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### FITTINGS

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## **METRIC TUBE FITTINGS (DIN 2353)**

These metric fittings are based on the bite-type system. The fittings have a trumpet shaped opening (24° taper). This taper opening acts as a wedge together with the cutting ring which will, with pressure from the rotation of the nut, be forced to cut into the tube and form a visible collar. This system will stand up to high pressure as well as shock loads. The double-cut cutting ring will seal under extreme loading conditions.

## **MATERIALS**

DIN 2353 tube fittings are most commonly available in steel, stainless steel 1.4571 (AISI 316Ti) or brass. Other materials such as Inconel or Monel are available on request.

## **CARBON STEEL FITTINGS**

Cutting Rings: Made of hardened steel and cadmium plated.

Nuts: Are cold formed to provide a tighter grain structure, resulting in higher strength.

Bodies: Fitting bodies are made out of bar stock or forged blanks. Bar stock is used for straight connectors and couplings. Shaped fittings (elbows, tees or crosses) may be made from bar stock or forged blanks.

Surface Finish: Nuts and compression bodies are plated with ROHS compliant zinc or new VOSS nickel zinc. Bodies for weld couplings or components to be welded are given a light oiled finish (no plating) to be suitable for welding.

## **STAINLESS STEEL FITTINGS (DIN 1.4571)**

The complete line of metric tube fittings described in this "fittings" section is also available in stainless steel. These fittings are made of 1.4571 stainless steel (AISI designation is 316 Ti). These stainless steel fittings are dimensionally identical to the carbon steel fittings and are 100% interchangeable. Therefore, systems that require steel fittings in some locations and stainless in other locations may be designed without any concerns about using different fitting styles. These fittings are the perfect mate to the stainless steel tubing shown in the tubing section of this catalogue. They come complete with stainless steel ferrules of the correct hardness to form a strong seal with stainless tubing. *We supply all components needed to produce a complete piping system in metric stainless steel.*

## **BRASS FITTINGS**

Many of the fittings described in this "Fittings" section are also available in brass for use with copper tubes. The brass fittings are dimensionally identical to the carbon steel fittings. Please contact us to enquire about the availability of specific styles and sizes.

## **ORDERING INFORMATION**

Stainless steel: Add -SS to the carbon steel fitting part numbers, eg. G-L-06 ⇒ G-L-06SS.

Brass: Add -BR, eg. G-L-06 ⇒ G-L-06BR.

## **FITTING SERIES - LIGHT, MEDIUM, HEAVY**

Fittings are manufactured in light, medium and heavy duty series.

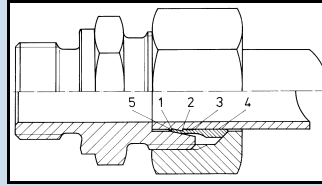
LL: Light - Medium service, hydraulic and pneumatic. Maximum 1500 psi (100 bar).

L: Medium - Heavy service. Maximum 7250 psi (500 bar).

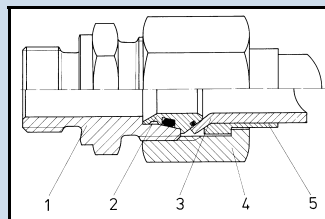
S: Heavy - Extreme Heavy service. Maximum 11600 psi (800 bar).



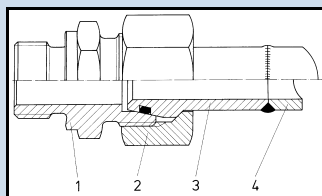
**CONNECTING TUBING TO THE FITTING BODY:** Tubing may be connected to the fitting body by using a cutting ring (standard), 37° flared tubing and a flare adapter, or by welding the tubing onto a weld nipple adapter. Both the flare adapter and weld adapter are machined to mate to the 24° cone in the fitting body.



**FUNCTION OF THE DOUBLE-CUT CUTTING RING:** Double-cut cutting rings are designed with two cutting edges (1 and 2). Edge 1 is already cutting into the tube before edge 2 starts to cut in. After this, the wedge (3) helps to clamp the ring between the inner cone and the tube. This process dampens vibrations so that they cannot reach tube incisions 1 and 2. A distinct increase in required effort is a clear sign that tightening of the nut is finished. When checking, there must be a visible collar (5). A high form closure is achieved by the two cutting edges. The design of the profile makes it possible for an optimum distribution of power over the whole length of the cone to be obtained, as well as safety against bending stresses and changes in pressure and temperature.



**FUNCTION OF A FLARE COUPLING:** The flare couplings guarantee a reliable connection between flared tubes with a 37° angle and the coupling body with a 24° cone port end (1). The most important structural element is the adapter (2) which seals against the cone of the coupling body and the 37° angle of the flared tube. When assembling, the adapter with the O-ring is pressed into the cone of the coupling body to the face stop. When this is done, a metal seal is formed between the inner cone and the adapter with the O-ring forming an additional seal. Because of the face stop on the adapter, enlargement of the 24° cone is avoided. This design also ensures that the adapter will be pressed properly into the cone. When the nut is tightened (4) a little more, the flared tube (3) is clamped and sealing between the flare sleeve (5) and the adapter (2) occurs.



**FUNCTION OF THE WELD NIPPLE:** The weld nipple with O-ring (3) can be used instead of cutting rings in all coupling bodies with a 24° cone end (1) and with nuts (2). The weld nipples are designed for use under extreme working conditions such as vibrations and changes in pressure and temperature. When assembled, a double sealing effect is produced - a metal seal between the weld nipple and inner cone of the coupling body as well as another seal made by the O-ring.



# Metric Hydraulic Compression Tube Fittings: Introduction

## PRESSURE RANGES OF FITTINGS

As a rule, nominal pressures for steel fittings have a safety factor of 4 under normal working conditions and temperatures of under 130°C. Working pressure for stainless steel decreases by approximately 11% at 100°C, and by approximately 20% at 200°C. The following is a general guideline only. Please check with us if precise data is required.

Series	Tube Size	Working Pressure (Bar)		
		Steel	Stainless Steel	Brass
LL	ALL	100	100	100
L	6, 8, 10	400	250	315
L	12, 15	400	250	315
L	18	315	160	315
L	22	315	160	160
L	28, 35, 42	250	100	160
S	6, 8, 10	630	630	630
S	12, 14	630	630	630
S	16	400	400	400
S	20, 25	400	400	400
S	30	400	250	400
S	38	250	250	315

LL = LOW PRESSURE      L = MEDIUM PRESSURE      S = HIGH PRESSURE  
 Not all fitting styles will be rated for the working pressures shown above. Please see the appropriate catalogue pages for the exact pressure rating for a given fitting. Contact us for more pressure information if required.

LL Series			L Series			S Series		
Tube Size	Thread	Nut	Tube Size	Thread	Nut	Tube Size	Thread	Nut
4	M8 x 1	10	6	M12 x 1.5	14	6	M14 x 1.5	17
5	M10 x 1	10	8	M14 x 1.5	17	8	M16 x 1.5	19
6	M10 x 1	12	10	M16 x 1.5	19	10	M18 x 1.5	22
8	M 12 x 1	14	12	M18 x 1.5	22	12	M20 x 1.5	24
			15	M22 x 1.5	27	14	M22 x 1.5	27
			18	M26 x 1.5	32	16	M24 x 1.5	30
			22	M30 x 2	36	20	M30 x 2	36
			28	M36 x 2	41	25	M36 x 2	46
			35	M45 x 2	50	30	M42 x 2	50
			42	M52 x 2	60	38	M52 x 2	60

## FITTING IDENTIFICATION FOR METRIC COMPRESSION TUBE FITTINGS

Use these measurements with the information on the table below to make a proper identification:

1. If the tube nut is available, read the fitting size and series that is stamped onto the nut (i.e.16-S).
2. If no nut is available, or no size can be read for the nut, then identify the fitting by one of the following:
  - Measure the tube O.D. and the male compression thread O.D.
  - Measure the tube O.D. and the size of wrench required for the tube nut
  - Measure the O.D. of the compression thread and the I.D. of the fitting body where the tubing will be seated

# Metric Hydraulic Compression Tube Fittings: Introduction



## PORT CONNECTION THREADS

Male port threads available are British Standard Pipe Parallel (BSPP), British Standard Pipe Tapered (BSPT), Metric Fine, National Pipe Thread (NPT), and SAE male thread with O-ring (O-ring boss).

### Thread Identification

BSPP or Metric Thread Metal Seal	BSPP or Metric Thread "ED" Rubber Seal	BSPT Thread or Metric Taper Thread	NPT Thread	SAE Male Thread (O-ring boss) O-ring Seal	ISO6149 Metric Thread O-ring Seal

### BSP Threads

Dash Size	Designation	Thread O.D. (inch)	Thread O.D. (mm)	Thread Pitch (T.P.I.)
-2	1/8-28, R1/8, G1/8	0.383	9.73	28
-4	1/4-19, R1/4, G1/4	0.518	13.16	19
-6	3/8-19, R3/8, G3/8	0.656	16.66	19
-8	1/2-14, R1/2, G1/2	0.825	20.96	14
-12	3/4-14, R3/4, G3/4	1.041	26.44	14
-16	1-11, R1", G1"	1.309	33.25	11
-20	1 1/4-11, R1 1/4, G1 1/4	1.65	41.91	11
-24	1 1/2-11, R1 1/2, G1 1/2	1.882	47.8	11

Thread O.D. for BSP threads are measured at point "G" for parallel threads and point "G1" for tapered threads. Thread O.D. sizes shown are theoretical and actual measured sizes will be smaller.

### Metric Threads

Designation	Thread O.D. (mm)	Thread O.D. (inch)	Thread Pitch (mm)
M8x1	8	0.314	1
M10x1	10	0.393	1
M12x1.5	12	0.472	1.5
M14x1.5	14	0.551	1.5
M16x1.5	16	0.629	1.5
M18x1.5	18	0.708	1.5
M20x1.5	20	0.787	1.5
M22x1.5	22	0.866	1.5
M24x1.5	24	0.944	1.5
M26x1.5	26	1.023	1.5
M27x2	27	1.063	2
M30x2	30	1.181	2
M33x2	33	1.299	2
M36x2	36	1.417	2
M42x2	42	1.653	2
M45x2	45	1.771	2
M48x2	48	1.89	2
M52x2	52	2.047	2

Thread O.D. for Metric threads are measured at point "G" for parallel threads and point "G1" for tapered threads.

Thread O.D. sizes shown in inches are for reference only.

Thread O.D. sizes shown are theoretical and actual measured sizes will be smaller.



# Metric Hydraulic Compression Tube Fittings: Introduction

Thread Identification continued ...

NPT Threads			
Dash Size	Designation	Thread O.D. (inch)	Thread Pitch (TPI)
-2	1/8 NPT	0.405	27
-4	1/4 NPT	0.54	18
-6	3/8 NPT	0.675	18
-8	1/2 NPT	0.84	14
-12	3/4 NPT	1.05	14
-16	1" NPT	1.315	11 1/2
-20	1 1/4 NPT	1.66	11 1/2
-24	1 1/2 NPT	1.9	11 1/2
-32	2" NPT	2.375	11 1/2

Thread O.D. for NPT threads should be measured at the largest part of the taper, and correspond to the O.D. of pipe sizes. Thread O.D. sizes shown are theoretical and actual measured sizes will be smaller.

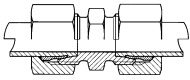
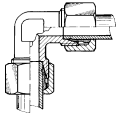
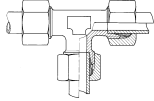
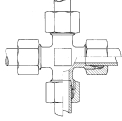
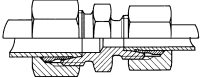
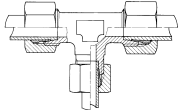
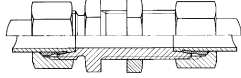
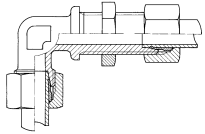

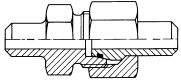
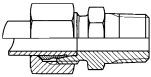
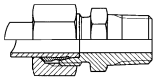
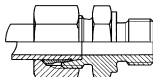
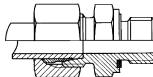
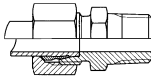
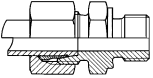
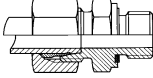
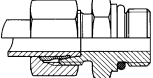
SAE O-ring Threads (O-ring boss)			
Dash Size	Designation	Thread O.D. (inch)	Thread Pitch (TPI)
-2	5/16 - 24 UNF	0.313	24
-4	7/16 - 20 UNF	0.437	20
-6	9/16 - 18 UNF	0.562	18
-8	3/4 - 16 UNF	0.75	16
-10	7/8 - 14 UNF	0.875	14
-12	1 1/16 - 12 UN	1.062	12
-16	1 5/16 - 12 UN	1.313	12
-20	1 5/8 - 12 UN	1.625	12
-24	1 7/8 - 12 UN	1.875	12

Thread O.D. for SAE threads are measured at point "G".  
Thread O.D. sizes shown are theoretical and actual measured sizes will be smaller.

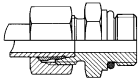
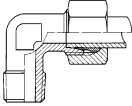
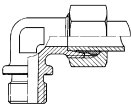
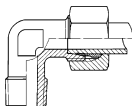
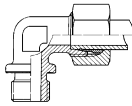
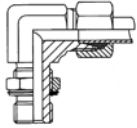
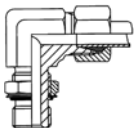
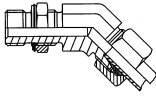
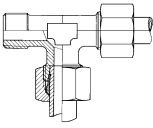
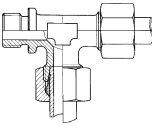
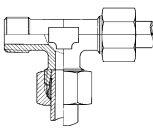
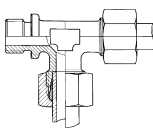
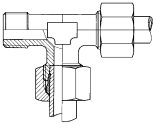
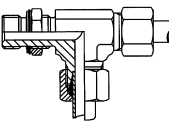
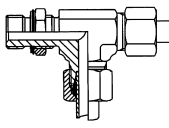
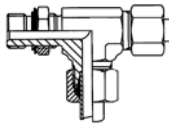
ISO 6149			
Designation	Thread O.D. (mm)	Thread O.D. (inch)	Thread Pitch (mm)
M8x1	8	0.314	1
M10x1	10	0.393	1
M12x1.5	12	0.472	1.5
M14x1.5	14	0.551	1.5
M16x1.5	16	0.629	1.5
M18x1.5	18	0.708	1.5
M20x1.5	20	0.787	1.5
M22x1.5	22	0.866	1.5
M24x1.5	24	0.944	1.5
M26x1.5	26	1.023	1.5
M27x2	27	1.063	2
M30x2	30	1.181	2
M33x2	33	1.299	2
M36x2	36	1.417	2
M42x2	42	1.653	2
M45x2	45	1.771	2
M48x2	48	1.89	2
M52x2	52	2.047	2

Thread O.D. for Metric threads are measured at point "G" for parallel threads and point "G1" for tapered threads.  
Thread O.D. sizes shown in inches are for reference only.  
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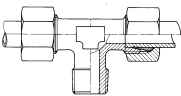
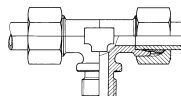
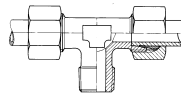
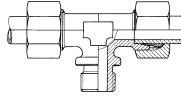
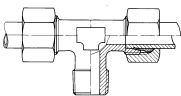
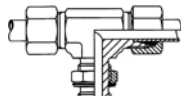
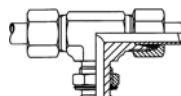
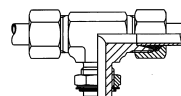
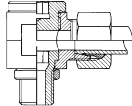
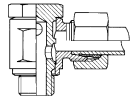
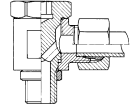
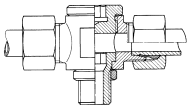
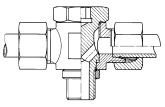
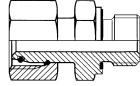
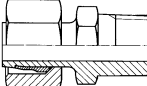
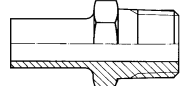
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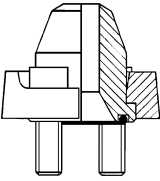
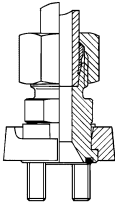
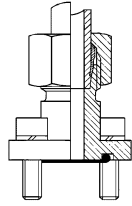
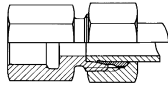
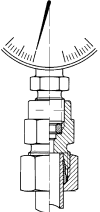
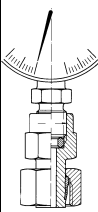
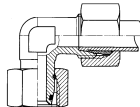
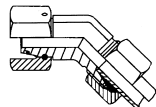
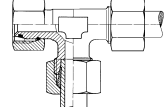
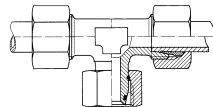
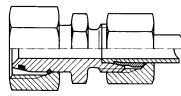
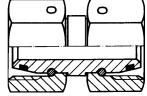
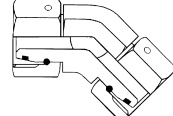
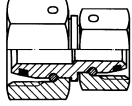
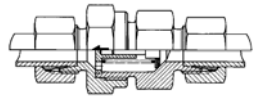
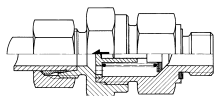
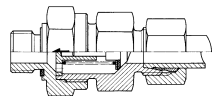




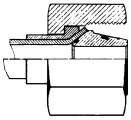
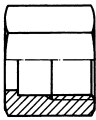
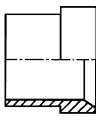

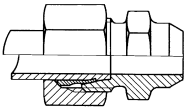
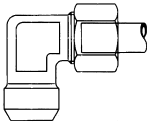
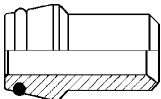
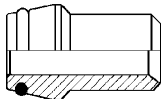
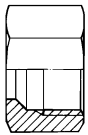
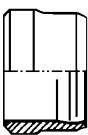

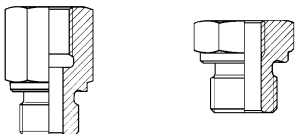
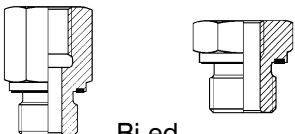
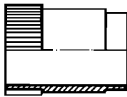
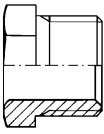
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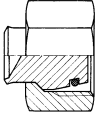
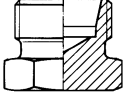
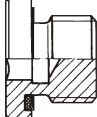
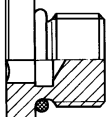
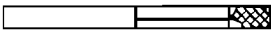
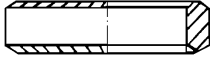
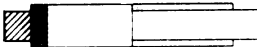



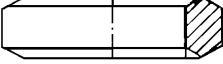
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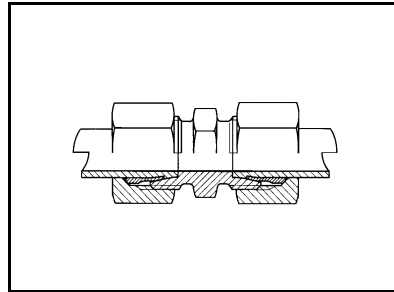
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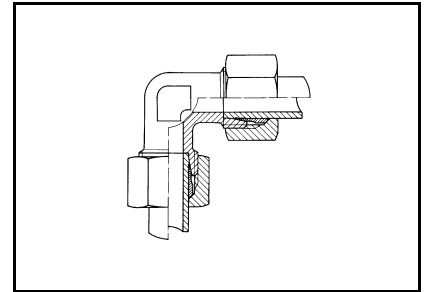


# TUBE TO TUBE UNIONS



**Straight Union**

**Part Number**



**Union Elbow**

**Part Number**

Series	Tube Size (mm)	Working Pressure (bar)
LL	4	100
LL	5	100
LL	6	100
LL	8	100
LL	10	100
LL	12	100
L	6	400
L	8	400
L	10	400
L	12	400
L	15	400
L	18	315
L	22	315
L	28	250
L	35	250
L	42	250
S	6	630
S	8	630
S	10	630
S	12	630
S	14	630
S	16	400
S	20	400
S	25	400
S	30	400
S	38	315

G-LL-04
G-LL-05
G-LL-06
G-LL-08
G-LL-10
G-LL-12
G-L-06
G-L-08
G-L-10
G-L-12
G-L-15
G-L-18
G-L-22
G-L-28
G-L-35
G-L-42
G-S-06
G-S-08
G-S-10
G-S-12
G-S-14
G-S-16
G-S-20
G-S-25
G-S-30
G-S-38

W-LL-04
W-LL-05
W-LL-06
W-LL-08
W-LL-10
W-LL-12
W-L-06
W-L-08
W-L-10
W-L-12
W-L-15
W-L-18
W-L-22
W-L-28
W-L-35
W-L-42
W-S-06
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W-S-38

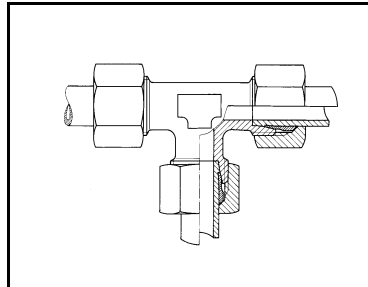
Standard fittings are plated steel.

For stainless steel fittings, add "SS" to the Williams Fluidair part number.

For brass fittings, add "BR" to the Williams Fluidair part number. Enquire for availability.

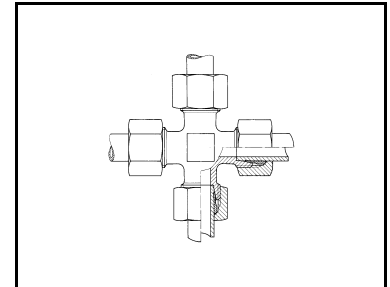
**Williams Fluidair Corporation Limited**

1018 Salk Road Pickering, Ontario Canada L1W 3C5  
 T: 905-831-3222 F: 905-831-3284 E: service@williamsfluidair.com www.williamsfluidair.com



**Union Tee**

**Part Number**



**Union Cross**

**Part Number**

Series	Tube Size (mm)	Working Pressure (bar)
LL	4	100
LL	5	100
LL	6	100
LL	8	100
LL	10	100
LL	12	100
L	6	400
L	8	400
L	10	400
L	12	400
L	15	400
L	18	315
L	22	315
L	28	250
L	35	250
L	42	250
S	6	630
S	8	630
S	10	630
S	12	630
S	14	630
S	16	400
S	20	400
S	25	400
S	30	400
S	38	315

T-LL-04
T-LL-05
T-LL-06
T-LL-08
T-LL-10
T-LL-12
T-L-06
T-L-08
T-L-10
T-L-12
T-L-15
T-L-18
T-L-22
T-L-28
T-L-35
T-L-42
T-S-06
T-S-08
T-S-10
T-S-12
T-S-14
T-S-16
T-S-20
T-S-25
T-S-30
T-S-38

K-LL-04
K-LL-06
K-LL-08
K-LL-10
K-LL-12
K-L-06
K-L-08
K-L-10
K-L-12
K-L-15
K-L-18
K-L-22
K-L-28
K-L-35
K-L-42
K-S-06
K-S-08
K-S-10
K-S-12
K-S-14
K-S-16
K-S-20
K-S-25
K-S-30
K-S-38

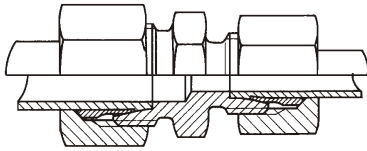
Standard fittings are plated steel.

