







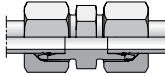
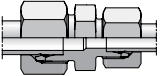
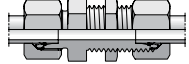

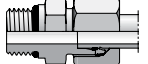




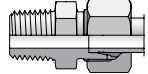
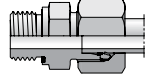

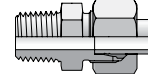
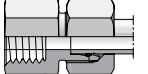
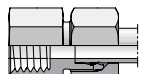

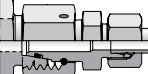
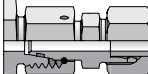
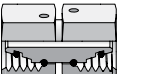
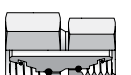


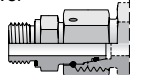
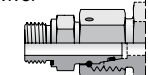
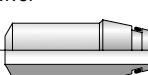
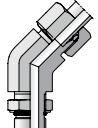
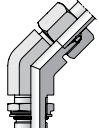
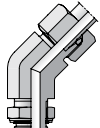
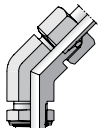
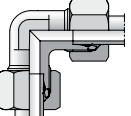
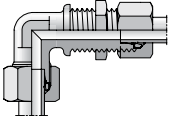
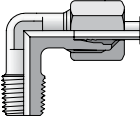
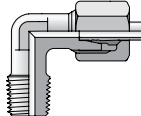
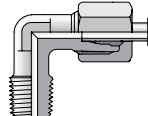
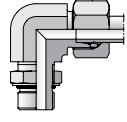
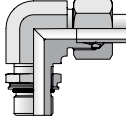
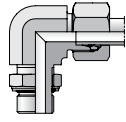
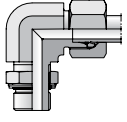
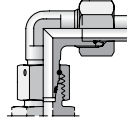
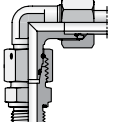
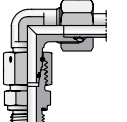
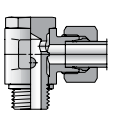
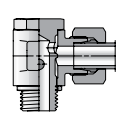
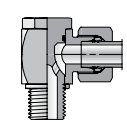
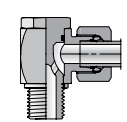
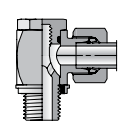
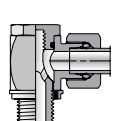
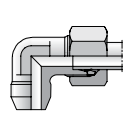

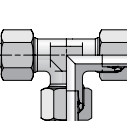
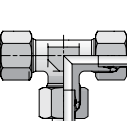
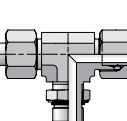
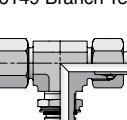
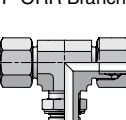
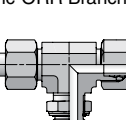
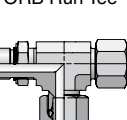
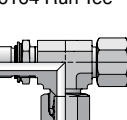
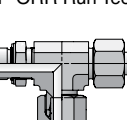
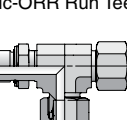
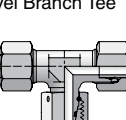
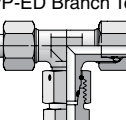
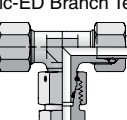
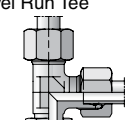
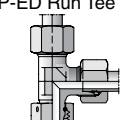
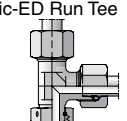
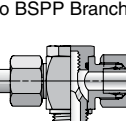
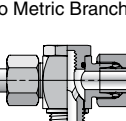
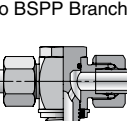
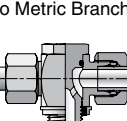
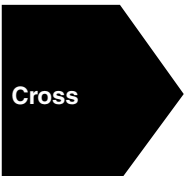
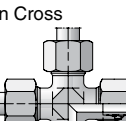


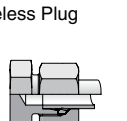

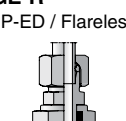
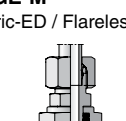
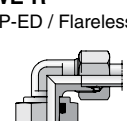
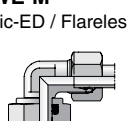



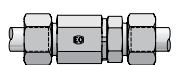
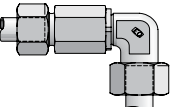
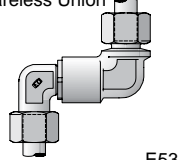
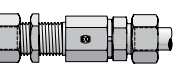
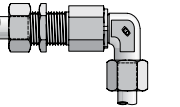
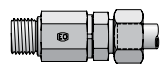
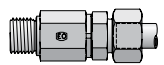
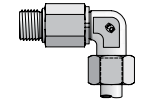
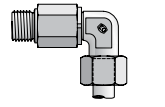
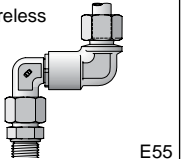
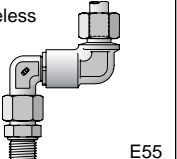
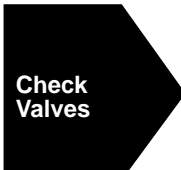
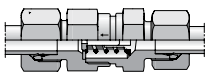
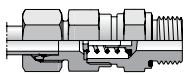
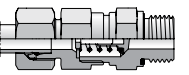
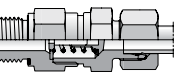
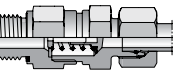
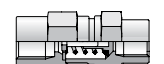



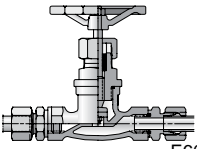
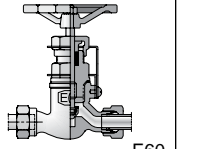
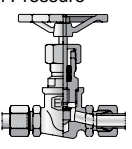
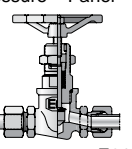

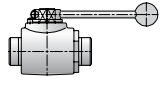
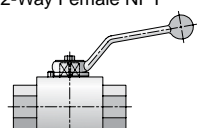
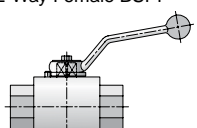

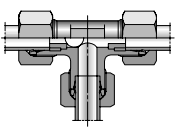


EO and EO-2 Metric Bite Type Fittings

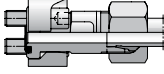
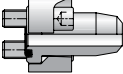
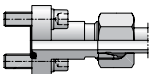
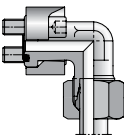
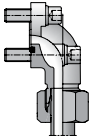
E

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

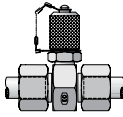
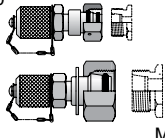

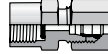
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|---|---|---|--|--|---|
| WEE-UNF/UN SAE-ORB / Flareless  E32 | WEE-OR ISO 6149 / Flareless  E32 | WEE-R BSPP-ORR / Flareless  E33 | WEE-M Metric-ORR / Flareless  E33 | EW Flareless Swivel / Flareless  E34 | EW-R-ED BSPP-ED / Flareless  E35 |
| EW-M-ED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

| | | | | | |
|--|---|--|---|--|--|
| <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> | | | | |







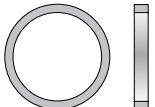
Flange Adapters (Shown in Section L)

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

Diagnostic and Specialty Adapters (Shown in Section M)

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

O-Rings and Seals (Shown in Section N)

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

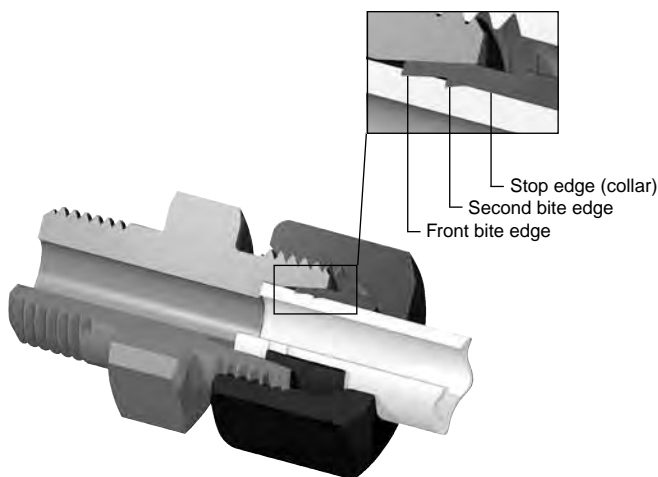


Fig. E2 — How EO fittings work

| 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.

