.5	30	18	47	36	41	303	WE28LM	160	160
	35	M 42×2.0	30	30	49	45	34.5	34	20	56	41	50	469	WE35LM	160	160
	42	M 48×2.0	36	36	55	51	40.0	39	22	63	50	60	661	WE42LM	160	160
S ⁴⁾	20	M 27×2.0	16	16	32	37	26.5	26	16	48	27	36	208	WE20SM	400	400
	25	M 33×2.0	20	20	39	42	30.0	30	18	54	36	46	396	WE25SM	250	250
	30	M 42×2.0	25	25	49	49	35.5	34	20	62	41	50	632	WE30SM	160	160
	38	M 48×2.0	32	32	55	57	41.0	39	22	72	50	60	907	WE38SM	160	160

¹⁾ Pressure shown = item deliverable

³⁾ L = light series; ⁴⁾ S = heavy series

$\frac{\text{PN (bar)}}{10} = \text{PN (MPa)}$

*Part numbers shown are body only level. To order with a nut and progressive ring (sleeve) included, please see pages D11 and D12 for part number ordering instructions. Instructions for ordering the fitting as EO-2 are also included on these pages.

*Please add the **suffixes**
below according to the material/
surface required.

Part number suffixes		
Material	Suffix surface and material	Example
Steel	CFX	WE20SMCFX
Stainless Steel	71X	WE20SM71X

Dimensions and pressures for reference only, subject to change.

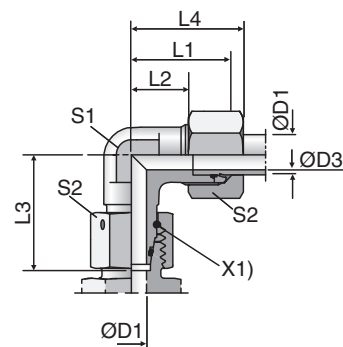


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EW

Swivel Nut Elbow

24° Flareless / Flareless Swivel



X1) O-ring OR

Product images are shown with nuts and sleeves for dimensional allowances only.
Part numbers are body level only. See note below product table for details

Series	D1	D3	L1	L2	L3	L4	S1	S2	Weight g/1 piece	Part Number*	PN (bar) ¹⁾	
											CF	71
L ³⁾	06	4	19	12.0	26.0	27	12	14	34	EW06LOMD	500	315
	08	6	21	14.0	27.5	29	12	17	43	EW08LOMD	500	315
	10	8	22	15.0	29.0	30	14	19	58	EW10LOMD	500	315
	12	10	24	17.0	29.5	32	17	22	81	EW12LOMD	400	315
	15	12	28	21.0	32.5	36	19	27	128	EW15LOMD	400	315
	18	15	31	23.5	35.5	40	24	32	197	EW18LOMD	400	315
	22	19	35	27.5	38.5	44	27	36	258	EW22LOMD	250	160
	28	24	38	30.5	41.5	47	36	41	370	EW28LOMD	250	160
	35	30	45	34.5	51.0	56	41	50	593	EW35LOMD	250	160
	42	36	51	40.0	56.0	63	50	60	993	EW42LOMD	250	160
S ⁴⁾	06	4	23	16.0	27.0	31	12	17	48	EW06SOMD	800	630
	08	5	24	17.0	27.5	32	14	19	65	EW08SOMD	800	630
	10	6	25	17.5	30.0	34	17	22	92	EW10SOMD	800	630
	12	8	29	21.5	31.0	38	17	24	107	EW12SOMD	630	630
	16	12	33	24.5	36.5	43	24	30	212	EW16SOMD	630	400
	20	16	37	26.5	44.5	48	27	36	309	EW20SOMD	420	400
	25	20	42	30.0	50.0	54	36	46	547	EW25SOMD	420	400
	30	25	49	35.5	55.0	62	41	50	744	EW30SOMD	420	400
	38	32	57	41.0	63.0	72	50	60	1222	EW38SOMD	420	315

¹⁾ Pressure shown = item deliverable

³⁾ L = light series; ⁴⁾ S = heavy series

$\frac{PN \text{ (bar)}}{10} = PN \text{ (MPa)}$

*Part numbers shown are body only level. To order with a nut and progressive ring (sleeve) included, please see pages D11 and D12 for part number ordering instructions. Instructions for ordering the fitting as EO-2 are also included on these pages.

*Please add the **suffixes**
below according to the material/
surface required.

Part number suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Steel	CF	EW16SOMDCF	NBR
Stainless Steel	71	EW16SOMD71	VIT

Dimensions and pressures for reference only, subject to change.



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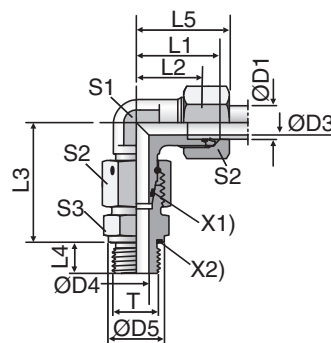
ASSEMBLY

TUBE FAB
EQUIP

GEN TECH

EW-R-ED

Assembled Adjustable Swivel Elbow
24° Flareless / BSPP with EOlastic Seal



X1) O-ring OR
X2) Eolastic-sealing ED

Product images are shown with nuts and sleeves for dimensional allowances only.
Part numbers are body level only. See note below product table for details

Series	D1	T	D3	D4	D5	L1	L2	L3	L4	L5	S1	S2	S3	Weight g/1 piece	Part Number*	PN (bar) ¹⁾	
																CF	71
L ³⁾	06	G 1/8 A	4	4	14	19	12.0	34.5	8	27	12	14	14	47	EW06LREDOMD	500	315
	08	G 1/4 A	6	6	19	21	14.0	37.5	12	29	12	17	19	69	EW08LREDOMD	500	315
	10	G 1/4 A	8	6	19	22	15.0	40.0	12	30	14	19	19	87	EW10LREDOMD	500	315
	12	G 3/8 A	10	9	22	24	17.0	42.0	12	32	17	22	22	122	EW12LREDOMD	400	315
	15	G 1/2 A	12	11	27	28	21.0	46.5	14	36	19	27	27	199	EW15LREDOMD	400	315
	18	G 1/2 A	15	14	27	31	23.5	50.0	14	40	24	32	27	268	EW18LREDOMD	400	315
	22	G 3/4 A	19	18	32	35	27.5	55.0	16	44	27	36	32	360	EW22LREDOMD	250	160
	28	G 1 A	24	23	40	38	30.5	59.0	18	47	36	41	41	539	EW28LREDOMD	250	160
	35	G 1 1/4 A	30	30	50	45	34.5	68.5	20	56	41	50	50	834	EW35LREDOMD	250	160
	42	G 1 1/2 A	36	36	55	51	40.0	75.0	22	63	50	60	55	1341	EW42LREDOMD	250	160
S ⁴⁾	06	G 1/4 A	4	4	19	23	16.0	40.0	12	31	12	17	19	83	EW06SREDOMD	800	630
	08	G 1/4 A	5	5	19	24	17.0	42.5	12	32	14	19	19	106	EW08SREDOMD	800	630
	10	G 3/8 A	6	7	22	25	17.5	45.0	12	34	17	22	22	148	EW10SREDOMD	800	630
	12	G 3/8 A	8	8	22	29	21.5	48.0	12	38	17	24	22	170	EW12SREDOMD	630	630
	16	G 1/2 A	12	12	27	33	24.5	55.0	14	43	24	30	27	303	EW16SREDOMD	630	400
	20	G 3/4 A	16	16	32	37	26.5	65.0	16	48	27	36	32	458	EW20SREDOMD	420	400
	25	G 1 A	20	20	40	42	30.0	73.0	18	54	36	46	41	813	EW25SREDOMD	420	400
	30	G 1 1/4 A	25	25	50	49	35.5	78.5	20	62	41	50	50	1163	EW30SREDOMD	420	400
	38	G 1 1/2 A	32	32	55	57	41.0	89.0	22	72	50	60	55	1784	EW38SREDOMD	420	315

¹⁾ Pressure shown = item deliverable

³⁾ L = light series; ⁴⁾ S = heavy series

$\frac{PN \text{ (bar)}}{10} = PN \text{ (MPa)}$

***Part numbers shown are body only level. To order with a nut and progressive ring (sleeve) included, please see pages D11 and D12 for part number ordering instructions. Instructions for ordering the fitting as EO-2 are also included on these pages.**

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

*Please add the **suffixes**
below according to the material/
surface required.

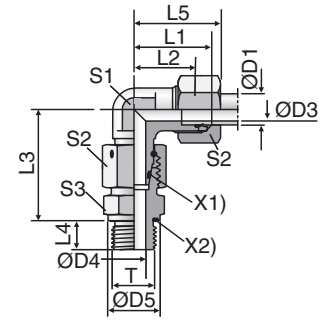
Part number suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Steel	CF	EW16SREDOMDCF	NBR
Stainless Steel	71	EW16SREDOMD71	VIT

Dimensions and pressures for reference only, subject to change.

[Click here for CADs, Support Resources or to Configure Parts Online](#)

EW-M-ED

Assembled Adjustable Swivel Elbow
24° Flareless / Metric Parallel with EOlastic Seal



X1) O-ring OR
X2) Eolastic-sealing ED

Product images are shown with nuts and sleeves for dimensional allowances only.
Part numbers are body level only. See note below product table for details

Series	D1	T	D3	D4	D5	L1	L2	L3	L4	L5	S1	S2	S3	Weight g/1 piece	Part Number*	PN (bar) ¹⁾	
																CF	71
L ³⁾	06	M 10×1.0	4	4	14	19	12.0	34.5	8	27	12	14	14	47	EW06LMEDOMD	500	315
	08	M 12×1.5	6	6	17	21	14.0	37.5	12	29	12	17	17	69	EW08LMEDOMD	500	315
	10	M 14×1.5	8	7	19	22	15.0	40.0	12	30	14	19	19	87	EW10LMEDOMD	500	315
	12	M 16×1.5	10	9	22	24	17.0	42.0	12	32	17	22	22	111	EW12LMEDOMD	400	315
	15	M 18×1.5	12	11	24	28	21.0	46.0	12	36	19	27	24	179	EW15LMEDOMD	400	315
	18	M 22×1.5	15	14	27	31	23.5	50.0	14	40	24	32	27	272	EW18LMEDOMD	400	315
	22	M 26×1.5	19	18	32	35	27.5	55.0	16	44	27	36	32	360	EW22LMEDOMD	250	160
	28	M 33×2.0	24	23	40	38	30.5	59.0	18	47	36	41	41	538	EW28LMEDOMD	250	160
	35	M 42×2.0	30	30	50	45	34.5	68.5	20	56	41	50	50	843	EW35LMEDOMD	250	160
	42	M 48×2.0	36	36	55	51	40.0	75.0	22	63	50	60	55	1353	EW42LMEDOMD	250	160
S ⁴⁾	06	M 12×1.5	4	4	17	23	16.0	40.0	12	31	12	17	17	77	EW06SMEDOMD	800	630
	08	M 14×1.5	5	5	19	24	17.0	42.5	12	32	14	19	19	107	EW08SMEDOMD	800	630
	10	M 16×1.5	6	7	22	25	17.5	45.0	12	34	17	22	22	146	EW10SMEDOMD	800	630
	12	M 18×1.5	8	8	24	29	21.5	48.0	12	38	17	24	24	178	EW12SMEDOMD	630	630
	16	M 22×1.5	12	12	27	33	24.5	55.0	14	43	24	30	27	307	EW16SMEDOMD	630	400
	20	M 27×2.0	16	16	32	37	26.5	65.0	16	48	27	36	32	459	EW20SMEDOMD	420	400
	25	M 33×2.0	20	20	40	42	30.0	73.0	18	54	36	46	41	812	EW25SMEDOMD	420	400
	30	M 42×2.0	25	25	50	49	35.5	78.5	20	62	41	50	50	1167	EW30SMEDOMD	420	400
	38	M 48×2.0	32	32	55	57	41.0	89.0	22	72	50	60	55	1790	EW38SMEDOMD	420	315

¹⁾ Pressure shown = item deliverable

³⁾ L = light series; ⁴⁾ S = heavy series

PN (bar)
10 = PN (MPa)

***Part numbers shown are body only level. To order with a nut and progressive ring (sleeve) included, please see pages D11 and D12 for part number ordering instructions. Instructions for ordering the fitting as EO-2 are also included on these pages.**

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

*Please add the **suffixes**
below according to the material/
surface required.

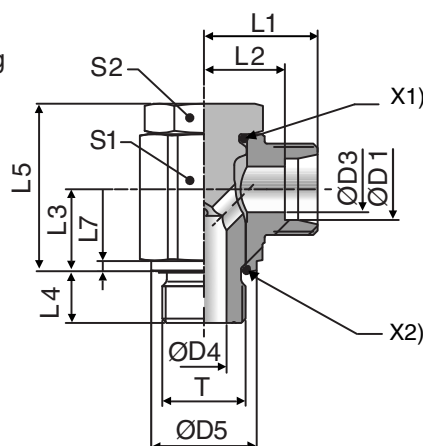
Part number suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Steel	CF	EW16SMEDOMDCF	NBR
Stainless Steel	71	EW16SMEDOMD71	VIT

Dimensions and pressures for reference only, subject to change.



WHK-M-CS

High Pressure Banjo Elbow
24° Flareless / Metric thread with soft seal ring



X1) O-ring OR
X2) Sea ling-ring

Product images are shown with nuts and sleeves for dimensional allowances only.
Part numbers are body level only. See note below product table for details

Series	D1	T	D3	D4	D5	L1	L2	L3	L4	L5	L6	L7	S1	S2	S3	Weight g/1 piece	Part Number*	PN (bar) ¹⁾ Steel
LL ²⁾	04	M 08×1.0	3.0	3.0	12.5	14.8	10.6	8.0	7.7	17.0	20.3	1.15	12.0	12.0	10.0	19	WHK04LLMCSOMD	100
	06	M 10×1.0	4.5	4.5	14.8	15.8	10.1	10.0	7.7	22.0	21.8	1.15	14.0	13.0	12.0	32	WHK06LLMCSOMD	100
	08	M 10×1.0	6.0	4.5	14.8	16.8	11.1	10.0	7.7	22.0	22.8	1.15	14.0	13.0	14.0	35	WHK08LLMCSOMD	100
L ³⁾	06	M 10×1.0	4.0	4.5	14.8	17.5	10.4	10.0	7.7	22.0	25.0	1.15	14.0	13.0	14.0	35	WHK06LMCSOMD	400
	08	M 12×1.5	6.0	5.5	17.8	19.6	12.5	12.0	11.5	26.5	26.8	1.65	19.0	17.0	17.0	66	WHK08LMCSOMD	420
	10	M 14×1.5	8.0	6.0	19.8	21.3	14.1	13.0	11.5	27.5	28.8	1.65	19.0	17.0	19.0	74	WHK10LMCSOMD	420
	12	M 16×1.5	10.0	7.5	22.8	23.3	16.1	16.0	11.5	34.0	30.8	1.65	24.0	22.0	22.0	133	WHK12LMCSOMD	420
	15	M 18×1.5	12.0	9.0	24.8	26.0	18.9	18.0	11.5	38.0	34.0	2.15	27.0	24.0	27.0	182	WHK15LMCSOMD	420
	18	M 22×1.5	15.0	12.0	27.8	28.3	20.6	21.5	13.6	44.0	36.8	2.65	30.0	27.0	32.0	266	WHK18LMCSOMD	350
	22	M 26×1.5	19.0	17.0	32.8	33.0	25.4	24.0	15.5	50.5	41.5	2.65	36.0	32.0	36.0	403	WHK22LMCSOMD	350
	28	M 33×2.0	24.0	21.0	40.8	39.4	31.7	30.5	17.5	62.0	48.4	2.65	46.0	41.0	41.0	773	WHK28LMCSOMD	250
	35	M 42×2.0	30.0	27.0	50.8	46.4	35.7	35.5	19.6	74.0	57.4	2.65	60.0	50.0	50.0	1465	WHK35LMCSOMD	250
	42	M 48×2.0	36.0	34.0	55.8	51.4	40.2	40.5	21.6	83.5	62.9	2.65	65.0	55.0	60.0	1890	WHK42LMCSOMD	250
S ⁴⁾	06	M 12×1.5	4.0	5.5	17.8	22.3	15.1	12.0	11.5	26.5	29.8	1.65	19.0	17.0	17.0	75	WHK06SMCSOMD	420
	08	M 14×1.5	5.0	6.0	19.8	22.3	15.1	13.0	11.5	27.5	29.8	1.65	19.0	17.0	19.0	84	WHK08SMCSOMD	420
	10	M 16×1.5	7.0	7.5	22.8	23.8	16.1	16.0	11.5	34.0	32.3	1.65	24.0	22.0	22.0	138	WHK10SMCSOMD	420
	12	M 18×1.5	8.0	9.0	24.8	26.0	18.4	18.0	11.5	38.0	34.5	2.15	27.0	24.0	24.0	184	WHK12SMCSOMD	420
	16	M 22×1.5	12.0	12.0	27.8	30.0	21.4	21.5	13.6	44.0	39.5	2.65	30.0	27.0	30.0	271	WHK16SMCSOMD	350
	20	M 27×2.0	16.0	16.0	32.8	35.0	24.4	24.0	15.5	50.5	46.0	2.65	36.0	32.0	36.0	429	WHK20SMCSOMD	350
	25	M 33×2.0	20.0	21.0	40.8	43.4	31.2	30.5	17.5	62.0	55.4	2.65	46.0	41.0	46.0	803	WHK25SMCSOMD	250
	30	M 42×2.0	25.0	27.0	50.8	50.5	36.9	35.5	19.6	74.0	63.5	2.65	60.0	50.0	50.0	1500	WHK30SMCSOMD	250
	38	M 48×2.0	32.0	34.0	55.8	57.5	41.4	40.5	21.6	83.5	72.0	2.65	65.0	55.0	60.0	1971	WHK38SMCSOMD	250

¹⁾ Pressure shown = item deliverable

²⁾ LL = very light series; ³⁾ L = light series; ⁴⁾ S = heavy series

PN (bar)
10 → PN (MPa)

*Part numbers shown are body only level. To order with a nut and progressive ring (sleeve) included, please see pages D11 and D12 for part number ordering instructions. Instructions for ordering the fitting as EO-2 are also included on these pages.

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*Please add the suffixes
below according to the material/
surface required.

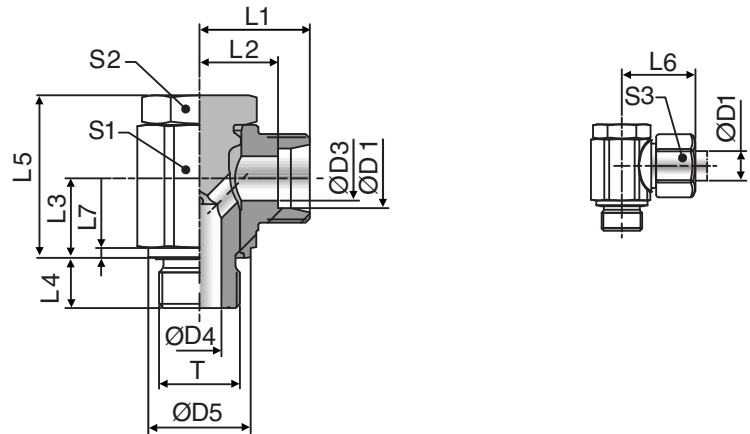
Part number suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Steel	CF	WHK16SMCSOMDCF	NBR FKM on request

Dimensions and pressures for reference only, subject to change.

[Click here for CADs, Support Resources or to Configure Parts Online](#)

WHK-M

High Pressure Banjo Elbow
24° Flareless / Metric thread with metal sealing



Product images are shown with nuts and sleeves for dimensional allowances only.
Part numbers are body level only. See note below product table for details

Series	D1	T	D3	D4	D5	L1	L2	L3	L4	L5	L6	L7	S1	S2	S3	Weight g/1 piece	Part Number*	PN (bar) ¹⁾ Steel
LL ²⁾	04	M 08×1.0	3.0	3.0	12.5	14.8	10.6	8.0	7.7	17.0	20.3	1.15	12.0	12.0	10.0	19	WHK04LLMOMD	100
	06	M 10×1.0	4.5	4.5	14.8	15.8	10.1	10.0	7.7	22.0	21.8	1.15	14.0	13.0	12.0	32	WHK06LLMOMD	100
	08	M 10×1.0	6.0	4.5	14.8	16.8	11.1	10.0	7.7	22.0	22.8	1.15	14.0	13.0	14.0	35	WHK08LLMOMD	100
L ³⁾	06	M 10×1.0	4.0	4.5	14.8	17.5	10.4	10.0	7.7	22.0	25.0	1.15	14.0	13.0	14.0	35	WHK06LMOMD	250
	08	M 12×1.5	6.0	5.5	17.8	19.6	12.5	12.0	11.5	26.5	26.8	1.65	19.0	17.0	17.0	66	WHK08LMOMD	250
	10	M 14×1.5	8.0	6.0	19.8	21.3	14.1	13.0	11.5	27.5	28.8	1.65	19.0	17.0	19.0	74	WHK10LMOMD	250
	12	M 16×1.5	10.0	7.5	22.8	23.3	16.1	16.0	11.5	34.0	30.8	1.65	24.0	22.0	22.0	133	WHK12LMOMD	250
	15	M 18×1.5	12.0	9.0	24.8	26.0	18.9	18.0	11.5	38.0	34.0	2.15	27.0	24.0	27.0	182	WHK15LMOMD	250
	18	M 22×1.5	15.0	12.0	27.8	28.3	20.6	21.5	13.6	44.0	36.8	2.65	30.0	27.0	32.0	266	WHK18LMOMD	250
	22	M 26×1.5	19.0	17.0	32.8	33.0	25.4	24.0	15.5	50.5	41.5	2.65	36.0	32.0	36.0	403	WHK22LMOMD	160
	28	M 33×2.0	24.0	21.0	40.8	39.4	31.7	30.5	17.5	62.0	48.4	2.65	46.0	41.0	41.0	773	WHK28LMOMD	160
	35	M 42×2.0	30.0	27.0	50.8	46.4	35.7	35.5	19.6	74.0	57.4	2.65	60.0	50.0	50.0	1465	WHK35LMOMD	160
	42	M 48×2.0	36.0	34.0	55.8	51.4	40.2	40.5	21.6	83.5	62.9	2.65	65.0	55.0	60.0	1890	WHK42LMOMD	160
S ⁴⁾	06	M 12×1.5	4.0	5.5	17.8	22.3	15.1	12.0	11.5	26.5	29.8	1.65	19.0	17.0	17.0	75	WHK06SMOMD	315
	08	M 14×1.5	5.0	6.0	19.8	22.3	15.1	13.0	11.5	27.5	29.8	1.65	19.0	17.0	19.0	84	WHK08SMOMD	315
	10	M 16×1.5	7.0	7.5	22.8	23.8	16.1	16.0	11.5	34.0	32.3	1.65	24.0	22.0	22.0	138	WHK10SMOMD	315
	12	M 18×1.5	8.0	9.0	24.8	26.0	18.4	18.0	11.5	38.0	34.5	2.15	27.0	24.0	24.0	184	WHK12SMOMD	315
	16	M 22×1.5	12.0	12.0	27.8	30.0	21.4	21.5	13.6	44.0	39.5	2.65	30.0	27.0	30.0	271	WHK16SMOMD	315
	20	M 27×2.0	16.0	16.0	32.8	35.0	24.4	24.0	15.5	50.5	46.0	2.65	36.0	32.0	36.0	429	WHK20SMOMD	160
	25	M 33×2.0	20.0	21.0	40.8	43.4	31.2	30.5	17.5	62.0	55.4	2.65	46.0	41.0	46.0	803	WHK25SMOMD	160
	30	M 42×2.0	25.0	27.0	50.8	50.5	36.9	35.5	19.6	74.0	63.5	2.65	60.0	50.0	50.0	1500	WHK30SMOMD	160
	38	M 48×2.0	32.0	34.0	55.8	57.5	41.4	40.5	21.6	83.5	72.0	2.65	65.0	55.0	60.0	1971	WHK38SMOMD	160

¹⁾ Pressure shown = item deliverable

²⁾ LL = very light series; ³⁾ L = light series; ⁴⁾ S = heavy series

PN (bar) → PN (MPa)
10

*Part numbers shown are body only level. To order with a nut and progressive ring (sleeve) included, please see pages D11 and D12 for part number ordering instructions. Instructions for ordering the fitting as EO-2 are also included on these pages.

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*Please add the **suffixes**
below according to the material/
surface required.

Part number suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Steel	CF	WHK16SMOMDCF	NBR

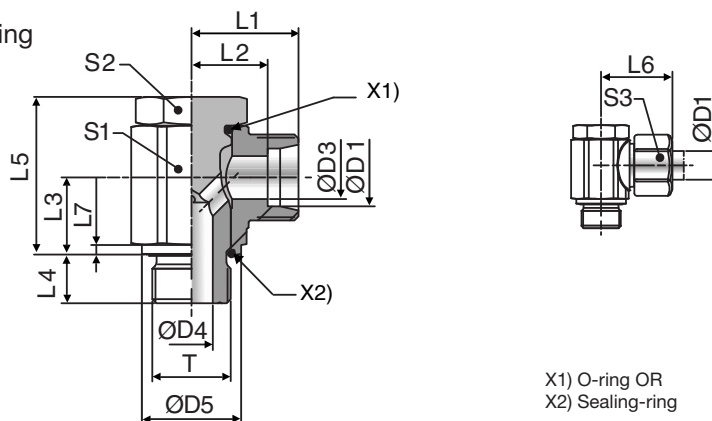
Dimensions and pressures for reference only, subject to change.



WHK-R-CS

High Pressure Banjo Elbow

24° Flareless / BSPP thread with soft sealing ring



X1) O-ring OR
X2) Sealing-ring

Product images are shown with nuts and sleeves for dimensional allowances only.
Part numbers are body level only. See note below product table for details

Series	D1	T	D3	D4	D5	L1	L2	L3	L4	L5	L6	L7	S1	S2	S3	Weight g/1 piece	Part Number*	PN (bar) ¹⁾ Steel
LL ²⁾	04	G 1/8 A	3.0	4.5	14.8	15.8	11.6	10.0	8.0	22.0	21.3	1.15	14.0	13.0	10.0	31	WHK04LLRCSOMD	100
	06	G 1/8 A	4.5	4.5	14.8	15.8	10.1	10.0	8.0	22.0	21.8	1.15	14.0	13.0	12.0	32	WHK06LLRCSOMD	100
	08	G 1/8 A	6.0	4.5	14.8	16.8	11.1	10.0	8.0	22.0	22.8	1.15	14.0	13.0	14.0	35	WHK08LLRCSOMD	100
L ³⁾	06	G 1/8 A	4.0	4.5	14.8	17.5	10.4	10.0	8.0	22.0	25.0	1.15	14.0	13.0	14.0	35	WHK06LRCSOMD	400
	08	G 1/4 A	6.0	6.0	19.8	20.3	13.1	13.0	11.5	27.5	26.8	1.65	19.0	17.0	17.0	70	WHK08LRCSOMD	420
	10	G 1/4 A	8.0	6.0	19.8	21.3	14.1	13.0	11.5	27.5	28.8	1.65	19.0	17.0	19.0	73	WHK10LRCSOMD	420
	12	G 3/8 A	10.0	7.5	22.8	23.3	16.1	16.0	11.5	34.0	30.8	2.15	24.0	22.0	22.0	135	WHK12LRCSOMD	420
	15	G 1/2 A	12.0	12.0	27.8	27.5	20.4	21.5	14.0	44.0	35.5	2.65	30.0	27.0	27.0	254	WHK15LRCSOMD	350
	18	G 1/2 A	15.0	12.0	27.8	28.3	20.6	21.5	14.0	44.0	36.8	2.65	30.0	27.0	32.0	260	WHK18LRCSOMD	350
	22	G 3/4 A	19.0	16.0	32.8	33.0	25.4	24.0	15.5	50.5	41.5	2.65	36.0	32.0	36.0	413	WHK22LRCSOMD	350
	28	G 1 A	24.0	21.0	40.8	39.4	31.7	30.5	18.0	62.0	48.4	2.65	46.0	41.0	41.0	772	WHK28LRCSOMD	250
	35	G 1 1/4 A	30.0	27.0	50.8	46.4	35.7	35.5	19.6	74.0	57.4	2.65	60.0	50.0	50.0	1462	WHK35LRCSOMD	250
	42	G 1 1/2 A	36.0	34.0	55.8	51.4	40.2	40.5	21.6	83.5	62.9	2.65	65.0	55.0	60.0	1884	WHK42LRCSOMD	250
S ⁴⁾	06	G 1/4 A	4.0	6.0	19.8	22.3	15.1	13.0	11.5	27.5	29.8	1.65	19.0	17.0	17.0	79	WHK06SRCSOMD	420
	08	G 1/4 A	5.0	6.0	19.8	22.3	15.1	13.0	11.5	27.5	29.8	1.65	19.0	17.0	19.0	83	WHK08SRCSOMD	420
	10	G 3/8 A	7.0	7.5	22.8	23.8	16.1	16.0	11.5	34.0	32.3	2.15	24.0	22.0	22.0	140	WHK10SRCSOMD	420
	12	G 3/8 A	8.0	7.5	22.8	23.8	16.1	16.0	11.5	34.0	32.3	2.15	24.0	22.0	24.0	143	WHK12SRCSOMD	420
	16	G 1/2 A	12.0	12.0	27.8	30.0	21.4	21.5	14.0	44.0	39.5	2.65	30.0	27.0	30.0	266	WHK16SRCSOMD	350
	20	G 3/4 A	16.0	16.0	32.8	35.0	24.4	24.0	15.5	50.5	46.0	2.65	36.0	32.0	36.0	427	WHK20SRCSOMD	350
	25	G 1 A	20.0	21.0	40.8	43.4	31.2	30.5	18.0	62.0	55.4	2.65	46.0	41.0	46.0	802	WHK25SRCSOMD	250
	30	G 1 1/4 A	25.0	27.0	50.8	50.5	36.9	35.5	19.6	74.0	63.5	2.65	60.0	50.0	50.0	1497	WHK30SRCSOMD	250
	38	G 1 1/2 A	32.0	34.0	55.8	57.5	41.4	40.5	21.6	83.5	72.0	2.65	65.0	55.0	60.0	1965	WHK38SRCSOMD	250

¹⁾ Pressure shown = item deliverable

²⁾ LL = very light series; ³⁾ L = light series; ⁴⁾ S = heavy series

$\frac{PN (bar)}{10} = PN (MPa)$

*Part numbers shown are body only level. To order with a nut and progressive ring (sleeve) included, please see pages D11 and D12 for part number ordering instructions. Instructions for ordering the fitting as EO-2 are also included on these pages.

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*Please add the **suffixes**
below according to the material/
surface required.

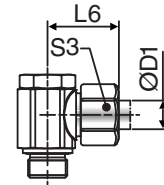
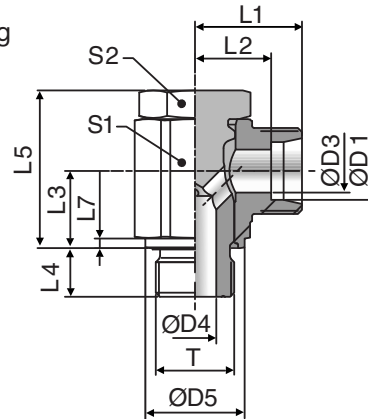
Part number suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Steel	CF	WHK16SRCSOMDCF	NBR FKM on request

Dimensions and pressures for reference only, subject to change.

[Click here for CADs, Support Resources or to Configure Parts Online](#)

WHK-R

High Pressure Banjo Elbow
24° Flareless / Male BSPP thread with metal sealing



Product images are shown with nuts and sleeves for dimensional allowances only.
Part numbers are body level only. See note below product table for details

Series	D1	T	D3	D4	D5	L1	L2	L3	L4	L5	L6	L7	S1	S2	S3	Weight g/1 piece	Part Number*	PN (bar) ¹⁾ Steel
LL ²⁾	04	G 1/8 A	3.0	4.5	14.8	15.8	11.6	10.0	8.0	22.0	21.3	1.15	14.0	13.0	10.0	31	WHK04LLROMD	100
	06	G 1/8 A	4.5	4.5	14.8	15.8	10.1	10.0	8.0	22.0	21.8	1.15	14.0	13.0	12.0	32	WHK06LLROMD	100
	08	G 1/8 A	6.0	4.5	14.8	16.8	11.1	10.0	8.0	22.0	22.8	1.15	14.0	13.0	14.0	35	WHK08LLROMD	100
L ³⁾	06	G 1/8 A	4.0	4.5	14.8	17.5	10.4	10.0	8.0	22.0	25.0	1.15	14.0	13.0	14.0	35	WHK06LROMD	250
	08	G 1/4 A	6.0	6.0	19.8	20.3	13.1	13.0	11.5	27.5	26.8	1.65	19.0	17.0	17.0	70	WHK08LROMD	250
	10	G 1/4 A	8.0	6.0	19.8	21.3	14.1	13.0	11.5	27.5	28.8	1.65	19.0	17.0	19.0	73	WHK10LROMD	250
	12	G 3/8 A	10.0	7.5	22.8	23.3	16.1	16.0	11.5	34.0	30.8	2.15	24.0	22.0	22.0	135	WHK12LROMD	250
	15	G 1/2 A	12.0	12.0	27.8	27.5	20.4	21.5	14.0	44.0	35.5	2.65	30.0	27.0	27.0	254	WHK15LROMD	250
	18	G 1/2 A	15.0	12.0	27.8	28.3	20.6	21.5	14.0	44.0	36.8	2.65	30.0	27.0	32.0	260	WHK18LROMD	250
	22	G 3/4 A	19.0	16.0	32.8	33.0	25.4	24.0	15.5	50.5	41.5	2.65	36.0	32.0	36.0	413	WHK22LROMD	160
	28	G 1 A	24.0	21.0	40.8	39.4	31.7	30.5	18.0	62.0	48.4	2.65	46.0	41.0	41.0	772	WHK28LROMD	160
	35	G 1 1/4 A	30.0	27.0	50.8	46.4	35.7	35.5	19.6	74.0	57.4	2.65	60.0	50.0	50.0	1462	WHK35LROMD	160
	42	G 1 1/2 A	36.0	34.0	55.8	51.4	40.2	40.5	21.6	83.5	62.9	2.65	65.0	55.0	60.0	1884	WHK42LROMD	160
S ⁴⁾	06	G 1/4 A	4.0	6.0	19.8	22.3	15.1	13.0	11.5	27.5	29.8	1.65	19.0	17.0	17.0	79	WHK06SROMD	315
	08	G 1/4 A	5.0	6.0	19.8	22.3	15.1	13.0	11.5	27.5	29.8	1.65	19.0	17.0	19.0	83	WHK08SROMD	315
	10	G 3/8 A	7.0	7.5	22.8	23.8	16.1	16.0	11.5	34.0	32.3	2.15	24.0	22.0	22.0	140	WHK10SROMD	315
	12	G 3/8 A	8.0	7.5	22.8	23.8	16.1	16.0	11.5	34.0	32.3	2.15	24.0	22.0	24.0	143	WHK12SROMD	315
	16	G 1/2 A	12.0	12.0	27.8	30.0	21.4	21.5	14.0	44.0	39.5	2.65	30.0	27.0	30.0	266	WHK16SROMD	315
	20	G 3/4 A	16.0	16.0	32.8	35.0	24.4	24.0	15.5	50.5	46.0	2.65	36.0	32.0	36.0	427	WHK20SROMD	160
	25	G 1 A	20.0	21.0	40.8	43.5	31.2	30.5	18.0	62.0	55.4	2.65	46.0	41.0	46.0	802	WHK25SROMD	160
	30	G 1 1/4 A	25.0	27.0	50.8	50.5	36.9	35.5	19.6	74.0	63.5	2.65	60.0	50.0	50.0	1497	WHK30SROMD	160
	38	G 1 1/2 A	32.0	34.0	55.8	57.5	41.4	40.5	21.6	83.5	72.0	2.65	65.0	55.0	60.0	1965	WHK38SROMD	160

¹⁾ Pressure shown = item deliverable

²⁾ LL = very light series; ³⁾ L = light series; ⁴⁾ S = heavy series

$\frac{PN \text{ (bar)}}{10} = PN \text{ (MPa)}$

*Part numbers shown are body only level. To order with a nut and progressive ring (sleeve) included, please see pages D11 and D12 for part number ordering instructions. Instructions for ordering the fitting as EO-2 are also included on these pages.

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

*Please add the **suffixes**
below according to the material/
surface required.

Part number suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Steel	CF	WHK16SROMDCF	NBR

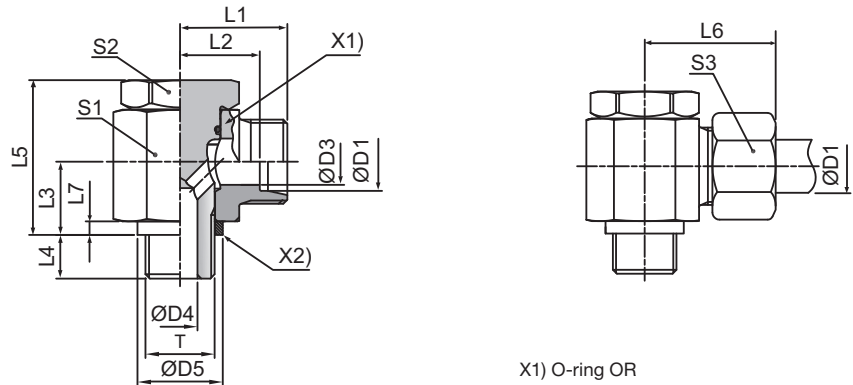
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WH-R

High Pressure Banjo Elbow
24° Flareless / BSPP thread with metal sealing



X1) O-ring OR
X2) Sealing Ring DKA

Product images are shown with nuts and sleeves for dimensional allowances only.
Part numbers are body level only. See note below product table for details

	D1															Weight		PN (bar) ¹⁾	
Series		T	D3	D4	D5	L1	L2	L3	L4	L5	L6	L7	S1	S2	S3	g/1 piece	Part Number*	71	MS
L ³⁾	06	G 1/8 A	4	4.5	14	19.0	12.0	10.5	8	24	27	2.5	17	17	14	53	WH06LROMD	250	160
	08	G 1/4 A	6	6.0	18	21.5	14.5	14.0	12	30	29	3.0	22	19	17	101	WH08LROMD	250	160
	10	G 1/4 A	8	6.0	18	22.5	15.5	14.0	12	30	30	3.0	22	19	19	102	WH10LROMD	250	160
	12	G 3/8 A	10	7.5	22	25.0	18.0	16.5	12	36	33	3.0	27	24	22	181	WH12LROMD	250	160
	15	G 1/2 A	12	11.0	26	28.5	21.5	21.5	14	45	37	4.5	32	30	27	311	WH15LROMD	250	160
	18	G 1/2 A	15	11.0	26	28.5	21.0	21.5	14	45	37	4.5	32	30	32	319	WH18LROMD	250	160
	22	G 3/4 A	19	17.0	32	35.0	27.5	24.0	16	53	44	3.5	41	36	36	577	WH22LROMD	160	
	28	G 1 A	24	21.0	39	39.5	32.0	30.5	18	66	49	3.5	50	46	41	1034	WH28LROMD	160	
	35	G 1 1/4 A	30	27.0	57	46.5	36.0	35.5	20	76	58	3.5	60	55	50	1500	WH35LROMD	160	
	42	G 1 1/2 A	36	34.0	55	51.5	40.5	40.5	22	87	63	3.5	70	60	60	2195	WH42LROMD	160	
S ⁴⁾	06	G 1/4 A	4	6.0	18	23.5	16.5	14.0	12	30	31	3.0	22	19	17	107	WH06SROMD	315	200
	08	G 1/4 A	5	6.0	18	23.5	16.5	14.0	12	30	31	3.0	22	19	19	107	WH08SROMD	315	200
	10	G 3/8 A	7	7.5	22	26.0	18.5	16.5	12	36	35	3.0	27	24	22	188	WH10SROMD	315	200
	12	G 3/8 A	8	7.5	22	26.0	18.5	16.5	12	36	35	3.0	30	24	24	190	WH12SROMD	315	200
	16	G 1/2 A	12	11.0	26	30.5	22.0	21.5	14	45	40	4.5	32	30	30	317	WH16SROMD	315	
	20	G 3/4 A	16	17.0	32	37.0	26.5	24.0	16	53	48	3.5	41	36	36	587	WH20SROMD	160	
	25	G 1 A	20	21.0	39	43.5	31.5	30.5	18	66	56	3.5	50	46	46	1072	WH25SROMD	160	
	30	G 1 1/4 A	25	27.0	49	50.5	37.0	35.5	20	76	64	3.5	60	55	50	1560	WH30SROMD	160	
38	G 1 1/2 A	32	34.0	55	57.5	41.5	40.5	22	87	72	3.5	70	60	60	2295	WH38SROMD	160		

¹⁾ Pressure shown = item deliverable

³⁾ L = light series; ⁴⁾ S = heavy series

PN (bar)
10 = PN (MPa)

*Part numbers shown are body only level. To order with a nut and progressive ring (sleeve) included, please see pages D11 and D12 for part number ordering instructions. Instructions for ordering the fitting as EO-2 are also included on these pages.

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

*Please add the **suffixes**
below according to the material/
surface required.

Part number suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Stainless Steel	71	WH16SROMD71	VIT
Brass	MS	WH18LROMDMS	NBR

Dimensions and pressures for reference only, subject to change.

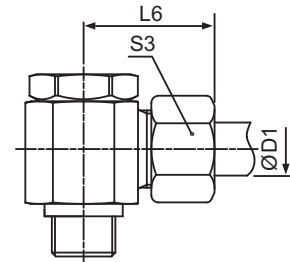
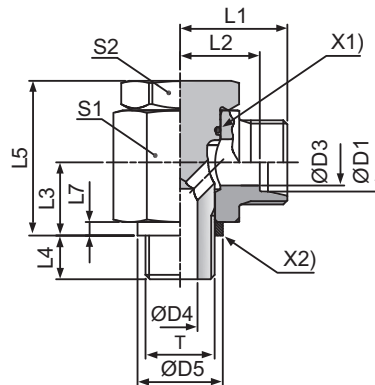


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WH-M

High Pressure Banjo Elbow

24° Flareless / Metric Parallel thread with metal sealing ring



X1) O-ring OR
X2) Sealing Ring DKA

Product images are shown with nuts and sleeves for dimensional allowances only.
Part numbers are body level only. See note below product table for details

Series	D1	T	D3	D4	D5	L1	L2	L3	L4	L5	L6	L7	S1	S2	S3	Weight g/1 piece	Part Number*	PN (bar) ¹⁾
L ³⁾	06	M 10×1.0	4	4.5	14	19.0	12.0	10.5	8	24.0	27	2.5	17	17	14	54	WH06LMOMD	250
	08	M 12×1.5	6	6.0	17	21.5	14.5	14.0	12	30.0	29	3.0	22	19	17	97	WH08LMOMD	250
	10	M 14×1.5	8	6.0	19	22.5	15.5	14.0	12	30.0	30	3.0	22	19	19	104	WH10LMOMD	250
	12	M 16×1.5	10	7.5	21	25.0	18.0	16.5	12	36.0	33	3.0	27	24	22	180	WH12LMOMD	250
	15	M 18×1.5	11	9.0	23	27.5	21.5	18.5	12	39.5	37	3.0	30	27	27	243	WH15LMOMD	250
	18	M 22×1.5	15	12.0	27	28.5	21.0	21.5	14	45.0	37	4.5	32	30	32	326	WH18LMOMD	250
	22	M 26×1.5	19	17.0	31	35.0	27.5	24.0	16	53.0	44	3.5	41	36	36	574	WH22LMOMD	160
	28	M 33×2.0	24	21.0	39	39.5	32.0	30.5	18	66.0	49	3.5	50	46	41	1016	WH28LMOMD	160
	35	M 42×2.0	30	27.0	49	46.5	36.0	35.5	20	76.0	58	3.5	60	55	50	1512	WH35LMOMD	160
	42	M 48×2.0	36	34.0	55	51.5	40.5	40.5	22	87.0	63	3.5	70	60	60	2216	WH42LMOMD	160
S ⁴⁾	06	M 12×1.5	4	6.0	17	23.5	16.5	14.0	12	30.0	31	3.0	22	19	17	104	WH06SMOMD	315
	08	M 14×1.5	5	6.0	19	23.5	16.5	14.0	12	30.0	31	3.0	22	19	19	111	WH08SMOMD	315
	10	M 16×1.5	7	7.5	21	26.0	18.5	16.5	12	36.0	35	3.0	27	24	22	186	WH10SMOMD	315
	12	M 18×1.5	8	9.0	23	27.5	20.0	18.5	12	39.5	36	3.0	30	27	24	246	WH12SMOMD	315
	16	M 22×1.5	12	12.0	27	30.5	22.0	21.5	14	45.0	40	4.5	32	30	30	326	WH16SMOMD	315
	20	M 27×2.0	16	16.0	32	37.0	26.5	24.0	16	53.0	48	3.5	41	36	36	596	WH20SMOMD	160
	25	M 33×2.0	20	21.0	39	43.5	31.5	30.5	18	66.0	56	3.5	50	46	46	1055	WH25SMOMD	160
	30	M 42×2.0	25	27.0	49	50.5	37.0	35.5	20	76.0	64	3.5	60	55	50	1572	WH30SMOMD	160
	38	M 48×2.0	32	34.0	55	57.5	41.5	40.5	22	87.0	72	3.5	70	60	60	2316	WH38SMOMD	160

¹⁾ Pressure shown = item deliverable

³⁾ L = light series; ⁴⁾ S = heavy series

$\frac{PN (bar)}{10} = PN (MPa)$

*Part numbers shown are body only level. To order with a nut and progressive ring (sleeve) included, please see pages D11 and D12 for part number ordering instructions. Instructions for ordering the fitting as EO-2 are also included on these pages.

*S1=SW30 in 1.4571

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*Please add the **suffixes**
below according to the material/
surface required.

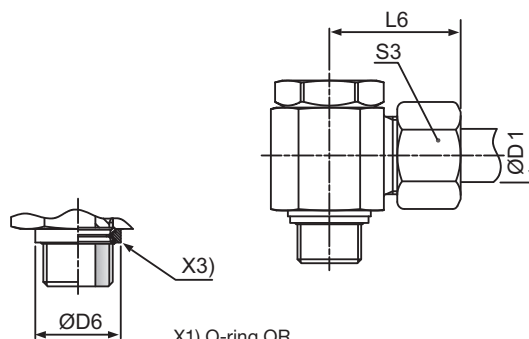
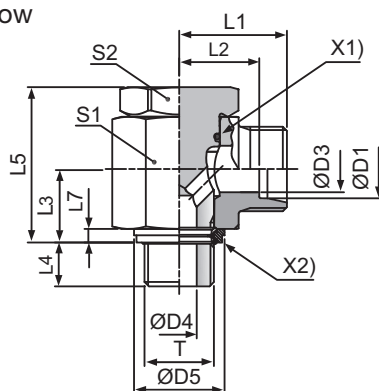
Part number suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Stainless Steel	71	WH16SMOMD71	VIT

Dimensions and pressures for reference only, subject to change.



WH-R-KDS

High Pressure Banjo Elbow
24° Flareless / BSPP



X1) O-ring OR
X2) Sealing ring KDS (for ports with small spot face, ISO 1179)
X3) Sealing ring KD (for ports with wide spot face, ISO 1179)

Product images are shown with nuts and sleeves for dimensional allowances only.
Part numbers are body level only. See note below product table for details

Series	D1	T	D3	D4	D5 KDS	D6 KD	L1	L2	L3	L4	L5	L6	L7	S1	S2	S3	Weight g/1 piece	Part Number*	PN (bar) ¹⁾
L ³⁾	06	G 1/8 A	4	4.5	14.9	17	19.0	12.0	10.5	8	24	27	2.5	17	17	14	53	WH06LRKD0MD	315
	08	G 1/4 A	6	6.0	18.9	22	21.5	14.5	14.0	12	30	29	3.0	22	19	17	101	WH08LRKD0MD	315
	10	G 1/4 A	8	6.0	18.9	22	22.5	15.5	14.0	12	30	30	3.0	22	19	19	102	WH10LRKD0MD	315
	12	G 3/8 A	10	7.5	21.9	27	25.0	18.0	16.5	12	36	33	3.0	27	24	22	181	WH12LRKD0MD	315
	15	G 1/2 A	12	11.0	26.9	32	28.5	21.5	21.5	14	45	37	4.5	32	30	27	312	WH15LRKD0MD	315
	18	G 1/2 A	15	11.0	26.9	32	28.5	21.0	21.5	14	45	37	4.5	32	30	32	319	WH18LRKD0MD	315
	22	G 3/4 A	19	17.0	32.9	41	35.0	27.5	24.0	16	53	44	3.5	41	36	36	578	WH22LRKD0MD	160
	28	G 1 A	24	21.0	39.9	46	39.5	32.0	30.5	18	66	49	3.5	50	46	41	1035	WH28LRKD0MD	160
	35	G 1 1/4 A	30	27.0	49.9	57	46.5	36.0	35.5	20	76	58	3.5	60	55	50	1499	WH35LRKD0MD	160
	42	G 1 1/2 A	36	34.0	55.9	64	51.5	40.5	40.5	22	87	63	3.5	70	60	60	2196	WH42LRKD0MD	160
S ⁴⁾	06	G 1/4 A	4	6.0	18.9	22	23.5	16.5	14.0	12	30	31	3.0	22	19	17	107	WH06SRKD0MD	400
	08	G 1/4 A	5	6.0	18.9	22	23.5	16.5	14.0	12	30	31	3.0	22	19	19	107	WH08SRKD0MD	400
	10	G 3/8 A	7	7.5	21.9	27	26.0	18.5	16.5	12	36	35	3.0	27	24	22	188	WH10SRKD0MD	400
	12	G 3/8 A	8	7.5	21.9	27	26.0	18.5	16.5	12	36	35	3.0	30	24	24	190	WH12SRKD0MD	400
	16	G 1/2 A	12	11.0	26.9	32	30.5	22.0	21.5	14	45	40	4.5	32	30	30	324	WH16SRKD0MD	315
	20	G 3/4 A	16	17.0	32.9	41	37.0	26.5	24.0	16	53	48	3.5	41	36	36	588	WH20SRKD0MD	315
	25	G 1 A	20	21.0	39.9	46	43.5	31.5	30.5	18	66	56	3.5	50	46	46	1073	WH25SRKD0MD	250
	30	G 1 1/4 A	25	27.0	49.9	57	50.5	37.0	35.5	20	76	64	3.5	60	55	50	1559	WH30SRKD0MD	160
	38	G 1 1/2 A	32	34.0	55.9	64	57.5	41.5	40.5	22	87	72	3.5	70	60	60	2296	WH38SRKD0MD	160

¹⁾ Pressure shown = item deliverable

³⁾ L = light series; ⁴⁾ S = heavy series

$\frac{PN (bar)}{10} = PN (MPa)$

*Part numbers shown are body only level. To order with a nut and progressive ring (sleeve) included, please see pages D11 and D12 for part number ordering instructions. Instructions for ordering the fitting as EO-2 are also included on these pages.

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*Please add the suffixes
below according to the material/
surface required.

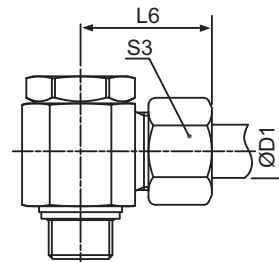
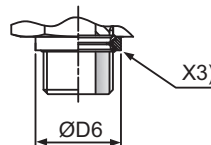
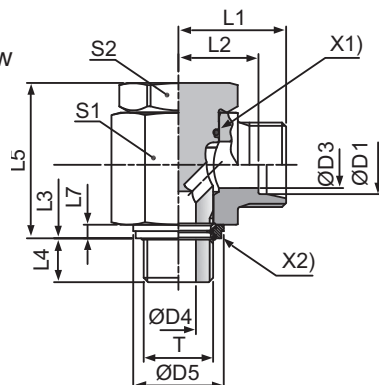
Part number suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Stainless Steel	71	WH16SRKD0MD71	VIT/PTFE

Dimensions and pressures for reference only, subject to change.

[Click here for CADs, Support Resources or to Configure Parts Online](#)

WH-M-KDS

High Pressure Banjo Elbow
Banjo Metric / Flareless



X1) O-ring OR
X2) Sealing ring KDS (for apports with small spot face, ISO 9974)
X3) Sealing ring KD (for ports with wide spot face, ISO 9974)

*Product images are shown with nuts and sleeves for dimensional allowances only.
Part numbers are body level only. See note below product table for details*

	D1				D5	D6											Weight		PN (bar'')
Series		T	D3	D4	KDS	KD	L1	L2	L3	L4	L5	L6	L7	S1	S2	S3	g/1 piece	Part Number*	71
L ³	06	M 10×1.0	4	4.5	14.9	17.0	19.0	12.0	10.5	8	24.0	27	2.5	17	17	14	54	WH06LMKD0MD	315
	08	M 12×1.5	6	6.0	17.0	22.0	21.5	14.5	14.0	12	30.0	29	3.0	22	19	17	97	WH08LMKD0MD	315
	10	M 14×1.5	8	6.0	18.9	22.5	22.5	15.5	14.0	12	30.0	30	3.0	22	19	19	104	WH10LMKD0MD	315
	12	M 16×1.5	10	7.5	21.9	27.0	25.0	18.0	16.5	12	36.0	33	3.0	27	24	22	180	WH12LMKD0MD	315
	15	M 18×1.5	11	9.0	23.9	29.0	27.5	21.5	18.5	12	39.5	37	3.0	30	27	27	244	WH15LMKD0MD	315
	18	M 22×1.5	15	12.0	26.9	32.0	28.5	21.0	21.5	14	45.0	37	4.5	32	30	32	327	WH18LMKD0MD	315
	22	M 26×1.5	19	17.0	31.9	41.0	35.0	27.5	24.0	16	53.0	44	3.5	41	36	36	573	WH22LMKD0MD	160
	28	M 33×2.0	24	21.0	39.9	46.0	39.5	32.0	30.5	18	66.0	49	3.5	50	46	41	1017	WH28LMKD0MD	160
	35	M 42×2.0	30	27.0	49.9	57.0	46.5	36.0	35.5	20	76.0	58	3.5	60	55	50	1512	WH35LMKD0MD	160
	42	M 48×2.0	36	34.0	55.9	64.0	51.5	40.5	40.5	22	87.0	63	3.5	70	60	60	2217	WH42LMKD0MD	160
S ⁴	06	M 12×1.5	4	6.0	17.0	22.0	23.5	16.5	14.0	12	30.0	31	3.0	22	19	17	104	WH06SMKD0MD	400
	08	M 14×1.5	5	6.0	18.9	22.5	23.5	16.5	14.0	12	30.0	31	3.0	22	19	19	110	WH08SMKD0MD	400
	10	M 16×1.5	7	7.5	21.9	27.0	26.0	18.5	16.5	12	36.0	35	3.0	27	24	22	186	WH10SMKD0MD	400
	12	M 18×1.5	8	9.0	23.9	29.0	27.5	20.0	18.5	12	39.5	36	3.0	30	27	24	246	WH12SMKD0MD	400
	16	M 22×1.5	12	12.0	26.9	32.0	30.5	22.0	21.5	14	45.0	40	4.5	32	30	30	327	WH16SMKD0MD	315
	20	M 27×2.0	16	16.0	32.9	41.0	37.0	26.5	24.0	16	53.0	48	3.5	41	36	36	598	WH20SMKD0MD	315
	25	M 33×2.0	20	21.0	39.9	46.0	43.5	31.5	30.5	18	66.0	56	3.5	50	46	46	1055	WH25SMKD0MD	250
	30	M 42×2.0	25	27.0	49.9	57.0	50.5	37.0	35.5	20	76.0	64	3.5	60	55	50	1572	WH30SMKD0MD	160
	38	M 48×2.0	32	34.0	55.9	64.0	57.5	41.5	40.5	22	87.0	72	3.5	70	60	60	2317	WH38SMKD0MD	160

1) Pressure shown = item deliverable

³⁾ L = light series; ⁴⁾ S = heavy series

$$\frac{\text{PN (bar)}}{10} = \text{PN (MPa)}$$

*Part numbers shown are body only level. To order with a nut and progressive ring (sleeve) included, please see pages D11 and D12 for part number ordering instructions. Instructions for ordering the fitting as EO-2 are also included on these pages.

