









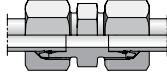
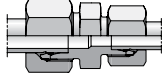
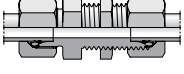

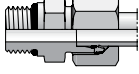
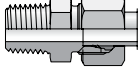
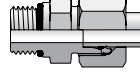


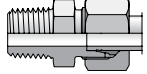
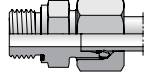

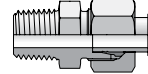
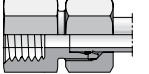
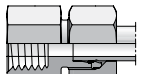

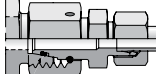
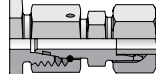
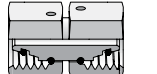
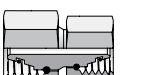
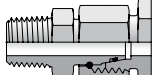
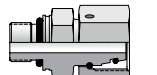
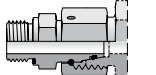
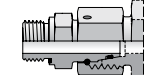
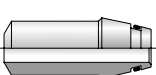
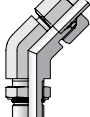
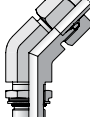
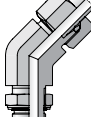
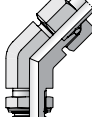
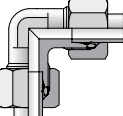
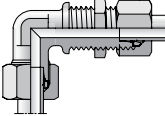
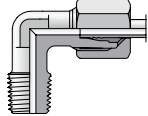
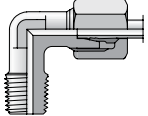
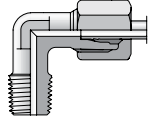


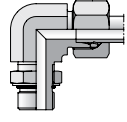
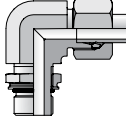
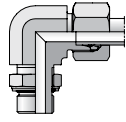
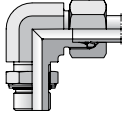
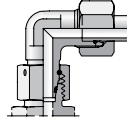
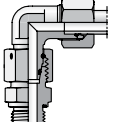
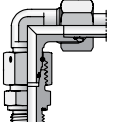
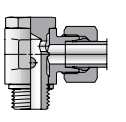
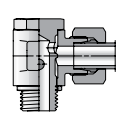
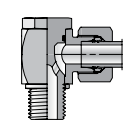
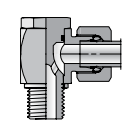
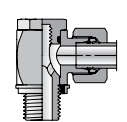
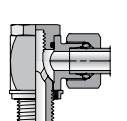
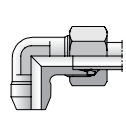

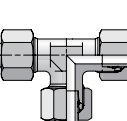
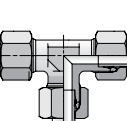
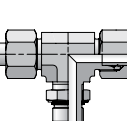
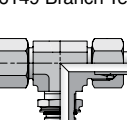
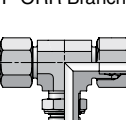
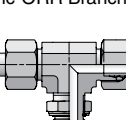
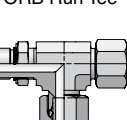
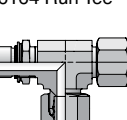
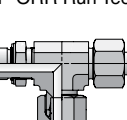
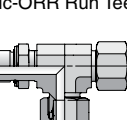
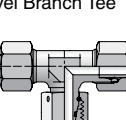
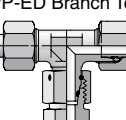
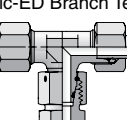
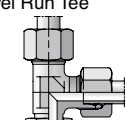
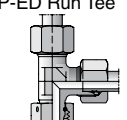
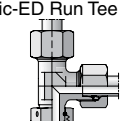
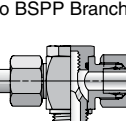
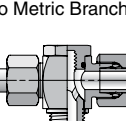
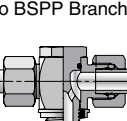
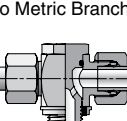
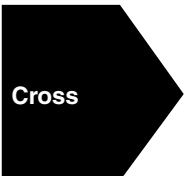
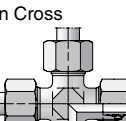


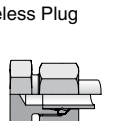

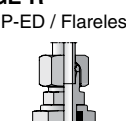
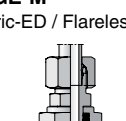
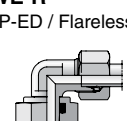
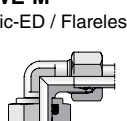
E0 and E0-2 Metric Bite Type Fittings


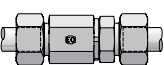
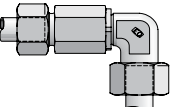
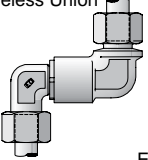
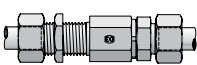
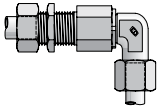
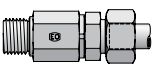
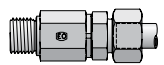
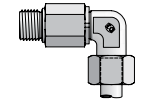
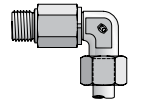
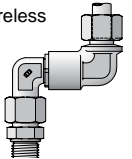
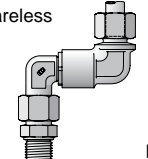
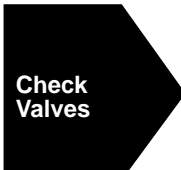
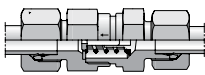
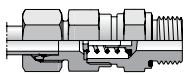
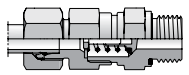
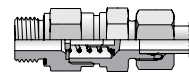
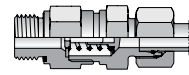
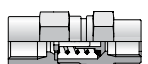

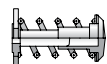

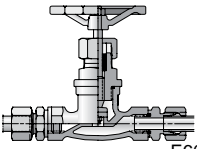
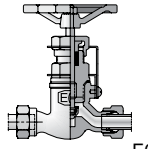
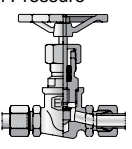
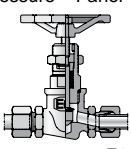

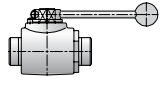
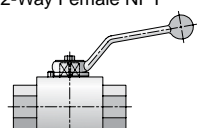
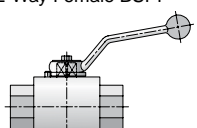

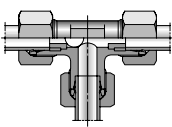
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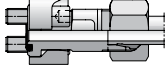
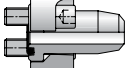
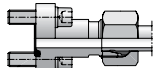
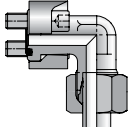
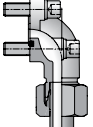
ENGINEERING YOUR SUCCESS.

<p>Nuts, Sleeves, Locknut, Inserts</p>	<p>M Nut  E13</p>	<p>FM Functional Nut  E14</p>	<p>DPR Progressive Ring  E13</p>	<p>D Cutting Ring  E13</p>	<p>PSR Progressive Ring  E13</p>
<p>GM Bulkhead Locknut  E15</p>	<p>E Insert for Plastic Tube  E15</p>	<p>VH Insert for Metal Tube  E15</p>	<p>Straights</p>	<p>G Union  E16</p>	<p>GR Reducer Union  E16</p>
<p>SV Bulkhead Union  E17</p>	<p>ESV Weld Bulkhead Union  E17</p>	<p>GE-UNF/UN SAE-ORB / Flareless  E18</p>	<p>GE-NPT NPT / Flareless  E18</p>	<p>GEO ISO 6149 / Flareless  E19</p>	<p>GE-R-ED BSPP-ED / Flareless  E19</p>
<p>GE-R BSPP / Flareless  E20</p>	<p>GE-R keg BSPT / Flareless  E20</p>	<p>GE-M-ED Metric-ED / Flareless  E21</p>	<p>GE-M Metric / Flareless  E22</p>	<p>GE-M keg Metric Taper / Flareless  E22</p>	<p>GAI-R Female BSPP / Flareless  E22</p>
<p>GAI-M Female Metric / Flareless  E23</p>	<p>AS Butt Weld / Flareless  E23</p>	<p>Straight Swivels</p>	<p>RED Tube End Reducer  E24</p>	<p>DA Extender  E25</p>	<p>GZ Swivel Union  E25</p>
<p>GZR Swivel Union Reducer  E25</p>	<p>EGE-NPT NPT / Flareless Swivel  E25</p>	<p>EGEO ISO 6149 / Flareless Swivel  E26</p>	<p>EGE-R-ED BSPP-ED / Flareless Swivel  E26</p>	<p>EGE-M-ED Metric-ED / Flareless Swivel  E26</p>	<p>SKA Butt Weld / Flareless Swivel  E26</p>
<p>45° Elbows</p>	<p>VEE-UNF/UN SAE-ORB / Flareless  E27</p>	<p>VEE-OR ISO 6149 / Flareless  E27</p>	<p>VEE-R BSPP-ORR / Flareless  E28</p>	<p>VEE-M Metric-ORR / Flareless  E28</p>	
<p>90° Elbows</p>	<p>W Union Elbow  E29</p>	<p>WSV Bulkhead Union Elbow  E30</p>	<p>WE-NPT NPT / Flareless  E30</p>	<p>WE-R keg BSPT / Flareless  E31</p>	<p>WE-M keg Metric Taper / Flareless  E31</p>


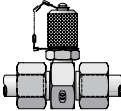
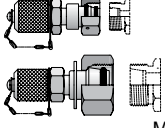


<p>WEE-UNF/UN SAE-ORB / Flareless</p>  <p>E32</p>	<p>WEE-OR ISO 6149 / Flareless</p>  <p>E32</p>	<p>WEE-R BSPP-ORR / Flareless</p>  <p>E33</p>	<p>WEE-M Metric-ORR / Flareless</p>  <p>E33</p>	<p>EW Flareless Swivel / Flareless</p>  <p>E34</p>	<p>EW-R-ED BSPP-ED / Flareless</p>  <p>E35</p>	
<p>EW-M-ED Metric-ED / Flareless</p>  <p>E35</p>	<p>SWVE-R Banjo BSPP / Flareless</p>  <p>E36</p>	<p>SWVE-M Banjo Metric / Flareless</p>  <p>E36</p>	<p>WH-R Banjo BSPP / Flareless</p>  <p>E37</p>	<p>WH-M Banjo Metric / Flareless</p>  <p>E37</p>	<p>WH-R-KDS Banjo BSPP / Flareless</p>  <p>E38</p>	
<p>WH-M-KDS Banjo Metric / Flareless</p>  <p>E38</p>	<p>WAS Butt Weld / Flareless</p>  <p>E39</p>	<p>Tees</p> 		<p>T Union Tee</p>  <p>E39</p>	<p>TR Reducer Tee</p>  <p>E40</p>	<p>TEE-UNF/UN SAE-ORB Branch Tee</p>  <p>E41</p>
<p>TEE-OR ISO 6149 Branch Tee</p>  <p>E42</p>	<p>TEE-R BSPP-ORR Branch Tee</p>  <p>E42</p>	<p>TEE-M Metric-ORR Branch Tee</p>  <p>E43</p>	<p>LEE-UNF/UN SAE-ORB Run Tee</p>  <p>E43</p>	<p>LEE-OR ISO 6164 Run Tee</p>  <p>E44</p>	<p>LEE-R BSPP-ORR Run Tee</p>  <p>E44</p>	
<p>LEE-M Metric-ORR Run Tee</p>  <p>E44</p>	<p>ET Swivel Branch Tee</p>  <p>E45</p>	<p>ET-R-ED BSPP-ED Branch Tee</p>  <p>E45</p>	<p>ET-M-ED Metric-ED Branch Tee</p>  <p>E46</p>	<p>EL Swivel Run Tee</p>  <p>E46</p>	<p>EL-R-ED BSPP-ED Run Tee</p>  <p>E47</p>	
<p>EL-M-ED Metric-ED Run Tee</p>  <p>E47</p>	<p>TH-R Banjo BSPP Branch Tee</p>  <p>E48</p>	<p>TH-M Banjo Metric Branch Tee</p>  <p>E48</p>	<p>TH-R-KDS Banjo BSPP Branch Tee</p>  <p>E49</p>	<p>TH-M-KDS Banjo Metric Branch Tee</p>  <p>E49</p>		
<p>Cross</p> 		<p>K Union Cross</p>  <p>E50</p>	<p>Caps and Plugs</p> 		<p>VKA Flareless Cap</p>  <p>E50</p>	<p>ROV Flareless Plug</p>  <p>E50</p>
<p>Plain Bearing Rotary Fittings</p> 		<p>DVGE-R BSPP-ED / Flareless</p>  <p>E51</p>	<p>DVGE-M Metric-ED / Flareless</p>  <p>E52</p>	<p>DVWE-R BSPP-ED / Flareless</p>  <p>E51</p>	<p>DVWE-M Metric-ED / Flareless</p>  <p>E52</p>	

<p>Ball Bearing Rotary Fittings</p> 	<p>DG101 Flareless Union</p>  <p>E53</p>	<p>DG103 Flareless Union</p>  <p>E53</p>	<p>DG105 Flareless Union</p>  <p>E53</p>	<p>DG107 Union Bulkhead</p>  <p>E53</p>	<p>DG108 90° Union Bulkhead</p>  <p>E54</p>
<p>DG102-R BSPP-ED / Flareless</p>  <p>E54</p>	<p>DG102-M Metric-ED / Flareless</p>  <p>E54</p>	<p>DG104-R 90° BSPP-ED / Flareless</p>  <p>E54</p>	<p>DG104-M 90° Metric-ED / Flareless</p>  <p>E55</p>	<p>DG106-R Double Elbow BSPP / Flareless</p>  <p>E55</p>	<p>DG106-M Double Elbow Metric / Flareless</p>  <p>E55</p>
<p>Check Valves</p> 	<p>RHD Union</p>  <p>E56</p>	<p>RHV-R-ED BSPP-ED / Flareless</p>  <p>E56</p>	<p>RHV-M-ED Metric-ED / Flareless</p>  <p>E57</p>	<p>RHZ-R-ED BSPP-ED / Flareless</p>  <p>E57</p>	<p>RHZ-M-ED Metric-ED / Flareless</p>  <p>E58</p>
<p>RHDI Female BSPP Union</p>  <p>E58</p>	<p>RVP Cartridge</p>  <p>E59</p>	<p>I-TL Internal Parts</p>  <p>E59</p>	<p>Shut-Off Valves</p> 	<p>DV Low Pressure</p>  <p>E60</p>	<p>LD Medium Pressure</p>  <p>E60</p>
<p>VDHA High Pressure</p>  <p>E61</p>	<p>VDHB High Pressure – Panel Mount</p>  <p>E61</p>	<p>Ball Valves</p> 	<p>KH 2-Way Flareless Union</p>  <p>E62</p>	<p>KH-NPT 2-Way Female NPT</p>  <p>E64</p>	<p>KH-R 2-Way Female BSPP</p>  <p>E64</p>
<p>Alternating Valves</p> 	<p>WV Union Tee</p>  <p>E65</p>				








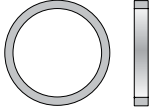
Flange Adapters (Shown in Section L)

	GFS Code 61, 62 / Metric Flareless 	AS Code 61, 62 / Weld Butt – Tube Metric 	BFG DIN Flange / Metric Flareless 	WFS Code 61, 62 / Metric Flareless 	BFW DIN Flange / Metric Flareless 
	L14	L26	L15	L33	L34

Diagnostic and Specialty Adapters (Shown in Section M)

	GMA3 EO Tube / EO Tube / EMA-3 Diagnostic Tip 	VKA3 EO Swivel / Diagnostic Tip 	MAVE BSPP Gauge / EO Swivel 	MAV BSPP Gauge / EO Tube 
	M5	M8	M6	M6

O-Rings and Seals (Shown in Section N)

	KDS Bonded Seal for Banjo Fittings 	DKA Metal Seal for Banjo Fittings 	DKI Pressure Gauge Sealing Ring 	EO EOlastic Seal Ring 	OR EO O-Ring 
	N8	N8	N9	N6	N10
DOZ EO-2 Sealing Ring 	RR Metric Retaining Ring 				
N7	N5				

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. E1 — 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 clear chromate, Chromium 6 Free
L+S Series	Body and Nuts	– Zinc clear chromate, Chromium 6 Free
	Progressive Rings (PSR)	– Zinc clear chromate, Chromium 6 Free

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 safety, 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 S 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 S12 through S13. Assemble BSPP and metric stud ends in accordance with torque values on page S5.

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.

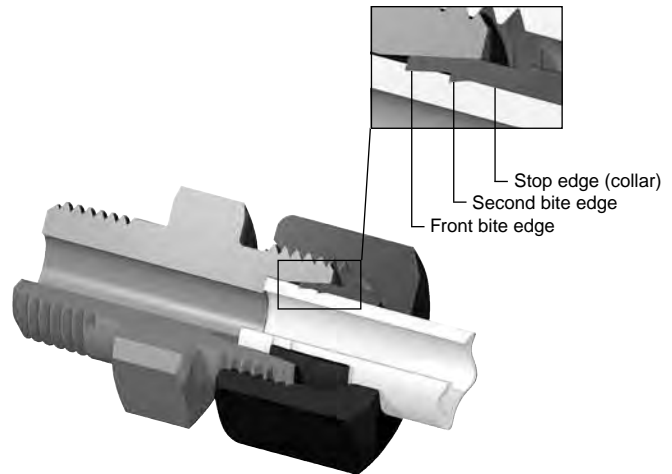


Fig. E2 — How EO fittings work

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 E1 — 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 E2 — 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 ±20%.

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.

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 E15) 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 S28 - S33).
- **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:** Superior plating gives Parker steel tube fittings unmatched protection against red rust. In neutral salt spray test per ASTM B117, Parker EO and EO2 fittings substantially exceeded the SAE requirement of 96 hours to red rest.

- **Finish** — Steel EO fittings have a zinc clear Chromium-6 Free finish. 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

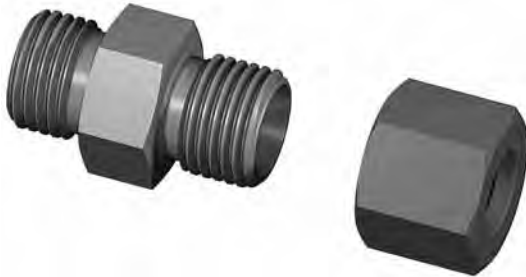


Fig. E3 — EO-2: Fitting body and functional nut

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

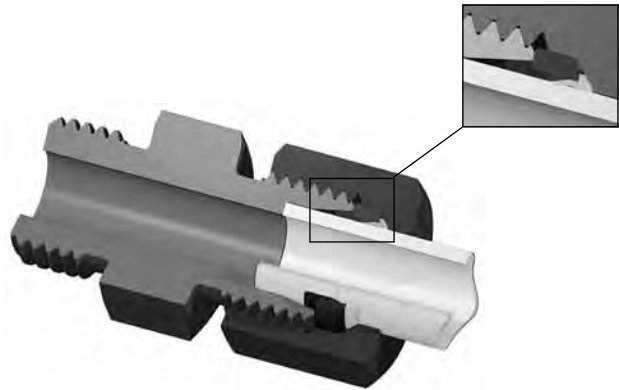


Fig. E4 — EO-2: The metallic support of the sealing ring acts just like an integrated preassembly tool.

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 clear chromate, Chromium 6 Free
L+S Series	Body and Nuts	- Zinc clear chromate, Chromium 6 Free

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

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 S 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. E5 — 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:

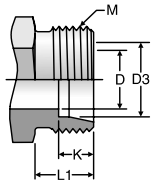
EO-2 fittings are suitable for use with various types of plastic tubes such as nylon, polyethylene, etc. When used with plastic tube, an insert (see page E15) must be used to prevent tube pull out due to tensile loading.

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

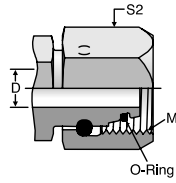
In addition to the general advantages of the EO tube fitting system, the unique EO-2 fitting features offer even more specific benefits:

- **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.

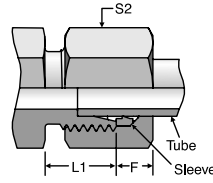
EO and EO-2 Metric Tube Ends



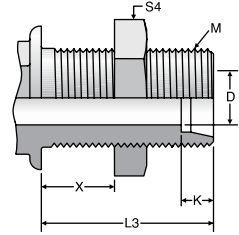
**EO/EO-2 Male
Tube End**



EO/EO-2 Swivel



EO/EO-2 Assembly



EO/EO-2 Bulkhead

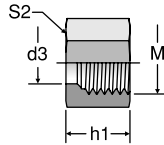
Size	End Size	Thread	Drill	Tube Nut Assembled Allowance	Tube Depth	Male Turn Back	Bulkhead Length	Tube/Swivel Nut Hex	Bulkhead Nut Hex	Max Bulkhead Thickness
	D3 (mm)	M Metric	D (mm)	F (mm)	K (mm)	L1 (mm)	L3 (mm)	S2 (mm)	S4 (mm)	X (mm)
4LL	4	M8x1	3	5.5	4.2	8	—	10	—	—
6LL	6	M10x1	4.5	6	5.7	8	—	12	—	—
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 F: Pipe Fittings and Port Adapters.

Dimensions and pressures for reference only, subject to change.



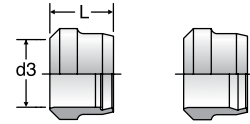
M
Nut



STANDARD FROM STOCK			d3 Tube O.D. (mm)	M Metric Thread	S2 (mm)	h1 (mm)
TUBE FITTING PART #						
STEEL	STAINLESS	BRASS				
M04LLCFX	M04LL71X	M04LLMSX	4	M8 x 1	10	11.0
M06LLCFX	M06LL71X	M06LLMSX	6	M10 x 1	12	11.5
M08LLCFX	M08LL71X	M08LLMSX	8	M12 x 1	14	12.0
M10LLCFX	—	M10LLMSX	10	M14 x 1	17	12.5
M12LLCFX	—	M12LLMSX	12	M16 x 1	19	13.0
M06LCFX	M06LEODURX	M06LMSX	6	M12 x 1.5	14	14.5
M08LCFX	M08LEODURX	M08LMSX	8	M14 x 1.5	17	14.5
M10LCFX	M10LEODURX	M10LMSX	10	M16 x 1.5	19	15.5
M12LCFX	M12LEODURX	M12LMSX	12	M18 x 1.5	22	15.5
M15LCFX	M15LEODURX	M15LMSX	15	M22 x 1.5	27	17.0
M18LCFX	M18LEODURX	M18LMSX	18	M26 x 1.5	32	18.0
M22LCFX	M22LEODURX	M22LMSX	22	M30 x 2	36	20.0
M28LCFX	M28LEODURX	M28LMSX	28	M36 x 2	41	21.0
M35LCFX	M35LEODURX	M35LMSX	35	M45 x 2	50	24.0
M42LCFX	M42LEODURX	M42LMSX	42	M52 x 2	60	24.0
M06SCFX	M06SEODURX	M06SMSX	6	M14 x 1.5	17	16.5
M08SCFX	M08SEODURX	M08SMSX	8	M16 x 1.5	19	16.5
M10SCFX	M10SEODURX	M10SMSX	10	M18 x 1.5	22	17.5
M12SCFX	M12SEODURX	M12SMSX	12	M20 x 1.5	24	17.5
M14SCFX	M14SEODURX	M14SMSX	14	M22 x 1.5	27	20.5
M16SCFX	M16SEODURX	M16SMSX	16	M24 x 1.5	30	20.5
M20SCFX	M20SEODURX	M20SMSX	20	M30 x 2	36	24.0
M25SCFX	M25SEODURX	M25SMSX	25	M36 x 2	46	27.0
M30SCFX	M30SEODURX	M30SMSX	30	M42 x 2	50	29.0
M38SCFX	M38SEODURX	M38SMSX	38	M52 x 2	60	32.5

DPR

Progressive Ring
For L and S series only



DPR: Progressive Ring
D: Cutting Ring

D

Cutting (Locking) Ring
For LL series and all brass

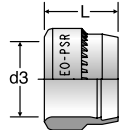
STANDARD FROM STOCK			d3 Tube O.D. (mm)	L (mm)
TUBE FITTING PART #				
STEEL	STAINLESS	BRASS		
D04LLX	—	D04LLMSX	4	6.0
D06LLX	D06LL71X	D06LLMSX	6	7.0
D08LLX	D08LL71X	D08LLMSX	8	7.0
D10LLX	—	D10LLMSX	10	7.0
D12LLX	—	D12LLMSX	12	7.5
—	DPR06L71X*	D06LMSX*	6	9.0
—	DPR08L71X*	D08LMSX*	8	9.0
—	DPR10L71X*	D10LMSX*	10	9.5
—	DPR12L71X*	D12LMSX*	12	9.8
—	DPR15L71X	D15LMSX	15	9.5
—	DPR18L71X	D18LMSX	18	9.5
—	DPR22L71X	D22LMSX	22	10.5
—	DPR28L71X	D28LMSX	28	11.0
—	DPR35L71X	D35LMSX	35	13.5
—	DPR42L71X	D42LMSX	42	13.5
—	DPR14S71X	D14SMSX	14	9.5
—	DPR16S71X	D16SMSX	16	9.5
—	DPR20S71X	D20SMSX	20	12.5
—	DPR25S71X	D25SMSX	25	12.5
—	DPR30S71X	D30SMSX	30	12.5
—	DPR38S71X	D38SMSX	38	13.0

* DPR Progressive Rings in sizes 6, 8, 10 and 12mm are the same for both Series L and S.

Cutting (locking) Rings, Series LL: Zinc plated and clear chromate (CF)

PSR

Progressive Ring
For L and S series only



STANDARD FROM STOCK	d3 Tube O.D. (mm)	L (mm)
TUBE FITTING PART #		
STEEL		
PSR06LX*	6	9.5
PSR08LX*	8	9.5
PSR10LX*	10	10.0
PSR12LX*	12	10.0
PSR15LX	15	10.0
PSR18LX	18	10.0
PSR22LX	22	10.5
PSR28LX	28	10.5
PSR35LX	35	13.0
PSR42LX	42	13.0
PSR14SX	14	10.0
PSR16SX	16	10.0
PSR20SX	20	13.0
PSR25SX	25	13.0
PSR30SX	30	13.0
PSR38SX	38	13.0

* PSR Progressive Rings in sizes 6, 8, 10 and 12mm are the same for both Series L and S.

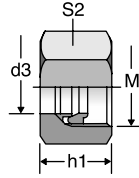
PSR Progressive Rings: Zinc plated and clear chromated

Dimensions and pressures for reference only, subject to change.



FM

EO-2 Dual Function Nut



TUBE FITTING PART #	SERIES	d3 END SIZE (mm)	M Metric Thread	h1 (mm)	S2 (mm)	STANDARD FROM STOCK					
						CF	SSA	VITCF	VITSSA	71	
FM04LL	LL	4	M8 x 1	11.0	10	•	•	•	•	•	
FM06LL	very light	6	M10 x 1	11.5	12	•	•	•	•	•	
FM06L	L	6	M12 x 1.5	14.5	14	•	•	•	•	•	
FM08L	light	8	M14 x 1.5	14.5	17	•	•	•	•	•	
FM10L		10	M16 x 1.5	15.5	19	•	•	•	•	•	
FM12L		12	M18 x 1.5	15.5	22	•	•	•	•	•	
FM15L		15	M22 x 1.5	17.0	27	•	•	•	•	•	
FM18L		18	M26 x 1.5	18.0	32	•	•	•	•	•	
FM22L		22	M30 x 2	20.0	36	•	•	•	•	•	
FM28L		28	M36 x 2	21.0	41	•	•	•	•	•	
FM35L		35	M45 x 2	24.0	50	•	•	•	•	•	
FM42L		42	M52 x 2	24.0	60	•	•	•	•	•	
FM06S		S heavy	6	M14 x 1.5	16.5	17	•	•	•	•	•
FM08S			8	M16 x 1.5	16.5	19	•	•	•	•	•
FM10S		10	M18 x 1.5	17.5	22	•	•	•	•	•	
FM12S		12	M20 x 1.5	17.5	24	•	•	•	•	•	
FM14S		14	M22 x 1.5	20.5	27	•	•	•	•	•	
FM16S		16	M24 x 1.5	20.5	30	•	•	•	•	•	
FM20S		20	M30 x 2	24.0	36	•	•	•	•	•	
FM25S		25	M36 x 2	27.0	46	•	•	•	•	•	
FM30S		30	M42 x 2	29.0	50	•	•	•	•	•	
FM38S		38	M52 x 2	32.5	60	•	•	•	•	•	

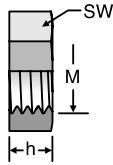
FM Component Breakdown by Material

	Nut	Bite Ring	Seal Ring	Elastomer	Nut Finish
CF	Steel	Steel	Steel	NBR	Zinc Clear
SSA	Steel	Stainless Steel	Steel	NBR	Zinc Clear
VITCF	Steel	Steel	Steel	FKM	Zinc Clear
VITSSA	Steel	Stainless Steel	Steel	FKM	Zinc Clear
71	Stainless Steel	Stainless Steel	Stainless Steel	FKM	Passivated

Dimensions and pressures for reference only, subject to change.

GM

Bulkhead Locknut



TUBE FITTING PART #	FOR USE WITH		h (mm)	M Metric Thread	SW (mm)	STANDARD FROM STOCK		
						CFX	71X	MSX
GM06L	6L		6	M12 x 1.5	17	•		
GM08L	8L	6S	6	M14 x 1.5	19	•		
GM10L	10L	8S	6	M16 x 1.5	22	•		
GM12L	12L	10S	6	M18 x 1.5	24	•	•	
GM12S		12S	6	M20 x 1.5	27	•		
GM15L	15L	14S	7	M22 x 1.5	30	•	•	
GM16S		16S	7	M24 x 1.5	32	•		
GM18L	18L		8	M26 x 1.5	36	•		
GM22L	22L	20S	8	M30 x 2	41	•		
GM28L	28L	25S	9	M36 x 2	46	•		
GM30S		30S	9	M42 x 2	50	•		
GM35L	35L		9	M45 x 2	55	•		
GM42L	42L	38S	10	M52 x 2	65			

E

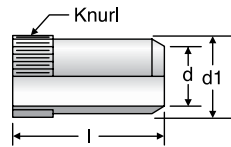
Tube Insert For Plastic Tube



TUBE FITTING PART #	USE WITH TUBE		d (mm)	D (mm)	di (mm)	l (mm)
	O.D. Ø	I.D. Ø				
E04/02X	4	2.0	2.0	3.5	1.3	8
E04/2.5X	4	2.5	2.5	4.0	1.7	8
E0506/03X	5	3.0	3.0	5.0	2.2	14
E0506/03X	6	3.0	3.0	5.0	2.2	14
E0506/04X	5	4.0	4.0	5.0	3.2	14
E0506/04X	6	4.0	4.0	5.0	3.2	14
E08/04X	8	4.0	4.0	6.6	3.2	14
E06/05X	6	5.0	5.0	6.0	4.0	14
E08/05X	8	5.0	5.0	8.0	4.0	14
E10/05X	10	5.0	5.0	8.5	4.0	15
E0810/06X	8	6.0	6.0	8.0	5.0	15
E0810/06X	10	6.0	6.0	8.5	4.0	15
E10/08X	10	8.0	8.0	10.0	6.7	15
E12/08X	12	8.0	8.0	12.0	6.7	15
E12/09X	12	9.0	9.0	12.0	7.7	15
E1215/10X	12	10.0	10.0	12.0	8.7	15
E1215/10X	15	10.0	10.0	12.0	8.7	15
E1215/10X	16	10.0	10.0	12.0	8.7	15
E15/12X	15	12.0	12.0	14.0	10.7	15
E1516/12.5X	15	12.5	12.5	14.8	11.2	15
E1516/12.5X	16	12.5	12.5	14.8	11.2	15
E18/14X	18	14.0	14.0	17.8	12.7	15
E1820/16X	18	16.0	16.0	17.8	14.7	20
E1820/16X	20	16.0	16.0	17.8	14.7	20
E22/18X	22	18.0	18.0	21.8	16.7	16

VH

Tube Insert For Thin Walled Metal Tube



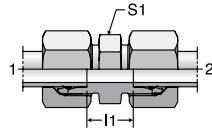
TUBE FITTING PART #	FOR TUBE I.D. Ø (mm)	d (mm)	d1 (mm)	L (mm)	STANDARD FROM STOCK		
					CFX	71X	MSX
VH04	4	2.6	3.8	14	•		•
VH04.5	4.5	3.1	4.3	14			
VH05	5	3.6	4.8	14			
VH06	6	4.6	5.8	14	•		•
VH07	7	5.6	6.8	15.5	•		
VH08	8	6.6	7.8	15.5	•	•	•
VH09	9	7.6	8.8	15.5			•
VH10	10	8.6	9.8	15.5	•	•	•
VH12	12	10.2	11.8	17	•		
VH13	13	11.2	12.8	17		•	•
VH14	14	12.2	13.8	17	•		
VH15	15	13.2	14.8	20	•		
VH16	16	14.2	15.8	20			
VH17	17	15.2	16.8	20	•		
VH18	18	16.2	17.8	20	•		
VH19	19	17.2	18.8	16			•
VH20	20	18.2	19.8	21.5			•
VH21	21	19.2	20.8	21.5			
VH22	22	20.2	21.8	23.5			
VH24	24	22.2	23.8	23.5			
VH25	25	23.2	24.8	23.5			•
VH26	26	24.2	25.8	23.5			
VH27	27	25.2	26.8	23.5			
VH30	30	27.8	29.8	26.5			
VH31	31	28.8	30.8	26.5			•
VH32	32	29.8	31.8	26.5			
VH33	33	30.8	32.8	26.5			
VH38	38	35.8	37.8	21	•		

Note: E inserts are made of brass.