Design and Construction

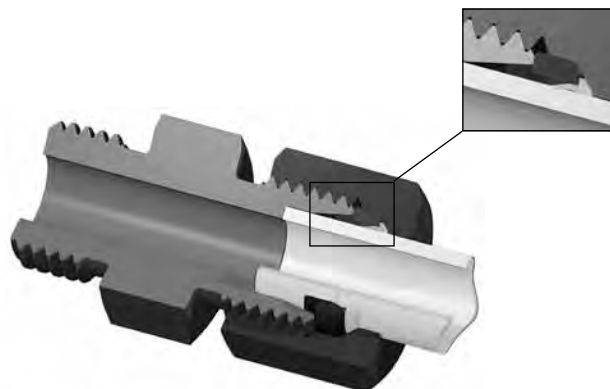


Fig. E4 — EO-2: The metallic support of the sealing ring acts just like an integrated preassembly tool.

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.

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:

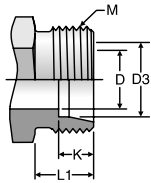
EO-2 fittings are suitable for use with various types of plastic tubes such as nylon, polyethylene, etc. When used with plastic tube, an insert (see page E15) must be used to prevent tube pull out due to tensile loading.

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

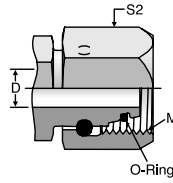
In addition to the general advantages of the EO tube fitting system, the unique EO-2 fitting features offer even more specific benefits:

- **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.

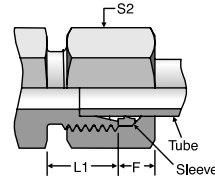
EO and EO-2 Metric Tube Ends



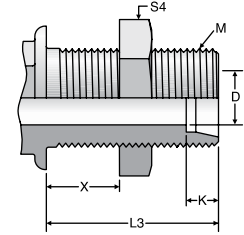
**EO/EO-2 Male
Tube End**



EO/EO-2 Swivel



EO/EO-2 Assembly



EO/EO-2 Bulkhead

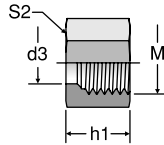
| Size | End Size | Thread M Metric | Drill D (mm) | Tube Nut Assembled Allowance | Tube Depth | Male Turn Back | Bulkhead Length | Tube/Swivel Nut Hex | Bulkhead Nut Hex | Max Bulkhead Thickness |
|------|------------|-----------------------|--------------------|------------------------------------|---------------|----------------------|--------------------|------------------------|---------------------|------------------------------|
| | D3 (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.



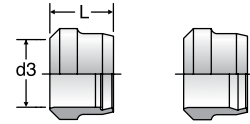
M
Nut



| 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

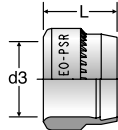
| STANDARD FROM STOCK | | | d3 Tube O.D. (mm) | L (mm) |
|---------------------|------------|----------|----------------------------|-----------|
| TUBE FITTING PART # | | | | |
| STEEL | STAINLESS | BRASS | | |
| D04LLX | — | D04LLMSX | 4 | 6.0 |
| D06LLX | D06LL71X | D06LLMSX | 6 | 7.0 |
| D08LLX | 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.

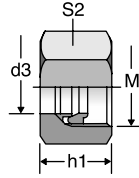
PSR Progressive Rings: Zinc plated and clear chromated

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 | • | • | • | • | • |

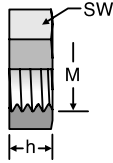
FM Component Breakdown by Material

| | 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

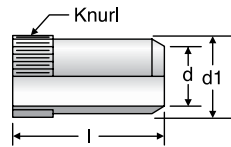
Tube Insert For Plastic Tube



| 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



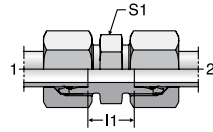
| TUBE FITTING PART # | FOR TUBE I.D. Ø (mm) | d (mm) | d1 (mm) | L (mm) | STANDARD FROM STOCK | | |
|---------------------|----------------------|--------|---------|--------|---------------------|-----|-----|
| | | | | | CFX | 71X | MSX |
| VH04 | 4 | 2.6 | 3.8 | 14 | • | | • |
| VH04.5 | 4.5 | 3.1 | 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.

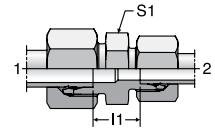
G

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 |

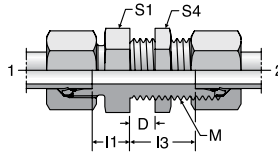
For EO-2 part number, insert "Z" between size and pressure series. Example: GR06/04ZLLCF

Dimensions and pressures for reference only, subject to change.



SV

Bulkhead Union
 24° Flareless / 24° Flareless



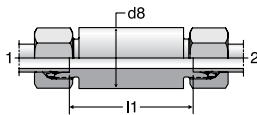
D = 16mm, max. bulkhead thickness

| 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

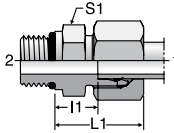
Note: Weld fitting. Omit "CF" in the part number for steel material.

Dimensions and pressures for reference only, subject to change.



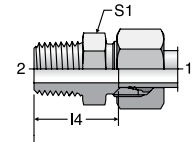
GE-UNF/UN

Male Connector
 24° Flareless / SAE-ORB



GE-NPT

Male Connector
 24° Flareless / NPTF



| TUBE FITTING PART # | END SIZE | | I1 (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 | | I4 (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.

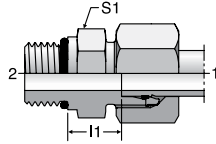
For EO-2 part number, insert "Z" between size and pressure series.
 Example: GE08ZL7/16UNFCF

Dimensions and pressures for reference only, subject to change.



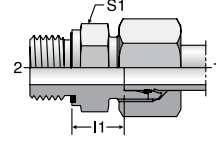
GEO

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

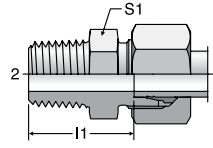
Dimensions and pressures for reference only, subject to change.



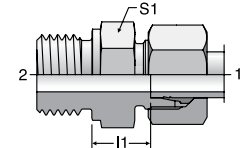
GE-R

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.

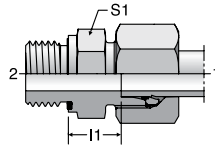
*S1 = I2 for stainless steel (71).