*S1=SW30 in 1.4571

⚠️ WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

Part number suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Stainless Steel	71	WH16SMK <u>D</u> OMD71	VIT/PTFE

*Please add the **suffixes** below according to the material/surface required.

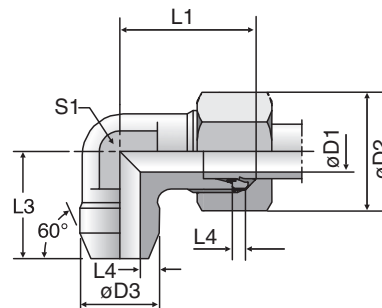
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WAS

Weld Elbow

24° Flareless / Butt Weld



Product images are shown with nuts and sleeves for dimensional allowances only.
Part numbers are body level only. See note below product table for details

3000 PSI Series

Nom. flange size			max.	D1	D2	D3	L1	L2	L3	L4	S1	Weight (steel) kg/piece	Part Number*	PN (bar) ¹⁾	
SAE (in.)	ISO (DN)													S	SS
1/2	13		21.3	13	30.2	21.6	44	6.7	50	4.3	22	0.22	WAS32/21.6	345	345
3/4	19		26.9	19	38.1	27.2	53	6.7	64	4.1	27	0.35	WAS33/27.2	345	345
1	25		33.7	25	44.4	34.5	60	8.0	65	4.7	34	0.52	WAS34/34.5	345	345
1 1/4	32		42.4	30	50.8	42.8	55	8.0	64	6.4	42	0.78	WAS35/42.8	276	276
1 1/2	38		48.3	38	60.3	48.6	66	8.0	78	5.3	50	1.04	WAS36/48.6	207	207

6000 PSI Series

1/2	13		21.3	13	31.8	21.6	44	7.7	50	4.3	22	0.35	WAS62/21.6	420	420
3/4	19		26.9	18	41.3	27.2	53	8.7	64	4.6	27	0.41	WAS63/27.2	420	420
1	25		33.7	22	47.6	34.5	60	9.5	62	6.3	34	0.64	WAS64/34.5	420	420
1 1/4	32		42.4	28	54.0	42.8	70	10.3	72	7.4	42	1.05	WAS65/42.8	420	420
1 1/2	38		48.3	32	63.5	48.6	80	12.5	84	8.3	50	1.58	WAS66/48.6	420	420

¹⁾ Pressure shown = Item deliverable

$\frac{\text{PN (bar)}}{10} = \text{PN (MPa)}$

The pressures given here are the maximum allowable for the flange fittings. If the pipe or tube used has a lower pressure rating, then the welded assembly rating will be the lower one, assuming the weld is adequately strong.

Stainless steel parts may have dimensional deviations. Additional information on request.

*Please add the **suffixes**
below according to the material/
surface required.

Part number suffixes					
Material	Suffix surface and material	Example only flange adapter	Example incl. split flanges, metr. bolt and O-ring	Example incl. split flanges, UNC bolt and O-ring	Standard sealing material (no additional suffix needed)
Steel, oil dipped	S	WAS32/21.65S	WAS32/21.6SM	WAS32/21.6SU	NBR
Stainless steel	SS	WAS32/21.6SS	WAS32/21.6SSM	-	VIT

Dimensions and pressures for reference only, subject to change.



D70

Parker Hannifin Corporation
Tube Fittings Division
Columbus, Ohio
<http://www.parker.com/tfd>

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Union Tee
24° Flareless

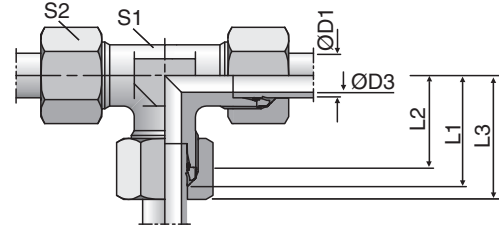


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Product images are shown with nuts and sleeves for dimensional allowances only.
Part numbers are body level only. See note below product table for details

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Series	D1	D3	L1	L2	L3	S1	S2	Weight g/1 piece	Part Number*	PN (bar) ¹⁾		
										CFX	71X	MSX
LL ²⁾	04	3.0	15	11.0	21	9	10	19	T04LL	100	100	63
	06	4.5	15	9.5	21	9	12	20	T06LL	100	100	63
	08	6.0	17	11.5	23	12	14	27	T08LL	100	100	63
	10	8.0	18	12.5	24	12	17	39	T10LL	100	100	63
	12	10.0	21	15.0	27	14	19	45	T12LL	100	100	63
L ³⁾	06	4.0	19	12.0	27	12	14	37	T06L	500	315	200
	08	6.0	21	14.0	29	12	17	53	T08L	500	315	200
	10	8.0	22	15.0	30	14	19	48	T10L	500	315	200
	12	10.0	24	17.0	32	17	22	65	T12L	400	315	200
	15	12.0	28	21.0	36	19	27	106	T15L	400	315	200
	18	15.0	31	23.5	40	24	32	179	T18L	400	315	200
	22	19.0	35	27.5	44	27	36	225	T22L	250	160	100
	28	24.0	38	30.5	47	36	41	396	T28L	250	160	100
	35	30.0	45	34.5	56	41	50	567	T35L	250	160	100
	42	36.0	51	40.0	63	50	60	905	T42L	250	160	100
	06	4.0	23	16.0	31	12	17	68	T06S	800	630	400
	08	5.0	24	17.0	32	14	19	70	T08S	800	630	400
S ⁴⁾	10	7.0	25	17.5	34	17	22	91	T10S	800	630	400
	12	8.0	29	21.5	38	19*	24	117	T12S	630	630	400
	16	12.0	33	24.5	43	24	30	202	T16S	630	400	250
	20	16.0	37	26.5	48	27	36	289	T20S	420	400	250
	25	20.0	42	30.0	54	36	46	545	T25S	420	400	250
	30	25.0	49	35.5	62	41	50	758	T30S	420	400	250
	38	32.0	57	41.0	72	50	60	1264	T38S	420	315	200

1) Pressure shown = item deliverable

2) LL = very light series; 3) L = light series; 4) S = heavy series

*S1 = 17 in 1.4571

$\frac{\text{PN (bar)}}{10} = \text{PN (MPa)}$

*Part numbers shown are body only level. To order with a nut and progressive ring (sleeve) included, please see pages D11 and D12 for part number ordering instructions. Instructions for ordering the fitting as EO-2 are also included on these pages.

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

*Please add the **suffixes**
below according to the material/
surface required.

Part number suffixes		
Material	Suffix surface and material	Example
Steel	CFX	T16SCFX
Stainless Steel	71X	T16S71X
Brass	MSX	T16SMSX

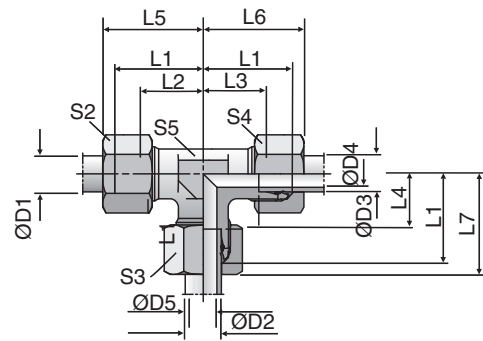
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TR

Tee-Reducer
24° Flareless



Product images are shown with nuts and sleeves for dimensional allowances only.
Part numbers are body level only. See note below product table for details

Series	D1	D2	D3	D4	D5	L1	L2	L3	L4	L5	L6	L7	S2	S3	S4	S5	Weight g/1 piece	Part Number*	PN (bar) ¹⁾		
																			CFX	71X	MSX
LL ²⁾	04	08	04	3.0	6	17	13.0	13.0	11.5	23	23	23	10	14	10	12	27	TR04/08/04LL	100	100	63
	06	04	06	4.5	3	15	9.5	9.5	11.0	21	21	21	12	10	12	9	18	TR06/04/06LL	100	100	63
L ³⁾	06	08	06	4.0	6	21	14.0	14.0	14.0	29	29	29	14	17	14	12	54	TR06/08/06L	500	315	200
	08	06	08	6.0	4	21	14.0	14.0	14.0	29	29	29	17	14	17	12	53	TR08/06/08L	500	315	200
	06	10	06	4.0	8	22	15.0	15.0	15.0	30	30	30	14	19	14	14	53	TR06/10/06L	500	315	200
	08	10	08	6.0	8	22	15.0	15.0	15.0	30	30	30	17	19	17	14	50	TR08/10/08L	500	315	200
	10	06	10	8.0	4	22	15.0	15.0	15.0	30	30	30	19	14	19	14	46	TR10/06/10L	500	315	200
	10	08	10	8.0	6	22	15.0	15.0	15.0	30	30	30	19	17	19	14	43	TR10/08/10L	500	315	200
	10	10	06	4.0	8	22	15.0	15.0	15.0	30	30	30	19	19	14	14	49	TR10/10/06L	500	315	200
	08	12	08	6.0	10	24	17.0	17.0	17.0	32	32	32	17	22	17	17	67	TR08/12/08L	400	315	200
	12	06	12	10.0	4	24	17.0	17.0	17.0	32	32	32	22	14	22	17	66	TR12/06/12L	400	315	200
	12	08	08	6.0	6	24	17.0	17.0	17.0	32	32	32	22	17	17	17	66	TR12/08/08L	400	315	200
	12	08	12	10.0	6	24	17.0	17.0	17.0	32	32	32	22	17	22	17	68	TR12/08/12L	400	315	200
	12	10	10	8.0	8	24	17.0	17.0	17.0	32	32	32	22	19	19	17	67	TR12/10/10L	400	315	200
	12	10	12	10.0	8	24	17.0	17.0	17.0	32	32	32	22	19	22	17	67	TR12/10/12L	400	315	200
	12	12	10	8.0	10	24	17.0	17.0	17.0	32	32	32	22	22	19	17	64	TR12/12/10L	400	315	200
	10	15	10	8.0	12	28	21.0	21.0	21.0	36	36	36	19	27	19	19	105	TR10/15/10L	400	315	200
	12	15	12	10.0	12	28	21.0	21.0	21.0	36	36	36	22	27	22	19	102	TR12/15/12L	400	315	200
	15	06	15	12.0	4	28	21.0	21.0	21.0	36	36	36	27	14	27	19	107	TR15/06/15L	400	315	200
	15	10	15	12.0	8	28	21.0	21.0	21.0	36	36	36	27	19	27	19	105	TR15/10/15L	400	315	200
	15	12	12	10.0	10	28	21.0	21.0	21.0	36	36	36	27	22	22	19	101	TR15/12/12L	400	315	200
	15	12	15	12.0	10	28	21.0	21.0	21.0	36	36	36	27	22	22	19	105	TR15/12/15L	400	315	200
	15	15	12	10.0	12	28	21.0	21.0	21.0	36	36	36	27	27	22	19	103	TR15/15/12L	400	315	200
	12	18	12	10.0	15	31	24.0	24.0	23.5	39	39	40	22	32	22	24	177	TR12/18/12L	400	315	200
	18	10	10	8.0	8	31	23.5	24.0	24.0	40	39	39	32	19	19	24	173	TR18/10/10L	400	315	200
	18	10	18	15.0	8	31	23.5	23.5	24.0	40	40	39	32	19	32	24	182	TR18/10/18L	400	315	200
	18	12	18	15.0	10	31	23.5	23.5	24.0	40	40	39	32	22	32	24	174	TR18/12/18L	400	315	200

¹⁾ Pressure shown = item deliverable

²⁾ LL = very light series; ³⁾ L = light series; ⁴⁾ S = heavy series

*S5 = 17 in 1.4571

PN (bar)
10 — PN (MPa)

*Part numbers shown are body only level. To order with a nut and progressive ring (sleeve) included, please see pages D11 and D12 for part number ordering instructions. Instructions for ordering the fitting as EO-2 are also included on these pages.

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

*Please add the **suffixes**
below according to the material/
surface required.

Part number suffixes		
Material	Suffix surface and material	Example
Steel	CFX	TR16/12/16SCFX
Stainless Steel	71X	TR16/12/16S71X
Brass	MSX	TR16/12/16SMSX

Dimensions and pressures for reference only, subject to change.



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Series	D1	D2	D3	D4	D5	L1	L2	L3	L4	L5	L6	L7	S2	S3	S4	S5	Weight g/1 piece	Part Number*	PN (bar) ¹⁾		
																			CFX	71X	MSX
L ³⁾	18	15	18	15.0	12	31	23.5	23.5	24.0	40	40	39	32	27	32	24	179	TR18/15/18L	400	315	200
	18	18	10	8.0	15	31	23.5	24.0	23.5	40	39	40	32	32	19	24	171	TR18/18/10L	400	315	200
	22	10	22	19.0	8	35	27.5	27.5	28.0	44	44	43	36	19	36	27	232	TR22/10/22L	250	160	100
	22	12	22	19.0	10	35	27.5	27.5	28.0	44	44	43	36	22	36	27	229	TR22/12/22L	250	160	100
	22	15	15	12.0	12	35	27.5	28.0	28.0	44	43	43	36	27	27	27	240	TR22/15/15L	250	160	100
	22	15	22	19.0	12	35	27.5	27.5	28.0	44	44	43	36	27	36	27	233	TR22/15/22L	250	160	100
	22	18	18	15.0	15	35	27.5	27.5	27.5	44	44	44	36	32	32	27	236	TR22/18/18L	250	160	100
	22	18	22	19.0	15	35	27.5	27.5	27.5	44	44	44	36	32	36	27	239	TR22/18/22L	250	160	100
	22	22	18	15.0	19	35	27.5	27.5	27.5	44	44	44	36	36	32	27	228	TR22/22/18L	250	160	100
	28	10	28	24.0	8	38	30.5	30.5	31.0	47	47	46	41	19	41	36	412	TR28/10/28L	250	160	100
	28	12	28	24.0	10	38	30.5	30.5	31.0	47	47	46	41	22	41	36	408	TR28/12/28L	250	160	100
	28	15	28	24.0	12	38	30.5	30.5	31.0	47	47	46	41	27	41	36	423	TR28/15/28L	250	160	100
	28	18	28	24.0	15	38	30.5	30.5	30.5	47	47	47	41	32	41	36	421	TR28/18/28L	250	160	100
	28	22	22	19.0	19	38	30.5	30.5	30.5	47	47	47	41	36	36	36	412	TR28/22/22L	250	160	100
	28	22	28	24.0	19	38	30.5	30.5	30.5	47	47	47	41	36	41	36	415	TR28/22/28L	250	160	100
S ³⁾	10	06	10	7.0	4	25	17.5	17.5	18.0	34	34	33	22	17	22	17	103	TR10/06/10S	800	630	400
	12	08	08	5.0	5	29	21.5	22.0	22.0	38	37	37	24	19	19	19*	107	TR12/08/08S	630	630	400
	12	08	12	8.0	5	29	21.5	21.5	22.0	38	38	37	24	19	24	19*	105	TR12/08/12S	630	630	400
	12	10	12	8.0	7	29	21.5	21.5	21.5	38	38	38	24	22	24	19*	114	TR12/10/12S	630	630	400
	12	16	12	8.0	12	33	25.5	25.5	24.5	42	42	43	24	30	24	24	190	TR12/16/12S	630	400	250
	16	06	16	12.0	4	33	24.5	24.5	26.0	43	43	41	30	17	30	24	176	TR16/06/16S	630	400	250
	16	08	16	12.0	5	33	24.5	24.5	26.0	43	43	41	30	19	30	24	208	TR16/08/16S	630	400	250
	16	10	16	12.0	7	33	24.5	24.5	25.5	43	43	42	30	22	30	24	210	TR16/10/16S	630	400	250
	16	12	16	12.0	8	33	24.5	24.5	25.5	43	43	42	30	24	30	24	386	TR16/12/16S	630	400	250
	16	20	16	12.0	16	37	28.5	28.5	26.5	47	47	48	30	36	30	27	296	TR16/20/16S	420	400	250
	20	10	20	16.0	7	37	26.5	26.5	29.5	48	48	46	36	22	36	27	553	TR20/10/20S	420	400	250
	20	12	20	16.0	8	37	26.5	26.5	29.5	48	48	46	36	24	36	27	306	TR20/12/20S	420	400	250
	20	16	20	16.0	12	37	26.5	26.5	28.5	48	48	47	36	30	36	27	285	TR20/16/20S	420	400	250
	20	25	20	16.0	20	42	31.5	31.5	30.0	53	53	54	36	46	36	36	544	TR20/25/20S	420	400	250
	25	16	25	20.0	12	42	30.0	30.0	33.5	54	54	52	46	30	46	36	556	TR25/16/25S	420	400	250
	25	20	25	20.0	16	42	30.0	30.0	31.5	54	54	53	46	36	46	36	544	TR25/20/25S	420	400	250
	25	30	25	20.0	25	49	37.0	37.0	35.5	61	61	62	46	50	46	41	791	TR25/30/25S	420	400	250

¹⁾ Pressure shown = item deliverable

²⁾ LL = very light series; ³⁾ L = light series; ⁴⁾ S = heavy series

*S5 = 17 in 1.4571

$\frac{\text{PN (bar)}}{10} = \text{PN (MPa)}$

*Part numbers shown are body only level. To order with a nut and progressive ring (sleeve) included, please see pages D11 and D12 for part number ordering instructions. Instructions for ordering the fitting as EO-2 are also included on these pages.

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

*Please add the **suffixes**
below according to the material/
surface required.

Part number suffixes		
Material	Suffix surface and material	Example
Steel	CFX	TR16/12/16SCFX
Stainless Steel	71X	TR16/12/16S71X
Brass	MSX	TR16/12/16SMSX

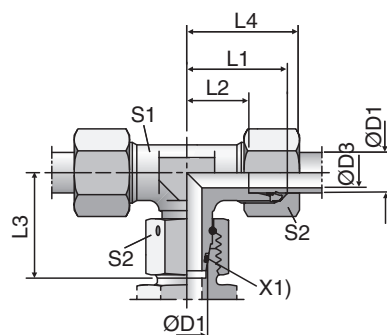
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ET

Swivel Nut Branch Tee
24° Flareless / 24° Flareless /
Flareless Swivel



Product images are shown with nuts and sleeves for dimensional allowances only.
Part numbers are body level only. See note below product table for details

Series	D1	D3	L1	L2	L3	L4	S1	S2	Weight g/1 piece	Part Number*	PN (bar) ¹⁾	
											CF	71
L ³⁾	06	4	19	12.0	26.0	27	12	14	42	ET06LOMD	500	315
	08	6	21	14.0	27.5	29	12	17	53	ET08LOMD	500	315
	10	8	22	15.0	29.0	30	14	19	71	ET10LOMD	500	315
	12	10	24	17.0	29.5	32	17	22	97	ET12LOMD	400	315
	15	12	28	21.0	32.5	36	19	27	159	ET15LOMD	400	315
	18	15	31	23.5	35.5	40	24	32	239	ET18LOMD	400	315
	22	19	35	27.5	38.5	44	27	36	308	ET22LOMD	250	160
	28	24	38	30.5	41.5	47	36	41	449	ET28LOMD	250	160
	35	30	45	34.5	51.0	56	41	50	679	ET35LOMD	250	160
	42	36	51	40.0	56.0	63	50	60	1131	ET42LOMD	250	160
S ⁴⁾	06	4	23	16.0	27.0	31	12	17	63	ET06SOMD	800	630
	08	5	24	17.0	27.5	32	14	19	79	ET08SOMD	800	630
	10	6	25	17.5	30.0	34	17	22	113	ET10SOMD	800	630
	12	8	29	21.5	31.0	38	17	24	136	ET12SOMD	630	630
	16	12	33	24.5	36.5	43	24	30	239	ET16SOMD	630	400
	20	16	37	26.5	44.5	48	27	36	388	ET20SOMD	420	400
	25	20	42	30.0	50.0	54	36	46	652	ET25SOMD	420	400
	30	25	49	35.5	55.0	62	41	50	905	ET30SOMD	420	400
	38	32	57	41.0	63.0	72	50	60	1462	ET38SOMD	420	315

¹⁾ Pressure shown = item deliverable

³⁾ L = light series; ⁴⁾ S = heavy series

$\frac{\text{PN (bar)}}{10} = \text{PN (MPa)}$

*Part numbers shown are body only level. To order with a nut and progressive ring (sleeve) included, please see pages D11 and D12 for part number ordering instructions. Instructions for ordering the fitting as EO-2 are also included on these pages.

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

*Please add the **suffixes**
below according to the material/
surface required.

Part number suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Steel	CF	ET16SOMDCF	NBR
Stainless Steel	71	ET16SOMD71	VIT

Dimensions and pressures for reference only, subject to change.



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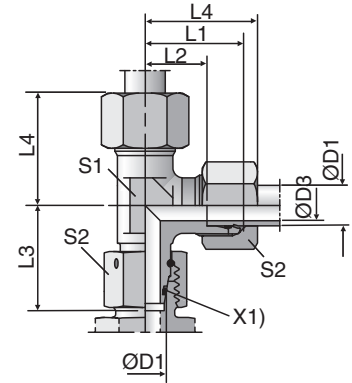
TUBE FAB
EQUIP

GEN TECH

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EL

Swivel Nut Run Tee
24° Flareless / Flareless Swivel



X1) O-ring OR

Product images are shown with nuts and sleeves for dimensional allowances only.
Part numbers are body level only. See note below product table for details

Series	D1	D3	L1	L2	L3	L4	S1	S2	Weight g/1 piece	Part Number*	PN (bar) ¹⁾	
											CF	71
L ³⁾	06	4	19	12.0	26.0	27	12	14	44	EL06LOMD	500	315
	08	6	21	14.0	27.5	29	12	17	53	EL08LOMD	500	315
	10	8	22	15.0	29.0	30	14	19	68	EL10LOMD	500	315
	12	10	24	17.0	29.5	32	17	22	95	EL12LOMD	400	315
	15	12	28	21.0	32.5	36	19	27	151	EL15LOMD	400	315
	18	15	31	23.5	35.5	40	24	32	233	EL18LOMD	400	315
	22	19	35	27.5	38.5	44	27	36	309	EL22LOMD	250	160
	28	24	38	30.5	41.5	47	36	41	436	EL28LOMD	250	160
	35	30	45	34.5	51.0	56	41	50	666	EL35LOMD	250	160
	42	36	51	40.0	56.0	63	50	60	1163	EL42LOMD	250	160
S ⁴⁾	06	4	23	16.0	27.0	31	12	17	65	EL06SOMD	800	630
	08	5	24	17.0	27.5	32	14	19	84	EL08SOMD	800	630
	10	6	25	17.5	30.0	34	17	22	118	EL10SOMD	800	630
	12	8	29	21.5	31.0	38	17	24	136	EL12SOMD	630	630
	16	12	33	24.5	36.5	43	24	30	260	EL16SOMD	630	400
	20	16	37	26.5	44.5	48	27	36	375	EL20SOMD	420	400
	25	20	42	30.0	50.0	54	36	46	655	EL25SOMD	420	400
	30	25	49	35.5	55.0	62	41	50	906	EL30SOMD	420	400
	38	32	57	41.0	63.0	72	50	60	1472	EL38SOMD	420	315

¹⁾ Pressure shown = item deliverable

³⁾ L = light series; ⁴⁾ S = heavy series

$\frac{PN \text{ (bar)}}{10} = PN \text{ (MPa)}$

*Part numbers shown are body only level. To order with a nut and progressive ring (sleeve) included, please see pages D11 and D12 for part number ordering instructions. Instructions for ordering the fitting as EO-2 are also included on these pages.

*Please add the **suffixes**
below according to the material/
surface required.

Part number suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional. suffix needed)
Steel	CF	EL16SOMDCF	NBR
Stainless Steel	71	EL16SOMD71	VIT

Dimensions and pressures for reference only, subject to change.



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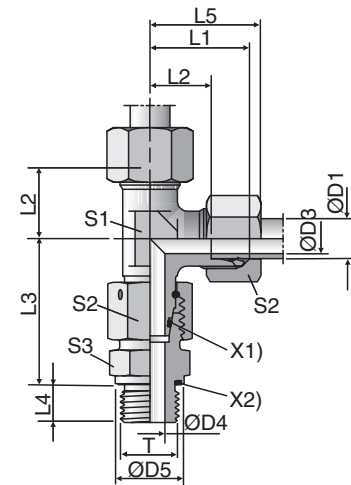
ASSEMBLY

TUBE FAB
EQUIP

GEN TECH

EL-R-ED

Adjustable Assembled Swivel Run Tee
24° Flareless / BSPP with EOlastic Seal



X1) O-ring OR
X2) Eolastic-sealing ED

Product images are shown with nuts and sleeves for dimensional allowances only.
Part numbers are body level only. See note below product table for details

Series	D1	T	D3	D4	D5	L1	L2	L3	L4	L5	S1	S2	S3	Weight g/1 piece	Part Number*	PN (bar) ¹⁾	
																CF	71
L ³⁾	06	G 1/8 A	4	4	14	19	12.0	34.5	8	27	12	14	14	55	EL06LREDOMD	500	315
	08	G 1/4 A	6	6	19	21	14.0	37.5	12	29	12	17	19	80	EL08LREDOMD	500	315
	10	G 1/4 A	8	6	19	22	15.0	40.0	12	30	14	19	19	97	EL10LREDOMD	500	315
	12	G 3/8 A	10	9	22	24	17.0	42.0	12	32	17	22	22	137	EL12LREDOMD	400	315
	15	G 1/2 A	12	11	27	28	21.0	46.5	14	36	19	27	27	222	EL15LREDOMD	400	315
	18	G 1/2 A	15	14	27	31	23.5	50.0	14	40	24	32	27	304	EL18LREDOMD	400	315
	22	G 3/4 A	19	18	32	35	27.5	55.0	16	44	27	36	32	404	EL22LREDOMD	250	160
	28	G 1 A	24	23	40	38	30.5	59.0	18	47	36	41	41	606	EL28LREDOMD	250	160
	35	G 1 1/4 A	30	30	50	45	34.5	68.5	20	56	41	50	50	938	EL35LREDOMD	250	160
	42	G 1 1/2 A	36	36	55	51	40.0	75.0	22	63	50	60	55	1485	EL42LREDOMD	250	160
S ⁴⁾	06	G 1/4 A	4	4	19	23	16.0	40.0	12	31	12	17	19	97	EL06SREDOMD	800	630
	08	G 1/4 A	5	5	19	24	17.0	42.5	12	32	14	19	19	125	EL08SREDOMD	800	630
	10	G 3/8 A	6	7	22	25	17.5	45.0	12	34	17	22	22	171	EL10SREDOMD	800	630
	12	G 3/8 A	8	8	22	29	21.5	48.0	12	38	17	24	22	198	EL12SREDOMD	630	630
	16	G 1/2 A	12	12	27	33	24.5	55.0	14	43	24	30	27	350	EL16SREDOMD	630	400
	20	G 3/4 A	16	16	32	37	26.5	65.0	16	48	27	36	32	524	EL20SREDOMD	420	400
	25	G 1 A	20	20	40	42	30.0	73.0	18	54	36	46	41	921	EL25SREDOMD	420	400
	30	G 1 1/4 A	25	25	50	49	35.5	78.5	20	62	41	50	50	1324	EL30SREDOMD	420	400
	38	G 1 1/2 A	32	32	55	57	41.0	89.0	22	72	50	60	55	2033	EL38SREDOMD	420	315

¹⁾ Pressure shown = item deliverable

³⁾ L = light series; ⁴⁾ S = heavy series

$\frac{PN (bar)}{10} = PN (MPa)$

*Part numbers shown are body only level. To order with a nut and progressive ring (sleeve) included, please see pages D11 and D12 for part number ordering instructions. Instructions for ordering the fitting as EO-2 are also included on these pages.

*Please add the **suffixes**
below according to the material/
surface required.

Part number suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Steel	CF	EL16SREDOMDCF	NBR
Stainless Steel	71	EL16SREDOMD71	VIT

Dimensions and pressures for reference only, subject to change.

[Click here for CADs, Support Resources or to Configure Parts Online](#)

K

Union Cross
24° Flareless

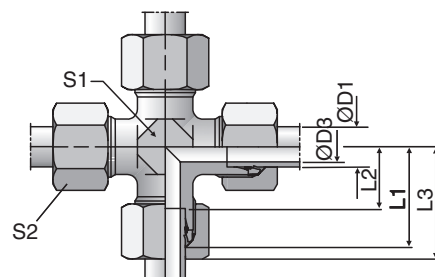


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ASSEMBLY

TUBE FAB
EQUIP

GEN TECH

Product images are shown with nuts and sleeves for dimensional allowances only.
Part numbers are body level only. See note below product table for details

Series	D1	D3	L1	L2	L3	S1	S2	Weight g/1 piece	Part Number*	PN (bar) ¹⁾		
										CFX	71X	MSX
LL ²⁾	04	3.0	15	11.0	21	9	10	13	K04LL	100	100	63
	06	4.5	15	9.5	21	9	12	14	K06LL	100	100	63
	08	6.0	17	11.5	23	12	14	24	K08LL	100	100	63
L ³⁾	06	4.0	19	12.0	27	12	14	35	K06L	315	315	200
	08	6.0	21	14.0	29	12	17	40	K08L	315	315	200
	10	8.0	22	15.0	30	14	19	52	K10L	315	315	200
	12	10.0	24	17.0	32	17	22	69	K12L	315	315	200
	15	12.0	28	21.0	36	19	27	130	K15L	315	315	200
	18	15.0	31	23.5	40	24	32	188	K18L	315	315	200
	22	19.0	35	27.5	44	27	36	251	K22L	160	160	100
	28	24.0	38	30.5	47	36	41	392	K28L	160	160	100
	35	30.0	45	34.5	56	41	50	618	K35L	160	160	100
	42	36.0	51	40.0	63	50	60	905	K42L	160	160	100
	06	4.0	23	16.0	31	12	17	58	K06S	630	630	400
	08	5.0	24	17.0	32	14	19	82	K08S	630	630	400
S ⁴⁾	10	7.0	25	17.5	34	17	22	97	K10S	630	630	400
	12	8.0	29	21.5	38	17	24	146	K12S	630	630	400
	16	12.0	33	24.5	43	24	30	220	K16S	400	400	250
	20	16.0	37	26.5	48	27	36	339	K20S	315	315	200
	25	20.0	42	30.0	54	36	46	576	K25S	315	315	200
	30	25.0	49	35.5	62	41	50	843	K30S	315	315	200
	38	32.0	57	41.0	72	50	60	1350	K38S	315	315	200

¹⁾ Pressure shown = item deliverable

²⁾ LL = very light series; ³⁾ L = light series; ⁴⁾ S = heavy series

$\frac{\text{PN (bar)}}{10} = \text{PN (MPa)}$

*Part numbers shown are body only level. To order with a nut and progressive ring (sleeve) included, please see pages D11 and D12 for part number ordering instructions. Instructions for ordering the fitting as EO-2 are also included on these pages.

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

*Please add the **suffixes**
below according to the material/
surface required.

Part number suffixes		
Material	Suffix surface and material	Example
Steel	CFX	K16SCFX
Stainless Steel	71X	K16S71X
Brass	MSX	K16SMSX

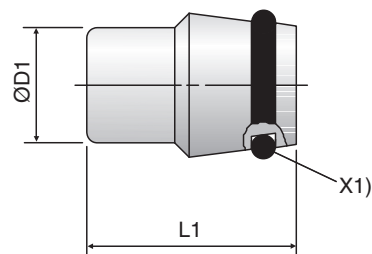
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VKA

Cap



X1) O-ring OR

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TUBE FAB
EQUIP

GEN TECH

Series	D1 	L1	Weight g/1 piece	Part Number*	PN (bar) ¹⁾		
					CF	71	MS
L ³⁾	06	18.5	6	VKA06	500	315	200
	08	18.5	9	VKA08	500	315	200
	10	20.0	15	VKA10	500	315	200
	12	20.5	21	VKA12	400	315	200
	15	20.5	32	VKA15	400	315	200
	18	22.5	49	VKA18	400	315	200
	22	25.0	80	VKA22	250	160	100
	28	25.5	131	VKA28	250	160	100
	35	30.0	240	VKA35	250	160	100
	42	30.0	343	VKA42	250	160	100
S ⁴⁾	06	18.5	6	VKA06	800	630	400
	08	18.5	9	VKA08	800	630	400
	10	20.0	15	VKA10	800	630	400
	12	20.5	21	VKA12	630	630	400
	16	23.5	40	VKA16	630	400	250
	20	28.5	78	VKA20	420	400	250
	25	29.0	120	VKA25	420	400	250
	30	30.5	180	VKA30	420	400	250
	38	33.0	309	VKA38	420	315	200

¹⁾ Pressure shown = item deliverable

³⁾ L = light series; ⁴⁾ S = heavy series

$\frac{\text{PN (bar)}}{10} = \text{PN (MPa)}$



WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

*Please add the **suffixes**
below according to the material/
surface required.

Part number suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Steel	CF	VKA16CF	NBR
Stainless Steel	71	VKA1671	VIT
Brass	MS	VKA16MS	NBR

Dimensions and pressures for reference only, subject to change.



D78

Parker Hannifin Corporation
Tube Fittings Division
Columbus, Ohio
<http://www.parker.com/tfd>

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ROV

Plug
24° Flareless

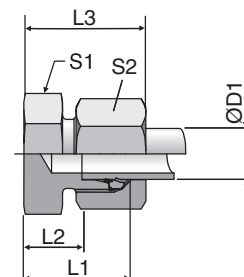


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TUBE FAB
EQUIP

GEN TECH

Product images are shown with nuts and sleeves for dimensional allowances only.
Part numbers are body level only. See note below product table for details

Series	D1 	L1	L2	L3	S1	S2	Weight g/1 piece	Part Number*	PN (bar) ¹⁾	
									CFX	71X
L ³⁾	06	14	7.0	22	12	14	8	ROV06L	315	315
	08	15	8.0	23	14	17	13	ROV08L	315	315
	10	16	9.0	24	17	19	17	ROV10L	315	315
	12	17	10.0	25	19	22	24	ROV12L	315	315
	15	18	11.0	26	24	27	41	ROV15L	315	315
	18	19	11.5	28	27	32	56	ROV18L	315	315
	22	21	13.5	30	32	36	84	ROV22L	160	160
	28	22	14.5	31	41	41	138	ROV28L	160	160
	35	25	14.5	36	46	50	203	ROV35L	160	160
	42	27	16.0	39	55	60	318	ROV42L	160	160
S ⁴⁾	06	18	11.0	26	14	17	17	ROV06S	630	630
	08	20	13.0	28	17	19	28	ROV08S	630	630
	10	20	12.5	29	19	22	33	ROV10S	630	630
	12	22	14.5	31	22	24	50	ROV12S	630	630
	16	24	15.5	34	27	30	75	ROV16S	400	400
	20	28	17.5	39	32	36	125	ROV20S	400	400
	25	32	20.0	44	41	46	229	ROV25S	400	400
	30	34	20.5	47	46	50	310	ROV30S	400	400
	38	39	23.0	54	55	60	508	ROV38S	315	315

¹⁾ Pressure shown = item deliverable

³⁾ L = light series; ⁴⁾ S = heavy series

$\frac{PN (bar)}{10} = PN (MPa)$

***Part numbers shown are body only level. To order with a nut and progressive ring (sleeve) included, please see pages D11 and D12 for part number ordering instructions. Instructions for ordering the fitting as EO-2 are also included on these pages.**

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

*Please add the **suffixes**
below according to the material/
surface required.

Part number suffixes		
Material	Suffix surface and material	Example
Steel	CFX	ROV16SCFX
Stainless Steel	71X	ROV16S71X

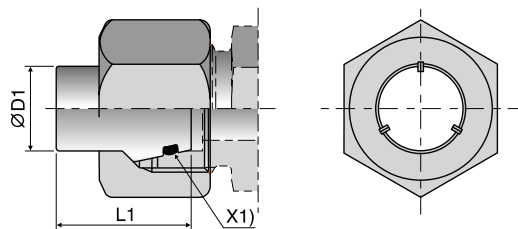
Dimensions and pressures for reference only, subject to change.



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VKAM

Blanking Plug



X1) O-ring OR

Product images are shown with nuts and sleeves for dimensional allowances only.
Part numbers are body level only. See note below product table for details

Series	D1 	L1	Weight g/1 piece	Part Number*	PN (bar) ¹⁾	
					CF	71
L ³⁾	06	18.5	15	VKAM06L	500	315
	08	18.5	24	VKAM08L	500	315
	10	20.0	33	VKAM10L	500	315
	12	20.5	46	VKAM12L	400	315
	15	20.5	73	VKAM15L	400	315
	18	22.5	111	VKAM18L	400	315
	22	25.0	162	VKAM22L	250	160
	28	25.5	220	VKAM28L	250	160
	35	30.0	376	VKAM35L	250	160
	42	30.0	558	VKAM42L	250	160
S ⁴⁾	06	18.5	23	VKAM06S	800	630
	08	18.5	29	VKAM08S	800	630
	10	20.0	46	VKAM10S	800	630
	12	20.5	55	VKAM12S	630	630
	16	23.5	106	VKAM16S	630	400
	20	28.5	180	VKAM20S	420	400
	25	29.0	322	VKAM25S	420	400
	30	30.5	398	VKAM30S	420	400
	38	33.0	647	VKAM38S	420	315

¹⁾ Pressure shown = item deliverable

³⁾ L = light series; ⁴⁾ S = heavy series

$$\frac{\text{PN (bar)}}{10} = \text{PN (MPa)}$$

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

*Please add the **suffixes**
below according to the material/
surface required.

Part number suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Steel	CF	VKAM16SCF	NBR
Stainless Steel	71	VKAM16S71	VIT

Dimensions and pressures for reference only, subject to change.



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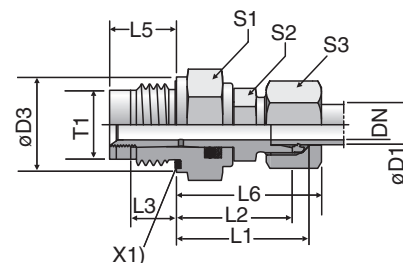
TUBE FAB
EQUIP

GEN TECH

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DVGE-R

Plain Bearing Rotary Straight
24° Flareless / BSPP with EOlastic Seal*



X1) Eolastic-sealing

L8 larger than DIN 3852
chart page Q22

Product images are shown with nuts and sleeves for dimensional allowances only.
Part numbers are body level only. See note below product table for details

Series	D1	T1	DN	D3	L1	L2	L3	L5	L6	S1	S2	S3	Weight g/1 piece	Part Number*	PN (bar) ¹⁾	
															CF	VIT
L ³⁾	06	G 1/4 A	4.0	19	28.0	21.0	12	18.0	40	19	12	14	43	DVGE06LROMD	40	40
	08	G 1/4 A	5.0	19	28.0	21.0	12	18.0	40	19	14	17	44	DVGE08LROMD	40	40
	10	G 3/8 A	6.0	22	32.0	25.0	12	18.0	40	24	17	19	74	DVGE10LROMD	40	40
	12	G 1/2 A	8.0	27	34.0	27.0	14	21.0	42	27	19	22	116	DVGE12LROMD	40	40
	15	G 3/4 A	10.0	32	39.0	32.0	16	24.0	47	32	24	27	214	DVGE15LROMD	40	40
	18	G 1 A	16.0	40	42.5	35.0	18	27.5	51	41	27	32	337	DVGE18LROMD	40	40
	22	G 1 A	16.0	40	46.5	39.0	18	27.5	55	41	32	36	376	DVGE22LROMD	40	40
	28	G 1 1/4 A	22.0	50	48.0	40.5	20	31.0	57	50	41	41	586	DVGE28LROMD	40	40
S ⁴⁾	35	G 1 1/2 A	25.0	55	55.0	44.5	22	35.0	66	55	46	50	868	DVGE35LROMD	40	40
	06	G 1/4 A	4.0	19	30.0	23.0	12	18.0	38	19	14	17	50	DVGE06SROMD	100	100
	08	G 1/4 A	5.0	19	31.0	24.0	12	18.0	39	19	17	19	55	DVGE08SROMD	100	100
	10	G 3/8 A	6.0	22	34.0	26.5	12	18.0	43	24	19	22	85	DVGE10SROMD	100	100
	12	G 1/2 A	8.0	27	36.0	28.5	14	21.0	45	27	22	24	134	DVGE12SROMD	100	100
	14	G 3/4 A	10.0	32	41.0	33.0	16	24.0	51	32	24	27	220	DVGE14SROMD	100	100
	16	G 3/4 A	10.0	32	42.0	33.5	16	24.0	52	32	27	30	230	DVGE16SROMD	100	100
	20	G 1 A	16.0	40	48.5	38.0	18	27.5	60	41	32	36	385	DVGE20SROMD	100	100
	25	G 1 A	16.0	40	52.5	40.5	18	27.5	65	41	41	46	483	DVGE25SROMD	100	100
	30	G 1 1/4 A	22.0	50	55.0	41.5	20	31.0	68	50	46	50	691	DVGE30SROMD	100	100
	38	G 1 1/2 A	25.0	55	63.0	47.0	22	35.0	78	55	55	60	1080	DVGE38SROMD	100	100

¹⁾Pressure shown = item deliverable

³⁾L = light series; ⁴⁾S = heavy series

$$\frac{\text{PN (bar)}}{10} = \text{PN (MPa)}$$

*Part numbers shown are body only level. To order with a nut and progressive ring (sleeve) included, please see pages D11 and D12 for part number ordering instructions. Instructions for ordering the fitting as EO-2 are also included on these pages.

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

*Please add the **suffixes**
below according to the material/
surface required.

Part number suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Steel	CF	DVGE06LROMDCF	NBR
FKM	VITCF	DVGE06LROMDVITCF	

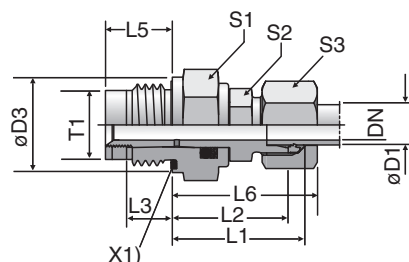
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DVGE-M

Plain Bearing Rotary Straight
24° Flareless / Metric Parallel with EOlastic Seal*



X1) Eolastic-sealing

L8 larger than DIN 3852
chart page Q22

Product images are shown with nuts and sleeves for dimensional allowances only.
Part numbers are body level only. See note below product table for details

Series	D1	T1	DN	D3	L1	L2	L3	L5	L6	S1	S2	S3	Weight g/1 piece	Part Number*	PN (bar) ¹⁾ CF	VIT
L ³⁾	06	M 14×1.5	4.0	19	27.0	20.0	12	18.0	27	19	12	14	44	DVGE06LMOMD	40	40
	08	M 14×1.5	5.0	19	28.0	21.0	12	18.0	29	19	12	17	45	DVGE08LMOMD	40	40
	10	M 18×1.5	6.0	24	33.0	26.0	12	18.0	30	24	14	19	87	DVGE10LMOMD	40	40
	12	M 22×1.5	8.0	27	34.0	27.0	14	21.0	32	27	17	22	120	DVGE12LMOMD	40	40
	15	M 27×2.0	10.0	32	40.0	33.0	16	24.0	36	32	19	27	215	DVGE15LMOMD	40	40
	18	M 33×2.0	16.0	40	45.0	37.5	18	27.5	40	41	27	32	349	DVGE18LMOMD	40	40
	22	M 33×2.0	16.0	40	47.0	39.5	18	27.5	44	41	27	36	383	DVGE22LMOMD	40	40
	28	M 42×2.0	22.0	50	51.5	44.0	20	31.0	47	50	36	41	590	DVGE28LMOMD	40	40
	35	M 48×2.0	25.0	55	64.5	54.0	22	35.0	56	55	41	50	876	DVGE35LMOMD	40	40
	38	M 48×2.0	25.0	55	71.0	55.0	22	35.0	72	55	50	60	1088	DVGE38LMOMD	40	40
S ⁴⁾	06	M 14×1.5	4.0	19	28.0	21.0	12	18.0	31	19	12	17	51	DVGE06SMOMD	100	100
	08	M 14×1.5	5.0	19	29.0	22.0	12	18.0	32	19	14	19	56	DVGE08SMOMD	100	100
	10	M 18×1.5	6.0	24	34.5	27.0	12	18.0	34	24	17	22	98	DVGE10SMOMD	100	100
	12	M 22×1.5	8.0	27	35.5	28.0	14	21.0	38	27	17	24	139	DVGE12SMOMD	100	100
	16	M 27×2.0	10.0	32	42.5	34.0	16	24.0	43	32	24	30	239	DVGE16SMOMD	100	100
	20	M 33×2.0	16.0	40	50.0	39.5	18	27.5	48	41	27	36	385	DVGE20SMOMD	100	100
	25	M 33×2.0	16.0	40	54.5	42.5	18	27.5	54	41	36	46	494	DVGE25SMOMD	100	100
	30	M 42×2.0	22.0	50	61.5	48.0	20	31.0	62	50	41	50	695	DVGE30SMOMD	100	100
	38	M 48×2.0	25.0	55	71.0	55.0	22	35.0	72	55	50	60	1088	DVGE38SMOMD	100	100
	42	M 48×2.0	25.0	55	71.0	55.0	22	35.0	72	55	50	60	1088	DVGE42SMOMD	100	100

¹⁾ Pressure shown = item deliverable

³⁾ L = light series; ⁴⁾ S = heavy series

$\frac{PN \text{ (bar)}}{10} = PN \text{ (MPa)}$

*Part numbers shown are body only level. To order with a nut and progressive ring (sleeve) included, please see pages D11 and D12 for part number ordering instructions. Instructions for ordering the fitting as EO-2 are also included on these pages.

*Please add the **suffixes**
below according to the material/
surface required.

Part number suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Steel	CF	DVGE06LMOMDCF	NBR
FKM	VITCF	DVGE06LMOMDVITCF	

Dimensions and pressures for reference only, subject to change.



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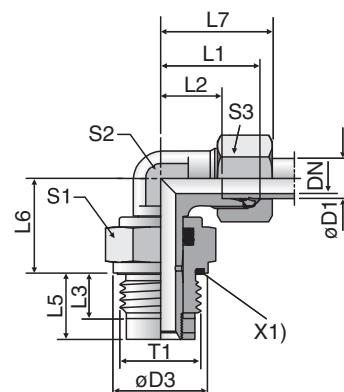
TUBE FAB
EQUIP

GEN TECH

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DVWE-R

Plain Bearing Rotary Elbow
24° Flareless / BSPP with EOlastic Seal*



X1) Eolastic-sealing

L8 larger than DIN 3852
chart page Q22

Product images are shown with nuts and sleeves for dimensional allowances only.
Part numbers are body level only. See note below product table for details

Series	D1	T1	DN	D3	L1	L2	L3	L5	L6	L7	S1	S2	S3	Weight g/1 piece	Part Number*	PN (bar) ¹⁾	
																CF	VIT
L ³⁾	06	G 1/4 A	4	19	19	12.0	12	18.0	20.0	27	19	12	14	50	DVWE06LROMD	40	40
	08	G 1/4 A	5	19	21	14.0	12	18.0	21.0	29	19	12	17	50	DVWE08LROMD	40	40
	10	G 3/8 A	6	22	22	15.0	12	18.0	26.0	30	24	14	19	83	DVWE10LROMD	40	40
	12	G 1/2 A	8	27	24	17.0	14	21.0	27.0	32	27	17	22	129	DVWE12LROMD	40	40
	15	G 3/4 A	10	32	28	21.0	16	24.0	33.0	36	32	19	27	232	DVWE15LROMD	40	40
	18	G 1 A	16	40	31	23.5	18	27.5	37.5	40	41	27	32	393	DVWE18LROMD	40	40
	22	G 1 A	16	40	35	27.5	18	27.5	39.5	44	41	27	36	406	DVWE22LROMD	40	40
	28	G 1 1/4 A	22	50	38	30.5	20	31.0	44.0	47	50	36	41	664	DVWE28LROMD	40	40
	35	G 1 1/2 A	25	55	45	34.5	22	35.0	54.0	56	55	41	50	1005	DVWE35LROMD	40	40
S ⁴⁾	06	G 1/4 A	4	19	23	16.0	12	18.0	21.0	31	19	12	17	58	DVWE06SROMD	100	100
	08	G 1/4 A	5	19	24	17.0	12	18.0	22.0	32	19	14	19	65	DVWE08SROMD	100	100
	10	G 3/8 A	6	22	25	17.5	12	18.0	27.0	34	24	17	22	103	DVWE10SROMD	100	100
	12	G 1/2 A	8	27	29	21.5	14	21.0	28.0	38	27	17	24	152	DVWE12SROMD	100	100
	14	G 3/4 A	10	32	30	22.0	16	24.0	33.0	40	32	19	27	236	DVWE14SROMD	100	100
	16	G 3/4 A	10	32	33	24.5	16	24.0	34.0	43	32	24	30	276	DVWE16SROMD	100	100
	20	G 1 A	16	40	37	26.5	18	27.5	39.5	48	41	27	36	415	DVWE20SROMD	100	100
	25	G 1 A	16	40	42	30.0	18	27.5	42.5	54	41	36	46	569	DVWE25SROMD	100	100
	30	G 1 1/4 A	22	50	49	35.5	20	31.0	48.0	62	50	41	50	886	DVWE30SROMD	100	100
	38	G 1 1/2 A	25	55	57	41.0	22	35.0	55.0	72	55	50	60	1375	DVWE38SROMD	100	100

¹⁾Pressure shown = item deliverable

³⁾L = light series; ⁴⁾S = heavy series

$$\frac{\text{PN (bar)}}{10} = \text{PN (MPa)}$$

*Part numbers shown are body only level. To order with a nut and progressive ring (sleeve) included, please see pages D11 and D12 for part number ordering instructions. Instructions for ordering the fitting as EO-2 are also included on these pages.

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

*Please add the **suffixes**
below according to the material/
surface required.

Part number suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Steel	CF	DVWE06LROMDCF	NBR
FKM	VITCF	DVWE06LROMDVITCF	

Dimensions and pressures for reference only, subject to change.



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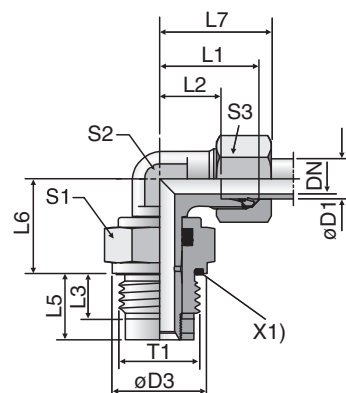
TUBE FAB
EQUIP

GEN TECH

DVWE-M

Plain Bearing Rotary Elbow

24° Flareless / Metric Parallel with EOlastic Seal*



X1) EOlastic-sealing

L8 larger than DIN 3852
chart page Q22

Product images are shown with nuts and sleeves for dimensional allowances only.
Part numbers are body level only. See note below product table for details

Series	D1	T1	DN	D3	L1	L2	L3	L5	L6	L7	S1	S2	S3	Weight g/1 piece	Part Number*	PN (bar) ¹⁾ CF	VIT
L ³⁾	06	M 14×1.5	4.0	19	19	12.0	12	18.0	20.0	27	19	12	14	51	DVWE06LMOMD	40	40
	08	M 14×1.5	5.0	19	21	14.0	12	18.0	21.0	29	19	12	17	51	DVWE08LMOMD	40	40
	10	M 18×1.5	6.0	24	22	15.0	12	18.0	26.0	30	24	14	19	92	DVWE10LMOMD	40	40
	12	M 22×1.5	8.0	27	24	17.0	14	21.0	27.0	32	27	17	22	160	DVWE12LMOMD	40	40
	15	M 27×2.0	10.0	32	28	21.0	16	24.0	33.0	36	32	19	27	236	DVWE15LMOMD	40	40
	18	M 33×2.0	16.0	40	31	23.5	18	27.5	37.5	40	41	27	32	405	DVWE18LMOMD	40	40
	22	M 33×2.0	16.0	40	35	27.5	18	27.5	39.5	44	41	27	36	409	DVWE22LMOMD	40	40
	28	M 42×2.0	22.0	50	38	30.5	20	31.0	44.0	47	50	36	41	660	DVWE28LMOMD	40	40
	35	M 48×2.0	25.0	55	45	34.5	22	35.0	54.0	56	55	41	50	1012	DVWE35LMOMD	40	40
	38	M 48×2.0	25.0	55	45	34.5	22	35.0	54.0	56	55	41	50	1012	DVWE38LMOMD	40	40
S ⁴⁾	06	M 14×1.5	4.0	19	23	16.0	12	18.0	21.0	31	19	12	17	59	DVWE06SMOMD	100	100
	08	M 14×1.5	5.0	19	24	17.0	12	18.0	22.0	32	19	14	19	66	DVWE08SMOMD	100	100
	10	M 18×1.5	6.0	24	25	17.5	12	18.0	27.0	34	24	17	22	113	DVWE10SMOMD	100	100
	12	M 22×1.5	8.0	27	29	21.5	14	21.0	28.0	38	27	17	24	153	DVWE12SMOMD	100	100
	16	M 27×2.0	10.0	32	33	24.5	16	24.0	34.0	43	32	24	30	284	DVWE16SMOMD	100	100
	20	M 33×2.0	16.0	40	37	26.5	18	27.5	39.5	48	41	27	36	427	DVWE20SMOMD	100	100
	25	M 33×2.0	16.0	40	42	30.0	18	27.5	42.5	54	41	36	46	581	DVWE25SMOMD	100	100
	30	M 42×2.0	22.0	50	49	35.5	20	31.0	48.0	62	50	41	50	898	DVWE30SMOMD	100	100
	38	M 48×2.0	25.0	55	57	41.0	22	35.0	55.0	72	55	50	60	1373	DVWE38SMOMD	100	100
	38	M 48×2.0	25.0	55	57	41.0	22	35.0	55.0	72	55	50	60	1373	DVWE38SMOMD	100	100

¹⁾ Pressure shown = item deliverable

³⁾ L = light series; ⁴⁾ S = heavy series

$\frac{\text{PN (bar)}}{10} = \text{PN (MPa)}$

*Part numbers shown are body only level. To order with a nut and progressive ring (sleeve) included, please see pages D11 and D12 for part number ordering instructions. Instructions for ordering the fitting as EO-2 are also included on these pages.