Dimensions and pressures for reference only, subject to change.

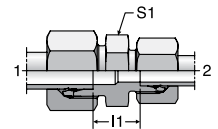
G

Union
24° Flareless / 24° Flareless



GR

Union Reducer
24° Flareless / 24° Flareless



TUBE FITTING PART #	END SIZE		I 1 (mm)	S1 (mm)	Pressure Rating (bar)				
	1 (mm)	2 (mm)			EO		EO-2		
					CF	71	MS	CF	71
G04LL	4	4	12	9	100	100	63	100	100
G06LL	6	6	9	11	100	100	63	100	100
G08LL	8	8	12	12	100	100	63	—	—
G10LL	10	10	12	14	100	100	63	—	—
G12LL	12	12	11	17	100	100	63	—	—
G06L	6	6	10	12	500	315	200	500	315
G08L	8	8	11	14	500	315	200	500	315
G10L	10	10	13	17	500	315	200	500	315
G12L	12	12	14	19	400	315	200	400	315
G15L	15	15	16	24	400	315	200	400	315
G18L	18	18	16	27	400	315	200	400	315
G22L	22	22	20	32	250	160	100	250	160
G28L	28	28	21	41	250	160	100	250	160
G35L	35	35	20	46	250	160	100	250	160
G42L	42	42	21	55	250	160	100	250	160
G06S	6	6	16	14	800	630	400	800	630
G08S	8	8	18	17	800	630	400	800	630
G10S	10	10	17	19	800	630	400	800	630
G12S	12	12	19	22	630	630	400	630	630
G14S	14	14	22	24	630	630	400	630	630
G16S	16	16	21	27	630	400	250	630	400
G20S	20	20	23	32	420	400	250	420	400
G25S	25	25	26	41	420	400	250	420	400
G30S	30	30	27	46	420	400	250	420	400
G38S	38	38	29	55	420	315	205	420	315

For EO-2 part number, insert "Z" between size and pressure series. Example: G06ZLCF

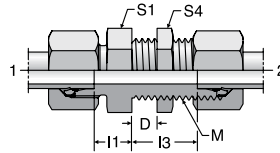
TUBE FITTING PART #	END SIZE		I 1 (mm)	S1 (mm)	Pressure Rating (bar)				
	1 (mm)	2 (mm)			EO		EO-2		
					CF	71	MS	CF	71
GR06/04LL	6	4	10.5	11	100	100	63	100	100
GR08/04LL	8	4	12.5	12	100	100	63	100	100
GR08/06LL	8	6	11.0	12	100	100	63	100	100
GR08/06L	8	6	11.0	14	500	315	200	500	315
GR10/06L	10	6	12.0	17	500	315	200	500	315
GR10/08L	10	8	12.0	17	500	315	200	500	315
GR12/06L	12	6	13.0	19	400	315	200	400	315
GR12/08L	12	8	13.0	19	400	315	200	400	315
GR12/10L	12	10	14.0	19	400	315	200	400	315
GR15/10L	15	10	15.0	24	400	315	200	400	315
GR15/12L	15	12	15.0	24	400	315	200	400	315
GR18/10L	18	10	15.5	27	400	315	200	400	315
GR18/12L	18	12	15.5	27	400	315	200	400	315
GR18/15L	18	15	16.5	27	400	315	200	400	315
GR22/12L	22	12	17.5	32	250	160	100	250	160
GR22/15L	22	15	18.5	32	250	160	100	250	160
GR22/18L	22	18	18.0	32	250	160	100	250	160
GR28/18L	28	18	19.0	41	250	160	100	250	160
GR28/22L	28	22	21.0	41	250	160	100	250	160
GR35/22L	35	22	21.0	46	250	160	100	250	160
GR35/28L	35	28	21.0	46	250	160	100	250	160
GR08/06S	8	6	18.0	17	800	630	400	800	630
GR10/06S	10	6	17.5	19	800	630	400	800	630
GR10/08S	10	8	17.5	19	800	630	400	800	630
GR12/06S	12	6	19.5	22	630	630	400	630	630
GR12/08S	12	8	19.5	22	630	630	400	630	630
GR12/10S	12	10	19.0	22	630	630	400	630	630
GR14/10S	14	10	20.5	24	630	630	400	630	630
GR14/12S	14	12	20.5	24	630	630	400	630	630
GR16/12S	16	12	20.0	27	630	400	250	630	400
GR16/14S	16	14	21.5	27	630	400	250	630	400
GR20/10S	20	10	22.0	32	420	400	250	420	400
GR20/12S	20	12	22.0	32	420	400	250	420	400
GR20/16S	20	16	23.0	32	420	400	250	420	400
GR25/16S	25	16	25.5	41	420	400	250	420	400
GR25/20S	25	20	25.5	41	420	400	250	420	400
GR30/20S	30	20	26.0	46	420	400	250	420	400
GR30/25S	30	25	26.5	46	420	400	250	420	400
GR38/30S	38	30	29.5	55	420	315	200	420	315

For EO-2 part number, insert "Z" between size and pressure series. Example: GR06/04ZLLCF

Dimensions and pressures for reference only, subject to change.

SV

Bulkhead Union
24° Flareless / 24° Flareless



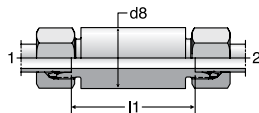
D = 16mm, max. bulkhead thickness

TUBE FITTING PART #	END SIZE		M Metric Thread	I 1 (mm)	I 3 (mm)	S 1 (mm)	S 4 (mm)	Pressure Rating (bar)				
	1 (mm)	2 (mm)						EO			EO-2	
								CF	71	MS	CF	71
SV06L	6	6	M12 x 1.5	7	27.0	17	17	500	315	200	500	315
SV08L	8	8	M14 x 1.5	8	27.0	19	19	500	315	200	500	315
SV10L	10	10	M16 x 1.5	10.0	28.0	22	22	500	315	200	500	315
SV12L	12	12	M18 x 1.5	10.0	29.0	24	24	400	315	200	400	315
SV15L	15	15	M22 x 1.5	12.0	31.0	27	30	400	315	200	400	315
SV18L	18	18	M26 x 1.5	13.5	32.5	32	36	400	315	200	400	315
SV22L	22	22	M30 x 2	16.5	34.5	36	41	250	160	100	250	160
SV28L	28	28	M36 x 2	18.5	35.5	41	46	250	160	100	250	160
SV35L	35	35	M45 x 2	18.5	36.5	50	55	250	160	100	250	160
SV42L	42	42	M52 x 2	19.0	36.0	60	65	250	160	100	250	160
SV06S	6	6	M14 x 1.5	12.0	29.0	19	19	800	630	400	800	630
SV08S	8	8	M16 x 1.5	13.0	29.0	22	22	800	630	400	800	630
SV10S	10	10	M18 x 1.5	14.5	29.5	24	24	800	630	400	800	630
SV12S	12	12	M20 x 1.5	14.5	30.5	27	27	630	630	400	630	630
SV14S	14	14	M22 x 1.5	17.0	32.0	30	30	630	630	400	630	630
SV16S	16	16	M24 x 1.5	16.5	31.5	32	32	630	400	250	630	400
SV20S	20	20	M30 x 2	17.5	33.5	41	41	420	400	250	420	400
SV25S	25	25	M36 x 2	20.0	35.0	46	46	420	400	250	420	400
SV30S	30	30	M42 x 2	21.5	37.5	50	50	420	400	250	420	400
SV38S	38	38	M52 x 2	22.0	37.0	65	65	420	315	205	420	315

For EO-2 part number, insert "Z" between size and pressure series. Example: SV06ZLCF

ESV

Weld Bulkhead Fitting
24° Flareless / 24° Flareless



TUBE FITTING PART #	END SIZE		d8 (mm)	I 1 (mm)	Pressure Rating (bar)			
	1 (mm)	2 (mm)			EO		EO-2	
					CF	71	CF	71
ESV06L	6	6	18	56	500	315	500	315
ESV08L	8	8	20	56	500	315	500	315
ESV10L	10	10	22	58	500	315	500	315
ESV12L	12	12	25	58	400	315	400	315
ESV15L	15	15	28	70	400	315	400	315
ESV18L	18	18	32	69	400	315	400	315
ESV22L	22	22	36	73	250	160	250	160
ESV28L	28	28	40	73	250	160	250	160
ESV35L	35	35	50	71	250	160	250	160
ESV42L	42	42	60	70	250	160	250	160
ESV06S	6	6	20	60	800	630	800	630
ESV08S	8	8	22	60	800	630	800	630
ESV10S	10	10	25	59	800	630	800	630
ESV12S	12	12	28	59	630	630	630	630
ESV14S	14	14	30	72	630	630	630	630
ESV16S	16	16	35	71	630	400	630	400
ESV20S	20	20	38	71	420	400	420	400
ESV25S	25	25	45	72	420	400	420	400
ESV30S	30	30	50	73	420	400	420	400
ESV38S	38	38	60	72	420	315	420	315

For EO-2 part number, insert "Z" between size and pressure series.

Example: ESV06ZL71

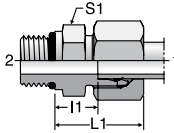
Note: Weld fitting. Omit "CF" in the part number for steel material.

Dimensions and pressures for reference only, subject to change.



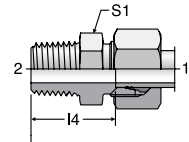
GE-UNF/UN

Male Connector
24° Flareless / SAE-ORB



GE-NPT

Male Connector
24° Flareless / NPTF



TUBE FITTING PART #	END SIZE		I 1 (mm)	L1 (mm)	S1 (mm)	Pressure Rating (bar)			
	1 (mm)	2 UN/UNF-2A				EO		EO-2	
						CF	71	CF	71
GE08L7/16UNF	8	7/16-20	10.0	25	17	315	315	315	315
GE10L7/16UNF	10	7/16-20	11.0	26	17	315	315	315	315
GE12L9/16UNF	12	9/16-18	11.0	26	19	315	315	315	315
GE12L3/4UNF	12	3/4-16	13.0	28	24	315	315	315	315
GE12L7/8UNF	12	7/8-14	14.3	29	27	315	315	315	315
GE15L3/4UNF	15	3/4-16	14.0	29	24	315	315	315	315
GE18L3/4UNF	18	3/4-16	14.5	31	27	315	315	315	315
GE18L7/8UNF	18	7/8-14	14.8	31	27	315	315	315	315
GE22L7/8UNF	22	7/8-14	16.8	33	32	160	160	160	160
GE22L11/16UN	22	1 1/16-12	16.5	33	32	160	160	160	160
GE22L15/16UN	22	1 5/16-12	17.5	34	41	160	160	160	160
GE28L11/16UN	28	1 1/16-12	17.5	34	41	160	160	160	160
GE28L15/16UN	28	1 5/16-12	17.5	34	41	160	160	160	160
GE35L15/16UN	35	1 5/16-12	17.5	39	46	160	160	160	160
GE35L15/8UN	35	1 5/8-12	17.5	39	50	160	160	160	160
GE42L15/8UN	42	1 5/8-12	19.0	42	55	160	160	160	160
GE08S7/16UNF	8	7/16-20	13.0	30	17	630	630	630	630
GE10S9/16UNF	10	9/16-18	12.5	31	19	630	630	630	630
GE12S9/16UNF	12	9/16-18	12.5	31	22	630	630	630	630
GE12S3/4UNF	12	3/4-16	14.5	34	24	630	630	630	630
GE16S3/4UNF	16	3/4-16	12.5	34	24	400	400	400	400
GE16S7/8UNF	16	7/8-14	15.5	37	27	400	400	400	400
GE20S3/4UNF	20	3/4-16	17.5	42	32	400	400	400	400
GE20S7/8UNF	20	7/8-14	17.5	42	32	400	400	400	400
GE20S11/16UN	20	1 1/16-12	17.0	42	32	400	400	400	400
GE25S11/16UN	25	1 1/16-12	19.5	47	36	400	400	400	400
GE25S15/16UN	25	1 5/16-12	19.5	47	41	400	400	400	400
GE30S15/16UN	30	1 5/16-12	20.0	50	46	400	400	400	400
GE30S15/8UN	30	1 5/8-12	20.0	50	50	400	400	400	400
GE38S15/8UN	38	1 5/8-12	22.5	57	55	315	315	315	315

TUBE FITTING PART #	END SIZE		I 4 (mm)	S1 (mm)	Pressure Rating (bar)		
	1 (mm)	2 NPT			EO		
					CF	71	MS
GE04LL1/8NPT	4	1/8-27	18.0	11	100	100	63
GE06LL1/8NPT	6	1/8-27	16.5	11	100	100	63
GE08LL1/8NPT	8	1/8-27	18.5	12	100	100	63
GE06L1/8NPT	6	1/8-27	17.0	12	315	315	200
GE06L1/4NPT	6	1/4-18	23.0	17	315	315	200
GE08L1/4NPT	8	1/4-18	23.0	17	315	315	200
GE10L1/4NPT	10	1/4-18	24.0	17	315	315	200
GE10L3/8NPT	10	3/8-18	25.0	19	315	315	200
GE12L1/4NPT	12	1/4-18	25.0	19	315	315	200
GE12L3/8NPT	12	3/8-18	25.0	19	315	315	200
GE12L1/2NPT	12	1/2-14	30.0	22	315	315	200
GE15L1/2NPT	15	1/2-14	31.0	24	315	315	200
GE18L1/2NPT	18	1/2-14	31.5	27	315	315	200
GE22L3/4NPT	22	3/4-14	33.5	32	160	160	100
GE28L1NPT	28	1-11 1/2	39.5	41	160	160	100
GE35L11/4NPT	35	1 1/4-11 1/2	40.5	46	160	160	100
GE42L11/2NPT	42	1 1/2-11 1/2	42.0	55	160	160	100
GE06S1/4NPT	6	1/4-18	28.0	17	630	630	400
GE08S1/4NPT	8	1/4-18	28.0	17	630	630	400
GE10S1/4NPT	10	1/4-18	27.5	19	630	630	400
GE10S3/8NPT	10	3/8-18	27.5	19	630	630	400
GE12S1/4NPT	12	1/4-18	29.5	22	630	630	400
GE12S3/8NPT	12	3/8-18	29.5	22	630	630	400
GE12S1/2NPT	12	1/2-14	34.5	22	630	630	400
GE14S1/2NPT	14	1/2-14	36.0	24	630	630	400
GE16S1/2NPT	16	1/2-14	39.5	32	400	400	250
GE20S3/4NPT	20	3/4-14	37.5	32	400	400	250
GE25S1NPT	25	1-11 1/2	45.0	41	400	400	100
GE30S11/4NPT	30	1 1/4-11 1/2	46.5	46	400	400	100
GE38S11/2NPT	38	1 1/2-11 1/2	49.0	55	315	315	100

Note: Not sold with EO-2 Functional Nut.

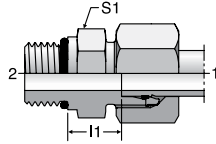
For EO-2 part number, insert "Z" between size and pressure series.
Example: GE08ZL7/16UNFCF

Dimensions and pressures for reference only, subject to change.



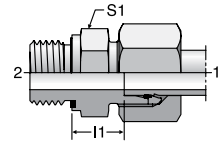
GEO

Male Connector
24° Flareless / ISO 6149



GE-R-ED

Male Connector
24° Flareless / BSPP



DIN 3852-2 Form E

TUBE FITTING PART #	END SIZE		I 1 (mm)	S1 (mm)	Pressure Rating (bar)			
	1 (mm)	2 Metric Thread			EO		EO-2	
					CF	71	CF	71
GEO04LLM	4	M8 x 1	9.5	11	100	—	100	—
GEO04LLM10x1	4	M10 x 1	9.5	13	100	—	100	—
GEO06LLM	6	M10 x 1	8.0	13	100	—	100	—
GEO06LM	6	M10 x 1	8.5	14	500	315	500	315
GEO08LM	8	M12 x 1.5	10.0	17	500	315	500	315
GEO10LM	10	M14 x 1.5	11.0	19	500	315	500	315
GEO12LM	12	M16 x 1.5	12.5	22	400	315	400	315
GEO15LM	15	M18 x 1.5	13.5	24	400	315	400	315
GEO18LM	18	M22 x 1.5	14.5	27	400	315	400	315
GEO22LM27x2	22	M27 x 2	16.5	32	250	160	250	160
GEO28LM	28	M33 x 2	17.5	41	250	160	250	160
GEO35LM	35	M42 x 2	17.5	50	250	160	250	160
GEO42LM	42	M48 x 2	19.0	55	250	160	250	160
GEO06SM	6	M12 x 1.5	13.0	17	800	630	800	630
GEO08SM	8	M14 x 1.5	15.0	19	800	630	800	630
GEO10SM	10	M16 x 1.5	15.0	22	800	630	800	630
GEO12SM	12	M18 x 1.5	17.0	24	630	630	630	630
GEO16SM	16	M22 x 1.5	18.5	27	630	400	630	400
GEO20SM	20	M27 x 2	20.5	32	420	400	420	400
GEO25SM	25	M33 x 2	23.0	41	420	400	420	400
GEO30SM	30	M42 x 2	23.5	50	420	400	420	400
GEO38SM	38	M48 x 2	26.0	55	420	315	420	315

For EO-2 part number, insert "Z" between size and pressure series.
Example: GEO06ZLMCF

TUBE FITTING PART #	END SIZE		I 1 (mm)	S1 (mm)	Pressure Rating (bar)				
	1 (mm)	2 BSPP			EO		EO-2		
					CF	71	MS	CF	71
GE04LLRED	4	G 1/8 A	9.5	14	100	100	63	100	100
GE06LLRED	6	G 1/8 A	8.0	14	100	100	63	100	100
GE06LRED	6	G 1/8 A	8.5	14	500	315	200	500	315
GE06LR1/4ED	6	G 1/4A	10.0	19	500	315	200	500	315
GE08LR1/8ED	8	G 1/8 A	9.5	14	500	315	200	500	315
GE08LRED	8	G 1/4A	10.0	19	500	315	200	500	315
GE08LR3/8ED	8	G 3/8 A	11.5	22	420	315	200	420	315
GE10LRED	10	G 1/4A	11.0	19	500	315	200	500	315
GE10LR3/8ED	10	G 3/8 A	12.5	22	420	315	200	420	315
GE10LR1/2ED	10	G 1/2 A	13.0	27	400	315	200	400	315
GE12LR1/4ED	12	G 1/4A	12.0	19	400	315	200	400	315
GE12LRED	12	G 3/8 A	12.5	22	420	315	200	420	315
GE12LR1/2ED	12	G 1/2 A	13.0	27	400	315	200	400	315
GE15LR3/8ED	15	G 3/8 A	13.5	24	400	315	200	400	315
GE15LRED	15	G 1/2 A	14.0	27	400	315	200	400	315
GE18LRED	18	G 1/2 A	14.5	27	400	315	200	400	315
GE18LR3/4ED	18	G 3/4 A	14.5	32	250	160	100	250	160
GE22LRED	22	G 3/4 A	16.5	32	250	160	100	250	160
GE28LRED	28	G1 A	17.5	41	250	160	100	250	160
GE35LRED	35	G1 1/4A	17.5	50	250	160	100	250	160
GE42LRED	42	G1 1/2 A	19.0	55	250	160	100	250	160
GE06SRED	6	G 1/4A	13.0	19	800	630	400	800	630
GE08SRED	8	G 1/4A	15.0	19	800	630	400	800	630
GE08SR3/8ED	8	G 3/8 A	15.5	22	800	630	400	800	630
GE10SR1/4ED	10	G 1/4A	14.5	19	800	630	400	800	630
GE10SRED	10	G 3/8 A	15.0	22	800	630	400	800	630
GE10SR1/2ED	10	G 1/2 A	17.5	27	630	630	400	630	630
GE12SR1/4ED	12	G 1/4A	16.5	22	630	630	400	630	630
GE12SRED	12	G 3/8 A	17.0	22	630	630	400	630	630
GE12SR1/2ED	12	G 1/2 A	17.5	27	630	630	400	630	630
GE14SRED	14	G 1/2 A	19.0	27	630	630	400	630	630
GE16SR3/8ED	16	G 3/8 A	18.0	27	630	400	250	630	400
GE16SRED	16	G 1/2 A	18.5	27	630	400	250	630	400
GE16SR3/4ED	16	G 3/4 A	20.5	32	420	400	250	420	400
GE20SRED	20	G 3/4 A	20.5	32	420	400	250	420	400
GE25SR1/2ED	25	G 1/2 A	23.0	41	420	400	250	420	400
GE25SRED	25	G1 A	23.0	41	420	400	250	420	400
GE30SRED	30	G1 1/4A	23.5	50	420	400	250	420	400
GE38SRED	38	G1 1/2 A	26.0	55	420	315	200	420	315

For EO-2 part number, insert "Z" between size and pressure series.
Example: GE06ZLREDCF

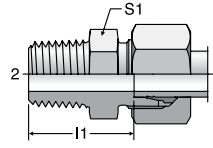
Dimensions and pressures for reference only, subject to change.



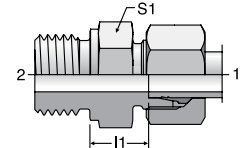
GE-R

Male Connector

24° Flareless / BSPT or BSPP



R (BSPT) thread



Cutting face DIN 3852, form B, G (BSPP) thread

TUBE FITTING PART #	END SIZE		I 1 (mm)	S1 (mm)	Pressure Rating (bar)		
	1 (mm)	2 BSPT / BSPP			EO		
					CF	71	MS
GE04LLR	4	R 1/8 keg.	16.0	11*	100	100	63
GE06LLR	6	R 1/8 keg.	14.5	11*	100	100	63
GE08LLR	8	R 1/8 keg.	16.5	12	100	100	63
GE08LLR1/4	8	R 1/4 keg.	20.5	14	100	100	63
GE10LLR	10	R 1/4 keg.	20.5	14	100	100	63
GE12LLR	12	R 1/4 keg.	20.0	17	100	100	63
GE12LLR3/8	12	R 3/8 keg.	20.0	17	100	100	63
GE06LR	6	G 1/8 A	8.5	14	315	315	200
GE06LR1/8KEG	6	R 1/8 keg.	15.0	12	315	315	200
GE06LR1/4	6	G 1/4 A	10.0	19	315	315	200
GE06LR3/8	6	G 3/8 A	11.5	22	315	315	200
GE06LR1/2	6	G 1/2 A	12.0	27	315	315	200
GE08LR	8	G 1/4 A	10.0	19	315	315	200
GE08LR1/8	8	G 1/8 A	8.5	14	315	315	200
GE08LR1/4KEG	8	R 1/4 keg.	20.0	17	315	315	200
GE08LR3/8	8	G 3/8 A	11.5	22	315	315	200
GE08LR1/2	8	G 1/2 A	12.0	27	315	315	200
GE10LR	10	G 1/4 A	11.0	19	315	315	200
GE10LR1/4KEG	10	R 1/4 keg.	21.0	17	315	315	200
GE10LR3/8	10	G 3/8 A	12.5	22	315	315	200
GE10LR1/2	10	G 1/2 A	13.0	27	315	315	200
GE12LR	12	G 3/8 A	12.5	22	315	315	200
GE12LR1/4	12	G 1/4 A	12.0	19	315	315	200
GE12LR1/4KEG	12	R 1/4 keg.	22.0	19	315	315	200
GE12LR3/8KEG	12	R 3/8 keg.	22.0	19	315	315	200
GE12LR1/2	12	G 1/2 A	13.0	27	315	315	200
GE12LR1/2KEG	12	R 1/2 keg.	24.0	24	315	315	200
GE12LR3/4	12	G 3/4 A	14.0	32	315	315	200
GE15LR	15	G 1/2 A	14.0	27	250	250	160
GE15LR3/8	15	G 3/8 A	13.5	24	250	250	160
GE15LR3/8KEG	15	R 3/8 keg.	23.0	24	315	315	160
GE15LR1/2KEG	15	R 1/2 keg.	25.0	24	315	315	160
GE15LR3/4	15	G 3/4 A	15.0	32	250	250	160
GE18LR	18	G 1/2 A	14.5	27	250	250	160
GE18LR3/8	18	G 3/8 A	14.0	27	250	250	160
GE18LR1/2KEG	18	R 1/2 keg.	25.5	27	315	315	160
GE18LR3/4	18	G 3/4 A	14.5	32	250	250	160
GE22LR	22	G 3/4 A	16.5	32	160	160	100
GE22LR1/2	22	G 1/2 A	16.5	32	160	160	100
GE22LR3/4KEG	22	R 3/4 keg.	29.5	32	160	160	100
GE28LR	28	G 1 A	17.5	41	160	160	100
GE28LR3/4	28	G 3/4 A	17.5	41	160	160	100
GE35LR	35	G 1 1/4 A	17.5	50	160	160	100
GE35LR1	35	G 1 A	17.5	46	160	160	100
GE42LR	42	G 1 1/2 A	19.0	55	160	160	100

TUBE FITTING PART #	END SIZE		I 1 (mm)	S1 (mm)	Pressure Rating (bar)		
	1 (mm)	2 BSPP			EO		
					CF	71	MS
GE06SR	6	G 1/4 A	13.0	19	400	400	250
GE06SR1/2	6	G 1/2 A	18.0	27	400	400	250
GE08SR	8	G 1/4 A	15.0	19	400	400	250
GE08SR3/8	8	G 3/8 A	15.5	22	400	400	250
GE10SR	10	G 3/8 A	15.0	22	400	400	250
GE10SR1/4	10	G 1/4 A	14.5	19	400	400	250
GE10SR1/2	10	G 1/2 A	17.5	27	400	400	250
GE12SR	12	G 3/8 A	17.0	22	400	400	250
GE12SR1/4	12	G 1/4 A	16.5	22	400	400	250
GE12SR1/2	12	G 1/2 A	17.5	27	400	400	250
GE14SR	14	G 1/2 A	19.0	27	400	400	250
GE14SR3/8	14	G 3/8 A	18.5	24	400	400	250
GE16SR	16	G 1/2 A	18.5	27	400	400	250
GE16SR3/8	16	G 3/8 A	18.0	27	400	400	250
GE16SR3/4	16	G 3/4 A	20.5	32	400	400	250
GE20SR	20	G 3/4 A	20.5	32	400	400	250
GE20SR1/2	20	G 1/2 A	20.5	32	400	400	250
GE25SR	25	G 1 A	23.0	41	250	250	160
GE25SR3/4	25	G 3/4 A	23.0	41	250	250	160
GE30SR	30	G 1 1/4 A	23.5	50	160	160	100
GE30SR1	30	G 1 A	23.5	46	160	160	100
GE38SR	38	G 1 1/2 A	26.0	55	160	160	100
GE38SR11/4	38	G 1 1/4 A	26.0	55	160	160	100

Note: "keg." refers to tapered threads.

Not sold with EO-2 Functional Nut.

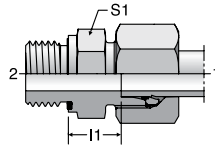
*S1 = I2 for stainless steel (71).

Dimensions and pressures for reference only, subject to change.



GE-M-ED

Male Connector
24° Flareless / Metric with
EOlastic Seal



DIN 3852-1, form E

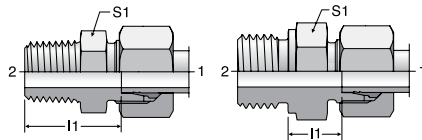
TUBE FITTING PART #	END SIZE		I 1 (mm)	S1 (mm)	Pressure Rating (bar)			
	1 (mm)	2 Metric			EO		EO-2	
					CF	71	CF	71
GE06LMED	6	M10 x 1	8.5	14	500	315	500	315
GE08LMED	8	M12 x 1.5	10.0	17	500	315	500	315
GE10LMED	10	M14 x 1.5	11.0	19	500	315	500	315
GE12LMED	12	M16 x 1.5	12.5	22	400	315	400	315
GE12LM18X1.5ED	12	M18 x 1.5	12.5	24	400	315	400	315
GE12LM22X1.5ED	12	M22 x 1.5	14.0	27	400	315	400	315
GE15LMED	15	M18 x 1.5	13.5	24	400	315	400	315
GE15LM22X1.5ED	15	M22 x 1.5	15.0	27	400	315	400	315
GE18LMED	18	M22 x 1.5	14.5	27	400	315	400	315
GE22LMED	22	M26 x 1.5	16.5	32	250	160	250	160
GE28LMED	28	M33 x 2	17.5	41	250	160	250	160
GE35LMED	35	M42 x 2	17.5	50	250	160	250	160
GE42LMED	42	M48 x 2	19.0	55	250	160	250	160
GE06SMED	6	M12 x 1.5	13.0	17	800	630	800	630
GE08SMED	8	M14 x 1.5	15.0	19	800	630	800	630
GE10SMED	10	M16 x 1.5	15.0	22	800	630	800	630
GE12SMED	12	M18 x 1.5	17.0	24	630	630	630	630
GE14SMED	14	M20 x 1.5	19.0	27	630	630	630	630
GE16SMED	16	M22 x 1.5	18.5	27	630	400	630	400
GE20SMED	20	M27 x 2	20.5	32	420	400	420	400
GE25SMED	25	M33 x 2	23.0	41	420	400	420	400
GE30SMED	30	M42 x 2	23.5	50	420	400	420	400
GE38SMED	38	M48 x 2	26.0	55	420	315	420	315

For EO-2 part number, insert "Z" between size and pressure series.
Example: GE06ZLMEDCF

Dimensions and pressures for reference only, subject to change.