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

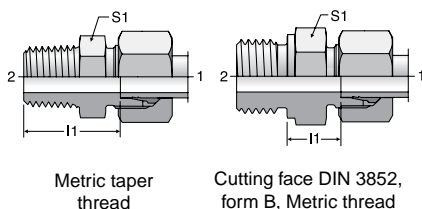
| TUBE FITTING PART # | END SIZE | | I 1 (mm) | S1 (mm) | Pressure Rating (bar) | | | |
|---------------------------|-----------|-------------|-------------|------------|-----------------------|-----|------|-----|
| | 1 (mm) | 2 Metric | | | EO | | EO-2 | |
| | | | | | CF | 71 | CF | 71 |
| GE06LMED | 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.

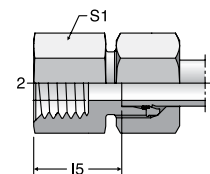
GE-M

Male Connector
 24° Flareless / Metric



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.

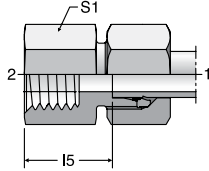
| TUBE FITTING PART # | END SIZE | | I 5 (mm) | S1 (mm) | Pressure Rating (bar) | | | | |
|---------------------|----------|---------|----------|---------|-----------------------|-----|------|-----|-----|
| | 1 (mm) | 2 BSPP | | | EO | | EO-2 | | |
| | | | | | CF | 71 | MS | CF | 71 |
| GAI06LR | 6 | 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: GAI06ZLRFCF

Dimensions and pressures for reference only, subject to change.

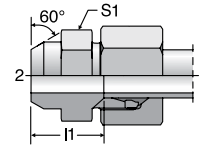
GAI-M

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 |

| 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 |

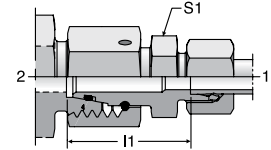
For EO-2 part number, insert "Z" between size and pressure series.
 Example: GAI06ZLMCF

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 |

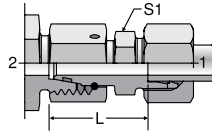
For EO-2 part number, insert "Z" between size and pressure series.
 Example: RED08/06ZSCF

Dimensions and pressures for reference only, subject to change.



DA

Distance Piece Adapter
 Flareless Swivel / 24° Flareless

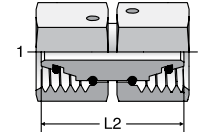


| TUBE FITTING PART # | END SIZE | | L (mm) | S1 (mm) | Pressure Rating (bar) | | | | |
|---------------------|----------|-----------|--------|---------|-----------------------|-----|------|-----|-----|
| | 1 (mm) | 2 Metric | | | EO | | EO-2 | | |
| | | | | | CF | 71 | MS | CF | 71 |
| DA06L | 6 | M12 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

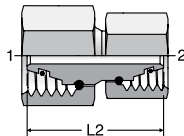
Swivel Union
 Flareless Swivel / Flareless Swivel



| TUBE FITTING PART # | END SIZE 1 & 2 Metric | L2 (mm) | Pressure Rating (bar) | |
|---------------------|-----------------------|---------|-----------------------|-----|
| | | | EO | |
| | | | 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

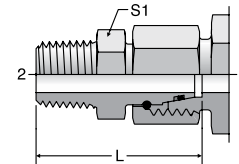
Swivel Union Reducer
 Flareless Swivel / Flareless Swivel



| 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

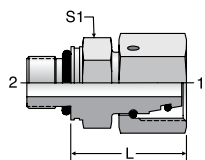


| TUBE FITTING PART # | END SIZE | | L (mm) | S1 (mm) | Pressure Rating (bar) | |
|---------------------|-----------|--------------|--------|---------|-----------------------|-----|
| | 1 Metric | 2 NPT | | | EO | |
| | | | | | CF | 71 |
| EGE06L1/8NPT | M12 x 1.5 | 1/8-27 | 31.5 | 11 | 315 | 315 |
| EGE08L1/4NPT | M14 x 1.5 | 1/4-18 | 37.5 | 14 | 315 | 315 |
| EGE10L1/4NPT | 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

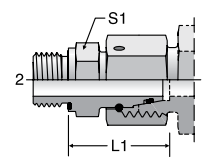
Swivel Connector
Metric ISO 6149 / Flareless Swivel



| 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

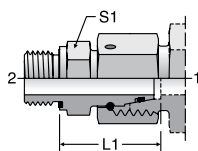
Swivel Connector
Flareless Swivel / BSPP with EOlastic Seal



| 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

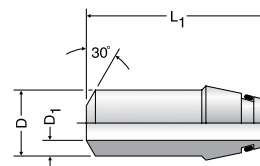
Swivel Connector
Flareless Swivel / Metric with EOlastic Seal



| 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



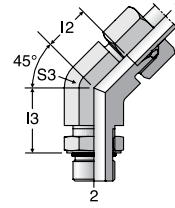
| TUBE FITTING PART # | D (mm) | D1 (mm) | L1 (mm) | Pressure Rating (bar) | |
|---------------------|--------|---------|---------|-----------------------|-----|
| | | | | EO | |
| | | | | CF | 71 |
| SKA10X1 | 10 | 8 | 32.5 | 249 | 240 |
| SKA10X1.5 | 10 | 7 | 32.5 | 358 | 350 |
| SKA10X2 | 10 | 6 | 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

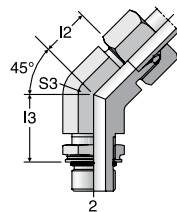


| TUBE FITTING PART # | END SIZE | | I 2 (mm) | I 3 (mm) | S3 (mm) | Pressure Rating (bar) | | | |
|---------------------|----------|-------------|----------|----------|---------|-----------------------|-----|------|-----|
| | 1 (mm) | 2 UN/UNF-2A | | | | EO | | EO-2 | |
| | | | | | | CF | 71 | CF | 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 |

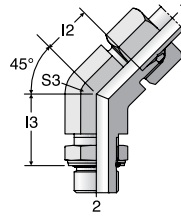
For EO-2 part number, insert "Z" between size and pressure series.
 Example: VEE06ZLMORCF

Dimensions and pressures for reference only, subject to change.



VEE-R

Adjustable Locknut 45° Elbow
 24° Flareless / BSPP ORR

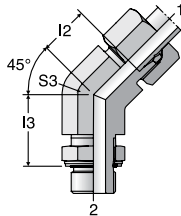


| TUBE FITTING PART # | END SIZE | | I 2 (mm) | I 3 (mm) | S 3 (mm) | Pressure Rating (bar) | | | |
|---------------------|----------|----------|----------|----------|----------|-----------------------|-----|------|-----|
| | 1 (mm) | 2 BSPP | | | | EO | | EO-2 | |
| | | | | | | CF | 71 | CF | 71 |
| 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 |

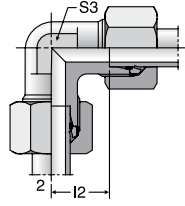
For EO-2 part number, insert "Z" between size and pressure series.
 Example: VEE06ZLMCF

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) | 1 2 (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 .

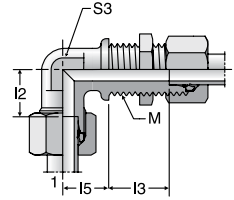
For EO-2 part number, insert "Z" between size and pressure series.

Example: W04ZLLCF

Dimensions and pressures for reference only, subject to change.

WSV

Bulkhead Union Elbow
 24° Flareless / 24° Flareless

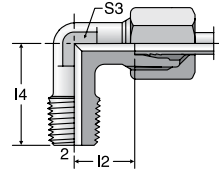


| TUBE FITTING PART # | END SIZE 1 & 2 (mm) | M Metric | I 2 (mm) | I 3 (mm) | I 5 (mm) | S3 (mm) | Pressure Rating (bar) | | | | | |
|---------------------|---------------------|-----------|----------|----------|----------|---------|-----------------------|-----|-----|------|-----|----|
| | | | | | | | EO | | | EO-2 | | |
| | | | | | | | CF | 71 | MS | CF | 71 | MS |
| 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 | CF | 71 |
| * 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 |

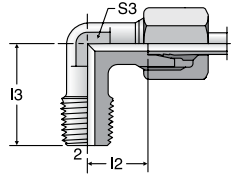
* Extruded body for steel and brass.

