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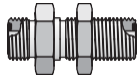
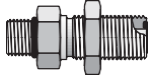
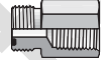
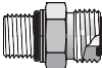
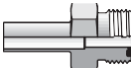
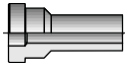
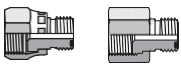
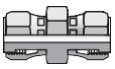
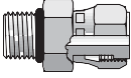
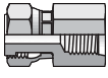
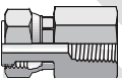
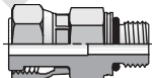
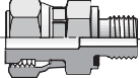
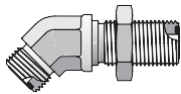
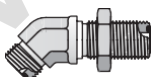
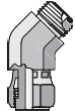
MAHADEV STEEL INDIA

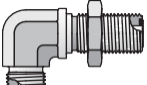
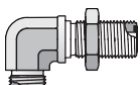
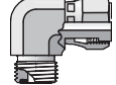
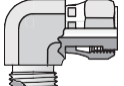
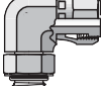
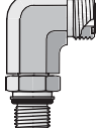
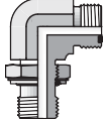
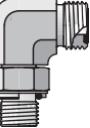
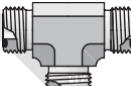
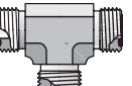
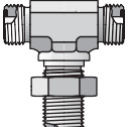
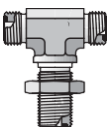
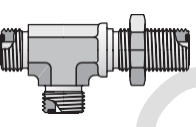
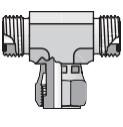
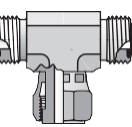
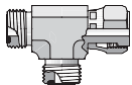
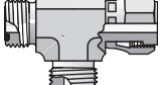
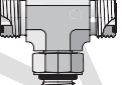
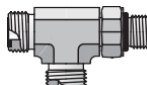
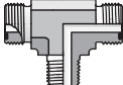
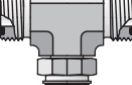
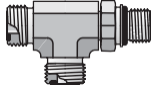
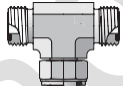
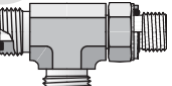
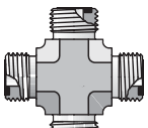
Tube Fittings | Ferrule Fittings | Instrument Fittings



Connect us :



FastSeal	TLFA FastSeal  A8	Nuts, Sleeves, Locknuts	BL Tube Nut  A8	BML Tube Nut - mm Hex  A8	TPLS (Metric) Parflange Sleeve  A9
	TPL (Inch) Parflange Sleeve  A9		SBR (Inch and Metric) Braze Ring  A11	WLNL Bulkhead Locknut  A11	WLNML Blkhd Locknut - mm Hex  A11
Straights	HLO Union  A12	HMLO Union - mm Hex  A12	WLO Bulkhead Union  A12	WMLO Bulkhead Union - mm Hex  A13	WF5OLO ORFS Blkhd / SAE-ORB  A13
	F5OLO ORFS / SAE-ORB  A14	FF5OLO ORFS - Long / SAE-ORB  A14	FLO ORFS / NPTF  A14	GLO ORFS / NPTF  A15	F87OMLO ORFS / ISO 6149  A15
F42EDMLO ORFS / BSPP-ED  A15	LOHB3 ORFS / Braze Socket  A16	MMLOHB3 ORFS / Braze - mm Hex  A16	LOHT3 ORFS / Tube Weld  A17	TLW1 Butt Weld / Sleeve  A17	Straight Swivels
TRLON Tube End Reducer  A17	LOHL6 Extender and Expander  A18	HL6 ORFS Swivel Union  A18	F65OL ORFS Swivel / SAE-ORB  A18	G65L ORFS Swivel / SAE-ORB  A18	
G6L ORFS Swivel / NPTF  A19	F687OML ORFS Swivel / ISO 6149  A19	F682EDML ORFS Swivel / Metric-ED  A19	F642EDML ORFS Swivel / BSPP-ED  A20	45° Elbows	WNLO Bulkhead Union  A20
WNMLO Bulkhead Union - mm Hex  A21	V6LO ORFS Swivel Elbow  A21	V5OLO ORFS / SAE-ORB  A21	V87OMLO ORFS / ISO 6149  A21		V40MLO ORFS / BSPP-ORR  A22

90° Elbows	ELO Union Elbow  A22	EMLO Union Elbow - mm Hex  A22	WELO Bulkhead Union  A23	WEMLO Bulkhead Union - mm Hex  A23	C6LO ORFS Swivel Elbow  A24
	C6MLO Swivel Elbow - mm Hex  A24	AOEL6 ORFS Swivel / SAE-ORB  A24	C5OLO ORFS / SAE-ORB  A24	CC5OLO ORFS / SAE-ORB - Long  A25	CLO ORFS / NPTF  A25
CC87OMLO ORFS / ISO 6149 - Long  A26	C8OMLO ORFS / Metric-ORR  A26	C4OMLO ORFS / BSPP-ORR  A27	Tees	JLO Union Tee  A27	JMLO Union Tee - mm Hex  A28
WJLO Bulkhead Branch  A28	WJMLO Blkhd Branch - mm Hex  A28	WJJLO Bulkhead Run  A29		S6LO ORFS Swivel Branch  A30	S6MLO Swivel Branch - mm Hex  A30
R6LO ORFS Swivel Run  A30	R6MLO Swivel Run - mm Hex  A30	S5OLO SAE-ORB Branch Tee  A31	R5OLO SAE-ORB Run Tee  A31	SLO NPTF Branch Tee  A32	S87OMLO ISO 6149 Branch Tee  A32
R87OMLO ISO 6149 Run Tee  A33	S4OMLO BSPP-ORR Branch Tee  A33	R4OMLO BSPP-ORR Run Tee  A34	Crosses	KLO Union Cross  A34	Plugs and Caps
PNLO ORFS Plug  A35	PNMLO ORFS Plug - mm Hex  A35	FNL ORFS Cap  A35		FNML ORFS Cap - mm Hex  A35	

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Conversion Adapters (Shown in Section J)

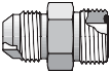
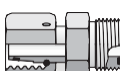
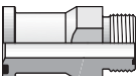
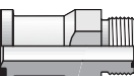
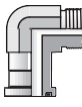
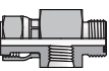
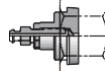
Conversion Adapters	XHLO 37° Flare / ORFS	XHL6 37° Flare / ORFS Swivel	LOHX6 ORFS / 37° Swivel	BUHLO ORFS / Flareless (inch)	LOHU86 Metric Swivel (EO)/ORFS
	 J3	 J3	 J3	 J4	 J4
LOEX6 ORFS / 37° Swivel					
 J3					

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Flange Adapters (Shown in Section K)

SAE Flange Adapters	LOHQ1 Code 61 / ORFS	LOHQ2 Code 62 / ORFS	LOVQ1 Code 61 / ORFS	LOVQ2 Code 62 / ORFS	LOEQ1 Code 61 / ORFS
	 K12	 K12	 K32	 K32	 K33
LOEQ2 Code 62 / ORFS					
 K33					

Diagnostic, Bleed Adapters & Screen Fittings (Shown in Section L)

Diagnostic, Bleed Adapters & Screen Fittings	LOHL6 Orifice Orifice Swivel with Orifice / ORFS	LOHL6G5TP Orifice Swivel / ORFS / SAE-ORB	PNLOBA Bleed Screw / ORFS	FNLBA Bleed Screw / SAE-ORB	Screen Fittings
	 L9	 L5	 L10	 L10	 L11

O-Rings and Seals (Shown in Section M)

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

Fitting that consists of a nut, a body, an O-ring and a sleeve. As shown in Fig. A1, the tube is flanged to 90° (or the tube may be brazed instead to a braze-type sleeve). When the fitting is assembled, it compresses an O-ring in the precision machined groove of the fitting body to form a leak tight seal.

Mahadev Steel India fittings are suitable for a wide range of tube wall thicknesses and are readily adaptable to inch or metric tubing and hose. (Please refer to Table S14 located in the General Technical section for min./max. tube wall thickness). Mahadev Steel India's leak-free design and rugged construction make it suitable for a variety of applications where higher pressures, vibration and impulse are prevalent.

How Mahadev Steel India Fittings Work

The Mahadev Steel India fitting body face contains a high durometer Trap-Seal to maximize retention in a precision machined groove, known as a Captive O-ring Groove (CORG) referenced in Fig. A2. As the nut is tightened onto the fitting body, the Trap-Seal is compressed between the body and flat face of the tube flange or braze sleeve to form a tight, positive seal (see Fig. A1).

As the two faces come in contact, further tightening of the nut produces a sharp rise in assembly torque. A solid pull of the wrench at this point, to recommended assembly torque, completes the assembly. The sharp torque rise gives a "solid feel" at assembly, minimizing the possibility of over tightening.

Because the sealing surfaces are flat and perpendicular to the assembly pull, they remain virtually free of distortion during assembly, giving Mahadev Steel India fittings practically unlimited remake-ability. The seal should be inspected at each disassembly and replaced when necessary. **See the O-rings and Seals section for information on replacement ORFS O-rings.**

Because the tubing is a sealing surface, it must be smooth, free of any nicks, scratches, spiral tool marks, splits or weld beads. Seamless tube is recommended for Mahadev Steel India fittings for ease in flanging and bending. Certain types of harder tubes that are not fully annealed may not be suitable for flanging due to the potential for immediate or long-term cracking of the tube flange. For specific tube type and wall thickness recommendations, please see Table S14 and S15 in the General Technical Section.

Reference locations

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

Recommended Tube Wall Thickness: Please refer to Table S14 located in the General Technical section.

Assembly and Installation: Please refer to Mahadev Steel India Assembly located within the Assembly/Installation section of this catalog.

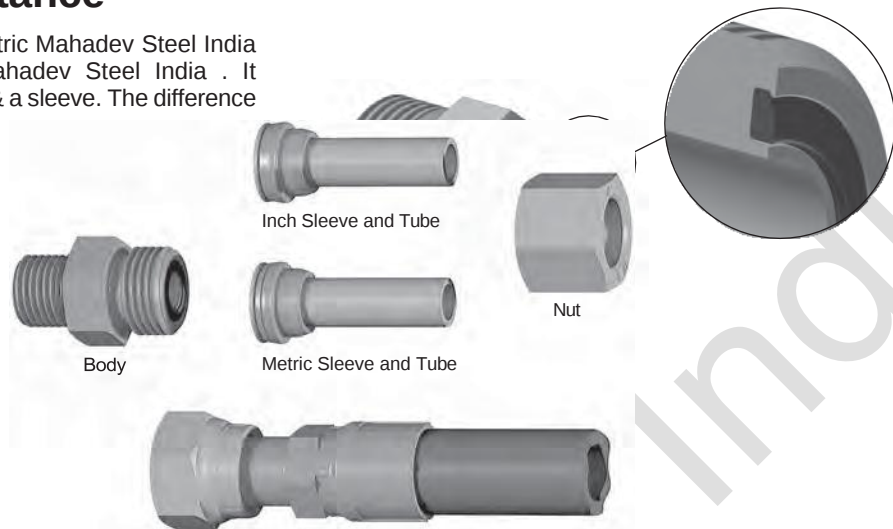
Standard material specifications: Please refer to Table U1 located in the Appendix section.

Seal Material Selection: Please refer to Table S12 in the General Technical section of this catalog.

International Acceptance

The tube/hose end connection for metric Mahadev Steel India is the same as standard (inch) Mahadev Steel India. It consists of a nut, a body, an O-ring, & a sleeve. The difference

features a similar connection with metric threads per ISO 6149-



is at the port end of the fitting. Instead of the SAE straight thread connection for example, it

2 or ISO 9974-1. Additionally, the fitting body, tube nut and locknut are manufactured with metric hexes or wrench flats for shaped fittings. The metric Mahadev Steel India fittings meet or exceed all requirements of ISO 8434-3.

To identify the metric sleeves used for metric tubing, there is a groove machined into the TPLS & TLS sleeves.

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The Mahadev Steel India Advantage

Trap Seal™: The patented trapezoidal seal of the Mahadev Steel India tube end allows for maximum O-ring retention in the CORG groove. This advantage over the competition increases the productivity of assembly as well as offers the maximum assurance for a leak free connection. Ultimately, operational and maintenance costs can be avoided.

Resistance to over-torque: The minimum requirement for a Mahadev Steel India connection is to withstand 200% torque above the rated value. This reduces the frequency of metal distortion and the potential of leaks. Mahadev Steel India reduces production assembly and maintenance costs by its resistance to over-torque.

Zero clearance: The flat face of Mahadev Steel India allow maintenance for easy and fast drop-in installation. This reduces rework costs from a design and assembly perspective.

High pressure rating: Mahadev Steel India offers a high pressure rating which can be used in a wide range of applications. This provides the opportunity to standardize across multiple product lines, saving procurement and inventory costs.

Superior Plating: Mahadev Steel India's Mahadev Steel India steel fittings come standard with Tough Shield Plus zinc-nickel plating, giving them unmatched protection against red rust. In ASTM B117 / ISO 9227 neutral salt spray testing, fittings and adapters with ToughShield Plus plating remained rust free for up to 3,000 hours. This performance far exceeds the SAE industry requirement, even on non-plating deformed parts like crimp nuts and back-up washers where SAE allows

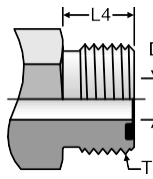
for large exceptions. Learn more and see the **Mahadev Steel India**

VISUAL
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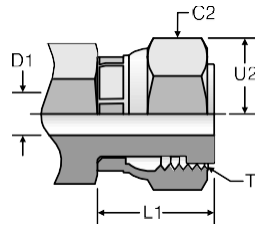
Robust Port Stud: The adjustable port stud is manufactured with a longer locknut designed to cover the uppermost threads. Since the backup washer is never exposed to the upper threads, it cannot be damaged during assembly. During assembly, exposed upper threads, which are common with fittings from other fitting manufacturers, can lead to a deformed backup washer that can pinch the o-ring and create an o-ring extrusion gap that has the potential to leak. The longer locknut also provides a greater grip area for the wrench for easier assembly.

Unlimited reusability: When a Mahadev Steel India connection is completely assembled and disassembled, very little metal is distorting in the connection. Therefore, Mahadev Steel India allows for unlimited reusability in the field, reducing the component replacement and maintenance costs of the connection.

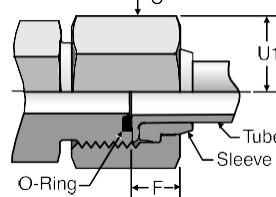
Mahadev Steel India O-Ring Face Seal Tube Ends



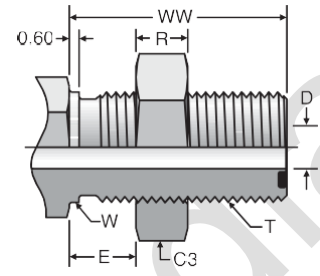
Mahadev Steel India Male Tube End



Mahadev Steel India Female Swivel



Mahadev Steel India Tube End Assembly



Mahadev Steel India Bulkhead

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SAE Dash Size	Tube O.D.		Thread	Tube Nut Hex		Swivel Nut Hex		Bulkhead Locknut Hex		Nominal Drill Tube End	Nominal Drill Swivel End	Max Bulkhead Thickness	Tube Nut Assembled Allowance	Swivel Turn Back	Male Turn Back	Bulkhead			Across Corners	
																Locknut Thickness	Pilot Dia	Length	Tube Nut Hex	Swivel Nut Hex
	(in.)	(mm)	UN/UNF	(in.)	(mm)	(in.)	(mm)	(in.)	(mm)	(in.)	(in.)	(in.)	(in.)	(in.)	(in.)	(in.)	(in.)	(in.)	(in.)	(in.)
4	1/4	6	9/16-18	11/16	17	11/16	17	13/16	22	0.177	0.157	0.55	0.270	0.650	0.394	0.27	0.563	1.24	0.80	0.80
6	3/8	8 10	11/16-16	13/16	22	13/16	22	1	27	0.256	0.256	0.55	0.340	0.715	0.443	0.32	0.688	1.34	0.94	0.94
8	1/2	12	13/16-16	15/16	24	15/16	24	1 1/8	30	0.374	0.354	0.55	0.400	0.865	0.512	0.35	0.813	1.44	1.08	1.08
10	5/8	14 15 16	1-14	1 1/8	30	1 1/8	30	1 5/16	36	0.492	0.453	0.55	0.455	0.980	0.610	0.41	1.000	1.60	1.30	1.30
12	3/4	18 20	1 3/16-12	1 3/8	36	1 3/8	36	1 1/2	41	0.610	0.551	0.55	0.510	1.110	0.677	0.41	1.188	1.64	1.58	1.58
14	7/8	—	1 5/16-12	1 1/2	—	1 1/2	—	1 5/8	—	0.709	0.709	0.55	0.512	1.145	0.697	0.41	1.313	1.66	1.74	1.74
16	1	22 25	1 7/16-12	1 5/8	41	1 5/8	41	1 3/4	46	0.807	0.787	0.55	0.596	1.190	0.697	0.41	1.438	1.66	1.88	1.88
20	1 1/4	28 30 32	1 11/16-12	1 7/8	50	1 7/8	50	2	50	1.024	1.024	0.55	0.566	1.251	0.697	0.41	1.688	1.66	2.16	2.12
24	1 1/2	35 38	2-12	2 1/4	60	2 1/4	60	2 3/8	60	1.260	1.260	0.55	0.545	1.330	0.697	0.41	2.000	1.66	2.60	2.60
32	2	42 50	2 1/2-12	2 7/8	—	2 7/8	—	2 3/4	—	1.772	1.732	0.50	0.606	1.690	0.874	0.55	2.500	1.83	3.32	3.32

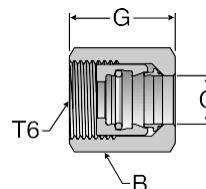
- 1) D and D1 nominal may vary from the values shown in the chart by 0.004 to 0.008. Contact the Tube Fittings Division if there are any questions.
- 2) Recommended clearance hole = W + 0.015.
- 3) See page M4 for ORFS O-rings.
- 4) Note: For port and stud end dimensions reference section F: Pipe Fittings and Port Adapters.

Dimensions and pressures for reference only, subject to change.

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TLFA

FastSeal



TUBE FITTING PART #	TUBE OD (in)	T6 UN/UNF - 2B	B Hex (in)	C (in)	G (in)	Dynamic Pressure (psi)* Tube Wall OD (in)								
						0.028	0.035	0.049	0.058	0.065	0.083	0.095	0.109	0.120
Carbon steel fittings used with low-carbon steel tube walls (in)														
4 TLFA-S	1/4	9/16-18	11/16	0.25	0.95	2,750	3,350	5,150	6,200	7,000	-	-	-	-
6 TLFA-S	3/8	11/16-16	13/16	0.38	1.04	-	2,250	3,300	3,950	4,500	5,900	6,800	7,850	-
8 TLFA-S	1/2	13/16-16	15/16	0.50	1.10	-	-	2,400	2,900	3,250	4,300	4,950	7,750	-
12 TLFA-S	3/4	1 3/16-12	1 3/8	0.75	1.29	-	-	-	-	2,100	2,750	3,150	3,700	4,100
Stainless steel fittings used with 304/316 stainless steel tube walls (in)														
4 TLFA-SS	1/4	9/16-18	11/16	0.25	0.95	4,650	5,900	8,600	10,350	11,700	-	-	-	-
6 TLFA-SS	3/8	11/16-16	13/16	0.38	1.04	-	3,800	5,500	6,500	7,500	9,850	11,400	11,400	-
8 TLFA-SS	1/2	13/16-16	15/16	0.50	1.10	-	-	4,000	4,800	5,450	7,150	7,400	7,400	7,400

NOTE: Tube walls shown are recommended for FastSeal. Some pressure ratings shown have been de-rated, verify application pressure requirement with listed tube wall pressure in the table.

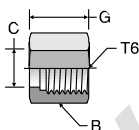
Please see the Assembly and Installation section for FastSeal Assembly instructions and refer to the equipment section for FastSeal assembly tools.

Mahadev Steel India 's patent-pending FastSeal creates quick leak-free permanent ORFS tube end connections with just a wrench. Get more details on this new technology now.

BL

Tube Nut
ORFS

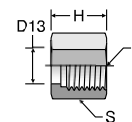
SAE 520110



BML

Tube Nut – mm Hex
ORFS

ISO 8434-3 NA
SAE 52M0110A



TUBE FITTING PART #	END SIZE (in.)	T6 UN/UNF-2B	B HEX (in.)	C (in.)	G (in.)	Material	
						-S	-SS
4 BL	1/4	9/16 - 18	11/16	0.410	0.59	•	•
5 BL	5/16	5/8 - 18	3/4	0.470	0.63	•	•
6 BL	3/8	11/16 - 16	13/16	0.530	0.67	•	•
8 BL	1/2	13/16 - 16	15/16	0.650	0.79	•	•
10 BL	5/8	1 - 14	1 1/8	0.830	0.94	•	•
12 BL	3/4	1 3/16 - 12	1 3/8	0.950	1.04	•	•
12-14 BL	7/8	1 3/16 - 12	1 3/8	0.990	1.20	•	•
14 BL	7/8	1 5/16 - 12	1 1/2	1.075	1.04	•	•
16 BL	1	1 7/16 - 12	1 5/8	1.150	1.08	•	•
20 BL	1 1/4	1 11/16 - 12	1 7/8	1.420	1.08	•	•
24 BL	1 1/2	2 - 12	2 1/4	1.730	1.08	•	•
32 BL	2	2 1/2 - 12	2 7/8	2.220	1.30	•	•

TUBE FITTING PART #	END SIZE		D THREAD UN/UNF-2B	D13 DRILL (mm)	H (mm)	S HEX (mm)	Material S
	(mm)	(in.)					
4BML	6	1/4	9/16 - 18	10.50	15.0	17	•
6BML	8,10	3/8	11/16 - 16	13.55	17.5	22	•
8BML	12	1/2	13/16 - 16	16.60	20.0	24	•
10BML	14,15,16	5/8	1 - 14	21.10	24.0	30	•
12BML	18,20	3/4	1 3/16 - 12	24.15	26.5	36	•
16BML	22,25	1	1 7/16 - 12	29.10	27.5	41	•
20BML	28,30,32	1 1/4	1 11/16 - 12	36.00	27.5	50	•
24BML	35,38	1 1/2	2 - 12	44.00	27.5	60	•

⚠ "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections. Our products are manufactured using robust materials and adhere strictly to all required material specifications and quality control protocols.

** These tube nuts should not be exposed to annealing temperatures, such as furnace brazing. Contact the Tube Fittings Division for information on special nuts.

• Stainless steel tube nuts are prelubricated for ease of assembly.

⚠ "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections. Our products are manufactured using robust materials and adhere strictly to all required material specifications and quality.

Dimensions and pressures for reference only, subject to change.

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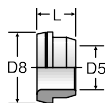
TUBE FAB
EQUIP

GEN TECH

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TPL (Metric)

Parflange Sleeve for
Metric Tubing
ORFS Mechanically
Attachable Sleeve



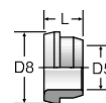
TUBE FITTING PART #		USED WITH FITTING SIZE	D5 END SIZE (mm)	D8 DIA (mm)	L (mm)	Material	
STEEL	STAINLESS STEEL					S	SS
TPLS6	TPLSS6	-4	6	12.75	7.5	•	•
TPLS8	TPLSS8	-6	8	15.75	8.5	•	•
TPLS10	TPLSS10	-6	10	15.75	8.5	•	•
TPLS12	TPLSS12	-8	12	18.90	10.5	•	•
TPLS14	TPLSS14	-10	14	23.50	10.5	•	•
TPLS15	TPLSS15	-10	15	23.50	10.5	•	•
TPLS16	TPLSS16	-10	16	23.50	10.5	•	•
TPLS18	TPLSS18	-12	18	27.80	12.0	•	•
TPLS20	TPLSS20	-12	20	27.80	12.0	•	•
TPLS25	TPLSS25	-16	25	34.00	13.5	•	•
TPLS30	TPLSS30	-20	30	40.50	13.0	•	•
TPLS32	TPLSS32	-20	32	40.50	13.0	•	•
TPLS35	TPLSS35	-24	35	48.50	12.5	•	•
TPLS38	TPLSS38	-24	38	48.50	12.5	•	•

- Must be mechanically attached using Parflange system.
- Additional -S not required, TPLS6 is complete part number.

! "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

TPL (Inch)

Parflange Sleeve
for Inch Tubing
ORFS Mechanically
Attachable Sleeve



TUBE FITTING PART #	D5 END SIZE (in.)	D8 DIA (in.)	L (in.)	Material
4 TPL	1/4	0.50	0.30	•
6 TPL	3/8	0.62	0.34	•
8 TPL	1/2	0.74	0.42	•
10 TPL	5/8	0.92	0.42	•
12 TPL	3/4	1.09	0.47	•
16 TPL	1	1.34	0.53	•
20 TPL	1 1/4	1.59	0.51	•
24 TPL	1 1/2	1.91	0.49	•

- Must be mechanically attached using Parflange system.