GE-M

Male Connector
24° Flareless / Metric

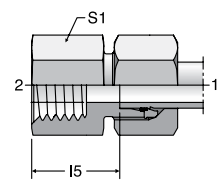


Metric taper thread

Cutting face DIN 3852, form B, Metric thread

GAI-R

Female Connector
24° Flareless / BSPP



TUBE FITTING PART #	END SIZE		I 1 (mm)	S1 (mm)	Pressure Rating (bar)		
	1 (mm)	2 Metric			EO		
					CF	71	MS
GE04LLM6X1KEG	4	M6 x 1 keg.	16.0	9	100	100	63
GE04LLM	4	M8 x 1 keg.	16.0	10	100	100	63
GE06LLM	6	M10 x 1 keg.	14.5	11	100	100	63
GE08LLM	8	M10 x 1 keg.	16.5	12	100	100	63
GE06LM	6	M10 x 1	8.5	14	315	315	200
GE08LM	8	M12 x 1.5	10.0	17	315	315	200
GE10LM	10	M14 x 1.5	11.0	19	315	315	200
GE10LM16X1.5	10	M16 x 1.5	12.0	22	315	315	200
GE10LM18X1.5	10	M18 x 1.5	12.5	24	315	315	200
GE10LM22X1.5	10	M22 x 1.5	14.0	27	315	315	200
GE12LM14X1.5	12	M14 x 1.5	11.0	19	315	315	200
GE12LM	12	M16 x 1.5	12.5	22	315	315	200
GE12LM18X1.5	12	M18 x 1.5	12.5	24	315	315	200
GE12LM22X1.5	12	M22 x 1.5	14.0	27	315	315	200
GE15LM16X1.5	15	M16 x 1.5	13.0	24	250	250	160
GE15LM	15	M18 x 1.5	13.5	24	250	250	160
GE15LM22X1.5	15	M22 x 1.5	15.0	27	250	250	160
GE18LM18X1.5	18	M18 x 1.5	14.0	27	250	250	160
GE18LM	18	M22 x 1.5	14.5	27	250	250	160
GE22LM22X1.5	22	M22 x 1.5	16.5	32	160	160	100
GE22LM	22	M26 x 1.5	16.5	32	160	160	100
GE28LM	28	M33 x 2	17.5	41	160	160	100
GE35LM	35	M42 x 2	17.5	50	160	160	100
GE42LM	42	M48 x 2	19.0	55	160	160	100
GE06SM	6	M12 x 1.5	13.0	17	400	400	250
GE08SM	8	M14 x 1.5	15.0	19	400	400	250
GE10SM	10	M16 x 1.5	15.0	22	400	400	250
GE12SM	12	M18 x 1.5	17.0	24	400	400	250
GE12SM22X1.5	12	M22 x 1.5	17.5	27	400	400	250
GE14SM	14	M20 x 1.5	19.0	27	400	400	250
GE16SM18X1.5	16	M18 x 1.5	18.0	27	400	400	250
GE16SM	16	M22 x 1.5	18.5	27	400	400	250
GE20SM	20	M27 x 2	20.5	32	400	400	250
GE25SM	25	M33 x 2	23.0	41	250	250	160
GE30SM	30	M42 x 2	23.5	50	160	160	100
GE38SM	38	M48 x 2	26.0	55	160	160	100

Note: "keg." refers to taper threads.
Not sold with EO-2 Functional Nut.

TUBE FITTING PART #	END SIZE		I 5 (mm)	S1 (mm)	Pressure Rating (bar)				
	1 (mm)	2 BSPP			EO		EO-2		
					CF	71	MS	CF	71
GAI06LR	6	G 1/8	19.0	14	315	315	200	315	315
GAI08LR	8	G 1/4	24.0	19	315	315	200	315	315
GAI08LR3/8	8	G 3/8	25.0	24	315	315	200	315	315
GAI08LR1/2	8	G 1/2	29.0	27	315	315	200	315	315
GAI10LR	10	G 1/4	25.0	19	315	315	200	315	315
GAI10LR3/8	10	G 3/8	26.0	24	315	315	200	315	315
GAI10LR1/2	10	G 1/2	30.0	27	315	315	200	315	315
GAI12LR	12	G 3/8	26.0	24	315	315	200	315	315
GAI12LR1/2	12	G 1/2	30.0	27	315	315	200	315	315
GAI15LR	15	G 1/2	31.0	27	315	315	200	315	315
GAI18LR	18	G 1/2	30.5	27	315	315	200	315	315
GAI22LR	22	G 3/4	35.5	36	160	160	100	160	160
GAI28LR	28	G 1	38.0	41	160	160	100	160	160
GAI35LR	35	G 1 1/4	41.0	55	160	160	100	160	160
GAI42LR	42	G 1 1/2	42.5	60	160	160	100	160	160
GAI06SR	6	G 1/4	26.0	19	400	400	250	400	400
GAI08SR	8	G 1/4	26.0	19	400	400	250	400	400
GAI10SR	10	G 3/8	26.5	24	400	400	250	400	400
GAI12SR	12	G 3/8	26.5	24	400	400	250	400	400
GAI14SR	14	G 1/2	32.0	30	400	400	250	400	400
GAI16SR	16	G 1/2	31.5	30	400	400	250	400	400
GAI20SR	20	G 3/4	34.5	36	315	315	200	315	315
GAI25SR	25	G 1	37.5	41	315	315	200	315	315
GAI30SR	30	G 1 1/4	42.0	55	315	315	200	315	315
GAI38SR	38	G 1 1/2	43.5	60	250	250	160	250	250

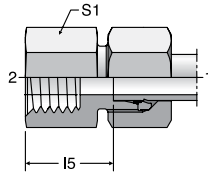
For EO-2 part number, insert "Z" between size and pressure series.
Example: GAI06ZLRFC

Dimensions and pressures for reference only, subject to change.



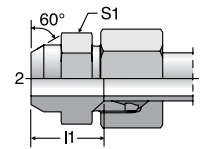
GAI-M

Female Connector
24° Flareless / Metric



AS

Weld Connector
24° Flareless / Butt Weld



TUBE FITTING PART #	END SIZE		I 5 (mm)	S1 (mm)	Pressure Rating (bar)			
	1 (mm)	2 Metric			EO		EO-2	
	CF	71			CF	71		
GAI06LM	6	M10 x 1	19.5	14	315	315	315	315
GAI08LM	8	M12 x 1.5	24.0	17	315	315	315	315
GAI10LM	10	M14 x 1.5	25.0	19	315	315	315	315
GAI12LM	12	M16 x 1.5	26.0	22	315	315	315	315
GAI15LM	15	M18 x 1.5	28.0	24	315	315	315	315
GAI18LM	18	M22 x 1.5	29.5	30	315	315	315	315
GAI22LM	22	M26 x 1.5	34.5	32	160	160	160	160
GAI28LM	28	M33 x 2	37.5	41	160	160	160	160
GAI35LM	35	M42 x 2	40.5	55	160	160	160	160
GAI42LM	42	M48 x 2	42.0	60	160	160	160	160
GAI06SM	6	M12 x 1.5	26.0	17	400	400	400	400
GAI08SM	8	M14 x 1.5	26.0	17	400	400	400	400
GAI10SM	10	M16 x 1.5	26.5	22	400	400	400	400
GAI12SM	12	M18 x 1.5	27.5	24	400	400	400	400
GAI14SM	14	M20 x 1.5	31.0	27	400	400	400	400
GAI16SM	16	M22 x 1.5	30.5	30	400	400	400	400
GAI20SM	20	M27 x 2	34.5	36	315	315	315	315
GAI25SM	25	M33 x 2	37.0	41	315	315	315	315
GAI30SM	30	M42 x 2	41.5	55	315	315	315	315
GAI38SM	38	M48 x 2	43.0	60	250	250	250	250

For EO-2 part number, insert "Z" between size and pressure series.
Example: GAI06ZLMCF

TUBE FITTING PART #	END SIZE		I 1 (mm)	S1 (mm)	Pressure Rating (bar)			
	1 (mm)	2 (mm)			EO		EO-2	
	CF	71			CF	71		
AS06L	6	10	14.0	12	315	315	315	315
AS08L	8	12	16.0	14	315	315	315	315
AS10L	10	14	18.0	17	315	315	315	315
AS12L	12	16	18.0	19	315	315	315	315
AS15L	15	19	22.0	22	315	315	315	315
AS18L	18	22	23.5	27	315	315	315	315
AS22L	22	27	28.5	32	160	160	160	160
AS28L	28	32	30.5	41	160	160	160	160
AS35L	35	40	32.5	46	160	160	160	160
AS42L	42	46	35.0	55	160	160	160	160
AS06S	6	11	19.0	14	630	630	630	630
AS08S	8	13	21.0	17	630	630	630	630
AS10S	10	15	22.5	19	630	630	630	630
AS12S	12	17	24.5	22	630	630	630	630
AS14S	14	19	27.0	24	630	630	630	630
AS16S	16	21	26.5	27	400	400	400	400
AS20S	20	26	29.5	32	400	400	400	400
AS25S	25	31	32.0	41	400	400	400	400
AS30S	30	36	35.5	46	400	400	400	400
AS38S	38	44	38.0	55	315	315	315	315

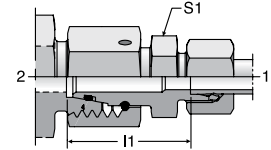
Note: Weld fitting. Omit "CF" in the part number for steel material.
For EO-2 part number, insert "Z" between size and pressure series.
Example: AS06ZL

Dimensions and pressures for reference only, subject to change.



RED

Tube End Reducer
Flareless Swivel / 24° Flareless



L-Series

TUBE FITTING PART #	END SIZE		I1 (mm)	S1 (mm)	Pressure Rating (bar)			
	1 (mm)	2 Metric			EO		EO-2	
					CF	71	CF	71
RED06L/04LL	4	M12 x 1.5	24.5	9	100	100	100	100
RED08/06L	6	M14 x 1.5	23.5	12	500	315	500	315
RED10/06L	6	M16 x 1.5	25	14	500	315	500	315
RED10/08L	8		25	14	500	315	500	315
RED12/06L	6	M18 x 1.5	25	17	400	315	400	315
RED12/08L	8		25	17	400	315	400	315
RED12/10L	10		26	17	400	315	400	315
RED15/06L	6	M22 x 1.5	28.5	19	400	315	400	315
RED15/08L	8		28.5	19	400	315	400	315
RED15/10L	10		29.5	19	400	315	400	315
RED15/12L	12		29.5	19	400	315	400	315
RED18/06L	6	M26 x 1.5	28	24	400	315	400	315
RED18/08L	8		28	24	400	315	400	315
RED18/10L	10		29	24	400	315	400	315
RED18/12L	12		29	24	400	315	400	315
RED18/15L	15		30	24	400	315	400	315
RED22/06L	6	M30 x 2	32	27	250	160	250	160
RED22/08L	8		32	27	250	160	250	160
RED22/10L	10		33	27	250	160	250	160
RED22/12L	12		33	27	250	160	250	160
RED22/15L	15		34	27	250	160	250	160
RED22/18L	18		33.5	27	250	160	250	160
RED28/06L	6	M36 x 2	34	32	250	160	250	160
RED28/08L	8		34	32	250	160	250	160
RED28/10L	10		35	32	250	160	250	160
RED28/12L	12		35	32	250	160	250	160
RED28/15L	15		36	32	250	160	250	160
RED28/18L	18		35.5	32	250	160	250	160
RED28/22L	22		37.5	32	250	160	250	160
RED35/12L	12	M45 x 2	38	41	250	160	250	160
RED35/15L	15		39	41	250	160	250	160
RED35/18L	18		38.5	41	250	160	250	160
RED35/22L	22		40.5	41	250	160	250	160
RED35/28L	28		40.5	41	250	160	250	160
RED42/18L	18	M52 x 2	42	50	250	160	250	160
RED42/22L	22		44	50	250	160	250	160
RED42/28L	28		44	50	250	160	250	160
RED42/35L	35		43	50	250	160	250	160

For EO-2 part number, insert "Z" between size and pressure series.
Example: RED08/06ZLCF

S-Series

TUBE FITTING PART #	END SIZE		I1 (mm)	S1 (mm)	Pressure Rating (bar)			
	1 (mm)	2 Metric			EO		EO-2	
					CF	71	CF	71
RED08/06S	6	M16 x 1.5	27.0	14	800	630	800	630
RED10/06S	6	M18 x 1.5	27.5	17	800	630	800	630
RED10/08S	8		27.5	17	800	630	800	630
RED12/06S	6	M20 x 1.5	29.0	17	630	630	630	630
RED12/08S	8		29.0	17	630	630	630	630
RED12/10S	10		29.5	19	630	630	630	630
RED14/06S	6	M22 x 1.5	31.5	19	630	630	630	630
RED14/08S	8		31.5	19	630	630	630	630
RED14/10S	10		31.0	19	630	630	630	630
RED14/12S	12		31.0	22	630	630	630	630
RED16/06S	6	M24 x 1.5	32.0	22	630	400	630	400
RED16/08S	8		32.0	22	630	400	630	400
RED16/10S	10		31.5	22	630	400	630	400
RED16/12S	12		31.5	22	630	400	630	400
RED16/14S	14		33.0	24	630	400	630	400
RED20/06S	6	M30 x 2	36.0	27	420	400	420	400
RED20/08S	8		36.0	27	420	400	420	400
RED20/10S	10		35.5	27	420	400	420	400
RED20/12S	12		35.5	27	420	400	420	400
RED20/14S	14		37.0	27	420	400	420	400
RED20/16S	16		36.5	27	420	400	420	400
RED25/06S	6	M36 x 2	38.5	32	420	400	420	400
RED25/08S	8		38.5	32	420	400	420	400
RED25/10S	10		38.0	32	420	400	420	400
RED25/12S	12		38.0	32	420	400	420	400
RED25/14S	14		39.5	32	420	400	420	400
RED25/16S	16		39.0	32	420	400	420	400
RED25/20S	20		39.0	32	420	400	420	400
RED30/08S	8	M42 x 2	44.0	41	420	400	420	400
RED30/10S	10		43.5	41	420	400	420	400
RED30/12S	12		43.5	41	420	400	420	400
RED30/14S	14		45.0	41	420	400	420	400
RED30/16S	16		44.5	41	420	400	420	400
RED30/20S	20		44.5	41	420	400	420	400
RED30/25S	25		45.0	41	420	400	420	400
RED38/12S	12	M52 x 2	47.0	50	420	315	420	315
RED38/16S	16		48.0	50	420	315	420	315
RED38/20S	20		48.0	50	420	315	420	315
RED38/25S	25		48.5	50	420	315	420	315
RED38/30S	30		49.0	50	420	315	420	315

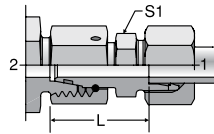
For EO-2 part number, insert "Z" between size and pressure series.
Example: RED08/06ZSCF

Dimensions and pressures for reference only, subject to change.



DA

Distance Piece Adapter
Flareless Swivel / 24° Flareless

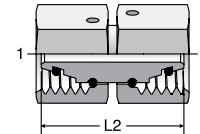


TUBE FITTING PART #	END SIZE		L (mm)	S1 (mm)	Pressure Rating (bar)				
	1 (mm)	2 Metric			EO		EO-2		
					CF	71	MS	CF	71
DA06L	6	M12 x 1.5	36	12	500	315	200	500	315
DA08L	8	M14 x 1.5	36	14	500	315	200	500	315
DA10L	10	M16 x 1.5	36	17	500	315	200	500	315
DA12L	12	M18 x 1.5	36	19	400	315	200	400	315
DA15L	15	M22 x 1.5	36	24	400	315	200	400	315
DA18L	18	M26 x 1.5	36	27	400	315	200	400	315
DA22L	22	M30 x 2	40	32	250	160	100	250	160
DA28L	28	M36 x 2	40	41	250	160	100	250	160
DA35L	35	M45 x 2	50	46	250	160	100	250	160
DA42L	42	M52 x 2	60	55	250	160	100	250	160
DA06S	6	M14 x 1.5	36	14	800	630	400	800	630
DA08S	8	M16 x 1.5	36	17	800	630	400	800	630
DA10S	10	M18 x 1.5	36	19	800	630	400	800	630
DA12S	12	M20 x 1.5	36	22	630	630	400	630	630
DA14S	14	M22 x 1.5	40	24	630	630	400	630	630
DA16S	16	M24 x 1.5	40	27	630	400	250	630	400
DA20S	20	M30 x 2	46	32	420	400	250	420	400
DA25S	25	M36 x 2	50	41	420	400	250	420	400
DA30S	30	M42 x 2	56	46	420	400	250	420	400
DA38S	38	M52 x 2	60	55	420	315	200	420	315

For EO-2 part number, insert "Z" between size and pressure series.
Example: DA06ZLCF

GZ

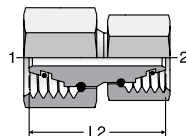
Swivel Union
Flareless Swivel / Flareless Swivel



TUBE FITTING PART #	END SIZE	L2 (mm)	Pressure Rating (bar)	
			EO	
	1 & 2 Metric		CF	71
GZ06L	M12 x 1.5	32	500	315
GZ08L	M14 x 1.5	32	500	315
GZ10L	M16 x 1.5	33	500	315
GZ12L	M18 x 1.5	33	400	315
GZ15L	M22 x 1.5	38	400	315
GZ18L	M26 x 1.5	36	400	315
GZ22L	M30 x 2	42	250	160
GZ28L	M36 x 2	46	250	160
GZ35L	M45 x 2	48	250	160
GZ42L	M52 x 2	52	250	160
GZ06S	M14 x 1.5	32	800	630
GZ08S	M16 x 1.5	33	800	630
GZ10S	M18 x 1.5	33	800	630
GZ12S	M20 x 1.5	36	630	630
GZ14S	M22 x 1.5	39	630	630
GZ16S	M24 x 1.5	39	630	400
GZ20S	M30 x 2	44	420	400
GZ25S	M36 x 2	46	420	400
GZ30S	M42 x 2	52	420	400
GZ38S	M52 x 2	52	420	315

GZR

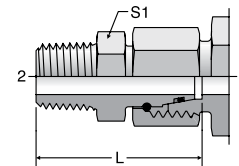
Swivel Union Reducer
Flareless Swivel / Flareless Swivel



TUBE FITTING PART #	END SIZE		L2 (mm)	Pressure Rating (bar)	
	1 Metric	2 Metric		EO	
				CF	71
GZR06L/06S	M14 x 1.5	M12 x 1.5	32	500	500
GZR08L/08S	M16 x 1.5	M14 x 1.5	33	500	500
GZR10L/10S	M18 x 1.5	M16 x 1.5	33	500	500
GZR12L/12S	M20 x 1.5	M18 x 1.5	36	400	400
GZR12L/08L	M18 x 1.5	M14 x 1.5	33	400	400
GZR15/08L	M22 x 1.5	M14 x 1.5	38	400	400
GZR15/12L	M22 x 1.5	M18 x 1.5	38	400	400
GZR18L/16S	M26 x 1.5	M24 x 1.5	39	400	400
GZR22L/20S	M30 x 2	M30 x 2	44	250	250
GZR28L/25S	M36 x 2	M36 x 2	46	250	250
GZR28/22L	M36 x 2	M30 x 2	46	250	250
GZR35L/30S	M45 x 2	M42 x 2	52	250	250
GZR42L/38S	M52 x 2	M52 x 2	52	250	250
GZR16S/15L	M24 x 1.5	M22 x 1.5	39	400	400
GZR20S/18L	M30 x 2	M26 x 1.5	44	400	400
GZR25S/22L	M36 x 2	M30 x 2	46	250	250
GZR30S/28L	M42 x 2	M36 x 2	52	250	250
GZR38S/35L	M52 x 2	M45 x 2	52	250	250

EGE-NPT

Swivel Connector
Flareless Swivel / NPT

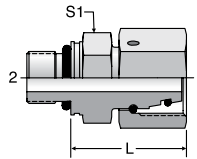


TUBE FITTING PART #	END SIZE		L (mm)	S1 (mm)	Pressure Rating (bar)	
	1 Metric	2 NPT			EO	
					CF	71
EGE06L/8NPT	M12 x 1.5	1/8-27	31.5	11	315	315
EGE08L/14NPT	M14 x 1.5	1/4-18	37.5	14	315	315
EGE10L/14NPT	M16 x 1.5	1/4-18	38.0	14	315	315
EGE12L3/8NPT	M18 x 1.5	3/8-18	40.0	19	315	315
EGE15L1/2NPT	M22 x 1.5	1/2-14	49.5	22	315	315
EGE18L1/2NPT	M26 x 1.5	1/2-14	49.0	24	315	315
EGE22L3/4NPT	M30 x 2	3/4-14	52.0	27	160	160
EGE28L1NPT	M36 x 2	1-11 1/2	61.0	36	160	160
EGE35L11/4NPT	M45 x 2	1 1/4-11 1/2	65.5	46	160	160
EGE42L11/2NPT	M52 x 2	1 1/2-11 1/2	68.5	50	160	160
EGE06S1/4NPT	M14 x 1.5	1/4-18	37.5	14	630	630
EGE08S1/4NPT	M16 x 1.5	1/4-18	38.0	14	630	630
EGE10S3/8NPT	M18 x 1.5	3/8-18	40.5	19	630	630
EGE12S3/8NPT	M20 x 1.5	3/8-18	42.0	19	630	630
EGE14S1/2NPT	M22 x 1.5	1/2-14	50.5	22	630	630
EGE16S1/2NPT	M24 x 1.5	1/2-14	51.0	22	400	400
EGE20S3/4NPT	M30 x 2	3/4-14	54.0	27	400	400
EGE25S1NPT	M36 x 2	1-11 1/2	63.5	36	400	400
EGE30S11/4NPT	M42 x 2	1 1/4-11 1/2	70.5	46	400	400
EGE38S11/2NPT	M52 x 2	1 1/2-11 1/2	73.5	50	315	315

Dimensions and pressures for reference only, subject to change.

EGEO

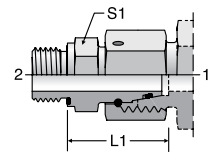
Swivel Connector
Metric ISO 6149 / Flareless Swivel



TUBE FITTING PART #	END SIZE		L (mm)	S1 (mm)	Pressure Rating (bar)	
	1	2			EO	
	Metric	Metric			CF	71
EGEO06LM	M12 x 1.5	M10 x 1	24.5	14	500	315
EGEO08LM	M14 x 1.5	M12 x 1.5	26.5	17	500	315
EGEO10LM	M16 x 1.5	M14 x 1.5	27.5	19	500	315
EGEO12LM	M18 x 1.5	M16 x 1.5	30.5	22	400	315
EGEO15LM	M22 x 1.5	M18 x 1.5	31.5	24	400	315
EGEO18LM	M26 x 1.5	M22 x 1.5	31.5	27	400	315
EGEO22LM27X2	M30 x 2	M27 x 2	32.5	32	250	160
EGEO28LM	M36 x 2	M33 x 2	35.0	41	250	160
EGEO35LM	M45 x 2	M42 x 2	42.5	50	250	160
EGEO08SM	M16 x 1.5	M14 x 1.5	29.5	19	800	630
EGEO10SM	M18 x 1.5	M16 x 1.5	32.0	22	800	630
EGEO12SM	M20 x 1.5	M18 x 1.5	34.0	24	630	630
EGEO16SM	M24 x 1.5	M22 x 1.5	37.0	27	630	400
EGEO20SM	M30 x 2	M27 x 2	43.0	32	420	400
EGEO25SM	M36 x 2	M33 x 2	48.0	41	420	400
EGEO30SM	M42 x 2	M42 x 2	51.0	50	420	400

EGE-R-ED

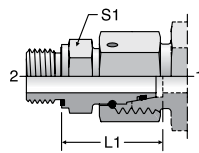
Swivel Connector
Flareless Swivel / BSPP with EOlastic Seal



TUBE FITTING PART #	END SIZE		L1 (mm)	S1 (mm)	Pressure Rating (bar)	
	1	2			EO	
	Metric	BSPP			CF	71
EGEO6LRED	M12 x 1.5	G 1/8A	24.5	14	500	315
EGEO8LRED	M14 x 1.5	G 1/4A	29.5	19	500	315
EGEO10LRED	M16 x 1.5	G 1/4A	27.5	19	500	315
EGEO12LRED	M18 x 1.5	G 3/8A	34.0	22	400	315
EGEO15LRED	M22 x 1.5	G 1/2A	32.0	27	400	315
EGEO18LRED	M26 x 1.5	G 1/2A	31.5	27	400	315
EGEO22LRED	M30 x 2	G 3/4A	32.5	32	250	160
EGEO28LRED	M36 x 2	G 1A	35.0	41	250	160
EGEO35LRED	M45 x 2	G 1 1/4A	42.5	50	250	160
EGEO42LRED	M52 x 2	G 1 1/2A	46.5	55	250	160
EGEO6SRED	M14 x 1.5	G 1/4A	27.0	19	800	630
EGEO8SRED	M16 x 1.5	G 1/4A	29.5	19	800	630
EGEO10SRED	M18 x 1.5	G 3/8A	32.0	22	800	630
EGEO12SRED	M20 x 1.5	G 3/8A	34.0	22	630	630
EGEO14SRED	M22 x 1.5	G 1/2A	36.5	27	630	630
EGEO16SRED	M24 x 1.5	G 1/2A	37.0	27	630	400
EGEO20SRED	M30 x 2	G 3/4A	43.0	32	420	400
EGEO25SRED	M36 x 2	G 1A	48.0	41	420	400
EGEO30SRED	M42 x 2	G 1 1/4A	51.0	50	420	400
EGEO38SRED	M52 x 2	G 1 1/2A	60.0	55	420	315

EGE-M-ED

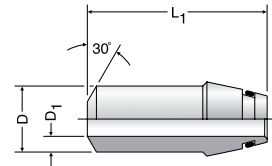
Swivel Connector
Flareless Swivel / Metric with EOlastic Seal



TUBE FITTING PART #	END SIZE		L1 (mm)	S1 (mm)	Pressure Rating (bar)	
	1	2			EO	
	Metric	Metric			CF	71
EGEO6LMED	M12 x 1.5	M10 x 1	24.5	14	500	315
EGEO8LMED	M14 x 1.5	M12 x 1.5	26.5	17	500	315
EGEO10LMED	M16 x 1.5	M14 x 1.5	27.5	19	500	315
EGEO12LMED	M18 x 1.5	M16 x 1.5	30.5	22	400	315
EGEO15LMED	M22 x 1.5	M18 x 1.5	31.5	24	400	315
EGEO18LMED	M26 x 1.5	M22 x 1.5	31.5	27	400	315
EGEO22LMED	M30 x 2	M26 x 1.5	32.5	32	250	160
EGEO28LMED	M36 x 2	M33 x 2	35.0	41	250	160
EGEO35LMED	M45 x 2	M42 x 2	42.5	50	250	160
EGEO42LMED	M52 x 2	M48 x 2	46.5	55	250	160
EGEO6SMED	M14 x 1.5	M12 x 1.5	27.0	17	800	630
EGEO8SMED	M16 x 1.5	M14 x 1.5	29.5	19	800	630
EGEO10SMED	M18 x 1.5	M16 x 1.5	32.0	22	800	630
EGEO12SMED	M20 x 1.5	M18 x 1.5	34.0	24	630	630
EGEO14SMED	M22 x 1.5	M20 x 1.5	36.5	27	630	630
EGEO16SMED	M24 x 1.5	M22 x 1.5	37.0	27	630	400
EGEO20SMED	M30 x 2	M27 x 2	43.0	32	420	400
EGEO25SMED	M36 x 2	M33 x 2	48.0	41	420	400
EGEO30SMED	M42 x 2	M42 x 2	51.0	50	420	400
EGEO38SMED	M52 x 2	M48 x 2	60.0	55	420	315

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

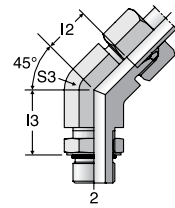
Note: Weld fitting. Omit "CF" in the part number for steel material. Part does not include the tube nut. Size 10 and 12 SKA will work for Series L & S

Dimensions and pressures for reference only, subject to change.



VEE-UNF

Adjustable Locknut 45° Elbow
24° Flareless / SAE-ORB

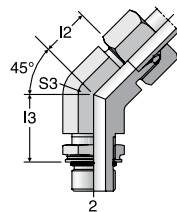


TUBE FITTING PART #	END SIZE		I 2 (mm)	I 3 (mm)	S3 (mm)	Pressure Rating (bar)			
	1 (mm)	2 UN/UNF-2A				EO		EO-2	
						CF	71	CF	71
VEE06L7/16UNF	6	7/16-20	9	19	14	315	315	315	315
VEE08L7/16UNF	8	7/16-20	12	19	14	315	315	315	315
VEE10L7/16UNF	10	9/16-18	12	24	19	315	315	315	315
VEE12L9/16UNF	12	9/16-18	14	24	19	315	315	315	315
VEE12L3/4UNF	12	3/4-16	14	24	19	315	315	315	315
VEE15L3/4UNF	15	3/4-16	17	24	22	315	315	315	315
VEE15L7/8UNF	15	7/8-14	17	24	22	315	315	315	315
VEE18L7/8UNF	18	7/8-14	17	30	27	315	315	315	315
VEE18L11/16UN	18	1 1/16-12	17	30	30	315	315	315	315
VEE22L11/16UN	22	1 1/16-12	19	33	30	160	160	160	160
VEE28L15/16UN	28	1 5/16-12	23	35	36	160	160	160	160
VEE35L15/8UN	35	1 5/8-12	27	37	50	160	160	160	160
VEE42L17/8UN	42	1 7/8-12	26	37	50	160	160	160	160
VEE06S7/16UNF	6	7/16-20	9	18	14	400	400	400	400
VEE08S9/16UNF	8	9/16-18	12	21	19	400	400	400	400
VEE10S9/16UNF	10	9/16-18	13	21	19	400	400	400	400
VEE12S3/4UNF	12	3/4-16	17	22	22	400	400	400	400
VEE16S7/8UNF	16	7/8-14	16	29	27	400	400	400	400
VEE20S11/16UN	20	1 1/16-12	16	31	30	400	400	400	400
VEE25S11/16UN	25	1 1/16-12	30	33	36	400	400	400	400
VEE30S15/8UN	30	1 5/8-12	24	35	50	250	250	250	250
VEE38S17/8UN	38	1 7/8-12	21	35	50	250	250	250	250

For EO-2 part number, insert "Z" between size and pressure series.
Example: VEE06ZL7/16UNFCF

VEE-OR

Adjustable Locknut 45° Elbow
24° Flareless / Metric ISO 6149



TUBE FITTING PART #	END SIZE		I 2 (mm)	I 3 (mm)	S3 (mm)	Pressure Rating (bar)			
	1 (mm)	2 Metric				EO		EO-2	
						CF	71	CF	71
VEE06LMOR	6	M10 x 1	9	20	14	315	315	315	315
VEE08LMOR	8	M12 x 1.5	12	18	14	315	315	315	315
VEE10LMOR	10	M14 x 1.5	12	22	19	315	315	315	315
VEE12LMOR	12	M16 x 1.5	14	23	19	315	315	315	315
VEE15LMOR	15	M18 x 1.5	17	23	22	315	315	315	315
VEE18LMOR	18	M22 x 1.5	17	30	27	315	315	315	315
VEE22LM27X2OR	22	M27 x 2	19	30	30	160	160	160	160
VEE28LMOR	28	M33 x 2	23	34	36	160	160	160	160
VEE35LMOR	35	M42 x 2	27	36	50	160	160	160	160
VEE42LMOR	42	M48 x 2	26	36	50	160	160	160	160
VEE06SMOR	6	M12 x 1.5	9	18	14	400	400	400	400
VEE08SMOR	8	M14 x 1.5	12	18	19	400	400	400	400
VEE10SMOR	10	M16 x 1.5	13	22	19	400	400	400	400
VEE12SMOR	12	M18 x 1.5	17	23	22	400	400	400	400
VEE16SMOR	16	M22 x 1.5	16	20	27	400	400	400	400
VEE20SMOR	20	M27 x 2	16	33	30	400	400	400	400
VEE25SMOR	25	M33 x 2	19	35	36	315	315	315	315
VEE30SMOR	30	M42 x 2	24	36	50	250	250	250	250
VEE38SMOR	38	M48 x 2	21	36	50	200	200	200	200

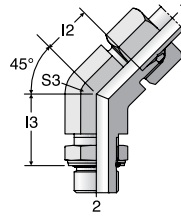
For EO-2 part number, insert "Z" between size and pressure series.
Example: VEE06ZLMORCF

Dimensions and pressures for reference only, subject to change.