For stainless steel fittings, add "SS" to the Williams Fluidair part number.

For brass fittings, add "BR" to the Williams Fluidair part number. Enquire for availability.



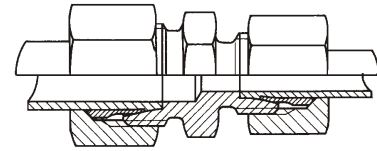
# REDUCING TUBE UNIONS



**Reducing Tube Union**

Working Pressure Bar	Tube Size 1	Tube Size 2	Part Number
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100	6-LL	4-LL	GR-LL-06/04
100	8-LL	4-LL	GR-LL-08/04
100	8-LL	6-LL	GR-LL-08/06
400	8-L	6-L	GR-L-08/06
400	10-L	6-L	GR-L-10/06
400	10-L	8-L	GR-L-10/08
400	12-L	6-L	GR-L-12/06
400	12-L	8-L	GR-L-12/08
400	12-L	10-L	GR-L-12/10
400	15-L	6-L	GR-L-15/06
400	15-L	8-L	GR-L-15/08
400	15-L	10-L	GR-L-15/10
400	15-L	12-L	GR-L-15/12
315	18-L	8-L	GR-L-18/08
315	18-L	10-L	GR-L-18/10
315	18-L	12-L	GR-L-18/12
315	18-L	15-L	GR-L-18/15
315	22-L	12-L	GR-L-22/12
315	22-L	15-L	GR-L-22/15
315	22-L	18-L	GR-L-22/18
250	28-L	10-L	GR-L-28/10
250	28-L	12-L	GR-L-28/12
250	28-L	15-L	GR-L-28/15
250	28-L	18-L	GR-L-28/18
250	28-L	22-L	GR-L-28/22
250	35-L	22-L	GR-L-35/22
250	35-L	28-L	GR-L-35/28



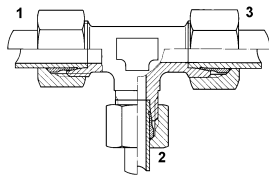
**Reducing Tube Union**

Working Pressure Bar	Tube Size 1	Tube Size 2	Part Number
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630	8-S	6-S	GR-S-06/06
630	10-S	6-S	GR-S-10/06
630	10-S	8-S	GR-S-10/08
630	12-S	6-S	GR-S-12/06
630	12-S	8-S	GR-S-12/08
630	12-S	10-S	GR-S-12/10
630	14-S	10-S	GR-S-14/10
630	14-S	12-S	GR-S-14/12
400	16-S	10-S	GR-S-16/10
400	16-S	12-S	GR-S-16/12
400	16-S	14-S	GR-S-16/14
400	20-S	10-S	GR-S-20/10
400	20-S	12-S	GR-S-20/12
400	20-S	14-S	GR-S-20/14
400	20-S	16-S	GR-S-20/16
400	25-S	16-S	GR-S-25/16
400	25-S	20-S	GR-S-25/20
400	30-S	20-S	GR-S-30/20
400	30-S	25-S	GR-S-30/25
315	38-S	30-S	GR-S-38/30

Additional sizes may be available.

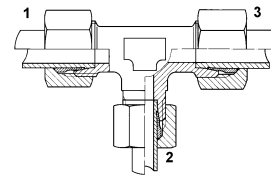
# REDUCING UNION TEE



**Reducing Union Tee**

Working Pressure Bar	Tube Size 1	Tube Size 2	Tube Size 3	Part Number
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100	6-LL	4-LL	6-LL	TR-LL-06/04/06
100	4-LL	8-LL	4-LL	TR-LL-04/08/04
400	6-L	8-L	6-L	TR-L-06/08/06
400	8-L	6-L	8-L	TR-L-08/06/08
400	6-L	10-L	6-L	TR-L-06/10/06
400	8-L	10-L	8-L	TR-L-08/10/08
400	10-L	6-L	10-L	TR-L-10/06/10
400	10-L	8-L	10-L	TR-L-10/08/10
400	10-L	10-L	6-L	TR-L-10/10/08
400	8-L	12-L	8-L	TR-L-08/12/08
400	12-L	6-L	12-L	TR-L-12/06/12
400	12-L	8-L	8-L	TR-L-12/08/08
400	12-L	8-L	12-L	TR-L-12/08/12
400	12-L	10-L	10-L	TR-L-12/10/10
400	12-L	10-L	12-L	TR-L-12/10/12
400	10-L	15-L	10-L	TR-L-10/15/10
400	12-L	15-L	12-L	TR-L-12/15/12
400	15-L	6-L	15-L	TR-L-15/06/15
400	15-L	8-L	15-L	TR-L-15/08/15
400	15-L	10-L	15-L	TR-L-15/10/15
400	15-L	12-L	12-L	TR-L-15/12/12
400	15-L	15-L	12-L	TR-L-15/15/12
400	15-L	12-L	15-L	TR-L-15/12/15
315	12-L	15-L	12-L	TR-L-12/15/12
315	18-L	10-L	10-L	TR-L-18/10/10
315	18-L	10-L	18-L	TR-L-18/10/18
315	18-L	12-L	18-L	TR-L-18/12/18
315	18-L	15-L	18-L	TR-L-18/15/18
315	18-L	18-L	10-L	TR-L-18/18/10
315	22-L	10-L	22-L	TR-L-22/10/22
315	22-L	12-L	22-L	TR-L-22/12/22
315	22-L	15-L	15-L	TR-L-22/15/15
315	22-L	15-L	22-L	TR-L-22/15/22
315	22-L	18-L	18-L	TR-L-22/18/18



**Reducing Union Tee**

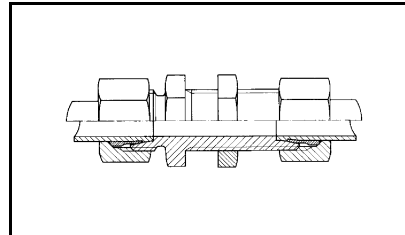
Working Pressure Bar	Tube Size 1	Tube Size 2	Tube Size 3	Part Number
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315	22-L	18-L	22-L	TR-L-22/18/22
315	22-L	22-L	18-L	TR-L-22/22/18
250	22-L	28-L	22-L	TR-L-22/28/22
250	28-L	10-L	28-L	TR-L-28/10/28
250	28-L	12-L	28-L	TR-L-28/12/28
250	28-L	15-L	28-L	TR-L-28/15/28
250	28-L	18-L	28-L	TR-L-28/18/28
250	28-L	22-L	22-L	TR-L-28/22/22
250	28-L	22-L	28-L	TR-L-28/22/28
250	35-L	22-L	35-L	TR-L-35/22/35
250	35-L	28-L	35-L	TR-L-35/28/35
630	10-S	6-S	10-S	TR-S-10/06/10
630	12-S	6-S	12-S	TR-S-12/06/12
630	12-S	8-S	12-S	TR-S-12/08/12
630	12-S	10-S	12-S	TR-S-12/10/12
630	14-S	10-S	14-S	TR-S-14/10/14
400	12-S	16-S	12-S	TR-S-12/16/12
400	16-S	6-S	16-S	TR-S-16/06/16
400	16-S	8-S	16-S	TR-S-16/08/16
400	16-S	10-S	16-S	TR-S-16/10/16
400	16-S	12-S	16-S	TR-S-16/12/16
400	16-S	20-S	16-S	TR-S-16/20/16
400	20-S	10-S	20-S	TR-S-20/10/20
400	20-S	12-S	20-S	TR-S-20/12/20
400	20-S	16-S	20-S	TR-S-20/16/20
400	20-S	25-S	20-S	TR-S-20/25/20
400	25-S	16-S	25-S	TR-S-25/16/25
400	25-S	20-S	25-S	TR-S-25/20/25
400	25-S	30-S	25-S	TR-S-25/30/25
400	30-S	16-S	30-S	TR-S-30/16/30
400	30-S	20-S	30-S	TR-S-30/20/30
400	30-S	25-S	30-S	TR-S-30/25/30

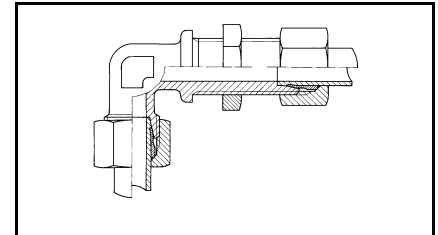




# TUBE TO TUBE BULKHEAD UNIONS



**Straight Bulkhead Union**



**Elbow Bulkhead Union**

Series	Tube Size (mm)	Working Pressure (bar)
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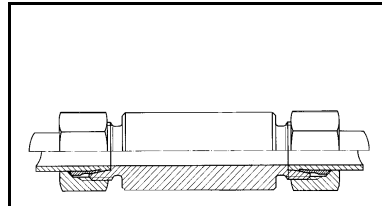
Part Number
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Part Number
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LL	4	100
LL	6	100
LL	8	100
L	6	400
L	8	400
L	10	400
L	12	400
L	15	400
L	18	315
L	22	315
L	28	250
L	35	250
L	42	250
S	6	630
S	8	630
S	10	630
S	12	630
S	14	630
S	16	400
S	20	400
S	25	400
S	30	400
S	38	315

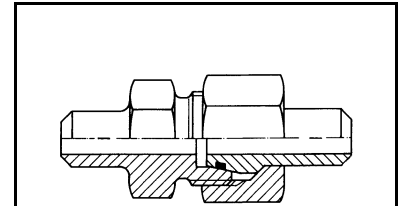
SV-LL-04
SV-LL-06
SV-LL-08
SV-L-06
SV-L-08
SV-L-10
SV-L-12
SV-L-15
SV-L-18
SV-L-22
SV-L-28
SV-L-35
SV-L-42
SV-S-06
SV-S-08
SV-S-10
SV-S-12
SV-S-14
SV-S-16
SV-S-20
SV-S-25
SV-S-30
SV-S-38

WSV-LL-04
WSV-LL-06
WSV-LL-08
WSV-L-06
WSV-L-08
WSV-L-10
WSV-L-12
WSV-L-15
WSV-L-18
WSV-L-22
WSV-L-28
WSV-L-35
WSV-L-42
WSV-S-06
WSV-S-08
WSV-S-10
WSV-S-12
WSV-S-14
WSV-S-16
WSV-S-20
WSV-S-25
WSV-S-30
WSV-S-38



**Weld Bulkhead**

**Part Number**



**Weld Union**

**Part Number**

Series	Tube Size (mm)	Working Pressure (bar)
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L	6	400
L	8	400
L	10	400
L	12	400
L	15	400
L	18	315
L	22	315
L	28	250
L	35	250
L	42	250
S	6	630
S	8	630
S	10	630
S	12	630
S	14	630
S	16	400
S	20	400
S	25	400
S	30	400
S	38	315

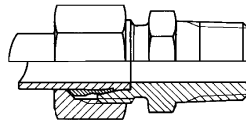
ESV-L-06
ESV-L-08
ESV-L-10
ESV-L-12
ESV-L-15
ESV-L-18
ESV-L-22
ESV-L-28
ESV-L-35
ESV-L-42
ESV-S-06
ESV-S-08
ESV-S-10
ESV-S-12
ESV-S-14
ESV-S-16
ESV-S-20
ESV-S-25
ESV-S-30
ESV-S-38

ESNO-L-06
ESNO-L-08
ESNO-L-10
ESNO-L-12
ESNO-L-15
ESNO-L-18
ESNO-L-22
ESNO-L-28
ESNO-L-35
ESNO-L-42
ESNO-S-06
ESNO-S-08
ESNO-S-10
ESNO-S-12
ESNO-S-14
ESNO-S-16
ESNO-S-20
ESNO-S-25
ESNO-S-30
ESNO-S-38

The ESV- weld bulkhead bodies are low carbon steel, unplated, suitable for welding.

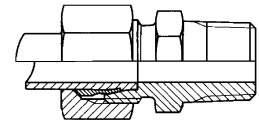


# MALE CONNECTORS: BSPT & NPT PORT THREADS (S)



**Male Connector  
BSP Taper Thread**

Port Thread BSPT	Part Number
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**Male Connector  
NPT Thread**

Port Thread NPT	Part Number
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Series	Tube Size (mm)	Working Pressure (bar)
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S	6	630
S	6	630
S	6	630
S	6	630
S	8	630
S	8	630
S	10	630
S	10	630
S	10	630
S	10	630
S	10	630
S	12	630
S	12	630
S	12	630
S	12	630
S	12	630
S	14	630
S	14	630
S	16	400
S	16	400
S	16	400
S	16	400
S	20	400
S	20	400
S	20	400
S	25	400
S	25	400
S	25	400
S	30	400
S	30	400
S	30	400
S	38	315
S	38	315
S	38	315

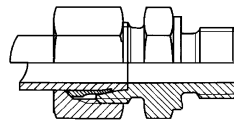
1/8"	GE-SR-06 1/8T
1/4" *	GE-SR-06 1/4T
1/4" *	GE-SR-08 1/4T
3/8" *	GE-SR-10 3/8T
1/2"	GE-SR-10 1/2T
1/4"	GE-SR-12 1/4T
3/8" *	GE-SR-12 3/8T
1/2" *	GE-SR-14 1/2T
3/8"	GE-SR-16 3/8T
1/2" *	GE-SR-16 1/2T
1/2"	GE-SR-20 1/2T
3/4" *	GE-SR-20 3/4T
3/4"	GE-SR-25 3/4T
1" *	GE-SR-25/1T
1-1/4" *	GE-SR-30 1 1/4T
1-1/2" *	GE-SR-38 1 1/2T

1/4" *	GE-S-06 1/4
3/8"	GE-S-06 3/8
1/2"	GE-S-06 1/2
1/4" *	GE-S-08 1/4
1/2"	GE-S-08 1/2
1/8"	GE-S-10 1/8
1/4"	GE-S-10 1/4
3/8" *	GE-S-10 3/8
1/2"	GE-S-10 1/2
1/4"	GE-S-12 1/4
3/8" *	GE-S-12 3/8
1/2"	GE-S-12 1/2
3/4"	GE-S-12 3/4
3/8"	GE-S-14 3/8
1/2" *	GE-S-14 1/2
3/8"	GE-S-16 3/8
1/2" *	GE-S-16 1/2
3/4"	GE-S-16 3/4
1/2"	GE-S-20 1/2
3/4" *	GE-S-20 3/4
1"	GE-S-20/1
3/4"	GE-S-25 3/4
1" *	GE-S-25/1
1-1/4"	GE-S-25 1 1/4
3/4"	GE-S-30 3/4
1"	GE-S-30/1
1-1/4" *	GE-S-30 1 1/4
1"	GE-S-38/1
1-1/4"	GE-S-38 1 1/4
1-1/2" *	GE-S-38 1 1/2

\* Indicates standard port thread for a given tube size.

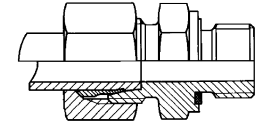


# MALE CONNECTORS: BSPP PORT THREADS (L)



**Male Connector  
BSPP Straight Thread**

Working Pressure (bar)	Part Number
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**Male Connector BSPP  
Straight Thread with Seal**

Working Pressure (bar)	Part Number
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Series	Tube Size (mm)	Port Thread BSPP
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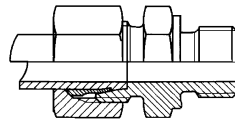
L	6	1/8" *
L	6	1/4"
L	6	3/8"
L	6	1/2"
L	8	1/8"
L	8	1/4" *
L	8	3/8"
L	8	1/2"
L	10	1/8"
L	10	1/4" *
L	10	3/8"
L	10	1/2"
L	12	1/4"
L	12	3/8" *
L	12	1/2"
L	12	3/4"
L	15	3/8"
L	15	1/2" *
L	15	3/4"
L	18	3/8"
L	18	1/2" *
L	18	3/4"
L	18	1"
L	22	1/2"
L	22	3/4" *
L	22	1"
L	28	3/4"
L	28	1" *
L	28	1-1/4"
L	35	1"
L	35	1-1/4" *
L	35	1-1/2"
L	42	1-1/4"
L	42	1-1/2" *

315	GE-LR-06 1/8
315	GE-LR-06 1/4
315	GE-LR-06 3/8
315	GE-LR-06 1/2
315	GE-LR-08 1/8
315	GE-LR-08 1/4
315	GE-LR-08 3/8
315	GE-LR-08 1/2
315	GE-LR-10 1/8
315	GE-LR-10 1/4
315	GE-LR-10 3/8
315	GE-LR-10 1/2
315	GE-LR-12 1/4
315	GE-LR-12 3/8
315	GE-LR-12 1/2
315	GE-LR-12 3/4
315	GE-LR-15 3/8
315	GE-LR-15 1/2
315	GE-LR-15 3/4
315	GE-LR-18 3/8
315	GE-LR-18 1/2
315	GE-LR-18 3/4
315	GE-LR-18/1
250	GE-LR-22 1/2
250	GE-LR-22 3/4
250	GE-LR-22/1
250	GE-LR-28 3/4
250	GE-LR-28/1
250	GE-LR-28 11/4
250	GE-LR-35/1
250	GE-LR-35 11/4
250	GE-LR-35 11/2
250	GE-LR-42 11/4
250	GE-LR-42 11/2

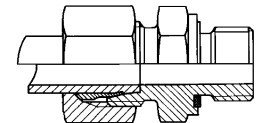
400	GE-LRed-06 1/8
400	GE-LRed-06 1/4
400	GE-LRed-06 3/8
400	GE-LRed-06 1/2
400	GE-LRed-08 1/8
400	GE-LRed-08 1/4
400	GE-LRed-08 3/8
400	GE-LRed-08 1/2
400	GE-LRed-10 1/8
400	GE-LRed-10 1/4
400	GE-LRed-10 3/8
400	GE-LRed-10 1/2
400	GE-LRed-12 1/4
400	GE-LRed-12 3/8
400	GE-LRed-12 1/2
400	GE-LRed-12 3/4
400	GE-LRed-15 3/8
400	GE-LRed-15 1/2
400	GE-LRed-15 3/4
315	GE-LRed-18 3/8
315	GE-LRed-18 1/2
315	GE-LRed-18 3/4
315	GE-LRed-18/1
315	GE-LRed-22 1/2
315	GE-LRed-22 3/4
315	GE-LRed-22/1
250	GE-LRed-28 3/4
250	GE-LRed-28/1
250	GE-LRed-28 11/4
250	GE-LRed-35/1
250	GE-LRed-35 11/4
250	GE-LRed-35 11/2
250	GE-LRed-42 11/4
250	GE-LRed-42 11/2

\* Indicates standard port thread for a given tube size.

# MALE CONNECTORS: BSPP PORT THREADS (S)



**Male Connector  
BSPP Straight Thread**



**Male Connector BSPP  
Straight Thread with Seal**

Series	Tube Size (mm)	Port Thread BSPP
--------	----------------	------------------

S	6	1/4" *
S	6	3/8"
S	6	1/2"
S	8	1/8"
S	8	1/4" *
S	8	3/8"
S	8	1/2"
S	10	1/4"
S	10	3/8"*
S	10	1/2"
S	12	1/4"
S	12	3/8" *
S	12	1/2"
S	12	3/4"
S	12	1"
S	14	3/8"
S	14	1/2" *
S	14	3/4"
S	16	3/8"
S	16	1/2" *
S	16	3/4"
S	16	1"
S	20	1/2"
S	20	3/4" *
S	20	1"
S	25	1/2"
S	25	3/4"
S	25	1" *
S	25	1-1/4"
S	25	1-1/2"
S	30	3/4"
S	30	1"
S	30	1-1/4" *
S	30	1-1/2"
S	38	3/4"
S	38	1"
S	38	1-1/4"
S	38	1-1/2" *

Working Pressure (bar)	Part Number
------------------------	-------------

630	GE-SR-06 1/4
630	GE-SR-06 3/8
630	GE-SR-06 1/2
630	GE-SR-08 1/4
630	GE-SR-08 3/8
630	GE-SR-08 1/2
630	GE-SR-10 1/4
630	GE-SR-10 3/8
630	GE-SR-10 1/2
630	GE-SR-12 1/4
630	GE-SR-12 3/8
630	GE-SR-12 1/2
630	GE-SR-12 3/4
630	GE-SR-14 3/8
630	GE-SR-14 1/2
630	GE-SR-14 3/4
400	GE-SR-16 3/8
400	GE-SR-16 1/2
400	GE-SR-16 3/4
400	GE-SR-16/1
400	GE-SR-20 1/2
400	GE-SR-20 3/4
400	GE-SR-20/1
400	GE-SR-25 1/2
400	GE-SR-25 3/4
400	GE-SR-25/1
400	GE-SR-25 11/4
400	GE-SR-25 11/2
250	GE-SR-30 3/4
250	GE-SR-30/1
250	GE-SR-30 11/4
250	GE-SR-30 11/2
250	GE-SR-38/1
250	GE-SR-38 11/4
250	GE-SR-38 11/2

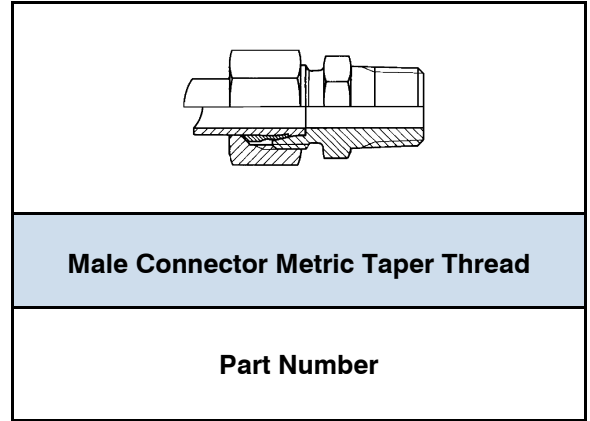
Working Pressure (bar)	Part Number
------------------------	-------------

630	GE-SRed-06 1/4
630	GE-SRed-06 1/2
630	GE-SRed-08 1/8
630	GE-SRed-08 1/4
630	GE-SRed-08 3/8
630	GE-SRed-08 1/2
630	GE-SRed-10 1/4
630	GE-SRed-10 3/8
630	GE-SRed-10 1/2
630	GE-SRed-12 1/4
630	GE-SRed-12 3/8
630	GE-SRed-12 1/2
630	GE-SRed-12 3/4
630	GE-SRed-12/1
630	GE-SRed-14 3/8
630	GE-SRed-14 1/2
400	GE-SRed-16 3/8
400	GE-SRed-16 1/2
400	GE-SRed-16 3/4
400	GE-SRed-20 1/2
400	GE-SRed-20 3/4
400	GE-SRed-20/1
400	GE-SRed-25 1/2
400	GE-SRed-25 3/4
400	GE-SRed-25/1
400	GE-SRed-25 11/4
400	GE-SRed-30/1
400	GE-SRed-30 11/4
400	GE-SRed-30 11/2
315	GE-SRed-38 3/4
315	GE-SRed-38/1
315	GE-SRed-38 11/4
315	GE-SRed-38 11/2

\* Indicates standard port thread for a given tube size.