Dimensions and pressures for reference only, subject to change.



WE-R keg

Male Elbow
 24° Flareless / BSPT



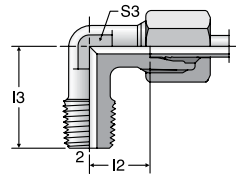
| TUBE FITTING PART # | END SIZE | | I 2 (mm) | I 3 (mm) | S3 (mm) | S3 Stainless Steel (mm) | Pressure Rating (bar) | | |
|---------------------|----------|-----------|----------|----------|---------|-------------------------|-----------------------|-----|-----|
| | 1 (mm) | 2 BSPT | | | | | EO | | |
| | | | | | | | 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 |

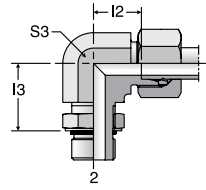
* Extruded body for steel and brass.

Note: keg. refers to taper threads.

Dimensions and pressures for reference only, subject to change.

WEE-UNF

Adjustable Locknut Elbow
 24° Flareless / SAE-ORB

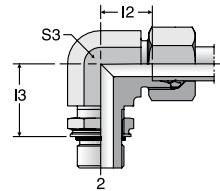


| TUBE FITTING PART # | END SIZE | | I2 (mm) | I3 (mm) | S3 (mm) | Pressure Rating (bar) | | | |
|---------------------|----------|------------|---------|---------|---------|-----------------------|-----|------|-----|
| | 1 (mm) | 2 UN / UNF | | | | EO | | EO-2 | |
| | | | | | | CF | 71 | CF | 71 |
| 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 |

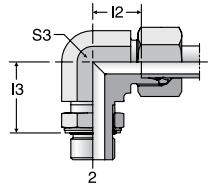
For EO-2 part number, insert "Z" between size and pressure series.
 Example: WEE04ZLLMORCF

Dimensions and pressures for reference only, subject to change.



WEE-R

Adjustable Locknut Elbow
 24° Flareless / BSPP ORR

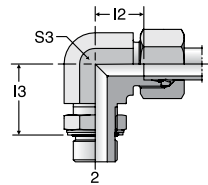


| TUBE FITTING PART # | END SIZE | | I 2 (mm) | I 3 (mm) | S3 (mm) | Pressure Rating (bar) | | | |
|---------------------|----------|----------|----------|----------|---------|-----------------------|-----|------|-----|
| | 1 (mm) | 2 BSPP | | | | EO | | EO-2 | |
| | | | | | | CF | 71 | CF | 71 |
| WEE04LLR | 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) | S3 (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 |

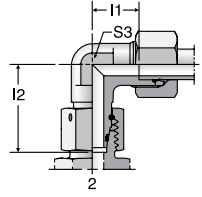
For EO-2 part number, insert "Z" between size and pressure series.
 Example: WEE06ZLMCF

Dimensions and pressures for reference only, subject to change.

EW

Swivel Nut Elbow

24° Flareless / Flareless Swivel



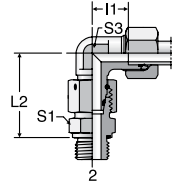
| TUBE FITTING PART # | END SIZE | | I 1 (mm) | I 2 (mm) | S 3 (mm) | Pressure Rating (bar) | | | |
|---------------------|----------|-----------|----------|----------|----------|-----------------------|-----|------|-----|
| | 1 (mm) | 2 Metric | | | | EO | | EO-2 | |
| | | | | | | CF | 71 | CF | 71 |
| 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

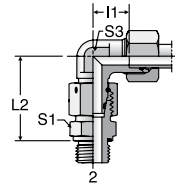


| TUBE FITTING PART # | END SIZE | | I 1 (mm) | L 2 (mm) | S 1 (mm) | S 3 (mm) | Pressure Rating (bar) | | | |
|---------------------|----------|-----------|----------|----------|----------|----------|-----------------------|-----|------|-----|
| | 1 (mm) | 2 BSPP | | | | | EO | | EO-2 | |
| | | | | | | | 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



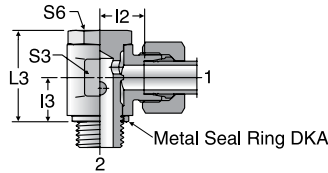
| TUBE FITTING PART # | END SIZE | | I 1 (mm) | L 2 (mm) | S 1 (mm) | S 3 (mm) | Pressure Rating (bar) | | | |
|---------------------|----------|-----------|----------|----------|----------|----------|-----------------------|-----|------|-----|
| | 1 (mm) | 2 Metric | | | | | EO | | EO-2 | |
| | | | | | | | 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

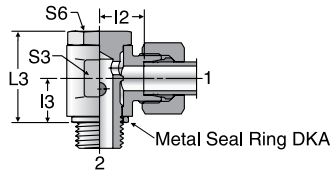
Banjo Elbow
 24° Flareless / BSPP



| 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

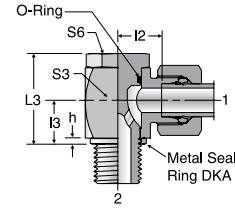


| TUBE FITTING PART # | END SIZE | | I 2 (mm) | I 3 (mm) | L 3 (mm) | S 3 (mm) | S 6 (mm) | Pressure Rating (bar) | |
|---------------------|-----------|-----------|----------|----------|----------|----------|----------|-----------------------|------|
| | 1 (mm) | 2 Metric | | | | | | EO | CF |
| | SWVE04LLM | 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

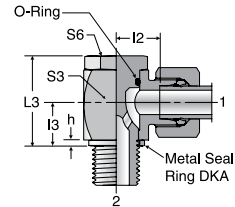


| TUBE FITTING PART # | END SIZE | | h (mm) | I2 (mm) | I3 (mm) | L3 (mm) | S3 (mm) | S6 (mm) | Pressure Rating (bar) | | | | |
|---------------------|----------|-----------|--------|---------|---------|---------|---------|---------|-----------------------|-----|------|-----|-----|
| | 1 (mm) | 2 BSPP | | | | | | | 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 |

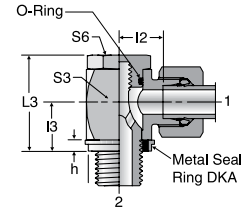
For EO-2 part number, insert "Z" between size and pressure series.
 Example: WH06ZLMCF

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.

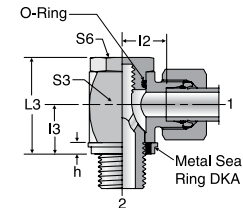
Example WH06ZLRKDS

*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.

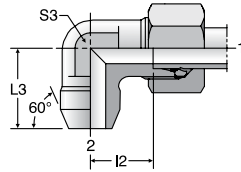
Example: WH06SMKD71

Dimensions and pressures for reference only, subject to change.



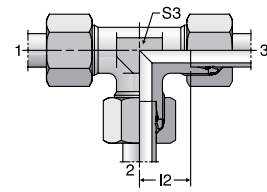
WAS

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 |

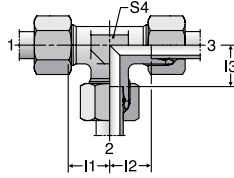
Note: Weld fitting. Omit "CF" in the part number for steel material.
 For EO-2 part number, insert "Z" between size and pressure series.
 Example: WAS06ZL

| TUBE FITTING PART # | END SIZE | | | S3 (mm) | S3 (Only Stainless Steel) (mm) | Pressure Rating (bar) | | | | |
|---------------------|------------|----------|----------|---------|--------------------------------|-----------------------|-----|-----|------|--|
| | 1 - 3 (mm) | I 2 (mm) | I 2 (mm) | | | 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

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.