VEE-R

Adjustable Locknut 45° Elbow
24° Flareless / BSPP ORR

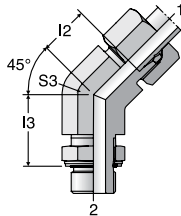


TUBE FITTING PART #	END SIZE		I 2 (mm)	I 3 (mm)	S 3 (mm)	Pressure Rating (bar)			
	1 (mm)	2 BSPP				EO		EO-2	
						CF	71	CF	71
VEE06LR	6	G 1/8A	9	21	14	315	315	315	315
VEE08LR	8	G 1/4A	12	20	14	315	315	315	315
VEE10LR	10	G 1/4A	12	25	19	315	315	315	315
VEE12LR	12	G 3/8A	14	28	19	250	250	250	250
VEE15LR	15	G 1/2A	17	26	22	250	250	250	250
VEE18LR	18	G 1/2A	17	32	27	250	250	250	250
VEE22LR	22	G 3/4A	19	37	30	160	160	160	160
VEE28LR	28	G 1A	23	37	36	160	160	160	160
VEE35LR	35	G 1 1/4A	27	39	50	160	160	160	160
VEE42LR	42	G 1 1/2A	26	39	50	160	160	160	160
VEE06SR	6	G 1/4A	9	19	14	315	315	315	315
VEE08SR	8	G 1/4A	12	23	19	315	315	315	315
VEE10SR	10	G 3/8A	13	25	19	250	250	250	250
VEE12SR	12	G 3/8A	17	25	22	250	250	250	250
VEE16SR	16	G 1/2A	16	31	27	250	250	250	250
VEE20SR	20	G 3/4A	16	34	30	250	250	250	250
VEE25SR	25	G 1A	19	37	36	250	250	250	250
VEE30SR	30	G 1 1/4A	24	38	50	160	160	160	160
VEE38SR	38	G 1 1/2A	21	38	50	160	160	160	160

For EO-2 part number, insert "Z" between size and pressure series.
Example: VEE06ZLRFCF

VEE-M

Adjustable Locknut 45° Elbow
24° Flareless / Metric ORR



TUBE FITTING PART #	END SIZE		I 2 (mm)	I 3 (mm)	S 3 (mm)	Pressure Rating (bar)			
	1 (mm)	2 Metric				EO		EO-2	
						CF	71	CF	71
VEE06LM	6	M10 x 1	9	21	14	315	315	315	315
VEE08LM	8	M12 x 1.5	12	19	14	315	315	315	315
VEE10LM	10	M14 x 1.5	12	24	19	315	315	315	315
VEE12LM	12	M16 x 1.5	14	25	19	315	315	315	315
VEE15LM	15	M18 x 1.5	17	24	22	315	315	315	315
VEE18LM	18	M22 x 1.5	17	31	27	250	250	250	250
VEE22LM27X2	22	M27 x 2	19	31	30	160	160	160	160
VEE28LM	28	M33 x 2	23	35	36	160	160	160	160
VEE35LM	35	M42 x 2	27	37	50	160	160	160	160
VEE42LM	42	M48 x 2	26	37	50	160	160	160	160
VEE06SM	6	M12 x 1.5	9	19	14	315	315	315	315
VEE08SM	8	M14 x 1.5	12	19	19	315	315	315	315
VEE10SM	10	M16 x 1.5	13	23	19	315	315	315	315
VEE12SM	12	M18 x 1.5	17	25	22	315	315	315	315
VEE16SM	16	M22 x 1.5	16	30	27	250	250	250	250
VEE20SM	20	M27 x 2	16	35	30	250	250	250	250
VEE25SM	25	M33 x 2	19	37	36	160	160	160	160
VEE30SM	30	M42 x 2	24	37	50	160	160	160	160
VEE38SM	38	M48 x 2	21	38	50	160	160	160	160

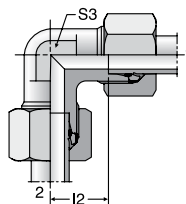
For EO-2 part number, insert "Z" between size and pressure series.
Example: VEE06ZLMCF

Dimensions and pressures for reference only, subject to change.



W

Elbow Union
24° Flareless / 24° Flareless



TUBE FITTING PART #	END SIZE			S3 (Stainless Steel) (mm)	Pressure Rating (bar)				
	1 & 2 (mm)	12 (mm)	S3 (mm)		EO			EO-2	
					CF	71	MS	CF	71
*W04LL	4	11	9	9	100	100	63	100	100
*W06LL	6	9.5	11	9	100	100	63	100	100
*W08LL	8	11.5	12	12	100	100	63	100	100
*W10LL	10	12.5	14	12	100	100	63	100	100
*W12LL	12	13	17	14	100	100	63	100	100
*W06L	6	12	12	12	500	315	200	500	315
*W08L	8	14	14	12	500	315	200	500	315
*W10L	10	15	17	14	500	315	200	500	315
*W12L	12	17	19	19	400	315	200	400	315
W15L	15	21	19	19	400	315	200	400	315
W18L	18	23.5	24	24	400	315	200	400	315
W22L	22	27.5	27	27	250	160	100	250	160
W28L	28	30.5	36	36	250	160	100	250	160
W35L	35	34.5	41	41	250	160	100	250	160
W42L	42	40	50	50	250	160	100	250	160
*W06S	6	16	14	12	800	630	400	800	630
*W08S	8	17	17	14	800	630	400	800	630
*W10S	10	17.5	19	17	500	630	400	500	630
*W12S	12	21.5	22	17	630	630	400	630	630
W14S	14	22	19	19	630	630	400	630	630
W16S	16	24.5	24	24	630	400	250	630	400
W20S	20	26.5	27	27	420	400	250	420	400
W25S	25	30	36	36	420	400	250	420	400
W30S	30	35.5	41	41	420	400	250	420	400
W38S	38	41	50	50	420	315	200	420	315

* Extruded body for steel and brass .

For EO-2 part number, insert "Z" between size and pressure series.

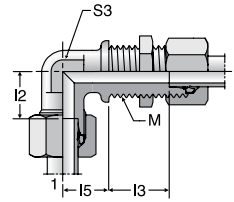
Example: W04ZLLCF

Dimensions and pressures for reference only, subject to change.



WSV

Bulkhead Union Elbow
24° Flareless / 24° Flareless

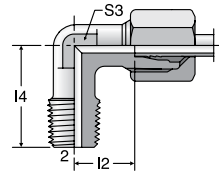


TUBE FITTING PART #	END SIZE 1 & 2 (mm)	M Metric	I 2 (mm)	I 3 (mm)	I 5 (mm)	S3 (mm)	Pressure Rating (bar)					
							EO			EO-2		
							CF	71	MS	CF	71	
WSV06L	6	M12 x 1.5	12.0	27.0	14	12	315	315	200	315	315	
WSV08L	8	M14 x 1.5	14.0	27.0	17	12	315	315	200	315	315	
WSV10L	10	M16 x 1.5	15.0	28.0	18	14	315	315	200	315	315	
WSV12L	12	M18 x 1.5	17.0	29.0	20	17	315	315	200	315	315	
WSV15L	15	M22 x 1.5	21.0	31.0	23	19	315	315	200	315	315	
WSV18L	18	M26 x 1.5	23.5	32.5	24	24	315	315	200	315	315	
WSV22L	22	M30 x 2	27.5	34.5	30	27	160	160	100	160	160	
WSV28L	28	M36 x 2	30.5	35.5	34	36	160	160	100	160	160	
WSV35L	35	M45 x 2	34.5	36.5	39	41	160	160	100	160	160	
WSV42L	42	M52 x 2	40.0	36.0	43	50	160	160	100	160	160	
WSV06S	6	M14 x 1.5	16.0	29.0	17	12	630	630	400	630	630	
WSV08S	8	M16 x 1.5	17.0	29.0	18	14	630	630	400	630	630	
WSV10S	10	M18 x 1.5	17.5	29.5	20	17	630	630	400	630	630	
WSV12S	12	M20 x 1.5	21.5	30.5	21	17	630	630	400	630	630	
WSV14S	14	M22 x 1.5	22.0	32.0	23	19	630	630	400	630	630	
WSV16S	16	M24 x 1.5	24.5	31.5	24	24	400	400	250	400	400	
WSV20S	20	M30 x 2	26.5	33.5	30	27	400	400	250	400	400	
WSV25S	25	M36 x 2	30.0	35.0	34	36	400	400	250	400	400	
WSV30S	30	M42 x 2	35.5	37.5	39	41	400	400	250	400	400	
WSV38S	38	M52 x 2	41.0	37.0	43	50	315	315	200	315	315	

For EO-2 part number, insert "Z" between size and pressure series.
Example: WSV06ZLCF

WE-NPT

Male Elbow
24° Flareless / NPT



TUBE FITTING PART #	END SIZE		I 2 (mm)	I 4 (mm)	S3 (mm)	S3 Stainless Steel (mm)	Pressure Rating (bar)		
	1 (mm)	2 NPT					EO		
							CF	71	MS
* WE04LL1/8NPT	4	1/8-27	11.0	17	11	9	100	100	65
* WE06LL1/8NPT	6	1/8-27	9.5	17	11	9	100	100	65
* WE08LL1/8NPT	8	1/8-27	11.5	20	12	12	100	100	65
* WE06L1/8NPT	6	1/8-27	12.0	20	12	12	315	315	200
* WE06L1/4NPT	6	1/4-18	14.0	26	14	12	315	315	200
* WE08L1/4NPT	8	1/4-18	14.0	26	14	12	315	315	200
* WE10L1/4NPT	10	1/4-18	15.0	27	17	14	315	315	200
* WE12L3/8NPT	12	3/8-18	17.0	28	19	17	315	315	200
* WE12L1/4NPT	12	1/4-18	17.0	28	19	17	315	315	200
WE12L1/2NPT	12	1/2-14	21.0	34	19	19	315	315	200
WE15L1/2NPT	15	1/2-14	21.0	34	19	19	315	315	200
WE18L1/2NPT	18	1/2-14	23.5	36	24	24	315	315	200
WE22L3/4NPT	22	3/4-14	27.5	42	27	27	160	160	100
WE28L1NPT	28	1-11 1/2	30.5	48	36	36	160	160	100
WE35L11/4NPT	35	1 1/4-11 1/2	34.5	54	41	41	160	160	100
WE42L11/2NPT	42	1 1/2-11 1/2	40.0	61	50	50	160	160	100
* WE06S1/4NPT	6	1/4-18	16.0	26	14	12	630	630	400
* WE08S1/4NPT	8	1/4-18	17.0	27	17	14	630	630	400
* WE10S3/8NPT	10	3/8-18	17.5	28	19	17	630	630	400
* WE12S3/8NPT	12	3/8-18	22.5	28	22	17	630	630	400
WE14S1/2NPT	14	1/2-14	22.0	34	19	19	630	630	400
WE16S1/2NPT	16	1/2-14	24.5	36	24	24	400	400	250
WE20S3/4NPT	20	3/4-14	26.5	42	27	27	400	400	250
WE25S1NPT	25	1-11 1/2	30.0	48	36	36	400	400	250
WE30S11/4NPT	30	1 1/4-11 1/2	35.5	54	41	41	400	400	250
WE38S11/2NPT	38	1 1/2-11 1/2	41.0	61	50	50	315	315	200

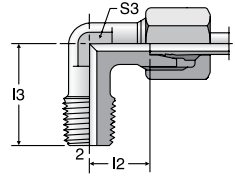
* Extruded body for steel and brass.

Dimensions and pressures for reference only, subject to change.



WE-R keg

Male Elbow
24° Flareless / BSPT



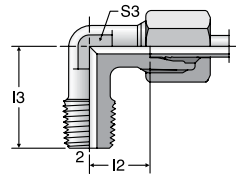
TUBE FITTING PART #	END SIZE		I 2 (mm)	I 3 (mm)	S3 (mm)	S3 Stainless Steel (mm)	Pressure Rating (bar)		
	1 (mm)	2 BSPT					EO		
							CF	71	MS
* WE04LLR	4	R1/8 keg.	11.0	17	11	9	100	100	63
* WE06LLR	6	R1/8 keg.	9.5	17	11	9	100	100	63
* WE08LLR	8	R1/8 keg.	11.5	20	12	12	100	100	63
* WE10LLR	10	R1/4 keg.	12.5	23	14	12	100	100	63
* WE12LLR	12	R1/4 keg.	13.0	23	17	14	100	100	63
* WE06LR	6	R1/8 keg.	12.0	20	12	12	315	315	200
* WE08LR	8	R1/4 keg.	14.0	26	14	12	315	315	200
* WE10LR	10	R1/4 keg.	15.0	27	17	14	315	315	200
* WE12LR	12	R3/8 keg.	17.0	28	19	17	315	315	200
* WE12LR1/4	12	R1/4 keg.	17.0	27	19	17	315	315	200
WE15LR	15	R1/2 keg.	21.0	34	19	19	315	315	200
WE18LR	18	R1/2 keg.	23.5	36	24	24	315	315	200
WE22LR3/4KEG	22	R3/4 keg.	27.5	42	27	27	160	160	100
* WE06SR	6	R1/4 keg.	16.0	26	14	12	400	400	250
* WE08SR	8	R1/4 keg.	17.0	27	17	14	400	400	250
* WE10SR	10	R3/8 keg.	17.5	28	19	17	400	400	250
* WE12SR	12	R3/8 keg.	21.5	28	22	17	400	400	250
WE14SR	14	R1/2 keg.	22.0	32	19	19	400	400	250
WE16SR	16	R1/2 keg.	24.5	32	24	24	400	400	250

* Extruded body for steel and brass.

Note: keg. refers to taper threads.

WE-M keg

Male Elbow
24° Flareless / Metric Taper Thread



TUBE FITTING PART #	END SIZE		I 2 (mm)	I 3 (mm)	S3 (mm)	S3 Stainless Steel (mm)	Pressure Rating (bar)		
	1 (mm)	2 Metric					EO		
							CF	71	MS
* WE06LLM	6	M10 x 1 keg.	9.5	17	11	9	100	100	63
* WE08LLM	8	M10 x 1 keg.	11.5	20	12	12	100	100	63
* WE06LM	6	M10 x 1 keg.	12.0	20	12	12	315	315	200
* WE08LM	8	M12 x 1.5 keg.	14.0	26	14	12	315	315	200
* WE10LM	10	M14 x 1.5 keg.	15.0	27	17	14	315	315	200
* WE12LM	12	M16 x 1.5 keg.	17.0	28	19	17	315	315	200
WE15LM	15	M18 x 1.5 keg.	21.0	32	19	19	315	315	200
WE18LM	18	M22 x 1.5 keg.	23.0	36	24	24	315	315	200
* WE06SM	6	M12 x 1.5 keg.	16.0	26	14	12	400	400	250
* WE08SM	8	M14 x 1.5 keg.	17.0	27	17	14	400	400	250
* WE10SM	10	M16 x 1.5 keg.	17.5	28	19	17	400	400	250
* WE12SM	12	M18 x 1.5 keg.	21.5	28	22	17	400	400	250
WE14SM	14	M20 x 1.5 keg.	22.0	32	19	19	400	400	250
WE16SM	16	M22 x 1.5 keg.	24.5	32	24	24	400	400	250

* Extruded body for steel and brass.

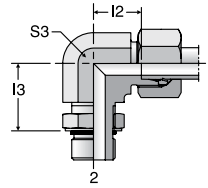
Note: keg. refers to taper threads.

Dimensions and pressures for reference only, subject to change.



WEE-UNF

Adjustable Locknut Elbow
24° Flareless / SAE-ORB

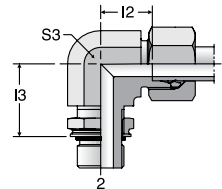


TUBE FITTING PART #	END SIZE		I2 (mm)	I3 (mm)	S3 (mm)	Pressure Rating (bar)			
	1 (mm)	2 UN / UNF				EO		EO-2	
						CF	71	CF	71
WEE06L7/16UNF	6	7/16-20	14	19	14	315	315	315	315
WEE08L7/16UNF	8	7/16-20	16	19	14	315	315	315	315
WEE10L9/16UNF	10	9/16-18	17	24	19	315	315	315	315
WEE12L9/16UNF	12	9/16-18	19	25	19	315	315	315	315
WEE12L3/4UNF	12	3/4-16	19	25	19	315	315	315	315
WEE15L3/4UNF	15	3/4-16	21	28	22	315	315	315	315
WEE15L7/8UNF	15	7/8-14	21	28	22	315	315	315	315
WEE18L7/8UNF	18	7/8-14	24	32	27	315	315	315	315
WEE18L11/16UN	18	1 1/16-12	24	32	30	315	315	315	315
WEE22L11/16UN	22	1 1/16-12	28	35	30	160	160	160	160
WEE28L15/16UN	28	1 5/16-12	31	42	36	160	160	160	160
WEE35L15/8UN	35	1 5/8-12	38	46	50	160	160	160	160
WEE42L17/8UN	42	1 7/8-12	38	47	50	160	160	160	160
WEE06S7/16UNF	6	7/16-20	15	20	14	400	400	400	400
WEE08S9/16UNF	8	9/16-18	17	25	19	400	400	400	400
WEE10S9/16UNF	10	9/16-18	18	26	19	400	400	400	400
WEE12S3/4UNF	12	3/4-16	22	30	22	400	400	400	400
WEE16S7/8UNF	16	7/8-14	25	34	27	400	400	400	400
WEE20S11/16UN	20	1 1/16-12	28	37	30	400	400	400	400
WEE25S11/16UN	25	1 1/16-12	30	50	36	400	400	400	400
WEE30S15/8UN	30	1 5/8-12	36	50	50	250	250	250	250
WEE38S17/8UN	38	1 7/8-12	34	51	50	250	250	250	250

For EO-2 part number, insert "Z" between size and pressure series.
Example: WEE06ZL7/16UNFCF

WEE-OR

Adjustable Locknut Elbow
24° Flareless / Metric ISO 6149



TUBE FITTING PART #	END SIZE		I2 (mm)	I3 (mm)	S3 (mm)	Pressure Rating (bar)			
	1 (mm)	2 Metric				EO		EO-2	
						CF	71	CF	71
WEE04LLMOR	4	M8 x 1	11.3	19.8	12	100	100	100	100
WEE04LLM10X1OR	4	M10 x 1	11.3	19.8	11	100	100	100	100
WEE06LLMOR	6	M10 x 1	9.8	19.8	14	100	100	100	100
WEE06LLM12X1.5OR	6	M12 x 1.5	12.8	23.2	14	100	100	100	100
WEE06LMOR	6	M10 x 1	14.0	20.0	14	315	315	315	315
WEE08LMOR	8	M12 x 1.5	16.0	22.0	14	315	315	315	315
WEE10LMOR	10	M14 x 1.5	17.0	25.0	19	315	315	315	315
WEE12LMOR	12	M16 x 1.5	19.0	26.0	19	315	315	315	315
WEE15LMOR	15	M18 x 1.5	21.0	30.0	22	315	315	315	315
WEE18LMOR	18	M22 x 1.5	24.0	33.0	27	315	315	315	315
WEE22LM27X2OR	22	M27 x 2	28.0	35.0	30	160	160	160	160
WEE28LMOR	28	M33 x 2	31.0	38.0	36	160	160	160	160
WEE35LMOR	35	M42 x 2	38.0	48.0	50	160	160	160	160
WEE42LMOR	42	M48 x 2	38.0	49.0	50	160	160	160	160
WEE06SMOR	6	M12 x 1.5	15.0	22.0	14	400	400	400	400
WEE08SMOR	8	M14 x 1.5	17.0	26.0	19	400	400	400	400
WEE10SMOR	10	M16 x 1.5	18.0	27.0	19	400	400	400	400
WEE12SMOR	12	M18 x 1.5	22.0	31.0	22	400	400	400	400
WEE16SMOR	16	M22 x 1.5	25.0	35.0	27	400	400	400	400
WEE20SMOR	20	M27 x 2	28.0	39.0	30	400	400	400	400
WEE25SMOR	25	M33 x 2	30.0	44.0	36	315	315	315	315
WEE30SMOR	30	M42 x 2	36.0	51.0	50	250	250	250	250
WEE38SMOR	38	M48 x 2	34.0	54.0	50	200	200	200	200

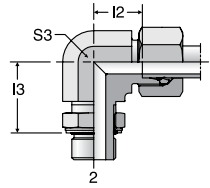
For EO-2 part number, insert "Z" between size and pressure series.
Example: WEE04ZLLMORCF

Dimensions and pressures for reference only, subject to change.



WEE-R

Adjustable Locknut Elbow
24° Flareless / BSPP ORR

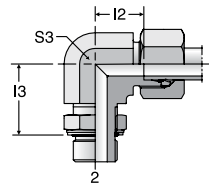


TUBE FITTING PART #	END SIZE		I 2 (mm)	I 3 (mm)	S 3 (mm)	Pressure Rating (bar)			
	1 (mm)	2 BSPP				EO		EO-2	
						CF	71	CF	71
WEE04LLR	4	G 1/8A	11	20	11	250	250	250	250
WEE06LLR	6	G 1/8A	11	20	11	250	250	250	250
WEE06LR	6	G 1/8A	14	19	14	315	315	315	315
WEE08LR	8	G 1/4A	16	23	14	315	315	315	315
WEE10LR	10	G 1/4A	17	25	19	315	315	315	315
WEE12LR	12	G 3/8A	19	28	19	250	250	250	250
WEE15LR	15	G 1/2A	21	30	22	250	250	250	250
WEE18LR	18	G 1/2A	24	36	27	250	250	250	250
WEE22LR	22	G 3/4A	28	36	30	160	160	160	160
WEE28LR	28	G 1A	31	44	36	160	160	160	160
WEE35LR	35	G 1 1/4A	38	50	50	160	160	160	160
WEE42LR	42	G 1 1/2A	38	52	50	160	160	160	160
WEE06SR	6	G 1/4A	15	23	14	315	315	315	315
WEE08SR	8	G 1/4A	17	27	19	315	315	315	315
WEE10SR	10	G 3/8A	18	29	19	250	250	250	250
WEE12SR	12	G 3/8A	22	29	22	250	250	250	250
WEE16SR	16	G 1/2A	25	36	27	250	250	250	250
WEE20SR	20	G 3/4A	28	39	30	250	250	250	250
WEE25SR	25	G 1A	30	44	36	250	250	250	250
WEE30SR	30	G 1 1/4A	36	49	50	160	160	160	160
WEE38SR	38	G 1 1/2A	34	55	50	160	160	160	160

For EO-2 part number, insert "Z" between size and pressure series.
Example: WEE04ZLLRCF

WEE-M

Adjustable Locknut Elbow
24° Flareless / Metric ORR



TUBE FITTING PART #	END SIZE		I 2 (mm)	I 3 (mm)	S 3 (mm)	Pressure Rating (bar)			
	1 (mm)	2 Metric				EO		EO-2	
						CF	71	CF	71
WEE06LM	6	M10 x 1	14	20	14	315	315	315	315
WEE08LM	8	M12 x 1.5	16	22	14	315	315	315	315
WEE10LM	10	M14 x 1.5	17	24	19	315	315	315	315
WEE12LM	12	M16 x 1.5	19	25	19	315	315	315	315
WEE15LM	15	M18 x 1.5	21	31	22	315	315	315	315
WEE18LM	18	M22 x 1.5	24	33	27	250	250	250	250
WEE22LM27X2	22	M27 x 2	28	36	30	160	160	160	160
WEE28LM	28	M33 x 2	31	39	36	160	160	160	160
WEE35LM	35	M42 x 2	38	49	50	160	160	160	160
WEE42LM	42	M48 x 2	38	50	50	160	160	160	160
WEE06SM	6	M12 x 1.5	15	22	14	315	315	315	315
WEE08SM	8	M14 x 1.5	17	26	19	315	315	315	315
WEE10SM	10	M16 x 1.5	18	27	19	315	315	315	315
WEE12SM	12	M18 x 1.5	22	31	22	315	315	315	315
WEE16SM	16	M22 x 1.5	25	36	27	250	250	250	250
WEE20SM	20	M27 x 2	28	39	30	250	250	250	250
WEE25SM	25	M33 x 2	30	44	36	160	160	160	160
WEE30SM	30	M42 x 2	36	51	50	160	160	160	160
WEE38SM	38	M48 x 2	34	54	50	160	160	160	160

For EO-2 part number, insert "Z" between size and pressure series.
Example: WEE06ZLMCF

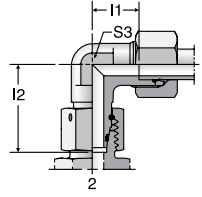
Dimensions and pressures for reference only, subject to change.



EW

Swivel Nut Elbow

24° Flareless / Flareless Swivel



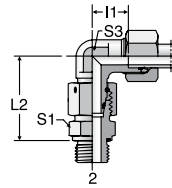
TUBE FITTING PART #	END SIZE		I 1 (mm)	I 2 (mm)	S 3 (mm)	Pressure Rating (bar)			
	1 (mm)	2 Metric				EO		EO-2	
						CF	71	CF	71
EW06L	6	M12 x 1.5	12.0	26.0	12	500	315	500	315
EW08L	8	M14 x 1.5	14.0	27.5	12	500	315	500	315
EW10L	10	M16 x 1.5	15.0	29.0	14	500	315	500	315
EW12L	12	M18 x 1.5	17.0	29.5	17	400	315	400	315
EW15L	15	M22 x 1.5	21.0	32.5	19	400	315	400	315
EW18L	18	M26 x 1.5	23.5	35.5	24	400	315	400	315
EW22L	22	M30 x 2	27.5	38.5	27	250	160	250	160
EW28L	28	M36 x 2	30.5	41.5	36	250	160	250	160
EW35L	35	M45 x 2	34.5	51.0	41	250	160	250	160
EW42L	42	M52 x 2	40.0	56.0	50	250	160	250	160
EW06S	6	M14 x 1.5	16.0	27.0	12	800	630	800	630
EW08S	8	M16 x 1.5	17.0	27.5	14	800	630	800	630
EW10S	10	M18 x 1.5	17.5	30.0	17	800	630	800	630
EW12S	12	M20 x 1.5	21.5	31.0	17	630	630	630	630
EW14S	14	M22 x 1.5	22.0	35.0	19	630	630	630	630
EW16S	16	M24 x 1.5	24.5	36.5	24	630	400	630	400
EW20S	20	M30 x 2	26.5	44.5	27	420	400	420	400
EW25S	25	M36 x 2	30.0	50.0	36	420	400	420	400
EW30S	30	M42 x 2	35.5	55.0	41	420	400	420	400
EW38S	38	M52 x 2	41.0	63.0	50	420	315	420	315

For EO-2 part number, insert "Z" between size and pressure series.
Example: EW06ZLCF

Dimensions and pressures for reference only, subject to change.

EW-R-ED

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

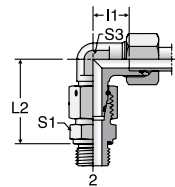


TUBE FITTING PART #	END SIZE		I 1 (mm)	L 2 (mm)	S 1 (mm)	S 3 (mm)	Pressure Rating (bar)			
	1 (mm)	2 BSPP					EO		EO-2	
							CF	71	CF	71
EW06LRED	6	G 1/8 A	12.0	34.5	14	12	500	315	500	315
EW08LRED	8	G 1/4 A	14.0	37.5	19	12	500	315	500	315
EW10LRED	10	G 1/4 A	15.0	40.0	19	14	500	315	500	315
EW12LRED	12	G 3/8 A	17.0	42.0	22	17	400	315	400	315
EW15LRED	15	G 1/2 A	21.0	46.5	27	19	400	315	400	315
EW18LRED	18	G 1/2 A	23.5	50.0	27	24	400	315	400	315
EW22LRED	22	G 3/4 A	27.5	55.0	32	27	250	160	250	160
EW28LRED	28	G 1 A	30.5	59.0	41	36	250	160	250	160
EW35LRED	35	G 1 1/4 A	34.5	68.5	50	41	250	160	250	160
EW42LRED	42	G 1 1/2 A	40.0	75.0	55	50	250	160	250	160
EW06SRED	6	G 1/4 A	16.0	40.0	19	12	800	630	800	630
EW08SRED	8	G 1/4 A	17.0	42.5	19	14	800	630	800	630
EW10SRED	10	G 3/8 A	17.5	45.0	22	17	800	630	800	630
EW12SRED	12	G 3/8 A	21.5	48.0	22	17	630	630	630	630
EW14SRED	14	G 1/2 A	22.0	54.0	27	19	630	630	630	630
EW16SRED	16	G 1/2 A	24.5	55.0	27	24	630	400	630	400
EW20SRED	20	G 3/4 A	26.5	65.0	32	27	420	400	420	400
EW25SRED	25	G 1 A	30.0	73.0	41	36	420	400	420	400
EW30SRED	30	G 1 1/4 A	35.5	78.5	50	41	420	400	420	400
EW38SRED	38	G 1 1/2 A	41.0	89.0	55	50	420	315	420	315

For EO-2 part number, insert "Z" between size and pressure series.
Example: EW06ZLREDCF

EW-M-ED

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



TUBE FITTING PART #	END SIZE		I 1 (mm)	L 2 (mm)	S 1 (mm)	S 3 (mm)	Pressure Rating (bar)			
	1 (mm)	2 Metric					EO		EO-2	
							CF	71	CF	71
EW06LMED	6	M10 x 1	12	34.5	14	12	500	315	500	315
EW08LMED	8	M12 x 1.5	14	37.5	17	12	500	315	500	315
EW10LMED	10	M14 x 1.5	15	40.0	19	14	500	315	500	315
EW12LMED	12	M16 x 1.5	17	42.0	22	17	400	315	400	315
EW15LMED	15	M18 x 1.5	21	46.0	24	19	400	315	400	315
EW18LMED	18	M22 x 1.5	23.5	50.0	27	24	400	315	400	315
EW22LMED	22	M26 x 1.5	27.5	55.0	32	27	250	160	250	160
EW28LMED	28	M33 x 2	30.5	59.0	41	36	250	160	250	160
EW35LMED	35	M42 x 2	34.5	68.5	50	41	250	160	250	160
EW42LMED	42	M48 x 2	40	75.0	55	50	250	160	250	160
EW06SMED	6	M12 x 1.5	16	40.0	17	12	800	630	800	630
EW08SMED	8	M14 x 1.5	17	42.5	19	14	800	630	800	630
EW10SMED	10	M16 x 1.5	17.5	45.0	22	17	800	630	800	630
EW12SMED	12	M18 x 1.5	21.5	48.0	24	17	630	630	630	630
EW14SMED	14	M20 x 1.5	22	54.0	27	19	630	630	630	630
EW16SMED	16	M22 x 1.5	24.5	55.0	27	24	630	400	630	400
EW20SMED	20	M27 x 2	26.5	65.0	32	27	420	400	420	400
EW25SMED	25	M33 x 2	30	73.0	41	36	420	400	420	400
EW30SMED	30	M42 x 2	35.5	78.5	50	41	420	400	420	400
EW38SMED	38	M48 x 2	41	89.0	55	50	420	315	420	315

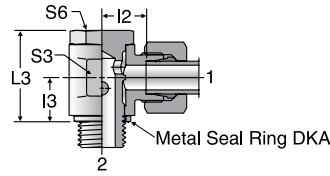
For EO-2 part number, insert "Z" between size and pressure series.
Example: EW06ZLMEDCF

Dimensions and pressures for reference only, subject to change.