# MALE CONNECTORS: METRIC PORT THREADS (LL)

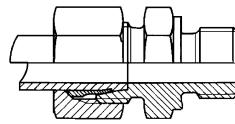


Series	Tube Size (mm)	Port Thread	Working Pressure (bar)
LL	4	M6X1	100
LL	4	M8X1*	100
LL	4	M10X1	100
LL	5	M8X1*	100
LL	6	M6X1	100
LL	6	M8X1	100
LL	6	M10X1*	100
LL	8	M10X1*	100
LL	10	M14X1.5	100
LL	12	M16X1.5	100

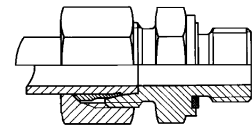
GE-LLM-04 M6X1
GE-LLM-04
GE-LLM-04 M10X1
GE-LLM-05
GE-LLM-06 M6X1
GE-LLM-06 M8X1
GE-LLM-06
GE-LLM-08
GE-LLM-10
GE-LLM-12

\* Indicates standard port thread for a given tube size.

# MALE CONNECTORS: METRIC PORT THREADS (L)



**Male Connector  
Metric Straight Thread**



**Male Connector Metric  
Straight Thread with Seal**

Series	Tube Size (mm)	Port Thread
--------	----------------	-------------

L	6	M8x1
L	6	M10x1 *
L	6	M12x1.5
L	6	M14x1.5
L	8	M12x1.5 *
L	8	M14x1.5
L	8	M16x1.5
L	8	M18x1.5
L	8	M22x1.5
L	10	M12x1.5
L	10	M14x1.5 *
L	10	M16x1.5
L	10	M18x1.5
L	10	M22x1.5
L	12	M12x1.5
L	12	M14x1.5
L	12	M16x1.5 *
L	12	M18x1.5
L	12	M22x1.5
L	15	M16x1.5
L	15	M18x1.5 *
L	15	M22x1.5
L	18	M18x1.5
L	18	M22x1.5 *
L	18	M26x1.5
L	22	M22x1.5
L	22	M26x1.5 *
L	28	M26x1.5
L	28	M33x2 *
L	35	M33x2
L	35	M42x2 *
L	42	M48x2 *

Working Pressure (bar)	Part Number
------------------------	-------------

315	GE-LM-06 M8x1
315	GE-LM-06
315	GE-LM-06 M12x1.5
315	GE-LM-06 M14x1.5
315	GE-LM-08
315	GE-LM-08 M14x1.5
315	GE-LM-08 M16x1.5
315	GE-LM-08 M18x1.5
315	GE-LM-08 M22x1.5
315	GE-LM-10 M12x1.5
315	GE-LM-10
315	GE-LM-10 M16x1.5
315	GE-LM-10 M18x1.5
315	GE-LM-10 M22x1.5
315	GE-LM-12 M12x1.5
315	GE-LM-12 M14x1.5
315	GE-LM-12
315	GE-LM-12 M18x1.5
315	GE-LM-12 M22x1.5
315	GE-LM-15 M16x1.5
315	GE-LM-15
315	GE-LM-15 M22x1.5
315	GE-LM-18 M18x1.5
315	GE-LM-18
250	GE-LM-22 M22x1.5
250	GE-LM-22
250	GE-LM-28 M26x1.5
250	GE-LM-28
250	GE-LM-35
250	GE-LM-42

Working Pressure (bar)	Part Number
------------------------	-------------

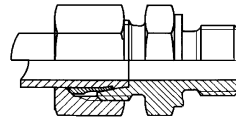
400	GE-LMed-06
400	GE-LMed-08
400	GE-LMed-08 M14x1.5
400	GE-LMed-08 M16x1.5
400	GE-LMed-08 M18x1.5
400	GE-LMed-10 M12X1.5
400	GE-LMed-10
400	GE-LMed-10 M16x1.5
400	GE-LMed-10 M18x1.5
400	GE-LMed-10 M22x1.5
400	GE-LMed-12 M14x1.5
400	GE-LMed-12
400	GE-LMed-12 M18x1.5
400	GE-LMed-12 M22x1.5
400	GE-LMed-15 M16x1.5
400	GE-LMed-15
400	GE-LMed-15 M22x1.5
315	GE-LMed-18 M18x1.5
315	GE-LMed-18
315	GE-LMed-18 M26X1.5
315	GE-LMed-22 M22x1.5
315	GE-LMed-22
250	GE-LMed-28
250	GE-LMed-35 M33X2
250	GE-LMed-35
250	GE-LMed-42

\* Indicates standard port thread for a given tube size.

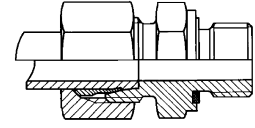




# MALE CONNECTORS: METRIC PORT THREADS (S)



**Male Connector  
Metric Straight Thread**



**Male Connector Metric  
Straight Thread with Seal**

Series	Tube Size (mm)	Port Thread
--------	----------------	-------------

Working Pressure (bar)	Part Number
------------------------	-------------

Working Pressure (bar)	Part Number
------------------------	-------------

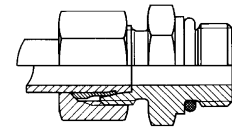
S	6	M12x1.5 *
S	8	M14x1.5 *
S	10	M12x1.5
S	10	M16x1.5 *
S	10	M18x1.5
S	10	M22x1.5
S	12	M14x1.5
S	12	M18x1.5 *
S	12	M20x1.5
S	12	M22x1.5
S	14	M16x1.5
S	14	M18x1.5
S	14	M20x1.5 *
S	14	M22x1.5
S	16	M16x1.5
S	16	M18x1.5
S	16	M22x1.5 *
S	16	M27x2
S	20	M18x1.5
S	20	M22x1.5
S	20	M26x1.5
S	20	M27x2 *
S	25	M27x2
S	25	M33x2 *
S	25	M48x2
S	30	M42x2 *
S	38	M48x2 *

630	GE-SM-06
630	GE-SM-08
630	GE-SM-10 M12x1.5
630	GE-SM-10
630	GE-SM-10 M18x1.5
630	GE-SM-10 M22x1.5
630	GE-SM-12 M14x1.5
630	GE-SM-12
630	GE-SM-12 M20x1.5
630	GE-SM-12 M22x1.5
630	GE-SM-14 M16x1.5
630	GE-SM-14 M18x1.5
630	GE-SM-14
630	GE-SM-14 M22x1.5
400	GE-SM-16 M16x1.5
400	GE-SM-16 M18x1.5
400	GE-SM-16
400	GE-SM-16 M27x2
400	GE-SM-20 M18x1.5
400	GE-SM-20 M22x1.5
400	GE-SM-20 M26x1.5
400	GE-SM-20
400	GE-SM-25
400	GE-SM-25 M48x2
250	GE-SM-30
250	GE-SM-38

630	GE-SMed-06
630	GE-SMed-08
630	GE-SMed-10
630	GE-SMed-12
630	GE-SMed-12 M22x1.5
630	GE-SMed-14
400	GE-SMed-16 M18x1.5
400	GE-SMed-16
400	GE-SMed-20
400	GE-SMed-25 M27x2
400	GE-SMed-25
400	GE-SMed-30
315	GE-SMed-38

\* Indicates standard port thread for given tube size.

# MALE CONNECTORS: SAE PORT THREADS (L)



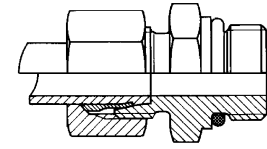
**Male Connector  
SAE O-ring Thread**

Series	Tube Size (mm)	Working Pressure (bar)	Port Dash Size	SAE Port Thread
L	6	400	-4	7/16 - 20
L	6	400	-6	9/16 - 18
L	8	400	-4	7/16 - 20
L	8	400	-5	1/2 - 20
L	8	400	-6	9/16 - 18
L	10	400	-4	7/16 - 20
L	10	400	-6	9/16 - 18
L	10	400	-8	3/4 - 16
L	12	400	-6	9/16 - 18
L	12	400	-8	3/4 - 16
L	12	400	-10	7/8 - 14
L	15	400	-8	3/4 - 16
L	15	400	-10	7/8 - 14
L	18	315	-8	3/4 - 16
L	18	315	-10	7/8 - 14
L	22	315	-10	7/8 - 14
L	22	315	-12	1 1/16 - 12
L	22	315	-16	1 5/16 - 12
L	28	250	-12	1 1/16 - 12
L	28	250	-16	1 5/16 - 12
L	35	250	-16	1 5/16 - 12
L	35	250	-20	1 5/8 - 12
L	42	250	-20	1 5/8 - 12
L	42	250	-24	1 7/8 - 12

Part Number
GE-L-06 7/16 UNF
GE-L-06 9/16 UNF
GE-L-08 7/16 UNF
GE-L-08 1/2 UNF
GE-L-08 9/16 UNF
GE-L-10 7/16 UNF
GE-L-10 9/16 UNF
GE-L-10 3/4 UNF
GE-L-12 9/16 UNF
GE-L-12 3/4 UNF
GE-L-12 7/8 UNF
GE-L-15 3/4 UNF
GE-L-15 7/8 UNF
GE-L-18 3/4 UNF
GE-L-18 7/8 UNF
GE-L-22 7/8 UNF
GE-L-22 1-1/16 UN
GE-L-22 1-5/16 UN
GE-L-28 1-1/16 UN
GE-L-28 1-5/16 UN
GE-L-28 1-5/16 UN
GE-L-35 1-5/8 UN
GE-L-42 1-5/8 UN
GE-L-42 1-7/8 UN



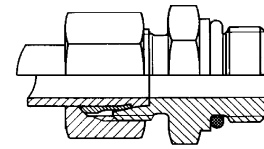
# MALE CONNECTORS: SAE PORT THREADS (S)



Male Connector SAE O-ring Thread

Series	Tube Size (mm)	Working Pressure (bar)	Port Dash Size	SAE Port Thread
S	6	630	-4	7/16 - 20
S	8	630	-4	7/16 - 20
S	8	630	-5	1/2 - 20
S	10	630	-6	9/16 - 18
S	10	630	-8	3/4 - 16
S	12	630	-6	9/16 - 18
S	12	630	-8	3/4 - 16
S	12	630	-10	7/8 - 14
S	14	630	-8	3/4 - 16
S	16	400	-8	3/4 - 16
S	16	400	-10	7/8 - 14
S	16	400	-12	1 1/16 - 12
S	20	400	-8	3/4 - 16
S	20	400	-10	7/8 - 14
S	20	400	-12	1 1/16 - 12
S	20	400	-16	1 5/16 - 12
S	25	400	-12	1 1/16 - 12
S	25	400	-16	1 5/16 - 12
S	30	400	-16	1 5/16 - 12
S	30	400	-20	1 5/8 - 12
S	38	315	-20	1 5/8 - 12
S	38	315	-24	1 7/8 - 12

Part Number
GE-S-06 7/16 UNF
GE-S-08 7/16 UNF
GE-S-08 1/2 UNF
GE-S-10 9/16 UNF
GE-S-10 3/4 UNF
GE-S-12 9/16 UNF
GE-S-12 3/4 UNF
GE-S-12 7/8 UNF
GE-S-14 3/4 UNF
GE-S-16 3/4 UNF
GE-S-16 7/8 UNF
GE-S-16 1-1/16 UN
GE-S-20 3/4 UNF
GE-S-20 7/8 UNF
GE-S-20 1-1/16 UN
GE-S-20 1-5/16 UN
GE-S-25 1-1/16 UN
GE-S-25 1-5/16 UN
GE-S-30 1-5/16 UN
GE-S-30 1-5/8 UN
GE-S-38 1-5/8 UN
GE-S-38 1-7/8 UN



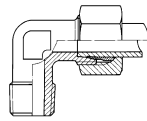
**Male Connector ISO 6149**

Series	Tube Size (mm)	Port Thread Metric	Working Pressure (bar)
L	6	M10x1	400
L	8	M12x1.5	400
L	10	M14x1.5	400
L	12	M16x1.5	400
L	15	M18x1.5	400
L	18	M22x1.5	315
L	22	M27x2	315
L	28	M33x2	250
L	35	M42x2	250
L	42	M48x2	250
S	6	M12x1.5	630
S	8	M14x1.5	630
S	10	M16x1.5	630
S	12	M18x1.5	630
S	14	M20x1.5	630
S	16	M22x1.5	400
S	20	M27x2	400
S	25	M33x2	400
S	30	M42x2	400
S	38	M48x2	315

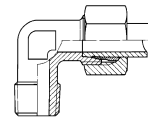
Part Number
GEO-LM-06
GEO-LM-08
GEO-LM-10
GEO-LM-12
GEO-LM-14
GEO-LM-18
GEO-LM-22
GEO-LM-28
GEO-LM-35
GEO-LM-42
GEO-SM-06
GEO-SM-08
GEO-SM-10
GEO-SM-12
GEO-SM-14
GEO-SM-16
GEO-SM-20
GEO-SM-25
GEO-SM-30
GEO-SM-38



# ELBOW MALE CONNECTORS - BSP AND NPT PORT THREADS



Male Elbow Connector BSP Thread

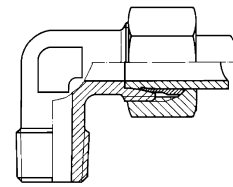


Male Elbow Connector NPT Thread

Series	Tube Size (mm)	Male Elbow Connector BSP Thread			Male Elbow Connector NPT Thread		
		Working Pressure (bar)	Port Thread BSPT/BSPP	Part Number	Working Pressure (bar)	Port Thread NPT	Part Number
LL	4	100	1/8" BSPT	WE-LLR-04 1/8	100	1/8"	WE-LL-04 1/8
LL	5	100	1/8" BSPT	WE-LLR-05 1/8	100	1/8"	WE-LL-05 1/8
LL	6	100	1/8" BSPT	WE-LLR-06 1/8	100	1/8"	WE-LL-06 1/8
LL	6	100	1/4" BSPT	WE-LLR-06 1/4			
LL	8	100	1/8" BSPT	WE-LLR-08 1/8	100	1/8"	WE-LL-08 1/8
LL	10	100	1/4" BSPT	WE-LLR-10 1/4			
LL	12	100	1/4" BSPT	WE-LLR-12 1/4			
LL	15	100	3/8" BSPT	WE-LLR-15 3/8			
L	6	315	1/8" BSPT	WE-LR-06 1/8	315	1/8"	WE-L-06 1/8
L	6	315	1/4" BSPT	WE-LR-06 1/4	315	1/4"	WE-L-06 1/4
L	6	315	3/8" BSPT	WE-LR-06 3/8			
L	8	315	1/8" BSPT	WE-LR-08 1/8	315	1/8"	WE-L-08 1/8
L	8	315	1/4" BSPT	WE-LR-08 1/4	315	1/4"	WE-L-08 1/4
L	8	315	3/8" BSPT	WE-LR-08 3/8			
L	8	315	1/2" BSPT	WE-LR-08 1/2			
L	10	315	1/8" BSPT	WE-LR-10 1/8			
L	10	315	1/4" BSPT	WE-LR-10 1/4	315	1/4"	WE-L-10 1/4
L	10	315	3/8" BSPT	WE-LR-10 3/8	315	3/8"	WE-L-10 3/8
L	10	315	1/2" BSPT	WE-LR-10 1/2	315	1/2"	WE-L-10 1/2
L	12	315	1/4" BSPT	WE-LR-12 1/4	315	1/4"	WE-L-12 1/4
L	12	315	3/8" BSPT	WE-LR-12 3/8	315	3/8"	WE-L-12 3/8
L	12	315	1/2" BSPT	WE-LR-12 1/2	315	1/2"	WE-L-12 1/2
L	15	315	3/8" BSPT	WE-LR-15 3/8			
L	15	315	1/2" BSPT	WE-LR-15 1/2	315	1/2"	WE-L-15 1/2
L	18	315	1/2" BSPT	WE-LR-18 1/2	315	1/2"	WE-L-18 1/2
L	18	315	3/4" BSPT	WE-LR-18 3/4			
L	22	250	3/4" BSPP	WE-LR-22 3/4 ★	160	3/4"	WE-L-22 3/4
L	28	250	1" BSPP	WE-LR-28/1 ★	160	1"	WE-L-28/1
L	35	250	1-1/4" BSPP	WE-LR-35 1 1/4 ★	160	1 1/4"	WE-L-35 1 1/4
L	42	250	1-1/2" BSPP	WE-LR-42 1 1/2 ★	160	1 1/2"	WE-L-42 1 1/2
S	6	400	1/4" BSPT	WE-SR-06 1/4	630	1/4"	WE-S-06 1/4
S	8	400	1/4" BSPT	WE-SR-08 1/4	630	1/4"	WE-S-08 1/4
S	10				630	1/4"	WE-S-10 1/4
S	10	400	3/8" BSPT	WE-SR-10 3/8	630	3/8"	WE-S-10 3/8
S	10	400	1/2" BSPT	WE-SR-10 1/2	630	1/2"	WE-S-10 1/2
S	12	400	3/8" BSPT	WE-SR-12 3/8	630	3/8"	WE-S-12 3/8
S	12	400	1/2" BSPT	WE-SR-12 1/2	630	1/2"	WE-S-12 1/2
S	14	400	1/2" BSPT	WE-SR-14 1/2	630	1/2"	WE-S-14 1/2
S	16	400	3/8" BSPT	WE-SR-16 3/8			
S	16	400	1/2" BSPT	WE-SR-16 1/2	400	1/2"	WE-S-16 1/2
S	16	400	3/4" BSPT	WE-SR-16 3/4	400	3/4"	WE-S-16 3/4
S	20	400	3/4" BSPP	WE-SR-20 3/4 ★	400	3/4"	WE-S-20 3/4
S	25	400	1" BSPP	WE-SR-25/1 ★	400	1"	WE-S-25/1
S	30	250	1-1/4" BSPP	WE-SR-30 1 1/4 ★	400	1 1/4"	WE-S-30 1 1/4
S	38	250	1-1/2" BSPP	WE-SR-38 1 1/2 ★	315	1 1/2"	WE-S-38 1 1/2

★ Item to be discontinued when stock depleted.

# ELBOW MALE CONNECTORS: METRIC PORT THREADS



**Male Elbow Connector Metric Thread**

Series	Tube Size (mm)	Working Pressure (bar)	Port Thread
LL	4	100	M6x1 Taper
LL	4	100	M8x1 Taper
LL	4	100	M10x1 Taper
LL	6	100	M6x1 Taper
LL	6	100	M8x1 Taper
LL	6	100	M10x1 Taper
LL	8	100	M10x1 Taper
L	6	315	M8x1 Taper
L	6	315	M10x1 Taper
L	8	315	M12x1.5 Taper
L	10	315	M14x1.5 Taper
L	12	315	M16x1.5 Taper
L	15	315	M18x1.5 Taper
L	18	315	M22x1.5 Taper
L	22	160	M26x1.5
L	28	160	M33x2
L	35	160	M42x2
L	42	160	M48x2
S	6	400	M12x1.5 Taper
S	8	400	M14x1.5 Taper
S	10	400	M16x1.5 Taper
S	12	400	M18x1.5 Taper
S	14	400	M20x1.5 Taper
S	16	400	M22x1.5 Taper
S	20	250	M27x2
S	25	250	M33x2
S	30	160	M42x2
S	38	160	M48x2

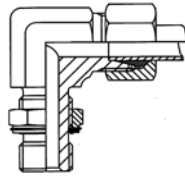
Part Number
WE-LLM-04 M6x1
WE-LLM-04
WE-LLM-04 M10x1
WE-LLM-06 M6x1
WE-LLM-06 M8x1
WE-LLM-06
WE-LLM-08
WE-LM-06 M8x1
WE-LM-06
WE-LM-08
WE-LM-10
WE-LM-12
WE-LM-15
WE-LM-18
WE-LM-22 ★
WE-LM-28 ★
WE-LM-35 ★
WE-LM-42 ★
WE-SM-06
WE-SM-08
WE-SM-10
WE-SM-12
WE-SM-14
WE-SM-16
WE-SM-20 ★
WE-SM-25 ★
WE-SM-30 ★
WE-SM-38 ★

★ Item to be discontinued when stock depleted.

For parallel thread elbow connector to replace WE-, use WEE- series.