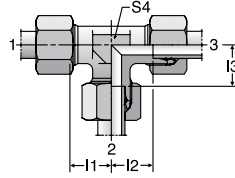
Example: TR06/08/06ZLLCF

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 |
| 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 |

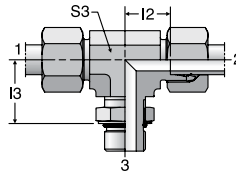
Series L is on the previous page.

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.

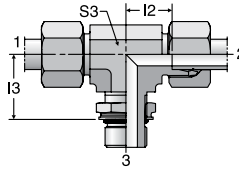
Example: TEE06ZL7/16UNFCF

Dimensions and pressures for reference only, subject to change.



TEE-OR

Adjustable Locknut Branch Tee
 24° Flareless / Metric ISO 6149

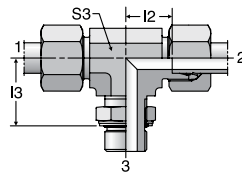


| TUBE FITTING PART # | END SIZE | | I 2 (mm) | I 3 (mm) | S 3 (mm) | Pressure Rating (bar) | | | |
|---------------------|------------|----------|----------|----------|----------|-----------------------|-----|------|-----|
| | 1 & 2 (mm) | 3 Metric | | | | EO | | EO-2 | |
| | | | | | | CF | 71 | CF | 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 |

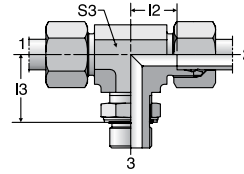
For EO-2 part number, insert "Z" between size and pressure series.
 Example: TEE06ZLRFCF

Dimensions and pressures for reference only, subject to change.



TEE-M

Adjustable Locknut Branch Tee
 24° Flareless / Metric ORR

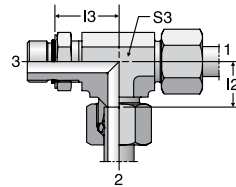


| TUBE FITTING PART # | END SIZE | | I 2 (mm) | I 3 (mm) | S3 (mm) | Pressure Rating (bar) | | | |
|---------------------|----------|----------|----------|----------|---------|-----------------------|-----|------|-----|
| | 1&2 (mm) | 3 Metric | | | | EO | | EO-2 | |
| | | | | | | CF | 71 | CF | 71 |
| 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



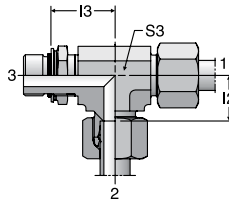
| TUBE FITTING PART # | END SIZE | | I 2 (mm) | I 3 (mm) | S3 (mm) | Pressure Rating (bar) | | | |
|---------------------|------------|-------------|----------|----------|---------|-----------------------|-----|------|-----|
| | 1 & 2 (mm) | 3 UN/UNF-2A | | | | EO | | EO-2 | |
| | | | | | | CF | 71 | 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

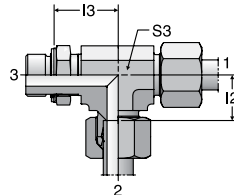


| TUBE FITTING PART # | END SIZE | | I 2 (mm) | I 3 (mm) | S3 (mm) | Pressure Rating (bar) | | | |
|---------------------|------------|-----------|----------|----------|---------|-----------------------|-----|------|-----|
| | 1 & 2 (mm) | 3 Metric | | | | EO | | EO-2 | |
| | | | | | | CF | 71 | CF | 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

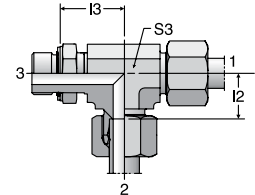


| TUBE FITTING PART # | END SIZE | | I 2 (mm) | I 3 (mm) | S3 (mm) | Pressure Rating (bar) | | | |
|---------------------|------------|----------|----------|----------|---------|-----------------------|-----|------|-----|
| | 1 & 2 (mm) | 3 BSPP | | | | EO | | EO-2 | |
| | | | | | | CF | 71 | CF | 71 |
| 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) | S3 (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 |

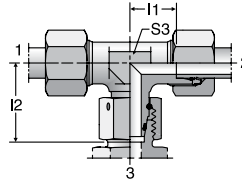
For EO-2 part number, insert "Z" between size and pressure series.
 Example: LEE06ZLMCF

Dimensions and pressures for reference only, subject to change.



ET

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

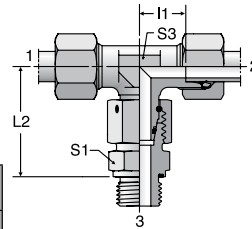


| TUBE FITTING PART # | END SIZE | | I 1 (mm) | I 2 (mm) | S 3 (mm) | Pressure Rating (bar) | | | |
|---------------------|------------|-----------|----------|----------|----------|-----------------------|-----|------|-----|
| | 1 & 2 (mm) | 3 Metric | | | | EO | | EO-2 | |
| | | | | | | CF | 71 | CF | 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 /
 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 & 2 (mm) | 3 BSPP | | | | | 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 |

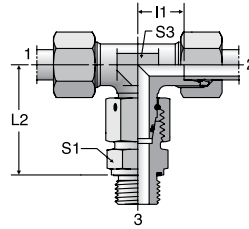
For EO-2 part number, insert "Z" between size and pressure series.
 Example: ET06ZLREDCF

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

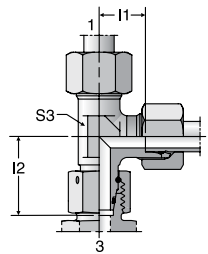


| TUBE FITTING PART # | END SIZE | | I 1 (mm) | L 2 (mm) | S 1 (mm) | S 3 (mm) | Pressure Rating (bar) | | | |
|---------------------|------------|-----------|----------|----------|----------|----------|-----------------------|-----|------|-----|
| | 1 & 2 (mm) | 3 Metric | | | | | EO | | EO-2 | |
| | | | | | | | 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



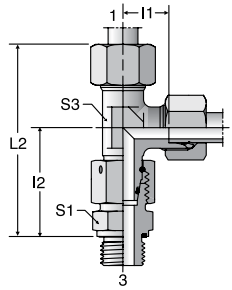
| TUBE FITTING PART # | END SIZE | | I 1 (mm) | I 2 (mm) | S 3 (mm) | Pressure Rating (bar) | | | |
|---------------------|------------|-----------|----------|----------|----------|-----------------------|-----|------|-----|
| | 1 & 2 (mm) | 3 Metric | | | | EO | | EO-2 | |
| | | | | | | CF | 71 | CF | 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

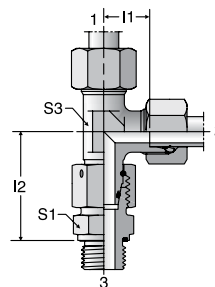


| TUBE FITTING PART # | END SIZE | | I 1 (mm) | I 2 (mm) | L2 (mm) | S1 (mm) | S3 (mm) | Pressure Rating (bar) | | | |
|---------------------|------------|-----------|----------|----------|---------|---------|---------|-----------------------|-----|------|-----|
| | 1 & 2 (mm) | 3 BSPP | | | | | | EO | | 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

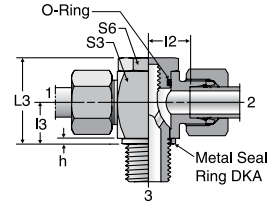
Dimensions and pressures for reference only, subject to change.