! "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

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TUBE FAB EQUIP

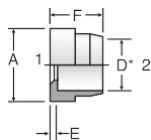
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TL (Inch)

Braze Sleeve for Inch Tubing
ORFS Silver Braze Sleeve Reducer

SAE 520115



TUBE FITTING PART #	END SIZE		A (in.)	D* (in.)	E (in.)	F (in.)	Material	
	1 (in.)	2 (in.)					-S	-SS
4 TL	1/4		0.50	0.26	0.04	0.37	•	•
6 TL	3/8		0.62	0.38	0.04	0.37	•	•
6-4 TL	3/8	1/4	0.62	0.26	0.08	0.41	•	•
8 TL	1/2		0.75	0.51	0.04	0.37	•	•
8-4 TL	1/2	1/4	0.75	0.26	0.14	0.47	•	•
8-6 TL	1/2	3/8	0.75	0.38	0.14	0.47	•	•
10 TL	5/8		0.92	0.63	0.06	0.41	•	•
10-4 TL	5/8	1/4	0.92	0.26	0.20	0.53	•	•
10-6 TL	5/8	3/8	0.92	0.38	0.20	0.53	•	•
10-8 TL	5/8	1/2	0.92	0.51	0.20	0.53	•	•
12 TL	3/4		1.10	0.76	0.06	0.55	•	•
12-4 TL	3/4	1/4	1.10	0.26	0.24	0.57	•	•
12-6 TL	3/4	3/8	1.10	0.38	0.24	0.57	•	•
12-8 TL	3/4	1/2	1.10	0.51	0.24	0.57	•	•
12-10 TL	3/4	5/8	1.10	0.63	0.22	0.57	•	•
12-14 TL**	3/4	7/8	1.10	0.88	0.06	0.65	•	•
14 TL***	7/8		1.22	0.88	0.06	0.55	•	•
16 TL	1		1.35	1.01	0.06	0.61	•	•
16-8 TL	1	1/2	1.35	0.51	0.28	0.61	•	•
16-10 TL	1	5/8	1.35	0.63	0.26	0.61	•	•
16-12 TL	1	3/4	1.35	0.76	0.18	0.67	•	•
16-14 TL	1	7/8	1.35	0.88	0.18	0.67	•	•
20 TL	1 1/4		1.60	1.26	0.06	0.61	•	•
20-12 TL	1 1/4	3/4	1.60	0.76	0.28	0.77	•	•
20-16 TL	1 1/4	1	1.60	1.01	0.28	0.83	•	•
24 TL	1 1/2		1.91	1.51	0.06	0.61	•	•
24-16 TL	1 1/2	1	1.91	1.01	0.28	0.83	•	•
24-20 TL	1 1/2	1 1/4	1.91	1.26	0.28	0.83	•	•
32 TL	2		2.41	2.01	0.06	0.65	•	•

Unplated part, oil dipped for corrosion protection.

* D is for silver brazing.

** 12-14 TL must be assembled with 12-14 BL.

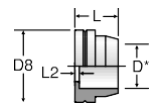
• Uses SBR silver braze rings

! "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

TLS (Metric)

Braze Sleeve for Metric Tubing
ORFS Silver Braze Sleeve

ISO 8434-3 BRSL
SAE 5201M15



TUBE FITTING PART #	USED WITH FITTING SIZE	D* END SIZE (mm)	D8 DIA (mm)	L (mm)	L2 (mm)	Material	
						S	SS
TLS6	-4	6	12.8	9.5	1.0	•	•
TLS8**	-6	8	15.8	9.5	1.0	•	•
TLS10	-6	10	15.8	9.5	1.0	•	•
TLS12	-8	12	18.9	9.5	1.0	•	•
TLS16	-10	16	23.5	10.5	1.5	•	•
TLS20	-12	20	27.9	14.0	1.5	•	•
TLS25	-16	25	34.2	15.5	1.5	•	•
TLS30	-20	30	40.6	15.5	1.5	•	•
TLS38	-24	38	48.5	15.5	1.5	•	•

Unplated part, oil dipped for corrosion protection.

* D is for silver brazing.

• Uses SBR (metric) silver braze rings

• Stainless steel part number example: TLSS10

**Different from SAE

! "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

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TUBE FAB
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SBR (Inch)

Silver Braze Ring for Inch Tubing

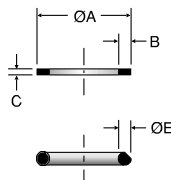
TUBE FITTING PART #	END SIZE (in.)	A DIA (in.)	B (in.)	C (in.)	E (in.)
4 SBR	1/4	0.260	—	—	0.05
6 SBR	3/8	0.390	0.07	0.03	—
8 SBR	1/2	0.515	0.07	0.03	—
10 SBR	5/8	0.640	0.07	0.03	—
12 SBR	3/4	0.765	0.08	0.04	—
14 SBR	7/8	0.890	—	—	0.06
16 SBR	1	1.015	0.08	0.04	—
20 SBR	1 1/4	1.265	0.08	0.04	—
24 SBR	1 1/2	1.515	0.08	0.04	—
32 SBR	2	2.015	—	—	0.09

SBR recommended for steel or copper tubing. -S not required.

SBR-SS recommended for stainless tubing, but can be used on steel tubing.

Contact the Tube Fittings Division for braze rings used in marine or special applications.

Focus on: Quality, precision engineering, and adherence to relevant national/international industry standards (like ISO or ASTM).



SBR (Metric)

Silver Braze Ring for Metric Tubing

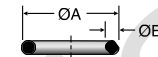
TUBE FITTING PART #	END SIZE (mm)	A DIA (mm)	E (mm)
SBR 6mm	6	6.4	1.2
SBR 8mm	8	8.4	1.2
SBR 10mm	10	10.4	1.2
SBR 12mm	12	12.4	1.2
SBR 16mm	16	16.4	1.2
SBR 20mm	20	20.4	1.6
SBR 25mm	25	25.4	1.6
SBR 30mm	30	30.4	1.6
SBR 38mm	38	38.4	1.6

SBR recommended for steel or copper tubing.

SBR-SS recommended for stainless tubing, but can be used on steel tubing.

Contact the Tube Fittings Division for braze rings used in marine or special applications.

Focus on: Quality, precision engineering, and adherence to relevant national/international industry standards (like ISO or ASTM).



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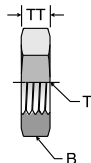
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WLNL

Bulkhead Locknut

SAE 520118



TUBE FITTING PART #	END SIZE (in.)	T TUBE END UN/UNF-2A	B HEX (in.)	TT (in.)	Material
4 WLNL	1/4	9/16 - 18	13/16	0.27	•
6 WLNL	3/8	11/16 - 16	1	0.31	•
8 WLNL	1/2	13/16 - 16	1 1/8	0.35	•
10 WLNL	5/8	1 - 14	1 5/16	0.41	•
12 WLNL	3/4	1 3/16 - 12	1 1/2	0.41	•
14 WLNL*	7/8	1 5/16 - 12	1 5/8	0.41	•
16 WLNL	1	1 7/16 - 12	1 3/4	0.41	•
20 WLNL	1 1/4	1 11/16 - 12	2	0.41	•
24 WLNL	1 1/2	2 - 12	2 3/8	0.41	•

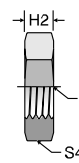
* Size 14 is not included in SAE J1453.

"Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

WLNML

Bulkhead Locknut – mm Hex

ISO 8434-3 BHLN
SAE 52M0118



TUBE FITTING PART #	END SIZE		D TUBE END UN/UNF-2B	H2 (mm)	S4 HEX (mm)	Material
4WLNML	6	1/4	9/16 - 18	7.0	22	•
6WLNML	8,10	3/8	11/16 - 16	8.0	27	•
8WLNML	12	1/2	13/16 - 16	9.0	30	•
10WLNML	14,15,16	5/8	1 - 14	10.5	36	•
12WLNML	18,20	3/4	1 3/16 - 12	10.5	41	•
16WLNML	22,25	1	1 7/16 - 12	10.5	46	•
20WLNML	28,30,32	1 1/4	1 11/16 - 12	10.5	50	•
24WLNML	35,38	1 1/2	2 - 12	10.5	60	•

"Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

ASSEMBLY

TUBE FAB EQUIP

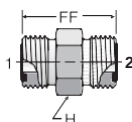
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HLO

Union
ORFS / ORFS

SAE 520101



TUBE FITTING PART #	END SIZE		FF (in.)	H HEX (in.)	Dynamic Pressure (x 1,000 PSI)	
	1 (in.)	2 (in.)			-S	-SS
4 HLO	1/4	1/4	1.08	5/8	9.2	9.2
6 HLO	3/8	3/8	1.22	3/4	9.2	9.2
6-4 HLO	3/8	1/4	1.18	3/4	9.2	9.2
8 HLO	1/2	1/2	1.40	7/8	9.2	9.2
8-6 HLO	1/2	3/8	1.32	7/8	9.2	9.2
10 HLO	5/8	5/8	1.67	1 1/16	6.0	6.0
10-8 HLO	5/8	1/2	1.57	1 1/16	6.0	6.0
12 HLO	3/4	3/4	1.85	1 1/4	6.0	6.0
12-8 HLO	3/4	1/2	1.69	1 1/4	6.0	6.0
12-10 HLO	3/4	5/8	1.79	1 1/4	6.0	6.0
16 HLO	1	1	1.95	1 1/2	6.0	6.0
16-12 HLO	1	3/4	1.93	1 1/2	6.0	6.0
20 HLO	1 1/4	1 1/4	2.03	1 3/4	6.0	6.0
20-16 HLO	1 1/4	1	2.03	1 3/4	6.0	6.0
24 HLO	1 1/2	1 1/2	2.09	2 1/8	5.0	5.0
32 HLO*	2	2	2.48	2 3/4	3.0	3.0

* Hex different from SAE

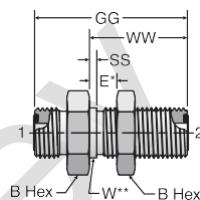
! "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

WLO

Bulkhead Union
ORFS / ORFS

SAE 520601

WLO-WLNL Body with Locknut
(See page A11 for WLNL)



TUBE FITTING PART #	END SIZE (in.)	B HEX (in.)	E MAX (in.)	GG (in.)	SS	W DIA (in.)	WW (in.)	Dynamic Pressure (x 1,000 PSI)	
								-S	-SS
4 WLO	1/4	13/16	0.55	1.90	0.06	0.56	1.24	9.2	9.2
6 WLO	3/8	1	0.55	2.09	0.06	0.69	1.34	9.2	9.2
8 WLO	1/2	1 1/8	0.55	2.30	0.06	0.81	1.44	9.2	9.2
10 WLO	5/8	1 5/16	0.55	2.62	0.06	1.00	1.59	6.0	6.0
12 WLO	3/4	1 1/2	0.55	2.72	0.06	1.19	1.63	6.0	6.0
16 WLO	1	1 3/4	0.55	2.76	0.06	1.44	1.65	6.0	6.0
20 WLO	1 1/4	2	0.55	2.76	0.06	1.69	1.65	6.0	6.0
24 WLO	1 1/2	2 3/8	0.55	2.76	0.06	2.00	1.65	5.0	5.0

** W – Bulkhead pilot diameter. Recommended clearance hole is
W + 0.015".

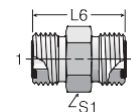
! "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

HMLO

Union – mm Hex
ORFS / ORFS

ISO 8434-3 S

SAE 52M0101



TUBE FITTING PART #	END SIZE 1 & 2		L6 (mm)	S1 HEX (mm)	Dynamic Pressure (x 1,000 PSI)	
	(mm)	(in.)			S	SS
4HMLO	6	1/4	27.5	17	9.2	9.2
6HMLO	8,10	3/8	31.0	19	9.2	9.2
8HMLO	12	1/2	35.5	22	9.2	9.2
10HMLO	14,15,16	5/8	42.5	27	6.0	6.0
12HMLO	18,20	3/4	47.0	32	6.0	6.0
16HMLO	22,25	1	49.5	41	6.0	6.0
20HMLO	28,30,32	1 1/4	51.5	46	6.0	6.0
24HMLO	35,38	1 1/2	53.0	55	5.0	5.0

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TUBE FAB
EQUIP

GEN TECH

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

WMLO

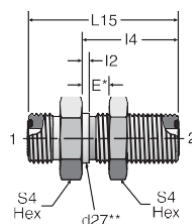
Bulkhead Union – mm Hex
ORFS / ORFS

ISO 8434-3 BHS

SAE 52M0601

WMLO-WLNML - Body with Locknut

(See page A11 for WLNML)



TUBE FITTING PART #	END SIZE		d27** (mm)	E (mm)	I4 (mm)	I2 (mm)	L15 (mm)	S4 HEX (mm)	Dynamic Pressure (x 1,000 PSI)	
	1 & 2								S	SS
	(mm)	(in.)								
4WMLO	6	1/4	14.3	14	31.5	1.5	48.0	22	9.2	9.2
6WMLO	8,10	3/8	17.5	14	34.0	1.5	53.0	27	9.2	9.2
8WMLO	12	1/2	20.6	14	36.5	1.5	58.5	30	9.2	9.2
10WMLO	14,15,16	5/8	25.4	14	40.5	1.5	66.5	36	6.0	6.0
12WMLO	18,20	3/4	30.2	14	41.5	1.5	69.0	41	6.0	6.0
16WMLO	22,25	1	36.5	14	42.0	1.5	70.0	46	6.0	6.0
20WMLO	28,30,32	1 1/4	42.9	14	42.0	1.5	70.0	50	6.0	6.0
24WMLO	35,38	1 1/2	50.8	14	42.0	1.5	70.0	60	5.0	5.0

* E – Maximum bulkhead thickness.

**d27 – Bulkhead pilot diameter. Recommended clearance hole is d27 + 0.4 mm

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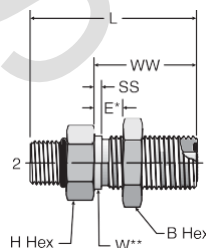
WF5OLO

Straight Thread Bulkhead
Connector

ORFS / SAE-ORB

WF5OLO-WLNL - Body with Locknut

(See page A11 for WLNL)



TUBE FITTING PART #	END SIZE		B HEX (in.)	E MAX (in.)	H HEX (in.)	L (in.)	SS (in.)	W DIA (in.)	WW (in.)	Dynamic Pressure (x 1,000 PSI)	
	1 (in.)	2 UN/UNF-2A								-S	-SS
4 WF5OLO	1/4	7/16 - 20	13/16	0.55	13/16	2.14	0.06	0.56	1.24	9.2	9.2
6 WF5OLO	3/8	9/16 - 18	1	0.55	1	2.31	0.06	0.69	1.34	9.2	9.2
8 WF5OLO	1/2	3/4 - 16	1 1/8	0.55	1 1/8	2.60	0.06	0.81	1.44	9.2	9.2
10 WF5OLO	5/8	7/8 - 14	1 5/16	0.55	1 5/16	2.69	0.06	1.00	1.59	6.0	6.0
12 WF5OLO	3/4	1 1/16 - 12	1 1/2	0.55	1 1/2	2.89	0.06	1.19	1.63	6.0	6.0
16 WF5OLO	1	1 5/16 - 12	1 3/4	0.55	1 3/4	2.95	0.06	1.44	1.65	6.0	6.0

* E – Maximum bulkhead thickness.

** W – Bulkhead pilot diameter. Recommended clearance hole is W + 0.015".

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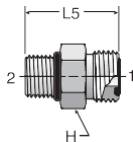
TUBE FAB
EQUIP

GEN TECH

F5OLO

Straight Thread Connector
ORFS / SAE-ORB

SAE 520120



TUBE FITTING PART #	END SIZE		H HEX (in.)	L5 (in.)	Dynamic Pressure (x 1,000 PSI)	
	1 (in.)	2 UN/UNF-2A			-S	-SS
4 F5OLO	1/4	7/16 - 20	5/8	1.13	9.2	9.2
4-5 F5OLO*	1/4	1/2 - 20	5/8	1.16	9.2	9.2
4-6 F5OLO	1/4	9/16 - 18	3/4	1.20	9.2	9.2
4-8 F5OLO	1/4	3/4 - 16	7/8	1.32	9.2	9.2
6 F5OLO	3/8	9/16 - 18	3/4	1.26	9.2	9.2
6-4 F5OLO	3/8	7/16 - 20	3/4	1.34	9.2	9.2
6-5 F5OLO	3/8	1/2 - 20	3/4	1.22	9.2	9.2
6-8 F5OLO	3/8	3/4 - 16	7/8	1.38	9.2	9.2
6-10 F5OLO	3/8	7/8 - 14	1	1.52	6.0	6.0
6-12 F5OLO	3/8	1 1/16 - 12	1 1/4	1.67	6.0	6.0
8 F5OLO	1/2	3/4 - 16	7/8	1.44	9.2	9.2
8-4 F5OLO	1/2	7/16 - 20	7/8	1.44	9.2	9.2
8-6 F5OLO	1/2	9/16 - 18	7/8	1.48	9.2	9.2
8-10 F5OLO	1/2	7/8 - 14	1	1.59	6.0	6.0
8-12 F5OLO	1/2	1 1/16 - 12	1 1/4	1.75	6.0	6.0
8-16 F5OLO	1/2	1 5/16 - 12	1 1/2	1.79	6.0	6.0
10 F5OLO	5/8	7/8 - 14	1 1/16	1.69	6.0	6.0
10-6 F5OLO	5/8	9/16 - 18	1 1/16	1.63	6.0	6.0
10-8 F5OLO	5/8	3/4 - 16	1 1/16	1.77	6.0	6.0
10-12 F5OLO	5/8	1 1/16 - 12	1 1/4	1.85	6.0	6.0
10-16 F5OLO	5/8	1 5/16 - 12	1 1/2	1.89	6.0	6.0
12 F5OLO	3/4	1 1/16 - 12	1 1/4	1.91	6.0	6.0
12-6 F5OLO	3/4	9/16 - 18	1 1/4	1.77	6.0	6.0
12-8 F5OLO	3/4	3/4 - 16	1 1/4	1.91	6.0	6.0
12-10 F5OLO	3/4	7/8 - 14	1 1/4	1.99	6.0	6.0
12-16 F5OLO	3/4	1 5/16 - 12	1 1/2	1.95	6.0	6.0
14 F5OLO*	7/8	1 3/16 - 12	1 3/8	1.91	3.0	3.0
16 F5OLO	1	1 5/16 - 12	1 1/2	1.97	6.0	6.0
16-8 F5OLO	1	3/4 - 16	1 1/2	1.96	6.0	6.0
16-10 F5OLO	1	7/8 - 14	1 1/2	2.05	6.0	6.0
16-12 F5OLO	1	1 1/16 - 12	1 1/2	2.15	6.0	6.0
16-20 F5OLO	1	1 5/8 - 12	1 7/8	2.07	6.0	6.0
16-24 F5OLO	1	1 7/8 - 12	2 1/8	2.13	5.0	5.0
20 F5OLO	1 1/4	1 5/8 - 12	1 7/8	2.07	6.0	6.0
20-16 F5OLO	1 1/4	1 5/16 - 12	1 7/8	2.28	6.0	6.0
20-24 F5OLO	1 1/4	1 7/8 - 12	2 1/8	2.13	5.0	5.0
24 F5OLO	1 1/2	1 7/8 - 12	2 1/8	2.13	5.0	5.0
24-20 F5OLO	1 1/2	1 5/8 - 12	2 1/8	2.34	5.0	5.0
32 F5OLO*	2	2 1/2 - 12	2 3/4	2.32	3.0	3.0

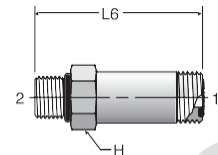
*Different from SAE

! "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

FF5OLO

Long Straight Thread Connector
ORFS-Long / SAE-ORB

SAE 521720 (previously 520122)

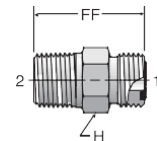


TUBE FITTING PART #	END SIZE		H HEX (in.)	L6 (in.)	Dynamic Pressure (x 1,000 PSI)	
	1 (in.)	2 UN/UNF-2A			-S	-SS
4 FF5OLO	1/4	7/16 - 20	5/8	2.07	9.2	9.2
6 FF5OLO	3/8	9/16 - 18	3/4	2.27	9.2	9.2
6-4 FF5OLO	3/8	7/16 - 20	3/4	2.39	9.2	9.2
8 FF5OLO	1/2	3/4 - 16	7/8	2.67	9.2	9.2
10 FF5OLO	5/8	7/8 - 14	1 1/16	3.14	6.0	6.0
12 FF5OLO	3/4	1 1/16 - 12	1 1/4	3.76	6.0	6.0
16 FF5OLO	1	1 5/16 - 12	1 1/2	4.14	6.0	6.0
20 FF5OLO	1 1/4	1 5/8 - 12	1 7/8	4.76	6.0	6.0
24 FF5OLO	1 1/2	1 7/8 - 12	2 1/8	5.26	5.0	5.0

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FLO

Male Pipe Connector
ORFS / NPTF



TUBE FITTING PART #	END SIZE		FF (in.)	H HEX (in.)	Dynamic Pressure (x 1,000 PSI)	
	1 (in.)	2 NPTF			-S	-SS
4 FLO	1/4	1/8 - 27	1.07	5/8	6.0	6.0
4-4 FLO	1/4	1/4 - 18	1.26	5/8	6.0	6.0
4-6 FLO	1/4	3/8 - 18	1.32	3/4	6.0	6.0
4-8 FLO	1/4	1/2 - 14	1.52	7/8	6.0	6.0
6 FLO	3/8	1/4 - 18	1.25	3/4	6.0	6.0
6-2 FLO	3/8	1/8 - 27	1.16	3/4	6.0	6.0
6-6 FLO	3/8	3/8 - 18	1.34	3/4	6.0	6.0
6-8 FLO	3/8	1/2 - 14	1.55	7/8	6.0	6.0
8 FLO	1/2	3/8 - 18	1.48	7/8	6.0	6.0
8-4 FLO	1/2	1/4 - 18	1.48	7/8	6.0	6.0
8-8 FLO	1/2	1/2 - 14	1.64	7/8	6.0	6.0
8-12 FLO	1/2	3/4 - 14	1.69	1 1/8	6.0	6.0
10 FLO	5/8	1/2 - 14	1.82	1 1/16	6.0	6.0
10-12 FLO	5/8	3/4 - 14	1.82	1 1/8	5.5	5.5
12 FLO	3/4	3/4 - 14	1.93	1 1/4	5.5	5.5
12-8 FLO	3/4	1/2 - 14	1.93	1 1/4	6.0	6.0
12-16 FLO	3/4	1 - 11 1/2	2.13	1 3/8	4.5	5.4
16 FLO	1	1 - 11 1/2	2.19	1 1/2	4.5	5.4
16-12 FLO	1	3/4 - 14	2.00	1 1/2	5.5	5.5
16-20 FLO	1	1 1/4 - 11 1/2	2.30	1 3/4	3.0	3.0
20 FLO	1 1/4	1 1/4 - 11 1/2	2.30	1 7/8	3.0	3.0
20-12 FLO	1 1/4	3/4 - 14	2.02	1 7/8	5.5	5.5
20-16 FLO	1 1/4	1 - 11 1/2	2.27	1 7/8	4.5	5.4
24 FLO	1 1/2	1 1/2 - 11 1/2	2.40	2 1/8	3.0	3.0

! "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

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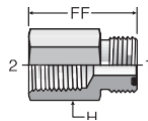
ASSEMBLY

TUBE FAB EQUIP

GEN TECH

GLO

Female NPT
ORFS / Female Pipe

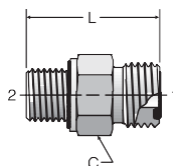


TUBE FITTING PART #	END SIZE		FF (in.)	H HEX (in.)	Dynamic Pressure (x 1,000 PSI)	
	1 (in.)	2 NPTF			-S	-SS
4 GLO	1/4	1/8 - 27	1.03	5/8	6.0	6.0
4-4 GLO	1/4	1/4 - 18	1.25	3/4	6.0	6.0
6 GLO	3/8	1/4 - 18	1.30	3/4	6.0	6.0
6-6 GLO	3/8	3/8 - 18	1.34	7/8	6.0	6.0
8 GLO	1/2	3/8 - 18	1.34	7/8	6.0	6.0

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F42EDMLO

Male Connector – BSPP
(for ISO 1179-1 Port)
ORFS / BSPP-ED

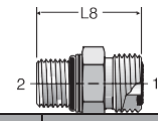


TUBE FITTING PART #	END SIZE			C HEX (mm)	L (mm)	Dynamic Pressure (x 1,000 PSI)	
	1 (mm)	2 (in.)	BSPP			S	SS
4F42EDMLO	6	1/4	1/8 - 28	17	25.7	9.2	9.2
4-4F42EDMLO	6	1/4	1/4 - 19	19	30.5	9.2	9.2
4-6F42EDMLO	6	1/4	3/8 - 19	22	31.6	9.2	9.2
4-8F42EDMLO	6	1/4	1/2 - 14	27	35.4	6.0	6.0
6F42EDMLO	8,10	3/8	1/4 - 19	19	31.9	9.2	9.2
6-2F42EDMLO	8,10	3/8	1/8 - 28	19	31.1	9.2	9.2
6-6F42EDMLO	8,10	3/8	3/8 - 19	22	33.0	9.2	9.2
6-8F42EDMLO	8,10	3/8	1/2 - 14	27	36.5	6.0	6.0
6-12F42EDMLO	8,10	3/8	3/4 - 14	32	40.3	6.0	6.0
8F42EDMLO	12	1/2	3/8 - 19	22	34.6	9.2	9.2
8-4F42EDMLO	12	1/2	1/4 - 19	22	37.5	9.2	9.2
8-8F42EDMLO	12	1/2	1/2 - 14	27	38.4	6.0	6.0
8-12F42EDMLO	12	1/2	3/4 - 14	32	41.9	6.0	6.0
10F42EDMLO	14,15,16	5/8	1/2 - 14	27	41.1	6.0	6.0
10-6F42EDMLO	14,15,16	5/8	3/8 - 19	27	42.4	6.0	6.0
10-12F42EDMLO	14,15,16	5/8	3/4 - 14	32	44.3	6.0	6.0
12F42EDMLO	18,20	3/4	3/4 - 14	32	46.1	6.0	6.0
12-8F42EDMLO	18,20	3/4	1/2 - 14	32	48.5	6.0	6.0
12-16F42EDMLO	18,20	3/4	1 - 11	41	47.5	6.0	6.0
12-20F42EDMLO	18,20	3/4	1 1/4 - 11	50	53.0	6.0	6.0
16F42EDMLO	22,25	1	1 - 11	41	49.8	6.0	6.0
16-12F42EDMLO	22,25	1	3/4 - 14	38	50.3	6.0	6.0
16-20F42EDMLO	22,25	1	1 1/4 - 11	50	53.8	6.0	6.0
16-24F42EDMLO	22,25	1	1 1/2 - 11	55	57.5	5.0	5.0
20F42EDMLO	28,30,32	1 1/4	1 1/4 - 11	50	53.8	6.0	6.0
20-16F42EDMLO	28,30,32	1 1/4	1 - 11	48	55.9	6.0	6.0
20-24F42EDMLO	28,30,32	1 1/4	1 1/2 - 11	55	57.6	5.0	5.0
24F42EDMLO	38	1 1/2	1 1/2 - 11	55	57.6	5.0	5.0