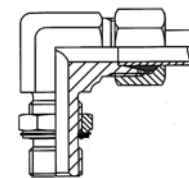


# ADJUSTABLE MALE ELBOWS: BSPP & METRIC



**Adjustable Male Elbow BSPP**

Working Pressure (bar)	Port Thread BSPP	Part Number
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**Adjustable Male Elbow Metric**

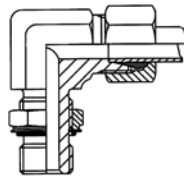
Working Pressure (bar)	Port Thread Metric	Part Number
------------------------	--------------------	-------------

Series	Tube Size (mm)
--------	----------------

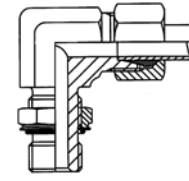
L	6	315	1/8"	WEE-LR-06 1/8
L	8	315	1/4"	WEE-LR-08 1/4
L	10	315	1/4"	WEE-LR-10 1/4
L	12	315	3/8"	WEE-LR-12 3/8
L	15	200	1/2"	WEE-LR-15 1/2
L	18	200	1/2"	WEE-LR-18 1/2
L	22	160	3/4"	WEE-LR-22 3/4
L	28	160	1"	WEE-LR-28/1
L	35	160	1-1/4"	WEE-LR-35 1 1/4
L	42	160	1-1/2"	WEE-LR-42 1 1/2
S	6	315	1/4"	WEE-SR-06 1/4
S	8	315	1/4"	WEE-SR-08 1/4
S	10	315	3/8"	WEE-SR-10 3/8
S	12	315	3/8"	WEE-SR-12 3/8
S	16	200	1/2"	WEE-SR-16 1/2
S	20	180	3/4"	WEE-SR-20 3/4
S	25	180	1"	WEE-SR-25/1
S	30	160	1-1/4"	WEE-SR-30 1 1/4
S	38	160	1-1/2"	WEE-SR-38 1 1/2

315	M10x1	WEE-LM-06 M10x1
315	M12x1.5	WEE-LM-08 M12x1.5
315	M14x1.5	WEE-LM-10 M14x1.5
315	M16x1.5	WEE-LM-12 M16x1.5
315	M18x1.5	WEE-LM-15 M18x1.5
315	M22x1.5	WEE-LM-18 M22x1.5
160	M27x2	WEE-LM-22 M27x2
160	M33x2	WEE-LM-28 M33x2
160	M42x2	WEE-LM-35 M42x2
160	M48x2	WEE-LM-42 M48x2
315	M12x1.5	WEE-SM-06 M12x1.5
315	M14x1.5	WEE-SM-08 M14x1.5
315	M16x1.5	WEE-SM-10 M16x1.5
315	M18x1.5	WEE-SM-12 M18x1.5
315	M22x1.5	WEE-SM-16 M22x1.5
250	M27x2	WEE-SM-20 M27x2
160	M33x2	WEE-SM-25 M33x2
160	M42x2	WEE-SM-30 M42x2
160	M48x2	WEE-SM-38 M48x2

# ADJUSTABLE MALE ELBOWS: ISO 6149 & SAE O-RING



**Adjustable Male Elbow  
Metric Parallel ISO 6149**



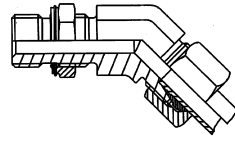
**Adjustable Male Elbow  
SAE O-ring**

Series	Tube Size (mm)	Adjustable Male Elbow Metric Parallel ISO 6149			Adjustable Male Elbow SAE O-ring		
		Working Pressure (bar)	Port Thread Metric	Part Number	Working Pressure (bar)	Port Thread UN, UNF	Part Number
L	6	315	M10x1	WEO-LM-06 M10x1	315	7/16"-20	WEO-L-06 7/16UNF
L	8	315	M12x1.5	WEO-LM-08 M12x1.5	315	1/2"-20	WEO-L-08 1/2UNF
L	10	315	M14x1.5	WEO-LM-10 M14x1.5	315	9/16"-18	WEO-L-10 9/16UNF
L	12	315	M16x1.5	WEO-LM-12 M16x1.5	315	9/16"-18	WEO-L-12 9/16UNF
L	12	315			315	3/4"-16	WEO-L-12 3/4UNF
L	15	315			315	3/4"-16	WEO-L-15 3/4UNF
L	15	315	M18x1.5	WEO-LM-15 M18x1.5	315	7/8"-14	WEO-L-15 7/8UNF
L	18	315	M22x1.5	WEO-LM-18 M22x1.5	315	7/8"-14	WEO-L-18 7/8UNF
L	18	315			315	1 1/16"-	WEO-L-18 1 1/16 UN
L	22	160	M27x2	WEO-LM-22 M27x2	160	1 1/16"-	WEO-L-22 1 1/16 UN
L	28	160	M33x2	WEO-LM-28 M33x2	160	1 5/16"-	WEO-L-28 1 5/16 UN
L	35	160	M42x2	WEO-LM-35 M42x2	160	1 5/8"-12	WEO-L-35 1 5/8 UN
L	42	160	M48x2	WEO-LM-42 m48x2	160	1 7/8"-12	WEO-L-42 1 7/8 UN
S	6	400	M12x1.5	WEO-SM-06 M12x1.5	400	7/16"-20	WEO-S-06 7/16UNF
S	8	400	M14x1.5	WEO-SM-08 M14x1.5	400	1/2"-20	WEO-S-08 1/2UNF
S	10	400	M16x1.5	WEO-SM-10 M16x1.5	400	9/16"-18	WEO-S-10 9/16UNF
S	12	400	M18x1.5	WEO-SM-12 M18x1.5	400	3/4"-16	WEO-S-12 3/4UNF
S	16	400	M22x1.5	WEO-SM-16 M22x1.5	400	7/8"-14	WEO-S-16 7/8UNF
S	20	400	M27x2	WEO-SM-20 M27x2	400	1 1/16"-	WEO-S-20 1 1/16 UN
S	25	315	M33x2	WEO-SM-25 M33x2	400	1 5/16"-	WEO-S-25 1 5/16 UN
S	30	250	M42x2	WEO-SM-30 M42x2	250	1 5/8"-12	WEO-S-30 1 5/8 UN
S	38	250	M48x2	WEO-SM-38 M48x2	250	1 7/8"-12	WEO-S-38 1 7/8 UN

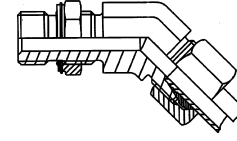




# ADJUSTABLE MALE ELBOWS 45° : BSPP & METRIC



**Male Stud Elbow 45° BSPP**



**Male Stud Elbow 45° Metric**

Series	Tube Size (mm)
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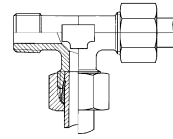
Working Pressure (bar)	Port Thread BSPP	Part Number
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Working Pressure (bar)	Port Thread Metric	Part Number
------------------------	--------------------	-------------

L	6	315	1/8"	WEE45-LR-061/8
L	8	315	1/4"	WEE45-LR-081/4
L	10	315	1/4"	WEE45-LR-101/4
L	12	315	3/8"	WEE45-LR-123/8
L	15	200	1/2"	WEE45-LR-151/2
L	18	200	1/2"	WEE45-LR-181/2
L	22	160	3/4"	WEE45-LR-223/4
L	28	160	1"	WEE45-LR-28/1
L	35	160	1-1/4"	WEE45-LR-3511/4
L	42	160	1-1/2"	WEE45-LR-4211/2
S	6	315	1/4"	WEE45-SR-061/4
S	8	315	1/4"	WEE45-SR-081/4
S	10	315	3/8"	WEE45-SR-103/8
S	12	315	3/8"	WEE45-SR-123/8
S	16	200	1/2"	WEE45-SR-161/2
S	20	180	3/4"	WEE45-SR-203/4
S	25	180	1"	WEE45-SR-25/1
S	30	160	1-1/4"	WEE45-SR-3011/4
S	38	160	1-1/2"	WEE45-SR-3811/2

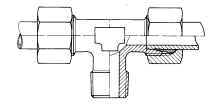
500	M10x1	WEE45-LM-06 M10x1
500	M12x1.5	WEE45-LM-08 M12x1.5
500	M14x1.5	WEE45-LM-10 M14x1.5
500	M16x1.5	WEE45-LM-12 M16x1.5
500	M18x1.5	WEE45-LM-15 M18x1.5
500	M22x1.5	WEE45-LM-18 M22x1.5
250	M27x2	WEE45-LM-22 M27x2
250	M33x2	WEE45-LM-28 M33x2
250	M42x2	WEE45-LM-35 M42x2
250	M48x2	WEE45-LM-42 M48x2
500	M12x1.5	WEE45-SM-06 M12x1.5
500	M14x1.5	WEE45-SM-08 M14x1.5
500	M16x1.5	WEE45-SM-10 M16x1.5
500	M18x1.5	WEE45-SM-12 M18x1.5
500	M22x1.5	WEE45-SM-16 M22x1.5
400	M27x2	WEE45-SM-20 M27x2
250	M33x2	WEE45-SM-25 M33x2
250	M42x2	WEE45-SM-30 M42x2
250	M48x2	WEE45-SM-38 M48x2

# MALE TEE CONNECTORS: BSP & BSPP PORT THREADS



**Run Tee Connector  
BSP Thread**

**Part Number**



**Branch Tee Connector  
BSP Thread**

**Part Number**

Series	Tube Size (mm)	Port Thread	Working Pressure (bar)
LL	4	1/8" BSPT	100
LL	5	1/8" BSPT	100
LL	6	1/8" BSPT	100
LL	6	1/4" BSPT	100
LL	8	1/8" BSPT	100
LL	10	1/4" BSPT	100
LL	12	1/4" BSPT	100
LL	15	3/8" BSPT	100
L	6	1/8" BSPT	315
L	6	1/4" BSPT	315
L	8	1/4" BSPT	315
L	10	1/4" BSPT	315
L	12	1/4" BSPT	315
L	12	3/8" BSPT	315
L	15	3/8" BSPT	315
L	15	1/2" BSPT	315
L	18	1/2" BSPT	315
L	22	3/4" BSPP	160
L	28	1" BSPP	160
L	35	1-1/4" BSPP	160
L	42	1-1/2" BSPP	160
S	6	1/4" BSPT	400
S	8	1/4" BSPT	400
S	10	3/8" BSPT	400
S	12	3/8" BSPT	400
S	14	1/2" BSPT	400
S	16	1/2" BSPT	400
S	20	3/4" BSPP	250
S	25	1" BSPP	250
S	30	1-1/4" BSPP	160
S	38	1-1/2" BSPP	160

LE-LLR-04 1/8
LE-LLR-05 1/8
LE-LLR-06 1/8
LE-LLR-06 1/4
LE-LLR-08 1/8
LE-LLR-10 1/4
LE-LLR-12 1/4
LE-LLR-15 3/8
LE-LR-06 1/8
LE-LR-06 1/4 ★
LE-LR-08 1/4
LE-LR-10 1/4
LE-LR-12 1/4 ★
LE-LR-12 3/8
LE-LR-15 3/8 ★
LE-LR-15 1/2
LE-LR-18 1/2
LE-LR-22 3/4 ★
LE-LR-28/1 ★
LE-LR-35 11/4 ★
LE-LR-42 11/2 ★
LE-SR-06 1/4
LE-SR-08 1/4
LE-SR-10 3/8
LE-SR-12 3/8
LE-SR-14 1/2
LE-SR-16 1/2
LE-SR-20 3/4 ★
LE-SR-25/1 ★
LE-SR-30 11/4 ★
LE-SR-38 11/2 ★

TE-LLR-04 1/8
TE-LLR-05 1/8
TE-LLR-06 1/8
TE-LLR-06 1/4
TE-LLR-08 1/8
TE-LLR-10 1/4
TE-LLR-12 1/4
TE-LLR-15 3/8
TE-LR-06 1/8
TE-LR-06 1/4 ★
TE-LR-08 1/4
TE-LR-10 1/4
TE-LR-12 1/4 ★
TE-LR-12 3/8
TE-LR-15 1/2
TE-LR-18 1/2
TE-LR-22 3/4 ★
TE-LR-28/1 ★
TE-LR-35 11/4 ★
TE-LR-42 11/2 ★
TE-SR-06 1/4
TE-SR-08 1/4
TE-SR-10 3/8
TE-SR-12 3/8
TE-SR-14 1/2
TE-SR-16 1/2
TE-SR-20 3/4 ★
TE-SR-25/1 ★
TE-SR-30 11/4 ★
TE-SR-38 11/2 ★

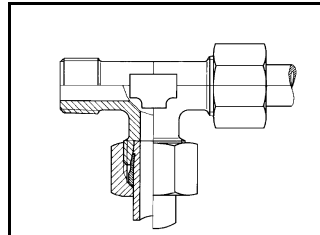
★ Item to be discontinued when stock depleted.

For parallel thread run tee to replace LE- use LEE- series.

For parallel thread branch tee to replace TE- use TEE- series.

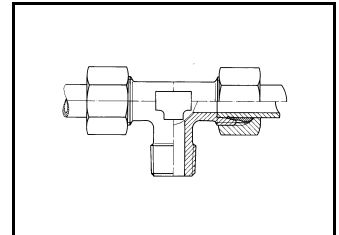


# MALE TEE CONNECTORS: METRIC PORT THREADS



**Run Tee Connector  
Metric Thread**

**Part Number**



**Branch Tee Connector  
Metric Thread**

**Part Number**

Series	Tube Size (mm)	Working Pressure (bar)	Port Thread
--------	----------------	------------------------	-------------

LL	4	100	M8x1 Taper
LL	5	100	M8x1 Taper
LL	6	100	M10x1 Taper
LL	8	100	M10x1 Taper
LL	10	100	M14x1.5 Taper
LL	12	100	M16x1.5 Taper
L	6	315	M10x1 Taper
L	8	315	M12x1.5 Taper
L	10	315	M14x1.5 Taper
L	12	315	M16x1.5 Taper
L	15	315	M18x1.5 Taper
L	18	315	M22x1.5 Taper
L	22	160	M26x1.5
L	28	160	M33x2
L	35	160	M42x2
L	42	160	M48x2
S	6	400	M12x1.5 Taper
S	8	400	M14x1.5 Taper
S	10	400	M16x1.5 Taper
S	12	400	M18x1.5 Taper
S	14	400	M20x1.5 Taper
S	16	400	M22x1.5 Taper
S	20	250	M27x2
S	25	250	M33X2
S	30	160	M42x2
S	38	160	M48x2

LE-LLM-04
LE-LLM-05
LE-LLM-06
LE-LLM-08
LE-LM-06
LE-LM-08
LE-LM-10
LE-LM-12
LE-LM-15
LE-LM-18
LE-LM-22 ★
LE-LM-28 ★
LE-LM-35 ★
LE-LM-42 ★
LE-SM-06
LE-SM-08
LE-SM-10
LE-SM-12
LE-SM-14
LE-SM-16
LE-SM-20 ★
LE-SM-25 ★
LE-SM-30 ★
LE-SM-38 ★

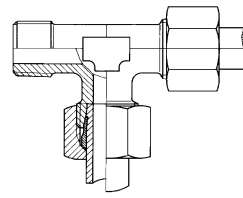
TE-LLM-04
TE-LLM-05
TE-LLM-06
TE-LLM-08
TE-LLM-10
TE-LLM-12
TE-LM-06
TE-LM-08
TE-LM-10
TE-LM-12
TE-LM-15
TE-LM-18
TE-LM-22 ★
TE-LM-28 ★
TE-LM-35 ★
TE-LM-42 ★
TE-SM-06
TE-SM-08
TE-SM-10
TE-SM-12
TE-SM-14
TE-SM-16
TE-SM-20 ★
TE-SM-25 ★
TE-SM-30 ★
TE-SM-38 ★

★ Item to be discontinued when stock depleted.

For parallel thread run tee to replace LE- use LEE- series.

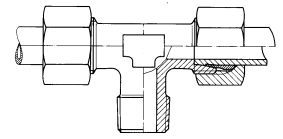
For parallel thread branch tee to replace TE- use TEE- series.

# MALE TEE CONNECTORS: NPT PORT THREADS



**Run Tee Connector  
NPT Thread**

**Part Number**



**Branch Tee Connector  
NPT Thread**

**Part Number**

Series	Tube Size (mm)	Port Thread NPT	Working Pressure (bar)
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LL	4	1/8"	100
LL	5	1/8"	100
LL	6	1/8"	100
LL	8	1/8"	100
L	6	1/8"	500
L	8	1/4"	500
L	10	1/4"	500
L	12	3/8"	400
L	15	1/2"	400
L	18	1/2"	400
L	22	3/4"	250
L	28	1"	250
L	35	1-1/4"	250
L	42	1-1/2"	250
S	6	1/4"	800
S	8	1/4"	800
S	10	1/4"	800
S	12	3/8"	630
S	12	1/2"	630
S	14	1/2"	630
S	16	1/2"	630
S	20	3/4"	400
S	25	1"	400
S	30	1-1/4"	400
S	38	1-1/2"	400

LE-LL-04 1/8

LE-LL-05 1/8

LE-LL-06 1/8

LE-LL-08 1/8

LE-L-06 1/8

LE-L-08 1/4

LE-L-10 1/4

LE-L-12 3/8

LE-L-15 1/2

LE-L-18 1/2

LE-L-22 3/4

LE-L-28/1

LE-L-35 1 1/4

LE-L-42 1 1/2

LE-S-06 1/4

LE-S-08 1/4

LE-S-10 3/8

LE-S-12 3/8

LE-S-12 1/2

LE-S-14 1/2

LE-S-16 1/2

LE-S-20 3/4

LE-S-25/1

LE-S-30 1 1/4

LE-S-38 1 1/2

TE-LL-04 1/8

TE-LL-05 1/8

TE-LL-06 1/8

TE-LL-08 1/8

TE-L-06 1/8

TE-L-08 1/4

TE-L-10 1/4

TE-L-12 3/8

TE-L-15 1/2

TE-L-18 1/2

TE-L-22 3/4

TE-L-28/1

TE-L-35 1 1/4

TE-L-42 1 1/2

TE-S-06 1/4

TE-S-08 1/4

TE-S-10 3/8

TE-S-12 3/8

TE-S-14 1/2

TE-S-16 1/2

TE-S-20 3/4

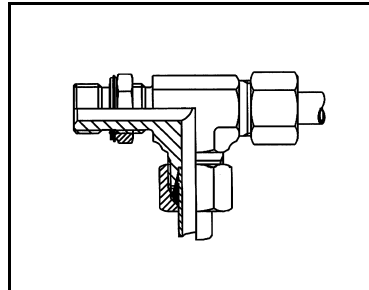
TE-S-25/1

TE-S-30 1 1/4

TE-S-38 1 1/2

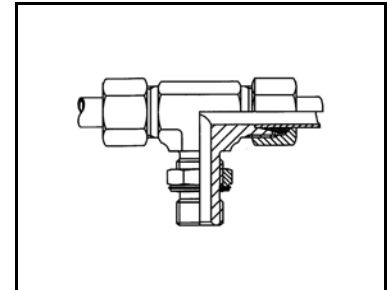


# ADJUSTABLE MALE TEE CONNECTORS: BSPP PORT THREADS



**Adjustable Run Tee  
BSPP Thread**

Part Number
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**Adjustable Branch Tee  
BSPP Thread**

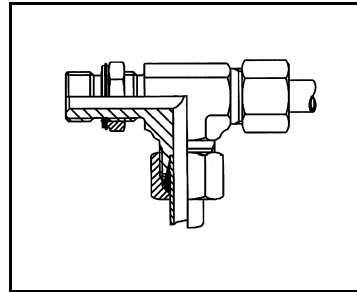
Part Number
-------------

Series	Tube Size (mm)	Port Thread BSPP	Working Pressure (bar)
L	6	1/8"	315
L	8	1/4"	315
L	10	1/4"	315
L	12	3/8"	315
L	15	1/2"	200
L	18	1/2"	200
L	22	3/4"	160
L	28	1"	160
L	35	1-1/4"	160
L	42	1-1/2"	160
S	6	1/4"	315
S	8	1/4"	315
S	10	3/8"	315
S	12	3/8"	315
S	14	1/2"	200
S	16	1/2"	200
S	20	3/4"	180
S	25	1"	180
S	30	1-1/4"	160
S	38	1-1/2"	160

LEE-LR-06 1/8
LEE-LR-08 1/4
LEE-LR-10 1/4
LEE-LR-12 3/8
LEE-LR-15 1/2
LEE-LR-18 1/2
LEE-LR-22 3/4
LEE-LR-28/1
LEE-LR-35 1 1/4
LEE-LR-42 1 1/2
LEE-SR-06 1/4
LEE-SR-08 1/4
LEE-SR-10 3/8
LEE-SR-12 3/8
LEE-SR-14 1/2
LEE-SR-16 1/2
LEE-SR-20 3/4
LEE-SR-25/1
LEE-SR-30 1 1/4
LEE-SR-38 1 1/2

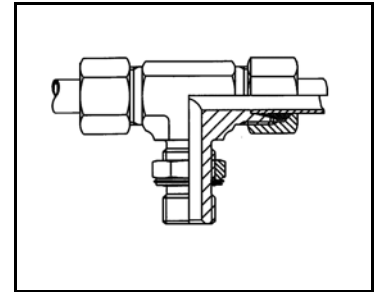
TEE-LR-06 1/8
TEE-LR-08 1/4
TEE-LR-10 1/4
TEE-LR-12 3/8
TEE-LR-15 1/2
TEE-LR-18 1/2
TEE-LR-22 3/4
TEE-LR-28/1
TEE-LR-35 1 1/4
TEE-LR-42 1 1/2
TEE-SR-06 1/4
TEE-SR-08 1/4
TEE-SR-10 3/8
TEE-SR-12 3/8
TEE-SR-14 1/2
TEE-SR-16 1/2
TEE-SR-20 3/4
TEE-SR-25/1
TEE-SR-30 1 1/4
TEE-SR-38 1 1/2

# ADJUSTABLE MALE TEE CONNECTORS: METRIC PORT THREADS



**Adjustable Run Tee  
Metric Thread**

Part Number
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**Adjustable Branch Tee  
Metric Thread**

Part Number
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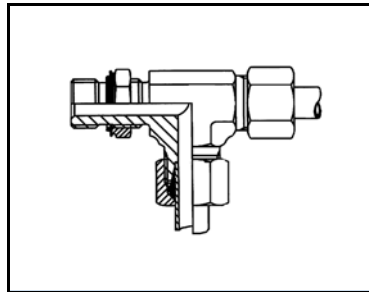
Series	Tube Size (mm)	Port Thread Metric	Working Pressure (bar)
L	6	M10x1	315
L	8	M12x1.5	315
L	10	M14x1.5	315
L	12	M16x1.5	315
L	15	M18x1.5	200
L	18	M22x1.5	200
L	22	M26x1.5	160
L	28	M33x2	160
L	35	M42x2	160
L	42	M48x2	160
S	6	M12x1.5	315
S	8	M14x1.5	315
S	10	M16x1.5	315
S	12	M18x1.5	315
S	14	M20x1.5	200
S	16	M22x1.5	200
S	20	M27x2	180
S	25	M33x2	180
S	30	M42x2	160
S	38	M48x2	160

LEE-LM-06 M10x1
LEE-LM-08 M12x1.5
LEE-LM-10 M14x1.5
LEE-LM-12 M16x1.5
LEE-LM-15 M18x1.5
LEE-LM-18 M22x1.5
LEE-LM-22 M26x1.5
LEE-LM-28 M33x2
LEE-LM-35 M42x2
LEE-LM-42 M48x2
LEE-SM-06 M12x1.5
LEE-SM-08 M14x1.5
LEE-SM-10 M16x1.5
LEE-SM-12 M18x1.5
LEE-SM-14 M20x1.5
LEE-SM-16 M22x1.5
LEE-SM-20 M27x2
LEE-SM-25 M33x2
LEE-SM-30 M42x2
LEE-SM-38 M48x2

TEE-LM-06 M10x1
TEE-LM-08 M12x1.5
TEE-LM-10 M14x1.5
TEE-LM-12 M16x1.5
TEE-LM-15 M18x1.5
TEE-LM-18 M22x1.5
TEE-LM-22 M26x1.5
TEE-LM-28 M33x2
TEE-LM-35 M42x2
TEE-LM-42 M48x2
TEE-SM-06 M12x1.5
TEE-SM-08 M14x1.5
TEE-SM-10 M16x1.5
TEE-SM-12 M18x1.5
TEE-SM-14 M20x1.5
TEE-SM-16 M22x1.5
TEE-SM-20 M27x2
TEE-SM-25 M33x2
TEE-SM-30 M42x2
TEE-SM-38 M48x2