*Please add the **suffixes**
below according to the material/
surface required.

Part number suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Steel	CF	DVWE06LMOMDCF	NBR
FKM	VITCF	DVWE06LMOMDVITCF	

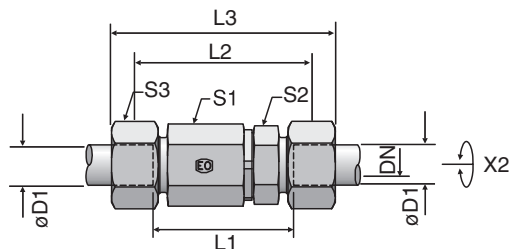
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DG101

Ball Bearing Rotary Union
24° Flareless / 24° Flareless

**Read more about the new generation
Heavy Duty 360° Series Ball Bearing Rotary Fittings**



X2) Axis

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GEN TECH

Product images are shown with nuts and sleeves for dimensional allowances only.
Part numbers are body level only. See note below product table for details

Series	D1	DN	L1	L2	L3	S1	S2	S3	Weight g/1 piece	Part Number*	PN Bar ¹⁾
S ⁴⁾	06	5.0	61	47	76	22.0	17	17.0	113	DG101/06SHDOMDCF	420
	08	5.0	61	47	76	22.0	17	19.0	118	DG101/08SHDOMDCF	420
	12	9.5	72	57	89	30.0	24	24.0	258	DG101/12SHDOMDCF	420
	16	9.5	74	57	93	30.0	27	30.0	264	DG101/16SHDOMDCF	420
	20	16.0	92	71	114	41.0	36	36.0	578	DG101/20SHDOMDCF	420
	25	16.0	96	72	120	41.0	41	46.0	652	DG101/25SHDOMDCF	420
	30	26.0	109	82	135	60.0	46	50.0	1321	DG101/30SHDOMDCF	420
	38	26.0	114	82	143	60.0	55	60.0	1509	DG101/38SHDOMDCF	420

¹⁾ Pressure shown = item deliverable

⁴⁾ S = heavy series

$\frac{PN \text{ (bar)}}{10} = PN \text{ (MPa)}$

***Part numbers shown are body only level. To order with a nut and progressive ring (sleeve) included, please see pages D11 and D12 for part number ordering instructions. Instructions for ordering the fitting as EO-2 are also included on these pages.**

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

Dimensions and pressures for reference only, subject to change.

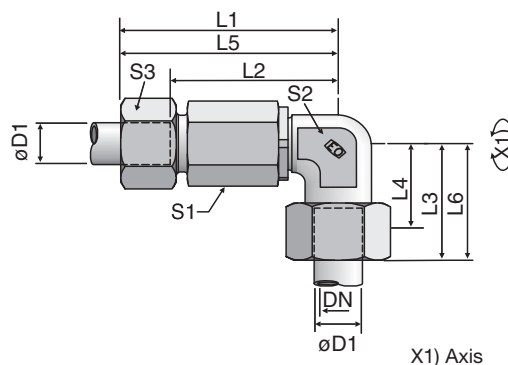


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DG103

Ball Bearing Rotary Elbow
24° Flareless / 24° Flareless

Read more about the new generation Heavy Duty 360° Series Ball Bearing Rotary Fittings



Product images are shown with nuts and sleeves for dimensional allowances only.
Part numbers are body level only. See note below product table for details

Series	D1	DN	L1	L2	L3	L4	L5	L6	S1	S2	S3	Weight g/1 piece	Part Number*	PN Bar ¹⁾
S ⁴⁾	06	5.0	51.5	59.0	23	16.0	44.5	16.0	22	17	17	134	DG103/06SHDOMDCF	420
	08	5.0	51.5	59.0	24	17.0	44.5	17.0	22	17	19	141	DG103/08SHDOMDCF	420
	12	9.5	63.0	72.0	29	21.5	55.5	21.5	30	22	24	296	DG103/12SHDOMDCF	420
	16	9.5	63.0	73.0	33	24.5	54.5	24.5	30	22	30	298	DG103/16SHDOMDCF	420
	20	16.0	83.0	94.5	37	26.5	72.5	26.5	41	36	36	772	DG103/20SHDOMDCF	420
	25	16.0	83.0	95.5	42	30.0	71.0	30.0	41	36	46	803	DG103/25SHDOMDCF	420
	30	26.0	102.5	116.0	49	35.5	89.0	35.5	60	50	50	1722	DG103/30SHDOMDCF	420
	38	26.0	102.5	117.0	57	41.0	86.5	41.0	60	50	60	1931	DG103/38SHDOMDCF	420

¹⁾ Pressure shown = item deliverable

⁴⁾ S = heavy series

$\frac{PN \text{ (bar)}}{10} = PN \text{ (MPa)}$

***Part numbers shown are body only level. To order with a nut and progressive ring (sleeve) included, please see pages D11 and D12 for part number ordering instructions. Instructions for ordering the fitting as EO-2 are also included on these pages.**

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

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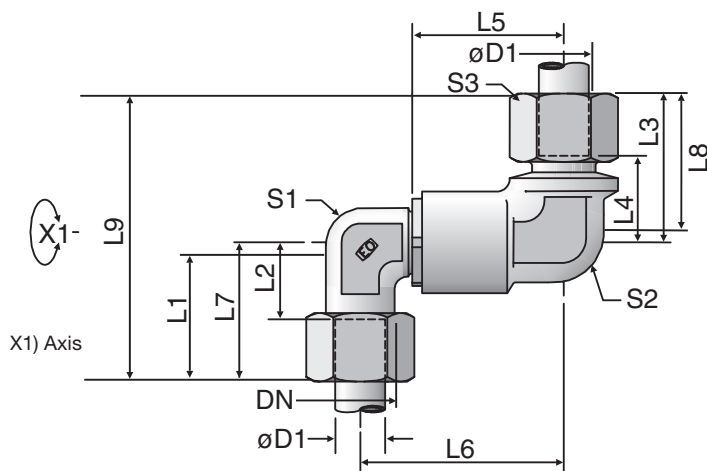
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DG105

Ball Bearing Rotary Union
24° Flareless / 24° Flareless

**Read more about the new generation
Heavy Duty 360° Series Ball Bearing
Rotary Fittings**



Product images are shown with nuts and sleeves for dimensional allowances only.
Part numbers are body level only. See note below product table for details

Series	D1	DN	L1	L2	L3	L4	L5	L6	L7	L8	L9	S1	S2	S3	Weight g/1 piece	Part Number*	PN Bar ¹⁾
S ⁴⁾	12	9.5	39.5	26.5	43	21.5	38	81	53.0	24	22	24	29	50.5	384	DG105/12SHDOMDCF	420
	16	9.5	39.5	25.5	44	24.5	43	87	53.0	30	22	24	33	52.5	377	DG105/16SHDOMDCF	420
	20	16.0	56.5	39.5	61	26.5	48	109	76.0	36	36	32	37	71.5	1015	DG105/20SHDOMDCF	420
	25	16.0	56.5	38.0	62	30.0	54	116	76.0	46	36	32	42	74.0	1034	DG105/25SHDOMDCF	420
	30	26.0	65.0	44.5	71	35.5	62	133	92.5	50	50	50	49	84.5	2344	DG105/30SHDOMDCF	420
	38	26.0	65.0	42.0	73	41.0	72	145	92.5	60	50	50	57	89.0	2485	DG105/38SHDOMDCF	420

¹⁾ Pressure shown = item deliverable

⁴⁾ S = heavy series

$\frac{PN \text{ (bar)}}{10} = PN \text{ (MPa)}$

***Part numbers shown are body only level. To order with a nut and progressive ring (sleeve) included, please see pages D11 and D12 for part number ordering instructions. Instructions for ordering the fitting as EO-2 are also included on these pages.**

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

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GEN TECH

Dimensions and pressures for reference only, subject to change.



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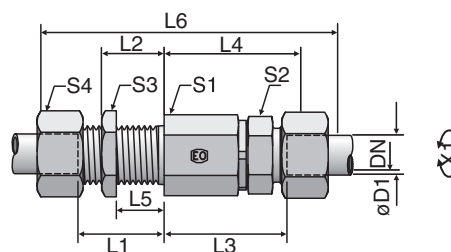
Parker Hannifin Corporation
Tube Fittings Division
Columbus, Ohio
<http://www.parker.com/tfd>

[Click here for CADs, Support Resources or to Configure Parts Online](#)

DG107

Ball Bearing Rotary Bulkhead Union
24° Flareless / 24° Flareless

**Read more about the new generation
Heavy Duty 360° Series Ball Bearing Rotary Fittings**



X1) Axis

Product images are shown with nuts and sleeves for dimensional allowances only.
Part numbers are body level only. See note below product table for details

Series	D1	DN	T1	L1	L2	L3	L4	L5	L6	S1	S2	S3	S4	Weight g/1 piece	Part Number*	PN Bar ¹⁾
S ⁴⁾	06	5.0	M 14×1.5	23	16.0	49	42.0	5	87	22	17	19	17	134	DG107/06SHDOMDCF	420
	08	5.0	M 16×1.5	23	16.0	49	42.0	5	87	22	17	22	19	143	DG107/08SHDOMDCF	420
	12	9.5	M 20×1.5	23	15.5	60	52.5	5	100	30	24	27	24	291	DG107/12SHDOMDCF	420
	16	9.5	M 24×1.5	26	17.5	60	51.5	5	105	30	27	32	30	328	DG107/16SHDOMDCF	420
	20	16.0	M 30×2.0	39	28.5	76	65.5	15	137	41	36	41	36	710	DG107/20SHDOMDCF	420
	25	16.0	M 36×2.0	42	30.0	78	66.0	15	144	41	41	46	46	847	DG107/25SHDOMDCF	420
	30	26.0	M 42×2.0	44	30.5	89	75.5	15	159	60	46	50	50	1533	DG107/30SHDOMDCF	420
	38	26.0	M 52×2.0	47	31.0	92	76.0	15	168	60	55	65	60	1930	DG107/38SHDOMDCF	420

¹⁾ Pressure shown = item deliverable

⁴⁾ S = heavy series

$\frac{PN \text{ (bar)}}{10} = PN \text{ (MPa)}$

***Part numbers shown are body only level. To order with a nut and progressive ring (sleeve) included, please see pages D11 and D12 for part number ordering instructions. Instructions for ordering the fitting as EO-2 are also included on these pages.**

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

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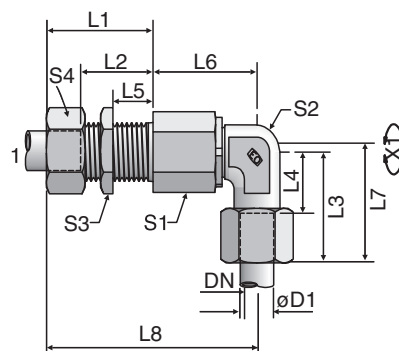
GEN TECH

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DG108

Ball Bearing Rotary Bulkhead Elbow
24° Flareless / 24° Flareless

**Read more about the new generation
Heavy Duty 360° Series Ball Bearing Rotary Fittings**



X1) Axis

Product images are shown with nuts and sleeves for dimensional allowances only.
Part numbers are body level only. See note below product table for details

Series	D1	DN	T1	L1	L2	L3	L4	L5	L6	L7	L8	S1	S2	S3	S4	Weight g/1 piece	Part Number*	PN Bar ¹⁾
S ⁴⁾	06	5.0	M 14×1.5	23	16.0	23	16.0	5	39.5	31	70.0	22	17	19	17	154	DG108/06SHDOMDCF	420
	08	5.0	M 16×1.5	23	16.0	23	17.0	5	39.5	32	70.0	22	17	22	19	166	DG108/08SHDOMDCF	420
	12	9.5	M 20×1.5	23	15.5	29	21.5	5	51.0	38	83.0	30	22	27	24	333	DG108/12SHDOMDCF	420
	16	9.5	M 24×1.5	26	17.5	33	24.5	5	49.0	43	85.0	30	22	32	30	354	DG108/16SHDOMDCF	420
	20	16.0	M 30×2.0	39	28.5	37	26.5	15	67.0	48	117.5	41	36	41	36	904	DG108/20SHDOMDCF	420
	25	16.0	M 36×2.0	42	30.0	42	30.0	15	65.0	54	119.5	41	36	46	46	999	DG108/25SHDOMDCF	420
	30	26.0	M 42×2.0	44	30.5	49	35.5	15	82.5	62	140.0	60	50	50	50	1935	DG108/30SHDOMDCF	420
	38	26.0	M 52×2.0	47	31.0	57	41.0	15	80.5	72	142.0	60	50	65	60	2351	DG108/38SHDOMDCF	420

¹⁾ Pressure shown = item deliverable

⁴⁾ S = heavy series

$\frac{PN \text{ (bar)}}{10} = PN \text{ (MPa)}$

***Part numbers shown are body only level. To order with a nut and progressive ring (sleeve) included, please see pages D11 and D12 for part number ordering instructions. Instructions for ordering the fitting as EO-2 are also included on these pages.**

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

Dimensions and pressures for reference only, subject to change.



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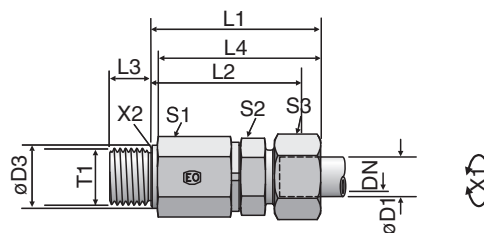
GEN TECH

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DG102-R

Ball Bearing Rotary Straight
24° Flareless / BSPP

**Read more about the new generation
Heavy Duty 360° Series Ball Bearing Rotary Fittings**



X1) Axis
X2) Elastic-sealing

Product images are shown with nuts and sleeves for dimensional allowances only.
Part numbers are body level only. See note below product table for details

Series	D1	T1	DN	D3	L1	L2	L3	L4	S1	S2	S3	Weight g/1 piece	Part Number*	PN Bar ¹⁾
S ⁴⁾	06	G 1/4 A	5.0	19	49	42.0	12	57.0	22	17	17	110	DG102/06SRHDOMDCF	420
	08	G 1/4 A	5.0	19	49	42.0	12	57.0	22	17	19	116	DG102/08SRHDOMDCF	420
	12	G 3/8 A	9.5	22	60	52.5	12	69.0	30	24	24	243	DG102/12SRHDOMDCF	420
	16	G 1/2 A	9.5	27	60	51.5	14	70.0	30	27	30	256	DG102/16SRHDOMDCF	420
	20	G 3/4 A	16.0	32	76	65.5	16	87.5	41	36	36	558	DG102/20SRHDOMDCF	420
	25	G 1 A	16.0	40	78	66.0	18	90.5	41	41	46	853	DG102/25SRHDOMDCF	420
	30	G 1 1/4 A	26.0	50	89	75.5	20	102.0	60	46	50	1312	DG102/30SRHDOMDCF	420
	38	G 1 1/2 A	26.0	55	92	76.0	22	107.0	60	55	60	1494	DG102/38SRHDOMDCF	420

¹⁾ Pressure shown = item deliverable

⁴⁾ S = heavy series

PN (bar) $\div$ 10 = PN (MPa)

***Part numbers shown are body only level. To order with a nut and progressive ring (sleeve) included, please see pages D11 and D12 for part number ordering instructions. Instructions for ordering the fitting as EO-2 are also included on these pages.**

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Dimensions and pressures for reference only, subject to change.



D90

Parker Hannifin Corporation
Tube Fittings Division
Columbus, Ohio
<http://www.parker.com/tfd>

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DG102-M

Ball Bearing Rotary Straight
24° Flareless / Metric Parallel

**Read more about the new generation
Heavy Duty 360° Series Ball Bearing Rotary Fittings**

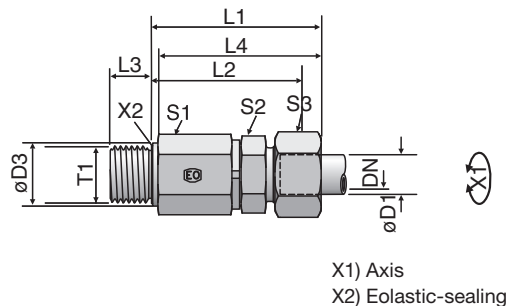


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Product images are shown with nuts and sleeves for dimensional allowances only.
Part numbers are body level only. See note below product table for details

Series	D1	T1	DN	D3	L1	L2	L3	L4	S1	S2	S3	Weight g/1 piece	Part Number*	PN Bar ¹⁾
S ⁴⁾	06	M 14×1.5	5.0	19	49	42.0	12	57.0	22	17	17	112	DG102/06SMHDOMDCF	420
	08	M 14×1.5	5.0	19	49	42.0	12	57.0	22	17	19	113	DG102/08SMHDOMDCF	420
	12	M 18×1.5	9.5	24	60	52.5	12	69.0	30	24	24	245	DG102/12SMHDOMDCF	420
	16	M 22×1.5	9.5	27	60	51.5	14	70.0	30	27	30	259	DG102/16SMHDOMDCF	420
	20	M 27×2.0	16.0	32	76	65.5	16	87.5	41	36	36	558	DG102/20SMHDOMDCF	420
	25	M 33×2.0	16.0	40	78	66.0	18	90.5	41	41	46	637	DG102/25SMHDOMDCF	420
	30	M 42×2.0	26.0	50	89	75.5	20	102.0	60	46	50	1316	DG102/30SMHDOMDCF	420
	38	M 48×2.0	26.0	55	92	76.0	22	107.0	60	55	60	1491	DG102/38SMHDOMDCF	420

¹⁾Pressure shown = item deliverable

⁴⁾S = heavy series

$$\frac{\text{PN (bar)}}{10} = \text{PN (MPa)}$$

*Part numbers shown are body only level. To order with a nut and progressive ring (sleeve) included, please see pages D11 and D12 for part number ordering instructions. Instructions for ordering the fitting as EO-2 are also included on these pages.

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

Dimensions and pressures for reference only, subject to change.

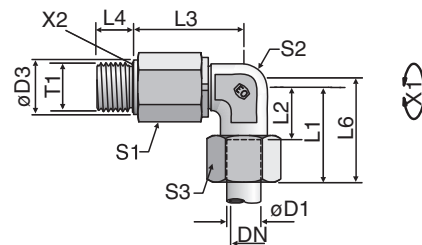


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DG104-R

Ball Bearing Rotary Elbow
24° Flareless / BSPP with
EOlastic Seal

**Read more about the new generation
Heavy Duty 360° Series Ball Bearing Rotary Fittings**



X1) Axis
X2) Eolastic-sealing

Product images are shown with nuts and sleeves for dimensional allowances only.
Part numbers are body level only. See note below product table for details

Series	D1	T1	DN	D3	L1	L2	L3	L4	L6	S1	S2	S3	Weight g/1 piece	Part Number*	PN Bar ¹⁾
S ⁴⁾	06	G 1/4 A	05	19	23	16.0	39.5	12	31	22	17	17	131	DG104/06SRHDOMDCF	420
	08	G 1/4 A	05	19	24	17.0	39.5	12	32	22	17	19	135	DG104/08SRHDOMDCF	420
	12	G 3/8 A	10	22	29	21.5	51.0	12	38	30	22	24	284	DG104/12SRHDOMDCF	420
	16	G 1/2 A	10	27	33	24.5	49.0	14	43	30	22	30	284	DG104/16SRHDOMDCF	420
	20	G 3/4 A	16	32	37	26.5	67.0	16	48	41	36	36	752	DG104/20SRHDOMDCF	420
	25	G 1 A	16	40	42	30.0	65.0	18	54	41	36	46	789	DG104/25SRHDOMDCF	420
	30	G 1 1/4 A	26	50	49	35.5	82.5	20	62	60	50	50	1713	DG104/30SRHDOMDCF	420
	38	G 1 1/2 A	26	55	57	41.0	80.5	22	72	60	50	60	1915	DG104/38SRHDOMDCF	420

¹⁾ Pressure shown = item deliverable

⁴⁾ S = heavy series

$\frac{PN \text{ (bar)}}{10} = PN \text{ (MPa)}$

*Part numbers shown are body only level. To order with a nut and progressive ring (sleeve) included, please see pages D11 and D12 for part number ordering instructions. Instructions for ordering the fitting as EO-2 are also included on these pages.

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

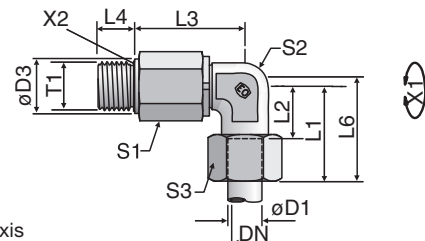
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DG104-M

Ball Bearing Rotary Elbow
24° Flareless / Metric Parallel

**Read more about the new generation
Heavy Duty 360° Series Ball Bearing Rotary Fittings**



X1) Axis
X2) Elastomeric-sealing

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Product images are shown with nuts and sleeves for dimensional allowances only.
Part numbers are body level only. See note below product table for details

Series	D1	T1	DN	D3	L1	L2	L3	L4	L6	S1	S2	S3	Weight g/1 piece	Part Number*	PN Bar ¹⁾
S ⁴⁾	06	M 14×1.5	05	19	23	16.0	39.5	12	31	22	17	17	132	DG104/06SMHDOMDCF	420
	08	M 14×1.5	05	19	24	17.0	39.5	12	32	22	17	19	136	DG104/08SMHDOMDCF	420
	12	M 18×1.5	10	22	29	21.5	51.0	12	38	30	22	24	286	DG104/12SMHDOMDCF	420
	16	M 22×1.5	10	27	33	24.5	49.0	14	43	30	22	30	287	DG104/16SMHDOMDCF	420
	20	M 27×2.0	16	32	37	26.5	67.0	16	48	41	36	36	752	DG104/20SMHDOMDCF	420
	25	M 33×2.0	16	40	42	30.0	65.0	18	54	41	36	46	788	DG104/25SMHDOMDCF	420
	30	M 42×2.0	26	50	49	35.5	82.5	20	62	60	50	50	1717	DG104/30SMHDOMDCF	420
	38	M 48×2.0	26	55	57	41.0	80.5	22	72	60	50	60	1913	DG104/38SMHDOMDCF	420

¹⁾ Pressure shown = item deliverable

⁴⁾ S = heavy series

$\frac{PN \text{ (bar)}}{10} = PN \text{ (MPa)}$

*Part numbers shown are body only level. To order with a nut and progressive ring (sleeve) included, please see pages D11 and D12 for part number ordering instructions. Instructions for ordering the fitting as EO-2 are also included on these pages.

Dimensions and pressures for reference only, subject to change.

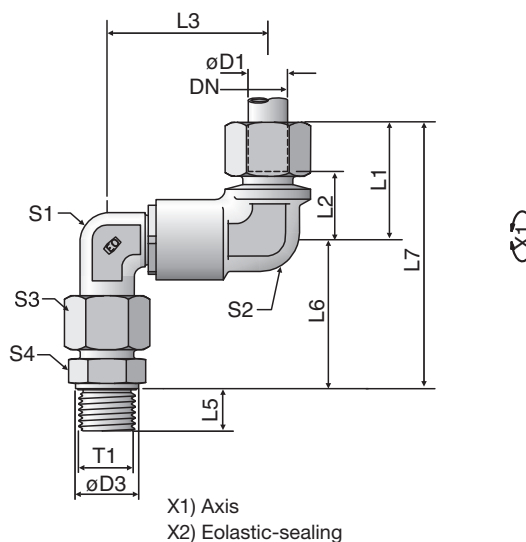


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DG106-R

Ball Bearing Rotary Double Elbow
24° Flareless / BSPP with EOlastic Seal

**Read more about the new generation
Heavy Duty 360° Series Ball Bearing Rotary Fittings**



Product images are shown with nuts and sleeves for dimensional allowances only.
Part numbers are body level only. See note below product table for details

Series	D1	T1	DN	D3	L1	L2	L3	L5	L6	L7	S1	S2	S3	S4	Weight g/1 piece	Part Number*	PN Bar ¹⁾
S ⁴⁾	12	G 3/8 A	9.5	24	34	26.5	53.0	12	55.5	99	24	22	24	22	484	DG106/12SRHDOMDCF	420
	16	G 1/2 A	9.5	27	34	25.5	53.0	14	61.5	105	24	24	30	27	547	DG106/16SRHDOMDCF	420
	20	G 3/4 A	16.0	32	50	39.5	76.0	16	69.5	131	36	32	36	32	1288	DG106/20SRHDOMDCF	420
	25	G 1 A	16.0	40	50	38.0	76.0	18	78.0	140	36	32	46	41	1528	DG106/25SRHDOMDCF	420
	30	G 1 1/4 A	26.0	50	58	44.5	92.5	20	86.5	158	50	50	50	50	3004	DG106/30SRHDOMDCF	420
	38	G 1 1/2 A	26.0	55	58	42.0	92.5	22	101.0	174	50	50	60	55	3419	DG106/38SRHDOMDCF	420

¹⁾ Pressure shown = item deliverable

⁴⁾ S = heavy series

$\frac{PN \text{ (bar)}}{10} = PN \text{ (MPa)}$

*Part numbers shown are body only level. To order with a nut and progressive ring (sleeve) included, please see pages D11 and D12 for part number ordering instructions. Instructions for ordering the fitting as EO-2 are also included on these pages.

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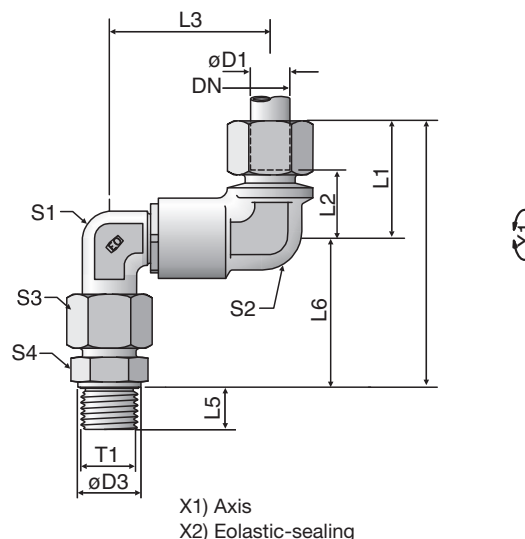
GEN TECH

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DG106-M

Ball Bearing Rotary Double Elbow
24° Flareless / Metric Parallel

**Read more about the new generation
Heavy Duty 360° Series Ball Bearing Rotary Fittings**



Product images are shown with nuts and sleeves for dimensional allowances only.
Part numbers are body level only. See note below product table for details

Series	D1	T1	DN	D3	L1	L2	L3	L5	L6	L7	S1	S2	S3	S4	Weight g/1 piece	Part Number*	PN Bar ¹⁾
S ⁴⁾	12	M 18×1.5	5.0	24	34	26.5	53.0	12	55.5	99	24	22	24	24	495	DG106/12SMHDOMDCF	420
	16	M 22×1.5	9.5	27	34	25.5	53.0	14	61.5	105	24	24	30	27	551	DG106/16SMHDOMDCF	420
	20	M 27×2.0	16.0	32	50	39.5	76.0	16	69.5	131	36	32	36	32	1289	DG106/20SMHDOMDCF	420
	25	M 33×2.0	16.0	40	50	38.0	76.0	18	78.0	140	36	32	46	41	1532	DG106/25SMHDOMDCF	420
	30	M 42×2.0	26.0	50	58	44.5	92.5	20	86.5	158	50	50	50	50	3007	DG106/30SMHDOMDCF	420
	38	M 48×2.0	26.0	55	58	42.0	92.5	22	101.0	174	50	50	60	55	3441	DG106/38SMHDOMDCF	420

¹⁾ Pressure shown = item deliverable

⁴⁾ S = heavy series

$\frac{PN \text{ (bar)}}{10} = PN \text{ (MPa)}$

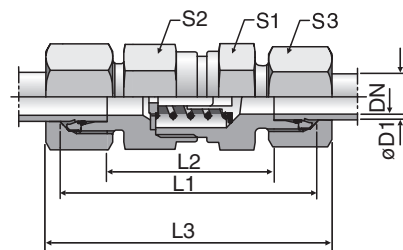
*Part numbers shown are body only level. To order with a nut and progressive ring (sleeve) included, please see pages D11 and D12 for part number ordering instructions. Instructions for ordering the fitting as EO-2 are also included on these pages.

Dimensions and pressures for reference only, subject to change.

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RHD

Non-Return Valve
24° Flareless / 24° Flareless



Product images are shown with nuts and sleeves for dimensional allowances only.
Part numbers are body level only. See note below product table for details

Series	D1	CF DN	71 DN	L1	L2	L3	S1	CF S2	71 S2	S3	Weight g/1 piece	Part Number*	PN (bar) ¹⁾	
													CF	71
L ³⁾	06	3.5	3.5	43.0	29.0	58.0	17	17	17	14	46	RHD06LOMD	400	250
	08	5.5	5.5	44.0	30.0	59.0	19	19	19	17	61	RHD08LOMD	400	250
	10	7.5	7.5	55.0	40.5	69.5	22	24	24	19	104	RHD10LOMD	400	250
	12	9.5	9.5	58.0	43.5	72.5	27	30	30	22	166	RHD12LOMD	400	250
	15	11.0	11.5	62.0	47.5	77.5	27	32	32	27	192	RHD15LOMD	400	250
	18	14.0	14.0	67.0	51.5	83.5	36	41	36	32	292	RHD18LOMD	400	160
	22	18.0	18.0	77.0	61.5	93.5	41	46	46	36	472	RHD22LOMD	250	160
	28	23.0	23.0	85.0	69.5	102.5	50	55	55	41	746	RHD28LOMD	250	100
	35	29.0	29.0	96.0	74.0	117.5	60	65	60	50	1062	RHD35LOMD	250	100
	42	29.0	29.0	96.0	74.0	119.0	65	70	70	60	1518	RHD42LOMD	250	100
S ⁴⁾	06	3.5	3.5	48.5	34.5	63.5	19	19	19	17	70	RHD06SOMD	420	400
	08	3.5	3.5	48.5	34.5	63.5	19	19	19	19	74	RHD08SOMD	420	400
	10	5.5	5.5	55.5	40.5	72.5	22	24	24	22	121	RHD10SOMD	420	400
	12	7.5	7.5	57.5	42.5	74.5	24	27	27	24	148	RHD12SOMD	420	400
	16	11.0	11.5	68.0	50.5	86.5	32	36	36	30	286	RHD16SOMD	420	315
	20	15.0	15.0	76.0	54.5	97.5	41	50	46	36	506	RHD20SOMD	420	250
	25	19.0	19.0	83.0	58.5	106.5	46	55	50	46	639	RHD25SOMD	420	250
	30	24.0	24.0	97.0	69.5	122.5	60	60	60	50	1157	RHD30SOMD	250	250
	38	29.0	29.0	108.0	75.5	136.5	65	70	70	60	1650	RHD38SOMD	250	250

¹⁾ Pressure shown = item deliverable

³⁾ L = light series; ⁴⁾ S = heavy series

$\frac{\text{PN (bar)}}{10} = \text{PN (MPa)}$

*Part numbers shown are body only level. To order with a nut and progressive ring (sleeve) included, please see pages D11 and D12 for part number ordering instructions. Instructions for ordering the fitting as EO-2 are also included on these pages.

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

*Please add the **suffixes**
below according to the material/
surface required.

Part number suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Steel	CF	RHD06LOMDCF	NBR
Stainless steel	71	RHD06LOMD71	VIT

Dimensions and pressures for reference only, subject to change.



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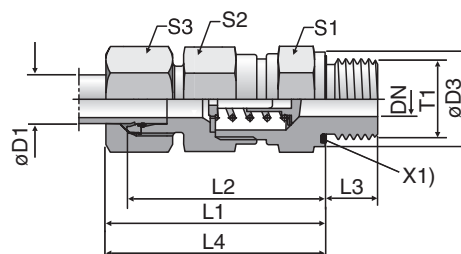
TUBE FAB
EQUIP

GEN TECH

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RHV-R-ED

Non-Return Valve
24° Flareless / BSPP
with EOlastic Seal



X1) Eolastic sealing

Product images are shown with nuts and sleeves for dimensional allowances only.
Part numbers are body level only. See note below product table for details

Series	D1	T1	CF DN	71 DN	D3	L1	L2	L3	L4	S1	CF S2	71 S2	S3	Weight g/1 piece	Part Number*	PN (bar) ¹⁾	
																CF	71
L ³⁾	06	G 1/8 A	3.5	3.5	14	35.0	28.0	8	42.5	17	17	17	14	47	RHV06LREDOMD	400	250
	08	G 1/4 A	5.5	5.5	19	37.0	30.0	12	44.5	19	19	19	17	62	RHV08LREDOMD	400	250
	10	G 1/4 A	7.5	7.5	19	46.0	38.5	12	53.0	22	24	24	19	105	RHV10LREDOMD	400	250
	12	G 3/8 A	9.5	9.5	22	50.0	42.5	12	57.0	27	30	30	22	175	RHV12LREDOMD	400	250
	15	G 1/2 A	11.0	11.5	27	53.0	45.5	14	60.5	27	32	32	27	205	RHV15LREDOMD	400	250
	18	G 1/2 A	14.0	14.0	27	58.0	50.0	14	66.0	36	41	36	32	294	RHV18LREDOMD	400	160
	22	G 3/4 A	18.0	18.0	32	63.0	55.0	16	71.0	41	46	46	36	450	RHV22LREDOMD	250	160
	28	G 1 A	23.0	23.0	40	71.0	63.0	18	79.5	50	55	55	41	720	RHV28LREDOMD	250	100
	35	G 1 1/4 A	29.0	29.0	50	80.0	69.0	20	90.5	60	65	65	50	1050	RHV35LREDOMD	250	100
	42	G 1 1/2 A	29.0	29.0	55	80.0	68.5	22	91.0	65	70	70	60	1560	RHV42LREDOMD	250	100
S ⁴⁾	06	G 1/4 A	3.5	3.5	19	38.5	31.5	12	46.0	19	19	19	17	73	RHV06SREDOMD	420	400
	08	G 1/4 A	3.5	3.5	19	38.5	31.5	12	46.0	19	19	19	19	79	RHV08SREDOMD	420	400
	10	G 3/8 A	5.5	5.5	22	45.5	38.0	12	54.0	22	24	24	22	132	RHV10SREDOMD	420	400
	12	G 3/8 A	7.5	7.5	22	48.5	41.0	12	57.0	24	27	27	24	153	RHV12SREDOMD	420	400
	16	G 1/2 A	11.0	11.5	27	57.0	48.0	14	66.0	32	36	36	30	293	RHV16SREDOMD	420	315
	20	G 3/4 A	15.0	15.0	32	63.0	52.0	16	73.5	41	50	46	36	511	RHV20SREDOMD	420	250
	25	G 1 A	19.0	19.0	40	67.0	54.5	18	78.5	46	55	50	46	648	RHV25SREDOMD	420	250
	30	G 1 1/4 A	24.0	24.0	50	78.0	64.0	20	90.5	60	60	60	50	1176	RHV30SREDOMD	250	250
	38	G 1 1/2 A	29.0	29.0	55	86.0	69.5	22	100.0	65	70	70	60	1624	RHV38SREDOMD	250	250

¹⁾ Pressure shown = item deliverable

³⁾ L = light series; ⁴⁾ S = heavy series

$$\frac{\text{PN (bar)}}{10} = \text{PN (MPa)}$$

*Part numbers shown are body only level. To order with a nut and progressive ring (sleeve) included, please see pages D11 and D12 for part number ordering instructions. Instructions for ordering the fitting as EO-2 are also included on these pages.

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*Please add the **suffixes**
below according to the material/
surface required.

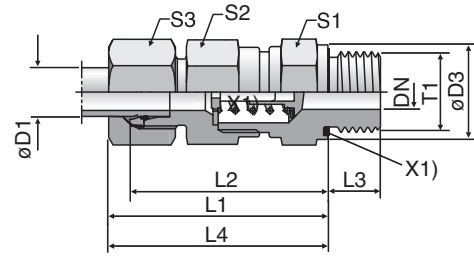
Part number suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Steel	CF	RHV06LREDOMDCF	NBR
Stainless steel	71	RHV06LREDOMD71	VIT

Dimensions and pressures for reference only, subject to change.



RHV-M-ED

Non-Return Valve
24° Flareless / Metric Parallel
with EOlastic Seal



X1) Eolastic sealing

Product images are shown with nuts and sleeves for dimensional allowances only.
Part numbers are body level only. See note below product table for details

Series	D1	T1	CF DN	71 DN	D3	L1	L2	L3	L4	S1	CF S2	71 S2	S3	Weight g/1 piece	Part Number*	PN (bar) ¹⁾	
																CF	71
L ³⁾	06	M 10×1.0	3.5	3.5	14	35.0	28.0	8	42.5	17	17	17	14	46	RHV06LMEDOMD	400	250
	08	M 12×1.5	5.5	5.5	17	37.0	29.5	12	43.5	19	19	19	17	58	RHV08LMEDOMD	400	250
	10	M 14×1.5	7.5	7.5	19	46.0	38.5	12	53.0	22	24	44	19	108	RHV10LMEDOMD	400	250
	12	M 16×1.5	9.5	9.5	22	50.0	42.5	12	57.0	27	30	30	22	173	RHV12LMEDOMD	400	250
	15	M 18×1.5	11.0	11.5	24	53.0	45.5	12	60.5	27	32	32	27	192	RHV15LMEDOMD	400	250
	18	M 22×1.5	14.0	14.0	27	58.0	50.0	14	66.0	36	41	36	32	298	RHV18LMEDOMD	400	160
	22	M 26×1.5	18.0	18.0	32	63.0	55.0	16	71.0	41	46	46	36	446	RHV22LMEDOMD	250	160
	28	M 33×2.0	23.0	23.0	40	71.0	63.0	18	79.5	50	55	55	41	722	RHV28LMEDOMD	250	100
	35	M 42×2.0	29.0	29.0	50	80.0	69.0	20	90.5	60	65	65	50	1053	RHV35LMEDOMD	250	100
	42	M 48×2.0	29.0	29.0	55	80.0	68.5	22	91.0	65	70	70	60	1563	RHV42LMEDOMD	250	100
S ⁴⁾	06	M 12×1.5	3.5	3.5	17	38.5	31.5	12	46.0	19	19	19	17	70	RHV06SMEDOMD	420	400
	08	M 14×1.5	3.5	3.5	19	38.5	31.5	12	46.0	19	19	19	19	76	RHV08SMEDOMD	420	400
	10	M 16×1.5	5.5	5.5	22	45.5	38.0	12	54.0	22	24	24	22	124	RHV10SMEDOMD	420	400
	12	M 18×1.5	7.5	7.5	24	48.5	41.0	12	57.0	24	27	27	24	157	RHV12SMEDOMD	420	400
	16	M 22×1.5	11.0	11.5	27	57.0	48.0	14	66.0	32	36	36	30	296	RHV16SMEDOMD	420	315
	20	M 27×2.0	15.0	15.0	32	63.0	52.0	16	73.5	41	50	46	36	521	RHV20SMEDOMD	420	250
	25	M 33×2.0	19.0	19.0	40	67.0	54.5	18	78.5	46	55	50	46	648	RHV25SMEDOMD	420	250
	30	M 42×2.0	24.0	24.0	50	78.0	64.0	20	90.5	60	60	60	50	1178	RHV30SMEDOMD	250	250
	38	M 48×2.0	29.0	29.0	55	86.0	69.5	22	100.0	65	70	70	60	1627	RHV38SMEDOMD	250	250

¹⁾ Pressure shown = item deliverable

³⁾ L = light series; ⁴⁾ S = heavy series

$$\frac{\text{PN (bar)}}{10} = \text{PN (MPa)}$$

*Part numbers shown are body only level. To order with a nut and progressive ring (sleeve) included, please see pages D11 and D12 for part number ordering instructions. Instructions for ordering the fitting as EO-2 are also included on these pages.

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*Please add the **suffixes**
below according to the material/
surface required.

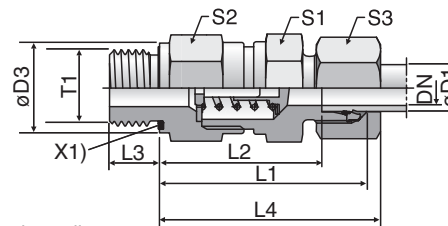
Part number suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Steel	CF	RHV06LMEDOMDCF	NBR
Stainless steel	71	RHV06LMEDOMD71	VIT

Dimensions and pressures for reference only, subject to change.

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RHZ-R-ED

Non-Return Valve
24° Flareless / BSPP



X1) Elastic sealing

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Product images are shown with nuts and sleeves for dimensional allowances only.
Part numbers are body level only. See note below product table for details

Series	D1	T1	CF DN	71 DN	D3	L1	L2	L3	L4	S1	CF S2	71 S2	S3	Weight g/1 piece	Part Number*	CF	71
L ³⁾	06	G 1/8 A	3.5	3.5	14	33.5	26.5	8	41.0	17	17	17	14	44	RHZ06LREDOMD	400	250
	08	G 1/4 A	5.5	5.5	19	35.5	28.5	12	43.0	19	19	19	17	59	RHZ08LREDOMD	400	250
	10	G 1/4 A	7.5	7.5	19	46.0	38.5	12	53.0	22	24	24	19	125	RHZ10LREDOMD	400	250
	12	G 3/8 A	9.5	9.5	22	48.0	40.5	12	55.0	27	30	30	22	161	RHZ12LREDOMD	400	250
	15	G 1/2 A	11.0	11.5	27	50.0	42.5	14	57.5	27	32	32	27	186	RHZ15LREDOMD	400	250
	18	G 1/2 A	14.0	14.0	27	56.0	48.0	14	64.0	36	41	36	32	275	RHZ18LREDOMD	400	160
	22	G 3/4 A	18.0	18.0	32	64.0	56.0	16	72.0	41	46	46	36	463	RHZ22LREDOMD	250	160
	28	G 1 A	23.0	23.0	40	72.0	64.0	18	80.5	50	55	55	41	721	RHZ28LREDOMD	250	100
	35	G 1 1/4 A	29.0	29.0	50	81.0	70.0	20	91.5	60	65	65	50	1073	RHZ35LREDOMD	250	100
	42	G 1 1/2 A	29.0	29.0	55	82.0	70.5	22	93.0	65	70	70	60	1602	RHZ42LREDOMD	250	100
S ⁴⁾	06	G 1/4 A	3.5	3.5	19	38.5	31.5	12	46.0	19	19	19	17	71	RHZ06SREDOMD	420	400
	08	G 1/4 A	3.5	3.5	19	38.5	31.5	12	46.0	19	19	19	19	74	RHZ08SREDOMD	420	400
	10	G 3/8 A	5.5	5.5	22	45.5	38.0	12	54.0	22	24	24	22	128	RHZ10SREDOMD	420	400
	12	G 3/8 A	7.5	7.5	22	48.5	41.0	12	57.0	24	27	27	24	152	RHZ12SREDOMD	420	400
	16	G 1/2 A	11.0	11.5	27	55.0	46.0	14	64.0	32	36	36	30	275	RHZ16SREDOMD	420	315
	20	G 3/4 A	15.0	15.0	32	61.0	50.0	16	71.5	41	50	46	36	490	RHZ20SREDOMD	420	250
	25	G 1 A	19.0	19.0	40	67.0	54.5	18	78.5	46	55	50	46	647	RHZ25SREDOMD	420	250
	30	G 1 1/4 A	24.0	24.0	50	78.0	64.0	20	90.5	60	60	60	50	1180	RHZ30SREDOMD	250	250
	38	G 1 1/2 A	29.0	29.0	55	88.0	71.5	22	102.0	65	70	70	60	1670	RHZ38SREDOMD	250	250

¹⁾ Pressure shown = item deliverable

³⁾ L = light series; ⁴⁾ S = heavy series

$\frac{\text{PN (bar)}}{10} = \text{PN (MPa)}$

*Part numbers shown are body only level. To order with a nut and progressive ring (sleeve) included, please see pages D11 and D12 for part number ordering instructions. Instructions for ordering the fitting as EO-2 are also included on these pages.

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*Please add the **suffixes**
below according to the material/
surface required.

Part number suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Steel	CF	RHZ06LREDOMDCF	NBR
Stainless steel	71	RHZ06LREDOMD71	VIT

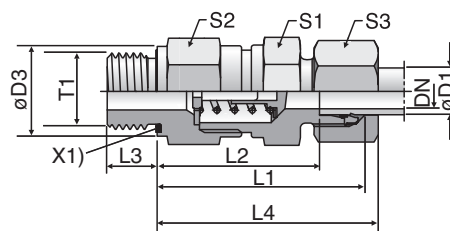
Dimensions and pressures for reference only, subject to change.



RHZ-M-ED

Non-Return Valve

24° Flareless / Metric Parallel with
EOlastic Seal



X1) Eolastic sealing

Product images are shown with nuts and sleeves for dimensional allowances only.
Part numbers are body level only. See note below product table for details

Series	D1	T1	CF DN	71 DN	D3	L1	L2	L3	L4	S1	CF S2	71 S2	S3	Weight g/1 piece	Part Number*	PN (bar) ¹⁾	
																CF	71
L ³⁾	06	M 10×1.0	3.5	3.5	14	33.5	26.5	8	41.0	17	17	17	14	44	RHZ06LMEDOMD	400	250
	08	M 12×1.5	5.5	5.5	17	35.5	28.5	12	43.0	19	19	19	17	58	RHZ08LMEDOMD	400	250
	10	M 14×1.5	7.5	7.5	19	46.0	38.5	12	53.0	22	24	24	19	104	RHZ10LMEDOMD	400	250
	12	M 16×1.5	9.5	9.5	22	48.0	40.5	12	55.0	27	30	30	22	169	RHZ12LMEDOMD	400	250
	15	M 18×1.5	11.0	11.5	24	50.0	42.5	12	57.5	27	32	32	27	174	RHZ15LMEDOMD	400	250
	18	M 22×1.5	14.0	14.0	27	56.0	48.0	14	64.0	36	41	36	32	279	RHZ18LMEDOMD	400	160
	22	M 26×1.5	18.0	18.0	32	64.0	56.0	16	72.0	41	46	46	36	459	RHZ22LMEDOMD	250	160
	28	M 33×2.0	23.0	23.0	40	72.0	64.0	18	80.5	50	55	55	41	721	RHZ28LMEDOMD	250	100
	35	M 42×2.0	29.0	29.0	50	81.0	70.0	20	91.5	60	65	65	50	1078	RHZ35LMEDOMD	250	100
	42	M 48×2.0	29.0	29.0	55	82.0	70.5	22	93.0	65	70	70	60	1601	RHZ42LMEDOMD	250	100
S ⁴⁾	06	M 12×1.5	3.5	3.5	17	38.5	31.5	12	46.0	19	19	19	17	70	RHZ06SMEDOMD	420	400
	08	M 14×1.5	3.5	3.5	19	38.5	31.5	12	46.0	19	19	19	19	75	RHZ08SMEDOMD	420	400
	10	M 16×1.5	5.5	5.5	22	45.5	38.0	12	54.0	22	24	24	22	123	RHZ10SMEDOMD	420	400
	12	M 18×1.5	7.5	7.5	24	48.5	41.0	12	57.0	24	27	27	24	157	RHZ12SMEDOMD	420	400
	16	M 22×1.5	11.0	11.5	27	55.0	46.0	14	64.0	32	36	36	30	279	RHZ16SMEDOMD	420	315
	20	M 27×2.0	15.0	15.0	32	61.0	50.0	16	71.5	41	50	46	36	487	RHZ20SMEDOMD	420	250
	25	M 33×2.0	19.0	19.0	40	67.0	54.5	18	78.5	46	55	50	46	647	RHZ25SMEDOMD	420	250
	30	M 42×2.0	24.0	24.0	50	78.0	64.0	20	90.5	60	60	60	50	1180	RHZ30SMEDOMD	250	250
	38	M 48×2.0	29.0	29.0	55	88.0	71.5	22	102.0	65	70	70	60	1669	RHZ38SMEDOMD	250	250

¹⁾ Pressure shown = item deliverable

³⁾ L = light series; ⁴⁾ S = heavy series

$$\frac{\text{PN (bar)}}{10} = \text{PN (MPa)}$$

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*Please add the **suffixes**
below according to the material/
surface required.

Part number suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Steel	CF	RHZ06LMEDOMDCF	NBR
Stainless steel	71	RHZ06LMEDOMD71	VIT

Dimensions and pressures for reference only, subject to change.

[Click here for CADs, Support Resources or to Configure Parts Online](#)

RHDI

Non-Return Valve
BSPP Female / BSPP Female

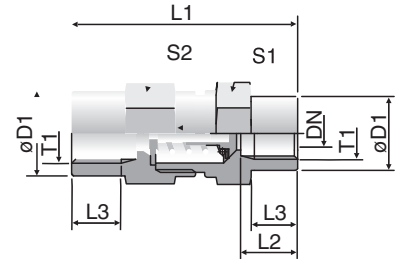


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Series	T1	DN	D1	L1	L2	L3	S1	S2	Weight g/1 piece	Part Number*	PN (bar) ¹⁾	
											CF	71
L ³⁾	G 1/8	3.5	19	42.5	12.0	8.0	19	19	76	RHDI1/8	400	400
	G 1/4	3.5	19	51.0	16.0	12.0	19	19	82	RHDI1/4	400	400
	G 3/8	7.5	24	60.0	17.0	12.0	24	27	157	RHDI3/8	400	400
	G 1/2	11.5	32	72.0	20.0	15.0	32	36	344	RHDI1/2	315	315
	G 3/4	15.0	41	84.0	22.0	16.5	41	46	664	RHDI3/4	250	250
	G 1	19.0	46	95.0	25.5	19.0	46	50	821	RHDI1	250	250
	G 1 1/4	24.0	60	110.0	28.0	21.5	60	60	1581	RHDI11/4	250	250
	G 1 1/2	29.0	65	114.0	28.5	22.0	65	70	1919	RHDI11/2	250	250

¹⁾ Pressure shown = item deliverable

³⁾ L = light series

$\frac{\text{PN (bar)}}{10} = \text{PN (MPa)}$

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below according to the material/
surface required.

Order code suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Steel	CF	RHDI1/8CF	NBR
Stainless steel	71	RHDI1/871	VIT

Dimensions and pressures for reference only, subject to change.



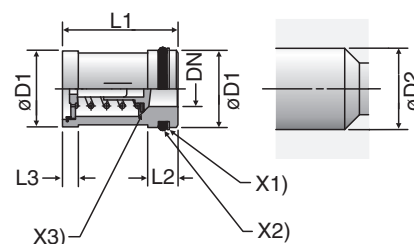
D101

Parker Hannifin Corporation
Tube Fittings Division
Columbus, Ohio
<http://www.parker.com/tfd>

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RVP

Non-Return Valve
Cartridge



X1) Supporting ring PTFE
X2) O-ring NBR
X3) Sealing disc NBR

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ASSEMBLY

TUBE FAB
EQUIP

GEN TECH

Valve ITL	DN	D1	D2	L1 ± 0,15	L2	L3	O-ring	Supporting ring	Weight g/1 piece	Part Number*	PN (bar) ¹⁾	
											CF	71
6-L/6 & 8-S	3.5	12.945 ± 0.055	13 ^{+0.12 +0.05}	23.15	9.5	6.0	8.3×2.4	SRA 13-2.05-1.0	21	RVP13	420	400
8-L/10-S	5.5	15.945 ± 0.055	16 ^{+0.12 +0.05}	26.65	9.5	6.5	11.3×2.4	SRA 16-2.05-1.0	32	RVP16	420	400
10-L/12-S	7.5	19.935 ± 0.065	20 ^{+0.142 +0.065}	30.15	9.5	6.5	15.3×2.4	SRA 20-2.05-1.0	54	RVP20	420	400
12-L/14-S	9.5	23.935 ± 0.065	24 ^{+0.149 +0.065}	35.15	12.0	7.5	18.2×3	SRA 24-2.6-1.0	80	RVP24	420	315
15-L/16-S	11.5	26.935 ± 0.065	27 ^{+0.149 +0.065}	38.15	12.0	7.5	21.2×3	SRA 27-2.6-1.0	105	RVP27	420	315
18-L/20-S	15.0	34.92 ± 0.08	35 ^{+0.18 +0.08}	44.65	12.0	9.5	29.2×3	SRA 35-2.5-1.0	204	RVP35	420	250
22-L/25-S	19.0	39.92 ± 0.08	40 ^{+0.18 +0.08}	50.65	12.0	11.0	34.2×3	SRA 40-2.5-1.0	275	RVP40	420	250
28-L/30-S	24.0	46.92 ± 0.08	47 ^{+0.18 +0.08}	60.15	13.0	13.0	41.0×3	SRA 47-2.6-1.5	412	RVP47	250	250
35-L/38-S	29.0	54.905 ± 0.095	55 ^{+0.22 +0.01}	70.15	16.0	13.0	44.2×5.7	SRA 55-5.1-1.5	607	RVP55	250	250

¹⁾ Pressure shown = item deliverable

$$\frac{\text{PN (bar)}}{10} = \text{PN (MPa)}$$



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*Please add the **suffixes**
below according to the material/
surface required.

Part number suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Steel	CF	RVP13CF	NBR
Stainless steel	71	RVP1371	VIT

Dimensions and pressures for reference only, subject to change.

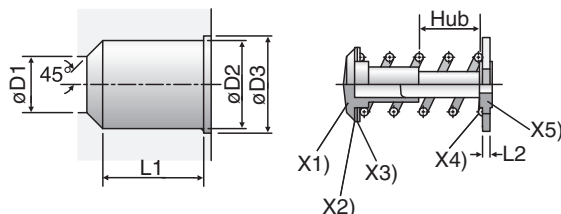


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I-TL

Non-Return Valve Internal Parts

- X1) poppet
- X2) sealing disc (smooth side to the poppet)
- X3) cover disc
- X4) spring
- X5) passage disc



Series	Tube O.D.	D1 ^{+0.1}	D2 ^{+0.1}	D3 ^{+0.1}	L1 ^{±0.1}	L2	Hub	Weight g/1 piece	Part Number*	PN (bar) ¹⁾	
										CF	71
L/S/S	06/06/08	3.5	7.5	8.6	8.2	2.0	1.0	2	ITL06L/06+08S	*	*
L/S	08/10	5.5	10.2	11.6	11.0	2.0	1.7	4	ITL08L/10S	*	*
L/S	10/12	7.5	13.0	14.1	14.0	2.0	2.3	7	ITL10L/12S	*	*
L/S	12/14	9.5	16.7	18.1	16.5	2.5	2.9	13	ITL12L/14S	*	*
L/S	15/16	11.5	19.5	20.6	19.0	2.5	3.5	18	ITL15L/16S	*	*
L/S	18/20	15.0	25.2	27.1	22.5	3.0	4.4	37	ITL18L/20S	*	*
L/S	22/25	19.0	30.8	32.6	27.0	3.0	5.5	54	ITL22L/25S	*	*
L/S	28/30	24.0	38.6	40.6	32.5	3.5	7.3	107	ITL28L/30S	*	*
L/L/S	35/38/42	29.0	45.7	48.1	37.5	3.5	8.9	144	ITL35L+42L/38S	*	*

* = item deliverable

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*Please add the **suffixes** below according to the material/ surface required.

Part number suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Steel	CF	ITL06L/06+08S	NBR
Stainless steel	71	ITL06L71/06+08S	VIT

Dimensions and pressures for reference only, subject to change.