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F87OMLO

Metric Straight Thread Connector
ORFS / ISO 6149

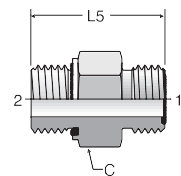


TUBE FITTING PART #	END SIZE			L8 (mm)	S3 HEX (mm)	Dynamic Pressure (x 1,000 PSI)	
	1 (mm)	2 (in.)	ISO 261			S	SS
4M12F87OMLO	6	1/4	M12X1.5	28.5	17	9.2	9.2
4M14F87OMLO	6	1/4	M14X1.5	29.5	19	9.2	9.2
6M12F87OMLO	8,10	3/8	M12X1.5	32.0	22	9.2	9.2
6M14F87OMLO	8,10	3/8	M14X1.5	32.0	22	9.2	9.2
6M16F87OMLO	8,10	3/8	M16X1.5	33.5	22	9.2	9.2
6M18F87OMLO	8,10	3/8	M18X1.5	36.1	24	9.2	9.2
8M14F87OMLO	12	1/2	M14X1.5	35.1	24	9.2	9.2
8M16F87OMLO	12	1/2	M16X1.5	36.6	24	9.2	9.2
8M18F87OMLO	12	1/2	M18X1.5	38.0	24	9.2	9.2
8M22F87OMLO	12	1/2	M22X1.5	39.6	27	6.0	6.0
8M27F87OMLO	12	1/2	M27X2.0	44.2	32	6.0	6.0
10M18F87OMLO	14,15,16	5/8	M18X1.5	41.0	27	6.0	6.0
10M22F87OMLO	14,15,16	5/8	M22X1.5	42.0	27	6.0	6.0
10M27F87OMLO	14,15,16	5/8	M27X2.0	47.0	32	6.0	6.0
12M22F87OMLO	18,20	3/4	M22X1.5	45.0	32	6.0	6.0
12M27F87OMLO	18,20	3/4	M27X2.0	48.5	32	6.0	6.0
12M33F87OMLO	18,20	3/4	M33X2.0	51.5	41	6.0	6.0
16M27F87OMLO	22,26	1	M27X2.0	52.1	41	6.0	6.0
16M33F87OMLO	22,25	1	M33X2.0	52.0	41	6.0	6.0
20M33F87OMLO	28,30,32	1 1/4	M33X2.0	54.1	46	6.0	6.0
20M42F87OMLO	28,30,32	1 1/4	M42X2.0	54.5	50	5.0	5.0
24M48F87OMLO	35,38	1 1/2	M48X2.0	57.0	55	5.0	5.0

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F82EDMLO

Male Connector – Metric
(for ISO 9974-1 Port)
ORFS / Metric-ED



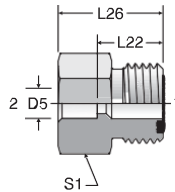
TUBE FITTING PART #	END SIZE			C HEX (mm)	L5 (mm)	Dynamic Pressure (x 1,000 PSI)	
	1 (mm)	2 (in.)	Metric			S	SS
4M12F82EDMLO	6	1/4	M12X1.5	17	29.7	9.2	9.2
4M14F82EDMLO	6	1/4	M14X1.5	19	30.5	9.2	9.2
6M14F82EDMLO	8,10	3/8	M14X1.5	19	31.9	9.2	9.2
6M16F82EDMLO	8,10	3/8	M16X1.5	22	31.9	9.2	9.2
8M16F82EDMLO	12	1/2	M16X1.5	22	32.0	9.2	9.2
8M18F82EDMLO	12	1/2	M18X1.5	24	34.6	9.2	9.2
10M22F82EDMLO	14,15,16	5/8	M22X1.5	27	41.1	6.0	6.0
12M22F82EDMLO	18,20	3/4	M22X1.5	32	42.7	6.0	6.0
12M27F82EDMLO	18,20	3/4	M27X2	32	46.1	6.0	6.0
16M33F82EDMLO	22,25	1	M33X2	41	49.8	6.0	6.0
20M42F82EDMLO	28,30,32	1 1/4	M42X2	50	54.0	5.0	5.0

! "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

MMLOHB3

Braze Connector
ORFS / Braze Socket

ISO 8434-3 BRS
SAE 52M01M04



TUBE FITTING PART #	END SIZE			D5* DIA TUBE SOCKET	L22 (mm)	L26 (mm)	S1 HEX	Dynamic Pressure (x 1,000 PSI)	
	1		2					S	SS
	(mm)	(in.)	(mm)						
4-6MMLOHB3	6	1/4	6	6.15	13.5	22.0	17	9.2	9.2
4-8MMLOHB3	6	1/4	8	8.15	13.5	22.0	17	9.2	9.2
6-10MMLOHB3	8, 10	3/8	10	10.15	14.5	23.0	19	9.2	9.2
8-12MMLOHB3	12	1/2	12	12.15	16.0	24.5	22	9.2	9.2
10-16MMLOHB3	14, 15, 16	5/8	16	16.15	19.0	27.5	27	6.0	6.0
12-20MMLOHB3	18, 20	3/4	20	20.18	21.0	33.5	32	6.0	6.0
16-25MMLOHB3	22, 25	1	25	25.18	24.5	38.5	41	6.0	6.0
20-30MMLOHB3	28, 30, 32	1 1/4	30	30.20	24.5	38.5	46	6.0	6.0
24-38MMLOHB3	35, 38	1 1/2	38	38.20	24.5	38.5	55	5.0	5.0

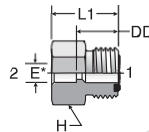
* D5 is for silver brazing. Standard steel parts are not recommended for welding.

! "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

LOHB3

Braze Connector
ORFS / Braze Socket

SAE 520104



TUBE FITTING PART #	END SIZE		DD (in.)	E* DIA (in.)	H HEX (in.)	L1 (in.)	Dynamic Pressure (x 1,000 PSI)	
	1 (in.)	2 (in.)					-S	-SS
4 LOHB3	1/4	1/4	0.53	0.26	5/8	0.86	9.2	9.2
4-6 LOHB3	1/4	3/8	0.53	0.38	5/8	0.86	9.2	9.2
6 LOHB3	3/8	3/8	0.57	0.38	3/4	0.90	9.2	9.2
6-4 LOHB3	3/8	1/4	0.57	0.26	3/4	0.90	9.2	9.2
6-8 LOHB3	3/8	1/2	0.57	0.51	3/4	0.90	9.2	9.2
8 LOHB3	1/2	1/2	0.63	0.51	7/8	0.97	9.2	9.2
8-4 LOHB3**	1/2	1/4	0.64	0.26	7/8	0.97	9.2	9.2
8-6 LOHB3	1/2	3/8	0.63	0.38	7/8	0.97	9.2	9.2
8-10 LOHB3	1/2	5/8	0.63	0.63	7/8	0.97	6.0	6.0
8-12 LOHB3**	1/2	3/4	0.67	0.76	1 1/16	1.16	6.0	6.0
10 LOHB3	5/8	5/8	0.74	0.63	1 1/16	1.07	6.0	6.0
10-6 LOHB3	5/8	3/8	0.74	0.38	1 1/16	1.07	6.0	6.0
10-8 LOHB3	5/8	1/2	0.74	0.51	1 1/16	1.07	6.0	6.0
10-12 LOHB3	5/8	3/4	0.74	0.76	1 1/16	1.23	6.0	6.0
12 LOHB3	3/4	3/4	0.83	0.76	1 1/4	1.32	6.0	6.0
12-8 LOHB3	3/4	1/2	0.83	0.51	1 1/4	1.16	6.0	6.0
12-10 LOHB3	3/4	5/8	0.83	0.63	1 1/4	1.16	6.0	6.0
12-16 LOHB3	3/4	1	0.83	1.01	1 1/4	1.38	6.0	6.0
16 LOHB3	1	1	0.97	1.01	1 1/2	1.52	6.0	6.0
16-8 LOHB3**	1	1/2	0.97	0.51	1 1/2	1.30	6.0	6.0
16-12 LOHB3	1	3/4	0.97	0.76	1 1/2	1.46	6.0	6.0
16-20 LOHB3	1	1 1/4	0.96	1.26	1 3/4	1.52	6.0	6.0
20 LOHB3	1 1/4	1 1/4	0.97	1.26	1 3/4	1.52	6.0	6.0
20-16 LOHB3	1 1/4	1	0.97	1.01	1 3/4	1.52	6.0	6.0
20-24 LOHB3	1 1/4	1 1/2	0.97	1.51	2 1/8	1.52	5.0	5.0
24 LOHB3	1 1/2	1 1/2	0.97	1.51	2 1/8	1.52	5.0	5.0
24-20 LOHB3	1 1/2	1 1/4	0.97	1.26	2 1/8	1.52	5.0	5.0

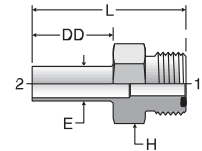
* E is for Silver brazing. Standard steel parts are not recommended for welding.

** Size 14 is not included in SAE J1453.

! "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

LOHT3

Tube Stub Connector
ORFS / Tube Weld



TUBE FITTING PART #	END SIZE	DD (in.)	E DIA (in.)	H HEX (in.)	L (in.)	Dynamic Pressure (x 1,000 PSI)
	1 & 2 (in.)					-SS
4-4X035 LOHT3	1/4	0.88	0.25	5/8	1.58	5.9
6-6X035 LOHT3	3/8	0.88	0.38	3/4	1.67	3.8
8-8X065 LOHT3	1/2	1.00	0.50	7/8	1.89	5.5
12-12X065 LOHT3	3/4	1.16	0.75	1 1/4	2.35	3.5
12-16X065 LOHT3	1	1.13	1.00	1 1/4	2.32	2.6
16-16X065 LOHT3	1	1.13	1.00	1 1/2	2.40	2.6

* Contact Tube Fittings Division for pressure ratings.

! "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

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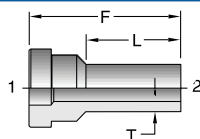
ASSEMBLY

TUBE FAB
EQUIP

GEN TECH

TLW1

Butt Weld
Sleeve



TUBE FITTING PART #	END SIZE		F (in.)	L (in.)	T (in.)	Dynamic Pressure (x 1,000 PSI)
	1 (in.)	2 (in.)				-SS
4-4X035 TLW1	1/4	1/4	1.20	0.75	0.035	5.9
6-4X035 TLW1	3/8	1/4	1.26	0.75	0.035	5.9
6-4X049 TLW1	3/8	1/4	1.26	0.75	0.049	8.6
6-6X035 TLW1	3/8	3/8	1.20	0.75	0.035	3.8
6-6X049 TLW1	3/8	3/8	1.20	0.75	0.049	5.5
6-6X065 TLW1	3/8	3/8	1.20	0.75	0.065	7.5
8-8X049 TLW1	1/2	1/2	1.20	0.75	0.049	4.0
8-8X065 TLW1	1/2	1/2	1.20	0.75	0.065	5.5
12-12X065 TLW1	3/4	3/4	1.39	0.75	0.065	3.5
12-12X083 TLW1	3/4	3/4	1.39	0.75	0.083	4.6
12-12X095 TLW1	3/4	3/4	1.39	0.75	0.095	5.3
12-8X049 TLW1	3/4	1/2	1.52	0.75	0.049	4.0
16-16X083 TLW1	1	1	1.43	0.75	0.083	3.4
16-16X095 TLW1	1	1	1.43	0.75	0.095	3.9

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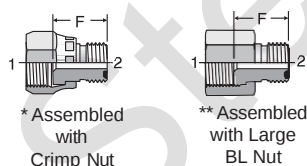
TUBE FAB EQUIP

GEN TECH

TRLON

Tube End Reducer
ORFS Swivel / ORFS Tube End

SAE 520123 (body only)
SAE 520123A (body with large nut)



TUBE FITTING PART #			END SIZE		F (in.)	Dynamic Pressure (x 1,000 PSI)	
TRLON	TRLON	TRLO					
*One Piece Design (With Crimp Nut)	**Two Piece Design (With Large Nut)	***Body Only (For Two-Piece Design Only)	1 (in.)	2 (in.)	F (in.)	-S	-SS
6-4 TRLON	—	—	3/8	1/4	0.77	9.2	9.2
—	8-4 TRLON	8-4 TRLO	1/2	1/4	0.87	9.2	9.2
8-6 TRLON	—	—	1/2	3/8	0.89	9.2	9.2
—	10-4 TRLON	10-4 TRLO	5/8	1/4	0.91	6.0	6.0
—	10-6 TRLON	10-6 TRLO	5/8	3/8	0.94	6.0	6.0
—	10-8 TRLON	10-8 TRLO	5/8	1/2	1.00	6.0	6.0
—	12-4 TRLON	12-4 TRLO	3/4	1/4	0.98	6.0	6.0
—	12-6 TRLON	12-6 TRLO	3/4	3/8	1.02	6.0	6.0
—	12-8 TRLON	12-8 TRLO	3/4	1/2	1.08	6.0	6.0
12-10 TRLON	—	—	3/4	5/8	1.16	6.0	6.0
—	16-8 TRLON	16-8 TRLO	1	1/2	1.14	6.0	6.0
—	16-10 TRLON	16-10 TRLO	1	5/8	1.26	6.0	6.0
16-12 TRLON	—	—	1	3/4	1.30	6.0	6.0
—	20-12 TRLON	20-12 TRLO	1 1/4	3/4	1.32	5.0	5.0
20-16 TRLON	—	—	1 1/4	1	1.34	5.0	5.0
—	24-12 TRLON-S	—	1 1/2	3/4	1.32	4.0	4.0
—	24-16 TRLON	24-16 TRLO	1 1/2	1	1.34	4.0	4.0
—	24-20 TRLON	24-20 TRLO	1 1/2	1 1/4	1.34	4.0	4.0
—	32-20 TRLON	32-20 TRLO	2	1 1/4	1.42	3.0	3.0
—	32-24 TRLON	32-24 TRLO	2	1 1/2	1.42	3.0	3.0

* Assembled with crimp nut.

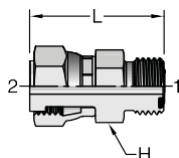
** Assembled with large BL nut.

***To order reducer without large nut (body only) remove the "N" from the part number (i.e., TRLO).

! "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

LOHL6

Tube End Extender / Expander
ORFS / ORFS Swivel

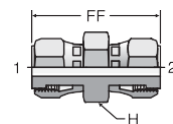


TUBE FITTING PART #	END SIZE		L (in.)	H HEX (in.)	Dynamic Pressure (x 1,000 PSI)	
	1 (in.)	2 (in.)			-S	-SS
4 LOHL6	1/4	1/4	1.33	5/8	9.2	9.2
6 LOHL6	3/8	3/8	1.44	3/4	9.2	9.2
6-4 LOHL6	3/8	1/4	1.37	3/4	9.2	9.2
8 LOHL6	1/2	1/2	1.67	7/8	9.2	9.2
8-6 LOHL6	1/2	3/8	1.62	7/8	9.2	9.2
10-8 LOHL6	5/8	1/2	1.81	1 1/16	6.0	6.0
12-10 LOHL6	3/4	5/8	1.99	1 1/4	6.0	6.0
16-12 LOHL6	1	3/4	2.16	1 1/2	6.0	6.0
20-16 LOHL6	1 1/4	1	2.28	1 3/4	6.0	6.0
24-20 LOHL6	1 1/2	1 1/4	2.35	2 1/8	5.0	5.0

⚠ "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

HL6

Swivel Nut Union
ORFS Swivel / ORFS Swivel



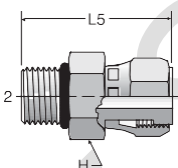
TUBE FITTING PART #	END SIZE		FF (in.)	H HEX (in.)	Dynamic Pressure (x 1,000 PSI)	
	1 (in.)	2 (in.)			-S	-SS
4 HL6	1/4	1/4	1.59	5/8	9.2	9.2
6 HL6	3/8	3/8	1.77	3/4	9.2	9.2
8 HL6	1/2	1/2	2.12	7/8	9.2	9.2
10 HL6	5/8	5/8	2.42	1 1/16	6.0	6.0
12 HL6	3/4	3/4	2.74	1 1/4	6.0	6.0
16 HL6	1	1	2.95	1 7/16	6.0	6.0

⚠ "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

F65OL

Straight Thread Swivel Connector
ORFS Swivel / SAE-ORB

SAE 520181

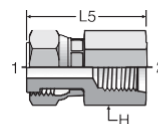


TUBE FITTING PART #	END SIZE		H HEX (in.)	L5 (in.)	Dynamic Pressure (x 1,000 PSI)	
	1 (in.)	2 UN/UNF-2A			-S	-SS
4 F65OL	1/4	7/16 - 20	5/8	1.46	9.2	9.2
6 F65OL	3/8	9/16 - 18	3/4	1.57	9.2	9.2
8 F65OL	1/2	3/4 - 16	7/8	1.95	9.2	9.2
10 F65OL	5/8	7/8 - 14	1 1/16	2.13	6.0	6.0
12 F65OL	3/4	1 1/16 - 12	1 1/4	2.34	6.0	6.0
16 F65OL	1	1 5/16 - 12	1 1/2	2.66	6.0	6.0
20 F65OL	1 1/4	1 5/8 - 12	1 7/8	2.66	5.0	5.0

⚠ "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

G65L

Straight Thread Swivel
Female Connector
ORFS Swivel / SAE-ORB



TUBE FITTING PART #	END SIZE		H HEX (in.)	L5 (in.)	Dynamic Pressure (x 1,000 PSI)	
	1 (in.)	2 UN/UNF-2B			-S	-SS
4 G65L	1/4	7/16 - 20	3/4	1.38	6.0	6.0
4-6 G65L	1/4	9/16 - 18	13/16	1.45	6.0	6.0
6-4 G65L	3/8	7/16 - 20	3/4	1.51	6.0	6.0
8-4 G65L	1/2	7/16 - 20	7/8	1.57	6.0	6.0

⚠ "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

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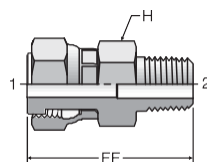
ASSEMBLY

TUBE FAB EQUIP

GEN TECH

F6L

Pipe Thread Swivel
Connector
ORFS Swivel / NPTF

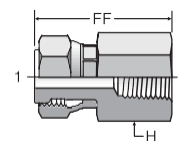


TUBE FITTING PART #	END SIZE		FF (in.)	H HEX (in.)	Dynamic Pressure (x 1,000 PSI)	
	1 (in.)	2 NPTF			-S	-SS
4 F6L	1/4	1/8 - 27	1.33	5/8	6.0	6.0
4-4 F6L	1/4	1/4 - 18	1.52	5/8	6.0	6.0
6 F6L	3/8	1/4 - 18	1.69	3/4	6.0	6.0
6-6 F6L	3/8	3/8 - 18	1.67	3/4	6.0	6.0
8 F6L	1/2	3/8 - 18	1.95	3/4	6.0	6.0
8-8 F6L	1/2	1/2 - 14	2.14	7/8	6.0	6.0
10 F6L	5/8	1/2 - 14	2.29	1 1/16	6.0	6.0
12 F6L	3/4	3/4 - 14	2.37	1 1/4	5.5	6.0
16 F6L	1	1 - 11 1/2	2.87	1 1/2	4.5	5.4

⚠ "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

G6L

Female Pipe Thread Swivel
Connector
ORFS Swivel / NPTF

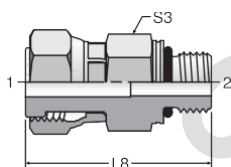


TUBE FITTING PART #	END SIZE		FF (in.)	H (in.)	Dynamic Pressure (x 1,000 PSI)	
	1 (in.)	2 NPTF			-S	-SS
4-4 G6L	1/4	1/4 - 18	1.48	3/4	6.0	6.0
6 G6L	3/8	1/4 - 18	1.60	7/8	6.0	6.0
8-4 G6L	1/2	1/4 - 18	1.75	7/8	6.0	6.0

⚠ "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

F687OML

Swivel ISO 6149 Connector
ORFS Swivel / ISO 6149

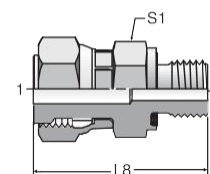


TUBE FITTING PART #	END SIZE			L8 (mm)	S3 HEX (mm)	Dynamic Pressure (x 1,000 PSI)	
	1	2				S	SS
	(mm)	(in.)	ISO 261				
4M12F687OML	6	1/4	M12x1.5	37.0	17	9.2	9.2
6M12F687OML	8, 10	3/8	M12x1.5	39.0	17	9.2	9.2
6M14F687OML	8, 10	3/8	M14x1.5	38.0	19	9.2	9.2
6M16F687OML	8, 10	3/8	M16x1.5	43.5	22	9.2	9.2
8M16F687OML	12	1/2	M16x1.5	48.0	22	9.2	9.2
10M22F687OML	14, 15, 16	5/8	M22x1.5	53.0	27	6.0	6.0
10M27F687OML	14, 15, 16	5/8	M27x2	57.0	32	6.0	6.0
12M27F687OML	18, 20	3/4	M27x2	59.5	32	6.0	6.0
16M33F687OML	22, 25	1	M33x2	67.5	41	6.0	6.0

⚠ "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

F682EDML

Swivel Metric Connector
ORFS Swivel / Metric-ED



TUBE FITTING PART #	END SIZE			L8 (mm)	S1 HEX (mm)	Dynamic Pressure (x 1,000 PSI)	
	1	2				S	SS
	(mm)	(in.)	Metric				
4M12F682EDML	6	1/4	M12x1.5	38.2	17	9.2	9.2
6M14F682EDML	8, 10	3/8	M14x1.5	40.2	19	9.2	9.2
8M16F682EDML	12	1/2	M16x1.5	47.3	22	9.2	9.2
10M22F682EDML	14, 15, 16	5/8	M22x1.5	51.8	27	6.0	6.0
12M27F682EDML	18, 20	3/4	M27x2	57.2	32	6.0	6.0
16M33F682EDML	22, 25	1	M33x2	67.0	41	6.0	6.0

⚠ "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

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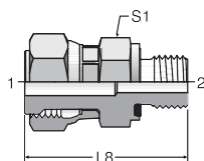
ASSEMBLY

TUBE FAB
EQUIP

GEN TECH

F642EDML

Swivel BSPP Connector
ORFS Swivel / BSPP-ED



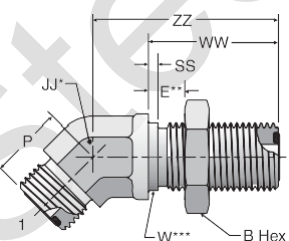
TUBE FITTING PART #	END SIZE		BSPP	L8 (mm)	S1 HEX (mm)	Dynamic Pressure (x 1,000 PSI)	
	1	2				S	SS
	(mm)	(in.)					
4F642EDML	6	1/4	1/8	34.0	14	7.2	7.2
6F642EDML	8, 10	3/8	1/4	40.2	19	9.2	9.2
8F642EDML	12	1/2	3/8	47.3	22	9.2	9.2
10F642EDML	14, 15, 16	5/8	1/2	51.8	27	6.0	6.0
12F642EDML	18, 20	3/4	3/4	57.2	32	6.0	6.0
16F642EDML	22, 25	1	1	67.0	41	6.0	6.0

! "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

WNLO

45° Bulkhead Union Elbow
ORFS / ORFS

SAE 520801
WNLO-WLNL - Body with Locknut
(See page A11 for WLNL)



TUBE FITTING PART #	END SIZE		B HEX (in.)	E MAX (in.)	JJ (in.)	P (in.)	SS (in.)	W DIA (in.)	WW (in.)	ZZ (in.)	Dynamic Pressure (x 1,000 PSI)	
	1	2									-S	-SS
	(in.)	(in.)										
4 WNLO	1/4	1/4	13/16	0.55	9/16	0.63	0.06	0.56	1.24	1.73	9.2	9.2
6 WNLO	3/8	3/8	1	0.55	3/4	0.75	0.06	0.69	1.34	1.91	9.2	9.2
8 WNLO	1/2	1/2	1 1/8	0.55	3/4	0.81	0.06	0.81	1.44	2.01	9.2	9.2
10 WNLO	5/8	5/8	1 5/16	0.55	1 1/16	0.93	0.06	1.00	1.59	2.22	6.0	6.0
12 WNLO	3/4	3/4	1 1/2	0.55	1 3/16	1.02	0.06	1.19	1.63	2.38	6.0	6.0
16 WNLO	1	1	1 3/4	0.55	1 7/16	1.18	0.06	1.44	1.65	2.56	6.0	6.0
20 WNLO	1 1/4	1 1/4	2	0.55	1 5/8	1.26	0.06	1.69	1.65	2.64	5.0	5.0
24 WNLO	1 1/2	1 1/2	2 3/8	0.55	1 7/8	1.46	0.06	2.00	1.65	2.64	4.0	4.0

* JJ – Across wrench flats.