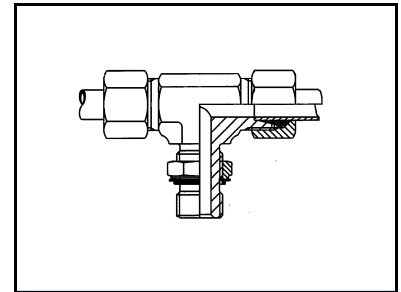


# ADJUSTABLE MALE TEE CONNECTORS: ISO 6149 & METRIC PORT THREADS



**Adjustable Run Tee  
ISO 6149  
Metric Thread**

Part Number
-------------



**Adjustable Branch Tee  
ISO 6149  
Metric Thread**

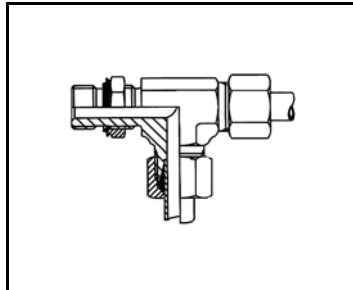
Part Number
-------------

Series	Tube Size (mm)	Port Thread Metric	Working Pressure (bar)
L	6	M10x1	315
L	8	M12x1.5	315
L	10	M14x1.5	315
L	12	M16x1.5	315
L	15	M18x1.5	200
L	18	M22x1.5	200
L	22	M27x2	160
L	28	M33x2	160
L	35	M42x2	160
L	42	M48x2	160
S	6	M12x1.5	315
S	8	M14x1.5	315
S	10	M16x1.5	315
S	12	M18x1.5	315
S	14	M20x1.5	200
S	16	M22x1.5	200
S	20	M27x2	180
S	25	M33x2	180
S	30	M42x2	160
S	38	M48x2	160

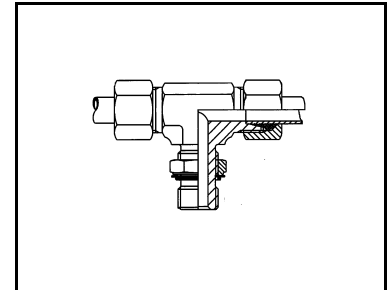
LEO-LM-06
LEO-LM-08
LEO-LM-10
LEO-LM-12
LEO-LM-15
LEO-LM-18
LEO-LM-22
LEO-LM-28
LEO-LM-35
LEO-LM-42
LEO-SM-06
LEO-SM-08
LEO-SM-10
LEO-SM-12
LEO-SM-14
LEO-SM-16
LEO-SM-20
LEO-SM-25
LEO-SM-30
LEO-SM-38

TEO-LM-06
TEO-LM-08
TEO-LM-10
TEO-LM-12
TEO-LM-15
TEO-LM-18
TEO-LM-22
TEO-LM-28
TEO-LM-35
TEO-LM-42
TEO-SM-06
TEO-SM-08
TEO-SM-10
TEO-SM-12
TEO-SM-14
TEO-SM-16
TEO-SM-20
TEO-SM-25
TEO-SM-30
TEO-SM-38

# ADJUSTABLE MALE TEE CONNECTORS: SAE PORT THREADS



**Adjustable Run Tee  
SAE Thread**



**Adjustable Branch Tee  
SAE Thread**

Series	Tube Size (mm)	Port Thread SAE	Working Pressure (bar)
--------	----------------	-----------------	------------------------

L	6	7/16"-20	315
L	8	1/2"-20	315
L	10	9/16"-18	315
L	12	9/16"-18	315
L	15	3/4"-16	200
L	18	7/8"-14	200
L	22	1 1/16"-12	160
L	28	1 5/16"-12	160
L	35	1 5/8"-12	160
L	42	1 7/8"-12	160
S	6	7/16"-20	315
S	8	1/2"-20	315
S	10	9/16"-18	315
S	12	3/4"-16	315
S	14	3/4"-16	200
S	16	7/8"-14	200
S	20	1 1/16"-12	180
S	25	1 5/16"-12	180
S	30	1 5/8"-12	160
S	38	1 7/8"-12	160

Part Number
-------------

LEO-L-06 7/16 UNF
LEO-L-08 1/2 UNF
LEO-L-10 9/16 UNF
LEO-L-12 9/16 UNF
LEO-L-15 3/4 UNF
LEO-L-18 7/8 UNF
LEO-L-22 1 1/16 UN
LEO-L-28 1 5/16 UN
LEO-L-35 1 5/8 UN
LEO-L-42 1 7/8 UN
LEO-S-06 7/16 UNF
LEO-S-08 1/2 UNF
LEO-S-10 9/16 UNF
LEO-S-12 3/4 UNF
LEO-S-14 3/4 UNF
LEO-S-16 7/8 UNF
LEO-S-20 1 1/16 UN
LEO-S-25 1 5/16 UN
LEO-S-30 1 5/8 UN
LEO-S-38 1 7/8 UN

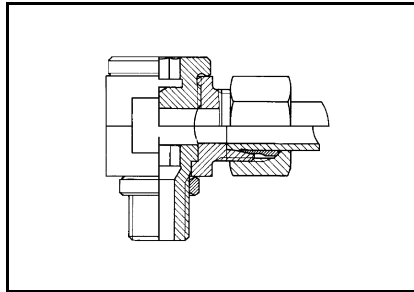
Part Number
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TEO-L-06 7/16 UNF
TEO-L-08 1/2 UNF
TEO-L-10 9/16 UNF
TEO-L-12 9/16 UNF
TEO-L-15 3/4 UNF
TEO-L-18 7/8 UNF
TEO-L-22 1 1/16 UN
TEO-L-28 1 5/16 UN
TEO-L-35 1 5/8 UN
TEO-L-42 1 7/8 UN
TEO-S-06 7/16 UNF
TEO-S-08 1/2 UNF
TEO-S-10 9/16 UNF
TEO-S-12 3/4 UNF
TEO-S-14 3/4 UNF
TEO-S-16 7/8 UNF
TEO-S-20 1 1/16 UN
TEO-S-25 1 5/16 UN
TEO-S-30 1 5/8 UN
TEO-S-38 1 7/8 UN



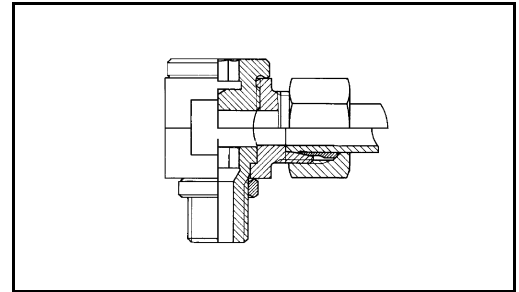


# BANJO MALE CONNECTORS: BSPP & METRIC PORT THREADS



**Free Flow Banjo 2 Piece Bolt BSPP Thread**

Port Thread BSPP	Part Number
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**Free Flow Banjo 2 Piece Bolt Metric Thread**

Port Thread Metric	Part Number
--------------------	-------------

Series	Tube Size (mm)	Working Pressure (bar)*
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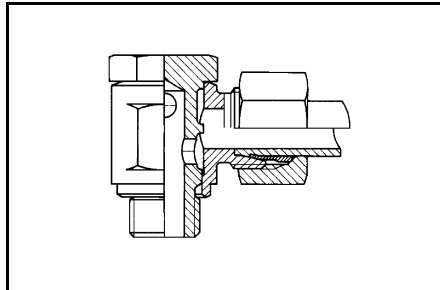
L	6	250
L	8	250
L	10	250
L	12	250
L	12	250
L	15	250
L	18	100
L	18	100
L	22	100
L	28	100
L	35	100
L	42	100
S	6	400
S	8	400
S	10	400
S	10	400
S	12	400
S	14	400
S	16	400
S	20	400
S	20	400
S	25	250
S	30	250
S	38	250

1/8"	DSVW-LR-06
1/4"	DSVW-LR-08
1/4"	DSVW-LR-10
3/8"	DSVW-LR-12
1/2"	DSVW-LR-12 1/2
1/2"	DSVW-LR-15
1/2"	DSVW-LR-18
3/4"	DSVW-LR-22
1"	DSVW-LR-28
1 1/4"	DSVW-LR-35
1 1/2"	DSVW-LR-42
1/4"	DSVW-SR-06
1/4"	DSVW-SR-08
3/8"	DSVW-SR-10
3/8"	DSVW-SR-12
1/2"	DSVW-SR-14
1/2"	DSVW-SR-16
3/4"	DSVW-SR-20
1"	DSVW-SR-20/1
1"	DSVW-SR-25
1-1/4"	DSVW-SR-30
1-1/2"	DSVW-SR-38

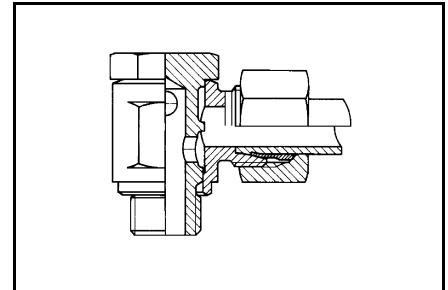
M10x1	DSVW-LM-06
M12x1.5	DSVW-LM-08
M14x1.5	DSVW-LM-10
M16x1.5	DSVW-LM-12
M20x1.5	DSVW-LM-15
M22x1.5	DSVW-LM-18
M26x1.5	DSVW-LM-18 M26X1.5
M26x1.5	DSVW-LM-22
M33x2	DSVW-LM-28
M42x2	DSVW-LM-35
M48x2	DSVW-LM-42
M12x1.5	DSVW-SM-06
M14x1.5	DSVW-SM-08
M16x1.5	DSVW-SM-10
M18x1.5	DSVW-SM-10 M18x1.5
M18x1.5	DSVW-SM-12
M20x1.5	DSVW-SM-14
M22x1.5	DSVW-SM-16
M27x2	DSVW-SM-20
M33x2	DSVW-SM-25
M42x2	DSVW-SM-30
M48x2	DSVW-SM-38

\* Safety factor 2.5

# BANJO MALE CONNECTORS: BSPP & METRIC PORT THREADS



**Standard Banjo Through Bolt BSPP Thread**



**Standard Banjo Through Bolt Metric Thread**

Series	Tube Size (mm)	Working Pressure (bar)*
--------	----------------	-------------------------

LL	4	100
LL	5	100
LL	6	100
LL	8	100
L	6	250
L	8	250
L	10	250
L	12	250
L	15	250
L	18	160
L	22	160
S	6	250
S	8	250
S	10	250
S	12	250
S	14	250
S	16	160
S	20	160

Port Thread BSPP	Part Number
------------------	-------------

1/8"	SWVE-LLR-04
1/8"	SWVE-LLR-05
1/8"	SWVE-LLR-06
1/8"	SWVE-LLR-08
1/8"	SWVE-LR-06
1/4"	SWVE-LR-08
1/4"	SWVE-LR-10
3/8"	SWVE-LR-12
1/2"	SWVE-LR-15
1/2"	SWVE-LR-18
3/4"	SWVE-LR-22
1/4"	SWVE-SR-06
1/4"	SWVE-SR-08
3/8"	SWVE-SR-10
3/8"	SWVE-SR-12
1/2"	SWVE-SR-14
1/2"	SWVE-SR-16
3/4"	SWVE-SR-20

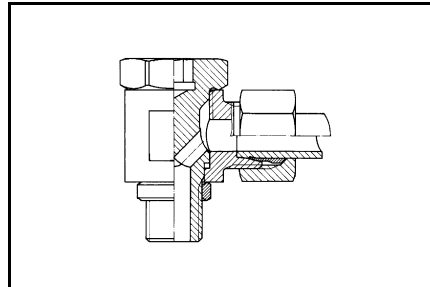
Port Thread Metric	Part Number
--------------------	-------------

M8 x 1	SWVE-LLM-04
M8 x 1	SWVE-LLM-05
M10 x 1	SWVE-LLM-06
M10 x 1	SWVE-LLM-08
M10 x 1	SWVE-LM-06
M12 x 1.5	SWVE-LM-08
M14 x 1.5	SWVE-LM-10
M16 x 1.5	SWVE-LM-12
M18 x 1.5	SWVE-LM-15
M22 x 1.5	SWVE-LM-18
M26 x 1.5	SWVE-LM-22
M12 x 1.5	SWVE-SM-06
M14 x 1.5	SWVE-SM-08
M16 x 1.5	SWVE-SM-10
M18 x 1.5	SWVE-SM-12
M20 x 1.5	SWVE-SM-14
M22 x 1.5	SWVE-SM-16
M27x2	SWVE-SM-20

\* Safety factor 2.5

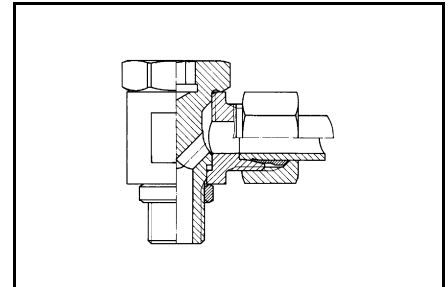


# BANJO MALE CONNECTORS: BSPP & METRIC PORT THREADS



**Free Flow Banjo Through Bolt BSPP Thread**

Port Thread BSPP	Part Number
------------------	-------------



**Free Flow Banjo Through Bolt Metric Thread**

Port Thread Metric	Part Number
--------------------	-------------

Series	Tube Size (mm)	Working Pressure (bar)*
--------	----------------	-------------------------

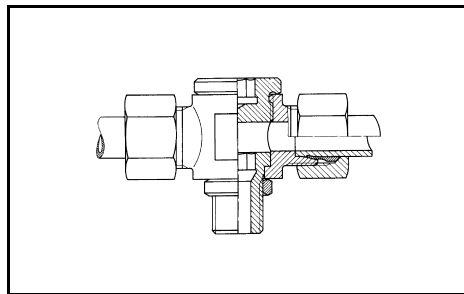
L	6	400
L	8	400
L	10	400
L	12	400
L	12	400
L	15	400
L	18	400
L	22	315
L	28	250
L	35	250
L	42	250
S	6	400
S	8	400
S	10	400
S	12	400
S	14	400
S	16	400
S	20	315
S	25	250
S	30	250
S	38	250

1/8"	WHO-LR-06
1/4"	WHO-LR-08
1/4"	WHO-LR-10
1/4"	WHO-LR-12 1/4
3/8"	WHO-LR-12
1/2"	WHO-LR-15
1/2"	WHO-LR-18
3/4"	WHO-LR-22
1"	WHO-LR-28
1-1/4"	WHO-LR-35
1-1/2"	WHO-LR-42
1/4"	WHO-SR-06
1/4"	WHO-SR-08
3/8"	WHO-SR-10
3/8"	WHO-SR-12
1/2"	WHO-SR-14
1/2"	WHO-SR-16
3/4"	WHO-SR-20
1"	WHO-SR-25
1-1/4"	WHO-SR-30
1-1/2"	WHO-SR-38

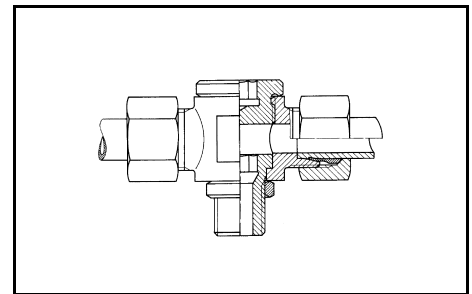
M10 x 1	WHO-LM-06
M12 x 1.5	WHO-LM-08
M14 x 1.5	WHO-LM-10
M18 x 1.5	WHO-LM-12
M20 x 1.5	WHO-LM-15
M22 x 1.5	WHO-LM-18
M26 x 1.5	WHO-LM-22
M33 x 2	WHO-LM-28
M42 x 2	WHO-LM-35
M48 x 2	WHO-LM-42
M12 x 1.5	WHO-SM-06
M14 x 1.5	WHO-SM-08
M16 x 1.5	WHO-SM-10
M18 x 1.5	WHO-SM-12
M20 x 1.5	WHO-SM-14
M22x1.5	WHO-SM-20
M27x2	WHO-SM-20
M33 x 2	WHO-SM-25
M42 x 2	WHO-SM-30
M48 x 2	WHO-SM-38

\* Safety factor 2.5

# BANJO TEE MALE CONNECTORS: BSPP & METRIC PORT THREADS



**Banjo Tee BSPP Thread**



**Banjo Tee Metric Thread**

Series	Tube Size (mm)	Working Pressure (bar)
--------	----------------	------------------------

L	6	250 *
L	8	250 *
L	10	250 *
L	12	250 *
L	15	250 *
L	18	100 *
L	22	100 *
L	28	100 *
L	35	100 *
L	42	100 *
S	6	400 ■
S	8	400 ■
S	10	400 ■
S	12	400 ■
S	14	400 ■
S	16	400 ■
S	20	400 ■
S	25	250 ■
S	30	250 ■
S	38	250 ■

Port Thread BSPP	Part Number
------------------	-------------

1/8"	DSVT-LR-06
1/4"	DSVT-LR-08
1/4"	DSVT-LR-10
3/8"	DSVT-LR-12
1/2"	DSVT-LR-15
1/2"	DSVT-LR-18
3/4"	DSVT-LR-22
1"	DSVT-LR-28
1-1/4"	DSVT-LR-35
1-1/2"	DSVT-LR-42
1/4"	DSVT-SR-06
1/4"	DSVT-SR-08
3/8"	DSVT-SR-10
3/8"	DSVT-SR-12
1/2"	DSVT-SR-14
1/2"	DSVT-SR-16
3/4"	DSVT-SR-20
1"	DSVT-SR-25
1-1/4"	DSVT-SR-30
1-1/2"	DSVT-SR-38

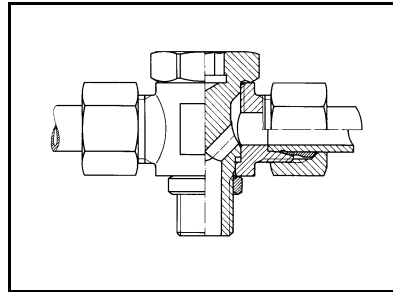
Port Thread Metric	Part Number
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M10 x 1	DSVT-LM-06
M12 x 1.5	DSVT-LM-08
M14 x 1.5	DSVT-LM-10
M16 x 1.5	DSVT-LM-12
M18 x 1.5	DSVT-LM-15
M22 x 1.5	DSVT-LM-18
M26 x 1.5	DSVT-LM-22
M33 x 2	DSVT-LM-28
M42 x 2	DSVT-LM-35
M48 x 2	DSVT-LM-42
M12 x 1.5	DSVT-SM-06
M14 x 1.5	DSVT-SM-08
M16 x 1.5	DSVT-SM-10
M18 x 1.5	DSVT-SM-12
M20 x 1.5	DSVT-SM-14
M22 x 1.5	DSVT-SM-16
M27 x 2	DSVT-SM-20
M33 x 2	DSVT-SM-25
M42 x 2	DSVT-SM-30
M48 x 2	DSVT-SM-38

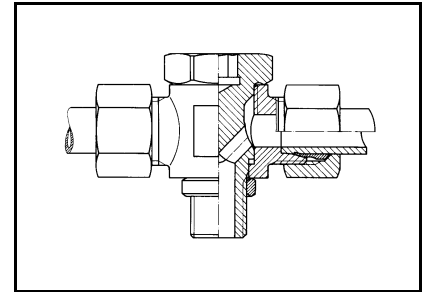
\* Safety factor 2.5  
 ■ Safety factor 1.6



# BANJO TEE MALE CONNECTORS: BSPP & METRIC PORT THREADS



**Banjo Tee BSPP Thread**



**Banjo Tee Metric Thread**

Series	Tube Size (mm)	Working Pressure (bar)*
--------	----------------	-------------------------

L	6	400
L	8	400
L	10	400
L	12	400
L	15	400
L	18	400
L	22	315
L	28	250
L	35	250
L	42	250
S	6	400
S	8	400
S	10	400
S	12	400
S	14	400
S	16	400
S	20	315
S	25	250
S	30	250
S	38	250

Port Thread BSPP	Part Number
------------------	-------------

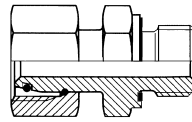
1/8"	WHT-LR-06
1/4"	WHT-LR-08
1/4"	WHT-LR-10
3/8"	WHT-LR-12
1/2"	WHT-LR-15
1/2"	WHT-LR-18
3/4"	WHT-LR-22
1"	WHT-LR-28
1-1/4"	WHT-LR-35
1-1/2"	WHT-LR-42
1/4"	WHT-SR-06
1/4"	WHT-SR-08
3/8"	WHT-SR-10
3/8"	WHT-SR-12
1/2"	WHT-SR-14
1/2"	WHT-SR-16
3/4"	WHT-SR-20
1"	WHT-SR-25
1-1/4"	WHT-SR-30
1-1/2"	WHT-SR-38

Port Thread Metric	Part Number
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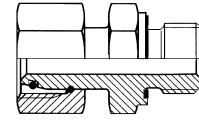
M10 x 1	WHT-LM-06
M12 x 1.5	WHT-LM-08
M14 x 1.5	WHT-LM-10
M16 x 1.5	WHT-LM-12
M18 x 1.5	WHT-LM-15
M22 x 1.5	WHT-LM-18
M26 x 1.5	WHT-LM-22
M33 x 2	WHT-LM-28
M42 x 2	WHT-LM-35
M48 x 2	WHT-LM-42
M12 x 1.5	WHT-SM-06
M14 x 1.5	WHT-SM-08
M16 x 1.5	WHT-SM-10
M18 x 1.5	WHT-SM-12
M20 x 1.5	WHT-SM-14
M22 x 1.5	WHT-SM-16
M27 x 2	WHT-SM-20
M33 x 2	WHT-SM-25
M42 x 2	WHT-SM-30
M48 x 2	WHT-SM-38

\* Safety factor 2.5

# SWIVEL MALE CONNECTORS: BSPP & METRIC PORT THREADS



**Swivel Male Connector  
BSPP Thread with Seal**



**Swivel Male Connector  
Metric Thread with Seal**

Series	Tube Size (mm)	Working Pressure (bar)
L	6	400
L	8	400
L	10	400
L	10	400
L	12	400
L	12	400
L	12	400
L	15	400
L	15	400
L	18	315
L	18	315
L	22	315
L	22	315
L	28	250
L	35	250
L	35	250
L	42	250
L	42	250
S	6	630
S	8	630
S	8	630
S	10	630
S	10	630
S	12	630
S	12	630
S	12	630
S	14	630
S	16	400
S	16	400
S	20	400
S	25	400
S	30	400
S	38	315
S	38	315