SWVE-R

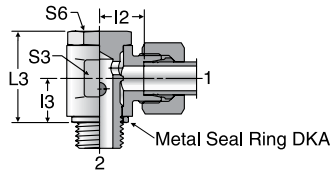
Banjo Elbow
24° Flareless / BSPP



TUBE FITTING PART #	END SIZE		I 2 (mm)	I 3 (mm)	L 3 (mm)	S 3 (mm)	S 6 (mm)	Pressure Rating (bar)	
	1 (mm)	2 BSPP						EO	CF
	SWVE04LLR	4						G 1/8 A	11.5
SWVE06LLR	6	G 1/8 A	10.0	10.0	21.5	14	14	63	
SWVE08LLR	8	G 1/8 A	11.0	10.0	21.0	14	14	63	
SWVE06LR	6	G 1/8 A	10.5	10.0	21.0	14	14	160	
SWVE08LR	8	G 1/4 A	13.0	13.0	27.0	19	19	160	
SWVE10LR	10	G 1/4 A	14.0	13.0	27.0	19	19	160	
SWVE12LR	12	G 3/8 A	15.5	15.0	32.0	22	22	100	
SWVE15LR	15	G 1/2 A	19.0	18.0	37.5	27	27	100	
SWVE18LR	18	G 1/2 A	20.5	21.5	44.5	30	27	100	
SWVE22LR	22	G 3/4 A	25.5	24.0	49.0	36	32	100	
SWVE06SR	6	G 1/4 A	15.0	13.0	27.0	19	19	160	
SWVE08SR	8	G 1/4 A	15.0	13.0	27.0	19	19	160	
SWVE10SR	10	G 3/8 A	16.0	15.0	32.0	22	22	100	
SWVE12SR	12	G 3/8 A	17.0	18.0	37.0	24	24	100	
SWVE14SR	14	G 1/2 A	20.0	18.0	37.5	27	27	100	
SWVE16SR	16	G 1/2 A	21.5	21.5	44.5	30	27	100	
SWVE20SR	20	G 3/4 A	24.5	24.0	49.0	36	32	100	

SWVE-M

Banjo Elbow
24° Flareless / Metric Parallel



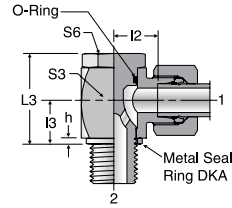
TUBE FITTING PART #	END SIZE		I 2 (mm)	I 3 (mm)	L 3 (mm)	S 3 (mm)	S 6 (mm)	Pressure Rating (bar)	
	1 (mm)	2 Metric						EO	CF
	SWVE04LLM	4						M8 x 1	10.5
SWVE06LLM	6	M10 x 1	10.0	10.0	21.0	14	14	63	
SWVE08LLM	8	M10 x 1	11.0	10.0	21.0	14	14	63	
SWVE06LM	6	M10 x 1	10.5	10.0	21.5	14	14	160	
SWVE08LM	8	M12 x 1.5	12.0	12.0	25.0	17	17	160	
SWVE10LM	10	M14 x 1.5	14.0	13.0	27.0	19	19	160	
SWVE12LM	12	M16 x 1.5	15.5	15.0	32.0	22	21	100	
SWVE15LM	15	M18 x 1.5	17.5	18.0	37.5	24	24	100	
SWVE18LM	18	M22 x 1.5	20.5	21.5	44.5	30	27	100	
SWVE22LM	22	M26 x 1.5	25.5	24.0	49.0	36	32	100	
SWVE06SM	6	M12 x 1.5	14.0	12.0	25.0	17	17	160	
SWVE08SM	8	M14 x 1.5	15.0	13.0	27.0	19	19	160	
SWVE10SM	10	M16 x 1.5	16.0	15.0	32.0	22	22	100	
SWVE12SM	12	M18 x 1.5	17.0	18.0	37.0	24	24	100	
SWVE14SM	14	M20 x 1.5	20.0	18.0	37.0	27	27	100	
SWVE16SM	16	M22 x 1.5	21.5	21.5	44.5	30	27	100	
SWVE20SM	20	M27 x 2	24.5	24.0	49.0	36	32	100	

Dimensions and pressures for reference only, subject to change.



WH-R

High Pressure Banjo Elbow
24° Flareless / BSPP

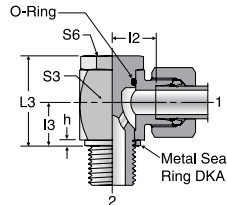


TUBE FITTING PART #	END SIZE		h (mm)	I2 (mm)	I3 (mm)	L3 (mm)	S3 (mm)	S6 (mm)	Pressure Rating (bar)				
	1 (mm)	2 BSPP							EO		EO-2		
									CF	71	MS	CF	71
WH06LR	6	G 1/8 A	2.5	12.0	10.5	24	17	17	250	250	160	250	250
WH08LR	8	G 1/4 A	3.0	14.5	14.0	30	22	19	250	250	160	250	250
WH10LR	10	G 1/4 A	3.0	15.5	14.0	30	22	19	250	250	160	250	250
WH12LR	12	G 3/8 A	3.0	18.0	16.5	36	27	24	250	250	160	250	250
WH15LR	15	G 1/2 A	4.5	21.5	21.5	45	32	30	250	250	160	250	250
WH18LR	18	G 1/2 A	4.5	21.0	21.5	45	32	30	250	250	160	250	250
WH22LR	22	G 3/4 A	3.5	27.5	24.0	53	41	36	160	160	100	160	160
WH28LR	28	G 1 A	3.5	32.0	30.5	66	50	46	160	160	100	160	160
WH35LR	35	G 1 1/4 A	3.5	36.0	35.5	76	60	55	160	160	100	160	160
WH42LR	42	G 1 1/2 A	3.5	40.5	40.5	87	70	60	160	160	100	160	160
WH06SR	6	G 1/4 A	3.0	16.5	14.0	30	22	19	315	315	200	315	315
WH08SR	8	G 1/4 A	3.0	16.5	14.0	30	22	19	315	315	200	315	315
WH10SR	10	G 3/8 A	3.0	18.5	16.5	36	27	24	315	315	200	315	315
WH12SR	12	G 3/8 A	3.0	18.5	16.5	36	27	24	315	315	200	315	315
WH14SR	14	G 1/2 A	4.5	22.5	21.5	45	32	30	315	315	200	315	315
WH16SR	16	G 1/2 A	4.5	22.0	21.5	45	32	30	315	315	200	315	315
WH20SR	20	G 3/4 A	3.5	26.5	24.0	53	41	36	160	160	100	160	160
WH25SR	25	G 1 A	3.5	31.5	30.5	66	50	46	160	160	100	160	160
WH30SR	30	G 1 1/4 A	3.5	37.0	35.5	76	60	55	160	160	100	160	160
WH38SR	38	G 1 1/2 A	3.5	41.5	40.5	87	70	60	160	160	100	160	160

For EO-2 part number, insert "Z" between size and pressure series.
Example: WH06ZLRFCF

WH-M

High Pressure Banjo Elbow
24° Flareless / Metric Parallel



TUBE FITTING PART #	END SIZE		h (mm)	I2 (mm)	I3 (mm)	L3 (mm)	S3 (mm)	S6 (mm)	Pressure Rating (bar)			
	1 (mm)	2 Metric							EO		EO-2	
									CF	71	CF	71
WH06LM	6	M10 x 1	2.5	12.0	10.5	24	17	17	250	250	250	250
WH08LM	8	M12 x 1.5	3.0	14.5	14.0	30	22	19	250	250	250	250
WH10LM	10	M14 x 1.5	3.0	15.5	14.0	30	22	19	250	250	250	250
WH12LM	12	M16 x 1.5	3.0	18.0	16.5	36	27	24	250	250	250	250
WH15LM	15	M18 x 1.5	3.0	21.5	18.5	39.5	30	27	250	250	250	250
WH18LM	18	M22 x 1.5	4.5	21.0	21.5	45	32	30	250	250	250	250
WH22LM	22	M26 x 1.5	3.5	27.5	24.0	53	41	36	160	160	160	160
WH28LM	28	M33 x 2	3.5	32.0	30.5	66	50	46	160	160	160	160
WH35LM	35	M42 x 2	3.5	36.0	35.5	76	60	55	160	160	160	160
WH42LM	42	M48 x 2	3.5	40.5	40.5	87	70	60	160	160	160	160
WH06SM	6	M12 x 1.5	3.0	16.5	14.0	30	22	19	315	315	315	315
WH08SM	8	M14 x 1.5	3.0	16.5	14.0	30	22	19	315	315	315	315
WH10SM	10	M16 x 1.5	3.0	18.5	16.5	36	27	24	315	315	315	315
WH12SM	12	M18 x 1.5	3.0	20.0	18.5	39.5	27	27	315	315	315	315
WH14SM	14	M20 x 1.5	3.0	22.5	20.0	43.5	32	30	315	315	315	315
WH16SM	16	M22 x 1.5	4.5	22.0	21.5	45	32	30	315	315	315	315
WH20SM	20	M27 x 2	3.5	26.5	24.0	53	41	36	160	160	160	160
WH25SM	25	M33 x 2	3.5	31.5	30.5	66	50	46	160	160	160	160
WH30SM	30	M42 x 2	3.5	37.0	35.5	76	60	55	160	160	160	160
WH38SM	38	M48 x 2	3.5	41.5	40.5	87	70	60	160	160	160	160

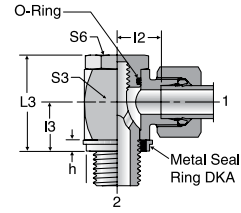
For EO-2 part number, insert "Z" between size and pressure series.
Example: WH06ZLMCF

Dimensions and pressures for reference only, subject to change.



WH-R-KDS

High Pressure Banjo Elbow
24° Flareless / BSPP

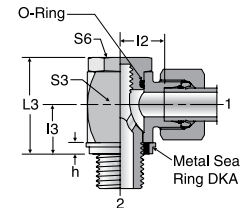


TUBE FITTING PART #	END SIZE		h (mm)	I 2 (mm)	I 3 (mm)	L3 (mm)	S3 (mm)	S6 (mm)	Pressure Rating (bar)			
	1 (mm)	2 BSPP							EO		EO-2	
									CF	71	CF	71
WH06LRKDS	6	G 1/8 A	2.5	12.0	10.5	24	17	17	315	315	315	315
WH08LRKDS	8	G 1/4 A	3.0	14.5	14.0	30	22	19	315	315	315	315
WH10LRKDS	10	G 1/4 A	3.0	15.5	14.0	30	22	19	315	315	315	315
WH12LRKDS	12	G 3/8 A	3.0	18.0	16.5	36	27	24	315	315	315	315
WH15LRKDS	15	G 1/2 A	4.5	21.5	21.5	45	32	30	315	315	315	315
WH18LRKDS	18	G 1/2 A	4.5	21.0	21.5	45	32	30	315	315	315	315
WH22LRKDS	22	G 3/4 A	3.5	27.5	24.0	53	41	36	160	160	160	160
WH28LRKDS	28	G 1 A	3.5	32.0	30.5	66	50	46	160	160	160	160
WH35LRKDS	35	G 1 1/4 A	3.5	36.0	35.5	76	60	55	160	160	160	160
WH42LRKDS	42	G 1 1/2 A	3.5	40.5	40.5	87	70	60	160	160	160	160
WH06SRKDS	6	G 1/4 A	3.0	16.5	14.0	30	22	19	400	400	400	400
WH08SRKDS	8	G 1/4 A	3.0	16.5	14.0	30	22	19	400	400	400	400
WH10SRKDS	10	G 3/8 A	3.0	18.5	16.5	36	27	24	400	400	400	400
WH12SRKDS	12	G 3/8 A	3.0	18.5	16.5	36	27	24	400	400	400	400
WH14SRKDS	14	G 1/2 A	4.5	22.5	21.5	45	32	30	400	400	400	400
WH16SRKDS	16	G 1/2 A	4.5	22.0	21.5	45	32	30	315	315	315	315
WH20SRKDS	20	G 3/4 A	3.5	26.5	24.0	53	41	36	315	315	315	315
WH25SRKDS	25	G 1 A	3.5	31.5	30.5	66	50	46	250	250	250	250
WH30SRKDS	30	G 1 1/4 A	3.5	37.0	35.5	76	60	55	160	160	160	160
WH38SRKDS	38	G 1 1/2 A	3.5	41.5	40.5	87	70	60	160	160	160	160

For EO-2 part number, insert "Z" between size and pressure series.
Example WH06ZLRKDS
*Stainless Steel (71) part numbers have KD instead of KDS.
Example: WHO6SRKD71

WH-M-KDS

High Pressure Banjo Elbow
Banjo Metric / Flareless



TUBE FITTING PART #	END SIZE		h (mm)	I 2 (mm)	I 3 (mm)	L3 (mm)	S3 (mm)	S6 (mm)	Pressure Rating (bar)			
	1 (mm)	2 Metric							EO		EO-2	
									CF	71	CF	71
WH06LMKDS	6	M10 x 1	2.5	12.0	10.5	24.0	17	17	315	315	315	315
WH08LMKDS	8	M12 x 1.5	3.0	14.5	14.0	30.0	22	19	315	315	315	315
WH10LMKDS	10	M14 x 1.5	3.0	15.5	14.0	30.0	22	19	315	315	315	315
WH12LMKDS	12	M16 x 1.5	3.0	18.0	16.5	36.0	27	24	315	315	315	315
WH15LMKDS	15	M18 x 1.5	3.0	21.5	18.5	39.5	30	30	315	315	315	315
WH18LMKDS	18	M22 x 1.5	4.5	21.0	21.5	45.0	32	30	315	315	315	315
WH22LMKDS	22	M26 x 1.5	3.5	27.5	24.0	53.0	41	36	160	160	160	160
WH28LMKDS	28	M33 x 2	3.5	32.0	30.5	66.0	50	46	160	160	160	160
WH35LMKDS	35	M42 x 2	3.5	36.0	35.5	76.0	60	55	160	160	160	160
WH42LMKDS	42	M48 x 2	3.5	40.5	40.5	87.0	70	60	160	160	160	160
WH06SMKDS	6	M12 x 1.5	3.0	16.5	14.0	30.0	22	19	400	400	400	400
WH08SMKDS	8	M14 x 1.5	3.0	16.5	14.0	30.0	22	19	400	400	400	400
WH10SMKDS	10	M16 x 1.5	3.0	18.5	16.5	36.0	27	24	400	400	400	400
WH12SMKDS	12	M18 x 1.5	3.0	20.0	18.5	39.5	27	27	400	400	400	400
WH14SMKDS	14	M20 x 1.5	3.0	22.5	20.0	43.5	32	30	400	400	400	400
WH16SMKDS	16	M22 x 1.5	4.5	22.0	21.5	45.0	32	30	315	315	315	315
WH20SMKDS	20	M27 x 2	3.5	26.5	24.0	53.0	41	36	315	315	315	315
WH25SMKDS	25	M33 x 2	3.5	31.5	30.5	66.0	50	46	250	250	250	250
WH30SMKDS	30	M42 x 2	3.5	37.0	35.5	76.0	60	55	160	160	160	160
WH38SMKDS	38	M48 x 2	3.5	41.5	40.5	87.0	70	60	160	160	160	160

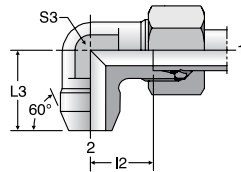
For EO-2 part number, insert "Z" between size and pressure series.
Example: WH06ZLMKDSCF
*Stainless Steel (71) part numbers have KD instead of KDS.
Example: WH06SMKD71

Dimensions and pressures for reference only, subject to change.



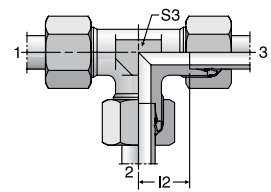
WAS

Weld Elbow
24° Flareless / Butt Weld



T

Union Tee
24° Flareless



TUBE FITTING PART #	END SIZE		I 2 (mm)	L3 (mm)	S3 (mm)	Pressure Rating (bar)			
	1 (mm)	2 (mm)				EO		EO-2	
	CF	71				CF	71		
WAS06L	6	10	12.0	19	12	315	315	315	315
WAS08L	8	12	14.0	23	12	315	315	315	315
WAS10L	10	14	15.0	24	14	315	315	315	315
WAS12L	12	16	17.0	25	17	315	315	315	315
WAS15L	15	19	21.0	30	19	315	315	315	315
WAS18L	18	22	23.5	33	24	315	315	315	315
WAS22L	22	27	27.5	37	27	160	160	160	160
WAS28L	28	32	30.5	42	36	160	160	160	160
WAS35L	35	40	34.5	49	41	160	160	160	160
WAS42L	42	46	40.0	57	50	160	160	160	160
WAS06S	6	11	16.0	23	12	630	630	630	630
WAS08S	8	13	17.0	24	14	630	630	630	630
WAS10S	10	15	17.5	25	17	630	630	630	630
WAS12S	12	17	21.5	29	17	630	630	630	630
WAS14S	14	19	22.0	30	19	630	630	630	630
WAS16S	16	21	24.5	33	24	400	400	400	400
WAS20S	20	26	26.5	37	27	400	400	400	400
WAS25S	25	31	30.0	42	36	400	400	400	400
WAS30S	30	36	35.5	49	41	400	400	400	400
WAS38S	38	44	41.0	57	50	315	315	315	315

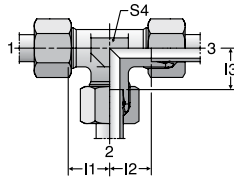
Note: Weld fitting. Omit "CF" in the part number for steel material.
For EO-2 part number, insert "Z" between size and pressure series.
Example: WAS06ZL

TUBE FITTING PART #	END SIZE		I 2 (mm)	S3 (mm)	S3 (Only Stainless Steel) (mm)	Pressure Rating (bar)					
	1 - 3 (mm)	1				2	EO			EO-2	
	CF	71				MS	CF	71			
*T04LL	4	11.0	9	9	100	100	63	100	100		
*T06LL	6	9.5	11	9	100	100	63	100	100		
*T08LL	8	11.5	12	12	100	100	63	100	100		
*T10LL	10	12.5	14	12	100	100	63	100	100		
T12LL	12	15.0	14	14	100	100	63	100	100		
*T06L	6	12.0	12	12	500	315	200	500	315		
*T08L	8	14.0	14	12	500	315	200	500	315		
T10L	10	15.0	14	14	500	315	200	500	315		
T12L	12	17.0	17	17	400	315	200	400	315		
T15L	15	21.0	19	19	400	315	200	400	315		
T18L	18	23.5	24	24	400	315	200	400	315		
T22L	22	27.5	27	27	250	160	100	250	160		
T28L	28	30.5	36	36	250	160	100	250	160		
T35L	35	34.5	41	41	250	160	100	250	160		
T42L	42	40.0	50	50	250	160	100	250	160		
*T06S	6	16.0	14	12	800	630	400	800	630		
T08S	8	17.0	14	14	800	630	400	800	630		
T10S	10	17.5	17	17	800	630	400	800	630		
T12S	12	21.5	17	17	630	630	400	630	630		
T14S	14	22.0	19	19	630	630	400	630	630		
T16S	16	24.5	24	24	630	400	250	630	400		
T20S	20	26.5	27	27	420	400	250	420	400		
T25S	25	30.0	36	36	420	400	250	420	400		
T30S	30	35.5	41	41	420	400	250	420	400		
T38S	38	41.0	50	50	420	315	200	420	315		

* Extruded body for steel and brass.
For EO-2 part number, insert "Z" between size and pressure series.
Example: T04ZLLCF

Dimensions and pressures for reference only, subject to change.

TR
Tee-Reducer
24° Flareless



TUBE FITTING PART #	END SIZE			I 1 (mm)	I 2 (mm)	I 3 (mm)	S4 (mm)	S4 (Stainless Steel) (mm)	Pressure Rating (bar)					
	1 (mm)	2 (mm)	3 (mm)						EO			EO-2		
									CF	71	MS	CF	71	
*TR04/08/04LL	4	8	4	13.0	13.0	11.5	12	12	100	100	63	100	100	
*TR06/04/06LL	6	4	6	9.5	9.5	11.0	11	9	100	100	63	100	100	
*TR06/08/06L	6	8	6	14.0	14.0	14.0	14	12	500	315	200	500	315	
*TR08/06/08L	8	6	8	14.0	14.0	14.0	14	12	500	315	200	500	315	
TR06/10/06L	6	10	6	15.0	15.0	15.0	14	14	500	315	200	500	315	
TR08/10/08L	8	10	8	15.0	15.0	15.0	14	14	500	315	200	500	315	
TR10/06/10L	10	6	10	15.0	15.0	15.0	14	14	500	315	200	500	315	
TR10/08/10L	10	8	10	15.0	15.0	15.0	14	14	500	315	200	500	315	
TR10/10/06L	10	10	6	15.0	15.0	15.0	14	14	500	315	200	500	315	
TR08/12/08L	8	12	8	17.0	17.0	17.0	17	17	400	315	200	400	315	
TR12/06/12L	12	6	12	17.0	17.0	17.0	17	17	400	315	200	400	315	
TR12/08/08L	12	8	8	17.0	17.0	17.0	17	17	400	315	200	400	315	
TR12/08/12L	12	8	12	17.0	17.0	17.0	17	17	400	315	200	400	315	
TR12/10/10L	12	10	10	17.0	17.0	17.0	17	17	400	315	200	400	315	
TR12/10/12L	12	10	12	17.0	17.0	17.0	17	17	400	315	200	400	315	
TR12/12/10L	12	12	10	17.0	17.0	17.0	17	17	400	315	200	400	315	
TR10/15/10L	10	15	10	21.0	21.0	21.0	19	19	400	315	200	400	315	
TR12/15/12L	12	15	12	21.0	21.0	21.0	19	19	400	315	200	400	315	
TR15/06/15L	15	6	15	21.0	21.0	21.0	19	19	400	315	200	400	315	
TR15/10/15L	15	10	15	21.0	21.0	21.0	19	19	400	315	200	400	315	
TR15/12/12L	15	12	12	21.0	21.0	21.0	19	19	400	315	200	400	315	
TR15/12/15L	15	12	15	21.0	21.0	21.0	19	19	400	315	200	400	315	
TR15/15/12L	15	15	12	21.0	21.0	21.0	19	19	400	315	200	400	315	
TR12/18/12L	12	18	12	24.0	24.0	23.5	24	24	400	315	200	400	315	
TR18/10/10L	18	10	10	23.5	24.0	24.0	24	24	400	315	200	400	315	
TR18/10/18L	18	10	18	23.5	23.5	24.0	24	24	400	315	200	400	315	
TR18/12/18L	18	12	18	23.5	23.5	24.0	24	24	400	315	200	400	315	
TR18/15/18L	18	15	18	23.5	23.5	24.0	24	24	400	315	200	400	315	
TR18/18/10L	18	18	10	23.5	24.0	23.5	24	24	400	315	200	400	315	
TR22/10/22L	22	10	22	27.5	27.5	28.0	27	27	250	160	100	250	160	
TR22/12/22L	22	12	22	27.5	27.5	28.0	27	27	250	160	100	250	160	
TR22/15/15L	22	15	15	27.5	28.0	28.0	27	27	250	160	100	250	160	
TR22/15/22L	22	15	22	27.5	27.5	28.0	27	27	250	160	100	250	160	
TR22/18/18L	22	18	18	27.5	27.5	27.5	27	27	250	160	100	250	160	
TR22/18/22L	22	18	22	27.5	27.5	27.5	27	27	250	160	100	250	160	
TR22/22/18L	22	22	18	27.5	27.5	27.5	27	27	250	160	100	250	160	
TR28/10/28L	28	10	28	30.5	30.5	31.0	36	36	250	160	100	250	160	
TR28/12/28L	28	12	28	30.5	30.5	31.0	36	36	250	160	100	250	160	
TR28/15/28L	28	15	28	30.5	30.5	31.0	36	36	250	160	100	250	160	
TR28/18/28L	28	18	28	30.5	30.5	30.5	36	36	250	160	100	250	160	
TR28/22/22L	28	22	22	30.5	30.5	30.5	36	36	250	160	100	250	160	
TR28/22/28L	28	22	28	30.5	30.5	30.5	36	36	250	160	100	250	160	

*Extruded body for steel and brass.

Series S is continued on the next page.

For EO-2 part number, insert "Z" between size and pressure series.

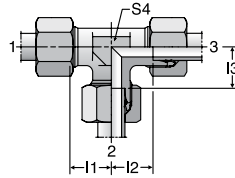
Example: TR06/08/06ZLLCF

Dimensions and pressures for reference only, subject to change.



TR

Tee-Reducer
24° Flareless



TUBE FITTING PART #	END SIZE			I1 (mm)	I2 (mm)	I3 (mm)	S4 (mm)	Pressure Rating (bar)				
	1 (mm)	2 (mm)	3 (mm)					EO		EO-2		
	CF	71	MS					CF	71	CF	71	
TR10/06/10S	10	6	10	17.5	17.5	18.0	17	800	630	400	800	630
TR12/08/08S	12	8	8	21.5	22.0	22.0	17	630	630	400	630	630
TR12/08/12S	12	8	12	21.5	21.5	22.0	17	630	630	400	630	630
TR12/10/12S	12	10	12	21.5	21.5	21.5	17	630	630	400	630	630
TR12/16/12S	12	16	12	25.5	25.5	24.5	24	630	400	250	630	400
TR16/06/16S	16	6	16	24.5	24.5	26.0	24	630	400	250	630	400
TR16/08/16S	16	8	16	24.5	24.5	26.0	24	630	400	250	630	400
TR16/10/16S	16	10	16	24.5	24.5	25.5	24	630	400	250	630	400
TR16/12/16S	16	12	16	24.5	24.5	25.5	24	630	400	250	630	400
TR16/20/16S	16	20	16	28.5	28.5	26.5	27	420	400	250	420	400
TR20/10/20S	20	10	20	26.5	26.5	29.5	27	420	400	250	420	400
TR20/12/20S	20	12	20	26.5	26.5	29.5	27	420	400	250	420	400
TR20/16/20S	20	16	20	26.5	26.5	28.5	27	420	400	250	420	400
TR20/25/20S	20	25	20	31.5	31.5	30.0	36	420	400	250	420	400
TR25/16/25S	25	16	25	30.0	30.0	33.5	36	420	400	250	420	400
TR25/20/25S	25	20	25	30.0	30.0	31.5	36	420	400	250	420	400
TR25/30/25S	25	30	25	37.0	37.0	35.5	41	420	400	250	420	400

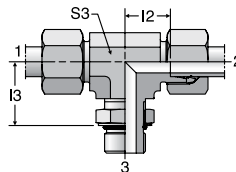
Series L is on the previous page.

For EO-2 part number, insert "Z" between size and pressure series.

Example: TR10/06/10ZSCF

TEE-UNF

Adjustable Locknut Branch Tee
24° Flareless / SAE-ORB



TUBE FITTING PART #	END SIZE		I2 (mm)	I3 (mm)	S3 (mm)	Pressure Rating (bar)			
	1 & 2 (mm)	3 UN/UNF-2A				EO		EO-2	
	CF	71				CF	71		
TEE06L7/16UNF	6	7/16-20	14	19	14	315	315	315	315
TEE08L7/16UNF	8	7/16-20	16	19	14	315	315	315	315
TEE10L9/16UNF	10	9/16-18	17	24	19	315	315	315	315
TEE12L9/16UNF	12	9/16-18	19	25	19	315	315	315	315
TEE12L3/4UNF	12	3/4-16	19	25	19	315	315	315	315
TEE15L3/4UNF	15	3/4-16	21	28	22	315	315	315	315
TEE15L7/8UNF	15	7/8-14	21	28	22	315	315	315	315
TEE18L7/8UNF	18	7/8-14	24	32	27	315	315	315	315
TEE18L11/16UN	18	1 1/16-12	24	32	30	315	315	315	315
TEE22L11/16UN	22	1 1/16-12	28	35	30	160	160	160	160
TEE28L15/16UN	28	1 5/16-12	31	42	36	160	160	160	160
TEE35L15/8UN	35	1 5/8-12	38	46	50	160	160	160	160
TEE42L17/8UN	42	1 7/8-12	38	47	50	160	160	160	160
TEE06S7/16UNF	6	7/16-20	15	20	14	400	400	400	400
TEE08S9/16UNF	8	9/16-18	17	25	19	400	400	400	400
TEE10S9/16UNF	10	9/16-18	18	26	19	400	400	400	400
TEE12S3/4UNF	12	3/4-16	22	30	22	400	400	400	400
TEE16S7/8UNF	16	7/8-14	25	34	27	400	400	400	400
TEE20S11/16UN	20	1 1/16-12	28	37	30	400	400	400	400
TEE25S11/16UN	25	1 1/16-12	30	50	36	400	400	400	400
TEE30S15/8UN	30	1 5/8-12	36	50	50	250	250	250	250
TEE38S17/8UN	38	1 7/8-12	34	51	50	250	250	250	250

For EO-2 part number, insert "Z" between size and pressure series.

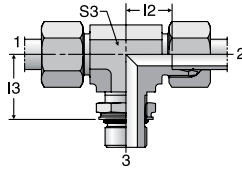
Example: TEE06ZL7/16UNFCF

Dimensions and pressures for reference only, subject to change.



TEE-OR

Adjustable Locknut Branch Tee
24° Flareless / Metric ISO 6149

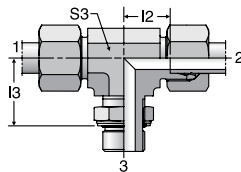


TUBE FITTING PART #	END SIZE		I 2 (mm)	I 3 (mm)	S 3 (mm)	Pressure Rating (bar)			
	1 & 2 (mm)	3 Metric				EO		EO-2	
						CF	71	CF	71
TEE06LMOR	6	M10x1	14	20	14	315	315	315	315
TEE08LMOR	8	M12x1.5	16	22	14	315	315	315	315
TEE10LMOR	10	M14x1.5	17	25	19	315	315	315	315
TEE12LMOR	12	M16x1.5	19	26	19	315	315	315	315
TEE15LMOR	15	M18x1.5	21	30	22	315	315	315	315
TEE18LMOR	18	M22x1.5	24	33	27	315	315	315	315
TEE22LM27X2OR	22	M27x2	28	35	30	160	160	160	160
TEE28LMOR	28	M33x2	31	38	36	160	160	160	160
TEE35LMOR	35	M42x2	38	48	50	160	160	160	160
TEE42LMOR	42	M48x2	38	49	50	160	160	160	160
TEE06SMOR	6	M12x1.5	15	22	14	400	400	400	400
TEE08SMOR	8	M14x1.5	17	26	19	400	400	400	400
TEE10SMOR	10	M16x1.5	18	27	19	400	400	400	400
TEE12SMOR	12	M18x1.5	22	31	22	400	400	400	400
TEE16SMOR	16	M22x1.5	25	35	27	400	400	400	400
TEE20SMOR	20	M27x2	28	39	30	400	400	400	400
TEE25SMOR	25	M33x2	30	44	36	315	315	315	315
TEE30SMOR	30	M42x2	36	51	50	250	250	250	250
TEE38SMOR	38	M48x2	34	54	50	200	200	200	200

For EO-2 part number, insert "Z" between size and pressure series.
Example: TR06ZLMORCF

TEE-R

Adjustable Locknut Branch Tee
24° Flareless / BSPP ORR



TUBE FITTING PART #	END SIZE		I 2 (mm)	I 3 (mm)	S 3 (mm)	Pressure Rating (bar)			
	1 & 2 (mm)	3 BSPP				EO		EO-2	
						CF	71	CF	71
TEE06LR	6	G 1/8A	14	19	14	315	315	315	315
TEE08LR	8	G 1/4A	16	23	14	315	315	315	315
TEE10LR	10	G 1/4A	17	25	19	315	315	315	315
TEE12LR	12	G 3/8A	19	28	19	250	250	250	250
TEE15LR	15	G 1/2A	21	30	22	250	250	250	250
TEE18LR	18	G 1/2A	24	36	27	250	250	250	250
TEE22LR	22	G 3/4A	28	36	30	160	160	160	160
TEE28LR	28	G 1A	31	44	36	160	160	160	160
TEE35LR	35	G 1 1/4A	38	50	50	160	160	160	160
TEE42LR	42	G 1 1/2A	38	52	50	160	160	160	160
TEE06SR	6	G 1/4A	15	23	14	315	315	315	315
TEE08SR	8	G 1/4A	17	27	19	315	315	315	315
TEE10SR	10	G 3/8A	18	29	19	250	250	250	250
TEE12SR	12	G 3/8A	22	29	22	250	250	250	250
TEE16SR	16	G 1/2A	25	36	27	250	250	250	250
TEE20SR	20	G 3/4A	28	39	30	250	250	250	250
TEE25SR	25	G 1A	30	44	36	250	250	250	250
TEE30SR	30	G 1 1/4A	36	49	50	160	160	160	160
TEE38SR	38	G 1 1/2A	34	55	50	160	160	160	160

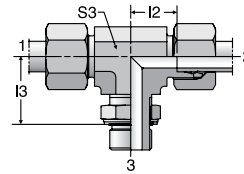
For EO-2 part number, insert "Z" between size and pressure series.
Example: TEE06ZLRFCF

Dimensions and pressures for reference only, subject to change.