** E – Maximum bulkhead thickness.

*** W – Bulkhead pilot diameter. Recommended clearance hole is W + 0.015".

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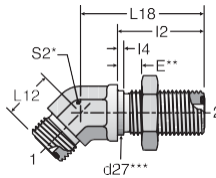
TUBE FAB
EQUIP

GEN TECH

WNMLO

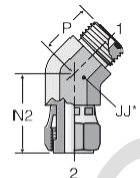
45° Bulkhead Union Elbow – mm Hex
ORFS / ORFS

ISO 8434-3 BHE45
SAE 52M0801
WNMLO-WLNML - Body with Locknut
(See page A11 for WLNML)



V6LO

45° Swivel Nut Elbow
ORFS / ORFS Swivel



* JJ – Across Wrench Flats

TUBE FITTING PART #	END SIZE		d27*** (mm)	E (mm)	I2 (mm)	I4 (mm)	L12 (mm)	L18 (mm)	S2 (mm)	Dynamic Pressure (x 1,000 PSI)	
	1 & 2									S	SS
	(mm)	(in.)									
4WNMLO	6	1/4	14.3	14	31.5	1.5	16.0	44.0	14	9.2	9.2
6WNMLO	8,10	3/8	17.5	14	34.0	1.5	19.0	48.5	19	9.2	9.2
8WNMLO	12	1/2	20.6	14	36.5	1.5	20.5	51.0	19	9.2	9.2
10WNMLO	14,15,16	5/8	25.4	14	40.5	1.5	23.5	56.5	27	6.0	6.0
12WNMLO	18,20	3/4	30.2	14	41.5	1.5	26.0	60.5	30	6.0	6.0
16WNMLO	22,25	1	36.5	14	42.0	1.5	30.0	65.0	36	6.0	6.0
20WNMLO	28,30,32	1 1/4	42.9	14	42.0	1.5	32.0	67.0	41	5.0	5.0
24WNMLO	35,38	1 1/2	50.8	14	42.0	1.5	37.0	67.0	50	4.0	4.0

* S2 – Across Wrench Flats.

** E – Maximum bulkhead thickness.

***d27 – Bulkhead pilot diameter. Recommended clearance hole is d27 + 0.4 mm.

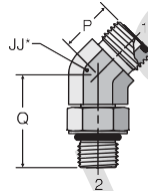
TUBE FITTING PART #	END SIZE	JJ (in.)	N2 (in.)	P (in.)	Dynamic Pressure (x 1,000 PSI)	
	1 & 2 (in.)				-S	-SS
4 V6LO	1/4	9/16	0.99	0.63	9.2	9.2
6 V6LO	3/8	3/4	1.12	0.74	9.2	9.2
8 V6LO	1/2	3/4	1.49	0.80	9.2	9.2
10 V6LO	5/8	1 1/16	1.53	0.92	6.0	6.0
12 V6LO	3/4	1 3/16	1.73	1.02	6.0	6.0
16 V6LO	1	1 7/16	1.87	1.18	6.0	6.0
20 V6LO	1 1/4	1 5/8	1.98	1.26	5.0	5.0
24 V6LO	1 1/2	1 7/8	2.06	1.45	4.0	4.0

"Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

V5OLO

45° Straight Thread Elbow
ORFS / SAE-ORB

SAE 520320

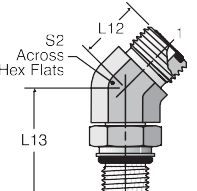


* JJ – Across Hex Flats

V87OMLO

45° Metric Straight Thread Elbow
ORFS / ISO 6149

ISO 8434-3 SDE45
SAE 52M0387



* S2 – Across Hex Flats

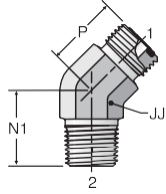
TUBE FITTING PART #	END SIZE		JJ (in.)	P (in.)	Q (in.)	Dynamic Pressure (x 1,000 PSI)	
	1	2				-S	-SS
	(in.)	UN/UNF-2A					
4 V5OLO	1/4	7/16 - 20	9/16	0.63	1.18	6.0	6.0
4-6 V5OLO	1/4	9/16 - 18	3/4	0.69	1.30	6.0	6.0
6 V5OLO	3/8	9/16 - 18	3/4	0.75	1.30	6.0	6.0
6-4 V5OLO	3/8	7/16 - 20	3/4	0.75	1.22	6.0	6.0
6-8 V5OLO	3/8	3/4 - 16	3/4	0.75	1.44	6.0	6.0
8 V5OLO	1/2	3/4 - 16	3/4	0.81	1.44	6.0	6.0
8-6 V5OLO	1/2	9/16 - 18	3/4	0.81	1.28	6.0	6.0
8-10 V5OLO	1/2	7/8 - 14	3/4	0.85	1.75	6.0	6.0
10 V5OLO	5/8	7/8 - 14	1 1/16	0.93	1.75	6.0	6.0
10-8 V5OLO	5/8	3/4 - 16	1 1/16	0.93	1.57	6.0	6.0
10-12 V5OLO	5/8	1 1/16 - 12	1 3/16	0.96	1.97	6.0	6.0
12 V5OLO	3/4	1 1/16 - 12	1 3/16	1.02	1.97	6.0	6.0
12-10 V5OLO	3/4	7/8 - 14	1 3/16	1.02	1.81	6.0	6.0
12-16 V5OLO	3/4	1 5/16 - 12	1 7/16	1.16	2.07	5.5	5.5
16 V5OLO	1	1 5/16 - 12	1 7/16	1.18	2.07	5.5	5.5
16-10 V5OLO	1	7/8 - 14	1 7/16	1.18	2.03	6.0	6.0
16-12 V5OLO	1	1 1/16 - 12	1 7/16	1.18	2.03	6.0	6.0
16-20 V5OLO	1	1 5/8 - 12	1 5/8	1.26	2.11	4.0	4.0
20 V5OLO	1 1/4	1 5/8 - 12	1 5/8	1.26	2.11	4.0	4.0
24 V5OLO	1 1/2	1 7/8 - 12	1 7/8	1.46	2.11	4.0	4.0

TUBE FITTING PART #	END SIZE			L12 (mm)	L13 (mm)	S2 (mm)	Dynamic Pressure (x 1,000 PSI)	
	1	2	ISO 261				S	SS
	(mm)	(in.)						
4M12V87OMLO	6	1/4	M12X1.5	16.0	30.0	14	6.0	6.0
4M14V87OMLO	6	1/4	M14X1.5	17.5	31.5	17	6.0	6.0
6M16V87OMLO	8,10	3/8	M16X1.5	19.0	33.5	19	6.0	6.0
8M18V87OMLO	12	1/2	M18X1.5	20.5	37.0	19	6.0	6.0
10M22V87OMLO	14,15,16	5/8	M22X1.5	23.5	44.0	27	6.0	6.0
12M27V87OMLO	18,20	3/4	M27X2	26.0	50.5	27	6.0	6.0
16M33V87OMLO	22,25	1	M33X2	30.0	52.5	36	5.0	5.0
20M42V87OMLO	28,30,32	1 1/4	M42X2	32.0	54.0	41	4.0	4.0
24M48V87OMLO	35,38	1 1/2	M48X2	37.0	56.5	50	4.0	4.0

! "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

VLO

45° Male Elbow
ORFS / NPTF

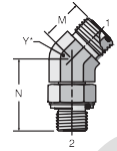


* JJ – Across Wrench Flats

TUBE FITTING PART #	END SIZE		JJ (in.)	N1 (in.)	P (in.)	Dynamic Pressure (x 1,000 PSI)	
	1 (in.)	2 NPTF				-S	-SS
4 VLO	1/4	1/8 - 27	9/16	0.64	0.63	6.0	6.0
4-4 VLO	1/4	1/4 - 18	9/16	0.86	0.68	6.0	6.0
6 VLO	3/8	1/4 - 18	3/4	0.87	0.74	6.0	6.0
6-6 VLO	3/8	3/8 - 18	3/4	0.87	0.74	6.0	6.0
8 VLO	1/2	3/8 - 18	3/4	0.95	0.80	6.0	6.0
8-8 VLO	1/2	1/2 - 14	7/8	1.17	0.86	6.0	6.0
10 VLO	5/8	1/2 - 14	1 1/16	1.17	0.92	6.0	6.0
12 VLO	3/4	3/4 - 14	1 5/16	1.30	1.02	4.0	4.0
16 VLO	1	1 - 11 1/2	1 7/16	1.48	1.18	3.0	3.0
20 VLO	1 1/4	1 1/4 - 11 1/2	1 5/8	1.67	1.26	2.5	2.5

V4OMLO

Male 45° Elbow – BSPP
(for ISO 1179-1 Port)
ORFS / BSPP-ORR



* Y – Across Hex Flats

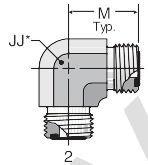
TUBE FITTING PART #	END SIZE		M (mm)	N (mm)	Y (mm)	Dynamic Pressure (x 1,000 PSI)	
	1	2				S	SS
	(mm)	(in.) BSPP					
4V4OMLO	6	1/4 1/8 - 28	16.0	27.5	14	4.0	4.0
4-4V4OMLO	6	1/4 1/4 - 19	17.5	32.0	19	4.0	4.0
6V4OMLO	8,10	3/8 1/4 - 19	19.0	32.0	19	4.0	4.0
6-6V4OMLO	8,10	3/8 3/8 - 19	19.0	33.5	19	4.0	4.0
6-8V4OMLO	8,10	3/8 1/2 - 14	19.5	43.5	27	4.0	4.0
8V4OMLO	12	1/2 3/8 - 19	20.5	33.5	19	4.0	4.0
8-8V4OMLO	12	1/2 1/2 - 14	21.0	43.5	27	4.0	4.0
10V4OMLO	14,15,16	5/8 1/2 - 14	23.5	43.5	27	4.0	4.0
10-12V4OMLO	14,15,16	5/8 3/4 - 14	24.5	46.5	30	4.0	4.0
12V4OMLO	18,20	3/4 3/4 - 14	26.0	46.5	30	4.0	4.0
12-16V4OMLO	18,20	3/4 1 - 11	26.0	51.0	37	4.0	4.0
16V4OMLO	22,25	1 1 - 11	30.0	51.0	37	4.0	4.0

! "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

ELO

Union Elbow
ORFS / ORFS

SAE 520201



* JJ – Across Wrench Flats

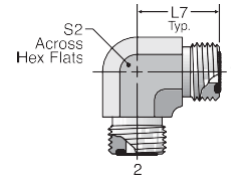
TUBE FITTING PART #	END SIZE		JJ (in.)	M (in.)	Dynamic Pressure (x 1,000 PSI)	
	1 (in.)	2 (in.)			-S	-SS
4 ELO	1/4	1/4	9/16	0.85	9.2	9.2
6 ELO	3/8	3/8	3/4	0.98	9.2	9.2
8 ELO	1/2	1/2	3/4	1.10	9.2	9.2
10 ELO	5/8	5/8	1 1/16	1.32	6.0	6.0
12 ELO	3/4	3/4	1 3/16	1.48	6.0	6.0
16 ELO	1	1	1 7/16	1.63	6.0	6.0
20 ELO	1 1/4	1 1/4	1 5/8	1.75	5.0	5.0
24 ELO	1 1/2	1 1/2	1 7/8	1.93	4.0	4.0
32 ELO*	2	2	2 1/2	2.76	3.0	3.0

** Size 32 is not included in SAE J1453.

EMLO

Union Elbow – mm Hex
ORFS / ORFS

ISO 8434-3 E
SAE 52M0201



TUBE FITTING PART #	END SIZE		L7 (mm)	S2 (mm)	Dynamic Pressure (x 1,000 PSI)	
	1 & 2				S	SS
	(mm)	(in.)				
4EMLO	6	1/4	21.5	14	9.2	9.2
6EMLO	8,10	3/8	25.0	19	9.2	9.2
8EMLO	12	1/2	28.0	19	9.2	9.2
10EMLO	14,15,16	5/8	33.5	27	6.0	6.0
12EMLO	18,20	3/4	37.5	30	6.0	6.0
16EMLO	22,25	1	41.5	36	6.0	6.0
20EMLO	28,30,32	1 1/4	44.5	41	5.0	5.0
24EMLO	35,38	1 1/2	49.0	50	4.0	4.0

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TUBE FAB EQUIP

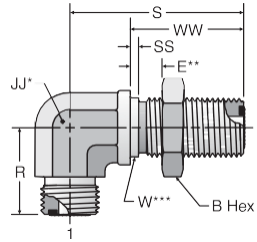
GEN TECH

WELO

Bulkhead Union Elbow
ORFS / ORFS

SAE 520701

WELO-WLNL - Body with Locknut
(See page A11 for WLNL)



TUBE FITTING PART #	END SIZE		B HEX (in.)	E MAX (in.)	JJ (in.)	R (in.)	S (in.)	SS (in.)	W (in.)	WW (in.)	Dynamic Pressure (x 1,000 PSI)	
	1 (in.)	2 (in.)									-S	-SS
4 WELO	1/4	1/4	13/16	0.55	9/16	0.89	1.85	0.06	0.56	1.24	9.2	9.2
6 WELO	3/8	3/8	1	0.55	3/4	1.02	2.05	0.06	0.69	1.34	9.2	9.2
8 WELO	1/2	1/2	1 1/8	0.55	3/4	1.14	2.19	0.06	0.81	1.44	9.2	9.2
10 WELO	5/8	5/8	1 5/16	0.55	1 1/16	1.36	2.48	0.06	1.00	1.59	6.0	6.0
12 WELO	3/4	3/4	1 1/2	0.55	1 3/16	1.52	2.64	0.06	1.19	1.63	6.0	6.0
16 WELO	1	1	1 3/4	0.55	1 7/16	1.67	2.80	0.06	1.44	1.65	6.0	6.0
20 WELO	1 1/4	1 1/4	2	0.55	1 5/8	1.79	2.97	0.06	1.69	1.65	5.0	5.0
24 WELO	1 1/2	1 1/2	2 3/8	0.55	1 7/8	1.95	3.13	0.06	2.00	1.65	4.0	4.0

* JJ – Across wrench flats.

** E – Maximum bulkhead thickness.

*** W – Bulkhead pilot diameter. Recommended clearance hole is $W + 0.015$ ".

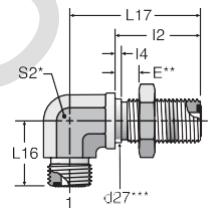
WEMLO

Bulkhead Union Elbow – mm Hex
ORFS / ORFS

ISO 8434-3 BHE

SAE 52M0701

WEMLOWLNL - Body with Locknut
(See page A11 for WLNL)



TUBE FITTING PART #	END SIZE		d27*** (mm)	E (mm)	I2 (mm)	I4 (mm)	L16 (mm)	L17 (mm)	S2 (mm)	Dynamic Pressure (x 1,000 PSI)	
	1 & 2									S	SS
	(mm)	(in.)									
4WEMLO	6	1/4	14.3	14	31.5	1.5	22.5	47.0	14	9.2	9.2
6WEMLO	8,10	3/8	17.5	14	34.0	1.5	26.0	52.0	19	9.2	9.2
8WEMLO	12	1/2	20.6	14	36.5	2.5	29.0	55.5	19	9.2	9.2
10WEMLO	14,15,16	5/8	25.4	14	40.5	2.5	34.5	63.0	27	6.0	6.0
12WEMLO	18,20	3/4	30.2	14	41.5	3.0	38.5	67.0	30	6.0	6.0
16WEMLO	22,25	1	36.5	14	42.0	3.0	42.5	71.0	36	6.0	6.0
20WEMLO	28,30,32	1 1/4	42.9	14	42.0	3.0	45.5	75.5	41	5.0	5.0
24WEMLO	35,38	1 1/2	50.8	14	42.0	3.0	49.5	79.5	50	4.0	4.0

* S2 – Across wrench flats.

** E – Maximum bulkhead thickness.

***d27 – Bulkhead pilot diameter. Recommended clearance is $d27 + 0.4$ mm.

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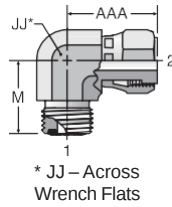
TUBE FAB
EQUIP

GEN TECH

C6LO

Swivel Nut Elbow
 ORFS / ORFS Swivel

SAE 520221

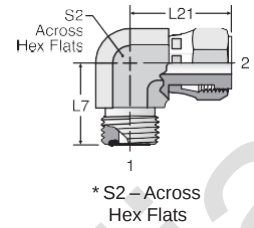


TUBE FITTING PART #	END SIZE		AAA (in.)	JJ (in.)	M (in.)	Dynamic Pressure (x 1,000 PSI)	
	1 (in.)	2 (in.)				-S	-SS
4 C6LO	1/4	1/4	1.07	9/16	0.85	9.2	9.2
6 C6LO	3/8	3/8	1.17	3/4	0.98	9.2	9.2
8 C6LO	1/2	1/2	1.50	3/4	1.10	9.2	9.2
10 C6LO	5/8	5/8	1.61	1 1/16	1.32	6.0	6.0
12 C6LO	3/4	3/4	1.83	1 3/16	1.48	6.0	6.0
16 C6LO	1	1	2.11	1 7/16	1.64	6.0	6.0
20 C6LO	1 1/4	1 1/4	2.28	1 5/8	1.75	5.0	5.0
24 C6LO	1 1/2	1 1/2	2.41	1 7/8	1.92	4.0	4.0

C6MLO

Swivel Nut Elbow – mm Hex
 ORFS / ORFS Swivel

ISO 8434-3 SWE
 SAE 52M0221

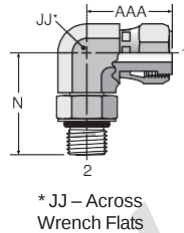


TUBE FITTING PART #	END SIZE		L7 (mm)	L21 (mm)	S2 (mm)	Dynamic Pressure (x 1,000 PSI)	
	1 (mm)	2 (in.)				S	SS
4C6MLO	6	1/4	21.5	27.2	14	9.2	9.2
6C6MLO	8,10	3/8	25.0	29.7	19	9.2	9.2
8C6MLO	12	1/2	28.0	38.0	19	9.2	9.2
10C6MLO	14,15,16	5/8	33.5	41.0	27	6.0	6.0
12C6MLO	18,20	3/4	37.5	46.5	30	6.0	6.0
16C6MLO	22,25	1	41.6	53.5	36	6.0	6.0
20C6MLO	28,30,32	1 1/4	44.5	58.0	41	5.0	5.0
24C6MLO	35,38	1 1/2	48.8	61.0	50	4.0	4.0

AOEL6

Straight Thread Swivel Elbow
 ORFS Swivel / SAE-ORB

SAE 520281

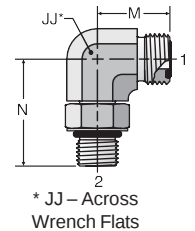


TUBE FITTING PART #	END SIZE		AAA (in.)	JJ (in.)	N (in.)	Dynamic Pressure (x 1,000 PSI)	
	1 (in.)	2 UN/UNF-2A				-S	-SS
4 AOEL6	1/4	7/16 - 20	1.04	9/16	1.30	6.0	6.0
6 AOEL6	3/8	9/16 - 18	1.17	3/4	1.46	6.0	6.0
8 AOEL6	1/2	3/4 - 16	1.50	3/4	1.59	6.0	6.0
10 AOEL6	5/8	7/8 - 14	1.65	1 1/16	1.97	6.0	6.0
12 AOEL6	3/4	1 1/16 - 12	1.79	1 1/16	2.17	6.0	6.0
16 AOEL6	1	1 5/16 - 12	2.07	1 5/16	2.34	5.5	5.5
20 AOEL6	1 1/4	1 5/8 - 12	2.28	1 5/8	2.44	4.0	4.0
24 AOEL6	1 1/2	1 7/8 - 12	2.40	1 7/8	2.60	4.0	4.0

C5OLO

Straight Thread Elbow
 ORFS / SAE-ORB

SAE 520220



TUBE FITTING PART #	END SIZE		JJ (in.)	M (in.)	N (in.)	Dynamic Pressure (x 1,000 PSI)	
	1 (in.)	2 UN/UNF-2A				-S	-SS
4 C5OLO	1/4	7/16 - 20	9/16	0.85	1.30	6.0	6.0
4-6 C5OLO***	1/4	9/16 - 18	9/16	0.93	1.46	6.0	6.0
4-8 C5OLO	1/4	3/4 - 16	3/4	0.98	1.59	6.0	6.0
6 C5OLO	3/8	9/16 - 18	3/4	0.98	1.46	6.0	6.0
6-4 C5OLO	3/8	7/16 - 20	3/4	0.98	1.38	6.0	6.0
6-5 C5OLO	3/8	1/2 - 20	3/4	0.98	1.38	6.0	6.0
6-8 C5OLO	3/8	3/4 - 16	3/4	1.04	1.59	6.0	6.0
6-10 C5OLO***	3/8	7/8 - 14	7/8	1.15	1.97	6.0	6.0
6-12 C5OLO	3/8	1 1/16 - 12	1 1/16	1.28	2.17	6.0	6.0
8 C5OLO	1/2	3/4 - 16	3/4	1.10	1.59	6.0	6.0
8-6 C5OLO	1/2	9/16 - 18	3/4	1.10	1.44	6.0	6.0
8-10 C5OLO***	1/2	7/8 - 14	7/8	1.21	1.97	6.0	6.0
8-12 C5OLO	1/2	1 1/16 - 12	1 3/16	1.32	2.17	6.0	6.0
10 C5OLO	5/8	7/8 - 14	1 1/16	1.32	1.97	6.0	6.0
10-8 C5OLO	5/8	3/4 - 16	1 1/16	1.32	1.81	6.0	6.0
10-12 C5OLO	5/8	1 1/16 - 12	1 3/16	1.42	2.17	6.0	6.0
12 C5OLO	3/4	1 1/16 - 12	1 3/16	1.48	2.17	6.0	6.0
12-8 C5OLO	3/4	3/4 - 16	1 3/16	1.48	1.83	6.0	6.0
12-10 C5OLO	3/4	7/8 - 14	1 3/16	1.48	2.01	6.0	6.0
12-16 C5OLO	3/4	1 5/16 - 12	1 7/16	1.61	2.34	5.5	5.5
16 C5OLO	1	1 5/16 - 12	1 7/16	1.63	2.34	5.5	5.5
16-12 C5OLO	1	1 1/16 - 12	1 7/16	1.63	2.30	6.0	6.0
16-20 C5OLO	1	1 5/8 - 12	1 5/8	1.75	2.44	4.0	4.0
20 C5OLO	1 1/4	1 5/8 - 12	1 5/8	1.75	2.44	4.0	4.0
20-16 C5OLO	1 1/4	1 5/16 - 12	1 5/8	1.75	2.44	5.0	5.0
20-24 C5OLO	1 1/4	1 7/8 - 12	1 7/8	1.93	2.60	4.0	4.0
24 C5OLO	1 1/2	1 7/8 - 12	1 7/8	1.93	2.60	4.0	4.0
24-20 C5OLO	1 1/2	1 5/8 - 12	1 7/8	1.93	2.60	4.0	4.0
32 C5OLO	2	2 1/2 - 12	2 1/2	2.76	3.07	2.5	2.5

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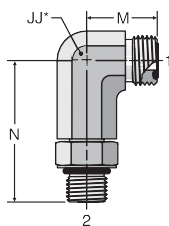
TUBE FAB EQUIP

GEN TECH

CC5OLO

Long Straight Thread Elbow
ORFS-Long / SAE-ORB

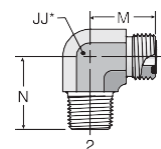
SAE 521520



* JJ – Across
Wrench Flats

CLO

Male Pipe Elbow
ORFS / NPTF



* JJ – Across
Wrench Flats

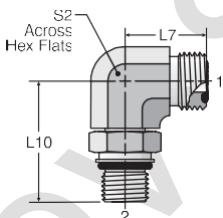
TUBE FITTING PART #	END SIZE		JJ (in.)	M (in.)	N (in.)	Dynamic Pressure (x 1,000 PSI)	
	1	2				-S	-SS
	(in.)	UN-UNF-2A					
4 CC5OLO	1/4	7/16 - 20	3/4	0.85	2.23	6.0	6.0
6 CC5OLO	3/8	9/16 - 18	7/8	0.98	2.62	6.0	6.0
8 CC5OLO	1/2	3/4 - 16	7/8	1.10	2.95	6.0	6.0
10 CC5OLO	5/8	7/8 - 14	1 1/16	1.32	3.50	6.0	6.0
12 CC5OLO	3/4	1 1/16 - 12	1 5/16	1.48	3.98	6.0	6.0
16 CC5OLO	1	1 5/16 - 12	1 5/8	1.63	4.51	5.5	5.5