BSPP Thread	Part Number
1/8" *	EGE-LRed-061/8
1/4" *	EGE-LRed-081/4
1/4" *	EGE-LRed-101/4
3/8"	EGE-LRed-103/8
1/4"	EGE-LRed-121/4
3/8" *	EGE-LRed-123/8
1/2"	EGE-LRed-121/2
3/8"	EGE-LRed-153/8
1/2" *	EGE-LRed-151/2
1/2" *	EGE-LRed-181/2
3/4"	EGE-LRed-183/4
3/4" *	EGE-LRed-22 3/4
1"	EGE-LRed-22/1
1" *	EGE-LRed-28/1
1-1/4" *	EGE-LRed-35 11/4
1-1/2"	EGE-LRed-35 11/2
1-1/4"	EGE-LRed-42 11/4
1-1/2" *	EGE-LRed-42 11/2
1/4" *	EGE-SRed-06 1/4
1/4" *	EGE-SRed-08 1/4
3/8"	EGE-SRed-08 3/8
1/4"	EGE-SRed-10 1/4
3/8" *	EGE-SRed-10 3/8
1/4"	EGE-SRed-12 1/4
3/8" *	EGE-SRed-12 3/8
1/2"	EGE-SRed-12 1/2
1/2" *	EGE-SRed-14 1/2
1/2" *	EGE-SRed-16 1/2
3/4"	EGE-SRed-16 3/4
3/4" *	EGE-SRed-20 3/4
1" *	EGE-SRed-25/1
1-1/4" *	EGE-SRed-30 11/4
1-1/4"	EGE-SRed-38 11/4
1-1/2" *	EGE-SRed-38 11/2

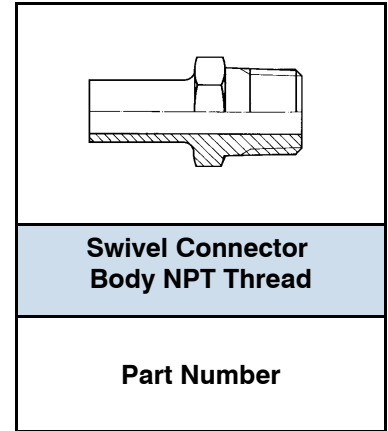
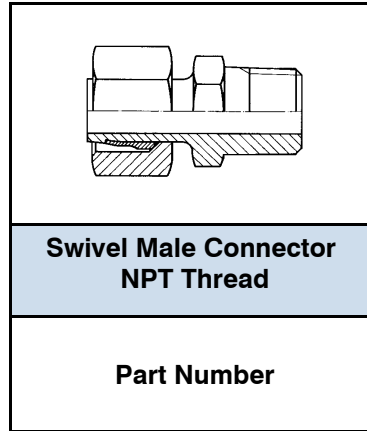
Metric Thread	Part Number
M10x1*	EGE-LMed-06
M12x1.5*	EGE-LMed-08
M14x1.5*	EGE-LMed-10
M16x1.5*	EGE-LMed-12
M18x1.5	EGE-LMed-12
M18x1.5*	EGE-LMed-15
M22x1.5*	EGE-LMed-18
M26x1.5*	EGE-LMed-22
M33x2*	EGE-LMed-28
M42x2*	EGE-LMed-35
M48x2*	EGE-LMed-42
M12x1.5*	EGE-SMed-06
M14x1.5*	EGE-SMed-08
M16x1.5*	EGE-SMed-10
M18x1.5*	EGE-SMed-12
M20x1.5*	EGE-SMed-14
M22x1.5*	EGE-SMed-16
M27x2*	EGE-SMed-20
M33x2*	EGE-SMed-25
M42x2*	EGE-SMed-30
M48x2*	EGE-SMed-38

\* Indicates the standard port thread size for this fitting.

All fittings in the EGE series use a DKO type swivel female with wire retained nut and O-ring seal.



# SWIVEL MALE CONNECTORS: NPT PORT THREAD



Series	Tube Size (mm)	Working Pressure (bar)	NPT Thread
--------	----------------	------------------------	------------

L	6	315	1/8" *
L	6	315	1/4"
L	8	315	1/4" *
L	10	315	1/4" *
L	10	315	3/8"
L	12	315	1/4"
L	12	315	3/8" *
L	12	315	1/2"
L	15	315	1/2" *
L	18	315	1/2" *
L	22	160	3/4" *
L	28	160	1" *
L	35	160	1-1/4" *
L	42	160	1-1/2" *
S	6	630	1/8"
S	6	630	1/4" *
S	8	630	1/4" *
S	10	630	1/4"
S	10	630	3/8" *
S	12	630	1/4"
S	12	630	3/8" *
S	12	630	1/2"
S	14	630	1/2" *
S	16	400	1/2" *
S	20	400	3/4" *
S	25	400	1" *
S	30	400	1-1/4" *
S	38	315	1-1/2" *

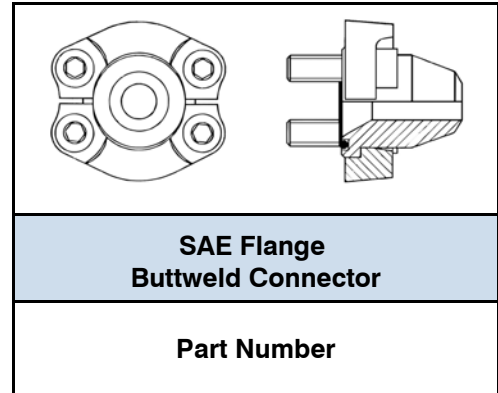
EVGE-L-06 1/8
EVGE-L-06 1/4
EVGE-L-08 1/4
EVGE-L-10 1/4
EVGE-L-10 3/8
EVGE-L-12 1/4
EVGE-L-12 3/8
EVGE-L-12 1/2
EVGE-L-15 1/2
EVGE-L-18 1/2
EVGE-L-22 3/4
EVGE-L-28/1
EVGE-L-35 11/4
EVGE-L-42 11/2
EVGE-S-06 1/8
EVGE-S-06 1/4
EVGE-S-08 1/4
EVGE-S-10 1/4
EVGE-S-10 3/8
EVGE-S-12 1/4
EVGE-S-12 3/8
EVGE-S-12 1/2
EVGE-S-14 1/2
EVGE-S-16 1/2
EVGE-S-20 3/4
EVGE-S-25/1
EVGE-S-30 11/4
EVGE-S-38 11/2

EVGE-L/S-06 1/8X
EVGE-L/S-06 1/4X
EVGE-L/S-08 1/4X
EVGE-L/S-10 1/4X
EVGE-L/S-10 3/8X
EVGE-L/S-12 1/4X
EVGE-L/S-12 3/8X
EVGE-L/S-12 1/2X
EVGE-L-15 1/2X
EVGE-L-18 1/2X
EVGE-L-22 3/4X
EVGE-L-28X
EVGE-L-35X
EVGE-L-42X
EVGE-L/S-06 1/8X
EVGE-L/S-06 1/4X
EVGE-L/S-08 1/4X
EVGE-L/S-10 1/4X
EVGE-L/S-10 3/8X
EVGE-L/S-12 1/4X
EVGE-L/S-12 3/8S
EVGE-L/S-12 1/2X
EVGE-S-14 1/2X
EVGE-S-16 1/2X
EVGE-S-20X
EVGE-S-25X
EVGE-S-30X
EVGE-S-38X

\*Indicates the standard port thread for a given tube size.

All fittings in the EVGE series use a swivel female nut and ferrule on standpipe.

# SAE FLANGE CONNECTOR: WELD STYLE



Tube Size (mm)	Flange Size	Working Pressure (bar)
----------------	-------------	------------------------

## CODE 61 FLANGE SERIES

15	1/2"	200	GAFS32-15
16	1/2"	220	GAFS32-16
18	3/4"	130	GAFS33-18
22	3/4"	140	GAFS33-22
20	3/4"	220	GAFS33-20
25	3/4"	220	GAFS33-25
28	1"	115	GAFS34-28
30	1"	220	GAFS34-30
35	1 1/4"	90	GAFS35-35
25	1 1/4"	175	GAFS35-25
30	1 1/4"	175	GAFS35-30
38	1 1/4"	175	GAFS35-38
42	1 1/2"	115	GAFS36-42
38	1 1/2"	130	GAFS36-38

## CODE 62 FLANGE SERIES

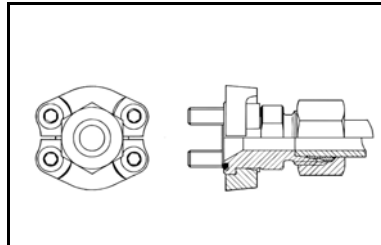
16	1/2"	260	GAFS62-16
25	3/4"	260	GAFS63-25
25	1"	260	GAFS64-25
30	1"	200	GAFS64-30
30	1 1/4"	200	GAFS65-30
38	1 1/4"	200	GAFS65-38
38	1 1/2"	200	GAFS66-38

GAFS bodies are low carbon steel, supplied in oiled finish suitable for welding.



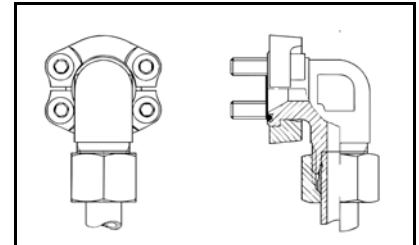


# SAE FLANGE CONNECTORS



**SAE Flange Connectors Straight**

**Part Number**



**SAE Flange Connectors 90°**

**Part Number**

Tube Size & Series	Flange Size	Working Pressure (bar)
--------------------	-------------	------------------------

## CODE 61 FLANGE SERIES

Tube Size & Series	Flange Size	Working Pressure (bar)	Part Number	Part Number
15-L	1/2"	200	GFS32-L-15	WFS32-L-15
18-L	3/4"	200	GFS33-L-18	WFS33-L-18
22-L	3/4"	100	GFS33-L-22	WFS33-L-22
28-L	1"	100	GFS34-L-28	WFS34-L-28
35-L	1 1/4"	100	GFS35-L-35	WFS35-L-35
42-L	1 1/2"	100	GFS36-L-42	WFS36-L-42
16-S	1/2"	220	GFS32-S-16	WFS32-S-16
20-S	3/4"	220	GFS33-S-20	WFS33-S-20
25-S	3/4"	220	GFS33-S-25	WFS33-S-25
30-S	1"	220	GFS34-S-30	WFS34-S-30
25-S	1 1/4"	175	GFS35-S-25	WFS35-S-25
30-S	1 1/4"	175	GFS35-S-30	WFS35-S-30
38-S	1 1/4"	175	GFS35-S-38	WFS35-S-38
38-S	1 1/2"	130	GFS36-S-38	WFS36-S-38

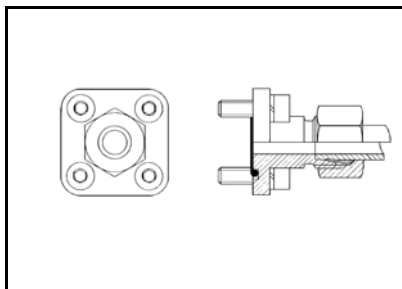
## CODE 62 FLANGE SERIES

Tube Size & Series	Flange Size	Working Pressure (bar)	Part Number	Part Number
16-S	1/2"	250	GFS62-S-16	WFS62-S-16
16-S	3/4"	250	GFS63-S-16	WFS63-S-16
20-S	3/4"	250	GFS63-S-20	WFS63-S-20
25-S	3/4"	250	GFS63-S-25	WFS63-S-25
25-S	1"	250	GFS64-S-25	WFS64-S-25
30-S	1"	250	GFS64-S-30	WFS64-S-30
30-S	1 1/4"	250	GFS65-S-30	WFS65-S-30
38-S	1 1/4"	200	GFS65-S-38	WFS65-S-38
38-S	1 1/2"	200	GFS66-S-38	WFS66-S-38

Size combinations for GFS fittings not shown here can be custom manufactured.

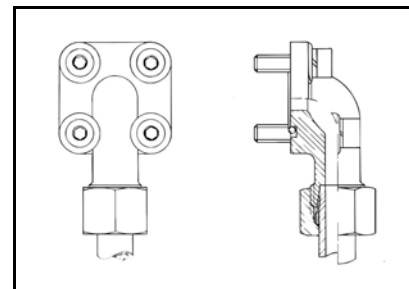
### Williams Fluidair Corporation Limited

1018 Salk Road Pickering, Ontario Canada L1W 3C5  
 T: 905-831-3222 F: 905-831-3284 E: service@williamsfluidair.com www.williamsfluidair.com



**DIN Flange  
Connectors Straight**

**Part Number**



**DIN Flange  
Connectors 90°**

**Part Number**

Tube Size & Series	Flange Size	Working Pressure (bar)
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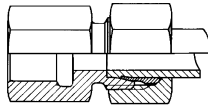
10-L	35	200
12-L	35	200
15-L	35	155
15-L	40	65
18-L	40	65
22-L	40	65
28-L	40	65
35-L	40	65
35-L	55	65
42-L	55	65
16-S	35	200
20-S	35	
20-S	40	155
20-S	55	155
25-S	55	155
30-S	55	155

GFD35-L-10
GFD35-L-12
GFD35-L-15
GFD40-L-15
GFD40-L-18
GFD40-L-22
GFD40-L-28
GFD35-S-16

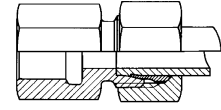
WFD35-L-10
WFD35-L-12
WFD35-L-15
WFD40-L-15
WFD40-L-18
WFD40-L-22
WFD40-L-28
WFD40-L-35
WFD55-L-35
WFD55-L-42
WFD35-S-16
WFD35-S-20
WFD40-S-20
WFD55-S-20
WFD55-S-25
WFD55-S-30



# FEMALE CONNECTORS: BSPP & METRIC THREADS



**Female Connector  
BSPP Thread**



**Female Connector  
Metric Thread**

Series	Tube Size (mm)	Working Pressure (bar)
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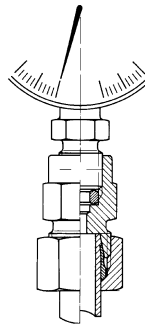
Port Thread BSPP	Part Number
------------------	-------------

Port Thread METRIC	Part Number
--------------------	-------------

L	6	400
L	6	400
L	6	400
L	8	400
L	8	400
L	8	400
L	8	400
L	8	400
L	10	400
L	10	400
L	10	400
L	12	400
L	12	400
L	12	400
L	15	400
L	15	400
L	18	315
L	18	315
L	22	315
L	28	250
L	35	250
L	42	250
S	6	630
S	8	630
S	8	630
S	10	630
S	12	630
S	12	630
S	14	630
S	14	630
S	16	400
S	16	400
S	20	400
S	25	400
S	30	400
S	38	315

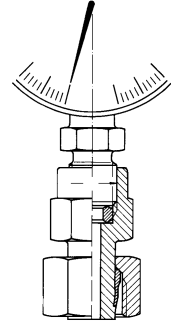
1/8"	GAI-LR-06
1/4"	GAI-LR-06 1/4
3/8"	GAI-LR-06 3/8
1/8"	GAI-LR-08 1/8
1/4"	GAI-LR-08
3/8"	GAI-LR-08 3/8
1/2"	GAI-LR-08 1/2
1/4"	GAI-LR-10
3/8"	GAI-LR-10 3/8
1/2"	GAI-LR-10 1/2
1/4"	GAI-LR-12 1/4
3/8"	GAI-LR-12
1/2"	GAI-LR-12 1/2
1/2"	GAI-LR-15
3/4"	GAI-LR-15 3/4
3/8"	GAI-LR-18 3/8
1/2"	GAI-LR-18
3/4"	GAI-LR-22
1"	GAI-LR-28
1-1/4"	GAI-LR-35
1-1/2"	GAI-LR-42
1/4"	GAI-SR-06
1/4"	GAI-SR-08
3/8"	GAI-SR-08 3/8
3/8"	GAI-SR-10
3/8"	GAI-SR-12
1/2"	GAI-SR-12 1/2
3/8"	GAI-SR-14 3/8
1/2"	GAI-SR-14
3/8"	GAI-SR-16 3/8
1/2"	GAI-SR-16
3/4"	GAI-SR-20
1"	GAI-SR-25
1-1/4"	GAI-SR-30
1-1/2"	GAI-SR-38

M10x1	GAI-LM-06
M22x1.5	GAI-LM-06 M22x1.5
M12x1.5	GAI-LM-08
M22x1.5	GAI-LM-08 M22x1.5
M14x1.5	GAI-LM-10
M22x1.5	GAI-LM-10 M22x1.5
M16x1.5	GAI-LM-12
M22x1.5	GAI-LM-12 M22x1.5
M18x1.5	GAI-LM-15
M22x1.5	GAI-LM-18
M26x1.5	GAI-LM-22
M33x2	GAI-LM-28
M42x2	GAI-LM-35
M48x2	GAI-LM-42
M12x1.5	GAI-SM-06
M14x1.5	GAI-SM-08
M16 x 1.5	GAI-SM-10
M18 x 1.5	GAI-SM-12 M16X1.5
M20 x 1.5	GAI-SM-14
M22 x 1.5	GAI-SM-16
M27 x 2	GAI-SM-20
M33 x 2	GAI-SM-25
M42 x 2	GAI-SM-30
M48 x 2	GAI-SM-38



**Gauge Connector  
Compression Style  
BSPP Thread**

**Part Number**



**Gauge Connector  
Swivel Style  
BSPP Thread**

**Part Number**

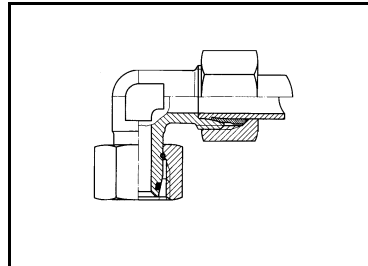
Series	Tube Size (mm)	Working Pressure (bar)	BSPP Thread
L	6	400	1/4" BSPP
L	6	400	3/8" BSPP
L	6	400	1/2" BSPP
L	8	400	1/4" BSPP
L	10	400	1/4" BSPP
L	12	400	1/4" BSPP
L	12	400	1/2" BSPP
L	12	400	3/4" BSPP
L	15	400	1/4" BSPP
S	6	630	3/8" BSPP
S	6	630	1/2" BSPP
S	8	630	1/4" BSPP
S	8	630	3/8" BSPP
S	8	630	1/2" BSPP
S	10	630	3/8" BSPP
S	10	630	1/2" BSPP
S	12	630	3/8" BSPP
S	12	630	1/2" BSPP

Part Number
MAV-LR-06
MAV-LR-06 3/8
MAV-LR-06 1/2
MAV-LR-08
MAV-LR-10
MAV-LR-12
MAV-LR-12 1/2
MAV-LR-12 3/4
MAV-LR-15
MAV-SR-06 3/8
MAV-SR-06
MAV-SR-08 1/4
MAV-SR-08 3/8
MAV-SR-08
MAV-SR-10 3/8
MAV-SR-10
MAV-SR-12 3/8
MAV-SR-12

Part Number
MAV-LRev-06
MAV-LRev-08
MAV-LRev-10
MAV-LRev-12
MAV-SRev-06
MAV-SRev-08
MAV-SRev-10
MAV-SRev-12

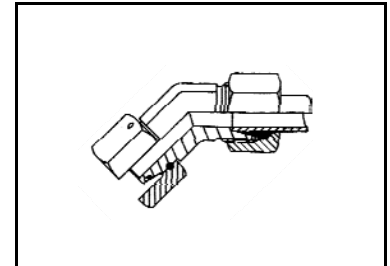


# MALE x FEMALE SWIVEL UNIONS



**Swivel Elbow**

Part Number
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**Swivel Elbow 45°**

Part Number
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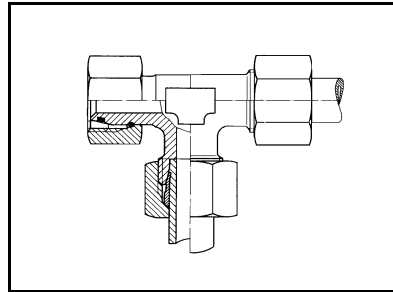
Series	Tube Size (mm)	Working Pressure (bar)
L	6	400
L	8	400
L	10	400
L	12	400
L	15	400
L	18	315
L	22	315
L	28	250
L	35	250
L	42	250
S	6	630
S	8	630
S	10	630
S	12	630
S	14	630
S	16	400
S	20	400
S	25	400
S	30	400
S	38	315

EW-L-06
EW-L-08
EW-L-10
EW-L-12
EW-L-15
EW-L-18
EW-L-22
EW-L-28
EW-L-35
EW-L-42
EW-S-06
EW-S-08
EW-S-10
EW-S-12
EW-S-14
EW-S-16
EW-S-20
EW-S-25
EW-S-30
EW-S-38

EW45-L-06
EW45-L-08
EW45-L-10
EW45-L-12
EW45-L-15
EW45-L-18
EW45-L-22
EW45-L-28
EW45-L-35
EW45-L-42
EW45-S-06
EW45-S-08
EW45-S-10
EW45-S-12
EW45-S-14
EW45-S-16
EW45-S-20
EW45-S-25
EW45-S-30
EW45-S-38

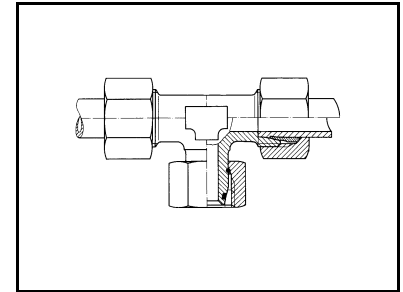
All fittings in the EW, EL and ET series use a DKO type swivel female with wire retained nut and O-ring seal.

# MALE x FEMALE SWIVEL UNIONS



**Swivel Run Tee**

**Part Number**



**Swivel Branch Tee**

**Part Number**

Series	Tube Size (mm)	Working Pressure (bar)
--------	----------------	------------------------

L	6	400
L	8	400
L	10	400
L	12	400
L	15	400
L	18	315
L	22	315
L	28	250
L	35	250
L	42	250
S	6	630
S	8	630
S	10	630
S	12	630
S	14	630
S	16	400
S	20	400
S	25	400
S	30	400
S	38	315

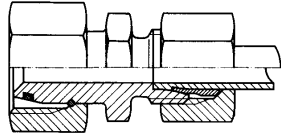
EL-L-06
EL-L-08
EL-L-10
EL-L-12
EL-L-15
EL-L-18
EL-L-22
EL-L-28
EL-L-35
EL-L-42
EL-S-06
EL-S-08
EL-S-10
EL-S-12
EL-S-14
EL-S-16
EL-S-20
EL-S-25
EL-S-30
EL-S-38

ET-L-06
ET-L-08
ET-L-10
ET-L-12
ET-L-15
ET-L-18
ET-L-22
ET-L-28
ET-L-35
ET-L-42
ET-S-06
ET-S-08
ET-S-10
ET-S-12
ET-S-14
ET-S-16
ET-S-20
ET-S-25
ET-S-30
ET-S-38

All fittings in the EW, EL and ET- series use a DKO type swivel female with wire retained nut and O-ring seal.