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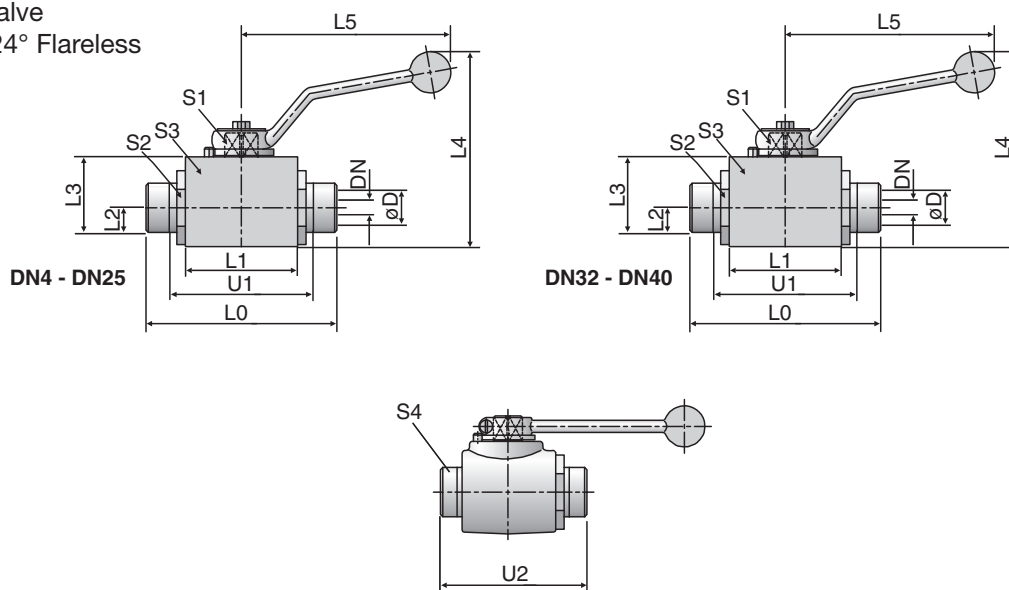
ASSEMBLY

TUBE FAB EQUIP

GEN TECH

KH

Two-Way Ball Valve
24° Flareless / 24° Flareless



Series	D	DN	L0	L1	L2	L3	L4	L5	U1	U2	S1	S2	S3	S4	Weight g/1 piece	Part Number	PN (bar)
L ¹⁾	06	4	67	36.0	9.5	25	54.5	76	53	82	7	19	20	14	195	KH06LCFX	500
	08	6	67	36.0	9.5	25	54.5	76	53	82	7	19	20	17	190	KH08LCFX	500
	10	8	75	45.0	14.5	35	67.5	100	61	90	8	24	30	19	420	KH10LCFX	500
	12	10	75	45.0	14.5	35	67.5	100	61	90	8	24	30	22	410	KH12LCFX	500
	15	13	83	51.0	17.0	40	93.0	113	69	99	10	30	35	27	631	KH15LCFX	500
	18	16	82	50.0	20.0	45	98.0	113	67	99	10	36	45	32	850	KH18LCFX	420
	22	20	99	60.0	24.0	55	120.0	171	84	116	14	41	45	36	1210	KH22LCFX	420
	28	25	108	70.0	26.0	60	125.0	171	93	126	14	50	55	41	1750	KH28LCFX	420
	35	32/25	116	70.0	26.0	60	125.0	171	95	138	14	50	55	50	1820	KH35LDN25CFX	420
	35	32	121	79.0	49.5	95	188.0	228	100	143	17	60	Ø97	50	4888	KH35LCFX	420
	42	40/25	121	70.0	26.0	60	125.0	171	99	144	14	55	55	60	1940	KH42LDN25CFX	420
	42	40	118	77.5	54.5	105	197.0	228	96	141	17	75	Ø107	60	5590	KH42LCFX	420
	08	5	73	36.0	9.5	25	54.5	76	59	88	7	19	20	19	214	KH08SCFX	500
	10	6	73	36.0	9.5	25	54.5	76	58	90	7	19	20	22	220	KH10SCFX	500
S ²⁾	12	8	77	45.0	14.5	35	67.5	100	62	94	8	24	30	24	430	KH12SCFX	500
	14	10	81	45.0	14.5	35	67.5	100	65	100	8	24	30	27	440	KH14SCFX	500
	16	13	87	51.0	17.0	40	93.0	113	70	106	10	30	35	30	649	KH16SCFX	500
	20	16	90	50.0	20.0	45	98.0	113	69	112	10	36	45	36	900	KH20SCFX	420
	25	20	107	60.0	24.0	55	120.0	171	83	131	14	41	45	46	1290	KH25SCFX	420
	30	25	120	70.0	26.0	60	125.0	171	93	146	14	50	55	50	1880	KH30SCFX	420
	38	32/25	134	70.0	26.0	60	125.0	171	102	163	14	55	55	60	1950	KH38SDN25CFX	420
	38	32	127	73.0	49.5	94	187.0	228	95	156	17	60	Ø97	60	4740	KH38SCFX	420

¹⁾L = light series; ²⁾S = heavy series

$\frac{\text{PN (bar)}}{10} = \text{PN (MPa)}$

Delivery without nut and ring.

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

*Please add the **suffixes**
below according to the material/
surface required.

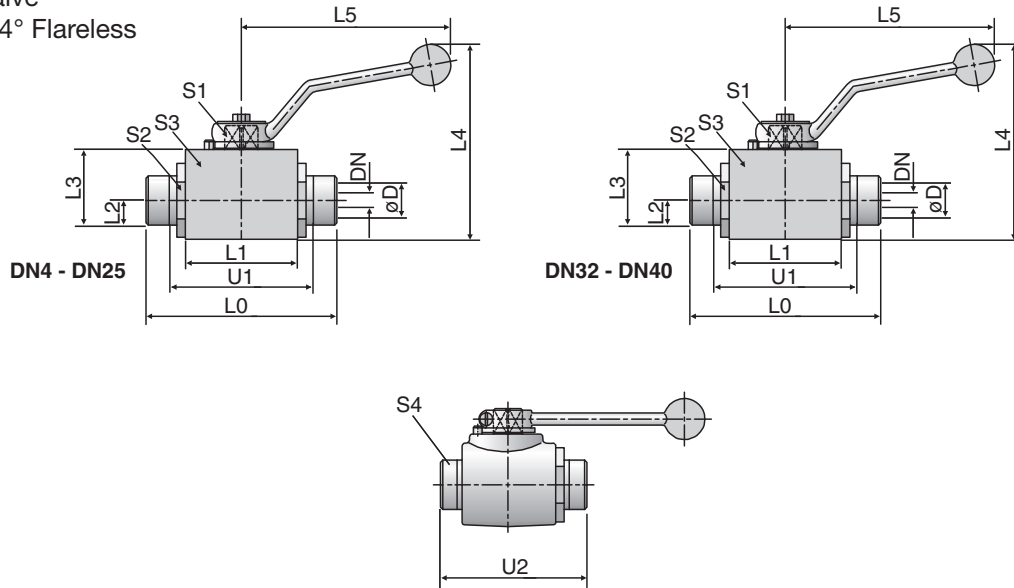
Part number suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Steel	CF	KH06LCFX	POM / NBR

Dimensions and pressures for reference only, subject to change.

[Click here for CADs, Support Resources or to Configure Parts Online](#)

KH

Two-Way Ball Valve
24° Flareless / 24° Flareless
Stainless Steel



Series	D	DN	L0	L1	L2	L3	L4	L5	U1	U2	S1	S2	S3	S4	Weight g/1 piece	Part Number	PN (bar)
L ¹⁾	06	4	73	41.5	13.5	30.0	54	80.0	58.5	88	7	22	30	14	391	KH06L71X	500
	08	6	73	41.5	13.5	30.0	54	80.0	58.5	88	7	22	30	17	392	KH08L71X	500
	10	8	87	53.0	18.0	40.0	82	132.5	73.0	102	8	30	40	19	833	KH10L71X	500
	12	10	87	53.0	18.0	40.0	82	132.5	73.0	102	8	30	40	22	812	KH12L71X	500
	15	12	91	55.0	21.0	45.0	87	132.5	76.5	107	10	32	45	27	1018	KH15L71X	500
	18	12	91	55.0	21.0	45.0	87	132.5	75.5	108	10	32	45	32	1059	KH18L71X	500
	22	20	105	65.0	31.0	65.0	118	190.0	89.5	122	14	46	65	36	2427	KH22L71X	400
	28	25	112	71.0	38.0	75.0	128	190.0	96.5	130	14	50	75	41	3313	KH28L71X	400
	35	32	145	86.0	45.0	93.0	174	320.0	123.5	167	19	70	Ø100	50	6230	KH35L71X	400
	42	40	150	92.0	52.0	104.5	185	320.0	127.5	173	19	80	Ø110	60	7706	KH42L71X	400
S ²⁾	08	4	76	41.5	13.5	30.0	54	80.0	61.5	91	7	22	30	19	390	KH08S71X	500
	10	6	76	41.5	13.5	30.0	54	80.0	60.5	91	7	22	30	22	406	KH10S71X	500
	12	8	89	53.0	18.0	40.0	82	132.5	74.0	106	8	30	40	24	855	KH12S71X	500
	14	10	93	53.0	18.0	40.0	82	132.5	77.0	112	8	30	40	27	850	KH14S71X	500
	16	12	96	55.0	21.0	45.0	87	132.5	78.5	115	10	32	45	30	1050	KH16S71X	500
	20	12	99	55.0	21.0	45.0	87	132.5	77.5	121	10	32	45	36	1090	KH20S71X	500
	25	20	113	65.0	31.0	65.0	118	190.0	88.5	137	14	46	65	46	2490	KH25S71X	400
	30	25	124	71.0	38.0	75.0	128	190.0	96.5	150	14	50	75	50	3430	KH30S71X	400
	38	32	145	86.0	45.0	93.0	174	320.0	112.5	174	19	70	Ø100	60	5881	KH38S71X	400

¹⁾L = light series; ²⁾S = heavy series

$\frac{PN \text{ (bar)}}{10} = PN \text{ (MPa)}$

Delivery without nut and ring.

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

*Please add the **suffixes**
below according to the material/
surface required.

Part number suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Stainless Steel	71	KH06L71X	POM / NBR

Dimensions and pressures for reference only, subject to change.



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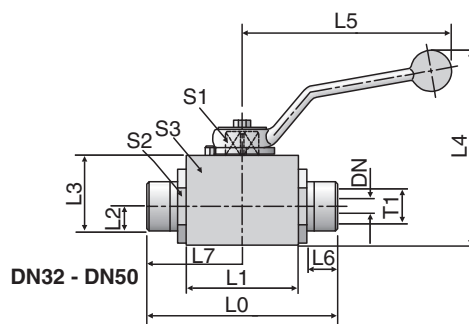
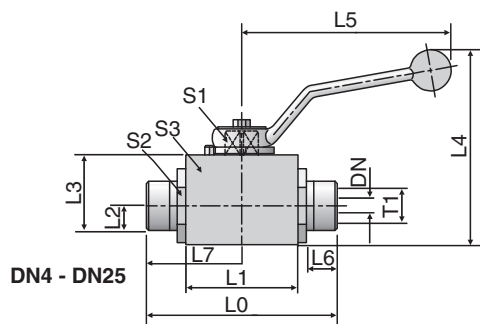
TUBE FAB
EQUIP

GEN TECH

KH-BSP

Two-Way Ball Valve

Female BSP / Female BSP



T1	DN	L0	L1	L2	L3	L4	L5	L6	L7	S1	S2	S3	Weight g/1 piece	Part Number	PN (bar)
G 1/8	5	69	36	9.5	25.0	54.5	76	12	—	7	19	20	220	KH1/8CFX	500
G 1/4	6	69	36	9.5	25.0	54.5	76	12	—	7	19	20	210	KH1/4CFX	500
G 3/8	10	73	45	14.5	35.0	67.5	100	14	—	8	24	30	430	KH3/8CFX	500
G 1/2	13	82	51	17.0	40.0	93.0	113	15	—	10	30	35	670	KH1/2CFX	500
G 5/8	16	88	50	20.0	45.0	98.0	113	18	—	10	36	45	973	KH5/8CFX	420
G 3/4	20	93	60	24.0	55.0	120.0	171	18	—	14	41	45	1280	KH3/4CFX	420
G 1	25	115	70	26.0	60.0	125.0	171	20	—	14	50	55	1982	KH1CFX	420
G 1 1/4	32	110	80	49.5	95.0	188.0	228	22	55	17	60	Ø97	4888	KH11/4CFX	420
G 1 1/4	32/25	134	70	26.0	60.0	125.0	171	22	—	14	50	55	2066	KH11/4DN25CFX	420
G 1 1/2	40	114	82	53.5	104.0	197.0	228	24	57	17	75	Ø107	6330	KH11/2CFX	420
G 1 1/2	40/25	139	70	26.0	60.0	125.0	171	24	—	14	55	55	2200	KH11/2DN25CFX	420
G 2	50	133	100	61.5	119.5	211.5	306	26	65	17	85	Ø123	9220	KH2CFX	420

PN (bar) = PN (MPa)
10

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

*Please add the **suffixes**
below according to the material/
surface required.

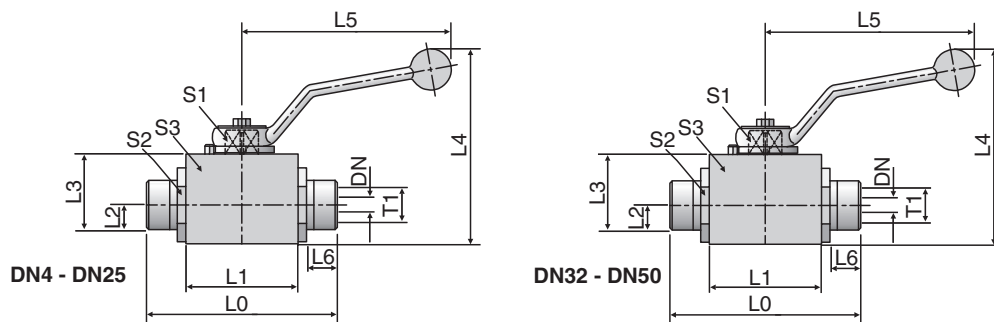
Part number suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Steel	CF	KH1/8CFX	POM / NBR

Dimensions and pressures for reference only, subject to change.

[Click here for CADs, Support Resources or to Configure Parts Online](#)

KH-BSP

Two-Way Ball Valve
Female BSPP / Female BSPP
Stainless Steel



T1	DN	L0	L1	L2	L3	L4	L5	L6	S1	S2	S3	Weight g/1 piece	Part Number	PN (bar)
G 1/8	4	69	41.5	13.5	30.0	54	80.0	11.0	7	22	30	420	KH1/871X	500
G 1/4	6	75	41.5	13.5	30.0	54	80.0	14.0	7	22	30	427	KH1/471X	500
G 3/8	10	86	53.0	18.0	40.0	82	132.5	14.0	8	30	40	902	KH3/871X	500
G 1/2	12	92	55.0	21.0	45.0	87	132.5	16.0	10	32	45	1100	KH1/271X	500
G 3/4	20	111	65.0	31.0	65.0	118	190.0	18.0	14	46	65	2699	KH3/471X	400
G 1	25	122	71.0	38.0	75.0	128	190.0	20.0	14	50	75	3620	KH171X	400
G 1 1/4	32	110	86.0	45.0	93.0	174	320.0	24.0	19	70	Ø100	5688	KH11/471X	400
G 1 1/2	40	120	92.0	52.0	104.5	185	320.0	26.0	19	80	Ø110	7379	KH11/271X	400
G 2	50	140	97.0	59.5	119.5	201	320.0	27.5	19	95	Ø125	10086	KH271X	400

$\frac{\text{PN (bar)}}{10} = \text{PN (MPa)}$

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

*Please add the **suffixes**
below according to the material/
surface required.

Part number suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Stainless Steel	71	KH1/871X	POM / NBR

Dimensions and pressures for reference only, subject to change.



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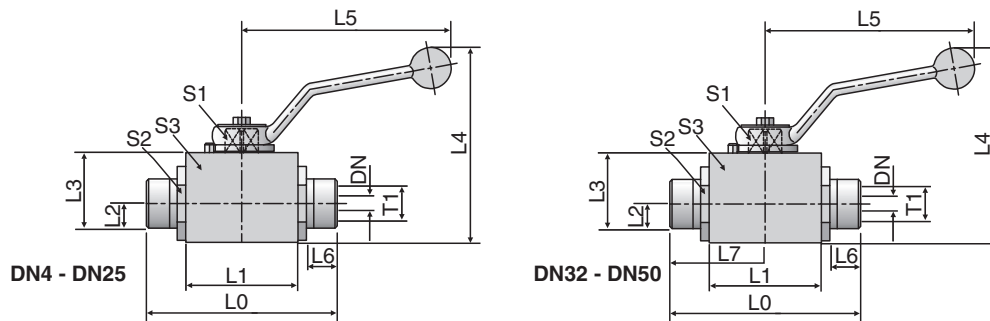
ASSEMBLY

TUBE FAB
EQUIP

GEN TECH

KH/NPT

Two-Way Ball Valve
Female NPT / Female NPT



T1	DN	L0	L1	L2	L3	L4	L5	L6	L7	S1	S2	S3	Weight g/1 piece	Part Number	PN (bar)
1/8-27 NPT	5	69	36	9.5	25.0	55.0	76	7.0	—	7	19	20	225	KH1/8NPTCFX	500
1/4-18 NPT	6	69	36	9.5	25.0	55.0	76	11.0	—	7	19	20	210	KH1/4NPTCFX	500
3/8-18 NPT	10	73	45	14.5	35.0	68.0	100	11.5	—	8	24	30	430	KH3/8NPTCFX	500
1/2-14 NPT	13	82	51	17.0	40.0	93.0	113	15.0	—	10	30	35	670	KH1/2NPTCFX	500
3/4-14 NPT	20	93	60	24.0	55.0	120.0	171	16.0	—	14	41	45	1300	KH3/4NPTCFX	420
1-11.5 NPT	25	115	70	26.0	60.0	125.0	171	19.0	—	14	50	55	2000	KH1NPTCFX	420
1 1/4-11.5 NPT	32	110	80	48.5	94.0	187.0	228	19.5	55	17	60	Ø97	4888	KH11/4NPTCFX	420
1 1/2-11.5 NPT	40	114	82	53.5	104.0	197.0	228	19.5	57	17	75	Ø107	5590	KH11/2NPTCFX	420
2-11.5 NPT	50	133	100	61.5	119.5	211.5	306	22.0	65	17	85	Ø123	9220	KH2NPTCFX	420

PN (bar) = PN (MPa)
10

*Please add the **suffixes**
below according to the material/
surface required.

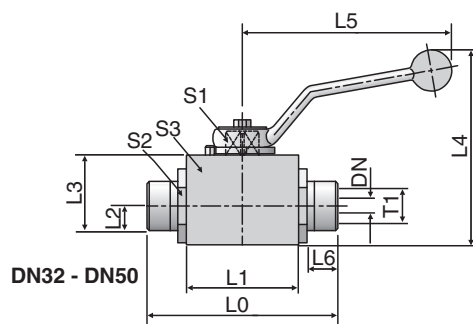
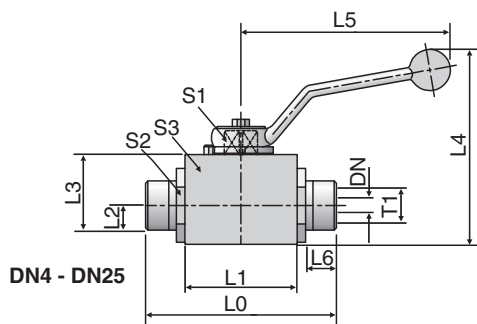
Part number suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Steel	CF	KH1/8NPTCFX	POM / NBR

Dimensions and pressures for reference only, subject to change.

[Click here for CADs, Support Resources or to Configure Parts Online](#)

KH/NPT

Two-Way Ball Valve
Female NPT / Female NPT
Stainless Steel



T1	DN	L0	L1	L2	L3	L4	L5	L6	S1	S2	S3	Weight g/1 piece	Part Number	PN (bar)
1/8-27 NPT	4	82	41.5	13.5	30.0	54	80.0	8.0	7	22	30	431	KH1/8NPT71X	500
1/4-18 NPT	6	82	41.5	13.5	30.0	54	80.0	11.5	7	22	30	436	KH1/4NPT71X	500
3/8-18 NPT	10	95	53.0	18.0	40.0	82	132.5	11.5	8	30	40	956	KH3/8NPT71X	500
1/2-14 NPT	12	108	55.0	21.0	45.0	87	132.5	15.0	10	32	45	1204	KH1/2NPT71X	500
3/4-14 NPT	20	111	65.0	31.0	65.0	118	190.0	16.0	14	46	65	2723	KH3/4NPT71X	400
1-11.5 NPT	25	122	71.0	38.0	75.0	128	190.0	19.0	14	50	75	3646	KH1NPT71X	400
1 1/4-11.5 NPT	32	110	86.0	45.0	93.0	174	320.0	19.5	19	70	Ø100	5887	KH11/4NPT71X	400
1 1/2-11.5 NPT	40	120	92.0	52.0	104.5	185	320.0	19.5	19	80	Ø110	7430	KH11/2NPT71X	400
2-11.5 NPT	50	140	97.0	59.5	119.5	201	320.0	25.0	19	95	Ø125	10100	KH2NPT71X	400

PN (bar)
10 = PN (MPa)

*Please add the **suffixes**
below according to the material/
surface required.

Part number suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Stainless steel	71	KH1/8NPT71X	POM / NBR

Dimensions and pressures for reference only, subject to change.



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ASSEMBLY

TUBE FAB
EQUIP

GEN TECH

WV

Alternating Valve 24° Flareless

These valves permit the passage of flow from either inlet 1 or 2 to the outlet port whilst shutting of the inlet port not in use. The shutting off, of an inlet is achieved by a floating ball bearing which moves by the pressure of the flow.

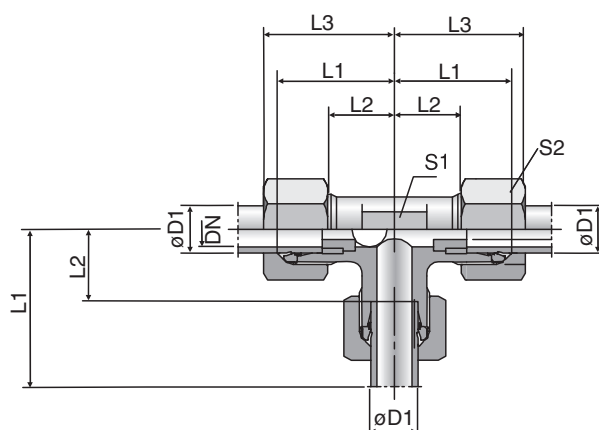
Material: steel
Surface finish: Cr(VI)-free.

Valves are not recommended for compressed air and gases. WV-valves are not to be used in connection with weld nipples, swivel nuts etc. where there is no contact with a shoulder stop in the inner cone.

Temperature range without pressure reductions: -40°C up to +120°C.

Recommended fitting position as shown in the picture.

Leakage rate for alternating valves hydraulic test with test pressure = P_{max} : approx. 20 drops (test period of 1 minute).



Directions of flow:

$D_1 \rightarrow D_3 = D_2$ closed
 $D_2 \rightarrow D_3 = D_1$ closed

Product images are shown with nuts and sleeves for dimensional allowances only. Part numbers are body level only. See note below product table for details

Series	D1	T1	DN	L1	L2	L3	S1	S2	Weight g/1 piece	Part Number*	PN (bar) ¹⁾ CF
L ³⁾	8	M 14x1.5	4.5	21	14	29	14	17	53	WV08LOMD	160
	10	M 16x1.5	6.0	22	15	30	17	19	73	WV10LOMD	160
	12	M 18x1.5	7.5	24	17	32	19	22	96	WV12LOMD	160
	15	M 22x1.5	10.0	28	21	36	19	27	134	WV15LOMD	160

¹⁾ Pressure shown = item deliverable

³⁾ L = light series

$\frac{PN \text{ (bar)}}{10} = PN \text{ (MPa)}$

Delivery without nut and ring. Information on ordering complete fittings or alternative sealing materials see page D11.

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

*Please add the suffixes below according to the material/surface required.

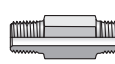
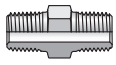
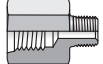
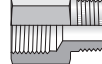
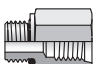
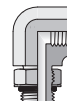
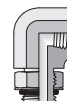
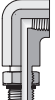
Part number suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Steel	CF	WV08LOMDCF	Steel ball

Dimensions and pressures for reference only, subject to change.

E

PIPE FITTINGS & PORT ADAPTERS



Nipples	F5OHAO SAE-ORB / SAE-ORB  E12	F5OF SAE-ORB / NPTF  E12	FF NPTF / NPTF  E12	FFF NPTF / NPTF Long  E12	F8OHA8O Metric-ORR / Metric-ORR  E13
	FF33M BSPT / BSPT  E13	Couplings	G5HG5 SAE-ORB / SAE-ORB  E13	GG NPTF / NPTF  E13	G8HG8 Metric-ORR / Metric-ORR  E14
Reducers, Expanders, Conversions	F5OG5 SAE-ORB / SAE-ORB  E15		F5OG SAE-ORB / NPTF  E15	F5OHG8 SAE-ORB / Metric  E16	F5OHF42 SAE-ORB / BSPP-ED  E16
	FHG5 NPTF / SAE-ORB  E16	FG NPTF / NPTF  E17	PTR Pipe Thread Reducer  E17	FHG8 NPTF / Metric  E17	FHG4 NPTF / BSPP  E17
F8OHG5 Metric-ORR / SAE-ORB  E18	F8OHG Metric-ORR / NPTF  E18	F82HG8 Metric-ED / Metric-ORR  E19	F4OHG5 BSPP-ORR / SAE-ORB  E19	F4OHG BSPP-ORR / NPTF  E19	GHG4 BSPP / NPTF  E19
PTR34M BSPT / BSPP  E19	RI-ED BSPP-ED / BSPP  E20	RI BSPP-CF / BSPP  E21	FHF3 BSPT / NPTF  E22	F3HG BSPT / NPTF  E22	F3HG5 BSPT / SAE-ORB  E22
45° Elbows	CD45 NPTF / NPTF  E22	DD45 NPTF / NPTF  E23	90° Elbows	AOEG5 SAE-ORB / SAE-ORB  E23	AOEG SAE-ORB / NPTF  E23
	AOE4G SAE-ORB / NPTF Long  E23	CR NPTF / NPTF  E24		CD NPTF / NPTF  E24	DD NPTF / NPTF  E24

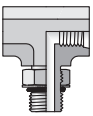
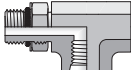
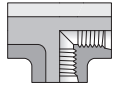
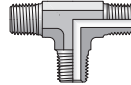
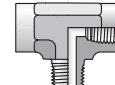
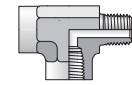
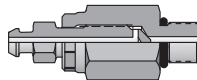
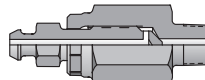
G5G5JAO SAE-ORB Branch Tee  E25	AOG5JG5 SAE-ORB Run Tee  E26	G5G5JG5 SAE-ORB Tee  E26	RRS NPTF Tee  E26	MMS NPTF Branch Tee  E27	MRO NPTF Run Tee  E27
MMO NPTF Tee  E27	MMO444M BSPP Tee  E27	 Cross	KMMOO NPTF Cross  E28	 Plugs and Caps	P5ON SAE-ORB Hex Head  E28
HP5ON SAE-ORB Hollow Hex  E28	HP NPTF Hex Head  E28	SHP NPTF Square Head  E29	HHP NPTF Hollow Hex Head  E29	HPC NPTF Pipe Cap  E29	P87OMN ISO 6149 Hex Head  E29
VSTI M-OR ISO 6149 Hollow Hex  E30	VSTI M-ED Metric-ED Hollow Hex  E30	VSTI R-ED BSPP-ED Hollow Hex  E30	P47OMN BSPP-ORB Hex Head  E30	HP3M BSPT Hex Head  E31	

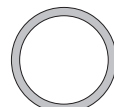
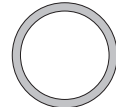
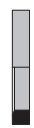
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Bleed Adapters (Shown in Section L)

 Bleed Adapters	P5ONBA Bleed Screw / Bleed Adapter  L10	HPBA Bleed Screw / NPT  L10
--	---	--

O-Rings and Seals (Shown in Section M)

 O-Rings and Seals	SAE O-Ring  M4	ISO 6149 O-Ring  M5	Metric O-Ring  M5	Metric Retaining Ring  M5	BSPP O-Ring  M6
BSPP Retaining Ring  M6	Elastic Seal Ring  M6				

Pipe Fittings and Port Adapters

This Section contains adapters with thread types including: NPT, NPTF, BSPT, BSPP, SAE UN/UNF, and Metric. All the threads in this section are made to industry specifications with conformance shown in Table E1.

Design and Construction

Shaped products (elbows, tees and crosses) are hot forged and machined, while straights are manufactured from cold drawn barstock. Where applicable, these products are made in conformance with the design criteria of the Society of Automotive Engineers Standards, SAE J514, J530.

Imperial tapered pipe products made from steel and brass, for the most part, have NPTF threads. Stainless steel products may have NPT or slightly modified NPT threads to minimize the chance of galling on assembly.

Standard Material Specifications: The standard materials used in the manufacture of Industrial Pipe and Adapter fittings are shown in Table S34 on page S46.

Finish - Zinc -Nickel plating is used on all standard steel products, unless otherwise noted. Stainless steel fittings are passivated.

How Port Connections Work

Tapered (“Pipe”) Threads

There are three types of tapered threads commonly used in industrial applications.

- NPT/NPTF
- BSPT
- Metric Taper

All three thread styles noted above use the same basic metal-to-metal sealing design for achieving a seal. Although very similar, there are differences in the thread dimensions, pitch, and flank angle that do not allow interchangeability.

NPT / NPTF Threads

NPT threads, when assembled without a sealant, leave a spiral leak path at the crest-root junction as shown in Fig. E1. To seal pressurized fluid, NPT threads require a suitable sealant. NPTF threads (Dryseal), on the other hand, when assembled, do not leave the spiral leak path. This is because they have controlled truncation at the crest and root, ensuring metal-to-metal crest-root contact prior to, or just as the male-female thread flanks make contact as seen in Fig. E2. Upon further tightening, the thread crests are flattened out until the flanks also make metal-to-metal contact as seen in Fig. E3. Thus, theoretically at least, there is no passage left for the fluid to leak, provided all surfaces are flawless and dimensions exact. **In reality, this is not the case and a sealant/lubricant is necessary to achieve a leak free joint, even with NPTF threads.** The sealant/lubricant fills all imperfections in the surfaces affecting the seal and also provides lubrication to ease assembly and minimize galling.

Thread	Standard
NPT	ANSI B1.20.1, FED-STD-H28/7
NPTF	SAE J476, ANSI B1.20.3, FED-STD-H28/8
BSPT	BS 21, ISO 7/1
BSPP	BS 2779, ISO 228/1
Metric	ISO 261, ANSI B1.13M, FED-STD-H28/21
UN/UNF*	ANSI B1.1, FED-STD-H28/2

*Class 2A or 2B

Table E1 — Thread Conformance Standards

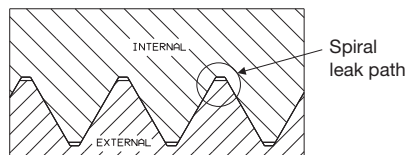


Fig. E1 — NPT: Wrench Tight, No Crest-Root Contact, Flank Contact Only

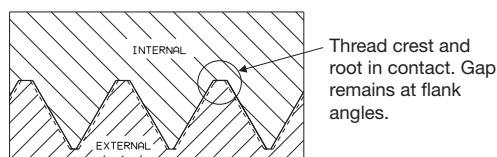


Fig. E2 — NPTF: Hand Tight, Crest to Root Contact

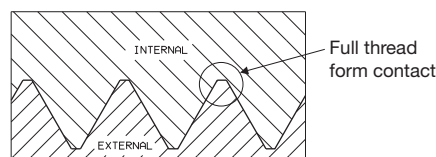


Fig. E3 — NPTF: Wrench Tight, Crest to Root and Flank Contact

Need help determining which fittings goes with which metric port?
Read our article for explanation.

Application Guidelines for Tapered Threads

Straight Connectors with NPT/NPTF 3/4-14 and Smaller

Straight connectors with 3/4-14 NPT/NPTF and smaller male pipe threads have very high pressure holding capability and seal reliability when used in applications without “make and break” (such as maintenance) requirements.

They are also well suited for low cycle non-pulsating (static) applications with pressures in excess of 6,000 psi.

Straight Connectors with NPT/NPTF above 3/4 -14 and All Shaped Connectors with NPT/NPTF Threads

It is difficult to always tighten shapes with pipe threads to an optimum tightness level because of orientation requirements. Also, all connectors in this category with pipe threads have low reliability for leak free operation in dynamic applications. Therefore, they are not preferred where a leak free joint is required.

All NPTF Connectors

While a pipe thread connection can be disassembled and re-assembled in low-pressure systems, it is not intended to be a frequently assembled and disassembled connection.

BSPT and metric taper are designed and perform similarly. Follow the NPT/NPTF guidelines for their application.

For the above applications, a port connection with an elastomeric seal, such as SAE straight thread port (SAE J1926/ISO11926), SAE four bolt split flange (SAE J518/ISO 6162), and ISO 6149 is recommended. For applications where elastomeric seals can't be used, consult the manufacturer.

In general, tapered thread connections have the following limitations which should be considered when specifying port connections:

- Poor dynamic sealing characteristics
- Possible expansion, and even cracking, of the port
- Orientation is a concern in shaped connectors
- Larger threads are more prone to leakage because of more potential leak points
- System contamination due to thread sealant
- Prone to galling, especially in stainless steel
- Limited remakeability

Parallel Thread Adapters

Straight, or parallel, thread ports in various forms are becoming more popular in hydraulic systems because they are more reliable and easier to service.

Three types of threads are used for parallel thread ports:

- UN/UNF (SAE straight thread)
- BSPP (British Standard Pipe, Parallel)
- Metric parallel

Because parallel threads only serve one function (i.e. holding the fitting in place), some other means of sealing is always present, such as an elastomeric O-ring or a metal seal. There are many variations of sealing methods, and in some cases, they are interchangeable among the different thread forms and may appear to be similar.

UN / UNF Threads

SAE J1926 uses **UN/UNF** threads and is often referred to as SAE Straight Thread. The female port is often referred to as ORB or O-ring boss. This port style, shown in Fig. E4, is widely used in North America.

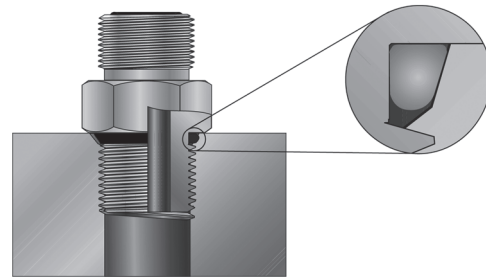


Fig. E4 — Typical O-Ring Boss Port

BSPP

In Europe, Japan and many other former Commonwealth nations, the British Standard Pipe thread form, BSP, is still used extensively to connect pipes and components in hydraulic systems. The BSP thread is offered in a straight (parallel) form known as BSPP and a tapered form known as BSPT. These threads feature a 55° flank angle. Fittings in this section with male BSPP threads use a primary sealing method of an O-ring and retaining ring, as shown in Fig. E5.

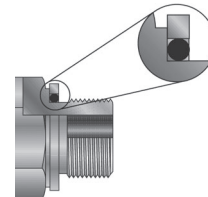


Fig. E5 — O-Ring with Retaining Ring

Additional sealing methods such as a cutting face or an EOlastic seal, as shown in Fig. E6, are also available on other fittings within the catalog. These BSPP fittings are all designed to thread into a female BSPP port (ISO 1179), however, the seal is created with one of the aforementioned sealing methods, not with the threads. It is also important to note that with these BSPP threaded connections, the seal occurs on the port surface, or spotface, not in an O-ring gland or chamfer as SAE and ISO-6149 straight threads do. A detail of the BSPP port is shown on page S37.

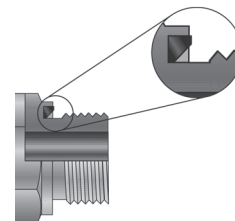


Fig. E6 — O-Ring in Fitting Groove

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Metric Parallel

In Europe, primarily in Germany, the traditional metric parallel thread form is used extensively to connect components in hydraulic systems. This metric thread is designed to thread into and seal in a female Metric parallel port conforming to ISO-9974-1 (DIN-3852, Part 1). Fittings in this section with male metric threads use a primary sealing method of an O-ring and retaining ring (similar to Fig. E5). Additional sealing methods such as a cutting face or an EOlastic seal (similar to Fig. E6) are also available on other fittings within the catalog. Sealing is accommodated with one of the aforementioned sealing methods, not with the threads. It is also important to note that with these male metric threads, the seal occurs on the top face (spotface) of the port, not in an O-ring gland or chamfer as in SAE and ISO-6149 straight threads. A detail of this metric port is shown on page S34.

To minimize further proliferation of additional port thread styles, the International Standards Organization Technical Committee 131 completed the development of a world standard leak-free

port connection. It is recommended that this port, ISO 6149-1, be specified in all new hydraulic fluid power applications. Parker has expanded the product offering to incorporate the ISO 6149 male studs as a standard on many tube fitting products. Parker offers the ISO 6149 male stud end, shown in Fig. E7, on several tube fitting products including: Seal-Lok, Triple-Lok, EO, EO-2, Conversion Adapters, Plugs and more. This port, utilizes metric parallel threads for mechanical holding power and a sealing method similar to the SAE Straight Thread O-ring port. A detail of this metric port is shown on page S34.

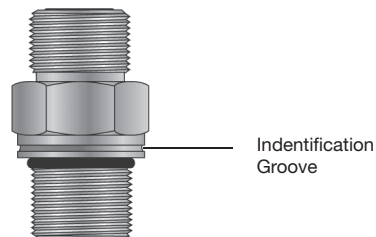


Fig. E7 — ISO 6149 Male

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Reference locations:

Standard Material Specifications: Refer to Table S34 in the General Technical Section on page S46.

Assembly and Installation: Please refer to Port End Assembly located within the Assembly/Installation section of this catalog.

Dynamic Pressure Ratings: Please refer to the last column of the part number tables located on the following pages of this section for the appropriate dynamic pressure ratings.

Dimensions and pressures for reference only, subject to change.

Feature	Advantage	Benefit
Tapered Thread Fittings		
Compact size	Suitable selection for plumbing in limited or tight space in a compact system.	Compact systems are more efficient and reduce the need for excessive routing of hose or tube
Widespread acceptability	Available worldwide for OEM and MRO applications	Eases efforts to find component parts and replacement fittings, reducing unnecessary downtime
High static pressure rating	Allows for use in high pressure applications	Increases versatility of fitting
Offered in three standard materials (Steel, Stainless Steel, and Brass)	Allows customer to match media and temperature applications without special fittings and seals.	Reduces component procurement costs and increases fitting availability
Adaptable to ORFS, Flareless Bite-type, Metric Bite-type, 37° flare, etc.	Versatility for end customer and for customer standardization efforts	Standardization reduces procurement costs
High temperature applications	Is not limited by temperature range of elastomeric seal	Increases versatility of fitting
Straight Thread Fittings		
Reliable sealing in dynamics applications	Ideal in systems with high pressure and cycling	Provides reliable, long-term sealing
Unlimited reusability/ remakeability	Extends the service life of the fitting	Reduces maintenance costs and component replacement costs
No thread sealant needed	Eliminates the potential for contaminating and damaging sensitive hydraulic components due to thread sealant	Reduces maintenance costs and component replacement costs
Infinite positioning of shaped adapters	Eliminates potential of damaging adapter and/or component by incorrectly assembling to accomplish correct orientation	Improves assembly time and reduces maintenance costs
Elastomeric seal	Tolerant of minor surface imperfections to provide leak-free connection	Reduces operational and maintenance costs

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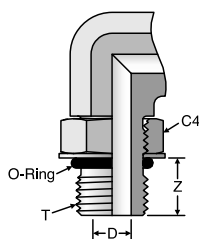
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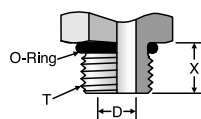
Port Ends for SAE J1926-1 (ISO 11926-1) Port

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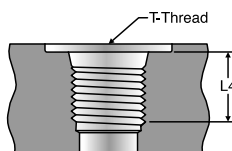
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**SAE J1926
Adjustable**



**SAE J1926
Nonadjustable**



**SAE J1926-1
Port²⁾**

	Thread	Locknut Hex	Drill	Minimum Thread	Stud Length	
SIZE	T UN/UNF	C4 (inch)	D Ref. (inch)	L4 Min (inch)	X (inch)	Z Max (inch)
LIGHT DUTY (TRIPLE-LOK, FERULOK, ADAPTERS)						
2	5/16-24	7/16	0.063	0.390	0.297	0.36
3	3/8-24	1/2	0.126	0.390	0.297	0.33
4	7/16-20	9/16	0.177	0.454	0.360	0.39
5	1/2-20	5/8	0.236	0.454	0.360	0.43
6	9/16-18	11/16	0.295	0.500	0.391	0.43
8	3/4-16	7/8	0.394	0.562	0.438	0.49
10	7/8-14	1	0.492	0.656	0.500	0.56
12	1 1/16-12	1 1/4	0.610	0.750	0.594	0.65
14	1 3/16-12	1 3/8	0.709	0.750	0.594	0.65
16	1 5/16-12	1 1/2	0.846	0.750	0.594	0.65
20	1 5/8-12	1 7/8	1.083	0.750	0.594	0.65
24	1 7/8-12	2 1/8	1.319	0.750	0.594	0.65
32	2 1/2-12	2 3/4	1.772	0.750	0.594	0.59
HEAVY DUTY (SEAL-LOK)						
2	5/16-24	1/2	0.063	0.390	0.374	0.38
3	3/8-24	9/16	0.118	0.390	0.374	0.39
4	7/16-20	5/8	0.177	0.454	0.433	0.43
5	1/2-20	11/16	0.236	0.454	0.433	0.44
6	9/16-18	3/4	0.264	0.500	0.472	0.47
8	3/4-16	15/16	0.378	0.562	0.551	0.54
10	7/8-14	1 1/16	0.484	0.656	0.630	0.63
12	1 1/16-12	1 3/8	0.610	0.750	0.728	0.73
14	1 3/16-12	1 1/2	0.709	0.750	0.728	0.73
16	1 5/16-12	1 5/8	0.811	0.750	0.728	0.73
20	1 5/8-12	1 7/8	1.024	0.750	0.728	0.73
24	1 7/8-12	2 1/8	1.260	0.750	0.728	0.73
32	2 1/2-12	2 3/4	1.575	0.750	0.728	0.73

1) See page M4 for SAE O-rings.

2) See page S23 for port details.

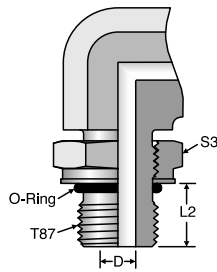
Dimensions and pressures for reference only, subject to change.

Port Ends for ISO 6149-1 Port

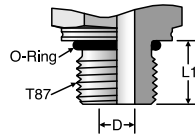
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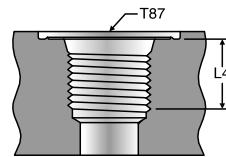
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**ISO 6149
Adjustable**



**ISO 6149
Nonadjustable**



**ISO 6149
Port²⁾**

	Thread	Drill	Minimum Thread	Stud Length		Lockhead Hex
SIZE	T87 Metric	D Ref. (mm)	L4 Min (mm)	L1 (mm)	L2 Max (mm)	S3 (mm)
LIGHT DUTY (TRIPLE-LOK, FERULOK, ADAPTERS)						
M8	M8X1	3	10.0	8.5	8.7	12
M10	M10X1	4.5	10.0	8.5	8.7	14
M12	M12X1.5	6	11.5	11.0	11.1	17
M14	M14X1.5	7.5	11.5	11.0	11.1	19
M16	M16X1.5	9	13.0	11.5	11.6	22
M18	M18X1.5	11	14.5	12.5	12.6	24
M20	M20X1.5	—	14.5			—
M22	M22X1.5	14	15.5	13.0	13.0	27
M27	M27X2	18	19.0	16.0	16.0	32
M30	M30X2	—	19.0			—
M33	M33X2	23	19.0	16.0	16.0	41
M38	M38X2	—	19.0			—
M42	M42X2	30	19.5	16.0	16.0	50
M48	M48X2	36	22.0	17.5	17.3	55
M60	M60X2	44	24.5	17.5	17.3	65
HEAVY DUTY (SEAL-LOK)						
M8	M8X1	2	10.0	9.5	9.7	12
M10	M10X1	3	10.0	9.5	9.7	14
M12	M12X1.5	4	11.5	11.0	11.1	17
M14	M14X1.5	6	11.5	11.0	11.1	19
M16	M16X1.5	7	13.0	12.5	12.6	22
M18	M18X1.5	9	14.5	14.0	14.1	24
M20	M20X1.5	11	14.5	14.0		—
M22	M22X1.5	12	15.5	15.0	15.0	27
M27	M27X2	15	19.0	18.5	18.0	32
M30	M30X2	18	19.0	18.5	18.5	36
M33	M33X2	20	19.0	18.5	18.5	41
M38	M38X2	26	19.0	18.5	19.0	46
M42	M42X2	26	19.5	19.0	19.0	50
M48	M48X2	32	22.0	21.5	21.5	55
M60	M60X2	40	24.5	24.0	24.0	65

1) See page M5 for ISO 6149 O-rings.

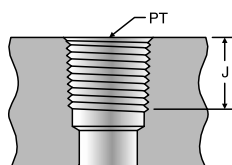
2) See page S22 for port details.

Dimensions and pressures for reference only, subject to change.

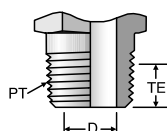
NPTF and BSPT Port Ends

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**NPTF and BSPT
Port**



**NPTF and BSPT
Stud**

	Thread	Drill	Minimum Thread	Thread Engagement
SIZE	PT	D Ref. (inch)	J (inch)	TE (inch)
NPTF				
2	1/8-27	0.188	0.31	0.24
4	1/4-18	0.281	0.44	0.34
6	3/8-18	0.406	0.47	0.34
8	1/2-14	0.531	0.59	0.46
12	3/4-14	0.719	0.63	0.46
16	1-11 1/2	0.938	0.75	0.59
20	1 1/4-11 1/2	1.250	0.78	0.59
24	1 1/2-11 1/2	1.500	0.81	0.59
32	2-11 1/2	1.938	0.81	0.59
BSPT				
2	1/8-28	0.188	0.31	0.24
4	1/4-19	0.281	0.44	0.34
6	3/8-19	0.406	0.47	0.34
8	1/2-14	0.531	0.59	0.46
12	3/4-14	0.719	0.63	0.46
16	1-11	0.938	0.75	0.59
20	1 1/4-11	1.250	0.78	0.59
24	1 1/2-11	1.438	0.81	0.59
32	2-11	1.938	0.81	0.59

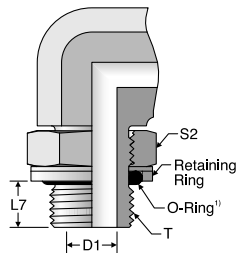
Dimensions and pressures for reference only, subject to change.

Port Ends for ISO 9974-1 and 1179-1 Ports

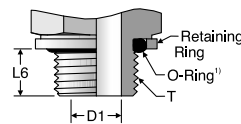
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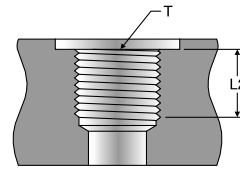
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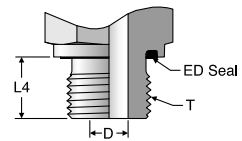
**ISO 9974 and 1179
Adjustable O-Ring
with Retaining Ring²⁾**



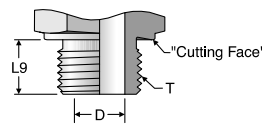
**ISO 9974 and 1179
Non-Adjustable O-Ring
with Retaining Ring²⁾**



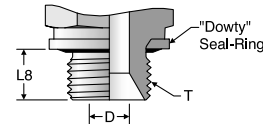
**ISO 9974³⁾ and 1179⁴⁾
Port**



**ISO 9974 and 1179
ED Seal**



**ISO 9974 and 1179
Cutting Face Seal**



**Dowty® Seal Stud End for
ISO 9974-1 and ISO 1179-1 Ports**

ISO 9974

		O-Ring, RR Stud	Light Duty (L Series)	Heavy Duty (S Series)	Port Min Depth	ED Stud	O-Ring, RR Non- Adj Stud	O-Ring, RR Adj- Stud	O-Ring, RR Adj-Stud, Locknut Hex	Dowty Seal Stud	Cutting Face Stud
	Thread	Drill Ref.									
SIZE	T Metric	D1 (mm)	D (mm)		L2 (mm)	L4 (mm)	L6 (mm)	L7 (mm)	S2 (mm)	L8 (mm)	L9 (mm)
M8	M8X1	2	—	—	8	—	8.0	8.6	11	—	8
M10	M10X1	4	4	—	8	8	8.0	8.7	14	—	8
M12	M12X1.5	5	6	4	12	12	8.7	10.0	17	—	12
M14	M14X1.5	7	7	5	12	12	8.7	10.0	19	—	12
M16	M16X1.5	9	9	7	12	12	9.0	11.3	21	—	12
M18	M18X1.5	11	11	8	12	12	11.0	12.2	22	—	12
M20	M20X1.5	11	-	10	14	14	12.7	—	—	—	14
M22	M22X1.5	13	14	12	14	14	12.7	13.7	27	—	14
M26	M26X1.5	13	18	—	16	16	14.0	—	—	—	16
M27	M27X2	16	—	16	16	16	15.0	16.8	32	—	16
M33	M33X2	22	23	20	18	18	15.0	16.8	38	—	18
M42	M42X2	28	30	25	20	20	15.5	17.3	48	—	20
M48	M48X2	36	36	32	22	22	19.5	19.3	55	—	22
M60	M60X2	44	—	—	24.5	—	20.5	22.3	65	—	—

ISO 1179

		O-Ring, RR Stud	Light Duty (L Series)	Heavy Duty (S Series)	Port Min Depth	ED Stud	O-Ring, RR Non- Adj Stud	O-Ring, RR Adj- Stud	O-Ring, RR Adj-Stud, Locknut Hex	Dowty Seal Stud	Cutting Face Stud
	Thread	Drill Ref.									
SIZE	T BSPP	D1 (mm)	D (mm)		L2 (mm)	L4 (mm)	L6 (mm)	L7 (mm)	S2 (mm)	L8 (mm)	L9 (mm)
2	1/8-28	4.4	4	—	8	8	6.3	7.2	14	8	8
4	1/4-19	7.5	7	5	12	12	9.4	9.4	19	11	12
6	3/8-19	9.9	9	8	12	12	9.4	9.3	22	12	12
8	1/2-14	12.3	14	12	14	14	12.6	13.1	30	14	14
12	3/4-14	15.5	18	16	16	16	12.6	13.1	36	16	16
16	1-11	21.5	23	20	18	18	16.0	14.7	46	16	18
20	1-1/4-11	27.5	30	25	20	20	16.0	14.7	50	19	20
24	1-1/2-11	33.0	36	32	22	22	16.0	14.7	55	22	22
32	2-11	—	—	—	26	—	16.0	14.7	75	25	—

1) See Section M for O-rings and seals.

2) O-ring with retaining ring stud ends are not shown in ISO 9974.

3) See page S38 for ISO 9974-1 port details.

4) See page S37 for ISO 1179-1 port details.

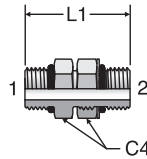
Dimensions and pressures for reference only, subject to change.

[Click here for CADs, Support Resources or to Configure Parts Online](#)

F50HAO

Straight Thread Union
SAE-ORB / SAE-ORB

HPD Base # 0505



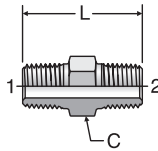
TUBE FITTING PART #	END SIZE		C4 HEX (in.)	L1 (in.)	Dynamic Pressure (x 1,000 PSI)		
	1	2			-S	-SS	-B
	UN/UNF-2A	UN/UNF-2A					
4 F50HAO	7/16 - 20	7/16 - 20	9/16	1.27	6.0	6.0	3.3
6 F50HAO	9/16 - 18	9/16 - 18	11/16	1.41	6.0	6.0	3.3
8 F50HAO	3/4 - 16	3/4 - 16	7/8	1.64	6.0	6.0	3.3
10 F50HAO	7/8 - 14	7/8 - 14	1	1.81	5.0	5.0	3.3
12 F50HAO	1 1/16 - 12	1 1/16 - 12	1 1/4	2.13	5.0	5.0	3.3
16 F50HAO	1 5/16 - 12	1 5/16 - 12	1 1/2	2.44	4.0	4.0	2.6
20 F50HAO	1 5/8 - 12	1 5/8 - 12	1 7/8	2.44	4.0	4.0	2.6
24 F50HAO	1 7/8 - 12	1 7/8 - 12	2 1/8	2.44	3.0	3.0	1.9
32 F50HAO	2 1/2 - 12	2 1/2 - 12	2 3/4	2.44	2.0	2.0	1.3

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

FF

Pipe Nipple
NPTF / NPTF

HPD Base # 0101 SAE 140137



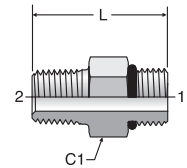
TUBE FITTING PART #	END SIZE		C HEX (in.)	L (in.)	Dynamic Pressure (x 1,000 PSI)		
	1 NPTF	2 NPTF			-S	-SS	-B
1/8 FF	1/8 - 27	1/8 - 27	7/16	1.06	6.0	7.2	3.9
1/4 x 1/8 FF	1/4 - 18	1/8 - 27	5/8	1.25	6.0	7.2	3.9
1/4 FF	1/4 - 18	1/4 - 18	5/8	1.45	6.0	7.2	3.9
3/8 x 1/8 FF	3/8 - 18	1/8 - 27	3/4	1.27	6.0	7.2	3.9
3/8 x 1/4 FF	3/8 - 18	1/4 - 18	3/4	1.45	6.0	7.2	3.9
3/8 FF	3/8 - 18	3/8 - 18	3/4	1.45	6.0	7.2	3.9
1/2 x 1/8 FF	1/2 - 14	1/8 - 27	7/8	1.52	6.0	7.2	3.3
1/2 x 3/8 FF	1/2 - 14	3/8 - 18	7/8	1.70	6.0	7.2	3.9
1/2 x 1/4 FF	1/2 - 14	1/4 - 18	7/8	1.70	6.0	7.2	3.9
1/2 FF	1/2 - 14	1/2 - 14	7/8	1.89	6.0	7.2	3.9
3/4 x 1/4 FF	3/4 - 14	1/4 - 18	1 1/8	1.78	5.5	6.6	3.5
3/4 x 3/8 FF	3/4 - 14	3/8 - 18	1 1/8	1.78	5.5	6.6	3.3
3/4 x 1/2 FF	3/4 - 14	1/2 - 14	1 1/8	1.96	5.5	6.6	3.5
3/4 FF	3/4 - 14	3/4 - 14	1 1/8	1.96	5.5	6.6	3.5
1 x 1/4 FF	1 - 11 1/2	1/4 - 18	1 3/8	1.96	4.5	5.4	3.3
1 x 3/8 FF	1 - 11 1/2	3/8 - 18	1 3/8	1.96	4.5	5.4	3.3
1 x 1/2 FF	1 - 11 1/2	1/2 - 14	1 3/8	2.09	4.5	5.4	3.3
1 x 3/4 FF	1 - 11 1/2	3/4 - 14	1 3/8	2.09	4.5	5.4	3.3
1 FF	1 - 11 1/2	1 - 11 1/2	1 3/8	2.34	4.5	5.4	3.0
1 1/4 x 1 FF	1 1/4 - 11 1/2	1 - 11 1/2	1 3/4	2.45	3.0	3.6	2.3
1 1/4 FF	1 1/4 - 11 1/2	1 1/4 - 11 1/2	1 3/4	2.48	3.0	3.6	2.3
1 1/2 x 1 FF	1 1/2 - 11 1/2	1 - 11 1/2	2	2.55	3.0	3.6	2.3
1 1/2 FF	1 1/2 - 11 1/2	1 1/2 - 11 1/2	2	2.61	3.0	3.6	2.3
2 x 1 1/2 FF	2 - 11 1/2	1 1/2 - 11 1/2	2 1/2	2.79	2.0	2.4	1.5
2 FF	2 - 11 1/2	2 - 11 1/2	2 1/2	2.83	2.0	2.4	1.5

Note: All steel "FF" fittings have a 30° chamfer for sealing with NPSM swivel type fittings.