TUBE FITTING PART #	END SIZE		JJ (in.)	M (in.)	N (in.)	Dynamic Pressure (x 1,000 PSI)	
	1	2				-S	-SS
	(in.)	NPTF					
4 CLO	1/4	1/8 - 27	9/16	0.85	0.80	6.0	6.0
4-4 CLO	1/4	1/4 - 18	9/16	0.85	1.12	6.0	6.0
4-6 CLO	1/4	3/8 - 18	3/4	0.97	1.22	6.0	6.0
4-8 CLO	1/4	1/2 - 14	7/8	1.07	1.47	6.0	6.0
6 CLO	3/8	1/4 - 18	3/4	0.98	1.09	6.0	6.0
6-6 CLO	3/8	3/8 - 18	3/4	0.98	1.22	6.0	6.0
6-8 CLO	3/8	1/2 - 14	7/8	1.15	1.47	6.0	6.0
8 CLO	1/2	3/8 - 18	3/4	1.10	1.22	6.0	6.0
8-4 CLO	1/2	1/4 - 18	3/4	1.10	1.22	6.0	6.0
8-8 CLO	1/2	1/2 - 14	7/8	1.10	1.47	6.0	6.0
8-12 CLO	1/2	3/4 - 14	1 1/16	1.32	1.59	4.0	4.0
10 CLO	5/8	1/2 - 14	1 1/16	1.31	1.47	6.0	6.0
10-6 CLO	5/8	3/8 - 18	1 1/16	1.31	1.28	6.0	6.0
10-12 CLO	5/8	3/4 - 14	1 3/16	1.41	1.59	4.0	4.0
12 CLO	3/4	3/4 - 14	1 3/16	1.47	1.59	4.0	4.0
12-8 CLO	3/4	1/2 - 14	1 3/16	1.47	1.59	6.0	6.0
12-16 CLO	3/4	1 - 11 1/2	1 5/16	1.62	1.97	3.0	3.0
16 CLO	1	1 - 11 1/2	1 7/16	1.64	1.97	3.0	3.0
16-12 CLO	1	3/4 - 14	1 7/16	1.64	1.78	4.0	4.0
20 CLO	1 1/4	1 1/4 - 11 1/2	1 5/8	1.76	2.38	2.5	2.5
24 CLO	1 1/2	1 1/2 - 11 1/2	1 7/8	1.92	2.64	2.5	2.5
24-20 CLO	1 1/2	1 1/4 - 11 1/2	1 7/8	1.92	2.61	2.5	2.5

C87OMLO

90° Metric Straight Thread Elbow
ORFS / ISO 6149

ISO 8434-3 SDE
SAE 52M0287



TUBE FITTING PART #	END SIZE			L7 (mm)	L10 (mm)	S2 (mm)	Dynamic Pressure (x 1,000 PSI)	
	1		2				S	SS
	(mm)	(in.)	ISO 261					
4M12C87OMLO	6	1/4	M12X1.5	21.5	33.0	14	6.0	6.0
4M14C87OMLO	6	1/4	M14X1.5	23.5	35.5	14	6.0	6.0
6M12C87OMLO	8,10	3/8	M12X1.5	25.0	35.5	19	6.0	6.0
6M14C87OMLO	8,10	3/8	M14X1.5	25.0	35.5	19	6.0	6.0
6M16C87OMLO	8,10	3/8	M16X1.5	25.0	37.5	19	6.0	6.0
8M14C87OMLO	12	1/2	M14X1.5	28.0	36.0	19	6.0	6.0
8M18C87OMLO	12	1/2	M18X1.5	28.0	41.0	19	6.0	6.0
8M22C87OMLO	12	1/2	M22X1.5	31.0	49.0	27	6.0	6.0
10M18C87OMLO	14,15,16	5/8	M18X1.5	33.5	47.5	27	6.0	6.0
10M22C87OMLO	14,15,16	5/8	M22X1.5	33.5	49.0	27	6.0	6.0
12M22C87OMLO	18,20	3/4	M22X1.5	37.5	49.0	27	6.0	6.0
12M27C87OMLO	18,20	3/4	M27X2	37.5	55.5	27	6.0	6.0
16M33C87OMLO	22,25	1	M33X2	41.5	59.5	36	5.0	5.0
20M38C87OMLO*	28,30,32	1 1/4	M38X2	44.5	62.0	41	4.0	4.0
20M42C87OMLO	28,30,32	1 1/4	M42X2	44.5	63.0	41	4.0	4.0
24M48C87OMLO	35,38	1 1/2	M48X2	49.0	71.5	50	4.0	4.0

* For special M38x2 (ISO 6149-1 style) port. The current ISO 6149 does not include the M38 size.

Focus on: Quality, precision engineering, and adherence to relevant national/international industry standards (like ISO or ASTM)

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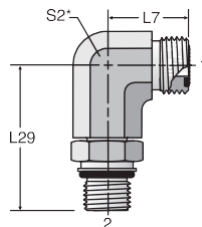
TUBE FAB
EQUIP

GEN TECH

CC87OMLO

Long 90° Metric Straight Thread Elbow
 ORFS-Long / ISO 6149

ISO 8434-3 SDEL
 SAE 52M1587



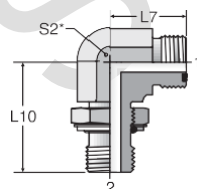
* S2 – Across
 Hex Flats

TUBE FITTING PART #	END SIZE			L7 (mm)	L29 (mm)	S2 (mm)	Dynamic Pressure (x 1,000 PSI)	
	1		2				S	SS
	(mm)	(in.)	ISO 261					
4M12CC87OMLO	6	1/4	M12X1.5	21.5	56.5	14	6.0	6.0
6M14CC87OMLO	8,10	3/8	M14X1.5	25.0	56.5	17	6.0	6.0
6M16CC87OMLO	8,10	3/8	M16X1.5	25.0	66.5	17	6.0	6.0
8M18CC87OMLO	12	1/2	M18X1.5	28.0	75.0	19	6.0	6.0
8M22CC87OMLO	12	1/2	M22X1.5	31.5	88.0	27	6.0	6.0
10M22CC87OMLO	14,15,16	5/8	M22X1.5	33.5	88.0	27	6.0	6.0
12M27CC87OMLO	18,20	3/4	M27X2	37.5	100.5	27	6.0	6.0
16M33CC87OMLO	22,25	1	M33X2	41.5	114.5	36	5.0	5.0
20M42CC87OMLO	28,30,32	1 1/4	M42X2	44.5	126.5	41	4.0	4.0

! "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

C8OMLO

Metric Straight Thread Elbow
 ORFS / Metric-ORR



* S2 – Across
 Hex Flats

TUBE FITTING PART #	END SIZE			L7 (mm)	L10 (mm)	S2 (mm)	Dynamic Pressure (x 1,000 PSI)	
	1		2				S	SS
	(mm)	(in.)	ISO 261					
4M12C8OMLO	6	1/4	M12X1.5	21.5	33.0	14	3.6	3.6
6M12C8OMLO	8, 10	3/8	M12X1.5	25.0	35.5	19	3.6	3.6
6M14C8OMLO	8, 10	3/8	M14X1.5	25.0	35.5	19	3.6	3.6
6M16C8OMLO	8, 10	3/8	M16X1.5	25.0	37.5	19	3.6	3.6
8M14C8OMLO	12	1/2	M14X1.5	28.0	36.0	19	3.6	3.6
8M18C8OMLO	12	1/2	M18X1.5	28.0	41.0	19	3.6	3.6
8M22C8OMLO	12	1/2	M22X1.5	31.5	49.0	27	3.6	3.6
10M22C8OMLO	14, 15, 16	5/8	M22X1.5	33.5	49.0	27	3.6	3.6
12M27C8OMLO	18, 20	3/4	M27X2	37.5	55.5	30	3.6	3.6
16M33C8OMLO	22, 25	1	M33X2	41.5	59.5	36	2.5	2.5
20M38C8OMLO	28, 30, 32	1 1/4	M38X2	44.5	62.0	41	2.5	2.5
20M42C8OMLO	28, 30, 32	1 1/4	M42X2	44.5	63.0	41	2.5	2.5

! "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

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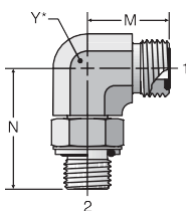
ASSEMBLY

TUBE FAB
EQUIP

GEN TECH

C4OMLO

Male Elbow – BSPP
 (for ISO 1179-1 Port)
 ORFS / BSPP-ORR

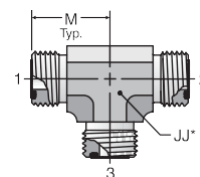


* Y – Across
 Wrench Flats

JLO

Union Tee
 ORFS (all three ends)

SAE 520401



* JJ – Across
 Wrench Flats

TUBE FITTING PART #	END SIZE			M (mm)	N (mm)	Y (mm)	Dynamic Pressure (x 1,000 PSI)	
	1		2				S	SS
	(mm)	(in.)	BSPP					
4C4OMLO	6	1/4	1/8 - 28	21.5	30.0	14	4.0	4.0
4-4C4OMLO	6	1/4	1/4 - 19	23.5	36.0	19	4.0	4.0
4-6C4OMLO	6	1/4	3/8 - 19	24.5	38.0	19	4.0	4.0
6C4OMLO	8,10	3/8	1/4 - 19	25.0	36.0	19	4.0	4.0
6-6C4OMLO	8,10	3/8	3/8 - 19	26.5	38.0	19	4.0	4.0
8-4C4OMLO	12	1/2	1/4 - 19	28.0	35.5	19	4.0	4.0
8C4OMLO	12	1/2	3/8 - 19	28.0	38.0	19	4.0	4.0
8-8C4OMLO	12	1/2	1/2 - 14	31.0	48.5	27	4.0	4.0
8-12C4OMLO	12	1/2	3/4 - 14	33.5	51.5	30	4.0	4.0
10-6C4OMLO	14,15,16	5/8	3/8 - 19	33.5	40.5	27	4.0	4.0
10C4OMLO	14,15,16	5/8	1/2 - 14	33.5	48.5	27	4.0	4.0
10-12C4OMLO	14,15,16	5/8	3/4 - 14	36.0	51.5	30	4.0	4.0
10-16C4OMLO	14,15,16	5/8	1 - 11	39.5	58.5	36	4.0	4.0
12-8C4OMLO	18,20	3/4	1/2 - 14	37.5	49.5	30	4.0	4.0
12C4OMLO	18,20	3/4	3/4 - 14	37.5	51.5	30	4.0	4.0
12-16C4OMLO	18,20	3/4	1 - 11	41.0	58.5	36	4.0	4.0
16-12C4OMLO	22,25	1	3/4 - 14	41.5	56.0	36	4.0	4.0
16C4OMLO	22,25	1	1 - 11	41.5	58.5	36	4.0	4.0
16-20C4OMLO	22,25	1	1 1/4 - 11	44.5	61.0	41	3.0	3.0
20-16C4OMLO	28,30,32	1 1/4	1 - 11	44.5	61.0	41	4.0	4.0
20C4OMLO	28,30,32	1 1/4	1 1/4 - 11	44.5	61.0	41	2.0	2.0
20-24C4OMLO	28,30,32	1 1/4	1 1/2 - 11	49.0	64.5	50	2.0	2.0
24C4OMLO	35,38	1 1/2	1 1/2 - 11	49.0	64.5	50	2.0	2.0

! "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

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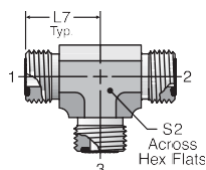
**TUBE FAB
 EQUIP**

GEN TECH

JMLO

Union Tee – mm Hex
ORFS (all three ends)

ISO 8434-3 T
SAE 52M0401



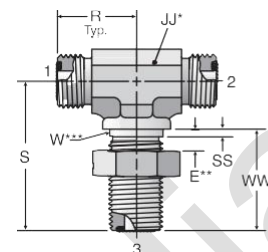
* S2 – Across
Hex Flats

TUBE FITTING PART #	END SIZE		L7 (mm)	S2 (mm)	Dynamic Pressure (x 1,000 PSI)	
	1-3				S	SS
	(mm)	(in.)				
4JMLO	6	1/4	21.5	14	9.2	9.2
6JMLO	8,10	3/8	25.0	19	9.2	9.2
8JMLO	12	1/2	28.0	19	9.2	9.2
10JMLO	14,15,16	5/8	33.5	27	6.0	6.0
12JMLO	18,20	3/4	37.5	30	6.0	6.0
16JMLO	22,25	1	41.5	36	6.0	6.0
20JMLO	28,30,32	1 1/4	44.5	41	5.0	5.0
24JMLO	35,38	1 1/2	49.0	50	4.0	4.0

WJLO

Bulkhead Branch Tee
ORFS (all three ends)

SAE 520959
WJLO-WLNL - Body with Locknut
(See page A11 for WLNL)



TUBE FITTING PART #	END SIZE	E MAX (in.)	JJ (in.)	R (in.)	S (in.)	SS (in.)	W DIA (in.)	WW (in.)	Dynamic Pressure (x 1,000 PSI)	
	1-3 (in.)								-S	-SS
4 WJLO	1/4	0.55	9/16	0.89	1.85	0.06	0.56	1.24	9.2	9.2
6 WJLO	3/8	0.55	3/4	1.02	2.05	0.06	0.69	1.34	9.2	9.2
8 WJLO	1/2	0.55	3/4	1.14	2.19	0.06	0.81	1.44	9.2	9.2
10 WJLO	5/8	0.55	1 1/16	1.36	2.48	0.06	1.00	1.59	6.0	6.0
12 WJLO	3/4	0.55	1 3/16	1.52	2.64	0.06	1.19	1.63	6.0	6.0
16 WJLO	1	0.55	1 7/16	1.67	2.80	0.06	1.44	1.65	6.0	6.0

* JJ – Across wrench flats.

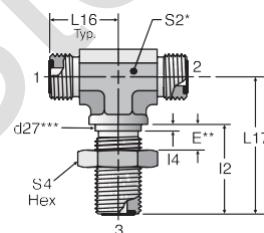
** E – Maximum bulkhead thickness.

*** W – Bulkhead pilot diameter. Recommended clearance hole is W + 0.015".

WJMLO

Bulkhead Union Tee – mm Hex
ORFS (all three ends)

ISO 8434-3 BHBT
SAE 52M0959
WJMLOWLNL - Body with Locknut
(See page A11 for WLNL)



TUBE FITTING PART #	END SIZE		d27*** (mm)	E (mm)	I2 (mm)	I4 (mm)	L16 (mm)	L17 (mm)	S2 (mm)	S4 HEX (mm)	Dynamic Pressure (x 1,000 PSI)	
	1-3										S	SS
	(mm)	(in.)										
4WJMLO	6	1/4	14.3	14	31.5	1.5	22.5	47.0	14	22	9.2	9.2
6WJMLO	8,10	3/8	17.5	14	34.0	1.5	26.0	52.0	19	27	9.2	9.2
8WJMLO	12	1/2	20.6	14	36.5	2.5	29.0	55.5	19	30	9.2	9.2
10WJMLO	14,15,16	5/8	25.4	14	40.5	2.5	34.5	63.0	27	36	6.0	6.0
12WJMLO	18,20	3/4	30.2	14	41.5	3.0	38.5	67.0	30	41	6.0	6.0
16WJMLO	22,25	1	36.5	14	42.0	3.0	42.5	71.0	36	46	6.0	6.0
20WJMLO	28,30,32	1 1/4	42.9	14	42.0	3.0	45.5	75.5	41	50	5.0	5.0
24WJMLO	35,38	1 1/2	50.8	14	42.0	3.0	49.5	79.5	48	60	4.0	4.0

* S2 – Across wrench flats.

** E – Maximum bulkhead thickness.

***d27 - Bulkhead pilot diameter. Recommended clearance hole is d27 + 0.4 mm.

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TUBE FAB
EQUIP

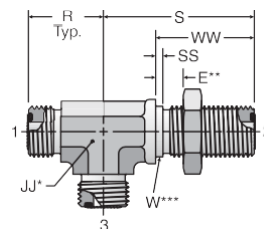
GEN TECH

WJJLO

Bulkhead Run Tee
ORFS (all three ends)

SAE 520958

WJJLO-WLNL - Body with Locknut
(See page A11 for WLNL)



TUBE FITTING PART #	END SIZE	E MAX (in.)	JJ (in.)	R (in.)	S (in.)	SS (in.)	W DIA (in.)	WW (in.)	Dynamic Pressure (x 1,000 PSI)	
									-S	-SS
4 WJJLO	1/4	0.55	9/16	0.89	1.85	0.06	0.56	1.24	9.2	9.2
6 WJJLO	3/8	0.55	3/4	1.02	2.05	0.06	0.69	1.34	9.2	9.2
8 WJJLO	1/2	0.55	3/4	1.14	2.19	0.06	0.81	1.44	9.2	9.2
10 WJJLO	5/8	0.55	1 1/16	1.36	2.48	0.06	1.00	1.59	6.0	6.0
12 WJJLO	3/4	0.55	1 3/16	1.52	2.64	0.06	1.19	1.63	6.0	6.0
16 WJJLO	1	0.55	1 7/16	1.67	2.80	0.06	1.44	1.65	6.0	6.0
20 WJJLO	1 1/4	0.55	1 5/8	1.79	2.97	0.06	1.69	1.65	5.0	5.0
24 WJJLO	1 1/2	0.55	1 7/8	1.95	3.13	0.06	2.00	1.65	4.0	4.0

* JJ – Across wrench flats.

** E – Maximum bulkhead thickness.

*** W – Bulkhead pilot diameter. Recommended clearance hole is W + 0.015".

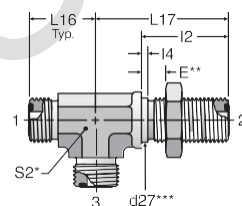
WJJMLO

Bulkhead Run Tee – mm Hex
ORFS (all three ends)

ISO 8434-3 BHRT

SAE 52M0958

WJJMLOWLNL - Body with Locknut
(See page A11 for WLNL)



TUBE FITTING PART #	END SIZE		d27*** (mm)	E (mm)	I2 (mm)	I4 (mm)	L16 (mm)	L17 (mm)	S2 (mm)	Dynamic Pressure (x 1,000 PSI)	
	1-3 (mm)	(in.)								S	SS
4WJJMLO	6	1/4	14.3	14	31.5	1.5	22.5	47.0	14	9.2	9.2
6WJJMLO	8,10	3/8	17.5	14	34.0	1.5	26.0	52.0	19	9.2	9.2
8WJJMLO	12	1/2	20.6	14	36.5	2.5	29.0	55.5	19	9.2	9.2
10WJJMLO	14,15,16	5/8	25.4	14	40.5	2.5	34.5	63.0	27	6.0	6.0
12WJJMLO	18,20	3/4	30.2	14	41.5	3.0	38.5	67.0	30	6.0	6.0
16WJJMLO	22,25	1	36.5	14	42.0	3.0	42.5	71.0	36	6.0	6.0
20WJJMLO	28,30,32	1 1/4	42.9	14	42.0	3.0	45.5	75.5	41	5.0	5.0
24WJJMLO	35,38	1 1/2	50.8	14	42.0	3.0	49.5	79.5	50	4.0	4.0

* S2 – Across wrench flats.

** E – Maximum bulkhead thickness.

***d27 - Bulkhead pilot diameter. Recommended clearance hole is d27 + 0.4 mm.

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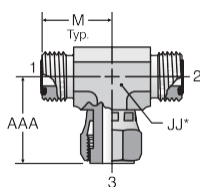
TUBE FAB
EQUIP

GEN TECH

S6LO

Swivel Nut Branch Tee
 ORFS / ORFS / ORFS Swivel

SAE 520433



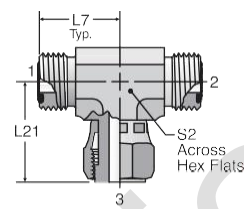
* JJ – Across
 Wrench Flats

TUBE FITTING PART #	END SIZE	AAA (in.)	JJ (in.)	M (in.)	Dynamic Pressure (x 1,000 PSI)	
	1-3 (in.)				-S	-SS
4 S6LO	1/4	1.07	9/16	0.85	9.2	9.2
6 S6LO	3/8	1.17	3/4	0.98	9.2	9.2
8 S6LO	1/2	1.50	3/4	1.10	9.2	9.2
10 S6LO	5/8	1.61	1 1/16	1.32	6.0	6.0
12 S6LO	3/4	1.83	1 3/16	1.48	6.0	6.0
16 S6LO	1	2.11	1 7/16	1.63	6.0	6.0
20 S6LO	1 1/4	2.28	1 5/8	1.75	5.0	5.0
24 S6LO	1 1/2	2.40	1 7/8	1.93	4.0	4.0

S6MLO

Swivel Nut Branch Tee – mm Hex
 ORFS / ORFS / ORFS Swivel

ISO 8434-3 SWBT
 SAE 52M0433



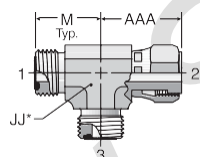
* S2 – Across
 Wrench Flats

TUBE FITTING PART #	END SIZE		L7 (mm)	L21 (mm)	S2 (mm)	Dynamic Pressure (x 1,000 PSI)	
	1-3					S	SS
	(mm)	(in.)					
4S6MLO	6	1/4	21.5	27.2	14		
6S6MLO	8,10	3/8	25.0	29.7	19	9.2	9.2
8S6MLO	12	1/2	28.0	38.0	19	9.2	9.2
10S6MLO	14,15,16	5/8	33.5	41.0	27	6.0	6.0
12S6MLO	18,20	3/4	37.5	46.5	30	6.0	6.0
16S6MLO	22,25	1	41.5	53.5	36	6.0	6.0
20S6MLO	28,30,32	1 1/4	44.5	58.0	41	5.0	5.0
24S6MLO	35,38	1 1/2	49.0	61.0	50	4.0	4.0

R6LO

Swivel Nut Run Tee
 ORFS / ORFS Swivel / ORFS

SAE 520432



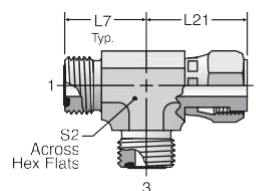
* JJ – Across
 Wrench Flats

TUBE FITTING PART #	END SIZE	AAA (in.)	JJ (in.)	M (in.)	Dynamic Pressure (x 1,000 PSI)	
	1-3 (in.)				-S	-SS
4 R6LO	1/4	1.07	9/16	0.85	9.2	9.2
6 R6LO	3/8	1.17	3/4	0.98	9.2	9.2
8 R6LO	1/2	1.50	3/4	1.10	9.2	9.2
10 R6LO	5/8	1.61	1 1/16	1.32	6.0	6.0
12 R6LO	3/4	1.83	1 3/16	1.48	6.0	6.0
16 R6LO	1	2.11	1 7/16	1.63	6.0	6.0
20 R6LO	1 1/4	2.28	1 5/8	1.75	5.0	5.0
24 R6LO	1 1/2	2.40	1 7/8	1.93	4.0	4.0

R6MLO

Swivel Nut Run Tee – mm Hex
 ORFS / ORFS Swivel / ORFS

ISO 8434-3 SWRT
 SAE 52M0432



TUBE FITTING PART #	END SIZE		L7 (mm)	L21 (mm)	S2 (mm)	Dynamic Pressure (x 1,000 PSI)	
	1-3					S	SS
	(mm)	(in.)					
4R6MLO	6	1/4	21.5	27.2	14	9.2	9.2
6R6MLO	8,10	3/8	25.0	29.7	19	9.2	9.2
8R6MLO	12	1/2	28.0	38.0	19	9.2	9.2
10R6MLO	14,15,16	5/8	33.5	41.0	27	6.0	6.0
12R6MLO	18,20	3/4	37.5	46.5	30	6.0	6.0
16R6MLO	22,25	1	41.5	53.5	36	6.0	6.0
20R6MLO	28,30,32	1 1/4	44.5	58.0	41	5.0	5.0
24R6MLO	35,38	1 1/2	49.0	61.0	50	4.0	4.0

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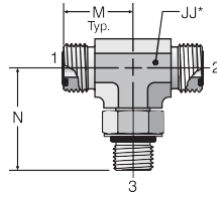
TUBE FAB
 EQUIP

GEN TECH

S5OLO

Straight Thread Branch Tee
 ORFS / ORFS / SAE-ORB

SAE 520429



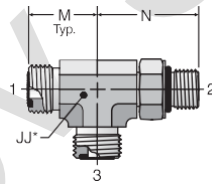
* JJ – Across
 Wrench Flats

TUBE FITTING PART #	END SIZE			JJ (in.)	M (in.)	N (in.)	Dynamic Pressure (x 1,000 PSI)	
	1	2	3				-S	-SS
	(in.)	(in.)	UN/UNF-2A					
4 S5OLO	1/4	1/4	7/16 - 20	9/16	0.85	1.30	6.0	6.0
4-4-6 S5OLO	1/4	1/4	9/16 - 18	9/16	0.93	1.46	6.0	6.0
6 S5OLO	3/8	3/8	9/16 - 18	3/4	0.98	1.46	6.0	6.0
6-6-4 S5OLO	3/8	3/8	7/16 - 20	3/4	0.98	1.38	6.0	6.0
6-6-8 S5OLO	3/8	3/8	3/4 - 16	3/4	1.04	1.59	6.0	6.0
8 S5OLO	1/2	1/2	3/4 - 16	3/4	1.10	1.59	6.0	6.0
8-8-10 S5OLO	1/2	1/2	7/8 - 14	1 1/16	1.24	1.97	6.0	6.0
8-8-12 S5OLO	1/2	1/2	1 1/16 - 12	1 3/16	1.34	2.17	6.0	6.0
10 S5OLO	5/8	5/8	7/8 - 14	1 1/16	1.32	1.97	6.0	6.0
10-10-12 S5OLO	5/8	5/8	1 1/16 - 12	1 3/16	1.42	2.17	6.0	6.0
12 S5OLO	3/4	3/4	1 1/16 - 12	1 3/16	1.48	2.17	6.0	6.0
12-12-16 S5OLO	3/4	3/4	1 5/16 - 12	1 7/16	1.61	2.34	5.5	5.5
16 S5OLO	1	1	1 5/16 - 12	1 7/16	1.63	2.34	5.5	5.5
16-16-20 S5OLO	1	1	1 5/8 - 12	1 5/8	1.75	2.44	4.0	4.0
20 S5OLO	1 1/4	1 1/4	1 5/8 - 12	1 5/8	1.75	2.44	4.0	4.0
24 S5OLO	1 1/2	1 1/2	1 7/8 - 12	1 7/8	1.93	2.60	4.0	4.0