TEE-M

Adjustable Locknut Branch Tee
24° Flareless / Metric ORR

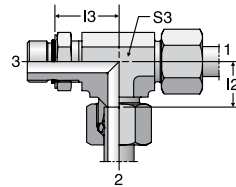


TUBE FITTING PART #	END SIZE		I 2 (mm)	I 3 (mm)	S3 (mm)	Pressure Rating (bar)			
	1&2 (mm)	3 Metric				EO		EO-2	
						CF	71	CF	71
TEE06LM	6	M10x1	14	20	14	315	315	315	315
TEE08LM	8	M12x1.5	16	22	14	315	315	315	315
TEE10LM	10	M14x1.5	17	25	19	315	315	315	315
TEE12LM	12	M16x1.5	19	26	19	315	315	315	315
TEE15LM	15	M18x1.5	21	30	22	315	315	315	315
TEE18LM	18	M22x1.5	24	33	27	250	250	250	250
TEE22LM27X2	22	M27x2	28	35	30	160	160	160	160
TEE28LM	28	M33x2	31	38	36	160	160	160	160
TEE35LM	35	M42x2	38	48	50	160	160	160	160
TEE42LM	42	M48x2	38	49	50	160	160	160	160
TEE06SM	6	M12x1.5	15	22	14	315	315	315	315
TEE08SM	8	M14x1.5	17	26	19	315	315	315	315
TEE10SM	10	M16x1.5	18	27	19	315	315	315	315
TEE12SM	12	M18x1.5	22	31	22	315	315	315	315
TEE16SM	16	M22x1.5	25	35	27	250	250	250	250
TEE20SM	20	M27x2	28	39	30	250	250	250	250
TEE25SM	25	M33x2	30	44	36	160	160	160	160
TEE30SM	30	M42x2	36	51	50	160	160	160	160
TEE38SM	38	M48x2	34	54	50	160	160	160	160

For EO-2 part number, insert "Z" between size and pressure series.
Example: TEE06ZLMCF

LEE-UNF

Adjustable Locknut Run Tee
24° Flareless / SAE-ORB



TUBE FITTING PART #	END SIZE		I 2 (mm)	I 3 (mm)	S3 (mm)	Pressure Rating (bar)			
	1 & 2 (mm)	3 UN/UNF-2A				EO		EO-2	
						CF	71	CF	71
LEE06L7/16UNF	6	7/16-20	14	19	14	315	315	315	315
LEE08L7/16UNF	8	7/16-20	16	19	14	315	315	315	315
LEE10L9/16UNF	10	9/16-18	17	24	19	315	315	315	315
LEE12L9/16UNF	12	9/16-18	19	25	19	315	315	315	315
LEE12L3/4UNF	12	3/4-16	19	25	19	315	315	315	315
LEE15L3/4UNF	15	3/4-16	21	28	22	315	315	315	315
LEE15L7/8UNF	15	7/8-14	21	28	22	315	315	315	315
LEE18L7/8UNF	18	7/8-14	24	32	27	315	315	315	315
LEE18L11/16UN	18	1 1/16-12	24	32	30	315	315	315	315
LEE22L11/16UN	22	1 1/16-12	28	35	30	160	160	160	160
LEE28L15/16UN	28	1 5/16-12	31	42	36	160	160	160	160
LEE35L15/8UN	35	1 5/8-12	38	46	50	160	160	160	160
LEE42L17/8UN	42	1 7/8-12	38	47	50	160	160	160	160
LEE06S7/16UNF	6	7/16-20	15	20	14	400	400	400	400
LEE08S9/16UNF	8	9/16-18	17	25	19	400	400	400	400
LEE10S9/16UNF	10	9/16-18	18	26	19	400	400	400	400
LEE12S3/4UNF	12	3/4-16	22	30	22	400	400	400	400
LEE16S7/8UNF	16	7/8-14	25	34	27	400	400	400	400
LEE20S11/16UN	20	1 1/16-12	28	37	30	400	400	400	400
LEE25S11/16UN	25	1 1/16-12	30	50	36	400	400	400	400
LEE30S15/8UN	30	1 5/8-12	36	50	50	250	250	250	250
LEE38S17/8UN	38	1 7/8-12	34	51	50	250	250	250	250

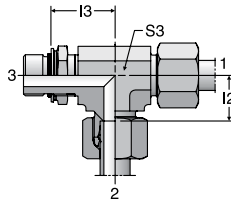
For EO-2 part number, insert "Z" between size and pressure series.
Example: LEE06ZL7/16UNFCF

Dimensions and pressures for reference only, subject to change.



LEE-OR

Adjustable Locknut Run Tee
24° Flareless / Metric ISO 6149

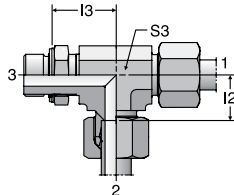


TUBE FITTING PART #	END SIZE		I 2 (mm)	I 3 (mm)	S 3 (mm)	Pressure Rating (bar)			
	1 & 2 (mm)	3 Metric				EO		EO-2	
						CF	71	CF	71
LEE06LMOR	6	M10 x 1	14	20	14	315	315	315	315
LEE08LMOR	8	M12 x 1.5	16	22	14	315	315	315	315
LEE10LMOR	10	M14 x 1.5	17	25	19	315	315	315	315
LEE12LMOR	12	M16 x 1.5	19	26	19	315	315	315	315
LEE15LMOR	15	M18 x 1.5	21	30	22	315	315	315	315
LEE18LMOR	18	M22 x 1.5	24	33	27	315	315	315	315
LEE22LM27x2OR	22	M27 x 2	28	35	30	160	160	160	160
LEE28LMOR	28	M33 x 2	31	38	36	160	160	160	160
LEE35LMOR	35	M42 x 2	38	48	50	160	160	160	160
LEE42LMOR	42	M48 x 2	38	49	50	160	160	160	160
LEE06SMOR	6	M12 x 1.5	15	22	14	400	400	400	400
LEE08SMOR	8	M14 x 1.5	17	26	19	400	400	400	400
LEE10SMOR	10	M16 x 1.5	18	27	19	400	400	400	400
LEE12SMOR	12	M18 x 1.5	22	31	22	400	400	400	400
LEE16SMOR	16	M22 x 1.5	25	35	27	400	400	400	400
LEE20SMOR	20	M27 x 2	28	35	30	400	400	400	400
LEE25SMOR	25	M33 x 2	30	44	36	315	315	315	315
LEE30SMOR	30	M42 x 2	36	51	50	250	250	250	250
LEE38SMOR	38	M48 x 2	34	54	50	200	200	200	200

For EO-2 part number, insert "Z" between size and pressure series.
Example: LEE06ZLMORCF

LEE-R

Adjustable Locknut Run Tee
24° Flareless / BSPP ORR

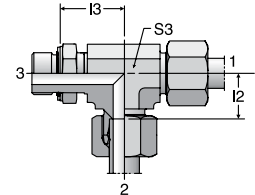


TUBE FITTING PART #	END SIZE		I 2 (mm)	I 3 (mm)	S 3 (mm)	Pressure Rating (bar)			
	1 & 2 (mm)	3 BSPP				EO		EO-2	
						CF	71	CF	71
LEE06LR	6	G 1/8A	14	19	14	315	315	315	315
LEE08LR	8	G 1/4A	16	23	14	315	315	315	315
LEE10LR	10	G 1/4A	17	25	19	315	315	315	315
LEE12LR	12	G 3/8A	19	28	19	250	250	250	250
LEE15LR	15	G 1/2A	21	30	22	250	250	250	250
LEE18LR	18	G 1/2A	24	36	27	250	250	250	250
LEE22LR	22	G 3/4A	28	36	30	160	160	160	160
LEE28LR	28	G 1A	31	44	36	160	160	160	160
LEE35LR	35	G 1 1/4A	38	50	50	160	160	160	160
LEE42LR	42	G 1 1/2A	38	52	50	160	160	160	160
LEE06SR	6	G 1/4A	15	23	14	315	315	315	315
LEE08SR	8	G 1/4A	17	27	19	315	315	315	315
LEE10SR	10	G 3/8A	18	29	19	250	250	250	250
LEE12SR	12	G 3/8A	22	29	22	250	250	250	250
LEE16SR	16	G 1/2A	25	36	27	250	250	250	250
LEE20SR	20	G 3/4A	28	39	30	250	250	250	250
LEE25SR	25	G 1A	30	44	36	250	250	250	250
LEE30SR	30	G 1 1/4A	36	49	50	160	160	160	160
LEE38SR	38	G 1 1/2A	34	55	50	160	160	160	160

For EO-2 part number, insert "Z" between size and pressure series.
Example: LEE06ZLRFCF

LEE-M

Adjustable Locknut Run Tee
24° Flareless / Metric ORR



TUBE FITTING PART #	END SIZE		I 2 (mm)	I 3 (mm)	S 3 (mm)	Pressure Rating (bar)			
	1 & 2 (mm)	3 Metric				EO		EO-2	
						CF	71	CF	71
LEE06LM	6	M10 x 1	14	20	14	315	315	315	315
LEE08LM	8	M12 x 1.5	16	22	14	315	315	315	315
LEE10LM	10	M14 x 1.5	17	25	19	315	315	315	315
LEE12LM	12	M16 x 1.5	19	26	19	315	315	315	315
LEE15LM	15	M18 x 1.5	21	30	22	315	315	315	315
LEE18LM	18	M22 x 1.5	24	33	27	250	250	250	250
LEE22LM27X2	22	M27 x 2	28	35	30	160	160	160	160
LEE28LM	28	M33 x 2	31	38	36	160	160	160	160
LEE35LM	35	M42 x 2	38	48	50	160	160	160	160
LEE42LM	42	M48 x 2	38	49	50	160	160	160	160
LEE06SM	6	M12 x 1.5	15	22	14	315	315	315	315
LEE08SM	8	M14 x 1.5	17	26	19	315	315	315	315
LEE10SM	10	M16 x 1.5	18	27	19	315	315	315	315
LEE12SM	12	M18 x 1.5	22	31	22	315	315	315	315
LEE16SM	16	M22 x 1.5	25	35	27	250	250	250	250
LEE20SM	20	M27 x 2	28	39	30	250	250	250	250
LEE25SM	25	M33 x 2	30	44	36	160	160	160	160
LEE30SM	30	M42 x 2	36	51	50	160	160	160	160
LEE38SM	38	M48 x 2	34	54	50	160	160	160	160

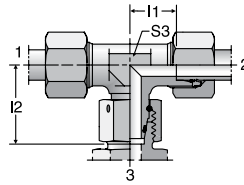
For EO-2 part number, insert "Z" between size and pressure series.
Example: LEE06ZLMCF

Dimensions and pressures for reference only, subject to change.



ET

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

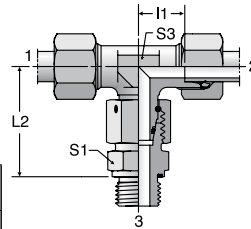


TUBE FITTING PART #	END SIZE		I 1 (mm)	I 2 (mm)	S 3 (mm)	Pressure Rating (bar)			
	1 & 2 (mm)	3 Metric				EO		EO-2	
						CF	71	CF	71
ET06L	6	M12 x 1.5	12.0	26.0	12	500	315	500	315
ET08L	8	M14 x 1.5	14.0	27.5	12	500	315	500	315
ET10L	10	M16 x 1.5	15.0	29.0	14	500	315	500	315
ET12L	12	M18 x 1.5	17.0	29.5	17	400	315	400	315
ET15L	15	M22 x 1.5	21.0	32.5	19	400	315	400	315
ET18L	18	M26 x 1.5	23.5	35.5	24	400	315	400	315
ET22L	22	M30 x 2	27.5	38.5	27	250	160	250	160
ET28L	28	M36 x 2	30.5	41.5	36	250	160	250	160
ET35L	35	M45 x 2	34.5	51.0	41	250	160	250	160
ET42L	42	M52 x 2	40.0	56.0	50	250	160	250	160
ET06S	6	M14 x 1.5	16.0	27.0	12	800	630	800	630
ET08S	8	M16 x 1.5	17.0	27.5	14	800	630	800	630
ET10S	10	M18 x 1.5	17.5	30.0	17	800	630	800	630
ET12S	12	M20 x 1.5	21.5	31.0	17	630	630	630	630
ET14S	14	M22 x 1.5	22.0	35.0	19	630	630	630	630
ET16S	16	M24 x 1.5	24.5	36.5	24	630	400	630	400
ET20S	20	M30 x 2	26.5	44.5	27	420	400	420	400
ET25S	25	M36 x 2	30.0	50.0	36	420	400	420	400
ET30S	30	M42 x 2	35.5	55.0	41	420	400	420	400
ET38S	38	M52 x 2	41.0	63.0	50	420	315	420	315

For EO-2 part number, insert "Z" between size and pressure series.
 Example: ET06ZLCF

ET-R-ED

Assembled Adjustable Swivel Branch Tee
 24° Flareless / 24° Flareless /
 BSSP with EOlastic Seal



TUBE FITTING PART #	END SIZE		I 1 (mm)	L 2 (mm)	S 1 (mm)	S 3 (mm)	Pressure Rating (bar)			
	1 & 2 (mm)	3 BSSP					EO		EO-2	
							CF	71	CF	71
ET06LRED	6	G 1/8 A	12.0	34.5	14	12	500	315	500	315
ET08LRED	8	G 1/4 A	14.0	37.5	19	12	500	315	500	315
ET10LRED	10	G 1/4 A	15.0	40.0	19	14	500	315	500	315
ET12LRED	12	G 3/8 A	17.0	42.0	22	17	400	315	400	315
ET15LRED	15	G 1/2 A	21.0	46.5	27	19	400	315	400	315
ET18LRED	18	G 1/2 A	23.5	50.0	27	24	400	315	400	315
ET22LRED	22	G 3/4 A	27.5	55.0	32	27	250	160	250	160
ET28LRED	28	G 1 A	30.5	59.0	41	36	250	160	250	160
ET35LRED	35	G 1 1/4 A	34.5	68.5	50	41	250	160	250	160
ET42LRED	42	G 1 1/2 A	40.0	75.0	55	50	250	160	250	160
ET06SRED	6	G 1/4 A	16.0	40.0	19	12	800	630	800	630
ET08SRED	8	G 1/4 A	17.0	42.5	19	14	800	630	800	630
ET10SRED	10	G 3/8 A	17.5	45.0	22	17	800	630	800	630
ET12SRED	12	G 3/8 A	21.5	48.0	22	17	630	630	630	630
ET14SRED	14	G 1/2 A	22.0	54.0	27	19	630	630	630	630
ET16SRED	16	G 1/2 A	24.5	55.0	27	24	630	400	630	400
ET20SRED	20	G 3/4 A	26.5	65.0	32	27	420	400	420	400
ET25SRED	25	G 1 A	30.0	73.0	41	36	420	400	420	400
ET30SRED	30	G 1 1/4 A	35.5	78.5	50	41	420	400	420	400
ET38SRED	38	G 1 1/2 A	41.0	89.0	55	50	420	315	420	315

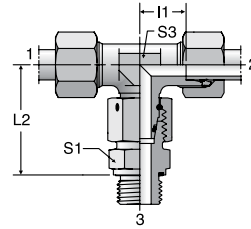
For EO-2 part number, insert "Z" between size and pressure series.
 Example: ET06ZLREDCF

Dimensions and pressures for reference only, subject to change.



ET-M-ED

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

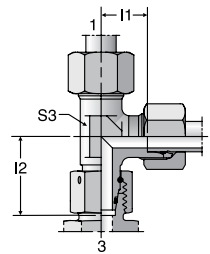


TUBE FITTING PART #	END SIZE		I 1 (mm)	L 2 (mm)	S 1 (mm)	S 3 (mm)	Pressure Rating (bar)			
	1 & 2 (mm)	3 Metric					EO		EO-2	
							CF	71	CF	71
ET06LMED	6	M10 x 1	12.0	34.5	14	12	500	315	500	315
ET08LMED	8	M12 x 1.5	14.0	37.5	17	12	500	315	500	315
ET10LMED	10	M14 x 1.5	15.0	40.0	19	14	500	315	500	315
ET12LMED	12	M16 x 1.5	17.0	42.0	22	17	400	315	400	315
ET15LMED	15	M18 x 1.5	21.0	46.0	24	19	400	315	400	315
ET18LMED	18	M22 x 1.5	23.5	50.0	27	24	400	315	400	315
ET22LMED	22	M26 x 1.5	27.5	55.0	32	27	250	160	250	160
ET28LMED	28	M33 x 2	30.5	59.0	41	36	250	160	250	160
ET35LMED	35	M42 x 2	34.5	68.5	50	41	250	160	250	160
ET42LMED	42	M48 x 2	40.0	75.0	55	50	250	160	250	160
ET06SMED	6	M12 x 1.5	16.0	40.0	17	12	800	630	800	630
ET08SMED	8	M14 x 1.5	17.0	42.5	19	14	800	630	800	630
ET10SMED	10	M16 x 1.5	17.5	45.0	22	17	800	630	800	630
ET12SMED	12	M18 x 1.5	21.5	48.0	24	17	630	630	630	630
ET14SMED	14	M20 x 1.5	22.0	54.0	27	19	630	630	630	630
ET16SMED	16	M22 x 1.5	24.5	55.0	27	24	630	400	630	400
ET20SMED	20	M27 x 2	26.5	65.0	32	27	420	400	420	400
ET25SMED	25	M33 x 2	30.0	73.0	41	36	420	400	420	400
ET30SMED	30	M42 x 2	35.5	78.5	50	41	420	400	420	400
ET38SMED	38	M48 x 2	41.0	89.0	55	50	420	315	420	315

For EO-2 part number, insert "Z" between size and pressure series.
 Example: ET06ZLMEDCF

EL

Swivel Nut Run Tee
 24° Flareless / Flareless Swivel



TUBE FITTING PART #	END SIZE		I 1 (mm)	I 2 (mm)	S 3 (mm)	Pressure Rating (bar)			
	1 & 2 (mm)	3 Metric				EO		EO-2	
						CF	71	CF	71
EL06L	6	M12 x 1.5	12.0	26.0	12	500	315	500	315
EL08L	8	M14 x 1.5	14.0	27.5	12	500	315	500	315
EL10L	10	M16 x 1.5	15.0	29.0	14	500	315	500	315
EL12L	12	M18 x 1.5	17.0	29.5	17	400	315	400	315
EL15L	15	M22 x 1.5	21.0	32.5	19	400	315	400	315
EL18L	18	M26 x 1.5	23.5	35.5	24	400	315	400	315
EL22L	22	M30 x 2	27.5	38.5	27	250	160	250	160
EL28L	28	M36 x 2	30.5	41.5	36	250	160	250	160
EL35L	35	M45 x 2	34.5	51.0	41	250	160	250	160
EL42L	42	M52 x 2	40.0	56.0	50	250	160	250	160
EL06S	6	M14 x 1.5	16.0	27.0	12	800	630	800	630
EL08S	8	M16 x 1.5	17.0	27.5	14	800	630	800	630
EL10S	10	M18 x 1.5	17.5	30.0	17	800	630	800	630
EL12S	12	M20 x 1.5	21.5	31.0	17	630	630	630	630
EL14S	14	M22 x 1.5	22.0	35.0	19	630	630	630	630
EL16S	16	M24 x 1.5	24.5	36.5	24	630	400	630	400
EL20S	20	M30 x 2	26.5	44.5	27	420	400	420	400
EL25S	25	M36 x 2	30.0	50.0	36	420	400	420	400
EL30S	30	M42 x 2	35.5	55.0	41	420	400	420	400
EL38S	38	M52 x 2	41.0	63.0	50	420	315	420	315

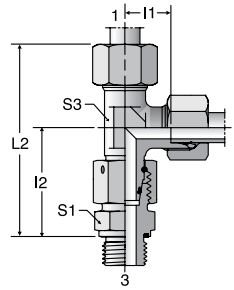
For EO-2 part number, insert "Z" between size and pressure series.
 Example: EL06ZLCF

Dimensions and pressures for reference only, subject to change.



EL-R-ED

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

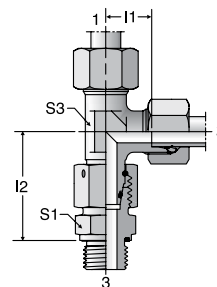


TUBE FITTING PART #	END SIZE		I 1 (mm)	I 2 (mm)	L2 (mm)	S1 (mm)	S3 (mm)	Pressure Rating (bar)			
	1 & 2 (mm)	3 BSPP						EO		EO-2	
								CF	71	CF	71
EL06LRED	6	G 1/8 A	12.0	34.5	61	14	12	500	315	500	315
EL08LRED	8	G 1/4 A	14.0	37.5	66	19	12	500	315	500	315
EL10LRED	10	G 1/4 A	15.0	40.0	70	19	14	500	315	500	315
EL12LRED	12	G 3/8 A	17.0	42.0	74	22	17	400	315	400	315
EL15LRED	15	G 1/2 A	21.0	46.5	83	27	19	400	315	400	315
EL18LRED	18	G 1/2 A	23.5	50.0	90	27	24	400	315	400	315
EL22LRED	22	G 3/4 A	27.5	55.0	99	32	27	250	160	250	160
EL28LRED	28	G 1 A	30.5	59.0	106	41	36	250	160	250	160
EL35LRED	35	G 1 1/4 A	34.5	68.5	125	50	41	250	160	250	160
EL42LRED	42	G 1 1/2 A	40.0	75.0	138	55	50	250	160	250	160
EL06SRED	6	G 1/4 A	16.0	40.0	71	19	12	800	630	800	630
EL08SRED	8	G 1/4 A	17.0	42.5	74	19	14	800	630	800	630
EL10SRED	10	G 3/8 A	17.5	45.0	79	22	17	800	630	800	630
EL12SRED	12	G 3/8 A	21.5	48.0	86	22	17	630	630	630	630
EL14SRED	14	G 1/2 A	22.0	54.0	94	27	19	630	630	630	630
EL16SRED	16	G 1/2 A	24.5	55.0	98	27	24	630	400	630	400
EL20SRED	20	G 3/4 A	26.5	65.0	113	32	27	420	400	420	400
EL25SRED	25	G 1 A	30.0	73.0	127	41	36	420	400	420	400
EL30SRED	30	G 1 1/4 A	35.5	78.5	141	50	41	420	400	420	400
EL38SRED	38	G 1 1/2 A	41.0	89.0	161	55	50	420	315	420	315

For EO-2 part number, insert "Z" between size and pressure series.
Example: EL06ZLREDCF

EL-M-ED

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



TUBE FITTING PART #	END SIZE		I 1 (mm)	I 2 (mm)	S1 (mm)	S3 (mm)	Pressure Rating (bar)			
	1 & 2 (mm)	3 Metric					EO		EO-2	
							CF	71	CF	71
EL06LMED	6	M10 x 1	12.0	34.5	14	12	500	315	500	315
EL08LMED	8	M12 x 1.5	14.0	37.5	17	12	500	315	500	315
EL10LMED	10	M14 x 1.5	15.0	40.0	19	14	500	315	500	315
EL12LMED	12	M16 x 1.5	17.0	42.0	22	17	400	315	400	315
EL15LMED	15	M18 x 1.5	21.0	46.0	24	19	400	315	400	315
EL18LMED	18	M22 x 1.5	23.5	50.0	27	24	400	315	400	315
EL22LMED	22	M26 x 1.5	27.5	55.0	32	27	250	160	250	160
EL28LMED	28	M33 x 2	30.5	59.0	41	36	250	160	250	160
EL35LMED	35	M42 x 2	34.5	68.5	50	41	250	160	250	160
EL42LMED	42	M48 x 2	40.0	75.0	55	50	250	160	250	160
EL06SMED	6	M12 x 1.5	16.0	40.0	17	12	800	630	800	630
EL08SMED	8	M14 x 1.5	17.0	42.5	19	14	800	630	800	630
EL10SMED	10	M16 x 1.5	17.5	45.0	22	17	800	630	800	630
EL12SMED	12	M18 x 1.5	21.5	48.0	24	17	630	630	630	630
EL14SMED	14	M20 x 1.5	22.0	54.0	27	19	630	630	630	630
EL16SMED	16	M22 x 1.5	24.5	55.0	27	24	630	400	630	400
EL20SMED	20	M27 x 2	26.5	65.0	32	27	420	400	420	400
EL25SMED	25	M33 x 2	30.0	73.0	41	36	420	400	420	400
EL30SMED	30	M42 x 2	35.5	78.5	50	41	420	400	420	400
EL38SMED	38	M48 x 2	41.0	89.0	55	50	420	315	420	315

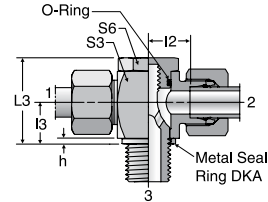
For EO-2 part number, insert "Z" between size and pressure series.
Example: EL06ZLMEDCF

Dimensions and pressures for reference only, subject to change.



TH-R

High Pressure Banjo Tee
24° Flareless / 24° Flareless / BSPP

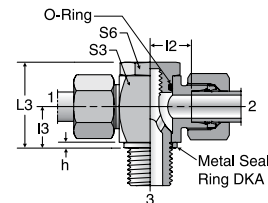


TUBE FITTING PART #	END SIZE		h (mm)	I2 (mm)	I3 (mm)	L3 (mm)	S3 (mm)	S6 (mm)	Pressure Rating (bar)			
	1 & 2 (mm)	3 BSPP							EO		EO-2	
									CF	71	CF	71
TH06LR	6	G 1/8 A	2.5	12.0	10.5	24	17	17	250	250	250	250
TH08LR	8	G 1/4 A	3.0	14.5	14.0	30	22	19	250	250	250	250
TH10LR	10	G 1/4 A	3.0	15.5	14.0	30	22	19	250	250	250	250
TH12LR	12	G 3/8 A	3.0	18.0	16.5	36	27	24	250	250	250	250
TH15LR	15	G 1/2 A	4.5	21.5	21.5	45	32	30	250	250	250	250
TH18LR	18	G 1/2 A	4.5	21.0	21.5	45	32	30	250	250	250	250
TH22LR	22	G 3/4 A	3.5	27.5	24.0	53	41	36	160	160	160	160
TH28LR	28	G 1 A	3.5	32.0	30.5	66	50	46	160	160	160	160
TH35LR	35	G 1 1/4 A	3.5	36.0	35.5	76	60	55	160	160	160	160
TH42LR	42	G 1 1/2 A	3.5	40.5	40.5	87	70	60	160	160	160	160
TH06SR	6	G 1/4 A	3.0	16.5	14.0	30	22	19	315	315	315	315
TH08SR	8	G 1/4 A	3.0	16.5	14.0	30	22	19	315	315	315	315
TH10SR	10	G 3/8 A	3.0	18.5	16.5	36	27	24	315	315	315	315
TH12SR	12	G 3/8 A	3.0	18.5	16.5	36	27	24	315	315	315	315
TH14SR	14	G 1/2 A	4.5	22.5	21.5	45	32	30	315	315	315	315
TH16SR	16	G 1/2 A	4.5	22.0	21.5	45	32	30	315	315	315	315
TH20SR	20	G 3/4 A	3.5	26.5	24.0	53	41	36	160	160	160	160
TH25SR	25	G 1 A	3.5	31.5	30.5	66	50	46	160	160	160	160
TH30SR	30	G 1 1/4 A	3.5	37.0	35.5	76	60	55	160	160	160	160
TH38SR	38	G 1 1/2 A	3.5	41.5	40.5	87	70	60	160	160	160	160

For EO-2 part number, insert "Z" between size and pressure series.
Example: TH06ZLRFC

TH-M

High Pressure Banjo Tee
24° Flareless / 24° Flareless / Metric Parallel



TUBE FITTING PART #	END SIZE		h (mm)	I2 (mm)	I3 (mm)	L3 (mm)	S3 (mm)	S6 (mm)	Pressure Rating (bar)			
	1 & 2 (mm)	3 Metric							EO		EO-2	
									CF	71	CF	71
TH06LM	6	M10 x 1	2.5	12.0	10.5	24.0	17	17	250	250	250	250
TH08LM	8	M12 x 1.5	3.0	14.5	14.0	30.0	22	19	250	250	250	250
TH10LM	10	M14 x 1.5	3.0	15.5	14.0	30.0	22	19	250	250	250	250
TH12LM	12	M16 x 1.5	3.0	18.0	16.5	36.0	27	24	250	250	250	250
TH15LM	15	M18 x 1.5	3.0	21.5	18.5	39.5	30	27	250	250	250	250
TH18LM	18	M22 x 1.5	4.5	21.0	21.5	45.0	32	30	250	250	250	250
TH22LM	22	M26 x 1.5	3.5	27.5	24.0	53.0	41	36	160	160	160	160
TH28LM	28	M33 x 2	3.5	32.0	30.5	66.0	50	46	160	160	160	160
TH35LM	35	M42 x 2	3.5	36.0	35.5	76.0	60	55	160	160	160	160
TH42LM	42	M48 x 2	3.5	40.5	40.5	87.0	70	60	160	160	160	160
TH06SM	6	M12 x 1.5	3.0	16.5	14.0	30.0	22	19	315	315	315	315
TH08SM	8	M14 x 1.5	3.0	16.5	14.0	30.0	22	19	315	315	315	315
TH10SM	10	M16 x 1.5	3.0	18.5	16.5	36.0	27	24	315	315	315	315
TH12SM	12	M18 x 1.5	3.0	20.0	18.5	39.5	27	27	315	315	315	315
TH14SM	14	M20 x 1.5	3.0	22.5	20.0	43.5	32	30	315	315	315	315
TH16SM	16	M22 x 1.5	4.5	22.0	21.5	45.0	32	30	315	315	315	315
TH20SM	20	M27 x 2	3.5	26.5	24.0	53.0	41	36	160	160	160	160
TH25SM	25	M33 x 2	3.5	31.5	30.5	66.0	50	46	160	160	160	160
TH30SM	30	M42 x 2	3.5	37.0	35.5	76.0	60	55	160	160	160	160
TH38SM	38	M48 x 2	3.5	41.5	40.5	87.0	70	60	160	160	160	160

For EO-2 part number, insert "Z" between size and pressure series.
Example: TH06ZLMCF

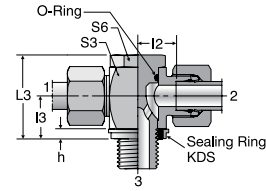
Dimensions and pressures for reference only, subject to change.