TH-R

High Pressure Banjo Tee

24° Flareless / 24° Flareless / BSPP



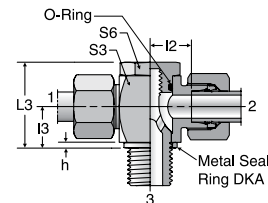
| TUBE FITTING PART # | END SIZE | | h (mm) | I2 (mm) | I3 (mm) | L3 (mm) | S3 (mm) | S6 (mm) | Pressure Rating (bar) | | | |
|---------------------|------------|-----------|--------|---------|---------|---------|---------|---------|-----------------------|-----|------|-----|
| | 1 & 2 (mm) | 3 BSPP | | | | | | | 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

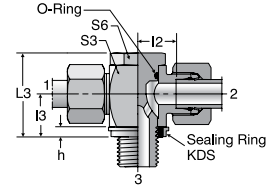
Dimensions and pressures for reference only, subject to change.



TH-R-KDS

High Pressure Banjo Tee

24° Flareless / 24° Flareless / BSPP



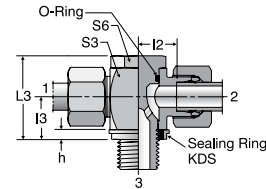
| TUBE FITTING PART # | END SIZE | | h (mm) | I2 (mm) | I3 (mm) | L3 (mm) | S3 (mm) | S6 (mm) | Pressure Rating (bar) | | | |
|---------------------|------------|-----------|--------|---------|---------|---------|---------|---------|-----------------------|-----|------|-----|
| | 1 & 2 (mm) | 3 BSPP | | | | | | | 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



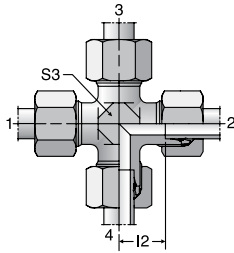
| TUBE FITTING PART # | END SIZE | | h (mm) | I2 (mm) | I3 (mm) | L3 (mm) | S3 (mm) | S6 (mm) | Pressure Rating (bar) | | | |
|---------------------|------------|-----------|--------|---------|---------|---------|---------|---------|-----------------------|-----|------|-----|
| | 1 & 2 (mm) | 3 Metric | | | | | | | 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.



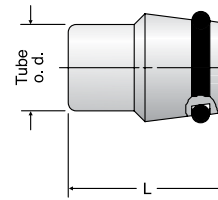
K
 Union Cross
 24° Flareless



| 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

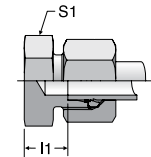
VKA
 Cap



| 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



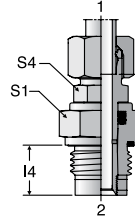
| TUBE FITTING PART # | END SIZE 1 (mm) | I 1 (mm) | S1 (mm) | Pressure Rating (bar) | | | |
|---------------------|-----------------|----------|---------|-----------------------|-----|------|-----|
| | | | | EO | | EO-2 | |
| | | | | CF | 71 | CF | 71 |
| ROV06L | 6 | 7 | 12 | 315 | 315 | 315 | 315 |
| 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*

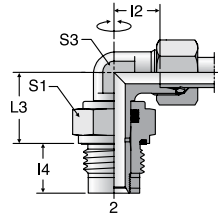


| TUBE FITTING PART # | END SIZE | | I 1 (mm) | I 4 (mm) | S 1 (mm) | S 4 (mm) | Pressure Rating (bar) | |
|---------------------------|-----------|-----------|-------------|-------------|-------------|-------------|--------------------------|----|
| | 1 (mm) | 2 BSPP | | | | | EO | CF |
| | DVGE06LR | 6 | | | | | | |
| 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*



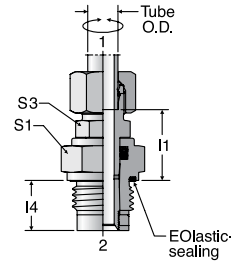
| TUBE FITTING PART # | END SIZE | | I 2 (mm) | I 4 (mm) | L 3 (mm) | S 1 (mm) | S 3 (mm) | Pressure Rating (bar) | |
|---------------------------|-----------|-----------|-------------|-------------|-------------|-------------|-------------|--------------------------|----|
| | 1 (mm) | 2 BSPP | | | | | | EO | CF |
| | DVWE06LR | 6 | | | | | | | |
| 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*

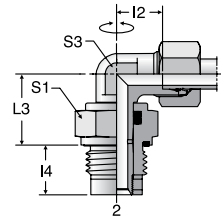


| TUBE FITTING PART # | END SIZE | | I1 (mm) | I4 (mm) | S1 (mm) | S3 (mm) | Pressure Rating (bar) | |
|---------------------|----------|------------|---------|---------|---------|---------|-----------------------|----|
| | 1 (mm) | 2 Metric | | | | | EO | CF |
| | DVGE06LM | 6 | | | | | | |
| DVGE08LM | 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*



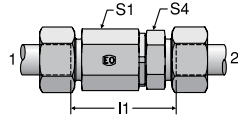
| TUBE FITTING PART # | END SIZE | | I2 (mm) | I4 (mm) | L3 (mm) | S1 (mm) | S3 (mm) | Pressure Rating (bar) | |
|---------------------|----------|------------|---------|---------|---------|---------|---------|-----------------------|----|
| | 1 (mm) | 2 Metric | | | | | | EO | CF |
| | DVWE06LM | 6 | | | | | | | |
| 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

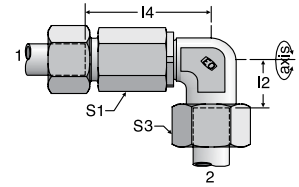


| TUBE FITTING PART # | END SIZE | | I 1 (mm) | S1 (mm) | S4 (mm) | Pressure Rating (bar) | |
|---------------------|------------|----|----------|---------|---------|-----------------------|----|
| | 1 & 2 (mm) | | | | | EO | CF |
| | DG101/06S | 6 | | | | 47 | 22 |
| DG101/08S | 8 | 47 | 22 | 17 | | • | |
| 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

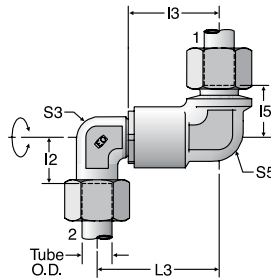


| TUBE FITTING PART # | END SIZE | | I 2 (mm) | I 4 (mm) | S1 (mm) | S3 (mm) | Pressure Rating (bar) | |
|---------------------|------------|------|----------|----------|---------|---------|-----------------------|------|
| | 1 & 2 (mm) | | | | | | EO | CF |
| | DG103/06S | 6 | | | | | 16.0 | 44.5 |
| 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

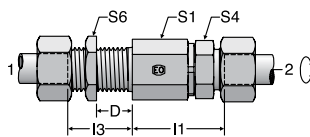


| TUBE FITTING PART # | END SIZE | | I 2 (mm) | I 3 (mm) | I 5 (mm) | L 3 (mm) | S 3 (mm) | S 5 (mm) | Pressure Rating (bar) | |
|---------------------|------------|------|----------|----------|----------|----------|----------|----------|-----------------------|------|
| | 1 & 2 (mm) | | | | | | | | 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