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

F50F

Male Pipe Adapter
SAE-ORB / NPTF

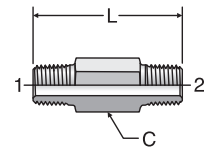


TUBE FITTING PART #	END SIZE		C1 HEX (in.)	L (in.)	Dynamic Pressure (x 1,000 PSI)		
	1	2			-S	-SS	-B
	UN/UNF-2A	NPTF					
4-1/8 F50F	7/16 - 20	1/8 - 27	9/16	1.00	6.0	6.0	3.3
4-1/4 F50F	7/16 - 20	1/4 - 18	9/16	1.20	6.0	6.0	3.3
5-1/4 F50F	1/2 - 20	1/4 - 18	5/8	1.20	6.0	6.0	3.3
6-1/4 F50F	9/16 - 18	1/4 - 18	11/16	1.25	6.0	6.0	3.3
6-3/8 F50F	9/16 - 18	3/8 - 18	11/16	1.34	6.0	6.0	3.3
8-1/4 F50F	3/4 - 16	1/4 - 18	7/8	1.36	6.0	6.0	3.3
8-3/8 F50F	3/4 - 16	3/8 - 18	7/8	1.36	6.0	6.0	3.3
8-1/2 F50F	3/4 - 16	1/2 - 14	7/8	1.53	6.0	6.0	3.3
10-1/2 F50F	7/8 - 14	1/2 - 14	1	1.59	6.0	6.0	3.3
12-1/2 F50F	1 1/16 - 12	1/2 - 14	1 1/4	1.80	5.0	6.0	3.3
12-3/4 F50F	1 1/16 - 12	3/4 - 14	1 1/4	1.80	5.0	6.0	3.3
16-3/4 F50F	1 5/16 - 12	3/4 - 14	1 1/2	1.78	4.5	5.4	2.9
16-1 F50F	1 5/16 - 12	1 - 11 1/2	1 1/2	1.98	4.5	5.4	2.9
20-1 1/4 F50F	1 5/8 - 12	1 1/4 - 11 1/2	1 7/8	2.02	3.0	3.6	1.9
24-1 1/2 F50F	1 7/8 - 12	1 1/2 - 11 1/2	2 1/8	2.25	3.0	3.0	1.9

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

FFF

Long Pipe Nipple
NPTF / NPTF



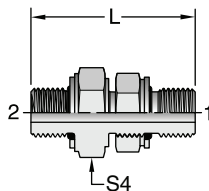
TUBE FITTING PART #	END SIZE		C HEX (in.)	L (in.)	Dynamic Pressure (x 1,000 PSI)		
	1	2			-S	-SS	-B
	NPTF	NPTF					
1/8 x 1.5 FFF	1/8 - 27	1/8 - 27	7/16	1.5	6.0	7.2	3.9
1/8 x 2.0 FFF	1/8 - 27	1/8 - 27	7/16	2.0	6.0	7.2	3.9
1/8 x 2.5 FFF	1/8 - 27	1/8 - 27	7/16	2.5	6.0	7.2	3.9
1/8 x 3.0 FFF	1/8 - 27	1/8 - 27	7/16	3.0	6.0	7.2	3.9
1/4 x 1.5 FFF	1/4 - 18	1/4 - 18	5/8	1.5	6.0	7.2	3.9
1/4 x 2.0 FFF	1/4 - 18	1/4 - 18	5/8	2.0	6.0	7.2	3.9
1/4 x 2.5 FFF	1/4 - 18	1/4 - 18	5/8	2.5	6.0	7.2	3.9
1/4 x 3.0 FFF	1/4 - 18	1/4 - 18	5/8	3.0	6.0	7.2	3.9
1/4 x 4.0 FFF	1/4 - 18	1/4 - 18	5/8	4.0	6.0	7.2	3.9
3/8 x 2.0 FFF	3/8 - 18	3/8 - 18	3/4	2.0	6.0	7.2	3.3
3/8 x 3.0 FFF	3/8 - 18	3/8 - 18	3/4	3.0	6.0	7.2	3.3
3/8 x 3.5 FFF	3/8 - 18	3/8 - 18	3/4	3.5	6.0	7.2	3.3
3/8 x 4.0 FFF	3/8 - 18	3/8 - 18	3/4	4.0	6.0	7.2	3.3
1/2 x 2.0 FFF	1/2 - 14	1/2 - 14	7/8	2.0	6.0	7.2	3.3
1/2 x 2.5 FFF	1/2 - 14	1/2 - 14	7/8	2.5	6.0	7.2	3.3
1/2 x 3.0 FFF	1/2 - 14	1/2 - 14	7/8	3.0	6.0	7.2	3.9
1/2 x 4.0 FFF	1/2 - 14	1/2 - 14	7/8	4.0	6.0	7.2	3.3
1/2 x 6.0 FFF	1/2 - 14	1/2 - 14	7/8	6.0	6.0	7.2	3.3
3/4 x 3.0 FFF	3/4 - 14	3/4 - 14	1 1/8	3.0	5.5	6.6	3.3
1 x 3.0 FFF	1 - 11 1/2	1 - 11 1/2	1 3/8	3.0	4.5	5.4	3.3

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

Dimensions and pressures for reference only, subject to change.

F80HA80

Metric Union
Metric-ORR / Metric-ORR
(for ISO 9974 / DIN 3852-1 Port)

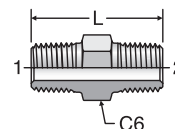


TUBE FITTING PART #	End Size		S4 Hex (mm)	L (mm)	Dynamic Pressure (x 1,000 PSI)		
	1 Metric Str	2 Metric Str			S	SS	B
M10F80HA80	M10X1	M10X1	16	33.8	6.0		
M12F80HA80	M12X1.5	M12X1.5	19	36.8	6.0		
M14F80HA80	M14X1.5	M14X1.5	22	37.3	6.0		
M16F80HA80	M16X1.5	M16X1.5	22	46.0	5.0		
M18F80HA80	M18X1.5	M18X1.5	27	48.8	5.0		
M20M18F80HA80	M20X1.5	M18X1.5	27	49.8	4.0		
M22F80HA80	M22X1.5	M22X1.5	27	52.6	4.0		
M27F80HA80	M27X2	M27X2	32	62.0	4.0		
M33F80HA80	M33X2	M33X2	41	62.0	3.0		

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

FF33M

BSPT Pipe Nipple
BSPT / BSPT

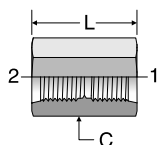


TUBE FITTING PART #	END SIZE		C6 HEX (mm)	L (mm)	Dynamic Pressure (x 1,000 PSI)		
	1 BSPT	2 BSPT			S	SS	B
1/8FF33M	1/8 - 28	1/8 - 28	11	27	6.0	6.0	3.3
1/4x1/8FF33M	1/4 - 19	1/8 - 28	14	32	6.0	6.0	3.3
1/4FF33M	1/4 - 19	1/4 - 19	14	37	6.0	6.0	3.3
3/8x1/4FF33M	3/8 - 19	1/4 - 19	17	37	6.0	6.0	3.3
3/8FF33M	3/8 - 19	3/8 - 19	17	37	6.0	6.0	3.3
1/2FF33M	1/2 - 14	1/2 - 14	22	48	6.0	6.0	3.3
1/2x3/8FF33M	1/2 - 14	3/8 - 19	22	43	6.0	6.0	3.3
3/4FF33M	3/4 - 14	3/4 - 14	27	50	5.5	5.5	3.3
3/4x1/2FF33M	3/4 - 14	1/2 - 14	27	50	5.5	5.5	3.3
1X3/4FF33M	1 - 11	3/4 - 14	36	55	4.5	4.5	2.9
1FF33M	1 - 11	1 - 11	36	59	4.5	4.5	2.9

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

G5HG5

Straight Thread Coupling
Female SAE / Female SAE

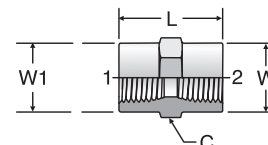


TUBE FITTING PART #	END SIZE		C HEX (in.)	L (in.)	Dynamic Pressure (x 1,000 PSI)		
	1 UN/UNF-2B	2 UN/UNF-2B			-S	-SS	-B
4 G5HG5	7/16 - 20	7/16 - 20	11/16	1.13	7.0	6.0	3.3
6 G5HG5	9/16 - 18	9/16 - 18	13/16	1.26	6.0	6.0	3.3
8 G5HG5	3/4 - 16	3/4 - 16	1	1.42	5.0	5.0	3.3
10 G5HG5	7/8 - 14	7/8 - 14	1 3/16	1.60	4.5	4.5	2.9
12 G5HG5	1 1/16 - 12	1 1/16 - 12	1 3/8	1.85	4.5	4.5	2.9
16 G5HG5	1 5/16 - 12	1 5/16 - 12	1 5/8	1.85	3.5	3.5	2.2

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

GG

Pipe Coupling
NPTF / NPTF



SAE 140138
HPD Base # 0202

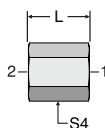
TUBE FITTING PART #	END SIZE		C HEX (in.)	L (in.)	W1 (in.)	W (in.)	Dynamic Pressure (x 1,000 PSI)		
	1 NPTF	2 NPTF					-S	-SS	-B
1/8 GG	1/8 - 27	1/8 - 27	5/8	0.75	0.63	0.63	6.0	6.0	3.9
1/4 x 1/8 GG	1/4 - 18	1/8 - 27	3/4	0.94	0.75	0.63	6.0	6.0	3.9
1/4 GG	1/4 - 18	1/4 - 18	3/4	1.13	0.75	0.75	6.0	6.0	3.9
3/8 x 1/8 GG	3/8 - 18	1/8 - 27	7/8	1.03	0.88	0.63	6.0	6.0	3.9
3/8 x 1/4 GG	3/8 - 18	1/4 - 18	7/8	1.13	0.88	0.75	6.0	6.0	3.9
3/8 GG	3/8 - 18	3/8 - 18	7/8	1.13	0.88	0.88	6.0	6.0	3.9
1/2 x 1/8 GG	1/2 - 14	1/8 - 27	1 1/8	1.06	1.13	0.63	6.0	6.0	3.2
1/2 x 1/4 GG	1/2 - 14	1/4 - 18	1 1/8	1.38	1.13	0.75	5.0	6.0	3.2
1/2 x 3/8 GG	1/2 - 14	3/8 - 18	1 1/8	1.50	1.13	0.88	5.0	6.0	3.2
1/2 GG	1/2 - 14	1/2 - 14	1 1/8	1.50	1.13	1.13	5.0	6.0	3.2
3/4 x 1/4 GG	3/4 - 14	1/4 - 18	1 3/8	1.55	1.36	0.75	4.0	4.8	3.1
3/4 x 1/2 GG	3/4 - 14	1/2 - 14	1 3/8	1.88	1.36	1.13	4.0	4.8	3.1
3/4 GG	3/4 - 14	3/4 - 14	1 3/8	1.53	1.38	1.38	4.0	4.8	2.6
1 GG	1 - 11 1/2	1 - 11 1/2	1 5/8	1.89	1.63	1.63	3.0	3.6	1.9
1 x 1/2 GG	1 - 11 1/2	1/2 - 14	1 5/8	1.77	1.63	1.13	3.0	3.6	1.9
1 x 3/4 GG	1 - 11 1/2	3/4 - 14	1 5/8	1.77	1.63	1.38	3.0	3.6	1.9
1 1/4 GG	1 1/4 - 11 1/2	1 1/4 - 11 1/2	2	1.93	2.00	2.00	2.5	3.0	1.9
1 1/4 x 1 GG	1 1/4 - 11 1/2	1 - 11 1/2	2	1.93	2.00	1.63	2.5	3.0	1.9
1 1/2 GG	1 1/2 - 11 1/2	1 1/2 - 11 1/2	2 3/8	1.93	2.38	2.38	2.0	2.4	1.5
1 1/2 x 1 1/4 GG	1 1/2 - 11 1/2	1 1/4 - 11 1/2	2 3/8	1.93	2.37	2.37	2.0	2.4	1.5
2 GG	2 - 11 1/2	2 - 11 1/2	2 7/8	1.97	2.88	2.88	2.0	2.4	1.5

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

Dimensions and pressures for reference only, subject to change.

G8HG8

Metric Female Union
Metric-ORR / Metric-ORR
(for ISO 9974 / DIN 3852-1 Port)

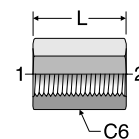


TUBE FITTING PART #	End Size		S4 Hex (mm)	L (mm)	Dynamic Pressure (x 1,000 PSI) S
	1 Metric Str	2 Metric Str			
M10G8HG8	M10X1	M10X1	17	19	6.0
M14G8HG8	M14X1.5	M14X1.5	22	28	6.0
M16G8HG8	M16X1.5	M16X1.5	24	29	6.0
M18G8HG8	M18X1.5	M18X1.5	27	29	6.0
M20G8HG8	M20X1.5	M20X1.5	32	32	5.0
M27G8HG8	M27X2	M27X2	38	38	5.0
M33G8HG8	M33X2	M33X2	46	44	5.0

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

GG44M

BSPP Female Union
BSPP / BSPP



TUBE FITTING PART #	END SIZE		C6 HEX (mm)	L (mm)	Dynamic Pressure (x 1,000 PSI)		
	1 BSPP	2 BSPP			S	SS	B
1/8GG44M	1/8 - 28	1/8 - 28	14	19.0	6.0	6.0	3.3
1/4X1/8GG44M	1/4 - 19	1/8 - 28	17	24.0	6.0	6.0	3.3
1/4GG44M	1/4 - 19	1/4 - 19	17	28.0	6.0	6.0	3.3
3/8GG44M	3/8 - 19	3/8 - 19	22	28.0	6.0	6.0	3.3
3/8x1/4GG44M	3/8 - 19	1/4 - 19	22	28.0	6.0	6.0	3.3
1/2x3/8GG44M	1/2 - 14	3/8 - 19	27	31.0	5.0	5.0	3.3
1/2GG44M	1/2 - 14	1/2 - 14	27	32.5	5.0	5.0	3.3
1GG44M	1 - 11	1 - 11	46	42.0	3.0	3.0	1.9

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

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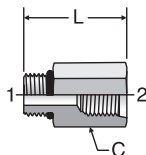
GEN TECH

Dimensions and pressures for reference only, subject to change.

F50G5

Straight Thread Reducer / Expander
SAE-ORB / SAE-ORB

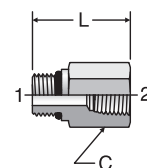
SAE 090136
HPD Base # 0510



F50G

Female Pipe Adapter
SAE-ORB / NPTF

SAE 090156



TUBE FITTING PART #	END SIZE		C HEX (in.)	L (in.)	Dynamic Pressure (x 1,000 PSI)		
	1	2			-S	-SS	-B
	UN/UNF-2A	UN/UNF-2B					
2-4 F50G5	5/16 - 24	7/16 - 20	11/16	1.03	7.5	7.5	3.3
4-4 F50G5	7/16 - 20	7/16 - 20	11/16	1.08	7.5	7.5	3.3
4-6 F50G5	7/16 - 20	9/16 - 18	13/16	1.16	6.0	6.0	3.3
6-4 F50G5	9/16 - 18	7/16 - 20	11/16	1.03	6.0	6.0	3.3
6-6 F50G5	9/16 - 18	9/16 - 18	13/16	1.16	6.0	6.0	3.3
6-8 F50G5	9/16 - 18	3/4 - 16	1 1/16	1.38	6.0	6.0	3.3
8-4 F50G5	3/4 - 16	7/16 - 20	7/8	1.13	6.0	6.0	3.3
8-6 F50G5	3/4 - 16	9/16 - 18	7/8	1.13	6.0	6.0	3.3
8-10 F50G5	3/4 - 16	7/8 - 14	1 1/8	1.56	4.5	4.5	2.9
10-4 F50G5	7/8 - 14	7/16 - 20	1	0.81	5.0	5.0	3.3
10-6 F50G5	7/8 - 14	9/16 - 18	1	1.26	5.0	5.0	3.3
10-8 F50G5	7/8 - 14	3/4 - 16	1	1.31	5.0	5.0	3.3
10-12 F50G5	7/8 - 14	1 1/16 - 12	1 3/8	1.69	4.5	4.5	2.9
12-4 F50G5	1 1/16 - 12	7/16 - 20	1 1/4	1.00	5.0	5.0	3.3
12-6 F50G5	1 1/16 - 12	9/16 - 18	1 1/4	1.00	5.0	5.0	3.3
12-8 F50G5	1 1/16 - 12	3/4 - 16	1 1/4	1.45	5.0	5.0	3.3
12-10 F50G5	1 1/16 - 12	7/8 - 14	1 1/4	1.53	5.0	5.0	3.3
12-16 F50G5	1 1/16 - 12	1 5/16 - 12	1 5/8	1.88	3.5	3.5	2.2
16-6 F50G5	1 5/16 - 12	9/16 - 18	1 1/2	1.00	4.5	4.5	2.9
16-8 F50G5	1 5/16 - 12	3/4 - 16	1 1/2	1.00	4.5	4.5	2.9
16-10 F50G5	1 5/16 - 12	7/8 - 14	1 1/2	1.00	4.5	4.5	2.9
16-12 F50G5	1 5/16 - 12	1 1/16 - 12	1 1/2	1.75	4.5	4.5	2.9
16-20 F50G5	1 5/16 - 12	1 5/8 - 12	2 1/8	1.97	3.0	3.0	1.9
20-6 F50G5	1 5/8 - 12	9/16 - 18	1 7/8	1.00	4.0	4.0	2.6
20-8 F50G5	1 5/8 - 12	3/4 - 16	1 7/8	1.00	4.0	4.0	2.6
20-10 F50G5	1 5/8 - 12	7/8 - 14	1 7/8	1.00	4.0	4.0	2.6
20-12 F50G5	1 5/8 - 12	1 1/16 - 12	1 7/8	1.00	4.0	4.0	2.6
20-16 F50G5	1 5/8 - 12	1 5/16 - 12	1 7/8	1.72	4.0	4.0	2.6
20-24 F50G5	1 5/8 - 12	1 7/8 - 12	2 1/2	1.88	3.0	3.0	1.9
24-6 F50G5	1 7/8 - 12	9/16 - 18	2 1/8	1.00	3.0	3.0	1.9
24-12 F50G5	1 7/8 - 12	1 1/16 - 12	2 1/8	1.00	3.0	3.0	1.9
24-16 F50G5	1 7/8 - 12	1 5/16 - 12	2 1/8	1.00	3.0	3.0	1.9
24-20 F50G5	1 7/8 - 12	1 5/8 - 12	2 1/8	1.75	3.0	3.0	1.9
32-20 F50G5	2 1/2 - 12	1 5/8 - 12	2 3/4	1.00	2.0	2.0	1.3
32-24 F50G5	2 1/2 - 12	1 7/8 - 12	2 3/4	1.80	2.0	2.0	1.3

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

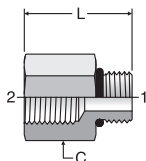
TUBE FITTING PART #	END SIZE		C HEX (in.)	L (in.)	Dynamic Pressure (x 1,000 PSI)		
	1	2			-S	-SS	-B
	UN/UNF-2A	NPTF					
2-1/8 F50G	5/16 - 24	1/8 - 27	9/16	0.91	6.0	6.0	3.3
4-1/8 F50G	7/16 - 20	1/8 - 27	9/16	1.00	6.0	6.0	3.3
4-1/4 F50G	7/16 - 20	1/4 - 18	3/4	1.16	6.0	6.0	3.3
5-1/8 F50G	1/2 - 20	1/8 - 27	5/8	1.06	6.0	6.0	3.3
5-1/4 F50G	1/2 - 20	1/4 - 18	3/4	1.19	6.0	6.0	3.3
6-1/8 F50G	9/16 - 18	1/8 - 27	11/16	1.00	6.0	6.0	3.3
6-1/4 F50G	9/16 - 18	1/4 - 18	3/4	1.16	6.0	6.0	3.3
6-3/8 F50G	9/16 - 18	3/8 - 18	7/8	1.28	6.0	6.0	3.3
6-1/2 F50G	9/16 - 18	1/2 - 14	1 1/8	1.53	5.0	6.0	3.3
8-1/8 F50G	3/4 - 16	1/8 - 27	7/8	0.80	6.0	6.0	3.3
8-1/4 F50G	3/4 - 16	1/4 - 18	7/8	1.13	6.0	6.0	3.3
8-3/8 F50G	3/4 - 16	3/8 - 18	7/8	1.28	6.0	6.0	3.3
8-1/2 F50G	3/4 - 16	1/2 - 14	1 1/8	1.50	5.0	6.0	3.3
10-1/4 F50G	7/8 - 14	1/4 - 18	1	0.81	5.0	6.0	3.3
10-3/8 F50G	7/8 - 14	3/8 - 18	1	1.31	5.0	6.0	3.3
10-1/2 F50G	7/8 - 14	1/2 - 14	1 1/8	1.53	5.0	6.0	3.3
10-3/4 F50G	7/8 - 14	3/4 - 14	1 3/8	1.63	4.0	4.0	2.6
12-1/4 F50G	1 1/16 - 12	1/4 - 18	1 1/4	1.00	6.0	6.0	3.3
12-3/8 F50G	1 1/16 - 12	3/8 - 18	1 1/4	1.34	5.0	6.0	3.3
12-1/2 F50G	1 1/16 - 12	1/2 - 14	1 1/4	1.41	5.0	6.0	3.3
12-3/4 F50G	1 1/16 - 12	3/4 - 14	1 3/8	1.72	4.0	4.8	3.1
14-1/2 F50G	1 3/16 - 12	1/2 - 14	1 3/8	1.06	5.0	5.0	3.3
14-3/4 F50G	1 3/16 - 12	3/4 - 14	1 3/8	1.69	4.0	4.0	2.6
16-1/2 F50G	1 5/16 - 12	1/2 - 14	1 1/2	1.00	5.0	6.0	3.3
16-3/4 F50G	1 5/16 - 12	3/4 - 14	1 1/2	1.50	4.0	4.8	2.6
16-1 F50G	1 5/16 - 12	1 - 11 1/2	1 5/8	1.88	3.0	3.6	1.9
20-1 F50G	1 5/8 - 12	1 - 11 1/2	1 7/8	1.00	3.0	3.6	1.9
20-1 1/2 F50G	1 5/8 - 12	1 1/2 - 11 1/2	2 1/4	2.16	2.5	3.0	1.6
20-1 1/4 F50G	1 5/8 - 12	1 1/4 - 11 1/2	2	1.97	3.0	3.0	1.9
24-1 F50G	1 7/8 - 12	1 - 11 1/2	2 1/8	1.00	3.0	3.6	1.9
24-1 1/4 F50G	1 7/8 - 12	1 1/4 - 11 1/2	2 1/8	1.94	2.5	2.5	1.6
24-1 1/2 F50G	1 7/8 - 12	1 1/2 - 11 1/2	2 1/4	2.00	2.0	2.4	1.3
32-2 F50G	2 1/2 - 12	2 - 11 1/2	2 7/8	2.06	2.0	2.4	1.3

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Dimensions and pressures for reference only, subject to change.

F50HG8

Conversion Adapter
SAE-ORB / Metric

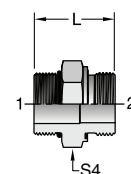


TUBE FITTING PART #	END SIZE		C HEX (in.)	L (in.)	Dynamic Pressure (x 1,000 PSI)		
	1	2					
	UN/UNF-2A	METRIC STR			S	SS	B
4M10F50HG8	7/16 - 20	M10X1	5/8	0.95	6.0	6.0	3.3
4M12F50HG8	7/16 - 20	M12X1.5	3/4	1.14	6.0	6.0	3.3
6M14F50HG8	9/16 - 18	M14X1.5	13/16	1.17	6.0	6.0	3.3
6M16F50HG8	9/16 - 18	M16X1.5	15/16	1.17	6.0	6.0	3.3
8M16F50HG8	3/4 - 16	M16X1.5	15/16	1.30	6.0	6.0	3.3
8M18F50HG8	3/4 - 16	M18X1.5	1	1.30	6.0	6.0	3.3
10M22F50HG8	7/8 - 14	M22X1.5	1 3/16	1.46	5.0	5.0	3.3
12M27F50HG8	1 1/16 - 12	M27X2	1 1/2	1.72	5.0	5.0	3.3
16M33F50HG8	1 5/16 - 12	M33X2	1 3/4	1.81	5.0	5.0	3.3

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

F50HF42

Conversion Adapter
SAE-ORB / BSPP-ED

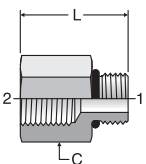


TUBE FITTING PART #	End Size		S4 Hex (mm)	L (mm)	Dynamic Pressure (x 1,000 PSI)	
	1	2				
	UN/UNF-2A	BSPP			S	B
4-1/8F50HF42ED	7/16-20	1/8-28	17	27.2	9.2	
4-1/4F50HF42ED	7/16-20	1/4-19	19	31.8	9.2	
5-1/4F50HF42ED	1/2-20	1/4-19	19	31.4	9.2	
6-1/4F50HF42ED	9/16-18	1/4-19	19	32.0	9.2	
6-3/8F50HF42ED	9/16-18	3/8-19	22	32.5	9.2	
8-1/4F50HF42ED	3/4-16	1/4-19	22	34.9	9.2	
8-3/8F50HF42ED	3/4-16	3/8-19	22	36.5	9.2	
8-1/2F50HF42ED	3/4-16	1/2-14	27	40.0	6.0	
10-1/2F50HF42ED	7/8-14	1/2-14	27	42.0	6.0	
12-1/2F50HF42ED	1 1/16-12	1/2-14	32	45.0	6.0	
12-3/4F50HF42ED	1 1/16-12	3/4-14	32	47.0	6.0	
16-3/4F50HF42ED	1 5/16-12	3/4-14	38	48.0	6.0	
16-1F50HF42ED	1 5/16-12	1-11	41	51.0	6.0	
20-11/4F50HF42ED	1 5/8-12	1 1/4-11	50	54.0	6.0	
24-11/2F50HF42ED	1 7/8-12	1 1/2-11	55	56.0	5.0	

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

F50HG4

Conversion Adapter
SAE-ORB / BSPP



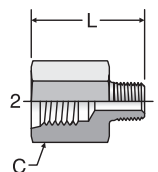
TUBE FITTING PART #	END SIZE		C HEX (in.)	L (in.)	Dynamic Pressure (x 1,000 PSI)		
	1	2					
	UN/UNF-2A	BSPP			S	SS	B
4-1/8F50HG4	7/16 - 20	1/8 - 28	5/8	0.96	6.0	6.0	3.3
4-1/4F50HG4	7/16 - 20	1/4 - 19	3/4	1.16	6.0	6.0	3.3
6-1/4F50HG4	9/16 - 18	1/4 - 19	3/4	1.19	6.0	6.0	3.3
6-3/8F50HG4	9/16 - 18	3/8 - 19	7/8	1.19	6.0	6.0	3.3
8-1/4F50HG4	3/4 - 16	1/4 - 19	7/8	1.32	6.0	6.0	3.3
8-3/8F50HG4	3/4 - 16	3/8 - 19	15/16	1.32	6.0	6.0	3.3
10-1/2F50HG4	7/8 - 14	1/2 - 14	1 1/8	1.52	5.0	5.0	3.3
12-3/4F50HG4	1 1/16 - 12	3/4 - 14	1 7/16	1.74	4.0	4.0	2.6
16-1F50HG4	1 5/16 - 12	1 - 11	1 7/8	1.87	3.0	3.0	1.9

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

FHG5

Female Straight Thread Adapter
NPTF / SAE-ORB

HPD Base # 0110



TUBE FITTING PART #	END SIZE		C HEX (in.)	L (in.)	Dynamic Pressure (x 1,000 PSI)		
	1	2					
	NPTF	UN/UNF-2B			-S	-SS	-B
1/8-4 FHG5	1/8 - 27	7/16 - 20	11/16	1.06	6.0	6.0	3.3
1/8-5 FHG5	1/8 - 27	1/2 - 20	3/4	1.09	6.0	6.0	3.3
1/4-6 FHG5	1/4 - 18	9/16 - 18	3/4	1.36	6.0	6.0	3.3
3/8-6 FHG5	3/8 - 18	9/16 - 18	3/4	1.42	6.0	6.0	3.3
3/8-8 FHG5	3/8 - 18	3/4 - 16	1	1.50	5.0	5.0	3.3
1/2-6 FHG5	1/2 - 14	9/16 - 18	7/8	1.58	6.0	6.0	3.3
1/2-8 FHG5	1/2 - 14	3/4 - 16	1	1.66	5.0	5.0	3.3
1/2-10 FHG5	1/2 - 14	7/8 - 14	1 1/4	1.75	4.5	4.5	2.9
3/4-8 FHG5	3/4 - 14	3/4 - 16	1 1/8	1.13	4.5	4.5	2.9
3/4-12 FHG5	3/4 - 14	1 1/16 - 12	1 3/8	1.97	4.5	4.5	2.9
1-16 FHG5	1 - 11 1/2	1 5/16 - 12	1 5/8	2.13	3.5	3.5	2.2

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

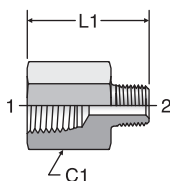
Dimensions and pressures for reference only, subject to change.

[Click here for CADs, Support Resources or to Configure Parts Online](#)

FG

Expander / Adapter
NPTF / NPTF

SAE 140139
HPD Base # 0201

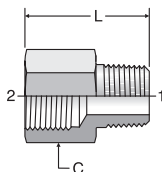


TUBE FITTING PART #	END SIZE		C1 HEX (in.)	L1 (in.)	Dynamic Pressure (x 1,000 PSI)		
	1 NPTF	2 NPTF			-S	-SS	-B
1/8 x 1/16 FG	1/8 - 27	1/16 - 27	5/8	1.03	6.0	6.0	3.3
1/8 FG	1/8 - 27	1/8 - 27	5/8	1.03	6.0	6.0	3.3
1/4 x 1/8 FG	1/4 - 18	1/8 - 27	3/4	1.21	6.0	6.0	3.9
1/4 FG	1/4 - 18	1/4 - 18	3/4	1.39	6.0	6.0	3.9
3/8 x 1/8 FG	3/8 - 18	1/8 - 27	7/8	1.25	6.0	6.0	3.3
3/8 x 1/4 FG	3/8 - 18	1/4 - 18	7/8	1.44	6.0	6.0	3.9
3/8 FG	3/8 - 18	3/8 - 18	7/8	1.44	6.0	6.0	3.9
1/2 x 1/8 FG	1/2 - 14	1/8 - 27	1 1/8	1.50	5.0	6.0	3.2
1/2 x 1/4 FG	1/2 - 14	1/4 - 18	1 1/8	1.69	5.0	6.0	3.2
1/2 x 3/8 FG	1/2 - 14	3/8 - 18	1 1/8	1.69	5.0	6.0	3.2
1/2 FG	1/2 - 14	1/2 - 14	1 1/8	1.87	5.0	6.0	3.2
3/4 FG	3/4 - 14	3/4 - 14	1 3/8	1.93	4.0	4.8	2.6
3/4 x 1/4 FG	3/4 - 14	1/4 - 18	1 3/8	1.75	4.0	4.8	2.6
3/4 x 3/8 FG	3/4 - 14	3/8 - 18	1 3/8	1.75	4.0	4.8	2.6
3/4 x 1/2 FG	3/4 - 14	1/2 - 14	1 3/8	1.93	4.0	4.8	2.6
1 FG	1 - 11 1/2	1 - 11 1/2	1 5/8	2.37	3.0	3.6	2.3
1 x 1/4 FG	1 - 11 1/2	1/4 - 18	1 5/8	2.01	3.0	3.6	2.3
1 x 1/2 FG	1 - 11 1/2	1/2 - 14	1 5/8	2.19	3.0	3.6	2.3
1 x 3/4 FG	1 - 11 1/2	3/4 - 14	1 5/8	2.19	3.0	3.6	2.3
1 1/4 FG	1 1/4 - 11 1/2	1/4 - 11 1/2	2	2.50	2.5	3.0	1.9
1 1/4 x 1 FG	1 1/4 - 11 1/2	1 - 11 1/2	2	2.47	2.5	3.0	1.9
1 1/2 x 1 FG	1 1/2 - 11 1/2	1 - 11 1/2	2 3/8	2.47	2.0	2.4	1.5
1 1/2 x 1 1/4 FG	1 1/2 - 11 1/2	1/4 - 11 1/2	2 3/8	2.50	2.0	2.4	1.5
2 FG	2 - 11 1/2	2 - 11 1/2	2 7/8	2.66	2.0	2.4	1.5

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

FHG8

Conversion Adapter
NPTF / Metric



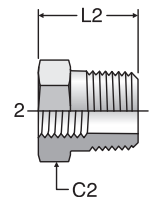
TUBE FITTING PART #	END SIZE		C HEX (in.)	L (in.)	Dynamic Pressure (x 1,000 PSI)		
	1 NPTF	2 METRIC STR			S	SS	B
1/8M10FHG8	1/8 - 27	M10X1	5/8	0.95	6.0	6.0	3.3
1/8M12FHG8	1/8 - 27	M12X1.5	3/4	1.16	6.0	6.0	3.3
1/4M14FHG8	1/4 - 18	M14X1.5	13/16	1.35	6.0	6.0	3.3
1/4M16FHG8	1/4 - 18	M16X1.5	15/16	1.37	6.0	6.0	3.3
3/8M18FHG8	3/8 - 18	M18X1.5	1	1.36	6.0	6.0	3.3
1/2M22FHG8	1/2 - 14	M22X1.5	1 3/16	1.65	6.0	5.0	3.3
3/4M27FHG8	3/4 - 14	M27X2	1 1/2	1.77	5.5	4.5	2.9

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PTR

Pipe Thread Reducer
NPTF / NPTF

SAE 140140
HPD Base # 0102

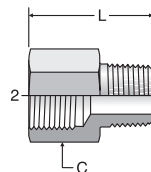


TUBE FITTING PART #	END SIZE		C2 HEX (in.)	L2 (in.)	Dynamic Pressure (x 1,000 PSI)		
	1 NPTF	2 NPTF			-S	-SS	-B
1/4 x 1/8 PTR	1/4 - 18	1/8 - 27	5/8	0.86	6.0	6.0	3.9
3/8 x 1/8 PTR	3/8 - 18	1/8 - 27	3/4	0.86	6.0	6.0	3.9
3/8 x 1/4 PTR	3/8 - 18	1/4 - 18	3/4	0.86	6.0	6.0	3.9
1/2 x 1/8 PTR	1/2 - 14	1/8 - 27	7/8	1.11	6.0	6.0	3.2
1/2 x 1/4 PTR	1/2 - 14	1/4 - 18	7/8	1.11	6.0	6.0	3.2
1/2 x 3/8 PTR	1/2 - 14	3/8 - 18	7/8	1.11	6.0	6.0	3.2
3/4 x 1/8 PTR	3/4 - 14	1/8 - 27	1 1/8	1.17	5.5	6.0	3.3
3/4 x 1/4 PTR	3/4 - 14	1/4 - 18	1 1/8	1.17	5.5	6.0	3.7
3/4 x 3/8 PTR	3/4 - 14	3/8 - 18	1 1/8	1.17	5.5	6.0	3.7
3/4 x 1/2 PTR	3/4 - 14	1/2 - 14	1 1/8	1.17	5.0	6.0	3.3
1 x 1/8 PTR	1 - 11 1/2	1/8 - 27	1 3/8	1.36	4.5	5.4	3.3
1 x 1/4 PTR	1 - 11 1/2	1/4 - 18	1 3/8	1.36	4.5	5.4	3.3
1 x 3/8 PTR	1 - 11 1/2	3/8 - 18	1 3/8	1.36	4.5	5.4	3.0
1 x 1/2 PTR	1 - 11 1/2	1/2 - 14	1 3/8	1.36	4.5	5.4	3.0
1 x 3/4 PTR	1 - 11 1/2	3/4 - 14	1 3/8	1.36	4.0	4.8	2.7
1 1/4 x 1/4 PTR	1 1/4 - 11 1/2	1/4 - 18	1 3/4	1.47	3.0	3.6	2.3
1 1/4 x 3/8 PTR	1 1/4 - 11 1/2	3/8 - 18	1 3/4	1.47	3.0	3.6	2.3
1 1/4 x 1/2 PTR	1 1/4 - 11 1/2	1/2 - 14	1 3/4	1.47	3.0	3.6	2.3
1 1/4 x 3/4 PTR	1 1/4 - 11 1/2	3/4 - 14	1 3/4	1.47	3.0	3.6	2.3
1 1/4 x 1 PTR	1 1/4 - 11 1/2	1 - 11 1/2	1 3/4	1.47	3.0	3.6	2.3
1 1/2 x 1/4 PTR	1 1/2 - 11 1/2	1/4 - 18	2	1.52	3.0	3.6	2.3
1 1/2 x 3/8 PTR	1 1/2 - 11 1/2	3/8 - 18	2	1.58	3.0	3.6	2.3
1 1/2 x 1/2 PTR	1 1/2 - 11 1/2	1/2 - 14	2	1.58	3.0	3.6	2.3
1 1/2 x 3/4 PTR	1 1/2 - 11 1/2	3/4 - 14	2	1.58	3.0	3.6	2.3
1 1/2 x 1 PTR	1 1/2 - 11 1/2	1 - 11 1/2	2	1.58	3.0	3.6	2.3
1 1/2 x 1 1/4 PTR	1 1/2 - 11 1/2	1/4 - 11 1/2	2	1.58	2.5	3.0	1.9
2 x 1/2 PTR	2 - 11 1/2	1/2 - 14	2 1/2	1.75	2.0	2.4	1.5
2 x 3/4 PTR	2 - 11 1/2	3/4 - 14	2 1/2	1.75	2.0	2.4	1.5
2 x 1 PTR	2 - 11 1/2	1 - 11 1/2	2 1/2	1.75	2.0	2.4	1.5
2 x 1 1/4 PTR	2 - 11 1/2	1/4 - 11 1/2	2 1/2	1.75	2.0	2.4	1.5
2 x 1 1/2 PTR	2 - 11 1/2	1 1/2 - 11 1/2	2 1/2	1.75	2.0	2.4	1.5

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

FHG4

Conversion Adapter
NPTF / BSPP



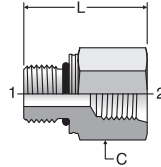
TUBE FITTING PART #	END SIZE		C HEX (in.)	L (in.)	Dynamic Pressure (x 1,000 PSI)		
	1 NPTF	2 BSPP			S	SS	B
1/4X1/4FHG4	1/4 - 18	1/4 - 19	3/4	1.33	6.0	6.0	3.3
1/4X3/8FHG4	1/4 - 18	3/8 - 19	13/16	1.40	6.0	6.0	3.3
3/8X1/4FHG4	3/8 - 18	1/4 - 19	3/4	1.31	6.0	6.0	3.3
3/8X3/8FHG4	3/8 - 18	3/8 - 19	1	1.34	6.0	6.0	3.3
1/2X3/8FHG4	1/2 - 14	3/8 - 19	15/16	1.50	6.0	6.0	3.3
1/2X1/2FHG4	1/2 - 14	1/2 - 14	1 1/8	1.66	5.0	5.0	3.3
3/4X3/4FHG4	3/4 - 14	3/4 - 14	1 7/16	1.75	4.0	4.0	2.6

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Dimensions and pressures for reference only, subject to change.

F87OHG87M

Reducer / Expander
ISO 6149 / ISO 6149

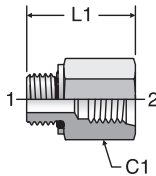


TUBE FITTING PART #	END SIZE		C HEX (mm)	L (mm)	Dynamic Pressure (x 1,000 PSI)		
	1	2			S	SS	B
	METRIC STR	METRIC STR					
M8M10F87OHG87M	M8X1	M10X1	17	27.0	10.0	6.0	3.3
M10M8F87OHG87M	M10X1	M8X1	14	27.5	10.0	7.5	3.3
M10M12F87OHG87M	M10X1	M12X1.5	19	30.0	8.0	6.0	3.3
M12M10F87OHG87M	M12X1.5	M10X1	17	29.5	10.0	6.0	3.3
M12M14F87OHG87M	M12X1.5	M14X1.5	22	32.0	7.0	6.0	3.3
M12M16F87OHG87M	M12X1.5	M16X1.5	24	33.5	6.0	6.0	3.3
M14M12F87OHG87M	M14X1.5	M12X1.5	19	32.0	8.0	6.0	3.3
M14M16F87OHG87M	M14X1.5	M16X1.5	24	33.5	6.0	6.0	3.3
M16M14F87OHG87M	M16X1.5	M14X1.5	22	34.0	7.0	6.0	3.3
M16M18F87OHG87M	M16X1.5	M18X1.5	27	37.0	6.0	6.0	3.3
M18M16F87OHG87M	M18X1.5	M16X1.5	24	37.0	6.0	6.0	3.3
M18M20F87OHG87M	M18X1.5	M20X1.5	30	39.5	6.0	6.0	3.3
M20M18F87OHG87M	M20X1.5	M18X1.5	27	38.5	6.0	6.0	3.3
M20M22F87OHG87M	M20X1.5	M22X1.5	30	39.5	5.0	5.0	3.3
M22M20F87OHG87M	M22X1.5	M20X1.5	27	41.5	5.0	5.0	3.3
M27M22F87OHG87M	M27X2.0	M22X1.5	32	46.0	5.0	5.0	3.3
M27M33F87OHG87M	M27X2.0	M33X2.0	46	52.0	5.0	5.0	3.3
M33M27F87OHG87M	M33X2.0	M27X2.0	41	48.0	5.0	5.0	3.3
M33M42F87OHG87M	M33X2.0	M42X2.0	55	54.0	4.0	4.0	2.6
M42M27F87OHG87M	M42X2.0	M27X2.0	50	54.0	3.0	3.0	1.9
M42M33F87OHG87M	M42X2.0	M33X2.0	50	46.0	3.0	3.0	1.9
M42M48F87OHG87M	M42X2.0	M48X2.0	65	57.0	2.0	2.0	1.3

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

F8OHG5

Conversion Adapter
Metric-ORR / SAE-ORB
(for ISO 9974 / DIN 3852-1 Port)

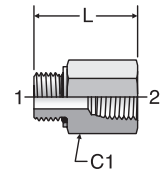


TUBE FITTING PART #	END SIZE		C1 HEX (in.)	L1 (in.)	Dynamic Pressure (x 1,000 PSI)		
	1	2			S	SS	B
	METRIC STR	UN/UNF-2B					
M10-4F8OHG5	M10x1	7/16 - 20	11/16	1.06	5.0	5.0	3.3
M10-6F8OHG5	M10X1	9/16 - 18	7/8	1.15	5.0	5.0	3.3
M14-6F8OHG5	M14x1.5	9/16 - 18	13/16	1.19	5.0	5.0	3.3
M16-8F8OHG5	M16x1.5	3/4 - 16	1	1.31	5.0	5.0	3.3
M18-8F8OHG5	M18X1.5	3/4 - 16	1	1.38	3.5	3.5	2.2
M22-10F8OHG5	M22x1.5	7/8 - 14	1 1/8	1.50	3.5	3.5	2.2
M27-12F8OHG5	M27x2	1 1/16 - 12	1 1/4	1.88	3.5	3.5	2.2
M33-16F8OHG5	M33x2	1 5/16 - 12	1 5/8	1.91	3.0	3.0	1.9
M42-20F8OHG5	M42x2	1 5/8 - 12	2	1.91	2.0	2.0	1.3

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F8OHG

Conversion Adapter
Metric-ORR / NPTF
(for ISO 9974 / DIN 3852-1 Port)



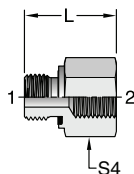
TUBE FITTING PART #	END SIZE		C1 HEX (in.)	L (in.)	Dynamic Pressure (x 1,000 PSI)		
	1	2			S	SS	B
	METRIC STR	NPTF					
M10-1/8F8OHG	M10X1.0	1/8 - 27	9/16	0.99	5.0	5.0	3.3
M12-1/4F8OHG	M12X1.5	1/4 - 18	3/4	1.24	5.0	5.0	3.3
M14-1/4F8OHG	M14X1.5	1/4 - 18	3/4	1.24	5.0	5.0	3.3
M16-3/8F8OHG	M16X1.5	3/8 - 18	7/8	1.36	5.0	5.0	3.3
M16-1/2F8OHG	M16X1.5	1/2 - 14	1 1/8	1.58	5.0	5.0	3.3
M18-3/8F8OHG	M18X1.5	3/8 - 18	15/16	1.42	5.0	5.0	3.3
M18-1/2F8OHG	M18X1.5	1/2 - 14	1 1/8	1.67	5.0	5.0	3.3
M22-1/2F8OHG	M22X1.5	1/2 - 14	1 1/8	1.68	3.5	3.5	2.2
M27-3/4F8OHG	M27X2.0	3/4 - 14	1 3/8	1.87	3.5	3.5	2.2
M33-1F8OHG	M33X2.0	1 - 11 1/2	1 5/8	2.11	3.0	3.0	1.9

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

Dimensions and pressures for reference only, subject to change.

F82HG8

Conversion Adapter
Metric-ED / Metric-ORR
(for ISO 9974 / DIN 3852-1 Port)

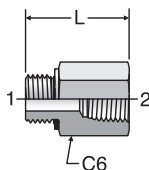


TUBE FITTING PART #	End Size		S4 Hex (mm)	L (mm)	Dynamic Pressure (x 1,000 PSI)		
	1 Metric Str	2 Metric Str			-S	-SS	-B
M10-M8F82EDHG8	M10X1	M8X1	17	21.3	5.0		
M10-M12F82EDHG8	M10X1	M12X1.5	17	27.4	5.0		
M12-M10F82EDHG8	M12X1.5	M10X1	19	31.8	5.0		
M12-M14F82EDHG8	M12X1.5	M15X1.5	19	32.8	5.0		
M12-M16F82EDHG8	M12X1.5	M16X1.5	22	33.5	5.0		
M14-M12F82EDHG8	M14X1.5	M12X1.5	22	32.3	5.0		
M14-M16F82EDHG8	M14X1.5	M16X1.5	22	33.3	5.0		
M16-M14F82EDHG8	M16X1.5	M14X1.5	24	32.3	5.0		
M16-M18F82EDHG8	M16X1.5	M18X1.5	24	33.5	5.0		
M18-M16F82EDHG8	M18X1.5	M16X1.5	27	32.8	3.4		
M18-M20F82EDHG8	M18X1.5	M20X1.5	27	36.1	3.4		
M22-M20F82EDHG8	M22X1.5	M20X1.5	30	36.8	3.4		

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

F4OHG

Conversion Adapter
BSPP-ORR / NPTF
(for ISO 1179-1 / DIN 3852-2 Port)

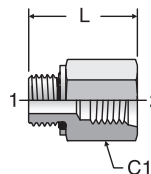


TUBE FITTING PART #	End Size		C6 Hex (in.)	L (in.)	Dynamic Pressure (x 1,000 PSI)		
	1 BSPP	2 NPTF			-S	-SS	-B
1/8x1/8F4OHG	1/8 - 28	1/8 - 27	5/8	0.97	5.0	5.0	3.3
1/4x1/4F4OHG	1/4 - 19	1/4 - 18	3/4	1.28	5.0	5.0	3.3
3/8x3/8F4OHG	3/8 - 19	3/8 - 18	7/8	1.33	5.0	5.0	3.3
1/2x1/2F4OHG	1/2 - 14	1/2 - 14	1 1/8	1.73	3.5	3.5	2.2
3/4x3/4F4OHG	3/4 - 14	3/4 - 14	1 3/8	1.77	3.5	3.5	2.2
1x1F4OHG	1 - 11	1 - 11 1/2	1 3/4	2.17	3.0	3.0	1.9

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

F4OHG5

Conversion Adapter
BSPP-ORR / SAE-ORB
(for ISO 1179-1 / DIN 3852-2 Port)

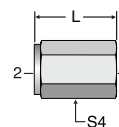


TUBE FITTING PART #	End Size		C1 Hex (in.)	L (in.)	Dynamic Pressure (x 1,000 PSI)		
	1 BSPP	2 UN/UNF-2B			-S	-SS	-B
1/8-4F4OHG5	1/8 - 28	7/16 - 20	11/16	1.00	5.0	5.0	3.3
1/4-4F4OHG5	1/4 - 19	7/16 - 20	3/4	1.11	5.0	5.0	3.3
1/4-6F4OHG5	1/4 - 19	9/16 - 18	13/16	1.25	5.0	5.0	3.3
3/8-4F4OHG5	3/8 - 19	7/16 - 20	7/8	1.19	5.0	5.0	3.3
3/8-5F4OHG5	3/8 - 19	1/2 - 20	7/8	1.19	5.0	5.0	3.3
3/8-6F4OHG5	3/8 - 19	9/16 - 18	7/8	1.25	5.0	5.0	3.3
3/8-8F4OHG5	3/8 - 19	3/4 - 16	1	1.33	5.0	5.0	3.3
1/2-10F4OHG5	1/2 - 14	7/8 - 14	1 1/8	1.60	3.5	3.5	2.2
3/4-12F4OHG5	3/4 - 14	1 1/16 - 12	1 3/8	1.74	3.5	3.5	2.2
1-16F4OHG5	1 - 11	1 5/16 - 12	1 3/4	1.92	3.5	3.5	2.2
1 1/4-16F4OHG5	1 1/4 - 11	1 5/16 - 12	2	1.95	2.0	2.0	1.3
1 1/4-20F4OHG5	1 1/4 - 11	1 5/8 - 12	2	1.95	2.0	2.0	1.3

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

GHG4

Female Pipe Adapter
BSPP / NPTF

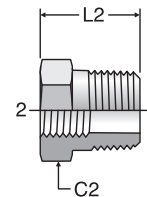


TUBE FITTING PART #	End Size		S4 Hex (in.)	L (in.)	Dynamic Pressure (x 1,000 PSI)		
	1 NPTF	2 BSPP			-S	-SS	-B
1/4 GHG4	1/4-18	1/4-19	3/4	1.23	6.0		
3/8 GHG4	3/8-18	3/8-19	7/8	1.26	6.0		
1/2 GHG4	1/2-14	1/2-14	1 1/8	1.50	5.0		
3/4 GHG4	3/4-14	3/4-14	1 3/8	1.87	4.0		
1 GHG4	1-11 1/2	1-11	1 5/8	2.17	3.0		

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

PTR34M

BSPT Reducing Adapter
BSPT / BSPP



TUBE FITTING PART #	End Size		C2 (mm)	L2 (mm)	Dynamic Pressure (x 1,000 PSI)		
	1 BSPT	2 BSPP			S	SS	B
1/4X1/8PTR34M	1/4-19	1/8-28	17	28	6.0	6.0	3.3
3/8X1/4PTR34M	3/8-19	1/4-19	19	33	6.0	6.0	3.3
1/2X1/4PTR34M	1/2-14	1/4-19	22	39	5.0	5.0	3.3
1/2X3/8PTR34M	1/2-14	3/8-19	22	39	5.0	5.0	3.3

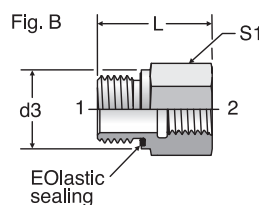
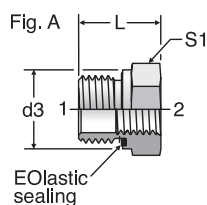
WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

Dimensions and pressures for reference only, subject to change.