TH-R-KDS

High Pressure Banjo Tee

24° Flareless / 24° Flareless / BSPP



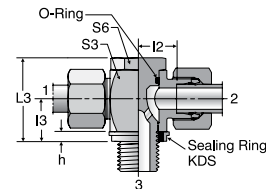
TUBE FITTING PART #	END SIZE		h (mm)	I2 (mm)	I3 (mm)	L3 (mm)	S3 (mm)	S6 (mm)	Pressure Rating (bar)			
	1 & 2 (mm)	3 BSPP							EO		EO-2	
									CF	71	CF	71
TH06LRKDS	6	G 1/8 A	2.5	12.0	10.5	24	17	17	315	315	315	315
TH08LRKDS	8	G 1/4 A	3.0	14.5	14.0	30	22	19	315	315	315	315
TH10LRKDS	10	G 1/4 A	3.0	15.5	14.0	30	22	19	315	315	315	315
TH12LRKDS	12	G 3/8 A	3.0	18.0	16.5	36	27	24	315	315	315	315
TH15LRKDS	15	G 1/2 A	4.5	21.5	21.5	45	32	30	315	315	315	315
TH18LRKDS	18	G 1/2 A	4.5	21.0	21.5	45	32	30	315	315	315	315
TH22LRKDS	22	G 3/4 A	3.5	27.5	24.0	53	41	36	160	160	160	160
TH28LRKDS	28	G 1 A	3.5	32.0	30.5	66	50	46	160	160	160	160
TH35LRKDS	35	G 1 1/4 A	3.5	36.0	35.5	76	60	55	160	160	160	160
TH42LRKDS	42	G 1 1/2 A	3.5	40.5	40.5	87	70	60	160	160	160	160
TH06SRKDS	6	G 1/4 A	3.0	16.5	14.0	30	22	19	400	400	400	400
TH08SRKDS	8	G 1/4 A	3.0	16.5	14.0	30	22	19	400	400	400	400
TH10SRKDS	10	G 3/8 A	3.0	18.5	16.5	36	27	24	400	400	400	400
TH12SRKDS	12	G 3/8 A	3.0	18.5	16.5	36	27	24	400	400	400	400
TH14SRKDS	14	G 1/2 A	4.5	22.5	21.5	45	32	30	400	400	400	400
TH16SRKDS	16	G 1/2 A	4.5	22.0	21.5	45	32	30	315	315	315	315
TH20SRKDS	20	G 3/4 A	3.5	26.5	24.0	53	41	36	315	315	315	315
TH25SRKDS	25	G 1 A	3.5	31.5	30.5	66	50	46	250	250	250	250
TH30SRKDS	30	G 1 1/4 A	3.5	37.0	35.5	76	60	55	160	160	160	160
TH38SRKDS	38	G 1 1/2 A	3.5	41.5	40.5	87	70	60	160	160	160	160

For EO-2 part number, insert "Z" between size and pressure series.
Example: TH06ZLRKDSCF

TH-M-KDS

High Pressure Banjo Tee

24° Flareless / 24° Flareless / Metric Parallel



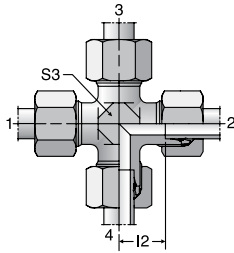
TUBE FITTING PART #	END SIZE		h (mm)	I2 (mm)	I3 (mm)	L3 (mm)	S3 (mm)	S6 (mm)	Pressure Rating (bar)			
	1 & 2 (mm)	3 Metric							EO		EO-2	
									CF	71	CF	71
TH06LMKDS	6	M10 x 1	2.5	12.0	10.5	24	17	17	315	315	315	315
TH08LMKDS	8	M12 x 1.5	3.0	14.5	14.0	30	22	19	315	315	315	315
TH10LMKDS	10	M14 x 1.5	3.0	15.5	14.0	30	22	19	315	315	315	315
TH12LMKDS	12	M16 x 1.5	3.0	18.0	16.5	36	27	24	315	315	315	315
TH15LMKDS	15	M18 x 1.5	3.0	21.5	18.5	39.5	30	27	315	315	315	315
TH18LMKDS	18	M22 x 1.5	4.5	21.0	21.5	45	32	30	315	315	315	315
TH22LMKDS	22	M26 x 1.5	3.5	27.5	24.0	53	41	36	160	160	160	160
TH28LMKDS	28	M33 x 2	3.5	32.0	30.5	66	50	46	160	160	160	160
TH35LMKDS	35	M42 x 2	3.5	36.0	35.5	76	60	55	160	160	160	160
TH42LMKDS	42	M48 x 2	3.5	40.5	40.5	87	70	60	160	160	160	160
TH06SMKDS	6	M12 x 1.5	3.0	16.5	14.0	30	22	19	400	400	400	400
TH08SMKDS	8	M14 x 1.5	3.0	16.5	14.0	30	22	19	400	400	400	400
TH10SMKDS	10	M16 x 1.5	3.0	18.5	16.5	36	27	24	400	400	400	400
TH12SMKDS	12	M18 x 1.5	3.0	20.0	18.5	39.5	27	27	400	400	400	400
TH14SMKDS	14	M20 x 1.5	3.0	22.5	20.0	43.5	32	30	400	400	400	400
TH16SMKDS	16	M22 x 1.5	4.5	22.0	21.5	45	32	30	315	315	315	315
TH20SMKDS	20	M27 x 2	3.5	26.5	24.0	53	41	36	315	315	315	315
TH25SMKDS	25	M33 x 2	3.5	31.5	30.5	66	50	46	250	250	250	250
TH30SMKDS	30	M42 x 2	3.5	37.0	35.5	76	60	55	160	160	160	160
TH38SMKDS	38	M48 x 2	3.5	41.5	40.5	87	70	60	160	160	160	160

For EO-2 part number, insert "Z" between size and pressure series.
Example: TH06ZLMKDSCF

Dimensions and pressures for reference only, subject to change.



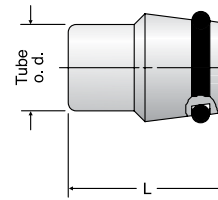
K
Union Cross
24° Flareless



TUBE FITTING PART #	END SIZE 1-4 (mm)	I 2 (mm)	S3 (mm)	Pressure Rating (bar)							
				EO			EO-2				
				CF	71	MS	CF	71			
K04LL	4	11.0	9	100	100	63	100	100			
K06LL	6	9.5	9	100	100	63	100	100			
K08LL	8	11.5	12	100	100	63	100	100			
K06L	6	12.0	12	315	315	200	315	315			
K08L	8	14.0	12	315	315	200	315	315			
K10L	10	15.0	14	315	315	200	315	315			
K12L	12	17.0	17	315	315	200	315	315			
K15L	15	21.0	19	315	315	200	315	315			
K18L	18	23.5	24	315	315	200	315	315			
K22L	22	27.5	27	160	160	100	160	160			
K28L	28	30.5	36	160	160	100	160	160			
K35L	35	34.5	41	160	160	100	160	160			
K42L	42	40.0	50	160	160	100	160	160			
K06S	6	16.0	12	630	630	400	630	630			
K08S	8	17.0	14	630	630	400	630	630			
K10S	10	17.5	17	630	630	400	630	630			
K12S	12	21.5	17	630	630	400	630	630			
K14S	14	22.0	19	400	400	250	400	400			
K16S	16	24.5	24	400	400	250	400	400			
K20S	20	26.5	27	315	315	200	315	315			
K25S	25	30.0	36	315	315	200	315	315			
K30S	30	35.5	41	315	315	200	315	315			
K38S	38	41.0	50	315	315	200	315	315			

For EO-2 part number, insert "Z" between size and pressure series.
Example: K06ZLCF

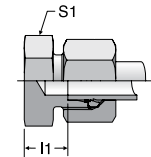
VKA
Cap



TUBE FITTING PART #	TUBE O.D. 1 (mm)	L (mm)	Pressure Rating (bar)		
			EO		
			CF	71	MS
VKA06	6	18.5	500	315	200
VKA08	8	18.5	500	315	200
VKA10	10	20.0	500	315	200
VKA12	12	20.5	400	315	200
VKA15	15	20.5	400	315	200
VKA18	18	22.5	400	315	200
VKA22	22	25.0	250	160	100
VKA28	28	25.5	250	160	100
VKA35	35	30.0	250	160	100
VKA42	42	30.0	250	160	100
VKA06	6	18.5	800	630	400
VKA08	8	18.5	800	630	400
VKA10	10	20.0	800	630	400
VKA12	12	20.5	630	630	400
VKA14	14	22.5	630	630	400
VKA16	16	23.5	630	400	250
VKA20	20	28.5	420	400	250
VKA25	25	29.0	420	400	250
VKA30	30	30.5	420	400	250
VKA38	38	33.0	420	315	200

Note: Part does not include tube nut.
Sizes 6,8,10 & 12 work with L and S Series.

ROV
Plug
24° Flareless



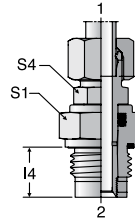
TUBE FITTING PART #	END SIZE 1 (mm)	I 1 (mm)	S1 (mm)	Pressure Rating (bar)			
				EO		EO-2	
				CF	71	CF	71
ROV06L	6	7	12	315	315	315	315
ROV08L	8	8	14	315	315	315	315
ROV10L	10	9	17	315	315	315	315
ROV12L	12	10.0	19	315	315	315	315
ROV15L	15	11.0	24	315	315	315	315
ROV18L	18	11.5	27	315	315	315	315
ROV22L	22	13.5	32	160	160	160	160
ROV28L	28	14.5	41	160	160	160	160
ROV35L	35	14.5	46	160	160	160	160
ROV42L	42	16.0	55	160	160	160	160
ROV06S	6	11.0	14	630	630	630	630
ROV08S	8	13.0	17	630	630	630	630
ROV10S	10	12.5	19	630	630	630	630
ROV12S	12	14.5	22	630	630	630	630
ROV14S	14	16.0	24	630	630	630	630
ROV16S	16	15.5	27	400	400	400	400
ROV20S	20	17.5	32	400	400	400	400
ROV25S	25	20.0	41	400	400	400	400
ROV30S	30	20.5	46	400	400	400	400
ROV38S	38	23.0	55	315	315	315	315

For EO-2 part number, insert "Z" between size and pressure series.
Example: ROV06ZLCF

Dimensions and pressures for reference only, subject to change.

DVGE-R

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

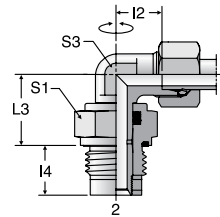


TUBE FITTING PART #	END SIZE		I 1 (mm)	I 4 (mm)	S 1 (mm)	S 4 (mm)	Pressure Rating (bar)	
	1 (mm)	2 BSPP					EO	CF
	DVGE06LR	6					G 1/4 A	21.0
DVGE08LR	8	G 1/4 A	21.0	18.0	19	14	40	
DVGE10LR	10	G 3/8 A	25.0	18.0	24	17	40	
DVGE12LR	12	G 1/2 A	27.0	21.0	27	19	40	
DVGE15LR	15	G 3/4 A	32.0	24.0	32	24	40	
DVGE18LR	18	G 1 A	35.0	27.5	41	27	40	
DVGE22LR	22	G 1 A	39.0	27.5	41	32	40	
DVGE28LR	28	G 1 1/4 A	40.5	31.0	50	41	40	
DVGE35LR	35	G 1 1/2 A	44.5	35.0	55	46	40	
DVGE06SR	6	G 1/4 A	23.0	18.0	19	14	100	
DVGE08SR	8	G 1/4 A	24.0	18.0	19	17	100	
DVGE10SR	10	G 3/8 A	26.5	18.0	24	19	100	
DVGE12SR	12	G 1/2 A	28.5	21.0	27	22	100	
DVGE16SR	16	G 3/4 A	33.5	24.0	32	27	100	
DVGE20SR	20	G 1 A	38.0	27.5	41	32	100	
DVGE25SR	25	G 1 A	40.5	27.5	41	41	100	
DVGE30SR	30	G 1 1/4 A	41.5	31.0	50	46	100	
DVGE38SR	38	G 1 1/2 A	47.0	35.0	55	55	100	

*Note: Port depth must be deeper than standard DIN 3852-2.

DVWE-R

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



TUBE FITTING PART #	END SIZE		I 2 (mm)	I 4 (mm)	L 3 (mm)	S 1 (mm)	S 3 (mm)	Pressure Rating (bar)	
	1 (mm)	2 BSPP						EO	CF
	DVWE06LR	6						G 1/4 A	12.0
DVWE08LR	8	G 1/4 A	14.0	18.0	21.0	19	12	40	
DVWE10LR	10	G 3/8 A	15.0	18.0	26.0	24	14	40	
DVWE12LR	12	G 1/2 A	17.0	21.0	27.0	27	17	40	
DVWE15LR	15	G 3/4 A	21.0	24.0	33.0	32	19	40	
DVWE18LR	18	G 1 A	23.5	27.5	37.5	41	27	40	
DVWE22LR	22	G 1 A	27.5	27.5	39.5	41	27	40	
DVWE28LR	28	G 1 1/4 A	30.5	31.0	44.0	50	36	40	
DVWE35LR	35	G 1 1/2 A	34.5	35.0	54.0	55	41	40	
DVWE06SR	6	G 1/4 A	16.0	18.0	21.0	19	12	100	
DVWE08SR	8	G 1/4 A	17.0	18.0	22.0	19	14	100	
DVWE10SR	10	G 3/8 A	17.5	18.0	27.0	24	17	100	
DVWE12SR	12	G 1/2 A	21.5	21.0	28.0	27	17	100	
DVWE16SR	16	G 3/4 A	24.5	24.0	34.0	32	24	100	
DVWE20SR	20	G 1 A	26.5	27.5	39.5	41	27	100	
DVWE25SR	25	G 1 A	30.0	27.5	42.5	41	36	100	
DVWE30SR	30	G 1 1/4 A	35.5	31.0	48.0	50	41	100	
DVWE38SR	38	G 1 1/2 A	41.0	35.0	55.0	55	50	100	

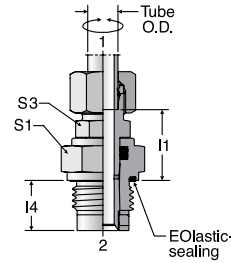
*Note: Port depth must be deeper than standard DIN 3852-2.

Dimensions and pressures for reference only, subject to change.



DVGE-M

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

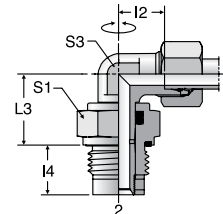


TUBE FITTING PART #	END SIZE		I1 (mm)	I4 (mm)	S1 (mm)	S3 (mm)	Pressure Rating (bar)	
	1 (mm)	2 Metric					EO	CF
	DVGE06LM	6						
DVGE08LM	8	M 14 x 1.5	21.0	18.0	19	12	40	
DVGE10LM	10	M 18 x 1.5	26.0	18.0	24	14	40	
DVGE12LM	12	M 22 x 1.5	27.0	21.0	27	17	40	
DVGE15LM	15	M 27 x 2	33.0	24.0	32	19	40	
DVGE18LM	18	M 33 x 2	37.5	27.5	41	27	40	
DVGE22LM	22	M 33 x 2	39.5	27.5	41	27	40	
DVGE28LM	28	M 42 x 2	44.0	31.0	50	36	40	
DVGE35LM	35	M 48 x 2	54.0	35.0	55	41	40	
DVGE06SM	6	M 14 x 1.5	21.0	18.0	19	12	100	
DVGE08SM	8	M 14 x 1.5	22.0	18.0	19	14	100	
DVGE10SM	10	M 18 x 1.5	27.0	18.0	24	17	100	
DVGE12SM	12	M 22 x 1.5	28.0	21.0	27	17	100	
DVGE16SM	16	M 27 x 2	34.0	24.0	32	24	100	
DVGE20SM	20	M 33 x 2	39.5	27.5	41	27	100	
DVGE25SM	25	M 33 x 2	42.5	27.5	41	36	100	
DVGE30SM	30	M 42 x 2	48.0	31.0	50	41	100	
DVGE38SM	38	M 48 x 2	55.0	35.0	55	50	100	

*Note: Port depth must be deeper than standard DIN 3852-1.

DVWE-M

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



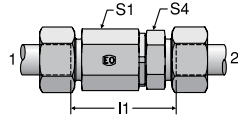
TUBE FITTING PART #	END SIZE		I2 (mm)	I4 (mm)	L3 (mm)	S1 (mm)	S3 (mm)	Pressure Rating (bar)	
	1 (mm)	2 Metric						EO	CF
	DVWE06LM	6							
DVWE08LM	8	M 14 x 1.5	14.0	18.0	21.0	19	12	40	
DVWE10LM	10	M 18 x 1.5	15.0	18.0	26.0	24	14	40	
DVWE12LM	12	M 22 x 1.5	17.0	21.0	27.0	27	17	40	
DVWE15LM	15	M 27 x 2	21.0	24.0	33.0	32	19	40	
DVWE18LM	18	M 33 x 2	23.5	27.5	37.5	41	27	40	
DVWE22LM	22	M 33 x 2	27.5	27.5	39.5	41	27	40	
DVWE28LM	28	M 42 x 2	30.5	31.0	44.0	50	36	40	
DVWE35LM	35	M 48 x 2	34.5	35.0	54.0	55	41	40	
DVWE06SM	6	M 14 x 1.5	16.0	18.0	21.0	19	12	100	
DVWE08SM	8	M 14 x 1.5	17.0	18.0	22.0	19	14	100	
DVWE10SM	10	M 18 x 1.5	17.5	18.0	27.0	24	17	100	
DVWE12SM	12	M 22 x 1.5	21.5	21.0	28.0	27	17	100	
DVWE16SM	16	M 27 x 2	24.5	24.0	34.0	32	24	100	
DVWE20SM	20	M 33 x 2	26.5	27.5	39.5	41	27	100	
DVWE25SM	25	M 33 x 2	30.0	27.5	42.5	41	36	100	
DVWE30SM	30	M 42 x 2	35.5	31.0	48.0	50	41	100	
DVWE38SM	38	M 48 x 2	41.0	35.0	55.0	55	50	100	

*Note: Port depth must be deeper than standard DIN 3852-1.

Dimensions and pressures for reference only, subject to change.

DG101

Ball Bearing Rotary Union
24° Flareless / 24° Flareless

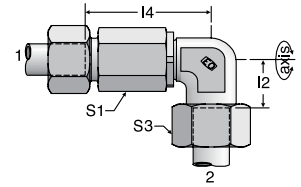


TUBE FITTING PART #	END SIZE		I 1 (mm)	S1 (mm)	S4 (mm)	Pressure Rating (bar)	
	1 & 2 (mm)					EO	CF
	DG101/06S	6				47	22
DG101/08S	8	47	22	17		•	
DG101/12S	12	57	30	24		•	
DG101/16S	16	57	30	27		•	
DG101/20S	20	71	41	36		•	
DG101/25S	25	72	41	41		•	
DG101/30S	30	82	60	46			
DG101/38S	38	82	60	55			

Note: See Table E1 on page E7 for RPM/working pressure data.

DG103

Ball Bearing Rotary Elbow
24° Flareless / 24° Flareless

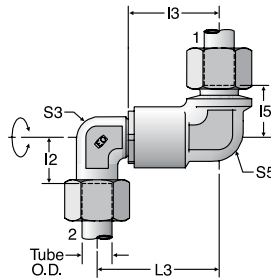


TUBE FITTING PART #	END SIZE		I 2 (mm)	I 4 (mm)	S1 (mm)	S3 (mm)	Pressure Rating (bar)	
	1 & 2 (mm)						EO	CF
	DG103/06S	6					16.0	44.5
DG103/08S	8	17.0	44.5	22	19		•	
DG103/12S	12	21.5	55.5	30	24		•	
DG103/16S	16	24.5	54.5	30	30		•	
DG103/20S	20	26.5	72.5	41	36		•	
DG103/25S	25	30.0	71.0	41	46		•	
DG103/30S	30	35.5	89.0	60	50		•	
DG103/38S	38	41.0	86.5	60	60			

Note: See Table E1 on page E7 for RPM/working pressure data.

DG105

Ball Bearing Rotary Union
24° Flareless / 24° Flareless

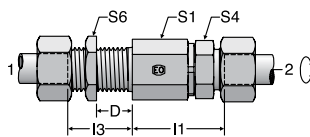


TUBE FITTING PART #	END SIZE		I 2 (mm)	I 3 (mm)	I 5 (mm)	L 3 (mm)	S 3 (mm)	S 5 (mm)	Pressure Rating (bar)	
	1 & 2 (mm)								EO	CF
	DG105/12S	12							21.5	39.5
DG105/16S	16	24.5	39.5	25.5	53.0	22	24		•	
DG105/20S	20	26.5	56.5	39.5	76.0	36	32		•	
DG105/25S	25	30.0	56.5	38.0	76.0	36	32		•	
DG105/30S	30	35.5	65.0	44.5	92.5	50	50		•	
DG105/38S	38	41.0	65.0	42.0	92.5	50	50		•	

Note: See Table E1 on page E7 for RPM/working pressure data.

DG107

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



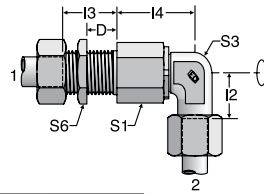
TUBE FITTING PART #	END SIZE		D (mm)	I 1 (mm)	I 3 (mm)	S 1 (mm)	S 4 (mm)	S 6 (mm)	Pressure Rating (bar)	
	1 & 2 (mm)								EO	CF
	DG107/06S	6							5	42.0
DG107/08S	8	5	42.0	16.0	22	17	22		•	
DG107/12S	12	5	52.5	15.5	30	24	27		•	
DG107/16S	16	5	51.5	17.5	30	27	32		•	
DG107/20S	20	15	65.5	28.5	41	36	41		•	
DG107/25S	25	15	66.0	30.0	41	41	46		•	
DG107/30S	30	15	75.5	30.5	60	46	50		•	
DG107/38S	38	15	76.0	31.0	60	55	65		•	

Note: See Table E1 on page E7 for RPM/working pressure data.

Dimensions and pressures for reference only, subject to change.

DG108

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

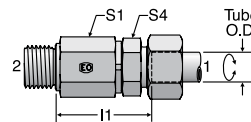


TUBE FITTING PART #	END SIZE		I 2 (mm)	I 3 (mm)	I 4 (mm)	S 1 (mm)	S 3 (mm)	S 6 (mm)	Pressure Rating (bar)	
	1 & 2 (mm)	D (mm)							EO	CF
DG108/06S	6	5	16.0	16.0	39.5	22	17	19		•
DG108/08S	8	5	17.0	16.0	39.5	22	17	22		•
DG108/12S	12	5	21.5	15.5	51.0	30	22	27		•
DG108/16S	16	5	24.5	17.5	49.0	30	22	32		•
DG108/20S	20	15	26.5	28.5	67.0	41	36	41		•
DG108/25S	25	15	30.0	30.0	65.0	41	36	46		•
DG108/30S	30	15	35.5	30.5	82.5	60	50	50		•
DG108/38S	38	15	41.0	31.0	80.5	60	50	65		•

Note: See Table E1 on page E7 for RPM/working pressure data.

DG102-R

Ball Bearing Rotary Straight
24° Flareless / BSPP

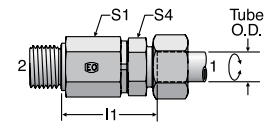


TUBE FITTING PART #	END SIZE		I 1 (mm)	S 1 (mm)	S 4 (mm)	Pressure Rating (bar)	
	1 (mm)	2 BSPP				EO	CF
DG102/06SR	6	G 1/4 A	42.0	22	17		•
DG102/08SR	8	G 1/4 A	42.0	22	17		•
DG102/12SR	12	G 3/8 A	52.5	30	24		•
DG102/16SR	16	G 1/2 A	51.5	30	27		•
DG102/20SR	20	G 3/4 A	65.5	41	36		•
DG102/25SR	25	G 1 A	66.0	41	41		•
DG102/30SR	30	G 1 1/4 A	75.5	60	46		•
DG102/38SR	38	G 1 1/2 A	76.0	60	55		•

Note: See Table E1 on page E7 for RPM/working pressure data.

DG102-M

Ball Bearing Rotary Straight
24° Flareless / Metric Parallel

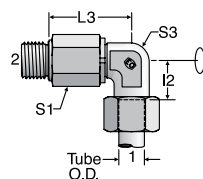


TUBE FITTING PART #	END SIZE		I 1 (mm)	S 1 (mm)	S 4 (mm)	Pressure Rating (bar)	
	1 (mm)	2 Metric				EO	CF
DG102/06SM	6	M14 x 1.5	42.0	22	17		•
DG102/08SM	8	M14 x 1.5	42.0	22	17		•
DG102/12SM	12	M18 x 1.5	52.5	30	24		•
DG102/16SM	16	M22 x 1.5	51.5	30	27		•
DG102/20SM	20	M27 x 2	65.5	41	36		•
DG102/25SM	25	M33 x 2	66.0	41	41		•
DG102/30SM	30	M42 x 2	75.5	60	46		•
DG102/38SM	38	M48 x 2	76.0	60	55		•

Note: See Table E1 on page E7 for RPM/working pressure data.

DG104-R

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



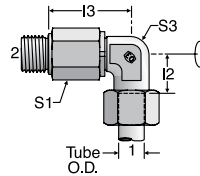
TUBE FITTING PART #	END SIZE		i 2 (mm)	L 3 (mm)	S 1 (mm)	S 3 (mm)	Pressure Rating (bar)	
	1 (mm)	2 BSPP					EO	CF
DG104/06SR	6	G 1/4 A	16.0	39.5	22	17		•
DG104/08SR	8	G 1/4 A	17.0	39.5	22	17		•
DG104/12SR	12	G 3/8 A	21.5	51.0	30	22		•
DG104/16SR	16	G 1/2 A	24.5	49.0	30	22		•
DG104/20SR	20	G 3/4 A	26.5	67.0	41	36		•
DG104/25SR	25	G 1 A	30.0	65.0	41	36		•
DG104/30SR	30	G 1 1/4 A	35.5	82.5	60	50		•
DG104/38SR	38	G 1 1/2 A	41.0	80.5	60	50		•

Note: See Table E1 on page E7 for RPM/working pressure data.

Dimensions and pressures for reference only, subject to change.

DG104-M

Ball Bearing Rotary Elbow
24° Flareless / Metric Parallel

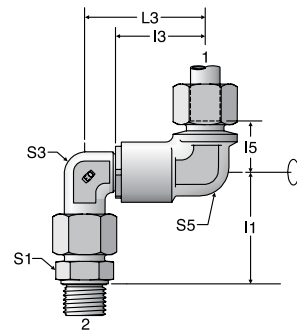


TUBE FITTING PART #	END SIZE		I2 (mm)	I3 (mm)	S1 (mm)	S3 (mm)	Pressure Rating (bar)	
	1 (mm)	2 Metric					EO	CF
DG104/06SM	6	M14 x 1.5	16.0	39.5	22	17		
DG104/08SM	8	M14 x 1.5	17.0	39.5	22	17	•	
DG104/12SM	12	M18 x 1.5	21.5	51.0	30	22	•	
DG104/16SM	16	M22 x 1.5	24.5	49.0	30	22	•	
DG104/20SM	20	M27 x 2	26.5	67.0	41	36		
DG104/25SM	25	M33 x 2	30.0	65.0	41	36	•	
DG104/30SM	30	M42 x 2	35.5	82.5	60	50		
DG104/38SM	38	M48 x 2	41.0	80.5	60	50		

Note: See Table E1 on page E7 for RPM/working pressure data.

DG106-R

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

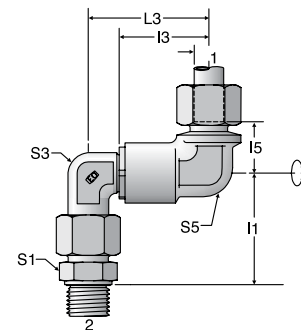


TUBE FITTING PART #	END SIZE		I1 (mm)	I3 (mm)	I5 (mm)	L3 (mm)	S1 (mm)	S3 (mm)	S5 (mm)	Pressure Rating (bar)	
	1 (mm)	2 BSPP								EO	CF
DG106/12SR	12	G 3/8 A	55.5	39.5	26.5	53.0	22	24	22		
DG106/16SR	16	G 1/2 A	61.5	39.5	25.5	53.0	27	24	24	•	
DG106/20SR	20	G 3/4 A	69.5	56.5	39.5	76.0	32	36	32		
DG106/25SR	25	G 1 A	78	56.5	38.0	76.0	41	36	32		
DG106/30SR	30	G 1 1/4 A	86.5	65.0	44.5	92.5	50	50	50		
DG106/38SR	38	G 1 1/2 A	101.0	65.0	42.0	92.5	55	50	50		

Note: See Table E1 on page E7 for RPM/working pressure data.

DG106-M

Ball Bearing Rotary Double Elbow
24° Flareless / Metric Parallel



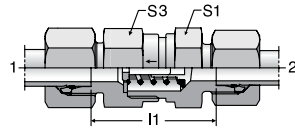
TUBE FITTING PART #	END SIZE		I1 (mm)	I3 (mm)	I5 (mm)	L3 (mm)	S1 (mm)	S3 (mm)	S5 (mm)	Pressure Rating (bar)	
	1 (mm)	2 Metric								EO	CF
DG106/12SM	12	M18 x 1.5	55.5	39.5	26.5	53	24	24	22		
DG106/16SM	16	M22 x 1.5	61.5	39.5	25.5	53	27	24	24	•	
DG106/20SM	20	M27 x 2	69.5	56.5	39.5	76	32	36	32		
DG106/25SM	25	M33 x 2	78.0	56.5	38.0	76	41	36	32		
DG106/30SM	30	M42 x 2	86.5	65.0	44.5	92.5	50	50	50		
DG106/38SM	38	M48 x 2	101.0	65.0	42.0	92.5	55	50	50		

Note: See Table E1 on page E7 for RPM/working pressure data.

Dimensions and pressures for reference only, subject to change.

RHD

Non-Return Valve
24° Flareless / 24° Flareless



TUBE FITTING PART #	END SIZE		DN SIZE (mm)	I 1 (mm)	S1 (mm)	S3 Steel (mm)	S3 (Stainless Steel) (mm)	Pressure Rating (bar)			
	1 & 2 (mm)	1 & 2 (mm)						EO		EO-2	
								CF	71	CF	71
RHD06L	6	4	29.0	17	17	17	17	400	250	400	250
RHD08L	8	6	30.0	19	19	19	19	400	250	400	250
RHD10L	10	8	40.5	22	24	24	24	400	250	400	250
RHD12L	12	10	43.5	27	30	30	30	400	250	400	250
RHD15L	15	12	47.5	27	32	32	32	400	250	400	250
RHD18L	18	16	51.5	36	41	36	36	400	160	400	160
RHD22L	22	20	61.5	41	46	46	46	250	160	250	160
RHD28L	28	25	69.5	50	55	55	55	250	100	250	100
RHD35L	35	32	74.5	60	65	60	60	250	100	250	100
RHD42L	42	32	74.0	65	70	70	70	250	100	250	100
RHD06S	6	3	34.5	19	19	19	19	420	400	420	400
RHD08S	8	4	34.5	19	19	19	19	420	400	420	400
RHD10S	10	6	40.5	22	24	24	24	420	400	420	400
RHD12S	12	8	42.5	24	27	27	27	420	400	420	400
RHD14S	14	10	47.5	27	32	32	32	420	315	420	315
RHD16S	16	12	50.5	32	36	36	36	420	315	420	315
RHD20S	20	16	54.5	41	50	46	46	420	250	420	250
RHD25S	25	20	58.5	46	55	50	50	420	250	420	250
RHD30S	30	25	69.5	60	60	60	60	250	250	250	250
RHD38S	38	32	75.5	65	70	70	70	250	250	250	250

Note: These valves are not compatible with steam, oxygen and explosive gases.

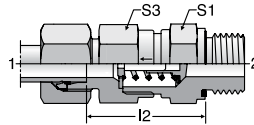
For EO-2 part number, insert "Z" between size and pressure series.

Example: RHD06ZLCF

For Optional Opening Pressures see page E8.