R5OLO

Straight Thread Run Tee
 ORFS / SAE-ORB / ORFS

SAE 520428



* JJ – Across
 Wrench Flats

TUBE FITTING PART #	END SIZE			JJ (in.)	M (in.)	N (in.)	Dynamic Pressure (x 1,000 PSI)	
	1	2	3				-S	-SS
	(in.)	UN/UNF-2A	(in.)					
4 R5OLO	1/4	7/16 - 20	1/4	9/16	0.85	1.30	6.0	6.0
4-6-4 R5OLO	1/4	9/16 - 18	1/4	3/4	0.92	1.46	6.0	6.0
6 R5OLO	3/8	9/16 - 18	3/8	3/4	0.98	1.46	6.0	6.0
6-8-6 R5OLO	3/8	3/4 - 16	3/8	3/4	1.04	1.59	6.0	6.0
8 R5OLO	1/2	3/4 - 16	1/2	3/4	1.10	1.59	6.0	6.0
8-10-8 R5OLO	1/2	7/8 - 14	1/2	1 1/16	1.24	1.97	6.0	6.0
10 R5OLO	5/8	7/8 - 14	5/8	1 1/16	1.32	1.97	6.0	6.0
10-12-10 R5OLO	5/8	1 1/16 - 12	5/8	1 3/16	1.42	2.17	6.0	6.0
12 R5OLO	3/4	1 1/16 - 12	3/4	1 3/16	1.48	2.17	6.0	6.0
12-16-12 R5OLO	3/4	1 5/16 - 12	3/4	1 7/16	1.61	2.34	5.5	5.5
16 R5OLO	1	1 5/16 - 12	1	1 7/16	1.63	2.34	5.5	5.5
16-20-16 R5OLO	1	1 5/8 - 12	1	1 5/8	1.75	2.44	4.0	4.0
20 R5OLO	1 1/4	1 5/8 - 12	1 1/4	1 5/8	1.75	2.44	4.0	4.0
24 R5OLO	1 1/2	1 7/8 - 12	1 1/2	1 7/8	1.93	2.60	4.0	4.0

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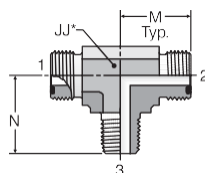
TUBE FAB
EQUIP

GEN TECH

SLO

Male Pipe Tee
 ORFS / ORFS / NPTF

SAE 520425



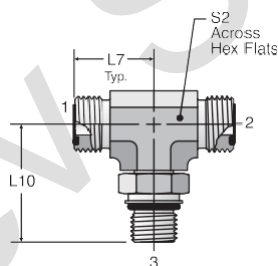
* JJ – Across
 Wrench Flats

TUBE FITTING PART #	END SIZE		JJ (in.)	M (in.)	N (in.)	Dynamic Pressure (x 1,000 PSI)	
	1 & 2	3				-S	-SS
	(in.)	NPTF					
4-4-4 SLO	1/4	1/4 - 18	9/16	0.85	1.12	6.0	6.0
6 SLO	3/8	1/4 - 18	3/4	0.98	1.09	6.0	6.0
6-6-6 SLO	3/8	3/8 - 18	3/4	0.98	1.22	6.0	6.0
8 SLO	1/2	3/8 - 18	3/4	1.10	1.22	6.0	6.0
8-8-8 SLO	1/2	1/2 - 14	7/8	1.10	1.47	6.0	6.0
10 SLO	5/8	1/2 - 14	1 1/16	1.31	1.47	6.0	6.0
12 SLO	3/4	3/4 - 14	1 3/16	1.47	1.59	4.0	4.0
16 SLO	1	1 - 11 1/2	1 7/16	1.64	1.97	3.0	3.0
20 SLO	1 1/4	1 1/4 - 11 1/2	1 5/8	1.76	2.38	2.5	2.5

S87OMLO

Metric Straight Thread Branch Tee
 ORFS / ORFS / ISO 6149

ISO 8434-3 SDBT
 SAE 52M0489



* S2 – Across
 Hex Flats

TUBE FITTING PART #	END SIZE			L7 (mm)	L10 (mm)	S2 (mm)	Dynamic Pressure (x 1,000 PSI)	
	1 & 2		3				S	SS
	(mm)	(in.)	ISO 261					
4M12S87OMLO	6	1/4	M12X1.5	21.5	33.0	14	6.0	6.0
4M14S87OMLO	6	1/4	M14X1.5	23.5	35.5	19	6.0	6.0
6M14S87OMLO	8,10	3/8	M14X1.5	25.0	35.5	19	6.0	6.0
6M16S87OMLO	8,10	3/8	M16X1.5	25.0	37.5	19	6.0	6.0
8M14S87OMLO	12	1/2	M14X1.5	28.0	36.0	19	6.0	6.0
8M18S87OMLO	12	1/2	M18X1.5	28.0	41.0	19	6.0	6.0
8M22S87OMLO	12	1/2	M22X1.5	31.0	49.0	27	6.0	6.0
10M22S87OMLO	14,15,16	5/8	M22X1.5	33.5	49.0	27	6.0	6.0
12M27S87OMLO	18,20	3/4	M27X2	37.5	55.5	30	6.0	6.0
16M33S87OMLO	22,25	1	M33X2	41.5	59.5	36	5.1	5.1
20M42S87OMLO	28,30,32	1 1/4	M42X2	44.5	63.0	41	4.0	4.0
24M48S87OMLO	35,38	1 1/2	M48X2	49.0	71.5	50	4.0	4.0

! "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

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TUBE FAB
EQUIP

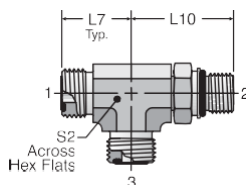
GEN TECH

R87OMLO

Metric Straight Thread Run Tee

ORFS / ISO 6149 / ORFS

ISO 8434-3 SDRT
SAE 52M0488



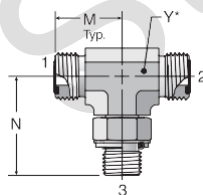
TUBE FITTING PART #	END SIZE			L7 (mm)	L10 (mm)	S2 (mm)	Dynamic Pressure (x 1,000 PSI)	
	1 & 3		2				S	SS
	(mm)	(in.)	ISO 261					
4M12R87OMLO	6	1/4	M12X1.5	21.5	33.0	14	6.0	6.0
4M14R87OMLO	6	1/4	M14X1.5	23.5	35.5	19	6.0	6.0
6M14R87OMLO	8,10	3/8	M14X1.5	25.0	35.5	19	6.0	6.0
6M16R87OMLO	8,10	3/8	M16X1.5	25.0	37.5	19	6.0	6.0
8M14R87OMLO	12	1/2	M14X1.5	28.0	36.0	19	6.0	6.0
8M18R87OMLO	12	1/2	M18X1.5	28.0	41.0	19	6.0	6.0
8M22R87OMLO	12	1/2	M22X1.5	31.0	49.0	27	6.0	6.0
10M22R87OMLO	14,15,16	5/8	M22X1.5	33.5	49.0	27	6.0	6.0
12M27R87OMLO	18,20	3/4	M27X2	37.5	55.5	30	6.0	6.0
16M33R87OMLO	22,25	1	M33X2	41.5	59.5	36	5.0	5.0
20M42R87OMLO	28,30,32	1 1/4	M42X2	44.5	63.0	41	4.0	4.0
24M48R87OMLO	35,38	1 1/2	M48X2	49.0	71.5	50	4.0	4.0

S4OMLO

Branch Tee – BSPP

(for ISO 1179-1 Port)

ORFS / ORFS / BSPP-ORR



* Y – Across
Wrench Flats

TUBE FITTING PART #	END SIZE			M (mm)	N (mm)	Y (mm)	Dynamic Pressure (x 1,000 PSI)	
	1 & 2		3				S	SS
	(mm)	(in.)	BSP					
4S4OMLO	6	1/4	1/8 - 28	21.5	30.0	14	4.0	4.0
4-4-4S4OMLO	6	1/4	1/4 - 19	23.5	36.0	19	4.0	4.0
6S4OMLO	8,10	3/8	1/4 - 19	25.0	36.0	19	4.0	4.0
6-6-6S4OMLO	8,10	3/8	3/8 - 19	26.5	38.0	19	4.0	4.0
8S4OMLO	12	1/2	3/8 - 19	28.0	38.0	19	4.0	4.0
8-8-8S4OMLO	12	1/2	1/2 - 14	31.0	48.5	27	4.0	4.0
10S4OMLO	14,15,16	5/8	1/2 - 14	33.5	48.5	27	4.0	4.0
12S4OMLO	18,20	3/4	3/4 - 14	37.5	51.5	30	4.0	4.0
16S4OMLO	22,25	1	1 - 11	41.5	58.5	36	4.0	4.0

! "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

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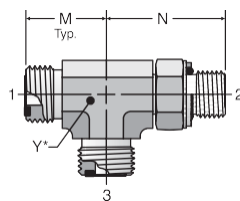
ASSEMBLY

TUBE FAB
EQUIP

GEN TECH

R4OMLO

Run Tee – BSPP
 (for ISO 1179-1 Port)
 ORFS / BSPP-ORR / ORFS



* Y – Across
Wrench Flats

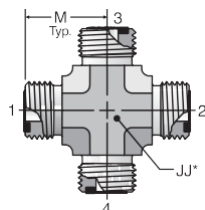
TUBE FITTING PART #	END SIZE			M (mm)	N (mm)	Y (mm)	Dynamic Pressure (x 1,000 PSI)	
	1 & 3		2				S	SS
	(mm)	(in.)	BSPP					
4R4OMLO	6	1/4	1/8 - 28	21.5	30.0	14	4.0	4.0
4-4-4R4OMLO	6	1/4	1/4 - 19	23.5	36.0	19	4.0	4.0
6R4OMLO	8,10	3/8	1/4 - 19	25.0	36.0	19	4.0	4.0
6-6-6R4OMLO	8,10	3/8	3/8 - 19	26.5	38.0	19	4.0	4.0
8R4OMLO	12	1/2	3/8 - 19	28.0	38.0	19	4.0	4.0
8-8-8R4OMLO	12	1/2	1/2 - 14	31.0	48.5	27	4.0	4.0
10R4OMLO	14,15,16	5/8	1/2 - 14	33.5	45.2	27	4.0	4.0
12R4OMLO	18,20	3/4	3/4 - 14	37.5	51.5	30	4.0	4.0
16R4OMLO	22,25	1	1 - 11	41.5	58.5	37	4.0	4.0

⚠ Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections.”.

KLO

Union Cross
 ORFS (all four ends)

SAE 520501



* JJ – Across
Wrench Flats

TUBE FITTING PART #	END SIZE	JJ (in.)	M (in.)	Dynamic Pressure (x 1,000 PSI)	
	1-4 (in.)			-S	-SS
4 KLO	1/4	9/16	0.85	9.2	9.2
6 KLO	3/8	3/4	0.98	9.2	9.2
8 KLO	1/2	3/4	1.10	9.2	9.2
10 KLO	5/8	1 1/16	1.32	6.0	6.0
12 KLO	3/4	1 3/16	1.48	6.0	6.0
16 KLO	1	1 5/8	1.63	6.0	6.0
20 KLO	1 1/4	1 5/8	1.75	5.0	5.0
24 KLO	1 1/2	2 1/8	1.92	4.0	4.0

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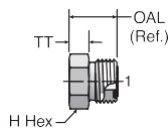
TUBE FAB
EQUIP

GEN TECH

PNLO

Plug
ORFS

SAE 520109



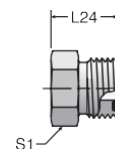
TUBE FITTING PART #	END SIZE	H HEX (in.)	OAL (REF) (in.)	TT (in.)	Dynamic Pressure (x 1,000 PSI)	
					-S	-SS
4 PNLO	1/4	5/8	0.65	0.20	9.2	9.2
6 PNLO	3/8	3/4	0.75	0.32	9.2	9.2
8 PNLO	1/2	7/8	0.87	0.35	9.2	9.2
10 PNLO	5/8	1 1/16	1.02	0.41	6.0	6.0
12 PNLO	3/4	1 1/4	1.08	0.41	6.0	6.0
14 PNLO	7/8	1 3/8	1.10	0.49	6.0	6.0
16 PNLO	1	1 1/2	1.10	0.41	6.0	6.0
20 PNLO	1 1/4	1 3/4	1.10	0.41	6.0	6.0
24 PNLO	1 1/2	2 1/8	1.10	0.41	5.0	5.0
32 PNLO	2	2 3/4	1.40	0.50	3.0	3.0

! "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

PNMLO

Plug – mm Hex
ORFS

ISO 8434-3 PL
SAE 52M0109



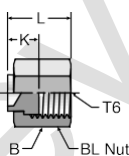
TUBE FITTING PART #	ORFS TUBE O.D.		L24 (mm)	S1 HEX (mm)	Dynamic Pressure (x 1,000 PSI)	
	(mm)	(in.)			S	SS
4PNMLO	6	1/4	16.5	17	9.2	9.2
6PNMLO	8,10	3/8	19.0	19	9.2	9.2
8PNMLO	12	1/2	22.0	22	9.2	9.2
10PNMLO	14,15,16	5/8	26.0	27	6.0	6.0
12PNMLO	18,20	3/4	27.5	32	6.0	6.0
16PNMLO	22,25	1	28.0	41	6.0	6.0
20PNMLO	28,30,32	1 1/4	28.0	46	6.0	6.0
24PNMLO	38	1 1/2	28.0	55	5.0	5.0

! "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

FNL

Cap
ORFS

SAE 520112

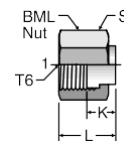


TUBE FITTING PART #	TUBE O.D. (in.)	T6 SWIVEL UN/UNF-2B	B HEX (in.)	K (in.)	L (in.)	Dynamic Pressure (x 1,000 PSI)	
						-S	-SS
4 FNL	1/4	9/16 - 18	11/16	0.35	0.66	9.2	9.2
6 FNL	3/8	11/16 - 16	13/16	0.41	0.74	9.2	9.2
8 FNL	1/2	13/16 - 16	15/16	0.47	0.87	9.2	9.2
10 FNL	5/8	1 - 14	1 1/8	0.53	1.02	6.0	6.0
12 FNL	3/4	1 3/16 - 12	1 3/8	0.59	1.12	6.0	6.0
14 FNL	7/8	1 5/16 - 12	1 1/2	0.59	1.12	6.0	6.0
16 FNL	1	1 7/16 - 12	1 5/8	0.63	1.16	6.0	6.0
20 FNL	1 1/4	1 11/16 - 12	1 7/8	0.63	1.16	6.0	6.0
24 FNL	1 1/2	2 - 12	2 1/4	0.63	1.16	5.0	5.0
32 FNL	2	2 1/2 - 12	2 7/8	0.79	1.46	3.0	3.0

! "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

FNML

Cap
ORFS



TUBE FITTING PART #	TUBE O.D.		T6 SWIVEL UN/UNF-2B	K (mm)	L (mm)	S HEX (mm)	Dynamic Pressure (x 1,000 PSI)	
	(mm)	(in.)					S	SS
4FNML	6	1/4	9/16 - 18	9.0	16.8	17	9.2	9.2
6FNML	8, 10	3/8	11/16 - 16	10.5	18.8	22	9.2	9.2
8FNML	12	1/2	13/16 - 16	12.0	22.0	24	9.2	9.2
10FNML	14, 15, 16	5/8	1 - 14	13.5	26.0	30	6.0	6.0
12FNML	18, 20	3/4	1 3/16 - 12	15.0	28.6	36	6.0	6.0
16FNML	22, 25	1	1 7/16 - 12	16.0	29.5	41	6.0	6.0
20FNML	28, 30, 32	1 1/4	1 11/16 - 12	16.0	29.5	50	6.0	6.0
24FNML	35, 38	1 1/2	2 - 12	16.0	29.5	60	5.0	5.0

! "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

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TUBE FAB EQUIP

GEN TECH

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MAHADEV STEEL INDIA

Ferrule Fittings | Tube Fittings | Instrument Fittings



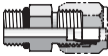
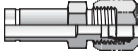
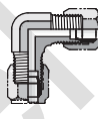
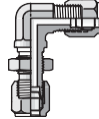
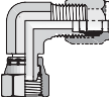
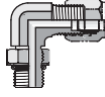
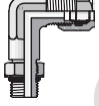
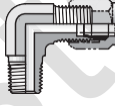
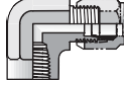
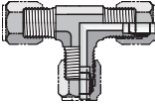
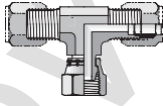
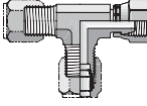
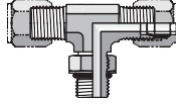
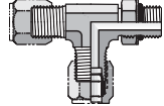
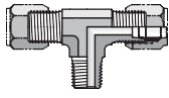
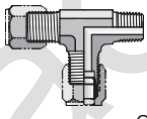
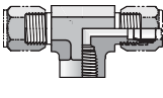
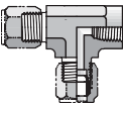
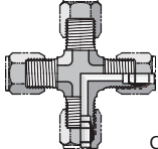
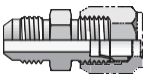
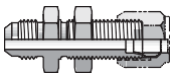
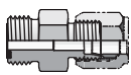
Nuts, Ferrules, Locknuts	BU Nut  C7	TU Ferrules  C7	WLN Bulkhead Locknut  C7	Straights	HBU Union  C7
	WBU Bulkhead Union  C8	F5BU SAE-ORB / Flareless  C8	FBU NPTF / Flareless  C8	GBU NPTF / Flareless  C9	TRBU Tube End Reducer  C9
45° Elbows	V5BU SAE-ORB / Flareless  C9	VBU NPTF / Flareless  C9	90° Elbows	EBU Union Elbow  C10	WEBU Bulkhead Union Elbow  C10
	C6BU Flareless Swivel/Flareless  C10	C5BU SAE-ORB / Flareless  C10	CC5BU SAE-ORB / Flareless  C11	CBU NPTF / Flareless  C11	DBU NPTF / Flareless  C11
Tees	JBU Union Tee  C12	S6BU Swivel Branch Tee  C12	R6BU Swivel Run Tee  C12	S5BU SAE-ORB Branch Tee  C12	R5BU SAE-ORB Run Tee  C13
	SBU NPTF Branch Tee  C13	RBU NPTF Run Tee  C13	OBU NPTF Branch Tee  C13	MBU NPTF Run Tee  C14	KBU Union Cross  C14
Plugs and Caps	PNU Plug  C14	FNU Cap  C14			

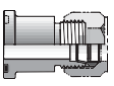
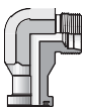
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Dimensions and pressures for reference only, subject to change.

Conversion Adapters (Shown in Section J)

	XHBU 37° Flare / Flareless	XHBU2 37° / Flareless Bulkhead	BUHLO ORFS / 24° Flareless
			
	J4	J4	J4

Flange Adapters (Shown in Section K)

	BUHQ1 Code 61 / Flareless	BUVQ1 Code 61 / Flareless	BUEQ1 Code 61 / Flareless
			
	K12	K32	K33

O-Rings and Seals (Shown in Section M)

	SAE O-Ring
	
	M4

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Dimensions and pressures for reference only, subject to change.

Introduction

The Mahadev Steel India fitting design and performance capabilities far exceed the strict requirements of SAE J514. The Mahadev Steel India fitting is a flareless fitting that consists of a body, a one-piece ferrule, and a nut. On assembly, the ferrule “bites” into the outer surface of the tube with sufficient strength to hold the tube against pressure and seal the fluid, without considerable distortion of the inside tube diameter. Mahadev Steel India fittings have a visible bite, allowing the fitting assembler to visually inspect the bite quality, thus significantly minimizing the risk of improper assembly and related service problems. Mahadev Steel India fittings are especially suitable for use with tube wall thickness ranging from medium to extra heavy.

How Mahadev Steel India Fittings Work

The ferrule in the Mahadev Steel India fitting forms pressure tight seals with the tube and the fitting body. These seals are the result of several key characteristics graphically shown in Fig. C1. Below are detailed explanations of each of these key features.

- When properly assembled, the wedging action of the Mahadev Steel India design will cause the end of the tube to press firmly against the seat in the body. This action will cause the tube to develop a small indentation circumferentially on the bottom of the tube. This indentation serves as a good post assembly inspection criterion.
- As the ferrule moves forward, it contacts the tapered seat of the body, which causes the ferrule to move inward into the tube. The leading edge of the hardened ferrule makes a clean 360° cut into the outside diameter of the tube. This cut is often termed a “bite” and thus “bite type fitting”. As the ferrule makes its bite, a small ridge of material is plowed up in front of the ferrule. This intimate contact of the tube ridge with the ferrule’s front face and bite edge gives the fitting its ability to retain high pressure without leaking or blowing off. A second seal point is also created between the now bowed ferrule and the fitting body seat.
- As the ferrule bites into the tube, the mid section will bow and the inside diameter of the back area firmly grips the tube. This action keeps the stresses, caused by flexural and vibration loading, from being concentrated in the bite area. The “compression grip” at the back end is a key factor for long life in rigorous applications.

All Mahadev Steel India parts come with the ferrule, and nut. However, Mahadev Steel India fittings can be purchased without nuts and sleeves for use with hose crimp fittings (Fig. C2). This can be done by dropping the ‘B’ from the part number. For example, (4 CBU-S, 4 CU-S). When used with a hose crimp fitting, sealing occurs between the 24° cone of the fitting body and the hose swivel as shown.

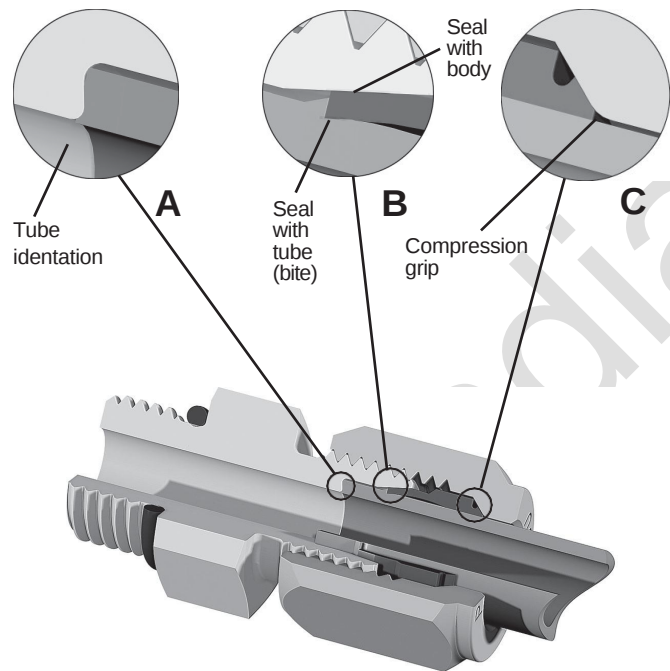


Fig. C1 – Assembled Mahadev Steel India Fitting with Tube

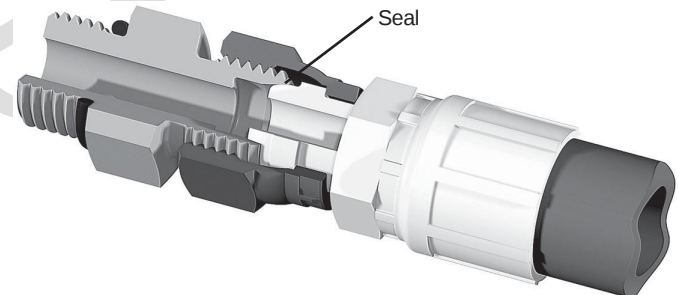


Fig. C2 – Mahadev Steel India Fitting with Hose Assembly

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The Mahadev Steel India Tube Recommendation Advantage

Robust Port Stud: The adjustable port stud is manufactured with a longer locknut designed to cover the uppermost threads completely. Since the backup washer is never exposed to the upper threads, it cannot be damaged during assembly. During assembly, exposed upper threads, as common with fittings from other fitting manufacturers, can lead to a deformed backup washer that can pinch the o-ring and create an o-ring extrusion gap that has the potential to leak. The longer locknut also provides a greater grip area for the wrench.

Visible bite: The style A (SAE 080115A) ferrule design allows for an easy inspection of the bite in the tubing. A verification can quickly be achieved which reduces time and assures proper assembly. This assurance also eliminates the risk of leaks and catastrophic failures.

Rear compression grip: The ferrule is also designed with a rear bevel to firmly hold the nut and tubing. This enhancement dampens the effects of vibration in the connection; thus extending the life of the joint.

Metal-to-metal sealing: The metal to metal sealing function broadens the range of both temperatures and media types. The temperature and media range of Mahadev Steel India is not limited by an elastomeric seal, but by the range of steel and stainless steel (see page S17 of the General Technical section for material temperature and media compatibility).