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RI-ED

BSPP Reducing Adapter / Expander
BSPP / BSPP-ED
(for ISO 1179-1 / DIN 3852-2 Port)



TUBE FITTING PART #	END SIZE		d3 (mm)	L (mm)	S1 (mm)	Fig.	Dynamic Pressure (x 1,000 PSI)		
	1 BSPP	2 BSPP					CF	71	MS
RI1/8EDX1/4	1/8 - 28	1/4 - 19	14	31.0	19	B	5.8	5.8	3.3
RI1/8EDX3/8	1/8 - 28	3/8 - 19	14	32.0	24	B	5.8	5.8	3.3
RI1/4EDX1/8	1/4 - 19	1/8 - 28	19	29.0	19	B	5.8	5.8	3.3
RI1/4EDX3/8	1/4 - 19	3/8 - 19	19	36.0	24	B	5.8	5.8	3.3
RI1/4EDX1/2	1/4 - 19	1/2 - 14	19	40.0	30	B	5.8	5.8	3.3
RI1/4EDX3/4	1/4 - 19	3/4 - 14	19	43.0	36	B	5.8	5.8	3.3
RI3/8EDX1/8	3/8 - 19	1/8 - 28	22	22.5	22	A	5.8	5.8	3.3
RI3/8EDX1/4	3/8 - 19	1/4 - 19	22	36.0	22	B	5.8	5.8	3.3
RI3/8EDX1/2	3/8 - 19	1/2 - 14	22	41.0	30	B	5.8	5.8	3.3
RI3/8EDX3/4	3/8 - 19	3/4 - 14	22	44.0	36	B	4.5	4.5	3.0
RI1/2EDX1/8	1/2 - 14	1/8 - 28	27	24.0	27	A	5.8	5.8	3.3
RI1/2EDX1/4	1/2 - 14	1/4 - 19	27	24.0	27	A	5.8	5.8	3.3
RI1/2EDX3/8	1/2 - 14	3/8 - 19	27	37.0	27	B	5.8	5.8	3.3
RI1/2EDX3/4	1/2 - 14	3/4 - 14	27	46.0	36	B	4.5	4.5	3.0
RI1/2EDX1	1/2 - 14	1 - 11	27	49.0	41	B	4.5	4.5	3.0
RI1/2EDX11/4	1/2 - 14	1 1/4 - 11	27	53.0	55	B	4.5	4.5	3.0
RI3/4EDX1/4	3/4 - 14	1/4 - 19	32	26.0	32	A	4.5	4.5	3.0
RI3/4EDX3/8	3/4 - 14	3/8 - 19	32	26.0	32	A	4.5	4.5	3.0
RI3/4EDX1/2	3/4 - 14	1/2 - 14	32	43.0	32	B	4.5	4.5	3.0
RI3/4EDX1	3/4 - 14	1 - 11	32	51.0	41	B	4.5	4.5	3.0
RI3/4EDX11/4	3/4 - 14	1 1/4 - 11	32	55.0	55	B	4.5	4.5	3.0
RI3/4EDX11/2	3/4 - 14	1 1/2 - 11	32	57.0	60	B	3.6	3.6	2.3
RI1EDX1/4	1 - 11	1/4 - 19	40	29.0	41	A	4.5	4.5	3.0
RI1EDX3/8	1 - 11	3/8 - 19	40	29.0	41	A	4.5	4.5	3.0
RI1EDX1/2	1 - 11	1/2 - 14	40	29.0	41	A	4.5	4.5	3.0
RI1EDX3/4	1 - 11	3/4 - 14	40	49.0	41	B	4.5	4.5	3.0
RI1EDX11/4	1 - 11	1 1/4 - 11	40	57.0	55	B	4.5	4.5	3.0
RI1EDX11/2	1 - 11	1 1/2 - 11	40	59.0	60	B	3.6	3.6	2.3
RI11/4EDX1/2	1 1/4 - 11	1/2 - 14	50	32.0	50	A	4.5	4.5	3.0
RI11/4EDX3/4	1 1/4 - 11	3/4 - 14	50	32.0	50	A	4.5	4.5	3.0
RI11/4EDX1	1 1/4 - 11	1 - 11	50	52.0	50	B	4.5	4.5	3.0
RI11/4EDX11/2	1 1/4 - 11	1 1/2 - 11	50	60.0	60	B	3.6	3.6	2.3
RI11/2EDX1/2	1 1/2 - 11	1/2 - 14	55	36.0	55	A	3.6	3.6	2.3
RI11/2EDX3/4	1 1/2 - 11	3/4 - 14	55	36.0	55	A	3.6	3.6	2.3
RI11/2EDX1	1 1/2 - 11	1 - 11	55	36.0	55	A	3.6	3.6	2.3
RI11/2EDX11/4	1 1/2 - 11	1 1/4 - 11	55	58.0	55	B	3.6	3.6	2.3
RI2EDX11/2	2 - 11	1 1/2 - 11	75	65.0	75	B	2.3	2.3	1.5

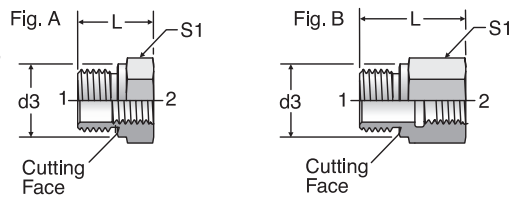
WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

Dimensions and pressures for reference only, subject to change.

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RI

BSPP Reducing Adapter / Expander
BSPP / BSPP-CF
(for ISO 1179-1 / DIN 3852-2 Port)



TUBE FITTING PART #	END SIZE		d3 (mm)	L (mm)	S1 (mm)	Fig.	Dynamic Pressure (x 1,000 PSI)		
	1 BSPP	2 BSPP					CF	71	MS
RI1/8X1/4	1/8 - 28	1/4 - 19	14	31.0	19	B	5.8	5.8	3.3
RI1/8X3/8	1/8 - 28	3/8 - 19	14	32.0	24	B	5.8	5.8	3.3
RI1/4X1/8	1/4 - 19	1/8 - 28	18	28.0	19	B	5.8	5.8	3.3
RI1/4X3/8	1/4 - 19	3/8 - 19	18	36.0	24	B	5.8	5.8	3.3
RI1/4X1/2	1/4 - 19	1/2 - 14	18	40.0	30	B	5.8	5.8	3.3
RI1/4X3/4	1/4 - 19	3/4 - 14	18	43.0	36	B	4.5	4.5	3.0
RI3/8X1/8	3/8 - 19	1/8 - 28	22	22.5	22	A	5.8	5.8	3.3
RI3/8X1/4	3/8 - 19	1/4 - 19	22	36.0	22	B	5.8	5.8	3.3
RI3/8X1/2	3/8 - 19	1/2 - 14	22	41.0	30	B	5.8	5.8	3.3
RI3/8X3/4	3/8 - 19	3/4 - 14	22	44.0	36	B	4.5	4.5	3.0
RI1/2X1/8	1/2 - 14	1/8 - 28	26	24.0	27	A	5.8	5.8	3.3
RI1/2X1/4	1/2 - 14	1/4 - 19	26	24.0	27	A	4.5	4.5	3.0
RI1/2X3/8	1/2 - 14	3/8 - 19	26	37.0	27	B	4.5	4.5	3.0
RI1/2X3/4	1/2 - 14	3/4 - 14	26	46.0	36	B	4.5	4.5	3.0
RI1/2X1	1/2 - 14	1 - 11	26	49.0	41	B	2.3	2.3	1.5
RI1/2X11/4	1/2 - 14	1 1/4 - 11	26	53.0	55	B	4.5	4.5	3.0
RI3/4X1/4	3/4 - 14	1/4 - 19	32	26.0	32	A	4.5	4.5	3.0
RI3/4X3/8	3/4 - 14	3/8 - 19	32	26.0	32	A	4.5	4.5	3.0
RI3/4X1/2	3/4 - 14	1/2 - 14	32	41.0	32	B	4.5	4.5	3.0
RI3/4X1	3/4 - 14	1 - 11	32	51.0	41	B	2.3	2.3	1.5
RI3/4X11/4	3/4 - 14	1 1/4 - 11	32	55.0	55	B	2.3	2.3	1.5
RI3/4X11/2	3/4 - 14	1 1/2 - 11	32	57.0	60	B	4.5	4.5	3.0
RI1X1/4	1 - 11	1/4 - 19	39	29.0	41	A	4.5	4.5	3.0
RI1X3/8	1 - 11	3/8 - 19	39	29.0	41	A	4.5	4.5	3.0
RI1X1/2	1 - 11	1/2 - 14	39	29.0	41	A	4.5	4.5	3.0
RI1X3/4	1 - 11	3/4 - 14	39	47.0	41	B	2.3	2.3	1.5
RI1X11/4	1 - 11	1 1/4 - 11	39	57.0	55	B	2.3	2.3	1.5
RI1X11/2	1 - 11	1 1/2 - 11	39	59.0	60	B	2.3	2.3	1.5
RI11/4X1/2	1 1/4 - 11	1/2 - 14	49	32.0	50	A	2.3	2.3	1.5
RI11/4X3/4	1 1/4 - 11	3/4 - 14	49	32.0	50	A	2.3	2.3	1.5
RI11/4X1	1 1/4 - 11	1 - 11	49	52.0	50	B	2.3	2.3	1.5
RI11/4X11/2	1 1/4 - 11	1 1/2 - 11	49	60.0	60	B	2.3	2.3	1.5
RI11/2X1/2	1 1/2 - 11	1/2 - 14	55	36.0	55	A	2.3	2.3	1.5
RI11/2X3/4	1 1/2 - 11	3/4 - 14	55	36.0	55	A	2.3	2.3	1.5
RI11/2X1	1 1/2 - 11	1 - 11	55	36.0	55	A	2.3	2.3	1.5
RI11/2X11/4	1 1/2 - 11	1 1/4 - 11	55	58.0	55	B	2.3	2.3	1.5
RI2X11/2	2 - 11	1 1/2 - 11	68	62.0	70	B	2.3	2.3	1.5

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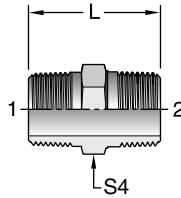
Dimensions and pressures for reference only, subject to change.



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FHF3

Male Pipe Adapter
BSPT / NPTF



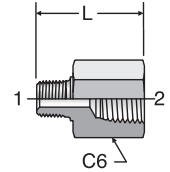
TUBE FITTING PART #	End Size		S4 Hex (in.)	L (in.)	Dynamic Pressure (x 1,000 PSI)		
	1 NPTF	2 BSPT			-S	-SS	-B
1/8 FHF3	1/8-27	1/8-28	7/16	1.09	6.0		
1/4 FHF3	1/4-18	1/4-19	5/8	1.45	6.0		
3/8 x 1/4 FHF3	3/8-18	1/4-19	3/4	1.45	6.0		
1/4 x 3/8 FHF3	1/4-18	1/8-28	3/4	1.45	6.0		
3/8 FHF3	3/8-18	3/8-19	3/4	1.45	6.0		
1/2 FHF3	1/2-14	1/2-14	7/8	1.89	6.0		
3/4 FHF3	3/4-14	3/4-14	1 1/8	1.96	5.5		
1 FHF3	1-11	1-11	1 3/8	2.34	4.5		

Note: The BSPT thread end has an identification collar.

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F3HG

Conversion Adapter
NPTF / BSPT

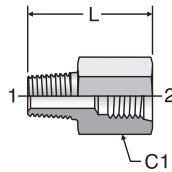


TUBE FITTING PART #	END SIZE		C6 HEX (in.)	L (mm)	Dynamic Pressure (x 1,000 PSI)		
	1 BSPT	2 NPTF			-S	-SS	-B
1/8x1/8F3HG	1/8 - 28	1/8 - 27	9/16	1.08	6.0	6.0	3.3
1/4x1/4F3HG	1/4 - 19	1/4 - 18	3/4	1.37	6.0	6.0	3.3
3/8x3/8F3HG	3/8 - 19	3/8 - 19	7/8	1.38	6.0	6.0	3.3
1/2x1/2F3HG	1/2 - 14	1/2 - 14	1 1/8	1.88	5.0	5.0	3.3
3/4x3/4F3HG	3/4 - 14	3/4 - 14	1 3/8	1.95	4.0	4.0	2.6
1x1F3HG	1 - 11	1 - 11	1 5/8	2.38	3.0	3.0	1.9
1 1/2 x 1 1/2 F3HG	1 1/2 - 11	1 1/2 - 11 1/2	2 3/8	2.53	2.0	2.0	1.3

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F3HG5

Conversion Adapter
BSPT / SAE-ORB



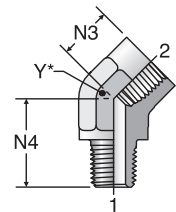
TUBE FITTING PART #	END SIZE		C1 HEX (in.)	L (in.)	Dynamic Pressure (x 1,000 PSI)		
	1 BSPT	2 UN/UNF-2B			-S	-SS	-B
1/8-4F3HG5	1/8 - 28	7/16 - 20	11/16	1.09	6.0	6.0	3.3
1/8-5F3HG5	1/8 - 28	1/2 - 20	3/4	1.09	6.0	6.0	3.3
1/4-6F3HG5	1/4 - 19	9/16 - 18	13/16	1.36	6.0	6.0	3.3
3/8-8F3HG5	3/8 - 19	3/4 - 16	1	1.45	5.0	5.0	3.3
1/2-10F3HG5	1/2 - 14	7/8 - 14	1 1/8	1.78	4.5	4.5	2.9
3/4-12F3HG5	3/4 - 14	1 1/16 - 12	1 3/8	1.92	4.5	4.5	2.9
1-16F3HG5	1 - 11	1 5/16 - 12	1 5/8	2.13	3.5	3.5	2.2

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CD45

45° Pipe Elbow
NPTF / NPTF

SAE 140339
HPD Base # 3102



TUBE FITTING PART #	END SIZE		N3 (in.)	N4 (in.)	Y (in.)	Dynamic Pressure (x 1,000 PSI)		
	1 NPTF	2 NPTF				-S	-SS	-B
1/8 CD45	1/8 - 27	1/8 - 27	0.47	0.72	9/16	5.0	5.0	3.2
1/4 CD45	1/4 - 18	1/4 - 18	0.63	1.05	3/4	5.0	5.0	3.2
3/8 CD45	3/8 - 18	3/8 - 18	0.72	1.06	7/8	4.5	4.5	2.9
1/2 CD45	1/2 - 14	1/2 - 14	0.91	1.34	1 1/16	3.0	3.0	1.9
3/4 CD45	3/4 - 14	3/4 - 14	0.97	1.38	1 5/16	3.0	3.0	1.9
1 CD45	1 - 11 1/2	1 - 11 1/2	1.13	1.72	1 5/8	1.8	1.8	1.1
1 1/4 CD45	1 1/4 - 11 1/2	1 1/4 - 11 1/2	1.63	1.80	1 7/8	1.5	1.5	1.0

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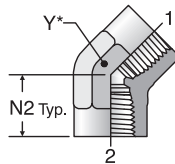
Dimensions and pressures for reference only, subject to change.



DD45

45° Female Pipe Elbow
NPTF / NPTF

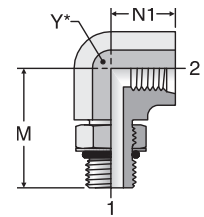
SAE 140338
HPD Base # 4202



AOEG5

Straight Thread Elbow
SAE-ORB / SAE-ORB

HPD Base # 2510



* Y — Across
Wrench Flats

TUBE FITTING PART #	END SIZE		N2 (in.)	Y (in.)	Dynamic Pressure (x 1,000 PSI)		
	1	2			-S	-SS	-B
	NPTF	NPTF					
1/4 DD45	1/4 - 18	1/4 - 18	0.69	3/4	5.0	5.0	3.3
3/8 DD45	3/8 - 18	3/8 - 18	0.75	7/8	4.5	4.5	2.9
1/2 DD45	1/2 - 14	1/2 - 14	0.94	1 1/16	3.0	3.0	1.9
3/4 DD45	3/4 - 14	3/4 - 14	1.00	1 5/16	3.0	3.0	1.9
1 DD45	1 - 11 1/2	1 - 11 1/2	1.19	1 5/8	1.8	1.8	1.1

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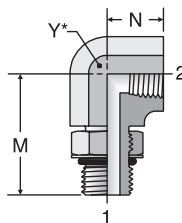
TUBE FITTING PART #	END SIZE		M (in.)	N1 (in.)	Y (in.)	Dynamic Pressure (x 1,000 PSI)		
	1	2				-S	-SS	-B
	UN/UNF-2A	UN/UNF-2B						
4 AOE5	7/16 - 20	7/16 - 20	1.23	0.63	3/4	6.0	6.0	3.3
6 AOE5	9/16 - 18	9/16 - 18	1.38	0.75	7/8	5.0	5.0	3.3
8 AOE5	3/4 - 16	3/4 - 16	1.59	0.88	1 1/16	4.0	4.0	2.6
10 AOE5	7/8 - 14	7/8 - 14	1.81	1.02	1 1/16	2.5	2.5	1.6
12 AOE5	1 1/16 - 12	1 1/16 - 12	2.00	1.21	1 5/16	2.5	2.5	1.6
16 AOE5	1 5/16 - 12	1 5/16 - 12	2.26	1.33	1 5/8	2.5	2.5	1.6

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AOEG

Female Pipe Elbow
NPT / SAE-ORB

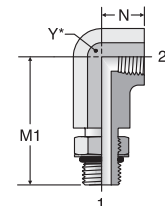
HPD Base # 2502



AOE4G

Extra Long Female Pipe Elbow
NPTF / SAE-ORB

HPD Base # 5502



TUBE FITTING PART #	END SIZE		M (in.)	N (in.)	Y (in.)	Dynamic Pressure (x 1,000 PSI)		
	1	2				-S	-SS	-B
	UN/UNF-2A	NPTF						
6-1/4 AOEg	9/16 - 18	1/4 - 18	1.34	0.63	3/4	5.0	5.0	3.3
8-3/8 AOEg	3/4 - 16	3/8 - 18	1.47	0.63	7/8	4.5	4.5	2.9
10-1/2 AOEg	7/8 - 14	1/2 - 14	1.81	0.75	1 1/16	3.0	3.0	1.9
12-3/4 AOEg	1 1/16 - 12	3/4 - 14	2.00	0.81	1 5/16	3.0	3.0	1.9
16-1 AOEg	1 5/16 - 12	1 - 11 1/2	2.25	1.00	1 5/8	1.8	1.8	1.1

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

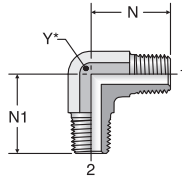
TUBE FITTING PART #	END SIZE		M1 (in.)	N (in.)	Y (in.)	Dynamic Pressure (x 1,000 PSI)		
	1	2				-S	-SS	-B
	UN/UNF-2A	NPTF						
8-3/8 AOE4G	3/4 - 16	3/8 - 18	2.94	0.63	7/8	4.5	4.5	2.9
10-1/2 AOE4G	7/8 - 14	1/2 - 14	3.56	0.75	1 1/16	3.0	3.0	1.9
12-3/4 AOE4G	1 1/16 - 12	3/4 - 14	4.06	0.81	1 5/16	3.0	3.0	1.9
16-1 AOE4G	1 5/16 - 12	1 - 11 1/2	4.63	1.00	1 5/8	1.8	1.8	1.1

Dimensions and pressures for reference only, subject to change.

CR

Male Pipe Elbow NPTF / NPTF

SAE 140237*



* Y – Across
Wrench Flats

TUBE FITTING PART #	END SIZE		N (in.)	N1 (in.)	Y (in.)	Dynamic Pressure (x 1,000 PSI)		
	1 NPTF	2 NPTF				-S	-SS	-B
1/8 CR	1/8 - 27	1/8 - 27	0.78	0.78	7/16	6.0	6.0	3.9
1/4 CR	1/4 - 18	1/4 - 18	1.09	1.09	9/16	6.0	6.0	3.9
3/8 CR	3/8 - 18	3/8 - 18	1.22	1.22	3/4	6.0	6.0	3.9
3/8 x 1/4 CR	3/8 - 18	1/4 - 18	1.22	1.22	3/4	6.0	6.0	3.3
1/2 CR	1/2 - 14	1/2 - 14	1.47	1.47	7/8	6.0	6.0	3.9
1/2 x 3/8 CR	1/2 - 14	3/8 - 18	1.47	1.28	7/8	6.0	6.0	3.3
3/4 CR	3/4 - 14	3/4 - 14	1.59	1.59	1 1/16	4.0	4.0	2.6
3/4 x 1/2 CR	3/4 - 14	1/2 - 14	1.59	1.47	1 1/16	4.0	4.0	2.6
1 CR	1 - 11 1/2	1 - 11 1/2	1.97	1.97	1 5/16	3.0	3.0	1.9
1 x 3/4 CR	1 - 11 1/2	3/4 - 14	1.97	1.78	1 5/16	3.0	3.0	1.9
1 1/4 CR	1 1/4 - 11 1/2	1 1/4 - 11 1/2	2.22	2.22	1 7/8	2.5	2.5	1.6
1 1/2 CR	1 1/2 - 11 1/2	1 1/2 - 11 1/2	2.34	2.34	1 7/8	2.5	2.5	1.6

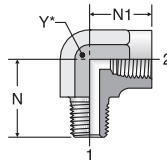
* Not shown in SAE J514, but coded per SAE J846.

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

CD

Street Elbow NPTF / NPT

SAE 140239
HPD Base # 2102



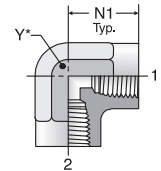
TUBE FITTING PART #	END SIZE		N (in.)	N1 (in.)	Y (in.)	Dynamic Pressure (x 1,000 PSI)		
	1 NPTF	2 NPT				-S	-SS	-B
1/8 CD	1/8 - 27	1/8 - 27	0.78	0.66	9/16	5.0	5.0	3.2
1/8 x 1/4 CD	1/8 - 27	1/4 - 18	0.90	0.88	3/4	5.0	5.0	3.2
1/4 CD	1/4 - 18	1/4 - 18	1.09	0.88	3/4	5.0	5.0	3.2
1/4 x 1/8 CD	1/4 - 18	1/8 - 27	1.09	0.66	9/16	5.0	5.0	3.2
1/4 x 1/2 CD	1/4 - 18	1/2 - 14	1.28	1.23	1 1/16	3.0	3.0	1.9
1/4 x 3/8 CD	1/4 - 18	3/8 - 18	1.22	1.01	7/8	4.5	4.5	2.9
3/8 CD	3/8 - 18	3/8 - 18	1.22	1.02	7/8	4.5	4.5	3.0
3/8 x 1/4 CD	3/8 - 18	1/4 - 18	1.22	0.88	3/4	5.0	5.0	3.2
3/8 x 1/2 CD	3/8 - 18	1/2 - 14	1.28	1.23	1 1/16	3.0	3.0	1.9
1/2 CD	1/2 - 14	1/2 - 14	1.47	1.23	1 1/16	3.0	3.0	1.9
1/2 x 3/8 CD	1/2 - 14	3/8 - 18	1.48	1.25	7/8	4.5	4.5	2.9
1/2 x 3/4 CD	1/2 - 14	3/4 - 14	1.58	1.36	1 5/16	3.0	3.0	1.9
3/4 CD	3/4 - 14	3/4 - 14	1.59	1.36	1 5/16	3.0	3.0	1.9
3/4 x 1/2 CD	3/4 - 14	1/2 - 14	1.59	1.23	1 1/16	3.0	3.0	1.9
1 CD	1 - 1 1/2	1 - 1 1/2	1.97	1.63	1 5/8	1.8	1.8	1.2
1 1/4 CD	1 1/4 - 1 1/2	1 1/4 - 1 1/2	2.38	1.70	1 7/8	1.5	1.5	1.0
1 1/4 x 1 1/2 CD	1 1/4 - 1 1/2	1 1/2 - 1 1/2	2.61	2.08	2 1/2	1.5	1.5	1.0
1 1/2 CD	1 1/2 - 1 1/2	1 1/2 - 1 1/2	2.64	2.08	2 1/2	1.5	1.5	1.0

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DD

Female Pipe Elbow NPT / NPT

SAE 140238
HPD Base # 2202



TUBE FITTING PART #	END SIZE		N1 (in.)	Y (in.)	Dynamic Pressure (x 1,000 PSI)		
	1 NPT	2 NPT			-S	-SS	-B
1/8 DD	1/8 - 27	1/8 - 27	0.66	9/16	5.0	5.0	3.2
1/4 DD	1/4 - 18	1/4 - 18	0.88	3/4	5.0	5.0	3.2
3/8 DD	3/8 - 18	3/8 - 18	1.02	7/8	4.5	4.5	3.0
1/2 DD	1/2 - 14	1/2 - 14	1.23	1 1/16	3.0	3.0	1.9
1/2 x 3/8 DD	1/2 - 14	3/8 - 18	1.23	1 1/16	3.0	3.0	1.9
3/4 DD	3/4 - 14	3/4 - 14	1.36	1 3/8	3.0	3.0	1.9
1 DD	1 - 11 1/2	1 - 11 1/2	1.63	1 5/8	1.8	1.8	1.2
1 1/4 DD	1 1/4 - 11 1/2	1 1/4 - 11 1/2	1.70	1 7/8	1.5	1.5	1.5
1 1/2 DD	1 1/2 - 11 1/2	1 1/2 - 11 1/2	2.08	2 1/2	1.5	1.5	1.5

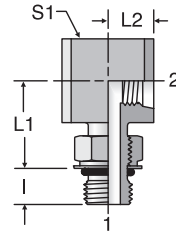
WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

Dimensions and pressures for reference only, subject to change.

A87LPOEG87LPM

ISO 6149* Female Elbow

SHORT ISO 6149 / SHORT ISO 6149



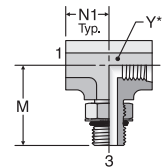
TUBE FITTING PART #	END SIZE		I (mm)	L1 (mm)	L2 (mm)	S1 (mm)	Dynamic Pressure (x 1,000 PSI)		
	1	2					S	SS	B
	Metric	Metric							
M08A87LPOEG87LPM	M8X1	M8X1	8.5	13.5	7.5	15	4.0	4.0	2.6
M10A87LPOEG87LPM	M10X1	M10X1	8.5	14.5	7.5	15	4.0	4.0	2.6
M12A87LPOEG87LPM	M12X1.5	M12X1.5	11.0	17.0	10.0	20	3.6	3.6	2.3
M14A87LPOEG87LPM	M14X1.5	M14X1.5	11.0	18.0	10.0	20	3.6	3.6	2.3

* Male and female thread lengths have been shortened for compact design.
The lengths do not conform to ISO 6149.

G5G5JAO

Straight Thread Branch Tee

SAE-ORB (all three ends)



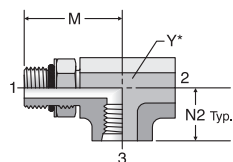
* Y – Across
Wrench Flats

TUBE FITTING PART #	END SIZE			M (in.)	N1 (in.)	Y (in.)	Dynamic Pressure (x 1,000 PSI)		
	1	2	3				-S	-SS	-B
	UN/UNF-2B	UN/UNF-2B	UN/UNF-2A						
4 G5G5JAO	7/16 - 20	7/16 - 20	7/16 - 20	1.23	0.63	3/4	6.0	6.0	3.3
6 G5G5JAO	9/16 - 18	9/16 - 18	9/16 - 18	1.38	0.75	7/8	5.0	5.0	3.3
8 G5G5JAO	3/4 - 16	3/4 - 16	3/4 - 16	1.59	0.88	1 1/16	4.0	4.0	2.6
10 G5G5JAO	7/8 - 14	7/8 - 14	7/8 - 14	1.81	1.02	1 1/16	2.5	2.5	1.6
12 G5G5JAO	1 1/16 - 12	1 1/16 - 12	1 1/16 - 12	2.00	1.21	1 5/16	2.5	2.5	1.6
16 G5G5JAO	1 5/16 - 12	1 5/16 - 12	1 5/16 - 12	2.25	1.33	1 5/8	2.5	2.5	1.6

Dimensions and pressures for reference only, subject to change.

AOG5JG5

Straight Thread Run Tee
SAE-ORB (all three ends)

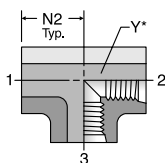


* Y – Across Wrench Flats

TUBE FITTING PART #	END SIZE			M (in.)	N2 (in.)	Y (in.)	Dynamic Pressure (x 1,000 PSI)		
	1	2	3				-S	-SS	-B
	UN/UNF-2A	UN/UNF-2B	UN/UNF-2B						
4 AOG5JG5	7/16 - 20	7/16 - 20	7/16 - 20	1.23	0.74	3/4	6.0	6.0	3.3
6 AOG5JG5	9/16 - 18	9/16 - 18	9/16 - 18	1.38	0.86	7/8	5.0	5.0	3.3
8 AOG5JG5	3/4 - 16	3/4 - 16	3/4 - 16	1.59	1.03	1 1/16	4.0	4.0	2.6
10 AOG5JG5	7/8 - 14	7/8 - 14	7/8 - 14	1.81	1.18	1 1/16	2.5	2.5	1.6
12 AOG5JG5	1 1/16 - 12	1 1/16 - 12	1 1/16 - 12	2.00	1.39	1 5/16	2.5	2.5	1.6
16 AOG5JG5	1 5/16 - 12	1 5/16 - 12	1 5/16 - 12	2.25	1.52	1 5/8	2.5	2.5	1.6

G5G5JG5

Female Straight Thread Tee
SAE-ORB (all three ends)



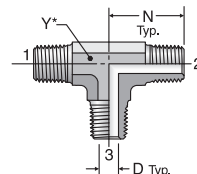
* Y – Across
Wrench Flats

TUBE FITTING PART #	END SIZE	N2 (in.)	Y (in.)	Dynamic Pressure (x 1,000 PSI)		
	1-3			-S	-SS	-B
	UN/UNF-2B					
4 G5G5JG5	7/16 - 20	0.74	3/4	6.0	6.0	3.3
6 G5G5JG5	9/16 - 18	0.86	7/8	5.0	5.0	3.3
8 G5G5JG5	3/4 - 16	1.03	1 1/16	4.0	4.0	2.6
10 G5G5JG5	7/8 - 14	1.18	1 1/16	2.5	2.5	1.6
12 G5G5JG5	1 1/16 - 12	1.39	1 5/16	2.5	2.5	1.6
16 G5G5JG5	1 5/16 - 12	1.52	1 5/8	2.5	2.5	1.6

RRS

Male Pipe Tee
NPTF (all three ends)

SAE 140437



TUBE FITTING PART #	END SIZE	N (in.)	Y (in.)	Dynamic Pressure (x 1,000 PSI)		
	1-3			-S	-SS	-B
	NPTF					
1/8 RRS	1/8 - 27	0.78	7/16	6.0	6.0	3.9
1/4 RRS	1/4 - 18	1.09	9/16	6.0	6.0	3.9
3/8 RRS	3/8 - 18	1.22	3/4	6.0	6.0	3.9
1/2 RRS	1/2 - 14	1.47	7/8	6.0	6.0	3.9
3/4 RRS	3/4 - 14	1.59	1 1/16	4.0	4.0	2.6

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

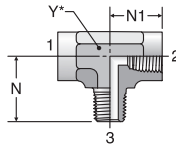
Dimensions and pressures for reference only, subject to change.

[Click here for CADs, Support Resources or to Configure Parts Online](#)

MMS

Male Branch Tee
NPTF (all three ends)

SAE 140425
HPD Base # 212T



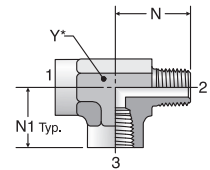
TUBE FITTING PART #	END SIZE	N (in.)	N1 (in.)	Y (in.)	Dynamic Pressure (x 1,000 PSI)		
	1-3 NPTF				-S	-SS	-B
1/8 MMS	1/8 - 27	0.78	0.66	9/16	5.0	5.0	3.2
1/4 MMS	1/4 - 18	1.09	0.88	3/4	5.0	5.0	3.2
3/8 MMS	3/8 - 18	1.22	1.02	7/8	4.5	4.5	3.0
1/2 MMS	1/2 - 14	1.47	1.23	1 1/16	3.0	3.0	1.9
3/4 MMS	3/4 - 14	1.59	1.36	1 5/16	3.0	3.0	1.9
1 MMS	1 - 11 1/2	1.97	1.62	1 5/8	1.8	1.8	1.1

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MRO

Male Run Tee
NPTF (all three ends)

SAE 140424
HPD Base # 012T



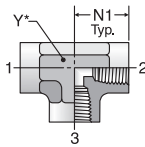
TUBE FITTING PART #	END SIZE	N (in.)	N1 (in.)	Y (in.)	Dynamic Pressure (x 1,000 PSI)		
	1-3 NPTF				-S	-SS	-B
1/8 MRO	1/8 - 27	0.78	0.66	9/16	5.0	5.0	3.2
1/4 MRO	1/4 - 18	1.09	0.88	3/4	5.0	5.0	3.2
3/8 MRO	3/8 - 18	1.22	1.02	7/8	4.5	4.5	3.0
1/2 MRO	1/2 - 14	1.47	1.23	1 1/16	3.0	3.0	1.9
3/4 MRO	3/4 - 14	1.59	1.36	1 5/16	3.0	3.0	1.9
1 MRO	1 - 11 1/2	1.97	1.63	1 5/8	1.8	1.8	1.1
1 1/4 MRO	1 1/4 - 11 1/2	2.38	1.70	1 7/8	1.5	1.5	1.0
1 1/2 MRO	1 1/2 - 11 1/2	2.64	2.08	2 1/2	1.5	1.5	1.0

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MMO

Female Pipe Tee
NPTF (all three ends)

SAE 140438
HPD Base # 022T

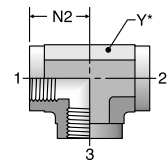


TUBE FITTING PART #	END SIZE	N1 (in.)	Y (in.)	Dynamic Pressure (x 1,000 PSI)		
	1-3 NPTF			-S	-SS	-B
1/8 MMO	1/8 - 27	0.66	9/16	5.0	5.0	3.2
1/4 MMO	1/4 - 18	0.88	3/4	5.0	5.0	3.2
3/8 MMO	3/8 - 18	1.02	7/8	4.5	4.5	3.0
1/2 MMO	1/2 - 14	1.23	1 1/16	3.0	3.0	1.9
3/4 MMO	3/4 - 14	1.36	1 5/16	3.0	3.0	1.9
1 MMO	1 - 11 1/2	1.63	1 5/8	1.8	1.8	1.2
1 1/4 MMO	1 1/4 - 11 1/2	1.70	1 7/8	1.5	1.5	1.0
1 1/2 MMO	1 1/2 - 11 1/2	2.08	2 1/2	1.5	1.5	1.0

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MMO444M

Female BSPP Tee
BSPP (all three ends)



TUBE FITTING PART #	END SIZE	N2 (mm)	Y (mm)	Dynamic Pressure (x 1,000 PSI)		
	1-3 BSPP			S	SS	B
1/4MMO444M	1/4 - 19	22	19	5.0	5.0	3.3
3/8MMO444M	3/8 - 19	26	22	4.5	4.5	2.9
1/2MMO444M	1/2 - 14	31	27	3.0	3.0	1.9
3/4MMO444M	3/4 - 14	40	33	3.0	3.0	1.9
1MMO444M	1 - 11	46	41	1.8	1.8	1.1

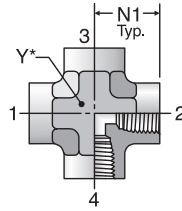
WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

Dimensions and pressures for reference only, subject to change.

KMMOO

Female Pipe Cross
NPTF (all four ends)

SAE 140538
HPD Base # 022X



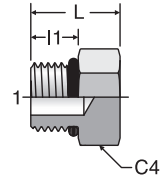
TUBE FITTING PART #	END SIZE	N1 (in.)	Y (in.)	Dynamic Pressure (x 1,000 PSI)		
	1-4 NPTF			-S	-SS	-B
1/8 KMMOO	1/8 - 27	0.66	9/16	5.0	5.0	3.2
1/4 KMMOO	1/4 - 18	0.88	3/4	5.0	5.0	3.2
3/8 KMMOO	3/8 - 18	1.02	7/8	4.5	4.5	2.9
1/2 KMMOO	1/2 - 14	1.23	1 1/16	3.0	3.0	1.9
3/4 KMMOO	3/4 - 14	1.36	1 5/16	3.0	3.0	1.9
1 KMMOO	1 - 11 1/2	1.63	1 5/8	1.8	1.8	1.1

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

P50N

Hex Head Plug
SAE-ORB

SAE 090109A
HPD Base # 05CP



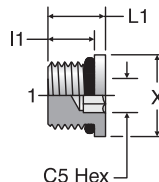
TUBE FITTING PART #	END SIZE	C4 HEX (in.)	I1 (in.)	L (in.)	Dynamic Pressure (x 1,000 PSI)		
	1 UN/UNF-2A				-S	-SS	-B
2 P50N	5/16 - 24	7/16	0.30	0.60	7.5	9.0	3.3
3 P50N	3/8 - 24	1/2	0.30	0.60	7.5	9.0	3.3
4 P50N	7/16 - 20	9/16	0.36	0.67	7.5	9.0	3.3
5 P50N	1/2 - 20	5/8	0.36	0.67	6.0	7.2	3.3
6 P50N	9/16 - 18	11/16	0.39	0.73	6.0	7.2	3.3
8 P50N	3/4 - 16	7/8	0.44	0.80	6.0	7.2	3.3
10 P50N	7/8 - 14	1	0.50	0.94	6.0	7.2	3.3
12 P50N	1 1/16 - 12	1 1/4	0.59	1.09	6.0	7.2	3.3
14 P50N	1 3/16 - 12	1 3/8	0.59	1.09	5.5	6.6	3.3
16 P50N	1 5/16 - 12	1 1/2	0.59	1.13	5.5	6.6	3.3
20 P50N	1 5/8 - 12	1 7/8	0.59	1.20	4.0	4.8	2.6
24 P50N	1 7/8 - 12	2 1/8	0.59	1.27	3.0	3.6	1.9
32 P50N	2 1/2 - 12	2 3/4	0.59	1.44	2.0	2.4	1.3

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

HP50N

Hollow Hex Plug
SAE-ORB

SAE 090109B
HPD Base # 05HP



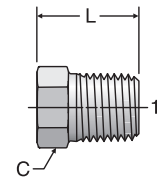
TUBE FITTING PART #	END SIZE	C5 HEX (in.)	I1 (in.)	L1 (in.)	X DIA (in.)	Dynamic Pressure (x 1,000 PSI)		
	1 UN/UNF-2A					-S	-SS	-B
2 HP50N	5/16 - 24	1/8	0.30	0.40	0.44	6.0	6.0	3.3
3 HP50N	3/8 - 24	5/32	0.30	0.40	0.50	6.0	6.0	3.3
4 HP50N	7/16 - 20	3/16	0.36	0.47	0.56	6.0	6.0	3.3
5 HP50N	1/2 - 20	7/32	0.36	0.47	0.63	6.0	6.0	3.3
6 HP50N	9/16 - 18	1/4	0.40	0.50	0.69	6.0	6.0	3.3
8 HP50N	3/4 - 16	5/16	0.44	0.58	0.88	6.0	6.0	3.3
10 HP50N	7/8 - 14	3/8	0.50	0.65	1.00	6.0	6.0	3.3
12 HP50N	1 1/16 - 12	9/16	0.59	0.77	1.25	6.0	6.0	3.3
14 HP50N	1 3/16 - 12	9/16	0.59	0.77	1.38	5.5	5.5	3.3
16 HP50N	1 5/16 - 12	5/8	0.59	0.77	1.50	5.5	5.5	3.3
20 HP50N	1 5/8 - 12	3/4	0.59	0.77	1.88	4.0	4.0	2.6
24 HP50N	1 7/8 - 12	3/4	0.59	0.77	2.13	3.0	3.0	1.9

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

HP

Hex Head Pipe Plug
NPTF

SAE 130109E
HPD Base # 01CP



TUBE FITTING PART #	END SIZE	C HEX (in.)	L (in.)	Dynamic Pressure (x 1,000 PSI)		
	1 NPTF			-S	-SS	-B
1/8 HP*	1/8 - 27	7/16	0.56	6.0	7.2	3.9
1/4 HP*	1/4 - 18	9/16	0.75	6.0	7.2	3.9
3/8 HP*	3/8 - 18	11/16	0.78	6.0	7.2	3.9
1/2 HP*	1/2 - 14	7/8	0.97	6.0	7.2	3.9
3/4 HP	3/4 - 14	1 1/16	1.06	5.5	6.6	3.5
1 HP**	1 - 11 1/2	1 5/16	1.25	4.5	5.4	3.0
1 1/4 HP	1 1/4 - 11 1/2	1 3/4	1.41	3.0	3.6	1.9
1 1/2 HP	1 1/2 - 11 1/2	2	1.50	3.0	3.6	1.9
2 HP	2 - 11 1/2	2 1/2	1.69	2.0	3.0	1.3

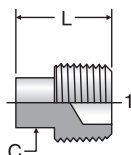
Note: *Steel parts are zinc plated
** 1 HP-SS Hex is 1 3/8

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

Dimensions and pressures for reference only, subject to change.

SHP

Square Head Plug
NPTF



TUBE FITTING PART #	END SIZE	C SQUARE (in.)	L (in.)	Dynamic Pressure (x 1,000 PSI)		
	1 NPTF			-S	-SS	-B
1/8 SHP	1/8 - 27	9/32	0.51	6.0	7.2	3.3
1/4 SHP	1/4 - 18	3/8	0.75	6.0	6.0	3.3
3/8 SHP	3/8 - 18	7/16	0.83	6.0	6.0	3.3
1/2 SHP	1/2 - 14	9/16	1.08	6.0	6.0	3.3
3/4 SHP	3/4 - 14	5/8	1.14	6.0	6.0	3.3
1 SHP	1 - 11 1/2	13/16	1.38	5.5	5.5	3.3

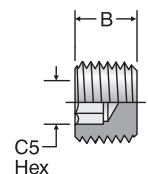
Note: Steel parts are zinc plated

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

HHP

Hollow Hex Pipe Plug
NPTF

SAE 130109N
HPD Base # 01HP



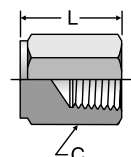
TUBE FITTING PART #	END SIZE	B (in.)	C5 INTERNAL HEX (in.)	Dynamic Pressure (x 1,000 PSI)		
	1 NPTF			-S	-SS	-B
1/16 HHP*	1/16 - 27	0.30	5/32	6.0	7.2	3.3
1/8 HHP*	1/8 - 27	0.30	3/16	6.0	7.2	3.9
1/4 HHP*	1/4 - 18	0.46	1/4	6.0	7.2	3.9
3/8 HHP*	3/8 - 18	0.46	5/16	6.0	7.2	3.3
1/2 HHP*	1/2 - 14	0.61	3/8	6.0	7.2	3.3
3/4 HHP*	3/4 - 14	0.62	9/16	5.5	6.6	3.3
1 HHP*	1 - 11 1/2	0.77	5/8	4.5	5.4	3.3
1 1/4 HHP*	1 1/4 - 11 1/2	0.77	3/4	3.0	5.0	3.3
1 1/2 HHP*	1 1/2 - 11 1/2	0.83	1	3.0	3.0	1.9
2 HHP	2 - 11 1/2	0.86	3/4	2.0	2.5	1.6

Note: *Steel parts are zinc plated

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

HPC

Hex Pipe Cap
NPTF



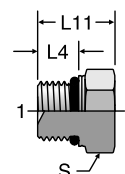
TUBE FITTING PART #	END SIZE	C HEX (in.)	L (in.)	Dynamic Pressure (x 1,000 PSI)		
	1 NPTF			-S	-SS	-B
1/8 HPC	1/8 - 27	9/16	.75	6.0	6.0	3.3
1/4 HPC	1/4 - 18	3/4	.91	6.0	6.0	3.3
3/8 HPC	3/8 - 18	7/8	1.03	6.0	6.0	3.3
1/2 HPC	1/2 - 14	1 1/16	1.34	6.0	6.0	3.3
3/4 HPC	3/4 - 14	1 1/4	1.44	4.8	4.8	3.1
1 HPC	1 - 11 1/2	1 5/8	1.68	3.6	3.6	2.3
1 1/2 HPC	1 1/2 - 1 1/2	2 3/8	1.92	2.4	2.4	1.5

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

P87OMN

ISO 6149 Hex Head Plug
ISO 6149
(for ISO 6149-1 Port)

SAE J2244-4* 62M0109A



TUBE FITTING PART #	END SIZE	L4 (mm)	L11 (mm)	S HEX (mm)	Dynamic Pressure (x 1,000 PSI)		
	1 THREAD				S	SS	B
M8P87OMN	M8X1	8.5	16.2	12	9.0	9.0	3.3
M10P87OMN	M10X1	8.5	16.2	14	8.0	8.0	3.3
M12P87OMN	M12X1.5	11.0	18.5	17	9.0	9.0	3.3
M14P87OMN	M14X1.5	11.0	19.5	19	9.0	9.0	3.3
M16P87OMN	M16X1.5	11.5	21.5	22	9.0	9.0	3.3
M18P87OMN	M18X1.5	12.5	23.5	24	9.0	9.0	3.3
M20P87OMN	M20X1.5	12.5	24.0	27	6.0	6.0	3.3
M22P87OMN	M22X1.5	13.0	25.5	27	6.0	6.0	3.3
M27P87OMN	M27X2	16.0	32.0	32	6.0	6.0	3.3
M30P87OMN	M30X2	16.0	32.0	36	6.0	6.0	3.3
M33P87OMN	M33X2	16.0	32.0	41	6.0	6.0	3.3
M42P87OMN	M42X2	16.0	34.0	50	4.0	4.0	2.6
M48P87OMN	M48X2	17.5	35.5	55	2.0	2.0	1.3
M60P87OMN	M60X2	17.5	42.0	65	1.0	1.0	0.6

* SAE J2244-4 and ISO 6149-4 are draft standards.

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

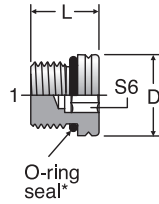
Dimensions and pressures for reference only, subject to change.

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VSTI M-OR

ISO 6149 Hollow Hex Plug
ISO 6149
(for ISO 6149-1 Port)

SAE J2244-4* 62M0109B



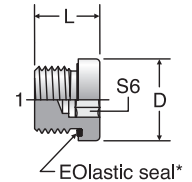
TUBE FITTING PART #	END SIZE	D (mm)	L (mm)	S6 (mm)	Dynamic Pressure (x 1,000 PSI)		
	1 METRIC				CF	71	MS
VSTI10X1OR	M10 x 1	13	13.5	5	9.1	9.1	3.3
VSTI12X1.5OR	M12 x 1.5	17	15.0	6	9.1	9.1	3.3
VSTI14X1.5OR	M14 x 1.5	19	16.0	6	9.1	9.1	3.3
VSTI16X1.5OR	M16 x 1.5	21	17.5	8	9.1	9.1	3.3
VSTI18X1.5OR	M18 x 1.5	23	19.0	8	9.1	9.1	3.3
VSTI22X1.5OR	M22 x 1.5	27	20.0	10	9.1	9.1	3.3
VSTI27X2OR	M27 x 2	32	23.5	12	5.8	5.8	3.3
VSTI33X2OR	M33 x 2	38	25.0	14	5.8	5.8	3.3
VSTI42X2OR	M42 x 2	48	25.5	22	5.8	5.8	3.3

* SAE J2244-4 is a draft standard

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

VSTI M-ED

Metric Hollow Hex Plug
Metric-ED
(for ISO 9974-1 / DIN 3852-1 Port)

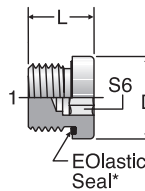


TUBE FITTING PART #	END SIZE	D (mm)	L (mm)	S6 (mm)	Dynamic Pressure (x 1,000 PSI)		
	1 THREAD				CF	71	MS
VSTI10X1ED	M10 x 1	14	12.3	5	5.8	5.8	3.3
VSTI12X1.5ED	M12 x 1.5	17	17.3	6	5.8	5.8	3.3
VSTI14X1.5ED	M14 x 1.5	19	17.3	6	5.8	5.8	3.3
VSTI16X1.5ED	M16 x 1.5	22	17.3	8	5.8	5.8	3.3
VSTI18X1.5ED	M18 x 1.5	24	17.3	8	5.8	5.8	3.3
VSTI20X1.5ED	M20 x 1.5	26	19.3	10	5.8	5.8	3.3
VSTI22X1.5ED	M22 x 1.5	27	19.3	10	5.8	5.8	3.3
VSTI26X1.5ED	M26 x 1.5	32	21.3	12	5.8	5.8	3.3
VSTI27X2ED	M27 x 2	32	21.3	12	5.8	5.8	3.3
VSTI33X2ED	M33 x 2	40	22.8	17	5.8	5.8	3.3
VSTI42X2ED	M42 x 2	50	22.8	22	4.5	4.5	2.9
VSTI48X2ED	M48 x 2	55	22.8	24	4.5	4.5	2.9

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

VSTI R-ED

BSPP Hollow Hex Plug
BSPP-ED
(for ISO 1179-1 / DIN 3852-2 Port)

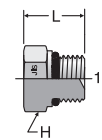


TUBE FITTING PART #	END SIZE	D (mm)	L (mm)	S6 (mm)	Dynamic Pressure (x 1,000 PSI)		
	1 BSPP				CF	71	MS
VSTI1/8ED	1/8 - 28	14	12.3	5	5.8	5.8	3.3
VSTI1/4ED	1/4 - 19	19	17.3	6	5.8	5.8	3.3
VSTI3/8ED	3/8 - 19	22	17.3	8	5.8	5.8	3.3
VSTI1/2ED	1/2 - 14	27	19.3	10	5.8	5.8	3.3
VSTI3/4ED	3/4 - 14	32	21.3	12	5.8	5.8	3.3
VSTI1ED	1 - 11	40	22.8	17	5.8	5.8	3.3
VSTI1 1/4ED	1 1/4 - 11	50	22.8	22	4.5	4.5	2.9
VSTI1 1/2ED	1 1/2 - 11	55	22.8	24	4.5	4.5	2.9

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

P47OMN

Hex Head Plug
BSPP-ORB
(for JIS B2351)



TUBE FITTING PART #	END SIZE	H HEX (mm)	L (mm)	Dynamic Pressure (x 1,000 PSI)		
	1 BSPP			S	SS	B
4P47OMN	1/4-19	19	19.1	5.0		
6P47OMN	3/8-19	22	20.0	5.0		
8P47OMN	1/2-14	27	24.1	5.0		
12P47OMN	3/4-14	36	26.9	4.0		
16P47OMN	1-11	41	31.0	3.0		

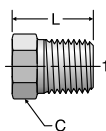
WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

Dimensions and pressures for reference only, subject to change.

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HP3M

Hex Head Pipe Plug
BSPT



TUBE FITTING PART #	END SIZE	C HEX (mm)	L (mm)	Dynamic Pressure (x 1,000 PSI)		
	1 BSPT			S	SS	B
1/8HP3M	1/8 - 28	10	14.2	6.0	6.0	3.3
1/4HP3M	1/4 - 19	14	19.1	6.0	6.0	3.3
3/8HP3M	3/8 - 19	17	19.8	6.0	6.0	3.3
1/2HP3M	1/2 - 14	22	24.6	6.0	6.0	3.3
3/4HP3M	3/4 - 14	27	26.9	5.5	5.5	3.3
1HP3M	1 - 11	36	31.8	4.5	4.5	2.9

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

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F PIPE SWIVELS



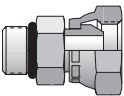
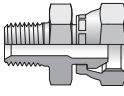
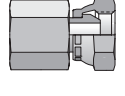
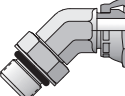
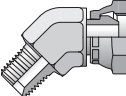
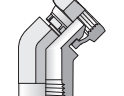
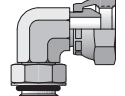
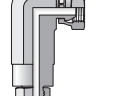
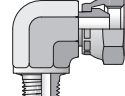
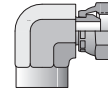
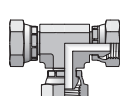
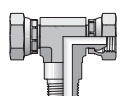
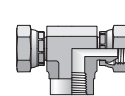
Straights	0507 SAE-ORB / NPSM Swivel  F5	0107 NPTF / NPSM Swivel  F5	0207 NPTF / NPSM Swivel  F6	45° Elbows	3507 SAE-ORB / NPSM Swivel  F6
3107 NPTF / NPSM Swivel  F6	3207 NPTF / NPSM Swivel  F6	90° Elbows	2507 SAE-ORB / NPSM Swivel  F7	5507 SAE-ORB / NPSM Swivel  F7	2107 NPTF / NPSM Swivel  F7
5607 NPTF / NPSM Swivel Long Drop  F7	2207 NPTF / NPSM Swivel  F8	Tees	077T NPSM Swivel / NPSM Swivel / NPSM Swivel  F8	217T NPSM Swivel / NPSM Swivel / NPTF  F8	227T NPSM Swivel / NPSM Swivel / NPTF  F8

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Pipe Swivels

Pipe (NPSM) swivel connections are one of the most traditional types of hydraulic connections. NPSM swivel adapters add versatility to male NPT hose and adapter connections. This versatility allows equipment manufacturers to simplify their hose assembly requirements by specifying NPSM adapters. See Fig. G1 for an illustration of the various connection configurations allowing product flexibility.

Parker offers a full line of NPSM pipe swivel adapters. Fourteen configurations are available as standard, many of which are available in steel and stainless steel. Parker's pipe swivels are designed for use with male NPT/NPTF hose fittings and adapters with a 30° machined seat.

How Pipe Swivel Fittings Work

Pipe swivel adapters are manufactured in accordance to SAE J514 specifications, and thus are designed to work in conjunction with several manufacturers' hose and adapter products. Unlike most pipe thread connections, NPSM swivel adapters do not seal on the threads. NPSM swivel connections incorporate parallel threads, as opposed to tapered. Sealing is accomplished between the nose of the swivel and the mating seat of the NPT pipe thread. This creates a metal-to-metal seal as shown in Fig. G2. Thus, a mating NPT male connector must have this 30° seat to ensure proper sealing. A full internal 30° seat with surface finish requirements of 125 Ra or better is required. See SAE J516 for specific requirements of the 30° seat.

Not all male NPT ends have the 30° seat. Parts that have this seat will include a note in the catalog.

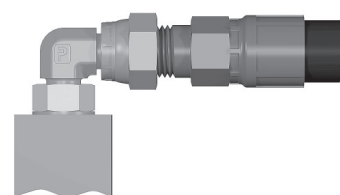
Threads:

NPTF:	ANSI B1.20.1, FED-STD-H28/7
NPT:	SAEJ476, ANSI B1.20.3, FED-STD-H28/8
NPSM:	ANSI B1.20.1, FED-STD-H28/7
*UN/UNF:	ANSI B1.1, FED-STD-H28/2 (*Class 2A or 2B)

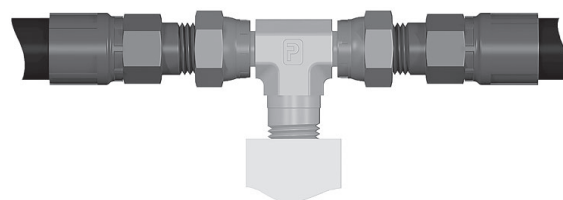
Reference Locations

Assembly and Installation: Please refer to Section R for the assembly and installation instructions for Pipe Swivels.

Standard material specifications: Please refer to Table S34 located in the General Technical Section.



Adapter Port Connection



NPSM / NPT Union

Fig. G1 — Illustration of the flexibility of the NPT Port and Hose Adapter system

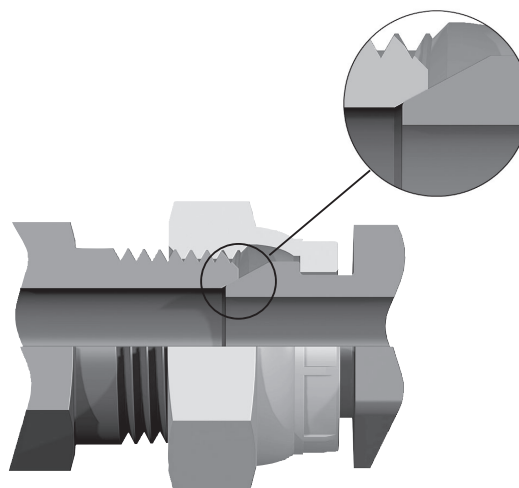
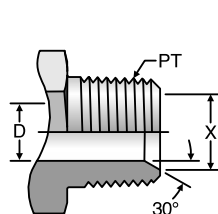
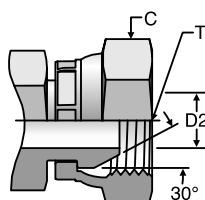


Fig. G2 — Illustration showing how NPSM swivel adapters seal on mating chamfer in male pipe thread

Pipe Swivel (NPSM) Ends



Male Pipe End



NPSM Pipe Swivel

	NPT/NPTF Thread	NPSM Thread	Hex - Swivel	Drill - Male	Drill - Swivel	Chamfer Dia.	Thread Length
	PT	T	C	D	D2	X	L
Size	NPT/NPTF	NPSM	(in.)	(in.)	(in.)	(in.)	(in.)
2	1/8-27	1/8-27	9/16	0.188	0.156	0.281	0.38
4	1/4-18	1/4-18	11/16	0.281	0.219	0.344	0.56
6	3/8-18	3/8-18	7/8	0.406	0.344	0.469	0.56
8	1/2-14	1/2-14	1	0.531	0.469	0.625	0.75
12	3/4-14	3/4-14	1 1/4	0.719	0.641	0.813	0.75
16	1-11 1/2	1-11 1/2	1 1/2	0.938	0.844	1.031	0.94
20	1 1/4-11 1/2	1 1/4-11 1/2	1 7/8	1.250	1.141	1.344	0.97
24	1 1/2-11 1/2	1 1/2-11 1/2	2 1/8	1.500	1.359	1.625	1.00
32	2-11 1/2	2-11 1/2	2 5/8	1.938	1.813	2.063	1.03

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GEN TECH

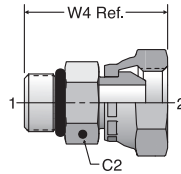
Dimensions and pressures for reference only, subject to change.