RHV-R-ED

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



TUBE FITTING PART #	END SIZE		DN SIZE (mm)	I 2 (mm)	S1 (mm)	S3 (Steel) (mm)	S3 (Stainless Steel) (mm)	Pressure Rating (bar)			
	1 (mm)	2 BSPP						EO		EO-2	
								CF	71	CF	71
RHV06LRED	6	G 1/8 A	3.5	28.0	17	17	17	400	250	400	250
RHV08LRED	8	G 1/4 A	5.5	30.0	19	19	19	400	250	400	250
RHV10LRED	10	G 1/4 A	7.5	38.5	22	24	24	400	250	400	250
RHV12LRED	12	G 3/8 A	9.5	42.5	27	30	30	400	250	400	250
RHV15LRED	15	G 1/2 A	11.0 ¹	45.5	27	32	32	400	250	400	250
RHV18LRED	18	G 1/2 A	14.0	50.0	36	41	36	400	160	400	160
RHV22LRED	22	G 3/4 A	18.0	55.0	41	46	46	250	160	250	160
RHV28LRED	28	G 1 A	23.0	63.0	50	55	55	250	100	250	100
RHV35LRED	35	G 1 1/4 A	29.0	69.0	60	65	60	250	100	250	100
RHV42LRED	42	G 1 1/2 A	29.0	68.5	65	70	70	250	100	250	100
RHV06SRED	6	G 1/4 A	3.5	31.5	19	19	19	420	400	420	400
RHV08SRED	8	G 1/4 A	3.5	31.5	19	19	19	420	400	420	400
RHV10SRED	10	G 3/8 A	5.5	38.0	22	24	24	420	400	420	400
RHV12SRED	12	G 3/8 A	7.5	41.0	24	27	27	420	400	420	400
RHV14SRED	14	G 1/2 A	9.5	44.5	27	32	32	420	315	420	315
RHV16SRED	16	G 1/2 A	11.0 ¹	48.0	32	36	36	420	315	420	315
RHV20SRED	20	G 3/4 A	15.0	52.0	41	50	46	420	250	420	250
RHV25SRED	25	G 1 A	19.0	54.5	46	55	50	420	250	420	250
RHV30SRED	30	G 1 1/4 A	24.0	64.0	60	60	60	250	250	250	250
RHV38SRED	38	G 1 1/2 A	29.0	69.5	65	70	70	250	250	250	250

Note: These valves are not compatible with steam, oxygen and explosive gases.

¹Stainless steel is 11.5

For EO-2 part number, insert "Z" between size and pressure series.

Example: RHV06ZLREDCF

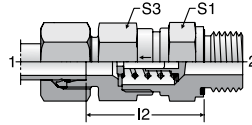
For Optional Opening Pressures see page E8.

Dimensions and pressures for reference only, subject to change.



RHV-M-ED

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



TUBE FITTING PART #	END SIZE		DN SIZE (mm)	I 2 (mm)	S1 (mm)	S3 (Steel) (mm)	S3 (Stainless Steel) (mm)	Pressure Rating (bar)			
	1 (mm)	2 Metric						EO		EO-2	
								CF	71	CF	71
RHV06LMED	6	M10 x 1	3.5	28.0	17	17	17	400	250	400	250
RHV08LMED	8	M12 x 1.5	5.5	29.0	19	19	19	400	250	400	250
RHV10LMED	10	M14 x 1.5	7.5	38.5	22	24	24	400	250	400	250
RHV12LMED	12	M16 x 1.5	9.5	42.5	27	30	30	400	250	400	250
RHV15LMED	15	M18 x 1.5	11.0 ¹	45.5	27	32	32	400	250	400	250
RHV18LMED	18	M22 x 1.5	14.0	50.0	36	41	36	400	160	400	160
RHV22LMED	22	M26 x 1.5	18.0	55.0	41	46	46	250	160	250	160
RHV28LMED	28	M33 x 2	23.0	63.0	50	55	55	250	100	250	100
RHV35LMED	35	M42 x 2	29.0	69.0	60	65	60	250	100	250	100
RHV42LMED	42	M48 x 2	29.0	68.5	65	70	70	250	100	250	100
RHV06SMED	6	M12 x 1.5	3.5	31.5	19	19	19	420	400	420	400
RHV08SMED	8	M14 x 1.5	3.5	31.5	19	19	19	420	400	420	400
RHV10SMED	10	M16 x 1.5	5.5	38.0	22	24	24	420	400	420	400
RHV12SMED	12	M18 x 1.5	7.5	41.0	24	27	27	420	400	420	400
RHV14SMED	14	M20 x 1.5	9.5	44.5	27	32	32	420	315	420	315
RHV16SMED	16	M22 x 1.5	11.0 ¹	48.0	32	36	36	420	315	420	315
RHV20SMED	20	M27 x 2	15.0	52.0	41	50	46	420	250	420	250
RHV25SMED	25	M33 x 2	19.0	54.5	46	55	50	420	250	420	250
RHV30SMED	30	M42 x 2	24.0	64.0	60	60	60	250	250	250	250
RHV38SMED	38	M48 x 2	29.0	69.5	65	70	70	250	250	250	250

¹Stainless steel is 11.5

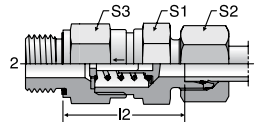
For EO-2 part number, insert "Z" between size and pressure series.
Example: RHV06ZLMEDCF

For Optional Opening Pressures see page E8.

Note: These valves are not compatible with steam, oxygen and explosive gases.

RHZ-R-ED

Non-Return Valve
24° Flareless / BSPP



TUBE FITTING PART #	END SIZE		DN SIZE (mm)	I 2 (mm)	S1 (mm)	S3 (Steel) (mm)	S3 (Stainless Steel) (mm)	Pressure Rating (bar)			
	1 (mm)	2 BSPP						EO		EO-2	
								CF	71	CF	71
RHZ06LRED	6	G 1/8 A	3.5	26.5	17	17	17	400	250	400	250
RHZ08LRED	8	G 1/4 A	5.5	28.5	19	19	19	400	250	400	250
RHZ10LRED	10	G 1/4 A	7.5	38.5	22	24	24	400	250	400	250
RHZ12LRED	12	G 3/8 A	9.5	40.5	27	30	30	400	250	400	250
RHZ15LRED	15	G 1/2 A	11.0 ¹	42.5	27	32	32	400	250	400	250
RHZ18LRED	18	G 1/2 A	14.0	48.0	36	41	36	400	160	400	160
RHZ22LRED	22	G 3/4 A	18.0	56.0	41	46	46	250	160	250	160
RHZ28LRED	28	G 1 A	23.0	64.0	50	55	55	250	100	250	100
RHZ35LRED	35	G 1 1/4 A	29.0	70.0	60	65	60	250	100	250	100
RHZ42LRED	42	G 1 1/2 A	29.0	70.5	65	70	70	250	100	250	100
RHZ06SRED	6	G 1/4 A	3.5	31.5	19	19	19	420	400	420	400
RHZ08SRED	8	G 1/4 A	3.5	31.5	19	19	19	420	400	420	400
RHZ10SRED	10	G 3/8 A	5.5	38.0	22	24	24	420	400	420	400
RHZ12SRED	12	G 3/8 A	7.5	41.0	24	27	27	420	400	420	400
RHZ14SRED	14	G 1/2 A	9.5	43.5	27	32	32	420	315	420	315
RHZ16SRED	16	G 1/2 A	11.0 ¹	46.0	32	36	36	420	315	420	315
RHZ20SRED	20	G 3/4 A	15.0	50.0	41	50	46	420	250	420	250
RHZ25SRED	25	G 1 A	19.0	54.5	46	55	50	420	250	420	250
RHZ30SRED	30	G 1 1/4 A	24.0	64.0	60	60	60	250	250	250	250
RHZ38SRED	38	G 1 1/2 A	29.0	71.5	65	70	70	250	250	250	250

¹Stainless steel is 11.5

For EO-2 part number, insert "Z" between size and pressure series.
Example: RHZ06ZLREDCF

For Optional Opening Pressures see page E8.

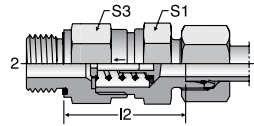
Note: These valves are not compatible with steam, oxygen and explosive gases.

Dimensions and pressures for reference only, subject to change.



RHZ-M-ED

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



TUBE FITTING PART #	END SIZE		DN SIZE (mm)	I 2 (mm)	S1 (mm)	S3 (mm)	Pressure Rating (bar)			
	1 (mm)	2 Metric					EO		EO-2	
							CF	71	CF	71
RHZ06LMED	6	M10 x 1	3.5	26.5	17	17	400	250	400	250
RHZ08LMED	8	M12 x 1.5	5.5	28.5	19	19	400	250	400	250
RHZ10LMED	10	M14 x 1.5	7.5	38.5	22	24	400	250	400	250
RHZ12LMED	12	M16 x 1.5	9.5	40.5	27	30	400	250	400	250
RHZ15LMED	15	M18 x 1.5	11.5	42.5	27	32	400	250	400	250
RHZ18LMED	18	M22 x 1.5	14.0	48.0	36	41	400	160	400	160
RHZ22LMED	22	M26 x 1.5	18.0	56.0	41	46	250	160	250	160
RHZ28LMED	28	M33 x 2	23.0	64.0	50	55	250	100	250	100
RHZ35LMED	35	M42 x 2	29.0	70.0	60	65	250	100	250	100
RHZ42LMED	42	M48 x 2	29.0	70.5	65	70	250	100	250	100
RHZ06SMED	6	M12 x 1.5	3.5	31.5	19	19	420	400	420	400
RHZ08SMED	8	M14 x 1.5	3.5	31.5	19	19	420	400	420	400
RHZ10SMED	10	M16 x 1.5	5.5	38.0	22	24	420	400	420	400
RHZ12SMED	12	M18 x 1.5	7.5	41.0	24	27	420	400	420	400
RHZ14SMED	14	M20 x 1.5	9.5	43.5	27	32	420	315	420	315
RHZ16SMED	16	M22 x 1.5	11.5	46.0	32	36	420	315	420	315
RHZ20SMED	20	M27 x 2	15.0	50.0	41	50	420	250	420	250
RHZ25SMED	25	M33 x 2	19.0	54.5	46	55	420	250	420	250
RHZ30SMED	30	M42 x 2	24.0	64.0	60	60	250	250	250	250
RHZ38SMED	38	M48 x 2	29.0	71.5	65	70	250	250	250	250

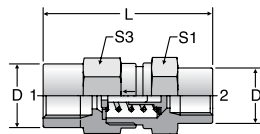
Note: These valves are not compatible with steam, oxygen and explosive gases.

For EO-2 part number, insert "Z" between size and pressure series.
Example: RHZ06ZLMEDCF

For Optional Opening Pressures see page E8.

RHDI

Non-Return Valve
BSPP Female / BSPP Female



TUBE FITTING PART #	END SIZE 1 & 2 BSPP	DN SIZE (mm)	D (mm)	L (mm)	S1 (mm)	S3 (mm)	Pressure Rating (bar)	
							EO	
							CF	71
RHD11/8	G 1/8	3.5	19	42.5	19	19	400	400
RHD11/4	G 1/4	3.5	19	51	19	19	400	400
RHD13/8	G 3/8	7.5	24	60	24	27	400	400
RHD11/2	G 1/2	11.5	32	72	32	36	315	315
RHD13/4	G 3/4	15.0	41	84	41	46	250	250
RHD1	G 1	19.0	46	95	46	50	250	250
RHD111/4	G 1 1/4	24.0	60	110	60	60	250	250
RHD111/2	G 1 1/2	29.0	65	114	65	70	250	250

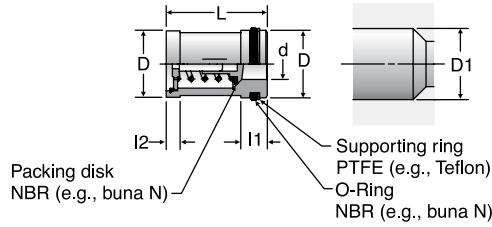
Note: These valves are not compatible with steam, oxygen and explosive gases.

For Optional Opening Pressures see page E8.

Dimensions and pressures for reference only, subject to change.

RVP

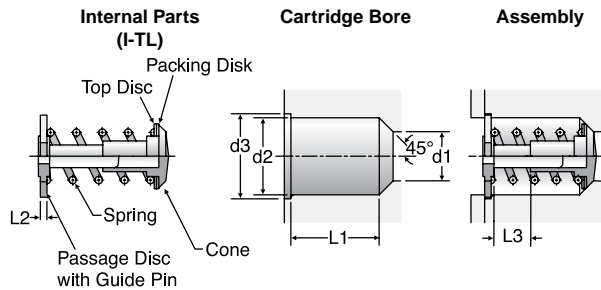
Non-Return Valve
Cartridge



TUBE FITTING PART #	d (mm)	D (mm)	D1 (mm)	I1 (mm)	I2 (mm)	L (mm)	Pressure Rating (bar)	
							EO	
							CF	71
RVP13	3.5	13	13	9.5	6.0	23.0	420	400
RVP16	5.5	16	16	9.5	6.5	26.5	420	400
RVP20	7.5	20	20	9.5	6.5	30.0	420	400
RVP24	9.5	24	24	12.0	7.5	35.0	420	315
RVP27	11.5	27	27	12.0	7.5	38.0	420	315
RVP35	15.0	35	35	12.0	9.5	44.5	420	250
RVP40	19.0	40	40	12.0	11.0	50.5	420	250
RVP47	24.0	47	47	13.0	13.0	60.0	250	250
RVP55	29.0	55	55	16.0	13.0	70.0	250	250

I-TL

Non-Return Valve
Internal Parts



TUBE FITTING PART #	For Use With	d1 (mm)	d2 (mm)	d3 (mm)	L1 (mm)	L2 (mm)	L3 (mm)	STANDARD FROM STOCK		
								S	SS	B
								ITL06L/06 + 08S	6L, 6S, 8S	3.5
ITL08L/10S	8L, 10S	5.5	10.2	11.6	11.0	2.0	1.7	•		
ITL10L/12S	10L, 12S	7.5	13.0	14.1	14.0	2.0	2.3	•		
ITL12L/14S	12L, 14S	9.5	16.7	18.1	16.5	2.5	2.9	•		
ITL15L/16S	15L, 16S	11.5	19.5	20.6	19.0	2.5	3.5	•		
ITL18L/20S	18L, 20S	15	25.2	27.1	22.5	3.0	4.4			
ITL22L/25S	22L, 25S	19	30.8	32.6	27.0	3.0	5.5	•		
ITL28L/30S	28L, 30S	24	38.6	40.6	32.5	3.5	7.3			
ITL35L + 42L/38S	35L, 42L, 38S	29	45.7	48.1	37.5	3.5	8.9			

Note: Omit "CF" in the part number for steel material.

Standard: Material steel zinc plated (CF), springs phosphated and oiled. Packing disc of NBR (e.g., buna N), opening pressure 1 bar.

On request:

- Packing disc of FKM (e.g., fluorocarbon)
- Stainless steel 1.4571, packing disc of NBR (e.g., buna N) or FKM (e.g., fluorocarbon) (on request).

Temperature rating, without pressure reductions of steel non-return valves with NBR seals (e.g., buna N-standard) is -35°C to +100°C and with FKM seals (e.g., fluorocarbon) (on request) is -25°C to +120°C.

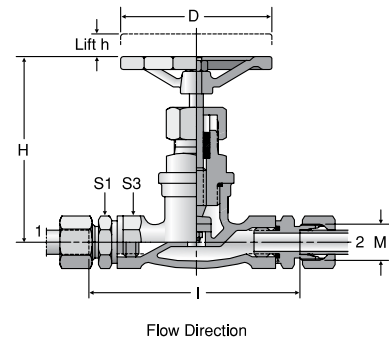
Dimensions and pressures for reference only, subject to change.



DV

Shut-Off Valve, PN 10
24° Flareless / 24° Flareless

TUBE FITTING PART #	END SIZE 1 & 2 (mm)	M Metric	DN SIZE (mm)	D (mm)	h Lift (mm)	H (mm)	I (mm)	S1 (mm)	S3 (mm)	Pressure Rating (bar)	
										EO	MS
										DV06L	6
DV08L	8	14 x 1.5	6	50	7	63	88	22	21	10	10
DV10L	10	16 x 1.5	8	50	7	63	90	22	21	10	10
DV12L	12	18 x 1.5	10	50	7	63	90	22	21	10	10
DV15L	15	22 x 1.5	12	50	8	65	93	27	25	10	10
DV18L	18	26 x 1.5	16	50	8	67	94	27	25	10	10
DV22L	22	30 x 2	20	60	8	67	108	32	32	10	10
DV28L	28	36 x 2	25	60	10	95	125	41	38	10	10
DV35L	35	45 x 2	32	70	10	102	145	50	47	10	10

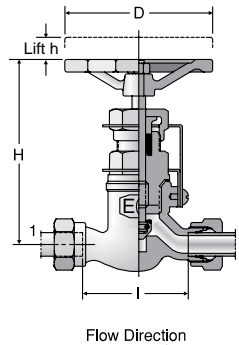


Note: The pressure specification PN for hand operated shut-off valves applies to the design factor 1.5 (according to DIN 3230 T5 and ISO 5208). Omit "MS" in the part number for brass material.

LD

Shut-Off Valve, PN 40
24° Flareless / 24° Flareless

TUBE FITTING PART #	END SIZE 1 & 2 (mm)	DN SIZE (mm)	D (mm)	h LIFT (mm)	H (mm)	I (mm)	Pressure Rating (bar)	
							EO	MS
							LD10S	10
LD12S	12	8	63	7	98	49	40	40
LD14S	14	10	63	7	98	54	40	40
LD16S	16	12	80	9	110	67	40	40
LD20S	20	16	80	9	110	69	40	40
LD25S	25	20	100	12	129	86	40	40
LD30S	30	25	100	12	129	93	40	40
LD38S	38	32	100	12	158	108	40	40



Note: The pressure specification PN for hand operated shut-off valves applies to the design factor 1.5 (according to DIN 3230 T5 and ISO 5208). Omit "MS" in the part number for brass material.

Dimensions and pressures for reference only, subject to change.

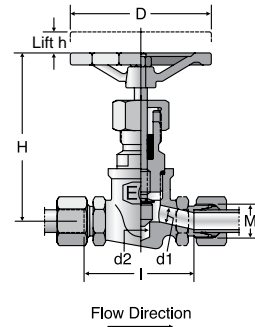
VDHA

High Pressure Valve
24° Flareless / 24° Flareless

TUBE FITTING PART #	END SIZE (mm)	DN SIZE (mm)	d1 (mm)	d2 (mm)	D (mm)	h Lift (mm)	H (mm)	I (mm)	Pressure Rating (bar)	
									EO CF	EO-2 CF
VDHA06S	6	3	4	9.5	100	6	120	66	630	630
VDHA08S	8	4	5	9.5	100	6	120	66	630	630
VDHA10S	10	6	7	9.5	100	6	120	65	630	630
VDHA12S	12	8	8	9.5	100	6	120	65	630	630
VDHA14S	14	10	10	9.5	100	6	120	84	630	630
VDHA16S	16	12	11	9.5	100	6	120	83	400	400
VDHA20S	20	16	13	11.0	100	6	120	79	400	400
VDHA25S	25	20	17	12.0	125	9	143	106	400	400
VDHA30S	30	25	19	22.5	125	12	164	103	250	250
VDHA38S	38	32	25	26.5	180	12	198	118	250	250

For EO-2 part number, insert "Z" between size and pressure series.
Example: VDHA06ZS

Note: The pressure specification PN for hand operated shut-off valves applies to the design factor 1.5 (according to DIN 3230 T5 and ISO 5208).



Internal threaded spindle and body of low grade forged stainless steel

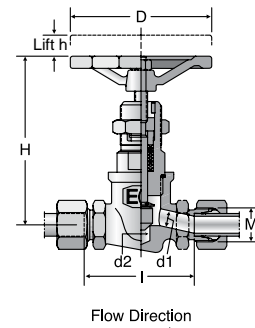
VDHB

High Pressure Valve – Panel Mount
24° Flareless / 24° Flareless

TUBE FITTING PART #	END SIZE (mm)	DN SIZE (mm)	M Metric	d1 (mm)	d2 (mm)	D (mm)	h Lift (mm)	H (mm)	I (mm)	Pressure Rating (bar)	
										EO 71	EO-2 71
VDHB06S	6	4	14 x 1.5	4	9.5	100	6	124	66	400	400
VDHB08S	8	4	16 x 1.5	5	9.5	100	6	124	66	400	400
VDHB10S	10	6	18 x 1.5	7	9.5	100	6	124	65	400	400
VDHB12S	12	8	20 x 1.5	8	9.5	100	6	124	65	400	400
VDHB14S	14	10	22 x 1.5	10	9.5	100	6	124	84	400	400
VDHB16S	16	12	24 x 1.5	11	9.5	100	6	124	83	400	400
VDHB20S	20	16	30 x 2	13	11.0	100	6	124	79	400	400
VDHB25S	25	20	36 x 2	17	12.0	125	9	153	106	400	400

For EO-2 part number, insert "Z" between size and pressure series.
Example: VDHB06ZS

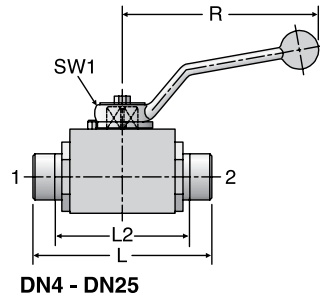
Note: The pressure specification PN for hand operated shut-off valves applies to the design factor 1.5 (according to DIN 3230 T5 and ISO 5208).



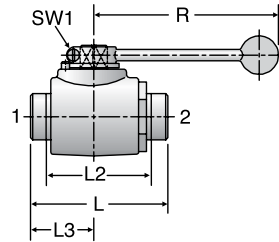
External threaded spindle and body of low grade forged stainless steel

KH

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



DN4 - DN25



DN32 - DN40

TUBE FITTING PART #	END SIZE (mm)	DN SIZE (mm)	L2 (mm)	L (mm)	h1 (mm)	h2 (mm)	H (mm)	R (mm)	B (mm)	SW (mm)	SW1 (mm)	Pressure Rating (bar)	
												EO	EO2
												CF	CF
KH06L	6	4	53	67	10.0	55.0	25	76	20	19	7	500	500
KH08L	8	6	53	67	10.0	55.0	25	76	20	19	7	500	500
KH10L	10	8	61	75	14.5	68.0	35	100	30	24	8	500	500
KH12L	12	10	61	75	14.5	68.0	35	100	30	24	8	500	500
KH15L	15	12	69	83	17.0	92.0	40	112	35	30	10	500	500
KH18L	18	16	67	82	20.0	105.0	45	166	45	36	11	400	400
KH22L	22	20	84	99	24.0	113.0	55	187	45	41	14	400	400
KH28L	28	25	93	108	26.0	118.0	60	187	55	50	14	400	400
KH35L	35	32	100	121	36.5	180.5	80	320	73	60	17	315	315
KH42L	42	40	96	118	42.5	190.5	90	320	85	70	17	315	315
KH08S	8	4	59	73	10.0	55.0	25	76	20	19	7	500	500
KH10S	10	6	58	73	10.0	55.0	25	76	20	19	7	500	500
KH12S	12	8	62	77	14.5	68.0	35	100	30	24	8	500	500
KH14S	14	10	65	81	14.5	68.0	35	100	30	24	8	500	500
KH16S	16	12	70	87	17.0	92.0	40	112	35	30	10	500	500
KH20S	20	16	69	90	20.0	105.0	45	166	45	36	11	400	400
KH25S	25	20	83	107	24.0	113.0	55	187	45	41	14	400	400
KH30S	30	25	93	120	26.0	118.0	60	187	55	50	14	400	400
KH38S	38	32	95	127	36.5	180.5	80	320	73	60	17	315	315

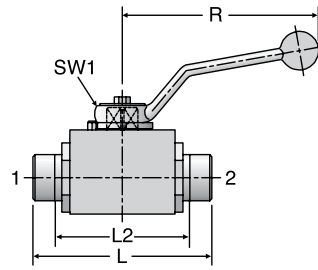
For EO-2 part number, insert "Z" between size and pressure series.
Example: KH08ZSCF.

Dimensions and pressures for reference only, subject to change.

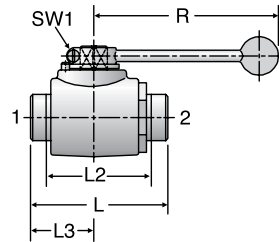
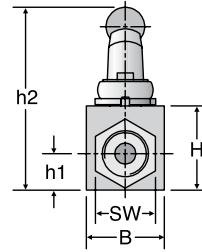


KH

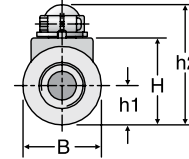
Two-Way Ball Valve
 24° Flareless / 24° Flareless
 Stainless Steel



DN4 - DN25



DN32 - DN40



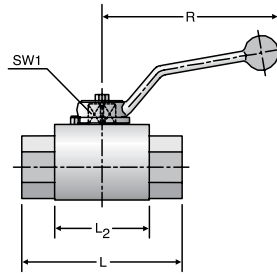
TUBE FITTING PART #	END SIZE (mm)	DN SIZE (mm)	L2 (mm)	L (mm)	h1 (mm)	h2 (mm)	H (mm)	R (mm)	B (mm)	SW (mm)	SW1 (mm)	Pressure Rating (bar)	
												EO	EO2
												71	71
KH06L71X	6	4	59	73	13.7	56.5	30.0	76	30	22	7	500	500
KH08L71X	8	6	59	73	13.7	56.5	30.0	76	30	22	7	500	500
KH10L71X	10	8	73	87	18.0	84.5	40.0	130	40	30	8	500	500
KH12L71X	12	10	73	87	18.0	84.5	40.0	130	40	30	8	500	500
KH15L71X	15	12	77	91	21.0	90.0	45.0	130	45	32	10	500	500
KH18L71X	18	16/12	76	91	21.0	90.0	45.0	130	45	32	10	500	500
KH22L71X	22	20	87	105	31.0	115.0	65.0	185	65	46	14	420	420
KH28L71X	28	25	92	112	38.0	125.0	75.0	185	75	58	14	420	420
KH35L71X	35	32	105	145	45.0	175.0	93.2	320	100	70	19	420	420
KH42L71X	42	40	114	150	52.5	186.0	104.4	320	110	80	19	420	420
KH08S71X	8	4	62	76	13.7	56.5	30.0	76	30	22	7	500	500
KH10S71X	10	6	61	76	13.7	56.5	30.0	76	30	22	7	500	500
KH12S71X	12	8	74	89	18.0	84.5	40.0	130	40	30	8	500	500
KH14S71X	14	10	77	93	18.0	84.5	40.0	130	40	30	8	500	500
KH16S71X	16	12	79	96	21.0	90.0	45.0	130	45	32	10	500	500
KH20S71X	20	16/12	78	99	21.0	90.0	45.0	130	45	32	10	500	500
KH25S71X	25	20	86	113	31.0	115.0	65.0	185	65	46	14	420	420
KH30S71X	30	25	93	124	38.0	125.0	75.0	185	75	50	14	420	420
KH38S71X	38	32	100	145	45.0	175.0	93.2	320	100	70	19	420	420

For EO-2 part number, insert "Z" between size and pressure series.
 Example: KH08ZSCF.

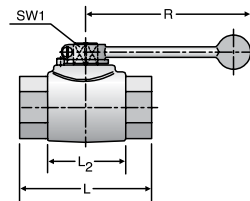
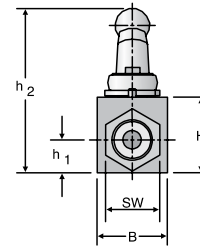
Dimensions and pressures for reference only, subject to change.

KH-R/NPT

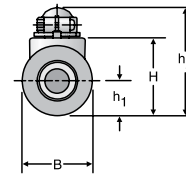
Two-Way Ball Valve
 Female BSPP / Female BSPP
 Female NPT / Female NPT



DN4-DN25



DN32-DN40



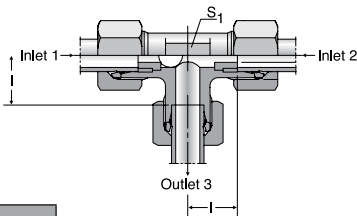
TUBE FITTING PART #	END SIZE 1 & 2 NPT / BSPP	DN SIZE (mm)	B (mm)	h1 (mm)	h2 (mm)	H (mm)	L (mm)	L2 (mm)	R (mm)	SW (mm)	SW1 (mm)	Pressure Rating (bar)
												EO CF
KH1/8X	G 1/8-28	4	20	10.0	55.0	25.0	69	36	76	19	7	500
KH1/4X	G 1/4-19	6	20	10.0	55.0	25.0	69	36	76	19	7	500
KH3/8X	G 3/8-19	10	30	14.5	68.0	35.0	73	45	100	24	8	500
KH1/2X	G 1/2-14	12	35	17.0	92.0	40.0	82	51	112	30	10	500
KH5/8X	G 5/8-14	16	40	20.0	105.0	45.0	88	50	166	36	11	400
KH3/4X	G 3/4-14	20	45	24.0	113.0	55.0	93	60	187	41	14	400
KH1X	G 1-11	25	55	26.0	118.0	60.0	113	70	187	50	14	400
KH11/4X	G 1 1/4-11	32	73	36.5	180.5	80.0	110	70	320	60	17	315
KH11/2X	G 1 1/2-11	40	85	42.5	190.5	90.0	114	75	320	70	17	315
KH1/871X	G 1/8-28	4	30	13.7	56.5	30.0	69	41	76	22	7	500
KH1/471X	G 1/4-19	6	30	13.7	56.5	30.0	75	41	76	22	7	500
KH3/871X	G 3/8-19	10	40	18.0	84.5	40.0	86	53	130	30	8	500
KH1/271X	G 1/2-14	12	45	21.0	90.0	45.0	92	55	130	32	10	500
KH3/471X	G 3/4-14	20	65	31.0	115.0	65.0	111	65	185	46	14	420
KH171X	G 1-11	25	75	38.0	125.0	75.0	122	71	185	50	14	420
KH11/471X	G 1 1/4-11	32	100	45.0	175.0	93.2	110	86	320	70	19	420
KH11/271X	G 1 1/2-11	40	110	52.2	186.0	104.4	120	92	320	80	19	420
KH1/8NPTX	1/8-27	4	20	10.0	55.0	25.0	69	36	76	19	7	500
KH1/4NPTX	1/4-18	6	20	10.0	55.0	25.0	69	36	76	19	7	500
KH3/8NPTX	3/8-18	10	30	14.5	68.0	35.0	73	45	100	24	8	500
KH1/2NPTX	1/2-14	12	35	17.0	92.0	40.0	82	51	112	30	10	500
KH3/4NPTX	3/4-14	20	45	24.0	113.0	55.0	93	60	187	41	14	400
KH1NPTX	1-11 1/2	25	55	26.0	118.0	60.0	113	70	187	50	14	400
KH11/4NPTX	1 1/4-11 1/2	32	73	36.5	108.5	80.0	110	70	320	60	17	315
KH11/2NPTX	1 1/2-11 1/2	40	85	42.5	190.5	90.0	114	75	320	70	17	315
KH1/8NPT71X	1/8-27	4	30	13.7	56.5	30.0	82	41	76	22	7	500
KH1/4NPT71X	1/4-18	6	30	13.7	56.5	30.0	82	41	76	22	7	500
KH3/8NPT71X	3/8-18	10	40	18.0	84.5	40.0	95	53	130	30	8	500
KH1/2NPT71X	1/2-14	12	45	21.0	90.0	45.0	108	55	130	32	10	500
KH3/4NPT71X	3/4-14	20	65	31.0	115.0	65.0	111	65	185	46	14	420
KH1NPT71X	1-11 1/2	25	75	38.0	125.0	75.0	122	71	185	50	14	420
KH11/4NPT71X	1 1/4-11 1/2	32	100	45.0	175.0	93.2	110	86	320	70	19	420
KH11/2NPT71X	1 1/2-11 1/2	40	110	52.2	186.0	104.4	120	92	320	80	19	420

Note: Omit "CF" in the part number for steel material.

Dimensions and pressures for reference only, subject to change.

WV

Alternating Valve
24° Flareless



TUBE FITTING PART #	END SIZE 1 - 3 (mm)	I (mm)	S1 (mm)	Pressure Rating (bar)	
				EO	CF
				WV08L	8
WV10L	10	15	17	160	160
WV12L	12	17	19	160	160
WV15L	15	21	19	160	160

Dimensions and pressures for reference only, subject to change.