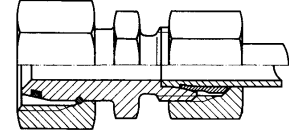


# SWIVEL x COMPRESSION TUBE REDUCERS



**Tube Reducer**

Swivel Tube Size (1)	Tube Size (2)	Part Number
8L	6L	RED-L-08/06
10L	6L	RED-L-10/06
10L	8L	RED-L-10/08
12L	6L	RED-L-12/06
12L	8L	RED-L-12/08
12L	10L	RED-L-12/10
15L	6L	RED-L-15/06
15L	8L	RED-L-15/08
15L	10L	RED-L-15/10
15L	12L	RED-L-15/12
18L	6L	RED-L-18/06
18L	8L	RED-L-18/08
18L	10L	RED-L-18/10
18L	12L	RED-L-18/12
18L	15L	RED-L-18/15
22L	6L	RED-L-22/06
22L	8L	RED-L-22/08
22L	10L	RED-L-22/10
22L	12L	RED-L-22/12
22L	15L	RED-L-22/15
22L	18L	RED-L-22/18
28L	6L	RED-L-28/06
28L	8L	RED-L-28/08



**Tube Reducer**

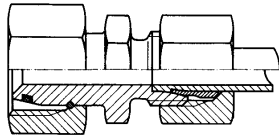
Swivel Tube Size (1)	Tube Size (2)	Part Number
28L	10L	RED-L-28/10
28L	12L	RED-L-28/12
28L	15L	RED-L-28/15
28L	18L	RED-L-28/18
28L	22L	RED-L-28/22
35L	6L	RED-L-35/06
35L	8L	RED-L-35/08
35L	10L	RED-L-35/10
35L	12L	RED-L-35/12
35L	15L	RED-L-35/15
35L	18L	RED-L-35/18
35L	22L	RED-L-35/22
35L	28L	RED-L-35/28
42L	6L	RED-L-42/06
42L	8L	RED-L-42/08
42L	10L	RED-L-42/10
42L	12L	RED-L-42/12
42L	15L	RED-L-42/15
42L	18L	RED-L-42/18
42L	22L	RED-L-42/22
42L	28L	RED-L-42/28
42L	35L	RED-L-42/35

All fittings in the RED- series use a DKO type swivel female with wire retained nut and O-ring seal.

The pressure rating for the RED- fittings are the same as the pressure rating for the larger size on the fitting.

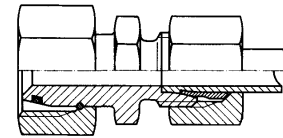
Contact us for the correct pressure rating of these fittings.

# SWIVEL x COMPRESSION TUBE REDUCERS



**Tube Reducer**

Swivel Tube Size (1)	Tube Size (2)	Part Number
8S	6S	RED-S-08/06
10S	6S	RED-S-10/06
10S	8S	RED-S-10/08
12S	6S	RED-S-12/06
12S	8S	RED-S-12/08
12S	10S	RED-S-12/10
14S	6S	RED-S-14/06
14S	8S	RED-S-14/08
14S	10S	RED-S-14/10
14S	12S	RED-S-14/12
16S	6S	RED-S-16/06
16S	8S	RED-S-16/08
16S	10S	RED-S-16/10
16S	12S	RED-S-16/12
16S	14S	RED-S-16/14
20S	6S	RED-S-20/06
20S	8S	RED-S-20/08
20S	10S	RED-S-20/10
20S	12S	RED-S-20/12
20S	14S	RED-S-20/14
20S	16S	RED-S-20/16
25S	6S	RED-S-25/06
25S	8S	RED-S-25/08



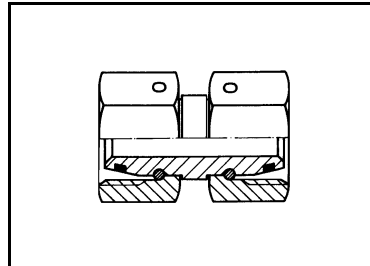
**Tube Reducer**

Swivel Tube Size (1)	Tube Size (2)	Part Number
25S	10S	RED-S-25/10
25S	12S	RED-S-25/12
25S	14S	RED-S-25/14
25S	16S	RED-S-25/16
25S	20S	RED-S-25/20
30S	6S	RED-S-30/06
30S	8S	RED-S-30/08
30S	10S	RED-S-30/10
30S	12S	RED-S-30/12
30S	14S	RED-S-30/14
30S	16S	RED-S-30/16
30S	20S	RED-S-30/20
30S	25S	RED-S-30/25
38S	6S	RED-S-38/06
38S	8S	RED-S-38/08
38S	10S	RED-S-38/10
38S	12S	RED-S-38/12
38S	14S	RED-S-38/14
38S	16S	RED-S-38/16
38S	20S	RED-S-38/20
38S	25S	RED-S-38/25
38S	30S	RED-S-38/30

All fittings in the RED- series use a DKO type swivel female with wire retained nut and O-ring seal.

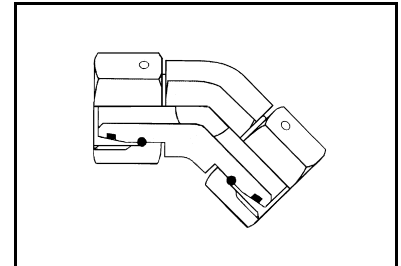
The pressure ratings for the RED- fittings are the same as the pressure rating for the larger size on the fitting. Contact us for the exact pressure rating of these fittings.





**Swivel Union**

Part Number
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**Swivel Union 45°**

Part Number
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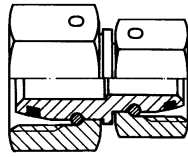
Series	Tube Size (mm)	Working Pressure (bar)
L	6	400
L	8	400
L	10	400
L	12	400
L	15	400
L	18	315
L	22	315
L	28	250
L	35	250
L	42	250
S	6	630
S	8	630
S	10	630
S	12	630
S	14	630
S	16	400
S	20	400
S	25	400
S	30	400
S	38	315

GZ-L-06
GZ-L-08
GZ-L-10
GZ-L-12
GZ-L-15
GZ-L-18
GZ-L-22
GZ-L-28
GZ-L-35
GZ-L-42
GZ-S-06
GZ-S-08
GZ-S-10
GZ-S-12
GZ-S-14
GZ-S-16
GZ-S-20
GZ-S-25
GZ-S-30
GZ-S-38

GZ45-L-06
GZ45-L-08
GZ45-L-10
GZ45-L-12
GZ45-L-15
GZ45-L-18
GZ45-L-22
GZ45-L-28
GZ45-L-35
GZ45-L-42
GZ45-S-06
GZ45-S-08
GZ45-S-10
GZ45-S-12
GZ45-S-14
GZ45-S-16
GZ45-S-20
GZ45-S-25
GZ45-S-30
GZ45-S-38

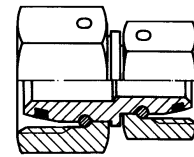
All fittings in the GZ- series use a DKO type swivel female with wire retained nut and O-ring seal at both ends.

# REDUCING SWIVEL UNIONS



**Reducing Swivel Union**

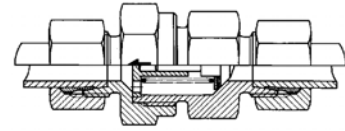
Tube Size 1	Tube Size 2	Part Number
8-L	6-L	GZR-L-08/06
10-L	6-L	GZR-L-10/06
10-L	8-L	GZR-L-10/08
12-L	6-L	GZR-L-12/06
12-L	8-L	GZR-L-12/08
12-L	10-L	GZR-L-12/10
15-L	10-L	GZR-L-15/10
15-L	12-L	GZR-L-15/12
18-L	12-L	GZR-L-18/12
18-L	15-L	GZR-L-18/15
22-L	12-L	GZR-L-22/12
22-L	15-L	GZR-L-22/15
22-L	18-L	GZR-L-22/18
28-L	18-L	GZR-L-28/18
28-L	22-L	GZR-L-28/22
35-L	28-L	GZR-L-35/28
42-L	35-L	GZR-L-42/35



**Reducing Swivel Union**

Tube Size 1	Tube Size 2	Part Number
8-S	6-S	GZR-S-06/06
10-S	6-S	GZR-S-10/06
10-S	8-S	GZR-S-10/08
12-S	6-S	GZR-S-12/06
12-S	8-S	GZR-S-12/08
12-S	10-S	GZR-S-12/10
16-S	10-S	GZR-S-16/10
16-S	12-S	GZR-S-16/12
16-S	14-S	GZR-S-16/14
20-S	16-S	GZR-S-20/16
25-S	16-S	GZR-S-25/16
25-S	20-S	GZR-S-25/20
30-S	20-S	GZR-S-30/20
30-S	25-S	GZR-S-30/25
38-S	30-S	GZR-S-38/30

Additional sizes may be available.



**In-Line Check Valve**

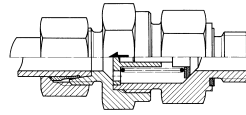
Series	Tube Size (mm)	Working Pressure (bar)
L	6	400
L	8	400
L	10	400
L	12	400
L	15	400
L	18	315
L	22	315
L	28	250
L	35	250
L	42	250
S	6	630
S	8	630
S	10	630
S	12	630
S	14	630
S	16	400
S	20	400
S	25	400
S	30	400
S	38	315

Part Number
RHD-L-06
RHD-L-08
RHD-L-10
RHD-L-12
RHD-L-15
RHD-L-18
RHD-L-22
RHD-L-28
RHD-L-35
RHD-L-42
RHD-S-06
RHD-S-08
RHD-S-10
RHD-S-12
RHD-S-14
RHD-S-16
RHD-S-20
RHD-S-25
RHD-S-30
RHD-S-38

All RHD- check valves have a standard opening pressure of 1 bar.

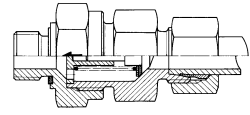
Other opening pressures are available on request.

# MALE CHECK VALVE CONNECTORS: BSPP THREAD



**Check Valve  
Flow Port to Tube**

**Part Number**



**Check Valve  
Flow Tube to Port**

**Part Number**

Series	Tube Size (mm)	Working Pressure (bar)	BSPP Thread
L	6	250	1/8"
L	8	250	1/4"
L	10	250	1/4"
L	12	250	3/8"
L	15	250	1/2"
L	18	160	1/2"
L	22	160	3/4"
L	28	100	1"
L	35	100	1 1/4"
L	42	100	1 1/2"
S	6	400	1/4"
S	8	400	1/4"
S	10	400	3/8"
S	12	400	3/8"
S	14	400	1/2"
S	16	400	1/2"
S	20	400	3/4"
S	25	250	1"
S	30	250	1 1/4"
S	38	250	1 1/2"

RHV-LRed-06
RHV-LRed-08
RHV-LRed-10
RHV-LRed-12
RHV-LRed-15
RHV-LRed-18
RHV-LRed-22
RHV-LRed-28
RHV-LRed-35
RHV-LRed-42
RHV-SRed-06
RHV-SRed-08
RHV-SRed-10
RHV-SRed-12
RHV-SRed-14
RHV-SRed-16
RHV-SRed-20
RHV-SRed-25
RHV-SRed-30
RHV-SRed-38

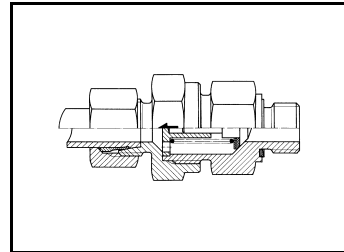
RHZ-LRed-06
RHZ-LRed-08
RHZ-LRed-10
RHZ-LRed-12
RHZ-LRed-15
RHZ-LRed-18
RHZ-LRed-22
RHZ-LRed-28
RHZ-LRed-35
RHZ-LRed-42
RHZ-SRed-06
RHZ-SRed-08
RHZ-SRed-10
RHZ-SRed-12
RHZ-SRed-14
RHZ-SRed-16
RHZ-SRed-20
RHZ-SRed-25
RHZ-SRed-30
RHZ-SRed-38

All RHV- and RHZ- check valves have a standard opening pressure of 1 bar.

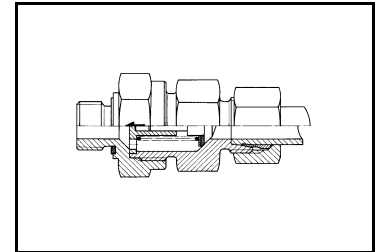
Other opening pressures are available on request.



# MALE CHECK VALVE CONNECTORS: METRIC THREADS



**Check Valve  
Flow Port to Tube**



**Check Valve  
Flow Tube to Port**

Series	Tube Size (mm)	Working Pressure (bar)	Metric Thread
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Part Number
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Part Number
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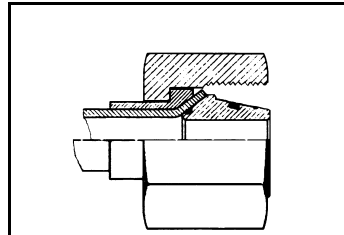
L	6	250	M10x1
L	8	250	M12x1.5
L	10	250	M14x1.5
L	12	250	M16x1.5
L	15	250	M18x1.5
L	18	160	M22x1.5
L	22	160	M26x1.5
L	28	100	M33x2
L	35	100	M42x2
L	42	100	M 48x2
S	6	400	M12x1.5
S	8	400	M14x1.5
S	10	400	M16x1.5
S	12	400	M18x1.5
S	14	400	M20x1.5
S	16	400	M22x1.5
S	20	400	M27x2
S	25	250	M33x2
S	30	250	M42x2
S	38	250	M 48x2

RHV-LMed-06
RHV-LMed-08
RHV-LMed-10
RHV-LMed-12
RHV-LMed-15
RHV-LMed-18
RHV-LMed-22
RHV-LMed-28
RHV-LMed-35
RHV-LMed-42
RHV-SMed-06
RHV-SMed-08
RHV-SMed-10
RHV-SMed-12
RHV-SMed-14
RHV-SMed-16
RHV-SMed-20
RHV-SMed-25
RHV-SMed-30
RHV-SMed-38

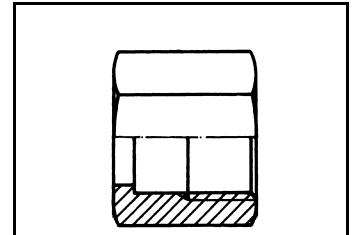
RHZ-LMed-06
RHZ-LMed-08
RHZ-LMed-10
RHZ-LMed-12
RHZ-LMed-15
RHZ-LMed-18
RHZ-LMed-22
RHZ-LMed-28
RHZ-LMed-35
RHZ-LMed-42
RHZ-SMed-06
RHZ-SMed-08
RHZ-SMed-10
RHZ-SMed-12
RHZ-SMed-14
RHZ-SMed-16
RHZ-SMed-20
RHZ-SMed-25
RHZ-SMed-30
RHZ-SMed-38

All RHV- and RHZ- check valves have a standard opening pressure of 1 bar.

Other opening pressures are available on request.



**Complete Adapter**



**Flare Nut**

Series	Tube Size (mm)	Working Pressure (bar)
L	6	400
L	8	400
L	10	400
L	12	400
L	15	400
L	18	315
L	22	315
L	28	250
L	35	250
L	42	250
S	6	630
S	8	630
S	10	630
S	12	630
S	14	630
S	16	400
S	20	400
S	25	400
S	30	400
S	38	315

Part Number
AB-L-06
AB-L-08
AB-L-10
AB-L-12
AB-L-15
AB-L-18
AB-L-22
AB-L-28
AB-L-35
AB-L-42
AB-S-06
AB-S-08
AB-S-10
AB-S-12
AB-S-14
AB-S-16
AB-S-20
AB-S-25
AB-S-30
AB-S-38

Part Number
BMO-L-06
BMO-L-08
BMO-L-10
BMO-L-12
BMO-L-15
BMO-L-18
BMO-L-22
BMO-L-28
BMO-L-35
BMO-L-42
BMO-S-06
BMO-S-08
BMO-S-10
BMO-S-12
BMO-S-14
BMO-S-16
BMO-S-20
BMO-S-25
BMO-S-30
BMO-S-38

These adapters are used to replace the nut and ferrule on the metric tube fittings.

They allow for the installation of tubing that has been flared to 37°.

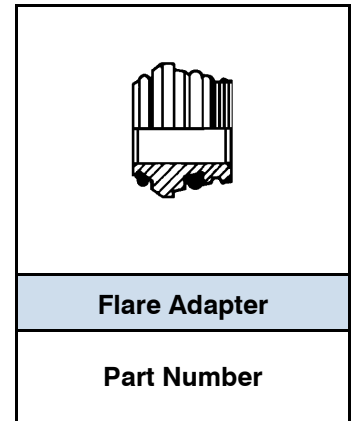
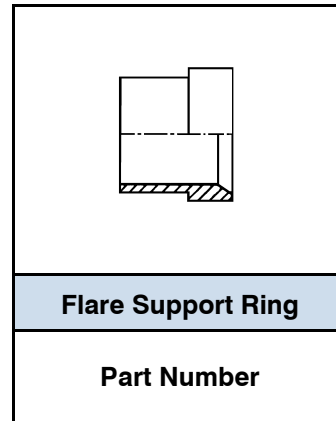
The nut sizes and tube sizes are not the same as SAE 37° flare (JIC).

Please contact us for the applicable flare dimensions and length allowances when using the AB- flare adapters.



# FLARE CONNECTION ADAPTERS

Series	Tube Size (mm)	Working Pressure (bar)
L	6	400
L	8	400
L	10	400
L	12	400
L	15	400
L	18	315
L	22	315
L	28	250
L	35	250
L	42	250
S	6	630
S	8	630
S	10	630
S	12	630
S	14	630
S	16	400
S	20	400
S	25	400
S	30	400
S	38	315



SRO-L/S-06
SRO-L/S-08
SRO-L/S-10
SRO-L/S-12
SRO-L-15
SRO-L-18
SRO-L-22
SRO-L-28
SRO-L-35
SRO-L-42
SRO-L/S-06
SRO-L/S-08
SRO-L/S-10
SRO-L/S-12
SRO-S-14
SRO-S-16
SRO-S-20
SRO-S-25
SRO-S-30
SRO-S-38

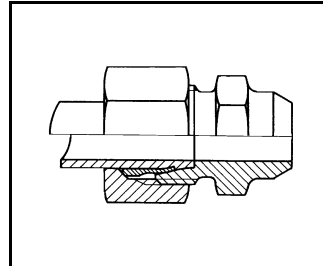
BAO-L/S-06
BAO-L/S-08
BAO-L/S-10
BAO-L/S-12
BAO-L-15
BAO-L-18
BAO-L-22
BAO-L-28
BAO-L-35
BAO-L-42
BAO-L/S-06
BAO-L/S-08
BAO-L/S-10
BAO-L/S-12
BAO-S-14
BAO-S-16
BAO-S-20
BAO-S-25
BAO-S-30
BAO-S-38

These adapters are used to replace the nut and ferrule on the metric tube fittings.

They allow for the installation of tubing that has been flared to 37°.

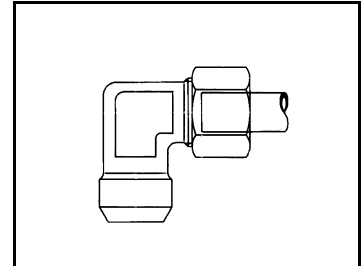
The nut sizes and tube sizes are not the same as SAE 37° flare (JIC).

Please contact us for the applicable flare dimensions and length allowances when using the AB- flare adapters.



**Weld Coupler**

Part Number
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**Weld Coupler 90°**

Part Number
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Series	Tube Size (mm)	Working Pressure (bar)	Weld Boss Dimension for AS-style (mm)
L	6	400	10
L	8	400	12
L	10	400	14
L	12	400	16
L	15	400	19
L	18	315	22
L	22	315	27
L	28	250	32
L	35	250	40
L	42	250	46
S	6	630	11
S	8	630	13
S	10	630	15
S	12	630	17
S	14	630	19
S	16	400	21
S	20	400	26
S	25	400	31
S	30	400	36
S	38	315	44

AS-L-06
AS-L-08
AS-L-10
AS-L-12
AS-L-15
AS-L-18
AS-L-22
AS-L-28
AS-L-35
AS-L-42
AS-S-06
AS-S-08
AS-S-10
AS-S-12
AS-S-14
AS-S-16
AS-S-20
AS-S-25
AS-S-30
AS-S-38

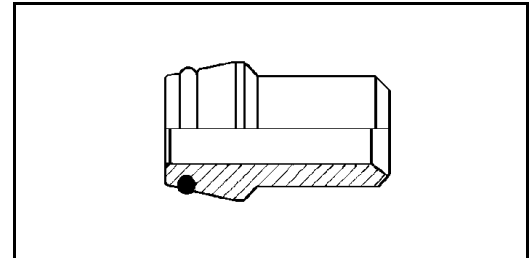
WAS-L-06
WAS-L-08
WAS-L-10
WAS-L-12
WAS-L-15
WAS-L-18
WAS-L-22
WAS-L-28
WAS-L-35
WAS-L-42
WAS-S-06
WAS-S-08
WAS-S-10
WAS-S-12
WAS-S-14
WAS-S-16
WAS-S-20
WAS-S-25
WAS-S-30
WAS-S-38

The AS- series fittings are designed to be welded to tanks or larger pipes etc. and terminate in a compression tube end.

The boss is larger than the tube size - they are not intended to be tube to tube unions.

The bodies are low carbon steel suitable for welding.





**Weld Nipple**

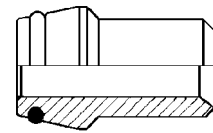
Series	Tube Size (mm)	Working Pressure (bar)	Wall Thickness (mm)
L	15	201	1.5
L	15	259	2
L	15	365	2.5
L	18	164	1.5
L	18	226	2
L	18	293	2.5
L	22	181	2
L	22	232	2.5
L	28	139	2
L	28	177	2.5
L	28	217	3
L	35	109	2
L	35	169	3
L	35	303	5
L	42	139	3

Part Number
SKO-L-15x1.5
SKO-L-15x2
SKO-L-15x2.5
SKO-L-18x1.5
SKO-L-18x2
SKO-L-18x2.5
SKO-L-22x2
SKO-L-22x2.5
SKO-L-28x2
SKO-L-28x2.5
SKO-L-28x3
SKO-L-35x2
SKO-L-35x3
SKO-L-35x5
SKO-L-42x3

The SKO- series weld nipples are designed to replace the ferrule, when the connections must be welded.