[Click here for CADs, Support Resources or to Configure Parts Online](#)

0507

Straight Thread Adapter
SAE-ORB / NPSM Swivel

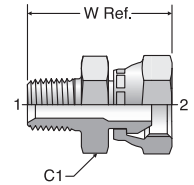
SAE 140157



0107

Male Pipe Adapter
NPTF / NPSM Swivel

SAE 140130



TUBE FITTING PART #	END SIZE		C2 HEX BODY (in.)	W4 (in.)	Dynamic Pressure (x 1,000 PSI)		
	1	2			-S	-SS	-B
	UN/UNF-2A	NPSM					
0507-4-2	7/16 - 20	1/8 - 27	9/16	1.21	6.0	6.0	3.3
0507-4-4	7/16 - 20	1/4 - 18	9/16	1.32	6.0	6.0	3.3
0507-5-4	1/2 - 20	1/4 - 18	5/8	1.32	6.0	6.0	3.3
0507-6-4	9/16 - 18	1/4 - 18	11/16	1.35	6.0	6.0	3.3
0507-6-6	9/16 - 18	3/8 - 18	11/16	1.37	6.0	6.0	3.3
0507-6-8	9/16 - 18	1/2 - 14	3/4	1.57	5.0	5.0	3.3
0507-8-4	3/4 - 16	1/4 - 18	7/8	1.43	6.0	6.0	3.3
0507-8-6	3/4 - 16	3/8 - 18	7/8	1.45	6.0	6.0	3.3
0507-8-8	3/4 - 16	1/2 - 14	7/8	1.56	5.0	5.0	3.3
0507-8-12	3/4 - 16	3/4 - 14	1	1.79	4.0	4.0	2.6
0507-10-6	7/8 - 14	3/8 - 18	1	1.59	5.0	5.0	3.3
0507-10-8	7/8 - 14	1/2 - 14	1	1.73	5.0	5.0	3.3
0507-10-12	7/8 - 14	3/4 - 14	1 1/4	1.88	4.0	4.0	2.6
0507-12-8	1 1/16 - 12	1/2 - 14	1 1/4	1.88	5.0	5.0	3.3
0507-12-12	1 1/16 - 12	3/4 - 14	1 1/4	1.97	4.0	4.0	2.6
0507-12-16	1 1/16 - 12	1 - 11 1/2	1 1/2	2.12	3.0	3.0	1.9
0507-14-12	1 3/16 - 12	3/4 - 14	1 3/8	1.97	4.0	4.0	2.6
0507-16-12	1 5/16 - 12	3/4 - 14	1 1/2	1.90	4.0	4.0	2.6
0507-16-16	1 5/16 - 12	1 - 11 1/2	1 1/2	2.12	3.0	3.0	1.9
0507-20-16	1 5/8 - 12	1 - 11 1/2	1 7/8	2.20	3.0	3.0	1.9
0507-20-20	1 5/8 - 12	1 1/4 - 11 1/2	1 7/8	2.21	2.5	2.5	1.6
0507-24-24	1 7/8 - 12	1 1/2 - 11 1/2	2 1/8	2.39	2.0	2.0	1.3
0507-32-32	2 1/2 - 12	2 - 11 1/2	2 3/4	2.49	1.5	1.5	1.0

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

TUBE FITTING PART #	END SIZE		C1 HEX (in.)	W (in.)	Dynamic Pressure (x 1,000 PSI)		
	1	2			-S	-SS	-B
	NPTF	NPSM					
0107-2-2	1/8 - 27	1/8 - 27	9/16	1.09	6.0	6.0	3.3
0107-2-4	1/8 - 27	1/4 - 18	5/8	1.24	6.0	6.0	3.3
0107-4-2	1/4 - 18	1/8 - 27	11/16	1.39	6.0	6.0	3.3
0107-4-4	1/4 - 18	1/4 - 18	11/16	1.43	6.0	6.0	3.3
0107-4-6	1/4 - 18	3/8 - 18	13/16	1.45	6.0	6.0	3.3
0107-4-8	1/4 - 18	1/2 - 14	15/16	1.44	5.0	5.0	3.3
0107-6-4	3/8 - 18	1/4 - 18	11/16	1.49	6.0	6.0	3.3
0107-6-6	3/8 - 18	3/8 - 18	7/8	1.51	6.0	6.0	3.3
0107-6-8	3/8 - 18	1/2 - 14	15/16	1.73	5.0	5.0	3.3
0107-8-4	1/2 - 14	1/4 - 18	1	1.75	6.0	6.0	3.3
0107-8-6	1/2 - 14	3/8 - 18	7/8	1.70	6.0	6.0	3.3
0107-8-8	1/2 - 14	1/2 - 14	1	1.91	5.0	5.0	3.3
0107-8-12	1/2 - 14	3/4 - 14	1 1/4	2.04	4.0	4.0	2.6
0107-12-8	3/4 - 14	1/2 - 14	1 1/8	1.91	5.0	5.0	2.6
0107-12-12	3/4 - 14	3/4 - 14	1 1/4	2.04	4.0	4.0	2.6
0107-12-16	3/4 - 14	1 - 11 1/2	1 1/2	2.17	3.0	3.0	1.9
0107-16-12	1 - 11 1/2	3/4 - 14	1 3/8	2.29	4.0	4.0	1.9
0107-16-16	1 - 11 1/2	1 - 11 1/2	1 1/2	2.37	3.0	3.0	1.9
0107-16-20	1 - 11 1/2	1 1/4 - 11 1/2	1 3/4	2.38	2.5	2.5	1.6
0107-20-16	1 1/4 - 11 1/2	1 - 11 1/2	1 7/8	2.46	3.0	3.0	1.6
0107-20-20	1 1/4 - 11 1/2	1 1/4 - 11 1/2	1 7/8	2.47	2.5	2.5	1.6
0107-20-24	1 1/4 - 11 1/2	1 1/2 - 11 1/2	2 1/8	2.58	2.0	2.0	1.3
0107-24-20	1 1/2 - 11 1/2	1 1/4 - 11 1/2	2 1/8	2.51	2.5	2.5	1.3
0107-24-24	1 1/2 - 11 1/2	1 1/2 - 11 1/2	2 1/8	2.61	2.0	2.0	1.3
0107-32-32	2 - 11 1/2	2 - 11 1/2	2 5/8	2.80	1.5	1.5	1.0

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

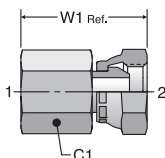
Dimensions and pressures for reference only, subject to change.

[Click here for CADs, Support Resources or to Configure Parts Online](#)

0207

Female Pipe Adapter
NPTF / NPSM Swivel

SAE 140131



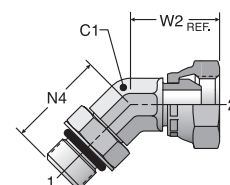
TUBE FITTING PART #	END SIZE		C1 HEX (in.)	W1 (in.)	Dynamic Pressure (x 1,000 PSI)		
	1 NPTF	2 NPSM			-S	-SS	-B
0207-2-2	1/8 - 27	1/8 - 27	9/16	1.02	6.0	6.0	3.3
0207-2-4	1/8 - 27	1/4 - 18	11/16	1.33	6.0	6.0	3.3
0207-4-2	1/4 - 18	1/8 - 27	9/16	1.32	6.0	6.0	3.3
0207-4-4	1/4 - 18	1/4 - 18	11/16	1.43	6.0	6.0	3.3
0207-6-4	3/8 - 18	1/4 - 18	7/8	1.49	6.0	6.0	3.3
0207-6-6	3/8 - 18	3/8 - 18	7/8	1.51	6.0	6.0	3.3
0207-6-8	3/8 - 18	1/2 - 14	1	1.64	5.0	5.0	3.3
0207-8-4	1/2 - 14	1/4 - 18	1	1.70	5.0	5.0	3.3
0207-8-6	1/2 - 14	3/8 - 18	1	1.73	5.0	5.0	3.3
0207-8-8	1/2 - 14	1/2 - 14	1	1.79	5.0	5.0	3.3
0207-12-8	3/4 - 14	1/2 - 14	1 1/4	1.85	4.0	4.0	2.6
0207-12-12	3/4 - 14	3/4 - 14	1 1/4	1.97	4.0	4.0	2.6
0207-16-12	1 - 11 1/2	3/4 - 14	1 1/2	2.28	3.0	3.0	1.9
0207-16-16	1 - 11 1/2	1 - 11 1/2	1 1/2	2.37	3.0	3.0	1.9
0207-20-20	1 1/4 - 11 1/2	1 1/4 - 11 1/2	1 7/8	2.38	2.5	2.5	1.6
0207-24-24	1 1/2 - 11 1/2	1 1/2 - 11 1/2	2 1/8	2.42	2.0	2.0	1.3
0207-32-32	2 - 11 1/2	2 - 11 1/2	2 5/8	2.55	1.5	1.5	1.0

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

3507

45° Straight Thread Elbow
SAE-ORB / NPSM Swivel

SAE 140357

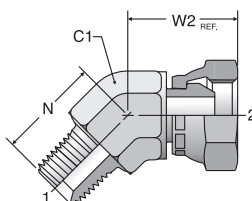


TUBE FITTING PART #	END SIZE		C1 HEX (in.)	N4 (in.)	W2 (in.)	Dynamic Pressure (x 1,000 PSI)		
	1	2				-S	-SS	-B
	UN/UNF-2A	NPSM						
3507-4-4	7/16 - 20	1/4 - 18	7/16	1.05	0.79	6.0	6.0	3.3
3507-6-4	9/16 - 18	1/4 - 18	9/16	1.11	0.94	6.0	6.0	3.3
3507-6-6	9/16 - 18	3/8 - 18	9/16	1.14	1.03	6.0	6.0	3.3
3507-6-8	9/16 - 18	1/2 - 14	3/4	1.08	1.16	5.0	5.0	3.3
3507-8-6	3/4 - 16	3/8 - 18	3/4	1.30	1.02	6.0	6.0	3.3
3507-8-8	3/4 - 16	1/2 - 14	3/4	1.30	1.18	5.0	5.0	3.3
3507-8-12	3/4 - 16	3/4 - 14	3/4	1.41	1.37	3.0	3.0	1.9
3507-10-6	7/8 - 14	3/8 - 18	1 1/16	1.35	0.98	5.0	5.0	3.3
3507-10-8	7/8 - 14	1/2 - 14	7/8	1.52	1.17	5.0	5.0	3.3
3507-10-12	7/8 - 14	3/4 - 14	1 1/16	1.36	1.40	3.0	3.0	1.9
3507-12-8	1 1/16 - 12	1/2 - 14	1 1/16	1.73	1.12	5.0	5.0	3.3
3507-12-12	1 1/16 - 12	3/4 - 14	1 1/16	1.73	1.37	3.0	3.0	1.9
3507-16-16	1 5/16 - 12	1 - 11 1/2	1 5/16	1.86	1.52	2.5	2.5	1.6

3107

45° Male Pipe Elbow
NPTF / NPSM Swivel

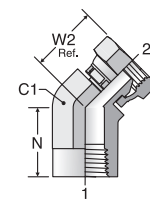
SAE 140330



TUBE FITTING PART #	END SIZE		C1 HEX (in.)	N (in.)	W2 (in.)	Dynamic Pressure (x 1,000 PSI)		
	1	2				-S	-SS	-B
	NPTF	NPSM						
3107-2-2	1/8 - 27	1/8 - 27	7/16	0.52	0.77	6.0	6.0	3.3
3107-4-4	1/4 - 18	1/4 - 18	9/16	0.86	0.91	6.0	6.0	3.3
3107-6-6	3/8 - 18	3/8 - 18	3/4	0.95	1.10	6.0	6.0	3.3
3107-6-8	3/8 - 18	1/2 - 14	1 1/16	1.09	1.16	5.0	5.0	3.3
3107-8-4	1/2 - 14	1/4 - 18	1 1/16	1.34	0.96	5.0	5.0	3.3
3107-8-6	1/2 - 14	3/8 - 18	7/8	1.17	1.10	6.0	6.0	3.3
3107-8-8	1/2 - 14	1/2 - 14	7/8	1.17	1.17	5.0	5.0	3.3
3107-8-12	1/2 - 14	3/4 - 14	1 1/16	1.50	1.24	3.0	3.0	1.9
3107-12-8	3/4 - 14	1/2 - 14	1 1/16	1.20	1.23	4.0	4.0	1.9
3107-12-12	3/4 - 14	3/4 - 14	1 1/16	1.20	1.37	3.0	3.0	1.9
3107-12-16	3/4 - 14	1 - 11 1/2	1 5/16	1.50	1.32	2.5	2.5	1.6
3107-16-12	1 - 11 1/2	3/4 - 14	1 5/16	1.48	1.47	3.0	3.0	1.6
3107-16-16	1 - 11 1/2	1 - 11 1/2	1 5/16	1.48	1.52	2.5	2.5	1.6
3107-20-16	1 1/4 - 11 1/2	1 - 11 1/2	1 5/8	1.75	1.55	2.5	2.5	1.3
3107-20-20	1 1/4 - 11 1/2	1 1/4 - 11 1/2	1 5/8	1.67	1.61	2.0	2.0	1.3
3107-24-24	1 1/2 - 11 1/2	1 1/2 - 11 1/2	1 7/8	1.77	1.77	2.0	2.0	1.3
3107-32-32	2 - 11 1/2	2 - 11 1/2	2 1/2	2.11	1.89	1.1	1.1	0.7

3207

45° Female Pipe Elbow
NPTF / NPSM Swivel



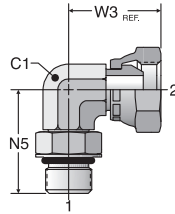
TUBE FITTING PART #	END SIZE		C1 HEX (in.)	N (in.)	W2 (in.)	Dynamic Pressure (x 1,000 PSI)		
	1	2				-S	-SS	-B
	NPTF	NPSM						
3207-4-4	1/4 - 18	1/4 - 18	3/4	0.91	0.94	5.0	5.0	3.3
3207-6-6	3/8 - 18	3/8 - 18	7/8	1.00	0.97	4.5	4.5	2.9
3207-8-8	1/2 - 14	1/2 - 14	1 1/16	1.01	1.12	3.0	3.0	1.9
3207-12-12	3/4 - 14	3/4 - 14	1 5/16	1.25	1.31	3.0	3.0	1.9
3207-16-16	1 - 11 1/2	1 - 11 1/2	1 5/8	1.44	1.55	1.8	1.8	1.1

Dimensions and pressures for reference only, subject to change.

2507

Straight Thread Elbow
SAE-ORB / NPSM Swivel

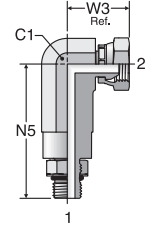
SAE 140257



TUBE FITTING PART #	END SIZE		C1 HEX (in.)	N5	W3 (in.)	Dynamic Pressure (x 1,000 PSI)		
	1	2				-S	-SS	-B
	UN/UNF-2A	NPSM						
2507-4-4	7/16 - 20	1/4 - 18	7/16	1.03	0.97	6.0	6.0	3.3
2507-4-6	7/16 - 20	3/8 - 18	9/16	1.28	1.23	6.0	6.0	3.3
2507-6-4	9/16 - 18	1/4 - 18	9/16	1.25	1.06	6.0	6.0	3.3
2507-6-6	9/16 - 18	3/8 - 18	9/16	1.25	1.10	6.0	6.0	3.3
2507-6-8	9/16 - 18	1/2 - 14	3/4	1.41	1.29	5.0	5.0	3.3
2507-8-4	3/4 - 16	1/4 - 18	3/4	1.30	1.09	6.0	6.0	3.3
2507-8-6	3/4 - 16	3/8 - 18	3/4	1.45	1.19	6.0	6.0	3.3
2507-8-8	3/4 - 16	1/2 - 14	3/4	1.45	1.33	5.0	5.0	3.3
2507-8-12	3/4 - 16	3/4 - 14	3/4	1.62	1.65	3.0	3.0	1.9
2507-10-6	7/8 - 14	3/8 - 18	7/8	1.70	1.26	5.0	5.0	3.3
2507-10-8	7/8 - 14	1/2 - 14	7/8	1.70	1.40	5.0	5.0	3.3
2507-10-12	7/8 - 14	3/4 - 14	7/8	1.78	1.62	3.0	3.0	1.9
2507-12-8	1 1/16 - 12	1/2 - 14	1 1/16	1.94	1.50	5.0	5.0	3.3
2507-12-12	1 1/16 - 12	3/4 - 14	1 1/16	1.94	1.65	3.0	3.0	1.9
2507-12-16	1 1/16 - 12	1 - 11 1/2	1 3/16	2.08	1.91	2.5	2.5	1.6
2507-16-12	1 5/16 - 12	3/4 - 14	1 3/16	2.08	1.89	3.0	3.0	1.9
2507-16-16	1 5/16 - 12	1 - 11 1/2	1 5/16	2.05	1.91	2.5	2.5	1.6
2507-20-20	1 5/8 - 12	1 1/4 - 11 1/2	1 5/8	2.25	2.16	2.0	2.0	1.3
2507-24-24	1 7/8 - 12	1 1/2 - 11 1/2	1 7/8	2.39	2.31	1.1	1.1	0.7

5507

Long Straight Thread Elbow
SAE-ORB / NPSM Swivel

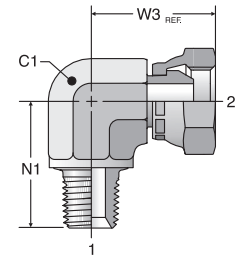


TUBE FITTING PART #	END SIZE		C1 HEX (in.)	N5 (in.)	W3 (in.)	Dynamic Pressure (x 1,000 PSI)		
	1	2				-S	-SS	-B
	UN/UNF-2A	NPSM						
5507-4-4	7/16 - 20	1/4 - 18	3/4	2.19	1.13	6.0	6.0	3.3
5507-6-6	9/16 - 18	3/8 - 18	7/8	2.59	1.20	6.0	6.0	3.3
5507-8-6	3/4 - 16	3/8 - 18	7/8	2.47	1.20	6.0	6.0	3.3

2107

Male Pipe Elbow
NPTF / NPSM Swivel

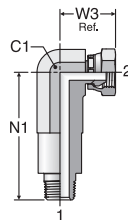
SAE 140230



TUBE FITTING PART #	END SIZE		C1 HEX (in.)	N1 (in.)	W3 (in.)	Dynamic Pressure (x 1,000 PSI)		
	1	2				-S	-SS	-B
	NPTF	NPSM						
2107-2-2	1/8 - 27	1/8 - 27	7/16	0.72	0.85	6.0	6.0	3.3
2107-2-4	1/8 - 27	1/4 - 18	7/16	1.00	0.97	6.0	6.0	3.3
2107-4-2	1/4 - 18	1/8 - 27	9/16	1.02	1.05	6.0	6.0	3.3
2107-4-4	1/4 - 18	1/4 - 18	9/16	1.09	1.06	6.0	6.0	3.3
2107-4-6	1/4 - 18	3/8 - 18	3/4	1.09	1.28	6.0	6.0	3.3
2107-6-4	3/8 - 18	1/4 - 18	3/4	1.22	1.17	6.0	6.0	3.3
2107-6-6	3/8 - 18	3/8 - 18	3/4	1.22	1.28	6.0	6.0	3.3
2107-6-8	3/8 - 18	1/2 - 14	3/4	1.22	1.33	5.0	5.0	3.3
2107-8-4	1/2 - 14	1/4 - 18	7/8	1.69	1.18	6.0	6.0	3.3
2107-8-6	1/2 - 14	3/8 - 18	7/8	1.47	1.35	6.0	6.0	3.3
2107-8-8	1/2 - 14	1/2 - 14	7/8	1.47	1.40	5.0	5.0	3.3
2107-8-12	1/2 - 14	3/4 - 14	1 1/16	1.47	1.65	3.0	3.0	1.9
2107-12-6	3/4 - 14	3/8 - 18	1 1/16	1.59	1.48	4.0	4.0	2.6
2107-12-8	3/4 - 14	1/2 - 14	1 1/16	1.59	1.53	4.0	4.0	2.6
2107-12-12	3/4 - 14	3/4 - 14	1 1/16	1.59	1.65	3.0	3.0	1.9
2107-12-16	3/4 - 14	1 - 11 1/2	1 3/16	2.19	1.72	2.5	2.5	1.6
2107-16-12	1 - 11 1/2	3/4 - 14	1 5/16	1.97	1.82	3.0	3.0	1.9
2107-16-16	1 - 11 1/2	1 - 11 1/2	1 5/16	1.97	1.91	2.5	2.5	1.6
2107-16-20	1 - 11 1/2	1 1/4 - 11 1/2	1 7/16	2.41	1.87	2.0	2.0	1.3
2107-20-16	1 1/4 - 11 1/2	1 - 11 1/2	1 5/8	2.62	1.98	2.5	2.5	1.6
2107-20-20	1 1/4 - 11 1/2	1 1/4 - 11 1/2	1 5/8	2.38	2.11	2.0	2.0	1.3
2107-24-24	1 1/2 - 11 1/2	1 1/2 - 11 1/2	1 7/8	2.64	2.31	2.0	2.0	1.0
2107-32-32	2 - 11 1/2	2 - 11 1/2	2 1/2	3.00	2.70	1.1	1.1	0.7

5607

Long Male Pipe Elbow
NPTF / NPSM Swivel



TUBE FITTING PART #	END SIZE		C1 HEX (in.)	N1 (in.)	W3 (in.)	Dynamic Pressure (x 1,000 PSI)		
	1	2				-S	-SS	-B
	NPTF	NPSM						
5607-2-2	1/8 - 27	1/8 - 27	9/16	1.64	0.92	6.0	6.0	3.3
5607-4-4	1/4 - 18	1/4 - 18	3/4	2.25	1.16	6.0	6.0	3.3
5607-6-6	3/8 - 18	3/8 - 18	7/8	2.76	1.20	6.0	6.0	3.3
5607-8-8	1/2 - 14	1/2 - 14	1 1/16	3.19	1.48	5.0	5.0	3.3
5607-12-12	3/4 - 14	3/4 - 14	1 5/16	3.66	1.69	3.0	3.0	1.9
5607-16-16	1 - 11 1/2	1 - 11 1/2	1 7/8	4.31	2.15	2.5	2.5	1.6

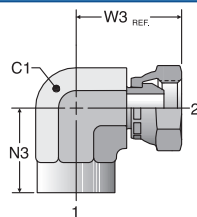
Dimensions and pressures for reference only, subject to change.

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2207

Female Pipe Elbow
NPTF / NPSM Swivel

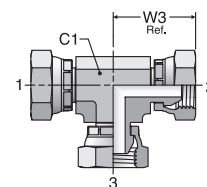
SAE 140231



TUBE FITTING PART #	END SIZE		C1 HEX (in.)	N3 (in.)	W3 (in.)	Dynamic Pressure (x 1,000 PSI)		
	1 NPTF	2 NPSM				-S	-SS	-B
2207-2-2	1/8 - 27	1/8 - 27	9/16	0.66	0.95	5.0	5.0	3.3
2207-4-4	1/4 - 18	1/4 - 18	3/4	0.88	1.17	5.0	5.0	3.3
2207-4-6	1/4 - 18	3/8 - 18	7/8	0.88	1.26	4.5	4.5	2.9
2207-6-6	3/8 - 18	3/8 - 18	7/8	1.02	1.26	4.5	4.5	2.9
2207-8-6	1/2 - 14	3/8 - 18	1 1/16	1.37	1.34	3.0	3.0	1.9
2207-8-8	1/2 - 14	1/2 - 14	1 1/16	1.23	1.53	3.0	3.0	1.9
2207-12-12	3/4 - 14	3/4 - 14	1 5/16	1.36	1.82	3.0	3.0	1.9
2207-16-16	1 - 11 1/2	1 - 11 1/2	1 5/8	1.62	2.10	1.8	1.8	1.1
2207-20-20	1 1/4 - 11 1/2	1 1/4 - 11 1/2	1 7/8	1.70	2.21	1.5	1.5	1.0
2207-24-24	1 1/2 - 11 1/2	1 1/2 - 11 1/2	2 1/2	2.08	2.83	1.5	1.5	1.0
2207-32-32	2 - 11 1/2	2 - 11 1/2	2 13/16	2.39	3.00	1.1	1.1	0.7

077T

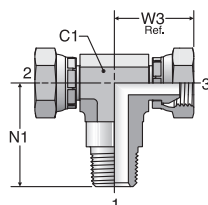
NPSM Union Tee
NPSM Swivel (all three ends)



TUBE FITTING PART #	END SIZE			C1 HEX (in.)	W3 (in.)	Dynamic Pressure (x 1,000 PSI)		
	1 NPSM	2 NPSM	3 NPSM			-S	-SS	-B
077T-2	1/8 - 27	1/8 - 27	1/8 - 27	7/16	0.89	6.0	7.2	3.3
077T-4	1/4 - 18	1/4 - 18	1/4 - 18	9/16	1.06	6.0	7.2	3.3
077T-6	3/8 - 18	3/8 - 18	3/8 - 18	3/4	1.15	6.0	7.2	3.3
077T-8	1/2 - 14	1/2 - 14	1/2 - 14	3/4	1.29	5.0	6.0	3.3
077T-12	3/4 - 14	3/4 - 14	3/4 - 14	1 1/16	1.65	3.0	3.6	1.9

217T

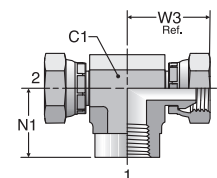
Male Pipe Branch Tee
NPTF / NPSM Swivel /
NPSM Swivel



TUBE FITTING PART #	END SIZE			C1 HEX (in.)	N1 (in.)	W3 (in.)	Dynamic Pressure (x 1,000 PSI)		
	1 NPTF	2 NPSM	3 NPSM				-S	-SS	-B
217T-2-2	1/8 - 27	1/8 - 27	1/8 - 27	9/16	0.97	0.92	6.0	6.0	3.3
217T-4-4	1/4 - 18	1/4 - 18	1/4 - 18	9/16	1.19	1.03	6.0	6.0	3.3
217T-6-6	3/8 - 18	3/8 - 18	3/8 - 18	3/4	1.50	1.15	6.0	6.0	3.3
217T-8-6	1/2 - 14	3/8 - 18	3/8 - 18	3/4	1.69	1.21	6.0	6.0	3.3
217T-8-8	1/2 - 14	1/2 - 14	1/2 - 14	3/4	1.81	1.35	5.0	5.0	3.3
217T-12-12	3/4 - 14	3/4 - 14	3/4 - 14	1 1/16	2.00	1.60	3.0	3.0	1.9
217T-16-16	1 - 11 1/2	1 - 11 1/2	1 - 11 1/2	1 1/16	2.37	1.86	2.5	2.5	1.6

227T

Female Pipe Branch Tee
NPTF / NPSM Swivel /
NPSM Swivel



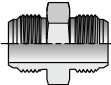
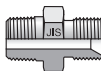
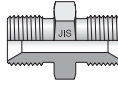
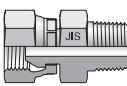
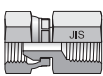
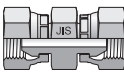
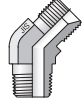
TUBE FITTING PART #	END SIZE			C1 HEX (in.)	N1 (in.)	W3 (in.)	Dynamic Pressure (x 1,000 PSI)		
	1 NPTF	2 NPSM	3 NPSM				-S	-SS	-B
227T-4-4	1/4 - 18	1/4 - 18	1/4 - 18	3/4	0.94	1.13	5.0	5.0	3.2
227T-6-6	3/8 - 18	3/8 - 18	3/8 - 18	7/8	1.00	1.20	4.5	4.5	2.9
227T-8-8	1/2 - 14	1/2 - 14	1/2 - 14	1 1/16	1.17	1.46	3.0	3.0	1.9
227T-12-12	3/4 - 14	3/4 - 14	3/4 - 14	1 3/16	1.44	1.60	3.0	3.0	1.9

Dimensions and pressures for reference only, subject to change.

G

JIS FITTINGS



30° Flare	HT4 JIS Union / 30° Flare  G5	F3T4 BSPT / 30° Flare  G5	PNMT4 Plug  G5	FNMT4 Cap  G5	V3T4 BSPT / 30° Flare  G6
C3T4 BSPT / 30° Flare  G6	60° Cone	F3P4 BSPT / 60° Cone  G6	HP4 Union  G6	G3P4 BSPT / 60° Cone  G7	PNMP4 Plug  G7
F63P4 60° Swivel / BSPT  G7	G63P4 60° Swivel / BSPT  G7	HP46 Union Swivel  G8	FNMP4 Cap  G8	C3P4 BSPT / 60° Cone  G8	V3P4 BSPT / 60° Cone  G8
B2351 Port	P47OMN Hex Head Plug  G8				

O-Rings and Seals (Shown in Section M)

JIS O-Rings and Seals	JIS B2351 O-Ring  M7
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Dimensions and pressures for reference only, subject to change.

JIS Fittings

Parker introduced Japanese Industrial Standard (JIS) adapters in the early 1990s to address market requirements for OEM and replacement fittings. These fittings are typically used as hose adapters on equipment designed and/or manufactured in Japan and Korea. Parker's JIS adapters are designed with 30° flare and 60° cone connections and typically incorporate BSP threads.

Parker JIS adapters are designed with BSPP and BSPT port ends and two styles of hose ends: T4 (30° flare, BSPP threads) and P4 (60° cone, BSPP threads). Two additional Parker series of fittings, KA (Komatsu flare) and K4 (BS B5200) adapters, are similar to JIS style fittings and appear in sections H and I of this catalog.

The T4 and P4 interfaces, as shown in Fig. G1, provide end user flexibility of connecting to the most common Parker hose ends available as listed in Table G1.

Parker's JIS adapter offering that uses the BSPP port connection are manufactured in accordance with the JIS B2351 type "O" port connection which is commonly used for higher pressure systems. Fig. G2 illustrates this port connection and Table G2 shows appropriate JIS B2351 O-rings and dash sizes.

It should be noted that Parker offers two very similar cone style BSPP adapters — P4 and K4. Parker's K4 (60 cone, BSPP) fittings conform to BS5200, while Parker's JIS cone adapters meet JIS B8363 specifications. ***These fittings, while very similar, are not interchangeable.*** See the H section of this catalog for more specific information on their differences. ***Or, read our article BSPP 60-degree Cone Fittings: Looks Can be Deceiving.***

Design and Construction

Construction: Shaped JIS adapters are manufactured from a hot forged construction. Straight adapters are manufactured from cold drawn barstock.

Threads: The standard JIS products are manufactured with the thread forms listed below:

BSPP Threads: ISO 228-1 G, JIS B 0202,
BSPT Threads: ISO 7/1, JIS B 0203

Identification: All Parker JIS fittings are stamped with "JIS" for positive identification and differentiation from similar style fittings.

Reference Locations

Dynamic Pressure Ratings: Please refer to the last column of part number tables located on the following pages of this section for the appropriate dynamic pressure ratings.

Standard Material Specifications: Please refer to Table S34 located in the General Technical section.

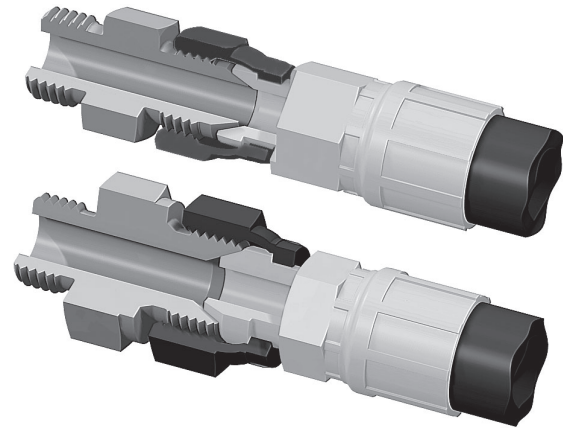


Fig. G1 – JIS T4 and P4 Interfaces

Adapter Connection End	Mating Parker Hose Fitting Series
P4 / P46	UT, GU, G1, G2
T4 / T46	FU

Table G1 – Parker JIS Fittings Hose Adaptability

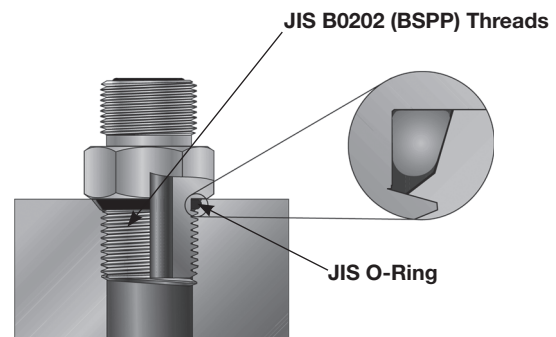


Fig. G2 – JIS B2351 Type "O" Port Connection

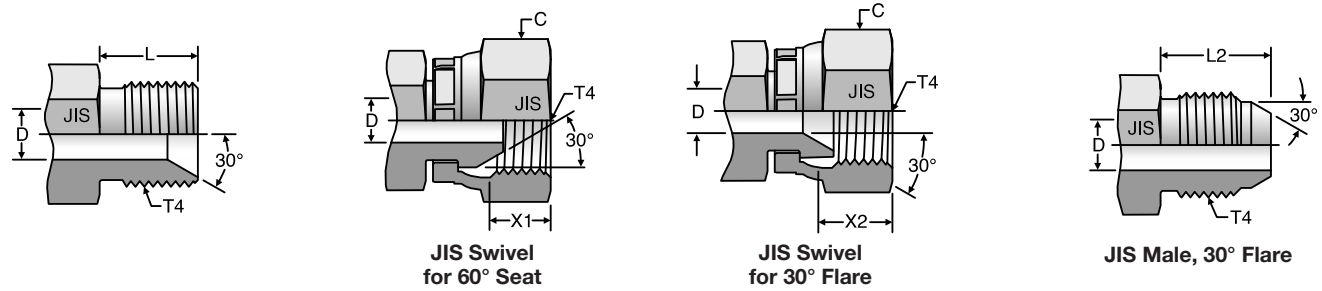
"G" Thread BSPP per ISO 228-1 JIS B 0202	Dash Size	Port O-Ring (See Pg. N6)
1/8-28	2	P8
1/4-19	4	P11
3/8-19	6	P14
1/2-14	8	P18
3/4-14	12	P24
1-11	16	P29

Table G2 – JIS B2351 Port Threads and O-Rings as shown in Fig. G2

JIS Ends

TABLE
OF
CONTENTS

VISUAL
INDEX



	BSPP Thread	Swivel Hex	Drill	Male Turn Back		Assembly Allowance	
Dash Size	T4 BSPP	C (in)	D (in)	L (in)	L2 (in)	X1 (in)	X2 (in)
4	1/4-19	.75	0.177	.570	.606	0.35	0.36
6	3/8-19	.88	0.275	.609	.684	0.29	0.38
8	1/2-14	1.06	0.433	.726	.763	0.46	0.53
12	3/4-14	1.44	0.625	.805	.842	0.55	0.56
16	1-11	1.63	0.828	.883	.881	0.53	0.58

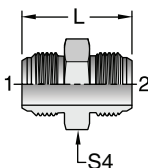
Dimensions and pressures for reference only, subject to change.



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HT4

JIS Union Flare
30° Flare / 30° Flare

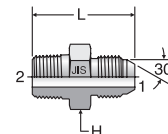


TUBE FITTING PART #	End Size		S4 Hex (in.)	L (in.)	Dynamic Pressure (x 1,000 PSI)
	1 BSPP	2 BSPP			-S
4 HT4	1/4-19	1/4-19	3/4	1.45	5.0
6 HT4	3/8-19	3/8-19	7/8	1.68	5.0
8 HT4	1/2-14	1/2-14	1 1/16	1.88	5.0
12 HT4	3/4-14	3/4-14	1 7/16	2.12	4.0
16 HT4	1-11	1-11	1 5/8	2.28	3.0

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

F3T4

Male Connector
30° Flare / BSPT



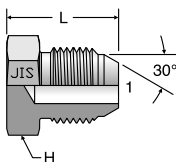
Mates with FU Style hose fittings

TUBE FITTING PART #	END SIZE		H HEX (in.)	L (in.)	Dynamic Pressure (x 1,000 PSI)
	1 BSPP	2 BSPT			S
4F3T4	1/4 - 19	1/4 - 19	0.75	1.46	5.0
4-6F3T4	1/4 - 19	3/8 - 19	0.88	1.51	5.0
6-4F3T4	3/8 - 19	1/4 - 19	0.88	1.59	5.0
6F3T4	3/8 - 19	3/8 - 19	0.88	1.59	5.0
8-6F3T4	1/2 - 14	3/8 - 19	1.06	1.70	5.0
8F3T4	1/2 - 14	1/2 - 14	1.06	1.89	5.0
12F3T4	3/4 - 14	3/4 - 14	1.44	2.10	4.0
16F3T4	1-11	1-11	1.63	2.30	3.0

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

PNMT4

Plug
30° Flare



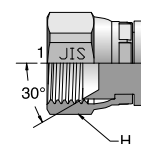
Mates with FU Style hose fittings

TUBE FITTING PART #	END SIZE	H HEX (mm)	L (in.)	Dynamic Pressure (x 1,000 PSI)
	1 BSPP			S
4PNMT4	1/4 - 19	17	0.89	5.0
6PNMT4	3/8 - 19	19	0.97	5.0
8PNMT4	1/2 - 14	22	1.11	5.0
12PNMT4	3/4 - 14	30	1.26	4.0
16PNMT4	1-11	36	1.30	3.0

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

FNMT4

Cap
30° Flare



TUBE FITTING PART #	END SIZE	H HEX (in.)	Dynamic Pressure (x 1,000 PSI)
	1 BSPP		S
4FNMT4	1/4 - 19	0.75	5.0
6FNMT4	3/8 - 19	0.88	5.0
8FNMT4	1/2 - 14	1.06	5.0
12FNMT4	3/4 - 14	1.44	4.0
16FNMT4	1-11	1.63	3.0

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

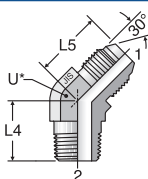
Dimensions and pressures for reference only, subject to change.

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V3T4

45° Male Elbow
30° Flare / BSPT

Mates with FU Style hose fittings



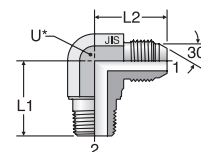
* Across wrench flats

TUBE FITTING PART #	END SIZE		L4 (in.)	L5 (in.)	U (in.)	Dynamic Pressure (x 1,000 PSI)
	1 BSPP	2 BSPT				S
4V3T4	1/4 - 19	1/4 - 19	0.75	0.87	0.56	5.0
6V3T4	3/8 - 19	3/8 - 19	0.87	0.97	0.75	5.0
8V3T4	1/2 - 14	1/2 - 14	1.06	1.10	0.88	5.0
12V3T4	3/4 - 14	3/4 - 14	1.18	1.24	1.06	4.0
16V3T4	1-11	1-11	1.37	1.26	1.31	3.0

C3T4

Male Elbow
30° Flare / BSPT

Mates with FU Style hose fittings



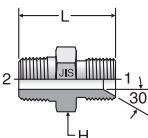
* Across wrench flats

TUBE FITTING PART #	END SIZE		L1 (in.)	L2 (in.)	U (in.)	Dynamic Pressure (x 1,000 PSI)
	1 BSPP	2 BSPT				S
4C3T4	1/4 - 19	1/4 - 19	1.00	0.98	0.56	5.0
6C3T4	3/8 - 19	3/8 - 19	1.18	1.14	0.75	5.0
8C3T4	1/2 - 14	1/2 - 14	1.42	1.33	0.88	5.0
12C3T4	3/4 - 14	3/4 - 14	1.69	1.50	1.06	4.0
16C3T4	1-11	1-11	1.97	1.74	1.31	3.0

F3P4

Male Connector
60° Cone / BSPT

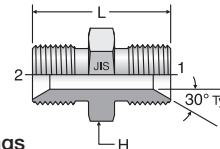
Mates with GU, G1 and G2 Style hose fittings



HP4

Union
60° Cone

Mates with GU, G1 and G2 Style hose fittings



TUBE FITTING PART #	END SIZE		H HEX (in.)	L (in.)	Dynamic Pressure (x 1,000 PSI)
	1 BSPP	2 BSPT			S
4F3P4	1/4 - 19	1/4 - 19	0.75	1.44	5.0
6F3P4	3/8 - 19	3/8 - 19	0.88	1.50	5.0
8F3P4	1/2 - 14	1/2 - 14	1.06	1.81	5.0
12F3P4	3/4 - 14	3/4 - 14	1.44	2.05	4.0
16F3P4	1-11	1-11	1.63	2.28	3.0

TUBE FITTING PART #	END SIZE		H HEX (in.)	L (in.)	Dynamic Pressure (x 1,000 PSI)
	1 & 2 BSPP				S
4HP4	1/4 - 19		0.75	1.34	5.0
6HP4	3/8 - 19		0.88	1.50	5.0
8HP4	1/2 - 14		1.06	1.81	5.0
12HP4	3/4 - 14		1.44	2.05	4.0
16HP4	1-11		1.63	2.28	3.0

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

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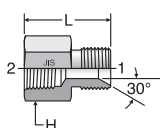
Dimensions and pressures for reference only, subject to change.

[Click here for CADs, Support Resources or to Configure Parts Online](#)

G3P4

Female Connector
60° Cone / BSPT

Mates with GU, G1 and G2 Style hose fittings



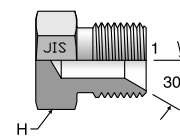
TUBE FITTING PART #	END SIZE		H HEX (in.)	L (in.)	Dynamic Pressure (x 1,000 PSI)
	1 BSPP	2 BSPT			S
4G3P4	1/4 - 19	1/4 - 19	0.75	1.22	5.0
6G3P4	3/8 - 19	3/8 - 19	0.88	1.34	5.0
8G3P4	1/2 - 14	1/2 - 14	1.06	1.58	5.0
12G3P4	3/4 - 14	3/4 - 14	1.44	1.73	4.0
16G3P4	1-11	1-11	1.63	1.93	3.0

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

PNMP4

Plug
60° Cone

Mates with GU, G1 and G2 Style hose fittings



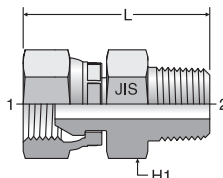
TUBE FITTING PART #	END SIZE		H HEX (mm)	Dynamic Pressure (x 1,000 PSI)
	1 BSPP			S
4PNMP4	1/4 - 19		17	5.0
6PNMP4	3/8 - 19		19	5.0
8PNMP4	1/2 - 14		22	5.0
12PNMP4	3/4 - 14		30	4.0
16PNMP4	1-11		36	3.0

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

F63P4

Swivel Male Connector
60° Swivel / BSPT

Mates with UT Style hose fittings



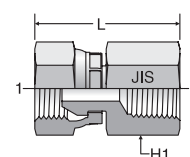
TUBE FITTING PART #	END SIZE		H1 HEX (in.)	L (in.)	Dynamic Pressure (x 1,000 PSI)
	1 BSPP	2 BSPT			S
4F63P4	1/4 - 19	1/4 - 19	0.75	1.73	5.0
6F63P4	3/8 - 19	3/8 - 19	0.88	1.94	5.0
8F63P4	1/2 - 14	1/2 - 14	1.06	2.25	5.0
12F63P4	3/4 - 14	3/4 - 14	1.44	2.55	4.0
16F63P4	1-11	1-11	1.63	2.77	3.0

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

G63P4

Swivel Female Connector
60° Swivel / BSPT

Mates with UT Style hose fittings



TUBE FITTING PART #	END SIZE		H1 HEX (in.)	L (in.)	Dynamic Pressure (x 1,000 PSI)
	1 BSPP	2 BSPT			S
4G63P4	1/4 - 19	1/4 - 19	0.75	1.61	5.0
6G63P4	3/8 - 19	3/8 - 19	0.88	1.78	5.0
8G63P4	1/2 - 14	1/2 - 14	1.06	2.02	5.0
12G63P4	3/4 - 14	3/4 - 14	1.44	2.20	4.0
16G63P4	1-11	1-11	1.63	2.52	3.0

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

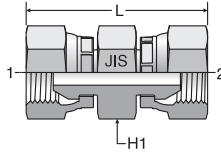
Dimensions and pressures for reference only, subject to change.

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HP46

Swivel Union Connector
60° Swivel

Mates with UT Style hose fittings



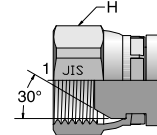
TUBE FITTING PART #	END SIZE	H1 HEX (in.)	L (in.)	Dynamic Pressure (x 1,000 PSI)
	1 & 2 BSPP			S
4HP46	1/4 - 19	0.75	2.12	5.0
6HP46	3/8 - 19	0.88	2.37	5.0
8HP46	1/2 - 14	1.06	2.73	5.0
12HP46	3/4 - 14	1.44	2.96	4.0
16HP46	1-11	1.63	3.24	3.0

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

FNMP4

Cap
60° Cone

Mates with UT Style hose fittings



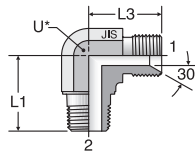
TUBE FITTING PART #	END SIZE	H HEX (in.)	Dynamic Pressure (x 1,000 PSI)
	1 BSPP		S
4FNMP4	1/4 - 19	0.75	5.0
6FNMP4	3/8 - 19	0.88	5.0
8FNMP4	1/2 - 14	1.06	5.0
12FNMP4	3/4 - 14	1.44	4.0
16FNMP4	1-11	1.63	3.0

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

C3P4

90° Male Elbow
60° Cone / BSPT

Mates with GU, G1 and G2
Style hose fittings



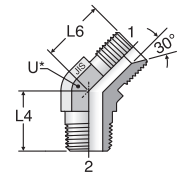
* Across wrench flats

TUBE FITTING PART #	END SIZE		L1 (in.)	L3 (in.)	U (in.)	Dynamic Pressure (x 1,000 PSI)
	1 BSPP	2 BSPT				S
4C3P4	1/4 - 19	1/4 - 19	1.00	0.96	0.56	5.0
6C3P4	3/8 - 19	3/8 - 19	1.18	1.14	0.75	5.0
8C3P4	1/2 - 14	1/2 - 14	1.42	1.28	0.88	5.0
12C3P4	3/4 - 14	3/4 - 14	1.69	1.56	1.06	4.0
16C3P4	1-11	1-11	1.97	1.74	1.31	3.0

V3P4

45° Male Elbow
60° Cone / BSPT

Mates with GU, G1 and G2
Style hose fittings

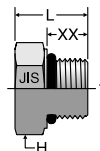


TUBE FITTING PART #	END SIZE		L4 (in.)	L6 (in.)	U (in.)	Dynamic Pressure (x 1,000 PSI)
	1 BSPP	2 BSPT				S
4V3P4	1/4 - 19	1/4 - 19	0.75	0.81	0.56	5.0
6V3P4	3/8 - 19	3/8 - 19	0.87	0.91	0.75	5.0
8V3P4	1/2 - 14	1/2 - 14	1.06	1.05	0.88	5.0
12V3P4	3/4 - 14	3/4 - 14	1.18	1.18	1.06	4.0
16V3P4	1-11	1-11	1.37	1.30	1.31	3.0

P47OMN

Plug

Hex head plug for JIS B2351



TUBE FITTING PART #	END SIZE	H HEX (mm)	L (mm)	XX (mm)	Dynamic Pressure (x 1,000 PSI)
	1 BSPP				S
4P47OMN	1/4 - 19	19	19.1	11.2	5.0
6P47OMN	3/8 - 19	22	20.0	11.2	5.0
8P47OMN	1/2 - 14	27	24.1	14.5	5.0
12P47OMN	3/4 - 14	36	26.9	14.5	4.0
16P47OMN	1-11	41	31.0	18.5	3.0

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Dimensions and pressures for reference only, subject to change.

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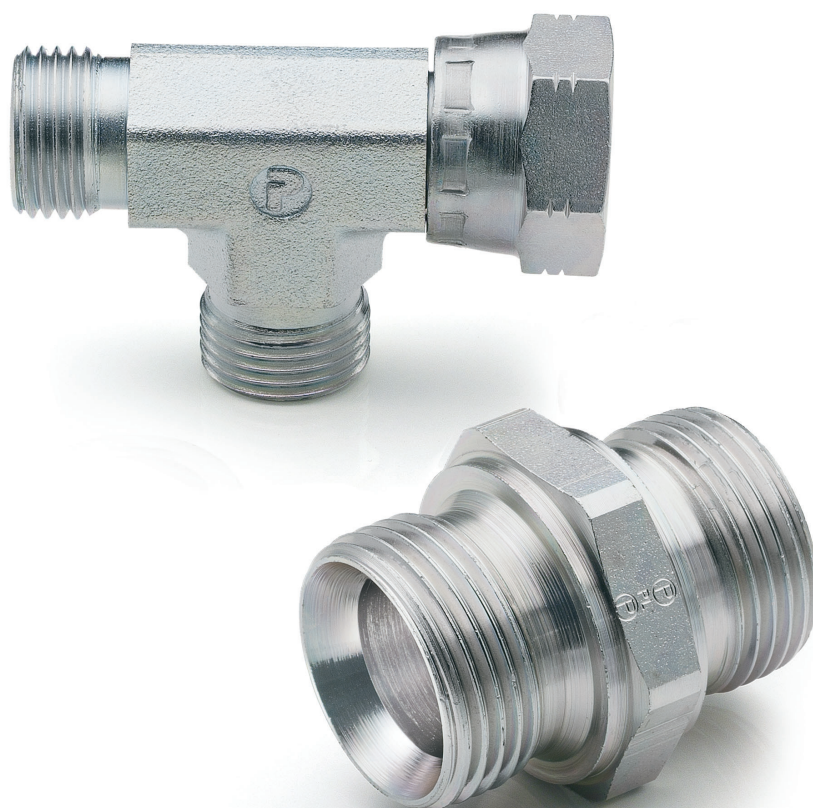
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K4 BSP ADAPTERS



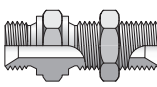
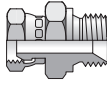
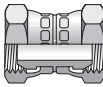
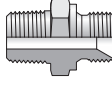
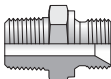
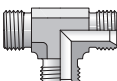
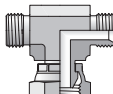
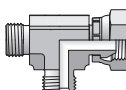
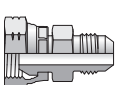
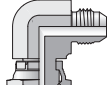
Straights	HMK4 Union  H6	WMK4WL4NM Bulkhead Union  H6	F6MK4 60° Swivel / 60° Cone  H7	H6MK4 Swivel Union  H7	FMK4 60° Cone / NPTF  H7
	F3MK4 60° Cone / BSPT  H7	G4MK4 60° Cone / BSPP  H8	K4HF80 60° Cone / Metric  H8	Elbows	EMK4 Union Elbow  H9
E6MK4 Swivel Union  H9	Tees	JMK4 Union Tee  H9	S6MK4 60° Swivel Branch Tee  H10		R6MK4 60° Swivel Run Tee  H10
Plug and Cap		PNMK4 Hex Head Plug  H8	FNMK4 Cap  H8		

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Conversion Adapters (Shown in Section J)

K4 BSP Conversion Adapters	XHMK46 37° Flare / BSPP Swivel  J5	XEMK46 37° Flare / BSPP Swivel  J6
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O-Rings and Seals (Shown in Section M)

K4 BSP O-Rings and Seals	D9DT BSPP Bonded Seal  M7
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Dimensions and pressures for reference only, subject to change.

K4 BSP Adapters

Parker K4 (BSP) and K46 (swivel) adapters are typically used as hose adapters on equipment designed and/or manufactured throughout Europe, especially equipment with ties to the UK, Scandinavia, the Netherlands, Spain and Italy. BSP cone adapters are similar in function to NPSM pipe swivel fittings (also called 07 Adapters) but with BSPP threads.

The metal-to-metal sealing is achieved by a single line of contact between the conical surface of the 60° cone seat and the corresponding surface of the ballnose or cone swivel, as shown in Fig. H1.

K4 adapters are manufactured in accordance with BS5200 standards. The 60° internal seat is designed for sealing with BSP hose swivel connections offered by many manufacturers. K4 adapters mate with the Parker hose fitting series shown in Table H1.

Further enhancing the flexibility of the K4 adapter product line is the ability for the male BSP cone end of the straight fittings to also be used as a port adapter in ISO 1179-1 / DIN 3852 ports. This is accomplished with the addition of a bonded seal (often referred to as a Dowty® seal). This product feature is illustrated in Fig. H2.

Design and Construction

Construction: Shaped K4 adapters are manufactured from a hot forged construction. Straight adapters are manufactured from cold drawn barstock.

Threads: The standard K4 products are manufactured with the thread forms listed below:

BSPP Threads: ISO 228-1 G
BSPT Threads: ISO 7/1, JIS B 0203
NPTF Threads: SAE J476, ANSI B1.20.3, FED-STD-H28/8

Reference Locations

Dynamic Pressure Ratings: Please refer to the last column of the part number tables located on the following pages of this section for appropriate dynamic pressure ratings.

Standard Material Specifications: Please refer to Table S34 located in the General Technical section.

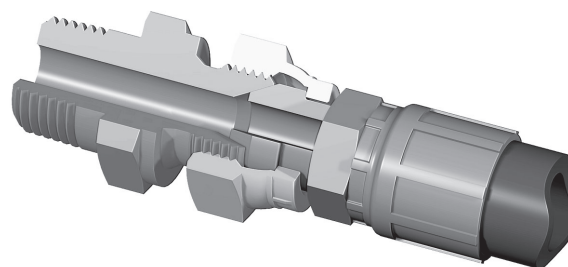


Fig. H1 – K4 Interface

Adapter Connection End	Mating Parker Hose Fitting Series
K4 / K46	D9/92, B1, B2, B4

Table H1 – Parker K4 Fittings Hose Adaptability

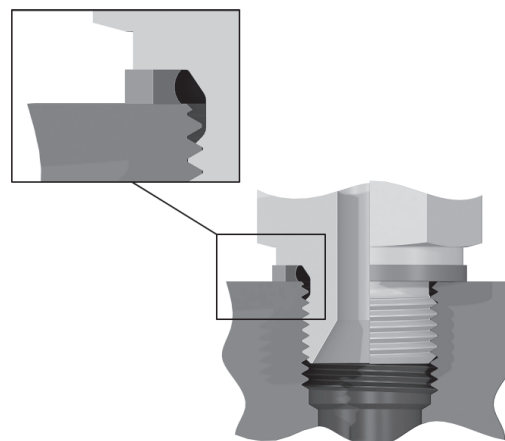


Fig. H2 – K4 End Used as a BSPP Port Adapter (in ISO 1179/ DIN 3852, Part 2 Port)

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60° Cone Adapters: JIS vs. K4

K4 Adapters, while very similar to JIS P4 cones (shown in previous section), are not interchangeable.