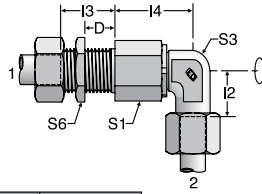
| TUBE FITTING PART # | END SIZE | | D (mm) | I 1 (mm) | I 3 (mm) | S 1 (mm) | S 4 (mm) | S 6 (mm) | Pressure Rating (bar) | |
|---------------------|------------|----|--------|----------|----------|----------|----------|----------|-----------------------|------|
| | 1 & 2 (mm) | | | | | | | | EO | CF |
| | 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

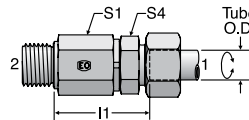


| TUBE FITTING PART # | END SIZE | | I 2 (mm) | I 3 (mm) | I 4 (mm) | S 1 (mm) | S 3 (mm) | S 6 (mm) | Pressure Rating (bar) | |
|---------------------|------------|--------|----------|----------|----------|----------|----------|----------|-----------------------|----|
| | 1 & 2 (mm) | D (mm) | | | | | | | 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

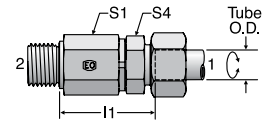


| TUBE FITTING PART # | END SIZE | | I 1 (mm) | S 1 (mm) | S 4 (mm) | Pressure Rating (bar) | |
|---------------------|----------|-----------|----------|----------|----------|-----------------------|----|
| | 1 (mm) | 2 BSPP | | | | EO | CF |
| DG102/06SR | 6 | G 1/4 A | 42.0 | 22 | 17 | | • |
| DG102/08SR | 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

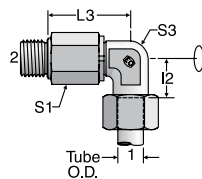


| TUBE FITTING PART # | END SIZE | | I 1 (mm) | S 1 (mm) | S 4 (mm) | Pressure Rating (bar) | |
|---------------------|----------|-----------|----------|----------|----------|-----------------------|----|
| | 1 (mm) | 2 Metric | | | | EO | CF |
| DG102/06SM | 6 | M14 x 1.5 | 42.0 | 22 | 17 | | • |
| 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



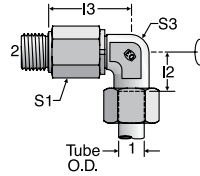
| TUBE FITTING PART # | END SIZE | | i 2 (mm) | L 3 (mm) | S 1 (mm) | S 3 (mm) | Pressure Rating (bar) | |
|---------------------|----------|-----------|----------|----------|----------|----------|-----------------------|----|
| | 1 (mm) | 2 BSPP | | | | | EO | CF |
| DG104/06SR | 6 | G 1/4 A | 16.0 | 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

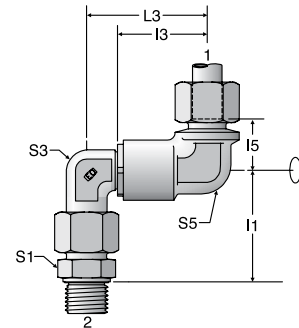


| TUBE FITTING PART # | END SIZE | | I2 (mm) | I3 (mm) | S1 (mm) | S3 (mm) | Pressure Rating (bar) | |
|---------------------|----------|-----------|---------|---------|---------|---------|-----------------------|----|
| | 1 (mm) | 2 Metric | | | | | EO | CF |
| DG104/06SM | 6 | M14 x 1.5 | 16.0 | 39.5 | 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

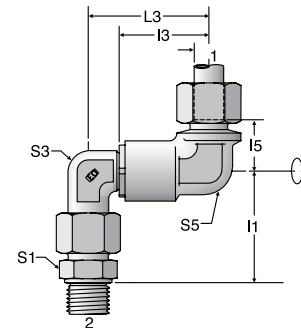


| TUBE FITTING PART # | END SIZE | | I1 (mm) | I3 (mm) | I5 (mm) | L3 (mm) | S1 (mm) | S3 (mm) | S5 (mm) | Pressure Rating (bar) | |
|---------------------|----------|-----------|---------|---------|---------|---------|---------|---------|---------|-----------------------|----|
| | 1 (mm) | 2 BSPP | | | | | | | | 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



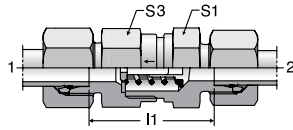
| TUBE FITTING PART # | END SIZE | | I1 (mm) | I3 (mm) | I5 (mm) | L3 (mm) | S1 (mm) | S3 (mm) | S5 (mm) | Pressure Rating (bar) | |
|---------------------|----------|-----------|---------|---------|---------|---------|---------|---------|---------|-----------------------|----|
| | 1 (mm) | 2 Metric | | | | | | | | 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) | CF | | | | | | EO | | EO-2 | |
| | | | | | | | | 71 | CF | 71 | |
| RHD06L | 6 | 4 | 29.0 | 17 | 17 | 17 | 400 | 250 | 400 | 250 | |
| RHD08L | 8 | 6 | 30.0 | 19 | 19 | 19 | 400 | 250 | 400 | 250 | |
| RHD10L | 10 | 8 | 40.5 | 22 | 24 | 24 | 400 | 250 | 400 | 250 | |
| RHD12L | 12 | 10 | 43.5 | 27 | 30 | 30 | 400 | 250 | 400 | 250 | |
| RHD15L | 15 | 12 | 47.5 | 27 | 32 | 32 | 400 | 250 | 400 | 250 | |
| RHD18L | 18 | 16 | 51.5 | 36 | 41 | 36 | 400 | 160 | 400 | 160 | |
| RHD22L | 22 | 20 | 61.5 | 41 | 46 | 46 | 250 | 160 | 250 | 160 | |
| RHD28L | 28 | 25 | 69.5 | 50 | 55 | 55 | 250 | 100 | 250 | 100 | |
| RHD35L | 35 | 32 | 74.5 | 60 | 65 | 60 | 250 | 100 | 250 | 100 | |
| RHD42L | 42 | 32 | 74.0 | 65 | 70 | 70 | 250 | 100 | 250 | 100 | |
| RHD06S | 6 | 3 | 34.5 | 19 | 19 | 19 | 420 | 400 | 420 | 400 | |
| RHD08S | 8 | 4 | 34.5 | 19 | 19 | 19 | 420 | 400 | 420 | 400 | |
| RHD10S | 10 | 6 | 40.5 | 22 | 24 | 24 | 420 | 400 | 420 | 400 | |
| RHD12S | 12 | 8 | 42.5 | 24 | 27 | 27 | 420 | 400 | 420 | 400 | |
| RHD14S | 14 | 10 | 47.5 | 27 | 32 | 32 | 420 | 315 | 420 | 315 | |
| RHD16S | 16 | 12 | 50.5 | 32 | 36 | 36 | 420 | 315 | 420 | 315 | |
| RHD20S | 20 | 16 | 54.5 | 41 | 50 | 46 | 420 | 250 | 420 | 250 | |
| RHD25S | 25 | 20 | 58.5 | 46 | 55 | 50 | 420 | 250 | 420 | 250 | |
| RHD30S | 30 | 25 | 69.5 | 60 | 60 | 60 | 250 | 250 | 250 | 250 | |
| RHD38S | 38 | 32 | 75.5 | 65 | 70 | 70 | 250 | 250 | 250 | 250 | |

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

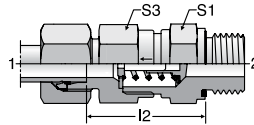
For EO-2 part number, insert "Z" between size and pressure series.

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 | | | | | | CF | EO | | EO-2 | |
| | | | | | | | | | 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

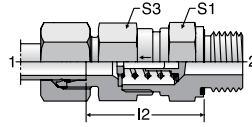
For Optional Opening Pressures see page E8.