Superior Plating: Mahadev Steel India's Mahadev Steel India steel fittings come standard with ToughShield™ Plus zinc-nickel plating, giving them unmatched protection against red rust. In ASTM B117 / ISO 9227 neutral salt spray testing, fittings and adapters with ToughShield Plus plating remained rust free for up to 3,000 hours. This performance far exceeds the SAE industry requirement, even on post plating deformed parts like crimp nuts and back-up washers where SAE allows for large exceptions. Learn more and see the difference at [Mahadev Steel India](#)

No special tooling required: Neither flaring nor flanging tools are required to make a Mahadev Steel India connection. Smaller sizes of Mahadev Steel India can be assembled by a wrench thus reducing tooling costs and assembly time. However, portable presetting equipment is available for larger sizes and/or high production (see Section Q of the catalog for equipment available).

Reference locations

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

Assembly and Installation: Please refer to Mahadev Steel India Assembly located within the Assembly/Installation section of this catalog.

Recommended Tube Wall Thickness: Please refer to Table S14 located in the General Technical section.

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

Seal Material Selection: Please refer to Table S10 in the General Technical section of this catalog for elastomeric seal. Dimensions and pressures for reference only, subject to change.

Maximum tube wall thickness is based on the pressure holding capability of Mahadev Steel India fittings. Tubes above the recommended range can be used. However, the pressure holding capability of the assembly will be limited to the fitting capacity. The proper Mahadev Steel India assembly procedures as outlined on pages R30 - R33 of this catalog are critical to the performance of the fitting. Steel Mahadev Steel India works best with seamless or welded and drawn fully annealed tube, SAE

J356, SAE J524, SAE J525 (max. hardness, RB72) or equivalent specification steel tube. For stainless steel Mahadev Steel India fittings, types 304 and 316 of ASTM A269, ASTM A213 (max. hardness, RB90) or equivalent stainless steel tube is recommended.

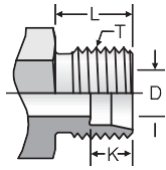
Mahadev Steel India fittings are also suitable for use with soft metal tube and various types of plastic tubes such as nylon, polyethylene, etc. When used with plastic tube, it is strongly recommended that a tube insert, such as T23UI, be used to reduce tube collapse and prevent tube pull out due to tensile loading.

See Table U3 in Appendix on Page U6. Consult the Mahadev Steel India Hannifin Tube Fittings Division for other combinations of tube and tube fitting materials not shown.

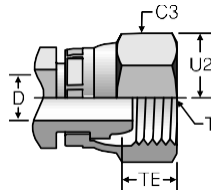
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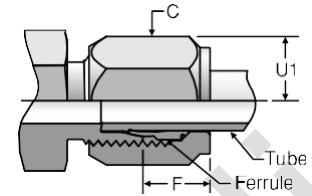
Mahadev Steel India Flareless Tube Ends



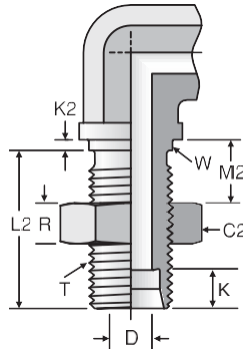
Mahadev Steel India Male Stud Tube End



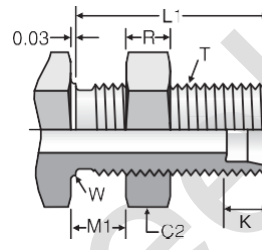
Mahadev Steel India Female Swivel End



Mahadev Steel India Tube End Assembly



Mahadev Steel India Shape Bulkhead



Mahadev Steel India Straight Bulkhead

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SAE Dash Size	Tube O.D. (in.)	Thread	Tube Nut Hex	Bulkhead Locknut Hex	Swivel Nut Hex	Max Drill	Allowance		Male Turn Back	Pilot Length Shapes	Bulkhead		Locknut Thickness	Pilot Dia	Max Bulkhead Thickness		Thread Engagement	Across Corners	
							Tube Nut Assembled	Tube			Length - Straights	Length - Shapes			Straights	Shapes		Tube Nut Hex	Swivel Nut Hex
		T UN/UNF	C (in.)	C2 (in.)	C3 (in.)	D (in.)	F (in.)	K (in.)	L (in.)	K2 (in.)	L1 (in.)	L2 (in.)	R (in.)	W ¹⁾ (in.)	M1 (in.)	M2 (in.)	TE (in.)	U1 (in.)	U2 (in.)
2	1/8	5/16-24	3/8	9/16	7/16	0.093	0.31	0.19	0.375	0.09	1.02	0.83	0.22	0.31	0.28	0.38	0.22	0.22	0.25
3	3/16	3/8-24	7/16	5/8	1/2	0.125	0.34	0.24	0.422	0.09	1.06	0.88	0.22	0.37	0.28	0.38	0.25	0.25	0.29
4	1/4	7/16-20	9/16	11/16	9/16	0.203	0.42	0.24	0.453	0.09	1.12	0.94	0.28	0.44	0.38	0.28	0.29	0.33	0.33
5	5/16	1/2-20	5/8	3/4	5/8	0.234	0.42	0.26	0.453	0.09	1.12	0.94	0.28	0.50	0.28	0.38	0.31	0.36	0.36
6	3/8	9/16-18	11/16	13/16	11/16	0.281	0.47	0.26	0.469	0.09	1.17	0.98	0.27	0.56	0.40	0.31	0.34	0.40	0.40
8	1/2	3/4-16	7/8	1	7/8	0.422	0.50	0.31	0.562	0.13	1.31	1.12	0.31	0.75	0.40	0.31	0.32	0.51	0.51
10	5/8	7/8-14	1	1 1/8	1	0.500	0.53	0.36	0.625	0.13	1.45	1.27	0.36	0.88	0.44	0.38	0.37	0.58	0.59
12	3/4	1 1/16-12	1 1/4	1 3/8	1 1/4	0.656	0.56	0.36	0.688	0.13	1.56	1.38	0.41	1.06	0.44	0.38	0.42	0.72	0.73
14	7/8	1 3/16-12	1 3/8	1 1/2	1 3/8	0.719	0.53	0.36	0.688	0.13	1.56	1.38	0.41	1.19	0.44	0.38	0.34	0.79	0.79
16	1	1 5/16-12	1 1/2	1 5/8	1 1/2	0.875	0.66	0.42	0.688	0.13	1.56	1.38	0.41	1.31	0.44	0.38	0.32	0.87	0.88
20	1 1/4	1 5/8-12	2	1 7/8	2	1.094	0.72	0.42	0.688	0.13	1.56	1.38	0.41	1.62	0.44	0.38	0.33	1.15	1.17
24	1 1/2	1 7/8-12	2 1/4	2 1/8	2 1/4	1.344	0.72	0.49	0.688	0.13	1.56	1.38	0.41	1.87	0.44	0.38	0.34	1.30	1.29
32	2	2 1/2-12	2 7/8	2 3/4	2 7/8	1.813	0.84	0.49	0.688	0.13	1.77	1.58	0.41	2.50	0.63	0.56	0.34	1.66	1.64

1) Recommended clearance hole +0.015 over W dia.

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

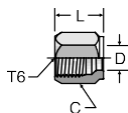
Dimensions and pressures for reference only, subject to change.

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BU

Nut
Flareless

SAE 080110



TUBE FITTING PART #	TUBE O.D. (in.)	T6 UN/UNF-2B	C HEX (in.)	D DRILL (in.)	L (in.)	Material	
						-S	-SS
2 BU	1/8	5/16 - 24	3/8	0.130	0.53	•	•
3 BU	3/16	3/8 - 24	7/16	0.193	0.61	•	•
4 BU	1/4	7/16 - 20	9/16	0.255	0.70	•	•
5 BU	5/16	1/2 - 20	5/8	0.318	0.72	•	•
6 BU	3/8	9/16 - 18	11/16	0.380	0.75	•	•
8 BU	1/2	3/4 - 16	7/8	0.505	0.84	•	•
10 BU	5/8	7/8 - 14	1	0.631	0.92	•	•
12 BU	3/4	1 1/16 - 12	1 1/4	0.756	0.97	•	•
14 BU	7/8	1 3/16 - 12	1 3/8	0.881	1.00	•	•
16 BU	1	1 5/16 - 12	1 1/2	1.006	1.05	•	•
20 BU	1 1/4	1 5/8 - 12	2	1.260	1.05	•	•
24 BU	1 1/2	1 7/8 - 12	2 1/4	1.510	1.03	•	•

! "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

TU

Ferrule
Flareless

SAE 080115A



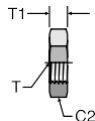
TUBE FITTING PART #	TUBE O.D. (in.)	A (in.)	C (in.)	H (in.)	Material	
					-S	-SS
2 TU	1/8	0.13	0.24	0.29	•	•
3 TU	3/16	0.19	0.31	0.33	•	•
4 TU	1/4	0.26	0.37	0.36	•	•
5 TU	5/16	0.32	0.43	0.37	•	•
6 TU	3/8	0.38	0.50	0.39	•	•
8 TU	1/2	0.51	0.66	0.43	•	•
10 TU	5/8	0.63	0.78	0.44	•	•
12 TU	3/4	0.76	0.93	0.48	•	•
14 TU	7/8	0.88	1.06	0.48	•	•
16 TU	1	1.01	1.19	0.48	•	•
20 TU	1 1/4	1.26	1.45	0.48	•	•
24 TU	1 1/2	1.51	1.69	0.48	•	•

! "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

WLN

Bulkhead Locknut
Flareless

SAE 080118 and 070118



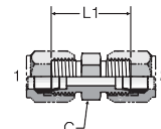
TUBE FITTING PART #	TUBE O.D. (in.)	T UN/UNF-2B	C2 HEX (in.)	T1 (in.)	Material	
					-S	-SS
3 WLN	3/16	3/8 - 24	5/8	0.22	•	•
4 WLN	1/4	7/16 - 20	11/16	0.28	•	•
5 WLN	5/16	1/2 - 20	3/4	0.28	•	•
6 WLN	3/8	9/16 - 18	13/16	0.27	•	•
8 WLN	1/2	3/4 - 16	1	0.31	•	•
10 WLN	5/8	7/8 - 14	1 1/8	0.36	•	•
12 WLN	3/4	1 1/16 - 12	1 3/8	0.41	•	•
14 WLN	7/8	1 3/16 - 12	1 1/2	0.41	•	•
16 WLN	1	1 5/16 - 12	1 5/8	0.41	•	•
20 WLN	1 1/4	1 5/8 - 12	1 7/8	0.41	•	•
24 WLN	1 1/2	1 7/8 - 12	2 1/8	0.41	•	•
32 WLN	2	2 1/2 - 12	2 3/4	0.41	•	•

! "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

HBU

Union
Flareless / Flareless

SAE 080101



TUBE FITTING PART #	END SIZE		C HEX (in.)	L1 (in.)	Dynamic Pressure (x 1,000 PSI)	
	1 (in.)	2 (in.)			-S	-SS
2 HBU	1/8	1/8	7/16	1.02	6.0	6.0
3 HBU	3/16	3/16	7/16	1.11	6.0	6.0
4 HBU	1/4	1/4	1/2	1.19	6.0	6.0
5 HBU	5/16	5/16	9/16	1.19	6.0	6.0
6 HBU	3/8	3/8	5/8	1.24	6.0	6.0
6-4 HBU	3/8	1/4	5/8	1.22	6.0	6.0
8 HBU	1/2	1/2	13/16	1.42	5.0	5.0
8-6 HBU	1/2	3/8	13/16	1.33	5.0	5.0
10 HBU	5/8	5/8	15/16	1.61	5.0	5.0
10-8 HBU	5/8	1/2	15/16	1.55	5.0	5.0
12 HBU	3/4	3/4	1 1/8	1.81	4.5	4.5
14 HBU	7/8	7/8	1 1/4	1.81	4.0	4.0
16 HBU	1	1	1 3/8	1.81	4.0	4.0
20 HBU	1 1/4	1 1/4	1 11/16	1.89	3.0	3.0
24 HBU	1 1/2	1 1/2	2	1.96	2.0	2.0
32 HBU	2	2	2 5/8	2.11	1.5	1.5

! "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

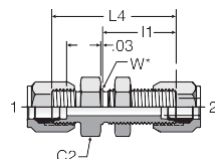
Dimensions and pressures for reference only, subject to change.

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WBU

Bulkhead Union
 Flareless / Flareless Bulkhead

SAE 080601



* W – Bulkhead pilot dia.
 recommended clearance
 hole is +.015 over W dia.

TUBE FITTING PART #	END SIZE		C2 HEX (in.)	I1 (in.)	L4 (in.)	W (in.)	Max. Bulkhead Thickness	Dynamic Pressure (x 1,000 PSI)	
	1	2						-S	-SS
	(in.)	(in.)							
4 WBU	1/4	1/4	11/16	1.12	1.89	0.44	0.38	6.0	6.0
6 WBU	3/8	3/8	13/16	1.17	1.98	0.56	0.40	6.0	6.0
8 WBU	1/2	1/2	1	1.31	2.22	0.75	0.40	5.0	5.0
10 WBU	5/8	5/8	1 1/8	1.45	2.48	0.88	0.44	5.0	5.0
12 WBU	3/4	3/4	1 3/8	1.56	2.72	1.06	0.44	4.5	4.5
16 WBU	1	1	1 5/8	1.56	2.72	1.31	0.44	4.0	4.0

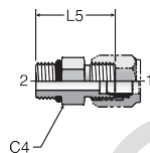
Part comes with the WLN locknut.

⚠ "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

F5BU

Straight Thread Connector
 Flareless / SAE-ORB

SAE 080120



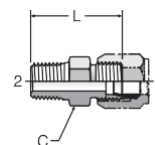
TUBE FITTING PART #	END SIZE		C4 HEX (in.)	L5 (in.)	Dynamic Pressure (x 1,000 PSI)	
	1 (in.)	2 UN/UNF-2A			-S	-SS
2 F5BU	1/8	5/16 - 24	7/16	0.99	6.0	6.0
3 F5BU	3/16	3/8 - 24	1/2	1.05	6.0	6.0
4 F5BU	1/4	7/16 - 20	9/16	1.13	6.0	6.0
4-5 F5BU	1/4	1/2 - 20	5/8	1.13	6.0	6.0
4-6 F5BU	1/4	9/16 - 18	11/16	1.20	6.0	6.0
5 F5BU	5/16	1/2 - 20	5/8	1.13	6.0	6.0
6 F5BU	3/8	9/16 - 18	11/16	1.22	6.0	6.0
6-4 F5BU	3/8	7/16 - 20	5/8	1.19	6.0	6.0
6-8 F5BU	3/8	3/4 - 16	7/8	1.28	6.0	6.0
8 F5BU	1/2	3/4 - 16	7/8	1.38	5.0	5.0
8-6 F5BU	1/2	9/16 - 18	13/16	1.28	5.0	5.0
8-10 F5BU	1/2	7/8 - 14	1	1.50	5.0	5.0
8-12 F5BU	1/2	1 1/16 - 12	1 1/4	1.67	4.5	4.5
10 F5BU	5/8	7/8 - 14	1	1.56	5.0	5.0
10-12 F5BU	5/8	1 1/16 - 12	1 1/4	1.73	4.5	4.5
12 F5BU	3/4	1 1/16 - 12	1 1/4	1.78	4.5	4.5
12-8 F5BU	3/4	3/4 - 16	1 1/8	1.75	4.5	4.5
12-16 F5BU	3/4	1 5/16 - 12	1 1/2	1.81	4.0	4.0
16 F5BU	1	1 5/16 - 12	1 1/2	1.81	4.0	4.0
16-12 F5BU	1	1 1/16 - 12	1 3/8	1.81	4.0	4.0
16-20 F5BU	1	1 5/8 - 12	1 7/8	1.91	3.0	3.0
20 F5BU	1 1/4	1 5/8 - 12	1 7/8	1.91	3.0	3.0
24 F5BU	1 1/2	1 7/8 - 12	2 1/8	1.97	3.0	3.0
32 F5BU	2	2 1/2 - 12	2 3/4	2.13	2.0	2.0

⚠ "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

FBU

Male Connector
 Flareless / NPTF

SAE 080102



TUBE FITTING PART #	END SIZE		C HEX (in.)	L (in.)	Dynamic Pressure (x 1,000 PSI)	
	1 (in.)	2 NPTF			-S	-SS
2 FBU	1/8	1/8 - 27	7/16	1.04	6.0	6.0
2-4 FBU	1/8	1/4 - 18	9/16	1.24	6.0	6.0
3 FBU	3/16	1/8 - 27	7/16	1.09	6.0	6.0
4 FBU	1/4	1/8 - 27	1/2	1.12	6.0	6.0
4-4 FBU	1/4	1/4 - 18	9/16	1.32	6.0	6.0
4-6 FBU	1/4	3/8 - 18	3/4	1.33	6.0	6.0
4-8 FBU	1/4	1/2 - 14	7/8	1.58	6.0	6.0
5 FBU	5/16	1/8 - 27	9/16	1.12	6.0	6.0
5-4 FBU	5/16	1/4 - 18	9/16	1.32	6.0	6.0
6 FBU	3/8	1/4 - 18	5/8	1.34	6.0	6.0
6-2 FBU	3/8	1/8 - 27	5/8	1.15	6.0	6.0
6-6 FBU	3/8	3/8 - 18	3/4	1.35	6.0	6.0
6-8 FBU	3/8	1/2 - 14	15/16	1.60	6.0	6.0
8 FBU	1/2	3/8 - 18	13/16	1.44	5.0	5.0
8-4 FBU	1/2	1/4 - 18	13/16	1.44	5.0	5.0
8-8 FBU	1/2	1/2 - 14	7/8	1.69	5.0	5.0
8-12 FBU	1/2	3/4 - 14	1 1/8	1.76	4.0	4.0
10 FBU	5/8	1/2 - 14	15/16	1.75	4.5	4.5
10-6 FBU	5/8	3/8 - 18	15/16	1.56	4.5	4.5
10-12 FBU	5/8	3/4 - 14	1 1/8	1.82	4.0	4.0
12 FBU	3/4	3/4 - 14	1 1/8	1.88	4.0	4.0
12-8 FBU	3/4	1/2 - 14	1 1/8	1.88	4.0	4.0
14 FBU	7/8	3/4 - 14	1 1/4	1.88	3.0	3.0
16 FBU	1	1 - 11 1/2	1 3/8	2.07	3.0	3.0
16-12 FBU	1	3/4 - 14	1 3/8	1.88	3.0	3.0
20 FBU	1 1/4	1 1/4 - 11 1/2	1 11/16	2.18	2.5	2.5
24 FBU	1 1/2	1 1/2 - 11 1/2	2	2.28	2.5	2.5
32 FBU	2	2 - 11 1/2	2 3/4	2.46	2.0	2.0

⚠ "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

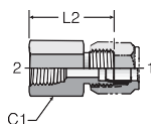
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GBU

Female Connector
Flareless / NPTF

SAE 080103



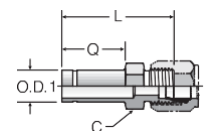
TUBE FITTING PART #	END SIZE		C1 HEX (in.)	L2 (in.)	Dynamic Pressure (x 1,000 PSI)	
	1	2			-S	-SS
	(in.)	NPTF				
2 GBU	1/8	1/8 - 27	9/16	1.05	5.0	5.0
4 GBU	1/4	1/8 - 27	9/16	1.09	5.0	5.0
4-4 GBU	1/4	1/4 - 18	3/4	1.29	5.0	5.0
5 GBU	5/16	1/8 - 27	9/16	1.08	5.0	5.0
6 GBU	3/8	1/4 - 18	3/4	1.31	5.0	5.0
6-6 GBU	3/8	3/8 - 18	7/8	1.34	5.0	5.0
6-8 GBU	3/8	1/2 - 14	1 1/8	1.59	5.0	5.0
8 GBU	1/2	3/8 - 18	7/8	1.47	5.0	5.0
8-4 GBU	1/2	1/4 - 18	7/8	1.46	5.0	5.0
8-8 GBU	1/2	1/2 - 14	1 1/8	1.69	5.0	5.0
10 GBU	5/8	1/2 - 14	1 1/8	1.77	4.5	4.5
12 GBU	3/4	3/4 - 14	1 3/8	1.89	4.0	4.0
14 GBU	7/8	3/4 - 14	1 3/8	1.86	3.0	3.0
16 GBU	1	1 - 11 1/2	1 5/8	2.13	3.0	3.0
20 GBU	1 1/4	1 1/4 - 11 1/2	2	2.22	2.5	2.5
24 GBU	1 1/2	1 1/2 - 11 1/2	2 3/8	2.23	2.5	2.5

⚠ "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

TRBU

Tube End Reducer
Tube / Flareless

SAE 080123



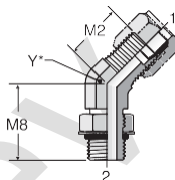
TUBE FITTING PART #	END SIZE		C HEX (in.)	L (in.)	Q (in.)	Dynamic Pressure (x 1,000 PSI)	
	1	2				-S	-SS
	(in.)	(in.)					
6-4 TRBU	3/8	1/4	1/2	1.61	0.88	6.0	6.0
8-4 TRBU	1/2	1/4	9/16	1.73	1.00	5.0	5.0
8-6 TRBU	1/2	3/8	5/8	1.77	1.00	5.0	5.0
10-6 TRBU	5/8	3/8	11/16	1.86	1.09	5.0	5.0
10-8 TRBU	5/8	1/2	13/16	1.95	1.09	4.5	4.5
12-6 TRBU	3/4	3/8	13/16	1.94	1.16	4.5	4.5
12-8 TRBU	3/4	1/2	13/16	2.03	1.16	4.5	4.5
12-10 TRBU	3/4	5/8	15/16	2.16	1.16	4.5	4.5
14-10 TRBU	7/8	5/8	15/16	2.14	1.16	4.0	4.0
16-8 TRBU	1	1/2	1 1/16	2.05	1.13	4.0	4.0
16-10 TRBU	1	5/8	1 1/16	2.11	1.13	4.0	4.0
16-12 TRBU	1	3/4	1 1/8	2.25	1.13	4.0	4.0
20-16 TRBU	1 1/4	1	1 3/8	2.28	1.16	3.0	3.0
24-12 TRBU	1 1/2	3/4	1 5/8	2.45	1.25	2.0	2.0
24-16 TRBU	1 1/2	1	1 5/8	2.45	1.25	2.0	2.0
24-20 TRBU	1 1/2	1 1/4	1 7/8	2.45	1.25	2.0	2.0

⚠ "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

V5BU

45° Straight Thread Elbow
Flareless / SAE-ORB

SAE 080320



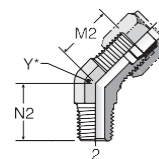
* Y – Across wrench flats

TUBE FITTING PART #	END SIZE		M2 (in.)	M8 (in.)	Y (in.)	Dynamic Pressure (x 1,000 PSI)	
	1 (in.)	2 UN/UNF-2A				-S	-SS
4 V5BU	1/4	7/16 - 20	0.70	1.05	7/16	5.0	5.0
6 V5BU	3/8	9/16 - 18	0.83	1.14	9/16	5.0	5.0
8 V5BU	1/2	3/4 - 16	0.98	1.30	3/4	5.0	5.0
12 V5BU	3/4	1 1/16 - 12	1.27	1.73	1 1/16	4.0	4.0
16 V5BU	1	1 5/16 - 12	1.36	1.86	1 5/16	3.0	3.0

VBU

45° Male Elbow
Flareless / NPTF

SAE 080302



* Y – Across wrench flats

TUBE FITTING PART #	END SIZE		M2 (in.)	N2 (in.)	Y (in.)	Dynamic Pressure (x 1,000 PSI)	
	1	2				-S	-SS
	(in.)	NPTF					
3 VBU	3/16	1/8 - 27	0.64	0.52	7/16	5.0	5.0
4 VBU	1/4	1/8 - 27	0.70	0.64	7/16	5.0	5.0
4-4 VBU	1/4	1/4 - 18	0.81	0.86	9/16	5.0	5.0
5 VBU	5/16	1/8 - 27	0.75	0.66	9/16	5.0	5.0
6 VBU	3/8	1/4 - 18	0.83	0.86	9/16	5.0	5.0
8 VBU	1/2	3/8 - 18	0.98	0.95	3/4	5.0	5.0
10 VBU	5/8	1/2 - 14	1.08	1.17	7/8	4.5	4.5
12 VBU	3/4	3/4 - 14	1.27	1.20	1 1/16	4.0	4.0
14 VBU	7/8	3/4 - 14	1.34	1.30	1 5/16	3.0	3.0
16 VBU	1	1 - 11 1/2	1.36	1.48	1 5/16	3.0	3.0
20 VBU	1 1/4	1 1/4 - 11 1/2	1.45	1.67	1 5/8	2.5	2.5

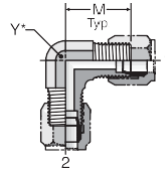
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EBU

Union Elbow
 Flareless / Flareless

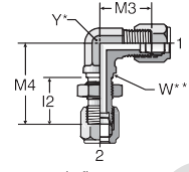
SAE 080201



* Y – Across wrench flats

WEBU

Bulkhead Union Elbow
 Flareless / Flareless Bulkhead



* Y – Across wrench flats.
 W** – Bulkhead pilot dia. recommended clearance hole is +.015 over W dia.