Parker's P4 JIS 60° cone adapters are manufactured in accordance to JIS B8363 while Parker's K4 BSP adapters are manufactured in accordance to BS5200. The following are some pronounced differences that may help in distinguishing between the K4 and P4 fittings:

1. Thread length ("A" dimensions)
2. 60° angle diameter ("B" dimensions)
3. The undercut area (area between threads and hex body) on the straight K4 fittings incorporates a bonded seal "locating pilot" for bonded seal
4. Parker's JIS fittings are stamped with "JIS" on the forging body or hex of fitting

See Figs. H3 and H4 for details and see Tables H2 and H3 below for specific dimensional differences.

Size	BSPP Thread	M	A	B
2	1/8-28	0.38	0.418	0.276
4	1/4-19	0.51	0.570	0.394
6	3/8-19	0.65	0.609	0.531
8	1/2-14	0.82	0.726	0.650
12	3/4-14	1.04	0.805	0.866
16	1-11	1.30	0.883	1.102
20	1 1/4-11	1.64	0.945	1.417
24	1 1/2-11	1.87	0.962	1.654
32	2-11	2.34	1.102	2.126

Table H2 – Dimensions of JIS B8363 60° Cone Connection (JIS P4)

Size	BSPP Thread	M	A	B
2	1/8-28	0.38	0.315	0.295
4	1/4-19	0.51	0.433	0.409
6	3/8-19	0.65	0.472	0.551
8	1/2-14	0.82	0.551	0.689
10	5/8-14	0.90	0.630	0.760
12	3/4-14	1.04	0.630	0.902
16	1-11	1.30	0.748	1.130
20	1 1/4-11	1.64	0.787	1.449
24	1 1/2-11	1.87	0.866	1.681
32	2-11	2.34	0.984	2.150

Table H3 – Dimensions of BS B5200 60° Cone Connection (K4)

While the 60° cone versions of JIS and K4 fittings utilize the same BSPP threads and seat angle, not all dimensions are consistent. Therefore, they cannot be interchanged because the differences can cause leakage problems. An example of this is illustrated in Fig. H5, where a gap exists between sealing surfaces. The combination of matching proper components will create an effective seal as illustrated in Fig H6.

For more information, see "BSPP 60° Cone Fittings: Looks can be deceiving" article at TFDTechConnect.com.

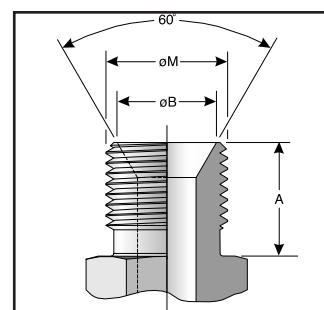


Fig. H3 – JIS B8363 60° Cone Connection (P4)

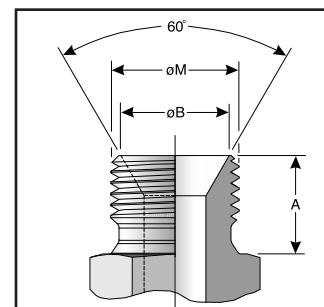


Fig. H4 – BS B5200 60° Cone Connection (K4)

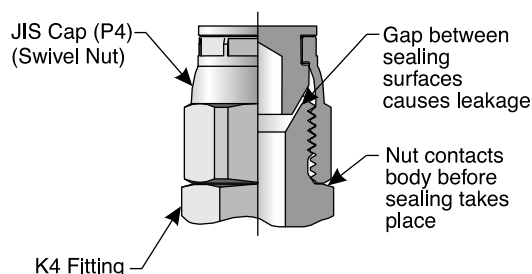


Fig. H5 – Illustration Showing Potential Leakage Problem When Mixing JIS and K4 Components

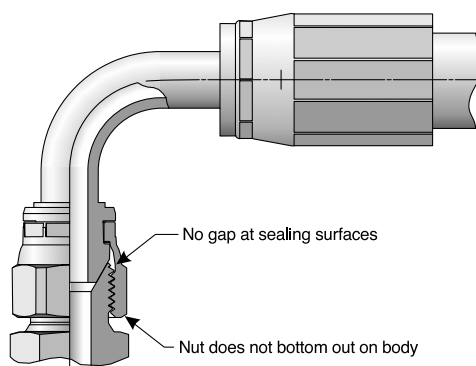


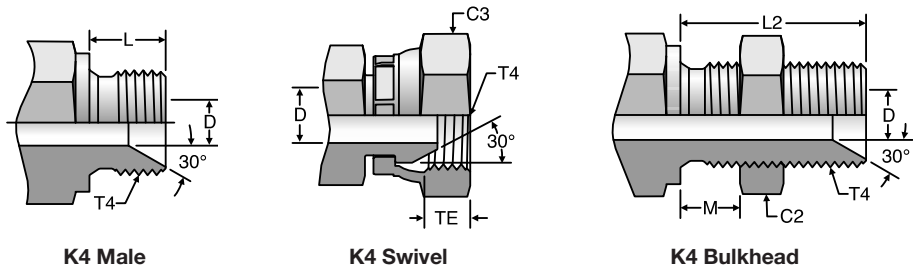
Fig. H6 – An Effective Seal Created with the Proper Combination of Components

Dimensions and pressures for reference only, subject to change.

K4 BSP Ends

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	BSPP Thread	Bulkhead Nut Hex	Swivel Hex	Drill	Male Turn Back	Bulkhead Length	Max Bulkhead Thickness	Assembly Allowance
Dash Size	T4 BSPP	C2 (mm)	C3 (mm)	D (mm)	L (mm)	L2 (mm)	M (mm)	TE (mm)
2	1/8-28	—	14	3.5	8	—	—	—
4	1/4-19	19	19	4.7	11	28	9.5	7.3
6	3/8-19	22	22	7.9	12	32	12.5	8.4
8	1/2-14	27	27	11.1	14	35	12.3	9.3
10	5/8-14	30	30	14.3	16	35	10.7	—
12	3/4-14	36	32	16.7	16	38	13.3	11.3
16	1-11	41	41	22.2	19	41	10.0	13.6
20	1 1/4-11	50	50	28.6	20	44	12.0	—
24	1 1/2-11	55	60	33.3	22	48	14.0	—
32	2-11	—	—	46.0	25	—	—	—

H

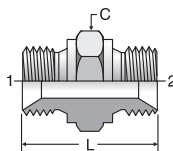
Dimensions and pressures for reference only, subject to change.



HMK4

Union
60° Cone / 60° Cone

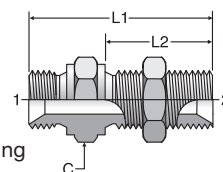
Mates with 92, B1, B2 and B4 style hose fitting



WMK4WL4NM

Bulkhead Union
60° Cone / 60° Cone

Mates with 92, B1, B2 and B4 style hose fitting



TUBE FITTING PART #	END SIZE		C HEX (mm)	L (mm)	Dynamic Pressure (x 1,000 PSI) S
	1 BSPP	2 BSPP			
2HMK4	1/8 - 28	1/8 - 28	14	23.5	5.1
4-2HMK4	1/4 - 19	1/8 - 28	19	28.0	5.1
4HMK4	1/4 - 19	1/4 - 19	19	31.5	5.1
6-4HMK4	3/8 - 19	1/4 - 19	22	33.2	5.1
6HMK4	3/8 - 19	3/8 - 19	22	34.7	5.1
8-4HMK4	1/2 - 14	1/4 - 19	27	36.7	2.9
8-6HMK4	1/2 - 14	3/8 - 19	27	38.2	2.9
8HMK4	1/2 - 14	1/2 - 14	27	40.7	2.9
10-8HMK4	5/8 - 14	1/2 - 14	30	43.2	2.9
10HMK4	5/8 - 14	5/8 - 14	30	45.2	2.9
12-4HMK4	3/4 - 14	1/4 - 19	32	39.2	2.9
12-6HMK4	3/4 - 14	3/8 - 19	32	40.7	2.9
12-8HMK4	3/4 - 14	1/2 - 14	32	43.2	2.9
12-10HMK4	3/4 - 14	5/8 - 14	32	45.2	2.9
12HMK4	3/4 - 14	3/4 - 14	32	45.2	2.9
16-8HMK4	1 - 11	1/2 - 14	41	46.9	1.7
16-10HMK4	1 - 11	5/8 - 14	41	48.9	1.7
16-12HMK4	1 - 11	3/4 - 14	41	48.9	1.7
16HMK4	1 - 11	1 - 11	41	51.9	1.7
20-12HMK4	1 1/4 - 11	3/4 - 14	50	57.4	1.5
20-16HMK4	1 1/4 - 11	1 - 11	50	60.4	1.5
20HMK4	1 1/4 - 11	1 1/4 - 11	50	61.4	1.5
24-16HMK4	1 1/2 - 11	1 - 11	55	64.4	1.5
24-20HMK4	1 1/2 - 11	1 1/4 - 11	55	65.4	1.5
24HMK4	1 1/2 - 11	1 1/2 - 11	55	67.4	1.5
32-24HMK4	2 - 11	1 1/2 - 11	70	72.9	1.0
32HMK4	2 - 11	2 - 11	70	76.4	1.0

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

TUBE FITTING PART #	END SIZE		C HEX (mm)	L1 (mm)	L2 (mm)	Dynamic Pressure (x 1,000 PSI) S
	1 & 2 BSPP					
4WMK4WL4NM	1/4 - 19		19	49	28	5.1
6WMK4WL4NM	3/8 - 19		22	55	32	5.1
8WMK4WL4NM	1/2 - 14		27	62	35	2.9
10WMK4WL4NM	5/8 - 14		30	64	35	2.9
12WMK4WL4NM	3/4 - 14		32	67	38	2.9
16WMK4WL4NM	1 - 11		41	74	41	1.7
20WMK4WL4NM	1 1/4 - 11		50	85	44	1.5
24WMK4WL4NM	1 1/2 - 11		55	93	48	1.5

Includes Bulkhead nut.

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

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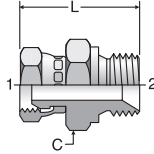
FAQs

Dimensions and pressures for reference only, subject to change.

F6MK4

Swivel Nut Connector
60° Swivel / 60° Cone

Mates with D9/92, B1, B2 and B4 style hose fitting



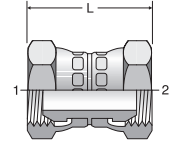
TUBE FITTING PART #	END SIZE		C HEX (mm)	L (mm)	Dynamic Pressure (x 1,000 PSI)
	1 BSPP	2 BSPP			S
4-4F6MK4	1/4 - 19	1/4 - 19	19	36.6	5.1
4-6F6MK4	1/4 - 19	3/8 - 19	22	38.5	5.1
4-8F6MK4	1/4 - 19	1/2 - 14	27	42.0	2.9
6-4F6MK4	3/8 - 19	1/4 - 19	22	38.3	5.1
6-6F6MK4	3/8 - 19	3/8 - 19	22	40.0	5.1
6-8F6MK4	3/8 - 19	1/2 - 14	27	43.6	2.9
8-6F6MK4	1/2 - 14	3/8 - 19	27	43.5	2.9
8-8F6MK4	1/2 - 14	1/2 - 14	27	46.1	2.9
8-12F6MK4	1/2 - 14	3/4 - 14	32	48.0	2.9
12-8F6MK4	3/4 - 14	1/2 - 14	32	48.6	2.9
12-12F6MK4	3/4 - 14	3/4 - 14	32	50.0	2.9
12-16F6MK4	3/4 - 14	1 - 11	41	54.3	1.7
16-16F6MK4	1 - 11	1 - 11	41	57.3	1.7

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

H6MK4

Swivel Nut Union
60° Swivel / 60° Swivel

Mates with D9 style hose fitting



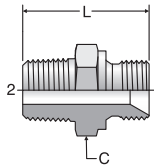
TUBE FITTING PART #	END SIZE		L (mm)	Dynamic Pressure (x 1,000 PSI)
	1 BSPP	2 BSPP		S
4H6MK4	1/4 - 19	1/4 - 19	37.0	5.1
6-4H6MK4	3/8 - 19	1/4 - 19	38.6	5.1
6H6MK4	3/8 - 19	3/8 - 19	40.5	5.1
8-4H6MK4	1/2 - 14	1/4 - 19	41.5	2.9
8-6H6MK4	1/2 - 14	3/8 - 19	42.9	2.9
8H6MK4	1/2 - 14	1/2 - 14	45.8	2.9
10H6MK4	5/8 - 14	5/8 - 14	47.5	2.9
12-8H6MK4	3/4 - 14	1/2 - 14	48.2	2.9
12H6MK4	3/4 - 14	3/4 - 14	49.5	2.9
16H6MK4	1 - 11	1 - 11	57.5	1.7
20H6MK4	1 1/4 - 11	1 1/4 - 11	66.0	1.5
24H6MK4	1 1/2 - 11	1 1/2 - 11	70.0	1.5

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

FMK4

NPTF Male Connector
60° Cone / NPTF

Mates with 92, B1, B2 and B4 style hose fitting



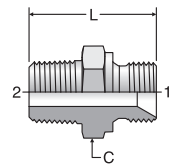
TUBE FITTING PART #	END SIZE		C HEX (mm)	L (mm)	Dynamic Pressure (x 1,000 PSI)
	1 BSPP	2 NPTF			S
2FMK4	1/8 - 28	1/8 - 27	14	24.4	5.1
2-4FMK4	1/8 - 28	1/4 - 18	19	28.9	5.1
4FMK4	1/4 - 19	1/8 - 18	19	28.9	5.1
4-4FMK4	1/4 - 19	1/4 - 18	19	33.4	5.1
4-6FMK4	1/4 - 19	3/8 - 18	19	33.6	5.1
6FMK4	3/8 - 19	1/4 - 18	22	35.1	5.1
6-6FMK4	3/8 - 19	3/8 - 18	22	35.1	5.1
6-8FMK4	3/8 - 19	1/2 - 14	22	39.9	5.1
8FMK4	1/2 - 14	3/8 - 18	27	38.6	2.9
8-8FMK4	1/2 - 14	1/2 - 14	27	43.4	2.9
8-12FMK4	1/2 - 14	3/4 - 14	27	43.9	2.9
12-8FMK4	3/4 - 14	1/2 - 14	32	45.9	2.9
12FMK4	3/4 - 14	3/4 - 14	32	45.9	2.9
12-16FMK4	3/4 - 14	1 - 11 1/2	36	50.8	2.9
16-12FMK4	1 - 11	3/4 - 14	41	49.6	1.7
16FMK4	1 - 11	1 - 11 1/2	41	54.5	1.7

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

F3MK4

BSPT Male Connector
60° Cone / BSPT

Mates with 92, B1, B2 and B4 style hose fitting



TUBE FITTING PART #	END SIZE		C HEX (mm)	L (mm)	Dynamic Pressure (x 1,000 PSI)
	1 BSPP	2 BSPT			S
2F3MK4	1/8 - 28	1/8 - 28	14	24.4	5.1
2-4F3MK4	1/8 - 28	1/4 - 19	14	28.9	5.1
4F3MK4	1/4 - 19	1/8 - 28	19	28.9	5.1
4-4F3MK4	1/4 - 19	1/4 - 19	19	33.4	5.1
4-6F3MK4	1/4 - 19	3/8 - 19	19	33.4	5.1
6F3MK4	3/8 - 19	1/4 - 19	22	35.1	5.1
6-6F3MK4	3/8 - 19	3/8 - 19	22	35.1	5.1
6-8F3MK4	3/8 - 19	1/2 - 14	22	39.9	2.9
8F3MK4	1/2 - 14	3/8 - 19	27	38.6	5.1
8-8F3MK4	1/2 - 14	1/2 - 14	22	43.4	2.9
10F3MK4	5/8 - 14	1/2 - 14	27	45.9	2.9
10-12F3MK4	5/8 - 14	3/4 - 14	30	45.9	2.9
12F3MK4	3/4 - 14	3/4 - 14	30	45.9	2.9
12-8F3MK4	3/4 - 14	1/2 - 14	32	46.0	1.7
12-16F3MK4	3/4 - 14	1 - 11	36	50.8	1.7
16F3MK4	1 - 11	1 - 11	41	54.5	1.7
16-12F3MK4	1 - 11	3/4 - 14	41	49.6	1.7
20F3MK4	1 1/4 - 11	1 1/4 - 11	50	63.7	1.5
24F3MK4	1 1/2 - 11	1 1/2 - 11	55	68.5	1.5

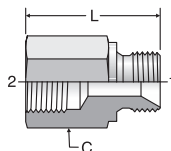
WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

Dimensions and pressures for reference only, subject to change.

G4MK4

BSPF Female Connector
60° Cone / BSPF

Mates with 92, B1, B2 and B4 style hose fitting



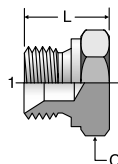
TUBE FITTING PART #	END SIZE		C HEX (mm)	L (mm)	Dynamic Pressure (x 1,000 PSI)
	1	2			S
	BSPP	BSPP			
6G4MK4	3/8 - 19	1/4 - 19	22	37.1	5.1
6-6G4MK4	3/8 - 19	3/8 - 19	23	36.9	2.9
8-4G4MK4	1/2 - 14	1/4 - 19	27	38.0	2.9
8G4MK4	1/2 - 14	3/8 - 19	30	45.3	2.9
12-4G4MK4	3/4 - 14	1/4 - 19	32	40.0	2.9
12-6G4MK4	3/4 - 14	3/8 - 19	32	41.6	2.9
12-8G4MK4	3/4 - 14	1/2 - 14	32	47.3	2.9
16-4G4MK4	1 - 11	1/4 - 19	41	43.0	1.7
16-6G4MK4	1 - 11	3/8 - 19	41	44.6	1.7
16-8G4MK4	1 - 11	1/2 - 14	41	50.3	1.7
16-12G4MK4	1 - 11	3/4 - 14	41	52.2	1.7

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

PNMK4

Hex Plug
60° Cone

Mates with 92, B1, B2 and B4 style hose fitting

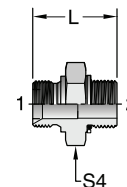


TUBE FITTING PART #	END SIZE		C HEX (mm)	L (mm)	Dynamic Pressure (x 1,000 PSI)
	1	2			S
	BSPP	BSPP			
2PNMK4	1/8 - 28		14	14.3	5.1
4PNMK4	1/4 - 19		19	18.8	5.1
6PNMK4	3/8 - 19		22	20.5	5.1
8PNMK4	1/2 - 14		27	24.0	2.9
10PNMK4	5/8 - 14		30	24.0	2.9
12PNMK4	3/4 - 14		32	26.5	2.9
16PNMK4	1 - 11		41	30.2	1.7
20PNMK4	1 1/4 - 11		50	38.7	1.5
24PNMK4	1 1/2 - 11		55	42.7	1.5
32PNMK4	2 - 11		70	48.2	1.0

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K4HF80

Metric Male Connector
BSP 60° Cone / Metric-ORR
(for ISO 9974 / DIN 3852-1 Port)



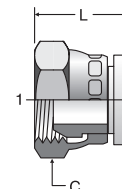
TUBE FITTING PART #	End Size		S4 Hex (mm)	L (mm)	Dynamic Pressure (x 1,000 PSI)
	1	2			S
	BSPP	Metric Str			
2M10K4HF80	1/8-28	M10X1	17	25.7	5.1
4M12K4HF80	1/4-19	M12X1.5	19	30.1	5.1
4M14K4HF80	1/4-19	M14X1.5	19	30.1	5.1
6M16K4HF80	3/8-19	M16X1.5	22	32.6	5.1
8M16K4HF80	1/2-14	M16X1.5	27	34.6	2.9
6M18K4HF80	3/8-19	M18X1.5	27	34.1	2.9
8M18K4HF80	1/2-14	M18X1.5	27	33.1	2.9
8M22K4HF80	1/2-14	M22X1.5	32	40.4	2.9
12M27K4HF80	3/4-14	M27X2	41	47.9	2.9
16M33K4HF80	1-11	M33X2	41	56.7	1.7

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

FNMK4

Cap
60° Cone

Mates with D9 style hose fitting



TUBE FITTING PART #	END SIZE		C HEX (mm)	L (mm)	Dynamic Pressure (x 1,000 PSI)
	1	2			S
	BSPP	BSPP			
2FNMK4	1/8 - 28		14	16.0	5.1
4FNMK4	1/4 - 19		19	20.6	5.1
6FNMK4	3/8 - 19		22	22.3	5.1
8FNMK4	1/2 - 14		27	22.7	2.9
10FNMK4	5/8 - 14		30	26.6	2.9
12FNMK4	3/4 - 14		32	28.0	2.9
16FNMK4	1 - 11		41	31.6	1.7
20FNMK4	1 1/4 - 11		50	35.9	1.5
24FNMK4	1 1/2 - 11		60	37.9	1.5

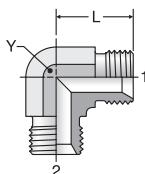
WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

Dimensions and pressures for reference only, subject to change.

EMK4

Union Elbow
60° Cone / 60° Cone

Mates with D9/92, B1, B2 and B4
style hose fitting

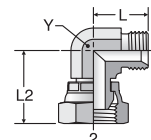


TUBE FITTING PART #	END SIZE		L (mm)	Y (mm)	Dynamic Pressure (x 1,000 PSI) S
	1	2			
	BSPP	BSPP			
2EMK4	1/8 - 28	1/8 - 28	17	11	5.1
4EMK4	1/4 - 19	1/4 - 19	24	14	5.1
6EMK4	3/8 - 19	3/8 - 19	27	19	5.1
8EMK4	1/2 - 14	1/2 - 14	32	22	2.9
10EMK4	5/8 - 14	5/8 - 14	34	22	2.9
12EMK4	3/4 - 14	3/4 - 14	36	27	2.9
16EMK4	1 - 11	1 - 11	42	33	1.7
20EMK4	1 1/4 - 11	1 1/4 - 11	48	41	1.5
24EMK4	1 1/2 - 11	1 1/2 - 11	54	48	1.5

C6MK4

Swivel Nut Elbow
60° Cone / 60° Swivel

Mates with D9/92, B1, B2 and B4
style hose fitting

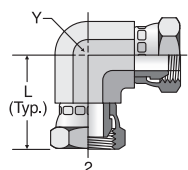


TUBE FITTING PART #	END SIZE		L (mm)	L2 (mm)	Y (mm)	Dynamic Pressure (x 1,000 PSI) S
	1	2				
	BSPP	BSPP				
2C6MK4	1/8 - 28	1/8 - 28	17	18	11	5.1
4C6MK4	1/4 - 19	1/4 - 19	24	25	19	5.1
6C6MK4	3/8 - 19	3/8 - 19	27	26	22	5.1
8C6MK4	1/2 - 14	1/2 - 14	32	32	27	2.9
10C6MK4	5/8 - 14	5/8 - 14	34	30	27	2.9
12C6MK4	3/4 - 14	3/4 - 14	36	33	33	2.9
16C6MK4	1 - 11	1 - 11	42	38	41	1.7
20C6MK4	1 1/4 - 11	1 1/4 - 11	48	48	48	1.5
24C6MK4	1 1/2 - 11	1 1/2 - 11	54	50	48	1.5

E6MK4

Swivel Nut Union Elbow
60° Swivel / 60° Swivel

Mates with D9 style hose fitting

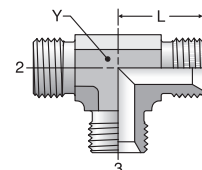


TUBE FITTING PART #	END SIZE		L (mm)	Y (mm)	Dynamic Pressure (x 1,000 PSI) S
	1	2			
	BSPP	BSPP			
4E6MK4	1/4 - 19	1/4 - 19	30.5	14	5.1
6E6MK4	3/8 - 19	3/8 - 19	33.0	19	5.1
8E6MK4	1/2 - 14	1/2 - 14	38.8	22	2.9
10E6MK4	5/8 - 14	5/8 - 14	39.4	22	2.9
12E6MK4	3/4 - 14	3/4 - 14	42.3	27	2.9
16E6MK4	1 - 11	1 - 11	49.0	33	1.7
20E6MK4	1 1/4 - 11	1 1/4 - 11	58.2	41	1.5
24E6MK4	1 1/2 - 11	1 1/2 - 11	63.3	48	1.5

JMK4

Union Tee
60° Cone (all three ends)

Mates with 92, B1, B2 and B4 style
hose fitting



TUBE FITTING PART #	END SIZE			L (mm)	Y (mm)	Dynamic Pressure (x 1,000 PSI) S
	1	2	3			
	BSPP	BSPP	BSPP			
2JMK4	1/8 - 28	1/8 - 28	1/8 - 28	17	11	5.1
4JMK4	1/4 - 19	1/4 - 19	1/4 - 19	24	19	5.1
6JMK4	3/8 - 19	3/8 - 19	3/8 - 19	27	22	5.1
8JMK4	1/2 - 14	1/2 - 14	1/2 - 14	32	27	2.9
10JMK4	5/8 - 14	5/8 - 14	5/8 - 14	34	27	2.9
12JMK4	3/4 - 14	3/4 - 14	3/4 - 14	36	33	2.9
16JMK4	1 - 11	1 - 11	1 - 11	42	41	1.7
20JMK4	1 1/4 - 11	1 1/4 - 11	1 1/4 - 11	48	48	1.5
24JMK4	1 1/2 - 11	1 1/2 - 11	1 1/2 - 11	54	48	1.5

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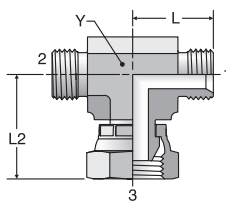
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Dimensions and pressures for reference only, subject to change.

S6MK4

Swivel Nut Branch Tee
60° Cone / 60° Cone / 60° Swivel

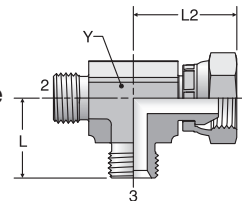
Mates with D9/92, B1, B2 and B4 style hose fitting



R6MK4

Swivel Nut Run Tee
60° Swivel / 60° Cone / 60° Cone

Mates with D9/92, B1, B2 and B4 style hose fitting



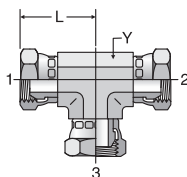
TUBE FITTING PART #	END SIZE			L (mm)	L2 (mm)	Y (mm)	Dynamic Pressure (x 1,000 PSI) S
	1	2	3				
	BSPP	BSPP	BSPP				
2S6MK4	1/8 - 28	1/8 - 28	1/8 - 28	17	22.0	11	5.1
4S6MK4	1/4 - 19	1/4 - 19	1/4 - 19	24	31.2	19	5.1
6S6MK4	3/8 - 19	3/8 - 19	3/8 - 19	27	36.2	27	5.1
8S6MK4	1/2 - 14	1/2 - 14	1/2 - 14	32	41.0	27	2.9
10S6MK4	5/8 - 14	5/8 - 14	5/8 - 14	34	41.6	27	2.9
12S6MK4	3/4 - 14	3/4 - 14	3/4 - 14	36	45.3	33	2.9
16S6MK4	1 - 11	1 - 11	1 - 11	42	53.9	41	1.8
20S6MK4	1 1/4 - 11	1 1/4 - 11	1 1/4 - 11	48	60.0	48	1.5

TUBE FITTING PART #	END SIZE			L (mm)	L2 (mm)	Y (mm)	Dynamic Pressure (x 1,000 PSI) S
	1	2	3				
	BSPP	BSPP	BSPP				
2R6MK4	1/8 - 28	1/8 - 28	1/8 - 28	17	22.0	11	5.1
4R6MK4	1/4 - 19	1/4 - 19	1/4 - 19	24	31.2	19	5.1
6R6MK4	3/8 - 19	3/8 - 19	3/8 - 19	27	36.2	27	5.1
8R6MK4	1/2 - 14	1/2 - 14	1/2 - 14	32	41.0	27	2.9
10R6MK4	5/8 - 14	5/8 - 14	5/8 - 14	34	41.6	27	2.9
12R6MK4	3/4 - 14	3/4 - 14	3/4 - 14	36	45.3	33	2.9
16R6MK4	1 - 11	1 - 11	1 - 11	42	53.9	41	1.8
20R6MK4	1 1/4 - 11	1 1/4 - 11	1 1/4 - 11	48	60.0	48	1.5

J6MK4

Swivel Nut Union Tee
60° Swivel (all three ends)

Mates with D9 style hose fitting



TUBE FITTING PART #	END SIZE			L (TYP.) (mm)	Y (mm)	Dynamic Pressure (x 1,000 PSI) S
	1	2	3			
	BSPP	BSPP	BSPP			
4J6MK4	1/4 - 19	1/4 - 19	1/4 - 19	30.5	14	5.1
6J6MK4	3/8 - 19	3/8 - 19	3/8 - 19	33.0	19	5.1
8J6MK4	1/2 - 14	1/2 - 14	1/2 - 14	38.8	22	2.9
10J6MK4	5/8 - 14	5/8 - 14	5/8 - 14	39.4	22	2.9
12J6MK4	3/4 - 14	3/4 - 14	3/4 - 14	42.3	27	2.9
16J6MK4	1 - 11	1 - 11	1 - 11	49.0	33	1.7
20J6MK4	1 1/4 - 11	1 1/4 - 11	1 1/4 - 11	58.2	41	1.5

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Dimensions and pressures for reference only, subject to change.

I

KOMATSU® STYLE ADAPTERS



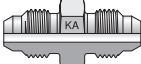
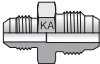
30° Flare Metric Thread	PNMKA Plug		15
	FNMKA Cap		15
	HMKA Union		15
	XHMKa 37° Flare / 30° Flare		15
	XHMKa6 37° Flare / 30° Swivel		16

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Dimensions and pressures for reference only, subject to change.

Komatsu Style Adapters

The 30° flare, metric thread interface, also known as the Komatsu style flare fitting, is one of the most common specialized OEM mobile equipment fittings in the marketplace. Parker offers a line of caps, plugs and conversion adapters to mate with this specialty connection. Parker's line of products is designated as "KA" adapters.

The Komatsu style connection is generally rated at 4000 psi (280 kg/cm² or 27.5 Mpa). Parker's caps, plugs and conversion adapters are rated at the full pressure rating in sizes -4 to -16, with slight pressure reductions in the less common sizes of -20 and -24.

Parker's offering of Komatsu style adapters allow for more aftermarket flexibility. Parker's caps and plugs enable technicians to protect critical sealing surfaces of hoses and adapters from damage and contamination. This protection is important during testing, repair and/or implement installation and removal.

Parker's line of Komatsu style conversion adapters are ideal for plumbing in hydraulic systems and field repair. Parker's exclusive swivel nut design minimizes the sealing surface damage to mating components.

Design and Construction

Parker's line of Komatsu style fitting is sold only as a hose adapter and thus tube nuts and sleeves are not available. The adapter consists of a single body. The mating hose swivel connects directly to the 30° nose of the adapter, as shown in Fig. I1. This simple, metal-to-metal connection provides a very effective seal between the fitting nose and the hose swivel seat.

The Komatsu style adapter offers the traditional advantages of the 37° flare fitting but incorporates the following differences:

- 1) 30° nose flare
- 2) Metric threads with 1.5 mm pitch
- 3) Used only as a hose adapter
- 4) Heavy duty crimp nut for higher assembly torques

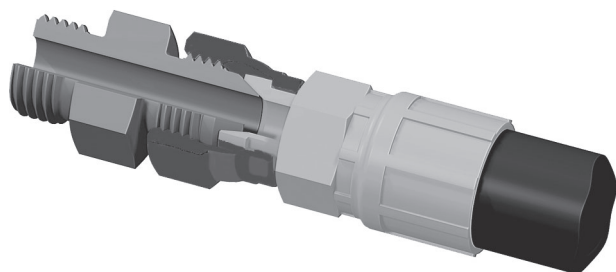


Fig. I1 – Cutaway of Komatsu Style Adapter

Product Specifications

Komatsu style fittings are offered in eight common sizes. See Table I1 below, which shows the Komatsu nominal size and the equivalent Dash Size. The table also shows the equivalent Parker Hose Products / Parflex Division mating hose series.

Komatsu Nominal Size	Parker TFD Equivalent Dash Size	Komatsu Thread	Parker Hose Fitting Mating Series
02	-4	M14 x 1.5	MU
03	-6	M18 x 1.5	MU
04	-8	M22 x 1.5	MU
05	-10	M24 x 1.5	XU
06	-12	M30 x 1.5	XU
10	-16	M33 x 1.5	XU
12	-20	M36 x 1.5	XU
14	-24	M42 x 1.5	XU

Table I1 – Parker equivalent dash sizes and mating hose series for Komatsu Style Fittings

Reference Locations

Dynamic Pressure Ratings: Please refer to the last column of the part number tables located on the following pages of this section for the appropriate dynamic pressure ratings.

Standard Material Specifications: Please refer to Table S34 located in the General Technical section.

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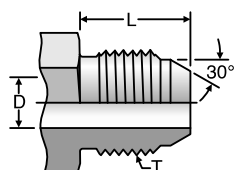
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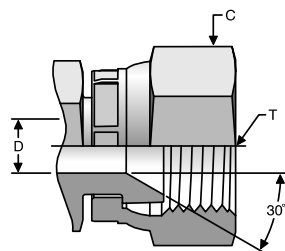
Komatsu Ends

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**Komatsu Male,
30° Flare**



Komatsu Swivel

	Metric Thread	Hex	Drill	Male Turn Back
Dash Size	T Metric	C (mm)	D (mm)	L (mm)
4	M14x1.5	19	5	17.0
6	M18x1.5	24	8	18.0
8	M22x1.5	27	10	20.0
10	M24x1.5	32	13	33.0
12	M30x1.5	36	14	26.0
16	M33x1.5	41	19	30.0

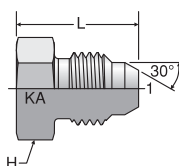
Dimensions and pressures for reference only, subject to change.

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PNMKA

Plug
30° Flare

Mates with XU and MU series hose fittings

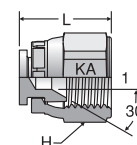


TUBE FITTING PART #	END SIZE	H HEX (mm)	L (mm)	Dynamic Pressure (x 1,000 PSI)
	1 Metric Thread			S
4PNMKA	M14 X 1.5	17	23.4	4.0
6PNMKA	M18 X 1.5	22	25.1	4.0
8PNMKA	M22 X 1.5	24	28.7	4.0
10PNMKA	M24 X 1.5	27	32.0	4.0
12PNMKA	M30 X 1.5	32	36.6	4.0
16PNMKA	M33 X 1.5	38	40.6	4.0

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

FNMKA

Cap
30° Flare



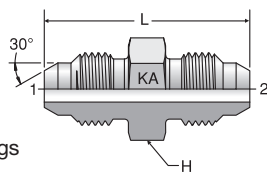
TUBE FITTING PART #	END SIZE	H HEX (mm)	L (mm)	Dynamic Pressure (x 1,000 PSI)
	1 Metric Thread			S
4FNMKA	M14 X 1.5	19	21.4	4.0
6FNMKA	M18 X 1.5	24	23.1	4.0
8FNMKA	M22 X 1.5	27	27.1	4.0
10FNMKA	M24 X 1.5	32	31.8	4.0
12FNMKA	M30 X 1.5	36	35.5	4.0
16FNMKA	M33 X 1.5	41	40.9	4.0

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

HMKA

Male Union
30° Flare

Mates with XU and MU series hose fittings



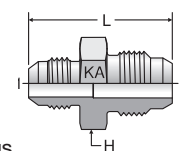
TUBE FITTING PART #	END SIZE	H HEX (mm)	L (mm)	Dynamic Pressure (x 1,000 PSI)
	1&2 Metric Thread			S
4-4HMKA	M14 X 1.5	17	39.4	4.0
6-6HMKA	M18 X 1.5	22	43.4	4.0
8-8HMKA	M22 X 1.5	24	47.5	4.0
10-10HMKA	M24 X 1.5	27	52.1	4.0
12-12HMKA	M30 X 1.5	32	63.2	4.0
16-16HMKA	M33 X 1.5	38	72.1	4.0

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

XHMKA

37° Conversion Adapter
30° Flare / 37° Flare

End 2 mates with XU and MU series hose fittings



TUBE FITTING PART #	END SIZE		H HEX (mm)	L (mm)	Dynamic Pressure (x 1,000 PSI)
	1 (in.)	2 Metric Thread			S
4-4XHMKA	1/4	M14 X 1.5	17	37.1	4.0
6-6XHMKA	3/8	M18 X 1.5	22	39.6	4.0
8-8XHMKA	1/2	M22 X 1.5	24	44.2	4.0
10-10XHMKA	5/8	M24 X 1.5	27	49.8	4.0
12-12XHMKA	3/4	M30 X 1.5	32	59.2	4.0
16-16XHMKA	1	M33 X 1.5	38	65.3	4.0

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

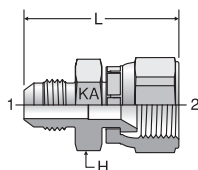
Dimensions and pressures for reference only, subject to change.

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XHMKA6

37° Swivel Conversion Adapter

37° Flare / 30° Swivel



TUBE FITTING PART #	END SIZE		H HEX (mm)	L (mm)	Dynamic Pressure (x 1,000 PSI)
	1 (in.)	2 Metric Thread			S
4-4XHMKA6	1/4	M14 X 1.5	17	40.6	4.0
6-6XHMKA6	3/8	M18 X 1.5	22	42.7	4.0
8-8XHMKA6	1/2	M22 X 1.5	24	49.0	4.0
10-10XHMKA6	5/8	M24 X 1.5	27	57.4	4.0
12-12XHMKA6	3/4	M30 X 1.5	32	65.8	4.0
16-16XHMKA6	1	M33 X 1.5	38	73.9	4.0

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

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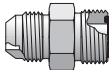
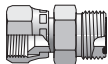
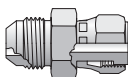
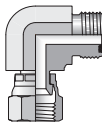
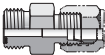
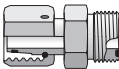
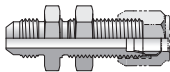
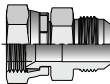
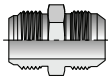
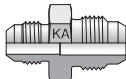
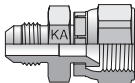
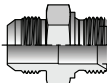
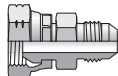
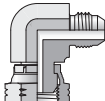
FAQs

Dimensions and pressures for reference only, subject to change.

J

CONVERSION ADAPTERS



ORFS to 37° Flare	XHLO 37° Flare / ORFS  J3	LOHX6 37° Swivel / ORFS  J3	XHL6 37° Flare / ORFS Swivel  J3	LOEX6 ORFS / 37° Flare Swivel  J3	
ORFS to 24° Flareless	BUHLO ORFS / 24° Flareless  J4	ORFS to Metric 24° Flareless	LOHU86 Metric 24° Flareless/ORFS  J4		
37° Flare to 24° Flareless	XHBU 37° Flare / Flareless  J4	XHBU2 37° / Flareless Bulkhead  J4	37° Flare to JIS 30° Flare	XHT46 37° Flare / 30° Flare  J5	XHT4 37° Flare / JIS 30° Flare  J5
37° Flare to Komatsu Style 30° Flare	XHMKA 37° Flare / 30° Flare  I5	XHMKA6 37° Flare / 30° Swivel  I6			
37° Flare to 60° Cone (K4)	XHK4 37° Flare / 60° Cone  J5	XHMK46 37° Flare / BSPP Swivel  J5	XEMK46 37° Flare / BSPP Swivel  J6	37° Flare to Metric 24° Flareless	XHU86 37° / Metric 24° Flareless  J6

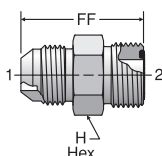
O-Rings and Seals (Shown in Section M)

O-Rings	ORFS O-Ring  M4	EO O-Ring  M10
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XHLO

Male Adapter
37° Flare / ORFS

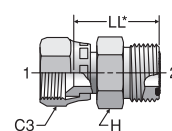


TUBE FITTING PART #	END SIZE		FF (in.)	H HEX (in.)	Dynamic Pressure (x 1,000 PSI)	
	1 (in.)	2 (in.)			-S	-SS
4 XHLO	1/4	1/4	1.25	5/8	7.5	9.0
6 XHLO	3/8	3/8	1.34	3/4	6.0	7.2
8 XHLO	1/2	1/2	1.55	7/8	6.0	7.2
10 XHLO	5/8	5/8	1.83	1 1/16	5.0	6.0
12 XHLO	3/4	3/4	2.05	1 1/4	5.0	6.0
16 XHLO	1	1	2.16	1 1/2	4.5	5.4
20 XHLO	1 1/4	1 1/4	2.29	1 3/4	4.0	4.8
24 XHLO	1 1/2	1 1/2	2.48	2 1/8	3.0	3.6

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

LOHX6

Swivel Adapter
37° Flare Swivel / ORFS



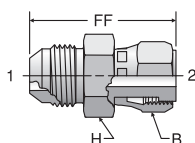
*LL – End to base of flare

TUBE FITTING PART #	END SIZE		C3 HEX (in.)	H HEX (in.)	LL Ref. (in.)	Dynamic Pressure (x 1,000 PSI)	
	1 (in.)	2 (in.)				-S	-SS
4 LOHX6	1/4	1/4	9/16	5/8	0.89	7.5	9.0
6 LOHX6	3/8	3/8	11/16	3/4	1.06	5.0	6.0
8 LOHX6	1/2	1/2	7/8	7/8	1.21	5.0	6.0
10 LOHX6	5/8	5/8	1	1 1/16	1.40	5.0	6.0
12 LOHX6	3/4	3/4	1 1/4	1 1/4	1.48	5.0	6.0
16 LOHX6	1	1	1 1/2	1 1/2	1.64	3.6	4.3
20 LOHX6	1 1/4	1 1/4	2	1 3/4	1.77	3.6	4.3

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

XHL6

Male Swivel Adapter
ORFS Swivel / 37° Flare

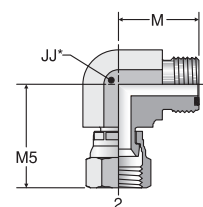


TUBE FITTING PART #	END SIZE		B HEX (in.)	FF (in.)	H HEX (inch) (in.)	Dynamic Pressure (x 1,000 PSI)	
	1 (in.)	2 (in.)				-S	-SS
4 XHL6	1/4	1/4	11/16	1.50	5/8	7.5	9.2
6 XHL6	3/8	3/8	13/16	1.61	3/4	6.0	7.2
8 XHL6	1/2	1/2	15/16	1.90	7/8	6.0	7.2
10 XHL6	5/8	5/8	1 1/8	2.20	1 1/16	5.0	6.0
12 XHL6	3/4	3/4	1 3/8	2.50	1 1/4	5.0	6.0
16 XHL6	1	1	1 5/8	2.66	1 1/2	4.5	5.4
20 XHL6	1 1/4	1 1/4	1 7/8	2.80	1 11/16	4.0	4.8

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

LOEX6

Swivel Elbow
ORFS / 37° Flare Swivel



* JJ – Across wrench flats

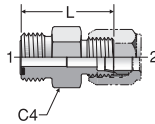
TUBE FITTING PART #	END SIZE		JJ (in.)	M (in.)	M5 (in.)	Dynamic Pressure (x 1,000 PSI)	
	1 (in.)	2 UN/UNF-2B				-S	-SS
4 LOEX6	1/4	1/4	9/16	0.85	1.08	7.5	7.5
6 LOEX6	3/8	3/8	3/4	0.98	1.25	5.0	5.0
8 LOEX6	1/2	1/2	3/4	1.10	1.38	5.0	5.0
10 LOEX6	5/8	5/8	1 1/16	1.31	1.63	5.0	5.0
12 LOEX6	3/4	3/4	1 3/16	1.47	1.80	5.0	5.0
16 LOEX6	1	1	1 7/16	1.64	2.00	4.0	4.0
20 LOEX6	1 1/4	1 1/4	1 5/8	1.76	2.31	3.6	3.6
24 LOEX6	1 1/2	1 1/2	1 7/8	1.92	2.59	3.0	3.0

Dimensions and pressures for reference only, subject to change.

[Click here for CADs, Support Resources or to Configure Parts Online](#)

BUHLO

Ferulok Male Adapter
ORFS / SAE Flareless

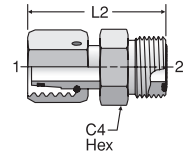


TUBE FITTING PART #	END SIZE		C4 HEX (in.)	L (in.)	Dynamic Pressure (x 1,000 PSI)	
	1	2			-S	-SS
	(in.)	(in.)				
6 BUHLO	3/8	3/8	3/4	1.25	6.0	7.2
8 BUHLO	1/2	1/2	7/8	1.45	5.0	6.0
10 BUHLO	5/8	5/8	1 1/16	1.70	5.0	6.0
12 BUHLO	3/4	3/4	1 1/4	1.88	4.5	5.4
16 BUHLO	1	1	1 1/2	1.94	4.0	4.8

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

LOHU86

EO Swivel Adapter
24° Flareless Metric
Swivel (EO) / ORFS

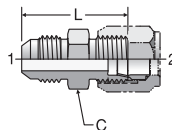


TUBE FITTING PART #	END SIZE		C4 HEX (in.)	L2 (in.)	Dynamic Pressure (x 1,000 PSI)	
	1	2			-S	-SS
	EO Swivel	(in.)				
L Series						
4-6L LOHU86	6L	1/4	5/8	1.32	4.5	5.4
4-8L LOHU86	8L	1/4	5/8	1.32	4.5	5.4
6-10L LOHU86	10L	3/8	3/4	1.44	4.5	5.4
8-12L LOHU86	12L	1/2	7/8	1.53	4.5	5.4
10-15L LOHU86	15L	5/8	1 1/16	1.82	4.5	5.4
12-18L LOHU86	18L	3/4	1 1/4	1.89	4.5	5.4
16-22L LOHU86	22L	1	1 1/2	2.08	2.5	3.0
S Series						
4-6S LOHU86	6S	1/4	5/8	1.32	9.2	9.2
4-8S LOHU86	8S	1/4	5/8	1.34	9.2	9.2
6-10S LOHU86	10S	3/8	3/4	1.44	9.2	9.2
8-12S LOHU86	12S	1/2	7/8	1.59	9.2	9.2
10-14S LOHU86	14S	5/8	1 1/16	1.84	9.2	9.2
10-16S LOHU86	16S	5/8	1 1/16	1.84	5.8	5.8
12-20S LOHU86	20S	3/4	1 1/4	2.05	5.8	5.8
16-25S LOHU86	25S	1	1 1/2	2.15	5.8	5.8

WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

XHBU

Union Adapter
SAE Flareless / 37° Flare

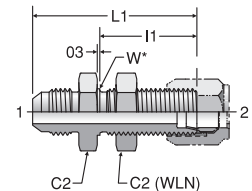


TUBE FITTING PART #	END SIZE		C HEX (in.)	L (in.)	Dynamic Pressure (x 1,000 PSI)	
	1	2			-S	-SS
	(in.)	(in.)				
4 XHBU	1/4	1/4	1/2	1.19	5.0	7.7
6 XHBU	3/8	3/8	5/8	1.28	5.0	7.7
8 XHBU	1/2	1/2	13/16	1.47	5.0	7.7
10 XHBU	5/8	5/8	15/16	1.69	5.0	6.0
12 XHBU	3/4	3/4	1 1/8	1.94	4.5	6.0
16 XHBU	1	1	1 5/8	1.97	4.0	4.8
20 XHBU	1 1/4	1 1/4	1 3/4	2.00	3.0	3.6
24 XHBU	1 1/2	1 1/2	2 1/8	2.16	2.0	2.4

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XHBU2

Bulkhead Union Adapter
SAE Flareless Bulkhead /
37° Flare



*W – Bulkhead pilot dia. recommended clearance hole is +.015 over W dia.

TUBE FITTING PART #	END SIZE		C2 HEX (in.)	I1 (in.)	L1 (in.)	W (in.)	Max. Bulkhead Thickness	Dynamic Pressure (x 1,000 PSI)	
	1	2						-S	-SS
	(in.)	(in.)							
4 XHBU2	1/4	1/4	11/16	1.13	1.94	0.44	0.38	5.0	7.7
6 XHBU2	3/8	3/8	13/16	1.17	2.08	0.56	0.40	5.0	7.7
8 XHBU2	1/2	1/2	1	1.31	2.31	0.75	0.40	5.0	7.7
10 XHBU2	5/8	5/8	1 1/8	1.45	2.56	0.88	0.37	5.0	7.7
12 XHBU2	3/4	3/4	1 3/8	1.56	2.94	1.06	0.43	4.5	5.4
16 XHBU2	1	1	1 5/8	1.56	2.95	1.31	0.43	4.0	4.8

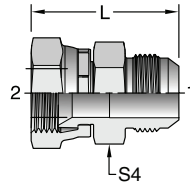
WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

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XHT46

BSPP Swivel Adapter
37° Flare / 30° Flare Swivel

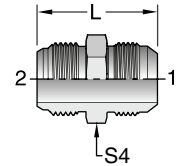


TUBE FITTING PART #	End Size		S4 Hex (in.)	L (in.)	Dynamic Pressure (x 1,000 PSI)
	1 (in.)	2 BSPP			-S
4 XHT46	1/4	1/4-19	9/16	1.22	5.0
6 XHT46	3/8	3/8-19	11/16	1.32	5.0
8 XHT46	1/2	1/2-14	7/8	1.46	5.0
12 XHT46	3/4	3/4-14	1 1/4	1.92	4.0
16 XHT46	1	1-11	1 1/2	2.05	3.0

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XHT4

Union Adapter
37° Flare / JIS 30° Flare

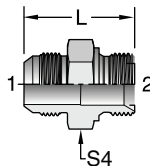


TUBE FITTING PART #	End Size		S4 Hex (in.)	L (in.)	Dynamic Pressure (x 1,000 PSI)
	1 (in.)	2 BSPP			-S
4-4 XHT4	1/4	1/4-19	3/4	1.42	5.0
6 XHT4	3/8	3/8-19	3/4	1.55	5.0
8 XHT4	1/2	1/2-14	7/8	1.75	5.0
12 XHT4	3/4	3/4-14	1 1/8	2.06	4.0
16 XHT4	1	1-11	1 3/8	2.17	3.0

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XHK4

BSPP Swivel Adapter
37° Flare / 60° Cone

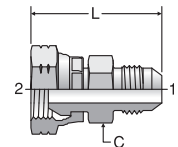


TUBE FITTING PART #	End Size		S4 Hex (in.)	L (in.)	Dynamic Pressure (x 1,000 PSI)
	1 (in.)	2 BSPP			-S
4-4 XHK4	1/4	1/4-19	3/4	1.25	5.1
6-4 XHK4	3/8	1/4-19	7/8	1.42	2.9
6-6 XHK4	3/8	3/8-19	7/8	1.46	2.9
8-6 XHK4	1/2	3/8-19	1 1/16	1.61	2.9
8-8 XHK4	1/2	1/2-14	1 1/16	1.69	2.9
10-8 XHK4	5/8	1/2-14	1 1/8	1.89	2.9
12-12 XHK4	3/4	3/4-14	1 5/16	2.13	2.9
12-16XHK4	3/4	1-11	1 5/8	2.27	1.7
16-16 XHK4	1	1-11	1 5/8	2.32	1.7

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XHMK46

BSPP Swivel Adapter
37° Flare / BSPP 60° Cone
Swivel



Swivel end mates with BS5200 (Parker K4) adapters and Parker D9 hose fittings.

TUBE FITTING PART #	END SIZE		C HEX (mm)	L (mm)	Dynamic Pressure (x 1,000 PSI)
	1 (in.)	2 BSPP			S
6-4XHMK46	3/8	1/4-19	17	40.0	5.0
6XHMK46	3/8	3/8-19	17	39.2	4.0
8-6XHMK46	1/2	3/8-19	19	42.3	4.0
8XHMK46	1/2	1/2-14	19	45.0	4.0
10-8XHMK46	5/8	1/2-14	24	48.6	4.0
12XHMK46	3/4	3/4-14	30	50.0	4.0
12-16XHMK46	3/4	1-11	36	56.8	3.0
16XHMK46	1	1-11	36	58.0	3.0

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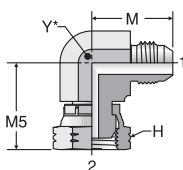


[Click here for CADs, Support Resources or to Configure Parts Online](#)

XEMK46

90° BSP Swivel Adapter
37° Flare / BSPP 60° Cone
Swivel

Swivel end mates with BS5200
(Parker K4) adapters and Parker
D9 hose fittings.

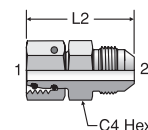


* Y – Across wrench flats

TUBE FITTING PART #	END SIZE		M (mm)	M5 (mm)	Y (mm)	Dynamic Pressure (x 1,000 PSI) S
	1 (in.)	2 BSPP				
6-4XEMK46	3/8	1/4-19	26.9	33.2	19	4.0
6XEMK46	3/8	3/8-19	26.9	32.6	19	4.0
8-6XEMK46	1/2	3/8-19	31.8	32.6	19	4.0
8XEMK46	1/2	1/2-14	31.8	38.8	22	4.0
10-8XEMK46	5/8	1/2-14	36.8	38.8	22	4.0
12XEMK46	3/4	3/4-14	42.2	40.3	27	4.0
12-16XEMK46	3/4	1-11	42.2	48.8	33	3.0
16XEMK46	1	1-11	46.0	48.8	33	3.0

XHU86

EO Swivel Adapter
Metric Swivel (EO) / 37° Flare



TUBE FITTING PART #	END SIZE		C4 HEX (in.)	L2 (in.)	Dynamic Pressure (x 1,000 PSI)		
	1	2			S	SS	B
	EO Swivel	(in.)					
L Series							
4-6L XHU86	6L	1/4	1/2	1.47	4.5	4.5	2.9
6-8L XHU86	8L	3/8	5/8	1.52	4.5	4.5	2.9
6-10L XHU86	10L	3/8	5/8	1.57	4.5	4.5	2.9
8-12L XHU86	12L	1/2	13/16	1.69	4.5	4.5	2.9
10-15L XHU86	15L	5/8	15/16	1.98	4.5	4.5	2.9
12-18L XHU86	18L	3/4	1 1/8	2.11	4.5	4.5	2.9
16-22L XHU86	22L	1	1 3/8	2.36	2.3	2.3	1.5
16-28L XHU86	28L	1	1 3/8	2.45	2.3	2.3	1.5
S Series							
4-6S XHU86	6S	1/4	1/2	1.49	7.5	7.5	4.9
6-8S XHU86	8S	3/8	5/8	1.57	7.5	7.5	4.9
6-10S XHU86	10S	3/8	11/16	1.57	7.5	7.5	4.9
8-12S XHU86	12S	1/2	13/16	1.75	6.0	6.0	3.9
10-16S XHU86	16S	5/8	15/16	2.04	5.0	5.0	3.3
12-20S XHU86	20S	3/4	1 1/8	2.29	5.0	5.0	3.3
16-25S XHU86	25S	1	1 3/8	2.45	4.5	4.5	2.9

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