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

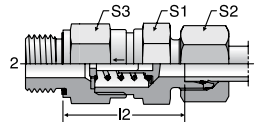
For EO-2 part number, insert "Z" between size and pressure series.
 Example: RHV06ZLMEDCF

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.

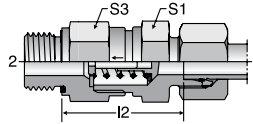
Note: These valves are not compatible with steam, oxygen and explosive gases.

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 |

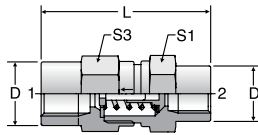
Note: These valves are not compatible with steam, oxygen and explosive gases.

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 |

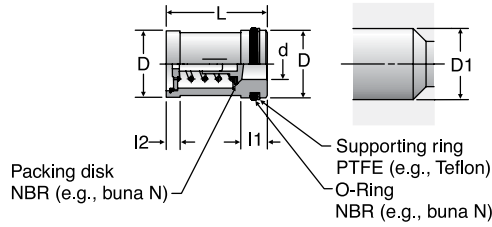
Note: These valves are not compatible with steam, oxygen and explosive gases.

For Optional Opening Pressures see page E8.

Dimensions and pressures for reference only, subject to change.

RVP

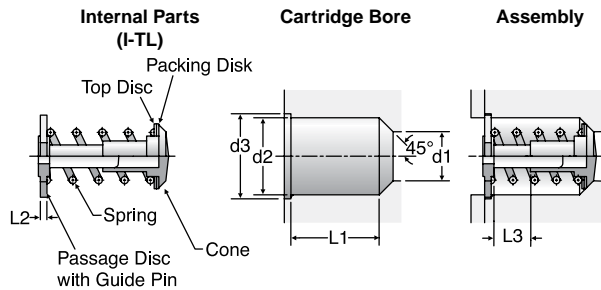
Non-Return Valve
Cartridge



| 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).

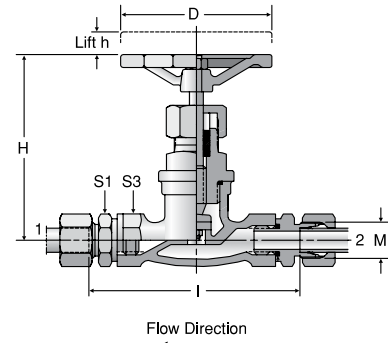
Temperature rating, without pressure reductions of steel non-return valves with NBR seals (e.g., buna N-standard) is -35°C to +100°C and with FKM seals (e.g., fluorocarbon) (on request) is -25°C to +120°C.

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 |

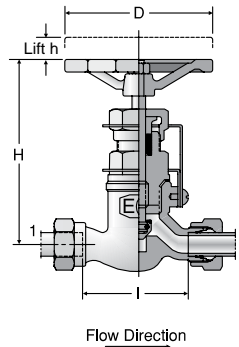


Note: The pressure specification PN for hand operated shut-off valves applies to the design factor 1.5 (according to DIN 3230 T5 and ISO 5208). Omit "MS" in the part number for brass material.

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.

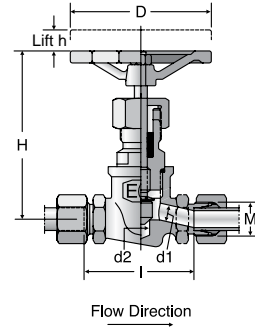
VDHA

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

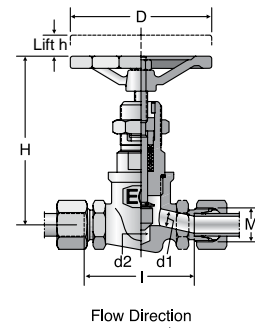
VDHB

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

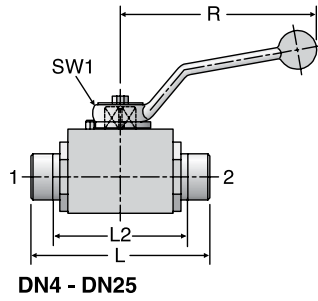
Note: The pressure specification PN for hand operated shut-off valves applies to the design factor 1.5 (according to DIN 3230 T5 and ISO 5208).



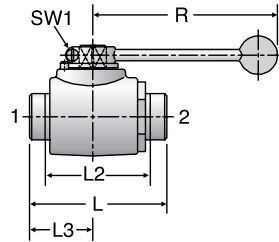
External threaded spindle and body of low grade forged stainless steel

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 |

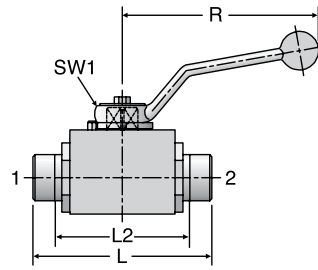
For EO-2 part number, insert "Z" between size and pressure series.
 Example: KH08ZSCF.

Dimensions and pressures for reference only, subject to change.

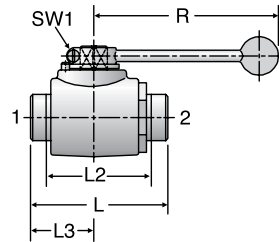
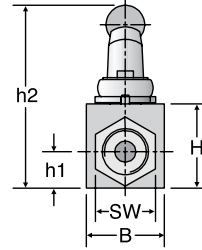


KH

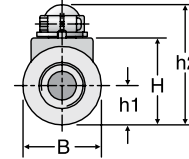
Two-Way Ball Valve
 24° Flareless / 24° Flareless
 Stainless Steel



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 |

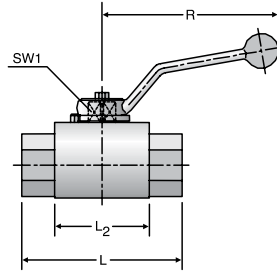
For EO-2 part number, insert "Z" between size and pressure series.
 Example: KH08ZSCF.

Dimensions and pressures for reference only, subject to change.

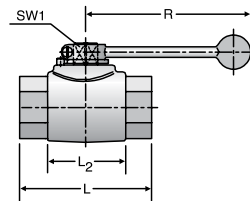
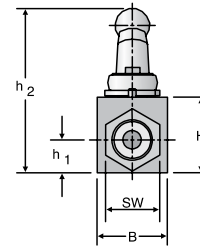


KH-R/NPT

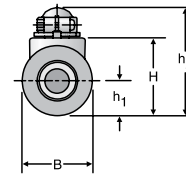
Two-Way Ball Valve
 Female BSPP / Female BSPP
 Female NPT / Female NPT



DN4-DN25



DN32-DN40



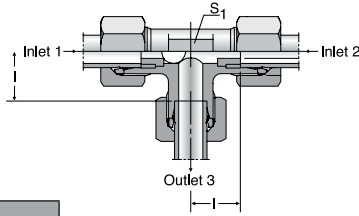
| TUBE FITTING PART # | END SIZE 1 & 2 NPT / BSPP | DN SIZE (mm) | B (mm) | h1 (mm) | h2 (mm) | H (mm) | L (mm) | L2 (mm) | R (mm) | SW (mm) | SW1 (mm) | Pressure Rating (bar) | |
|---------------------|---------------------------------|--------------------|-----------|------------|------------|-----------|-----------|------------|-----------|------------|-------------|-----------------------|----------|
| | | | | | | | | | | | | EO | CF |
| | | | | | | | | | | | | KH1/8X | G 1/8-28 |
| 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 | 14 | 14 | 160 |
| WV10L | 10 | 15 | 17 | 160 |
| WV12L | 12 | 17 | 19 | 160 |
| WV15L | 15 | 21 | 19 | 160 |

Dimensions and pressures for reference only, subject to change.