They are low carbon steel suitable for welding.

These nipples are available in various wall thicknesses to match the tube size.



**Weld Straight Nipple**

**Part Number**

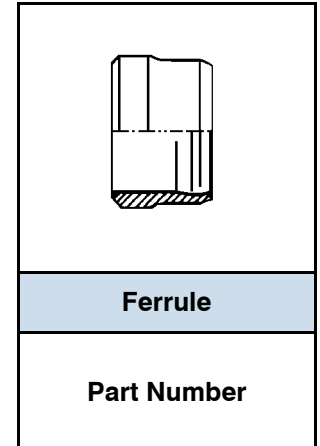
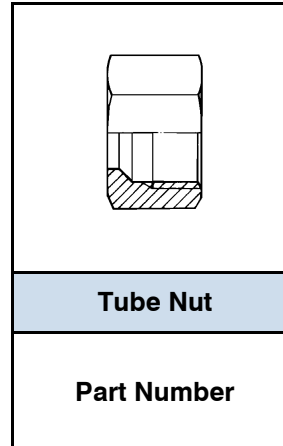
Series	Tube Size (mm)	Working Pressure (bar)	Wall Thickness (mm)
S	6	365	1
S	6	624	1.5
S	8	259	1
S	8	423	1.5
S	8	624	2
S	10	201	1
S	10	321	1.5
S	10	460	2
S	12	259	1.5
S	12	365	2
S	12	485	2.5
S	12	624	3
S	14	303	2
S	14	398	2.5
S	14	504	3
S	16	259	2
S	16	337	2.5
S	16	423	3
S	20	259	2.5
S	20	321	3
S	20	388	3.5
S	20	460	4
S	25	247	3
S	25	347	4
S	25	460	5
S	30	201	3
S	30	279	4
S	30	365	5
S	30	460	6
S	38	213	4
S	38	275	5
S	38	342	6

SKO-S-6x1
SKO-S-6x1.5
SKO-S-8x1
SKO-S-8x1.5
SKO-S-8x2
SKO-S-10x1
SKO-S-10x1.5
SKO-S-10x2
SKO-S-12x1.5
SKO-S-12x2
SKO-S-12x2.5
SKO-S-12x3
SKO-S-14x2
SKO-S-14x2.5
SKO-S-14x3
SKO-S-16x2
SKO-S-16x2.5
SKO-S-16x3
SKO-S-20x2.5
SKO-S-20x3
SKO-S-20x3.5
SKO-S-20x4
SKO-S-25x3
SKO-S-25x4
SKO-S-25x5
SKO-S-30x3
SKO-S-30x4
SKO-S-30x5
SKO-S-30x6
SKO-S-38x4
SKO-S-38x5
SKO-S-38x6

The SKO- series weld nipples are designed to replace the ferrule, when the connections must be welded. They are low carbon steel suitable for welding. These nipples are available in various wall thicknesses to match the tube size.



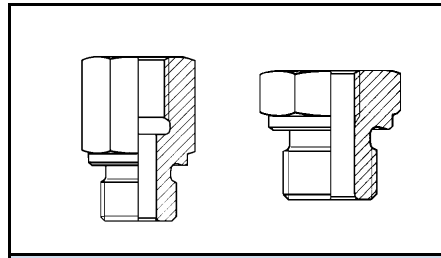
# TUBE NUTS AND FERRULES



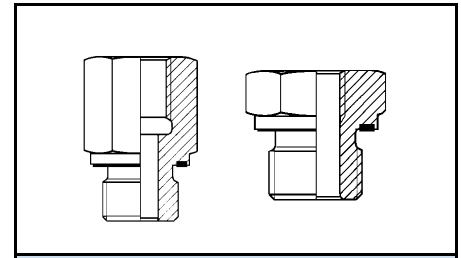
Series	Tube Size (mm)	Working Pressure (bar)	Tube Nut Thread	Wrench Size (mm)
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Series	Tube Size (mm)	Working Pressure (bar)	Tube Nut Thread	Wrench Size (mm)	Part Number	Part Number
LL	4	100	M8 x 1	10	M-LL-04	D-LL-04
LL	5	100	M10 x 1	12	M-LL-05	D-LL-05
LL	6	100	M10 x 1	12	M-LL-06	D-LL-06
LL	8	100	M12 x 1	14	M-LL-08	D-LL-08
LL	10	100	M14 x 1	17	M-LL-10	D-LL-10
LL	12	100	M16 x 1	19	M-LL-12	D-LL-12
L	6	400	M12 x 1.5	14	M-L-06	DC-L/S-06
L	8	400	M14 x 1.5	17	M-L-08	DC-L/S-08
L	10	400	M16 x 1.5	19	M-L-10	DC-L/S-10
L	12	400	M18 x 1.5	22	M-L-12	DC-L/S-12
L	15	400	M22 x 1.5	27	M-L-15	DC-L-15
L	18	315	M26 x 1.5	32	M-L-18	DC-L-18
L	22	315	M30 x 2	36	M-L-22	DC-L-22
L	28	250	M36 x 2	41	M-L-28	DC-L-28
L	35	250	M45 x 2	50	M-L-35	DC-L-35
L	42	250	M52 x 2	60	M-L-42	DC-L-42
S	6	630	M14 x 1.5	17	M-S-06	DC-L/S-06
S	8	630	M16 x 1.5	19	M-S-08	DC-L/S-08
S	10	630	M18 x 1.5	22	M-S-10	DC-L/S-10
S	12	630	M20 x 1.5	24	M-S-12	DC-L/S-12
S	14	630	M22 x 1.5	27	M-S-14	DC-S-14
S	16	400	M24 x 1.5	30	M-S-16	DC-S-16
S	20	400	M30 x 2	36	M-S-20	DC-S-20
S	25	400	M36 x 2	46	M-S-25	DC-S-25
S	30	400	M42 x 2	50	M-S-30	DC-S-30
S	38	315	M52 x 2	60	M-S-38	DC-S-38

# BSPP MALE x FEMALE ADAPTERS



**BSPP Male x Female**



**BSPP Male x Female with Seal**

BSPP Male Thread	BSPP Female Thread
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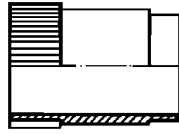
1/8"	1/4"
1/8"	3/8"
1/4"	1/8"
1/4"	3/8"
1/4"	1/2"
1/4"	3/4"
3/8"	1/8"
3/8"	1/4"
3/8"	1/2"
3/8"	3/4"
1/2"	1/4"
1/2"	3/8"
1/2"	3/4"
1/2"	1"
1/2"	1 1/4"
3/4"	1/4"
3/4"	3/8"
3/4"	1/2"
3/4"	1"
3/4"	1 1/4"
3/4"	1 1/2"
1"	1/4"
1"	3/8"
1"	1/2"
1"	3/4"
1"	1 1/4"
1"	1 1/2"
1 1/4"	1/2"
1 1/4"	3/4"
1 1/4"	1"
1 1/4"	1 1/2"
1 1/2"	1/2"
1 1/2"	3/4"
1 1/2"	1"
1 1/2"	1 1/4"

Part Number
-------------

Ri 1/8 x 1/4
Ri 1/8 x 3/8
Ri 1/4 x 1/8
Ri 1/4 x 3/8
Ri 1/4 x 1/2
Ri 1/4 x 3/4
Ri 3/8 x 1/8
Ri 3/8 x 1/4
Ri 3/8 x 1/2
Ri 3/8 x 3/4
Ri 1/2 x 1/4
Ri 1/2 x 3/8
Ri 1/2 x 3/4
Ri 1/2 x 1
Ri 1/2 x 11/4
Ri 3/4 x 1/4
Ri 3/4 x 3/8
Ri 3/4 x 1/2
Ri 3/4 x 1
Ri 3/4 x 11/4
Ri 3/4 x 11/2
Ri 1 x 1/4
Ri 1 x 3/8
Ri 1 x 1/2
Ri 1 x 3/4
Ri 1 x 11/4
Ri 1 x 11/2
Ri 1 1/4 x 1/2
Ri 1 1/4 x 3/4
Ri 11/4 x 1
Ri 11/4 x 11/2
Ri 11/2 x 1/2
Ri 11/2 x 3/4
Ri 11/2 x 1
Ri 11/2 x 11/4

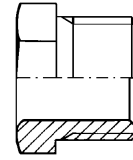
Part Number
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Ri 1/8ed x 1/4
Ri 1/8ed x 3/8
Ri 1/4ed x 1/8
Ri 1/4ed x 3/8
Ri 1/4ed x 1/2
Ri 1/4ed x 3/4
Ri 3/8ed x 1/8
Ri 3/8ed x 1/4
Ri 3/8ed x 1/2
Ri 3/8ed x 3/4
Ri 1/2ed x 1/4
Ri 1/2ed x 3/8
Ri 1/2ed x 3/4
Ri 1/2ed x 1
Ri 1/2ed x 11/4
Ri 3/4ed x 1/4
Ri 3/4ed x 1/2
Ri 3/4ed x 1
Ri 3/4ed x 11/4
Ri 3/4ed x 11/2
Ri3/4ed x 11/2
Ri 1ed x 1/4
Ri 1ed x 3/8
Ri 1ed x 1/2
Ri 1ed x 3/4
Ri 1ed x 11/4
Ri 1ed x 11/2
Ri 1 1/4ed x 1/2
Ri 1 1/4ed x 3/4
Ri 1 1/4ed x 1
Ri 1 1/4ed x 11/2
Ri 1 1/2ed x 1/2
Ri 1 1/2ed x 3/4
Ri 1 1/2ed x 1
Ri 1 1/2ed x 11/4



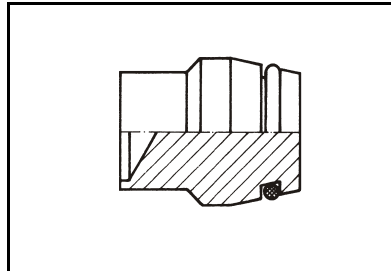
### Tube Reinforcing Sleeve

Tube O.D. (mm)	Tube I.D. (mm)	Part Number
6	4	VSH 06x1
6	5	VSH 06x0.5
8	6	VSH 08x1
10	7	VSH 10x1.5
10	8	VSH 10x1
12	9	VSH 12x1.5
12	10	VSH 12x1
15	12	VSH 15x1.5
15	13	VSH 15x1
18	15	VSH 18x1.5
18	16	VSH 18x1
22	19	VSH 22x1.5
22	20	VSH 22x1
25	22	VSH 25x1
28	24	VSH 28x2
28	25	VSH 28x1.5
35	31	VSH 35x2
42	38	VSH 42x2

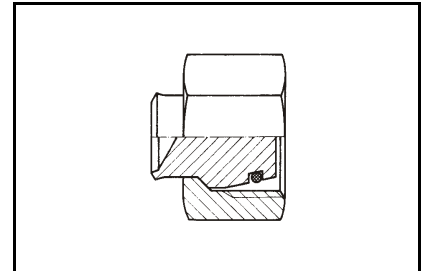


### Sleeve Nut

Tube Size (mm)	Thread Size	Part Number
4	M8x1	S-LL-04
6	M10x1	S-LL-06
8	M12x1	S-LL-08
6	M12x1.5	S-L-06
8	M14x1.5	S-L-08
10	M16x1.5	S-L-10
12	M18x1.5	S-L-12



**Fitting Plug Body**



**Fitting Plug with Nut**

Series	Tube Size (mm)	Nut Thread Size
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Part Number
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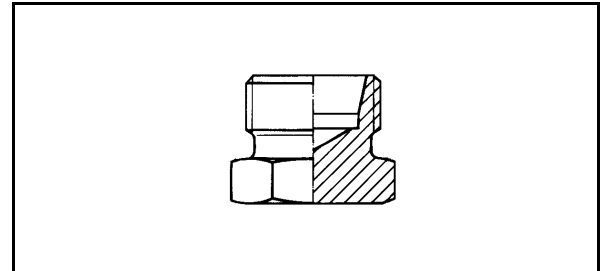
Part Number
-------------

L	6	M12 x 1.5
L	8	M14 x 1.5
L	10	M16 x 1.5
L	12	M18 x 1.5
L	15	M22 x 1.5
L	18	M26 x 1.5
L	22	M30 x 2
L	28	M36 x 2
L	35	M45 X 2
L	42	M52 X 2
S	6	M14 x 1.5
S	8	M16 x 1.5
S	10	M18 x 1.5
S	12	M20 x 1.5
S	14	M22 x 1.5
S	16	M24 x 1.5
S	20	M30 x 2
S	25	M36 x 2
S	30	M42 x 2
S	38	M52 x 2

BUZ-L/S-06X
BUZ-L/S-08X
BUZ-L/S-10X
BUZ-L/S-12X
BUZ-L-15X
BUZ-L-18X
BUZ-L-22X
BUZ-L-28X
BUZ-L-35X
BUZ-L-42X
BUZ-L/S-06X
BUZ-L/S-08X
BUZ-L/S-10X
BUZ-L/S-12X
BUZ-S-14X
BUZ-S-16X
BUZ-S-20X
BUZ-S-25X
BUZ-S-30X
BUZ-S-38X

BUZ-L-06
BUZ-L-08
BUZ-L-10
BUZ-L-12
BUZ-L-15
BUZ-L-18
BUZ-L-22
BUZ-L-28
BUZ-L-35
BUZ-L-42
BUZ-S-06
BUZ-S-08
BUZ-S-10
BUZ-S-12
BUZ-S-14
BUZ-S-16
BUZ-S-20
BUZ-S-25
BUZ-S-30
BUZ-S-38

BUZ- series plugs are used to plug a fitting body where no tubing is installed.

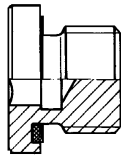


**Tube End Cap**

Series	Tube Size (mm)	Thread Size
LL	4	M8 x 1
LL	5	M10 x 1
LL	6	M10 x 1
LL	8	M12 x 1
LL	10	M14 x 1
L	6	M12 x 1.5
L	8	M14 x 1.5
L	10	M16 x 1.5
L	12	M18 x 1.5
L	15	M22 x 1.5
L	18	M26 x 1.5
L	22	M30 x 2
L	28	M36 x 2
L	35	M45 X 2
L	42	M52 X 2
S	6	M14 x 1.5
S	8	M16 x 1.5
S	10	M18 x 1.5
S	12	M20 x 1.5
S	14	M22 x 1.5
S	16	M24 x 1.5
S	20	M30 x 2
S	25	M36 x 2
S	30	M42 x 2
S	38	M52 x 2

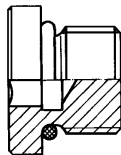
Part Number
V-LL-04
V-LL-05
V-LL-06
V-LL-08
V-LL-10
V-L-06
V-L-08
V-L-10
V-L-12
V-L-15
V-L-18
V-L-22
V-L-28
V-L-35
V-L-42
V-S-06
V-S-08
V-S-10
V-S-12
V-S-14
V-S-16
V-S-20
V-S-25
V-S-30
V-S-38

V- series caps close a tube end after removal from a fitting, when used with a nut and ferrule.



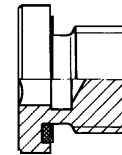
**BSPP Port Plug with Seal**

Port Thread	Hex Key Size (mm)	Part Number
1/8"	5	VSTledR1/8
1/4"	6	VSTledR1/4
3/8"	8	VSTledR3/8
1/2"	10	VSTledR1/2
3/4"	12	VSTledR3/4
1"	17	VSTledR1
1 1/4"	22	VSTledR11/4
1 1/2"	24	VSTledR11/2



**ISO 6149 Metric Plug with O-ring**

Port Thread	Hex Key Size (mm)	Part Number
M10 x 1	5	VSTO M10
M12 x 1.5	6	VSTO M12
M14 x 1.5	6	VSTO M14
M16 x 1.5	8	VSTO M16
M18 x 1.5	8	VSTO M18
M20 x 1.5	10	VSTO M20
M22 x 1.5	10	VSTO M22
M26 x 1.5	12	VSTO M26
M27 x 2	12	VSTO M27
M 33 x 2	17	VSTO M33
M42 x 2	22	VSTO M42
M48 x 2	24	VSTO M48



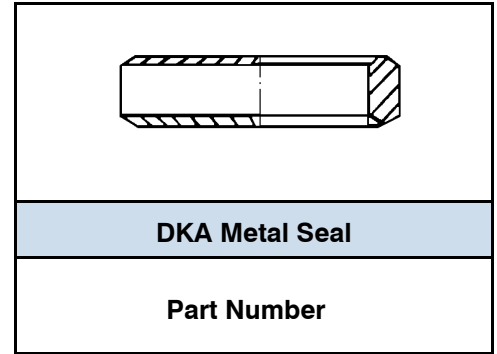
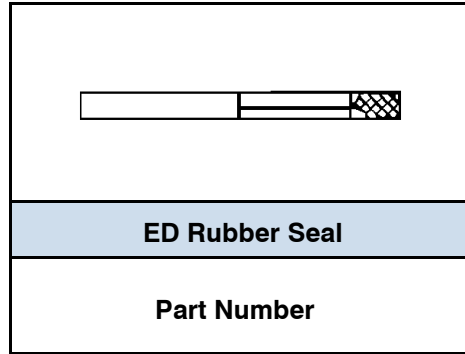
**Metric Port Plug with Seal**

Port Thread	Hex Key Size (mm)	Part Number
M8 x 1		VSTled M08
M10 x 1	5	VSTled M10
M12 x 1.5	6	VSTled M12
M14 x 1.5	6	VSTled M14
M16 x 1.5	8	VSTled M16
M18 x 1.5	8	VSTled M18
M20 x 1.5	10	VSTled M20
M22 x 1.5	10	VSTled M22
M26 x 1.5	12	VSTled M26
M27 x 2	12	VSTled M27
M33 x 2	17	VSTled M33
M42 x 2	22	VSTled M42
M48 x 2	24	VSTled M48





# THREAD SEALS: BSPP & METRIC



Thread Size
-------------

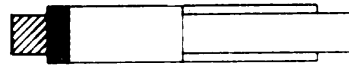
M8 x 1
M10 x 1
M12 x 1.5
M14 x 1.5
M16 x 1.5
M18 x 1.5
M20 x 1.5
M22 x 1.5
M26 x 1.5
M27 x 2
M33 x 2
M42 x 2
M48 x 2
1/8" BSPP
1/4" BSPP
3/8" BSPP
1/2" BSPP
3/4" BSPP
1" BSPP
1 1/4" BSPP
1 1/2" BSPP

ED M08
ED R1/8
ED M12
ED R1/4
ED M16
ED M18
ED M20
ED M22
ED R3/4
ED R3/4
ED R1
ED R11/4
ED R11/2
ED R1/8
ED R1/4
ED R3/8
ED R1/2
ED R3/4
ED R1
ED R11/4
ED R11/2

DKA M08
DKA M10
DKA M12
DKA M14
DKA M16
DKA M18
DKA M20
DKA M22
DKA M26
DKA M27
DKA R1
DKA R11/4
DKA R11/2
DKA R1/8
DKA R1/4
DKA R3/8
DKA R1/2
DKA R3/4
DKA R1
DKA R11/4
DKA R11/2

ED seals are used on fittings such as GE-, VSTI-, Ri- and others where the bodies are machined to accept this seal. Standard seal material is BUNA. Viton seals are available from stock. Other materials also available.

DKA-, KDE-, and EDE- seals are used on banjo fittings DSVW, DSVT, WHO and WHT. DKA and EDE seals can be used on ports with a standard sized spot face diameter. KDE seals require a larger spot face diameter.



**Metal / Teflon Seal**

**Part Number**



**Metal / Rubber Seal**

**Part Number**

Thread Size
-------------

M10 x 1	KDE M10
M12 x 1.5	KDE M12
M14 x 1.5	KDE M14
M16 x 1.5	KDE M16
M18 x 1.5	KDE M18
M20 x 1.5	KDE M20
M22 x 1.5	KDE M22
M26 x 1.5	KDE M26
M27 x 2	KDE M27
M33 x 2	KDE R1
M42 x 2	KDE R11/4
M48 x 2	KDE R11/2
1/8" BSPP	KDE R1/8
1/4" BSPP	KDE R1/4
3/8" BSPP	KDE R3/8
1/2" BSPP	KDE R1/2
3/4" BSPP	KDE R3/4
1" BSPP	KDE R1
1 1/4" BSPP	KDE R 11/4
1 1/2" BSPP	KDE R11/2

EDE R1/8
EDE M12
EDE R1/4
EDE M16
EDE M18
EDE R1/2
EDE M22
EDE R3/4
EDE R3/4
EDE R1
EDE R11/4
EDE R11/2
EDE R1/8
EDE R1/4
EDE R3/8
EDE R1/2
EDE R3/4
EDE R1
EDE R11/4
EDE R11/2

DKA-, KDE-, and EDE- seals are used on banjo fittings DSVW, DSVT, WHO and WHT.

DKA and EDE seals can be used on ports with a standard sized spot face diameter.

KDE seals require a larger spot face diameter.



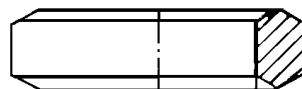
**O-ring for DKO Type Swivel**

Tube Size	Part Number
6-L/S	OR 4x1.5
8-L/S	OR 6x1.5
10-L/S	OR 7.5x1.5
12-L/S	OR 9x1.5
15-L	OR 12x2
18-L	OR 15x2
22-L	OR 20x2
28-L	OR 26x2
35-L	OR 32x2.5
42-L	OR 38x2.5
14-S	OR 10x2
16-S	OR 12x2
20-S	OR 16.3x2.4
25-S	OR 20.3x2.4
30-S	OR 25.3x2.4
38-S	OR 33.3x2.4



**O-ring for 37° Flare AB- Fitting**

Part Number
OR 4.4x0.8
OR 6x0.8
OR 7.5x0.8
OR 9.5x0.8
OR 12.5x0.8
OR 15x1
OR 18x1
OR 23x1
OR 30x1
OR 36.5x1
OR 11x1
OR 12.5x1
OR 16x1
OR 20x1
OR 25x1
OR 31.47x1.78



**Seal for BSPP Gauge Connectors**

Thread Size	Part Number
1/8" BSP	DKI R1/8
1/4" BSP	DKI R1/4
3/8" BSP	DKI R3/8
1/2" BSP	DKI R1/2
3/4" BSP	DKI R3/4

O-rings for DKO type swivels are used on all female swivel tube fittings, including AB-, EGE-, EL-, ESNO-, ET-,EW-, GZ-, RED-and SKO. The standard O-ring material is BUNA with Viton and EPDM also available.

O-rings for the AB- type fitting are for the second O-ring which make the seal at the 37° flare connection. The standard O-ring material is BUNA with Viton and EPDM also available. The seals for the gauge connections fit inside the female thread and make the seal between the bottom of the machined hole and the gauge. The material is steel.