TUBE FITTING PART #	END SIZE		M (in.)	Y (in.)	Dynamic Pressure (x 1,000 PSI)	
	1 (in.)	2 (in.)			-S	-SS
2 EBU	1/8	1/8	0.78	7/16	5.0	5.0
4 EBU	1/4	1/4	0.89	7/16	5.0	5.0
5 EBU	5/16	5/16	0.95	9/16	5.0	5.0
6 EBU	3/8	3/8	1.05	9/16	5.0	5.0
8 EBU	1/2	1/2	1.25	3/4	5.0	5.0
10 EBU	5/8	5/8	1.42	7/8	4.5	4.5
12 EBU	3/4	3/4	1.58	1 1/16	4.0	4.0
14 EBU	7/8	7/8	1.66	1 5/16	3.0	3.0
16 EBU	1	1	1.73	1 5/16	3.0	3.0
20 EBU	1 1/4	1 1/4	1.89	1 5/8	2.5	2.5
24 EBU	1 1/2	1 1/2	2.02	1 7/8	2.0	2.0
32 EBU	2	2	2.45	2 1/2	1.5	1.5

TUBE FITTING PART #	END SIZE		I2 (in.)	M3 (in.)	M4 (in.)	W DIA (in.)	Y (in.)	Max. Bulkhead Thickness	Dynamic Pressure (x 1,000 PSI)	
	1 (in.)	2 (in.)							-S	-SS
4 WEBU	1/4	1/4	0.94	0.95	1.52	0.44	7/16	0.28	5.0	5.0
6 WEBU	3/8	3/8	0.98	1.08	1.70	0.56	9/16	0.26	5.0	5.0
8 WEBU	1/2	1/2	1.12	1.33	1.97	0.75	3/4	0.30	5.0	5.0
10 WEBU	5/8	5/8	1.27	1.52	2.27	0.88	7/8	0.38	4.5	4.5
12 WEBU	3/4	3/4	1.38	1.64	2.48	1.06	1 1/16	0.38	4.0	4.0
16 WEBU	1	1	1.38	1.73	2.61	1.31	1 5/16	0.38	3.0	3.0

Includes WLN locknut.

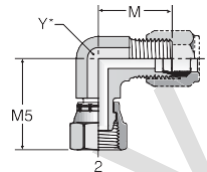
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C6BU

Swivel Nut Elbow
 Flareless / Flareless Swivel

SAE 080221



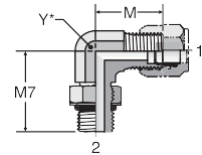
* Y – Across wrench flats

TUBE FITTING PART #	END SIZE		M (in.)	M5 (in.)	Y (in.)	Dynamic Pressure (x 1,000 PSI)	
	1 (in.)	2 (in.)				-S	-SS
4 C6BU	1/4	1/4	0.89	1.00	7/16	5.0	5.0
6 C6BU	3/8	3/8	1.05	1.25	9/16	5.0	5.0
8 C6BU	1/2	1/2	1.25	1.38	3/4	5.0	5.0
10 C6BU	5/8	5/8	1.42	1.62	7/8	4.5	4.5
12 C6BU	3/4	3/4	1.58	1.75	1 1/16	4.0	4.0
16 C6BU	1	1	1.73	2.00	1 5/16	3.0	3.0
20 C6BU	1 1/4	1 1/4	1.89	2.31	1 5/8	2.5	2.5

C5BU

Straight Thread Elbow
 Flareless / SAE-ORB

SAE 080220



* Y – Across wrench flats

TUBE FITTING PART #	END SIZE		M (in.)	M7 (in.)	Y (in.)	Dynamic Pressure (x 1,000 PSI)	
	1 (in.)	2 UN/UNF-2A				-S	-SS
3 C5BU	3/16	3/8 - 24	0.84	0.94	7/16	5.0	5.0
4 C5BU	1/4	7/16 - 20	0.89	1.03	7/16	5.0	5.0
5 C5BU	5/16	1/2 - 20	0.95	1.13	9/16	5.0	5.0
6 C5BU	3/8	9/16 - 18	1.05	1.25	9/16	5.0	5.0
6-8 C5BU	3/8	3/4 - 16	1.14	1.45	3/4	5.0	5.0
8 C5BU	1/2	3/4 - 16	1.25	1.45	3/4	5.0	5.0
8-6 C5BU	1/2	9/16 - 18	1.27	1.33	3/4	5.0	5.0
8-10 C5BU	1/2	7/8 - 14	1.34	1.70	7/8	4.5	4.5
8-12 C5BU	1/2	1 1/16 - 12	1.43	1.94	1 1/16	4.0	4.0
10 C5BU	5/8	7/8 - 14	1.42	1.70	7/8	4.5	4.5
12 C5BU	3/4	1 1/16 - 12	1.58	1.94	1 1/16	4.0	4.0
12-8 C5BU	3/4	3/4 - 16	1.58	1.63	1 1/16	4.0	4.0
12-10 C5BU	3/4	7/8 - 14	1.58	1.78	1 1/16	4.0	4.0
12-16 C5BU	3/4	1 5/16 - 12	1.73	2.05	1 5/16	3.0	3.0
16 C5BU	1	1 5/16 - 12	1.73	2.05	1 5/16	3.0	3.0
16-12 C5BU	1	1 1/16 - 12	1.73	2.05	1 5/16	3.0	3.0
20 C5BU	1 1/4	1 5/8 - 12	1.89	2.25	1 5/8	2.5	2.5
24 C5BU	1 1/2	1 7/8 - 12	2.02	2.39	1 7/8	2.0	2.0
32 C5BU	2	2 1/2 - 12	2.45	2.89	2 1/2	1.5	1.5

ASSEMBLY

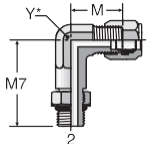
TUBE FAB EQUIP

GEN TECH

Dimensions and pressures for reference only, subject to change.

CC5BU

Straight Thread Elbow
 Flareless / SAE-ORB Long



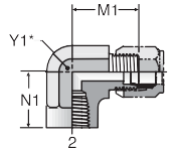
* Y – Across wrench flats

TUBE FITTING PART #	END SIZE		M (in.)	M7 (in.)	Y (in.)	Dynamic Pressure (x 1,000 PSI)	
	1 (in.)	2 UN/UNF-2A				-S	-SS
4 CC5BU	1/4	7/16 - 20	0.89	1.43	7/16	5.0	5.0
6 CC5BU	3/8	9/16 - 18	1.05	1.72	9/16	5.0	5.0
8 CC5BU	1/2	3/4 - 16	1.25	2.02	3/4	5.0	5.0
10 CC5BU	5/8	7/8 - 14	1.42	2.39	7/8	4.5	4.5
12 CC5BU	3/4	1 1/16 - 12	1.58	2.69	1 1/16	4.0	4.0
16 CC5BU	1	1 5/16 - 12	1.73	3.13	1 5/16	3.0	3.0

DBU

Female Elbow
 Flareless / NPTF

SAE 080203

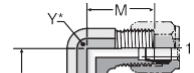


* Y1 – Across wrench flats

TUBE FITTING PART #	END SIZE		M1 (in.)	N1 (in.)	Y1 (in.)	Dynamic Pressure (x 1,000 PSI)	
	1 (in.)	2 NPTF				-S	-SS
4 DBU	1/4	1/8 - 27	0.89	0.66	9/16	5.0	5.0
4-4 DBU	1/4	1/4 - 18	1.03	0.88	3/4	5.0	5.0
5 DBU	5/16	1/8 - 27	0.95	0.66	9/16	5.0	5.0
6 DBU	3/8	1/4 - 18	1.05	0.88	3/4	5.0	5.0
6-6 DBU	3/8	3/8 - 18	1.13	1.02	7/8	4.5	4.5
8 DBU	1/2	3/8 - 18	1.23	1.02	7/8	3.0	3.0
8-4 DBU	1/2	1/4 - 18	1.23	0.88	3/4	5.0	5.0
8-8 DBU	1/2	1/2 - 14	1.34	1.23	1 1/16	3.0	3.0
10 DBU	5/8	1/2 - 14	1.42	1.23	1 1/16	3.0	3.0
12 DBU	3/4	3/4 - 14	1.58	1.36	1 5/16	3.0	3.0
14 DBU	7/8	3/4 - 14	1.62	1.42	1 5/16	3.0	3.0
16 DBU	1	1 - 11 1/2	1.73	1.63	1 5/8	1.7	1.7
20 DBU	1 1/4	1 1/4 - 11 1/2	2.08	1.70	1 7/8	1.5	1.5
24 DBU	1 1/2	1 1/2 - 11 1/2	2.58	2.08	2 1/2	1.0	1.0

CBU

Male Elbow



TUBE FITTING PART #	END SIZE		M (in.)	N (in.)	Y (in.)	Dynamic Pressure (x 1,000 PSI)	
	1 (in.)	2 NPTF				-S	-SS
2 CBU	1/8	1/8 - 27	0.77	0.72	7/16	5.0	5.0
3 CBU	3/16	1/8 - 27	0.83	0.72	7/16	5.0	5.0
4 CBU	1/4	1/8 - 27	0.89	0.78	7/16	5.0	5.0
4-4 CBU	1/4	1/4 - 18	1.03	1.09	9/16	5.0	5.0
4-6 CBU	1/4	3/8 - 18	1.12	1.22	3/4	5.0	5.0
5 CBU	5/16	1/8 - 27	0.95	0.81	9/16	5.0	5.0
5-4 CBU	5/16	1/4 - 18	1.03	1.09	9/16	5.0	5.0
6 CBU	3/8	1/4 - 18	1.05	1.09	9/16	5.0	5.0
6-2 CBU	3/8	1/8 - 27	1.05	0.90	9/16	5.0	5.0
6-6 CBU	3/8	3/8 - 18	1.14	1.22	3/4	5.0	5.0
6-8 CBU	3/8	1/2 - 14	1.24	1.47	7/8	5.0	5.0
8 CBU	1/2	3/8 - 18	1.25	1.22	3/4	5.0	5.0
8-4 CBU	1/2	1/4 - 18	1.25	1.16	3/4	5.0	5.0
8-8 CBU	1/2	1/2 - 14	1.35	1.47	7/8	5.0	5.0
8-12 CBU	1/2	3/4 - 14	1.43	1.59	1 1/16	4.0	4.0
10 CBU	5/8	1/2 - 14	1.42	1.47	7/8	4.5	4.5
10-6 CBU	5/8	3/8 - 18	1.42	1.28	7/8	4.5	4.5
12 CBU	3/4	3/4 - 14	1.58	1.59	1 1/16	4.0	4.0
12-8 CBU	3/4	1/2 - 14	1.58	1.59	1 1/16	4.0	4.0
14 CBU	7/8	3/4 - 14	1.66	1.69	1 5/16	3.0	3.0
16 CBU	1	1 - 11 1/2	1.73	1.97	1 5/16	3.0	3.0
16-12 CBU	1	3/4 - 14	1.73	1.78	1 5/16	3.0	3.0
20 CBU	1 1/4	1 1/4 - 11 1/2	1.89	2.38	1 5/8	2.5	2.5
24 CBU	1 1/2	1 1/2 - 11 1/2	2.02	2.64	1 7/8	2.5	2.5
32 CBU	2	2 - 11 1/2	2.45	3.00	2 1/2	2.0	2.0

C

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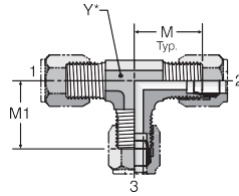
TUBE FAB
EQUIP

GEN TECH

JBU

Union Tee
 Flareless (all three ends)

SAE 080401



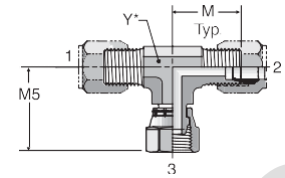
* Y – Across wrench flats

TUBE FITTING PART #	END SIZE			M (in.)	M1 (in.)	Y (in.)	Dynamic Pressure (x 1,000 PSI)	
	1 (in.)	2 (in.)	3 (in.)				-S	-SS
2 JBU	1/8	1/8	1/8	0.77	0.77	7/16	5.0	5.0
3 JBU	3/16	3/16	3/16	0.84	0.84	7/16	5.0	5.0
4 JBU	1/4	1/4	1/4	0.89	0.89	7/16	5.0	5.0
5 JBU	5/16	5/16	5/16	0.95	0.95	9/16	5.0	5.0
6 JBU	3/8	3/8	3/8	1.05	1.05	9/16	5.0	5.0
8 JBU	1/2	1/2	1/2	1.25	1.25	3/4	5.0	5.0
8-8-6 JBU	1/2	1/2	3/8	1.25	1.14	3/4	5.0	5.0
10 JBU	5/8	5/8	5/8	1.42	1.42	7/8	4.5	4.5
12 JBU	3/4	3/4	3/4	1.58	1.58	1 1/16	4.0	4.0
14 JBU	7/8	7/8	7/8	1.66	1.66	1 5/16	3.0	3.0
16 JBU	1	1	1	1.73	1.73	1 5/16	3.0	3.0
20 JBU	1 1/4	1 1/4	1 1/4	1.89	1.89	1 5/8	2.5	2.5
24 JBU	1 1/2	1 1/2	1 1/2	2.02	2.02	1 7/8	2.0	2.0

S6BU

Swivel Nut Branch Tee
 Flareless / Flareless
 Swivel

SAE 080433



* Y – Across wrench flats

TUBE FITTING PART #	END SIZE			M (in.)	M5 (in.)	Y (in.)	Dynamic Pressure (x 1,000 PSI)	
	1 (in.)	2 (in.)	3 (in.)				-S	-SS
4 S6BU	1/4	1/4	1/4	0.89	1.00	7/16	5.0	5.0
6 S6BU	3/8	3/8	3/8	1.05	1.25	9/16	5.0	5.0
8 S6BU	1/2	1/2	1/2	1.25	1.38	3/4	5.0	5.0
12 S6BU	3/4	3/4	3/4	1.58	1.75	1 1/16	4.0	4.0
16 S6BU	1	1	1	1.73	2.00	1 5/16	3.0	3.0

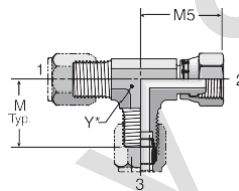
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R6BU

Swivel Nut Run Tee
 Flareless / Flareless
 Swivel

SAE 080432



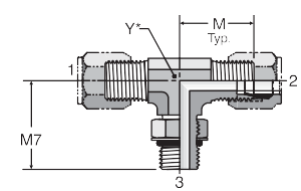
* Y – Across wrench flats

TUBE FITTING PART #	END SIZE			M (in.)	M5 (in.)	Y (in.)	Dynamic Pressure (x 1,000 PSI)	
	1 (in.)	2 (in.)	3 (in.)				-S	-SS
4 R6BU	1/4	1/4	1/4	0.89	1.00	7/16	5.0	5.0
6 R6BU	3/8	3/8	3/8	1.05	1.25	9/16	5.0	5.0
8 R6BU	1/2	1/2	1/2	1.25	1.38	3/4	5.0	5.0
12 R6BU	3/4	3/4	3/4	1.58	1.75	1 1/16	4.0	4.0
16 R6BU	1	1	1	1.73	2.00	1 5/16	3.0	3.0

S5BU

Straight Thread
 Branch Tee
 Flareless / SAE-ORB

SAE 080429



* Y – Across wrench flats

TUBE FITTING PART #	END SIZE			M (in.)	M7 (in.)	Y (in.)	Dynamic Pressure (x 1,000 PSI)	
	1 (in.)	2 (in.)	3 (in.)				-S	-SS
4 S5BU	1/4	1/4	7/16 - 20	0.89	1.03	7/16	5.0	5.0
6 S5BU	3/8	3/8	9/16 - 18	1.05	1.25	9/16	5.0	5.0
8 S5BU	1/2	1/2	3/4 - 16	1.25	1.45	3/4	5.0	5.0
12 S5BU	3/4	3/4	1 1/16 - 12	1.58	1.94	1 1/16	4.0	4.0
16 S5BU	1	1	1 5/16 - 12	1.73	2.05	1 5/16	3.0	3.0

ASSEMBLY

TUBE FAB
EQUIP

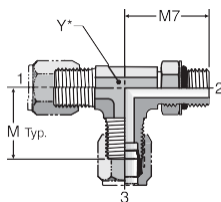
GEN TECH

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

R5BU

 Straight Thread Run Tee
 Flareless / SAE-ORB

SAE 080428



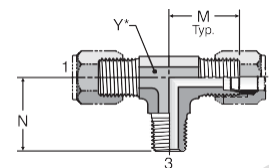
* Y – Across wrench flats

TUBE FITTING PART #	END SIZE			M (in.)	M7 (in.)	Y (in.)	Dynamic Pressure (x 1,000 PSI)	
	1 (in.)	2 UN/UNF-2A	3 (in.)				-S	-SS
4 R5BU	1/4	7/16 - 20	1/4	0.89	1.03	7/16	5.0	5.0
6 R5BU	3/8	9/16 - 18	3/8	1.05	1.25	9/16	5.0	5.0
8 R5BU	1/2	3/4 - 16	1/2	1.25	1.45	3/4	5.0	5.0
10 R5BU	5/8	7/8 - 14	5/8	1.42	1.70	7/8	4.5	4.5
12 R5BU	3/4	1 1/16 - 12	3/4	1.58	1.94	1 1/16	4.0	4.0
16 R5BU	1	1 5/16 - 12	1	1.73	2.05	1 5/16	3.0	3.0

SBU

 Male Branch Tee
 Flareless / NPTF

SAE 080425



* Y – Across wrench flats

TUBE FITTING PART #	END SIZE			M (in.)	N (in.)	Y (in.)	Dynamic Pressure (x 1,000 PSI)	
	1 (in.)	2 (in.)	3 NPTF				-S	-SS
2 SBU	1/8	1/8	1/8 - 27	0.77	0.72	7/16	5.0	5.0
4 SBU	1/4	1/4	1/8 - 27	0.89	0.78	7/16	5.0	5.0
4-4-4 SBU	1/4	1/4	1/4 - 18	1.03	1.09	9/16	5.0	5.0
5 SBU	5/16	5/16	1/8 - 27	0.95	0.81	9/16	5.0	5.0
6 SBU	3/8	3/8	1/4 - 18	1.05	1.09	9/16	5.0	5.0
8 SBU	1/2	1/2	3/8 - 18	1.25	1.22	3/4	5.0	5.0
8-8-8 SBU	1/2	1/2	1/2 - 14	1.35	1.47	7/8	5.0	5.0
10 SBU	5/8	5/8	1/2 - 14	1.42	1.47	7/8	4.5	4.5
12 SBU	3/4	3/4	3/4 - 14	1.58	1.59	1 1/16	4.0	4.0
14 SBU	7/8	7/8	3/4 - 14	1.66	1.69	1 5/16	3.0	3.0
16 SBU	1	1	1 - 11 1/2	1.73	1.97	1 5/16	3.0	3.0

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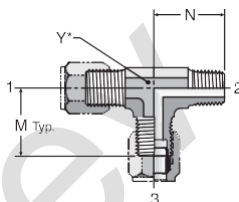
 TUBE FAB
EQUIP

GEN TECH

RBU

 Male Run Tee
 Flareless / NPTF

SAE 080424



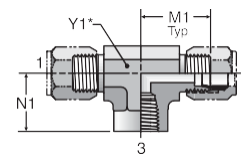
* Y – Across wrench flats

TUBE FITTING PART #	END SIZE			M (in.)	N (in.)	Y (in.)	Dynamic Pressure (x 1,000 PSI)	
	1 (in.)	2 NPTF	3 (in.)				-S	-SS
4 RBU	1/4	1/8 - 27	1/4	0.89	0.78	7/16	5.0	5.0
4-4-4 RBU	1/4	1/4 - 18	1/4	1.03	1.09	9/16	5.0	5.0
5 RBU	5/16	1/8 - 27	5/16	0.95	0.81	9/16	5.0	5.0
6 RBU	3/8	1/4 - 18	3/8	1.05	1.09	9/16	5.0	5.0
8 RBU	1/2	3/8 - 18	1/2	1.25	1.22	3/4	5.0	5.0
8-8-8 RBU	1/2	1/2 - 14	1/2	1.35	1.47	7/8	5.0	5.0
10 RBU	5/8	1/2 - 14	5/8	1.42	1.47	7/8	4.5	4.5
12 RBU	3/4	3/4 - 14	3/4	1.58	1.59	1 1/16	4.0	4.0
14 RBU	7/8	3/4 - 14	7/8	1.66	1.69	1 5/16	3.0	3.0
16 RBU	1	1 - 11 1/2	1	1.73	1.97	1 5/16	3.0	3.0

OBU

 Female Branch Tee
 Flareless / NPTF

SAE 080427



* Y1 – Across wrench flats

TUBE FITTING PART #	END SIZE			M1 (in.)	N1 (in.)	Y1 (in.)	Dynamic Pressure (x 1,000 PSI)	
	1 (in.)	2 (in.)	3 NPTF				-S	-SS
4 OBU	1/4	1/4	1/8 - 27	0.89	0.66	9/16	5.0	5.0
4-4-4 OBU	1/4	1/4	1/4 - 18	1.03	0.88	3/4	5.0	5.0
6 OBU	3/8	3/8	1/4 - 18	1.05	0.88	3/4	5.0	5.0
8 OBU	1/2	1/2	3/8 - 18	1.23	1.02	7/8	3.0	3.0
10 OBU	5/8	5/8	1/2 - 14	1.42	1.23	1 1/16	3.0	3.0
12 OBU	3/4	3/4	3/4 - 14	1.58	1.36	1 5/16	3.0	3.0
14 OBU	7/8	7/8	3/4 - 14	1.62	1.42	1 5/16	3.0	3.0
16 OBU	1	1	1 - 11 1/2	1.73	1.63	1 5/8	1.7	1.7
20 OBU	1 1/4	1 1/4	1 1/4 - 11 1/2	2.08	1.70	1 7/8	1.5	1.5

! "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

! "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

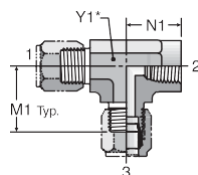
Dimensions and pressures for reference only, subject to change.

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

MBU

 Female Run Tee
 Flareless / NPTF

SAE 080426



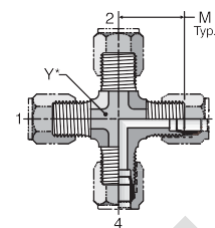
* Y1 – Across wrench flats

TUBE FITTING PART #	END SIZE			M1 (in.)	N1 (in.)	Y1 (in.)	Dynamic Pressure (x 1,000 PSI)	
	1 (in.)	2 NPTF	3 (in.)				-S	-SS
4 MBU	1/4	1/8 - 27	1/4	0.89	0.66	9/16	5.0	5.0
6 MBU	3/8	1/4 - 18	3/8	1.05	0.88	3/4	5.0	5.0
8 MBU	1/2	3/8 - 18	1/2	1.23	1.02	7/8	3.0	3.0
10 MBU	5/8	1/2 - 14	5/8	1.42	1.23	1 1/16	3.0	3.0
12 MBU	3/4	3/4 - 14	3/4	1.58	1.36	1 5/16	3.0	3.0
16 MBU	1	1 - 11 1/2	1	1.73	1.62	1 5/8	1.7	1.7

KBU

 Union Cross
 Flareless (all four ends)

SAE 080501



* Y – Across wrench flats

TUBE FITTING PART #	END SIZE		M (in.)	Y (in.)	Dynamic Pressure (x 1,000 PSI)	
	1-4 (in.)				-S	-SS
4 KBU	1/4		0.89	7/16	5.0	5.0
6 KBU	3/8		1.05	9/16	5.0	5.0
8 KBU	1/2		1.25	3/4	5.0	5.0
12 KBU	3/4		1.58	1 1/16	4.0	4.0

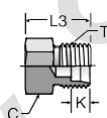
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 Plug
 Flareless

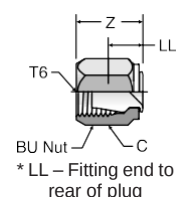
SAE 080109



FNU

 Cap
 Flareless Swivel

SAE 080112



* LL – Fitting end to rear of plug

TUBE FITTING PART #	TUBE O.D. (in.)	T TUBE END UN/UNF-2A	C HEX (in.)	K (in.)	L3 (in.)	Dynamic Pressure (x 1,000 PSI)	
						-S	-SS
2 PNU	1/8	5/16 - 24	7/16	0.19	0.63	6.0	6.0
4 PNU	1/4	7/16 - 20	1/2	0.24	0.72	6.0	6.0
5 PNU	5/16	1/2 - 20	9/16	0.26	0.72	6.0	6.0
6 PNU	3/8	9/16 - 18	5/8	0.26	0.75	6.0	6.0
8 PNU	1/2	3/4 - 16	13/16	0.31	0.84	5.0	5.0
10 PNU	5/8	7/8 - 14	15/16	0.36	0.97	5.0	5.0
12 PNU	3/4	1 1/16 - 12	1 1/8	0.36	1.09	4.5	4.5
16 PNU	1	1 5/16 - 12	1 3/8	0.42	1.09	4.0	4.0

! "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

TUBE FITTING PART #	TUBE O.D. (in.)	T6 UN/UNF-2B	C HEX (in.)	LL (in.)	Z (in.)
2 FNU	1/8	5/16 - 24	3/8	0.34	0.55
4 FNU	1/4	7/16 - 20	9/16	0.36	0.73
5 FNU	5/16	1/2 - 20	5/8	0.40	0.77
6 FNU	3/8	9/16 - 18	11/16	0.42	0.80
8 FNU	1/2	3/4 - 16	7/8	0.44	0.87
10 FNU	5/8	7/8 - 14	1	0.47	0.98
12 FNU	3/4	1 1/16 - 12	1 1/4	0.48	1.00
16 FNU	1	1 5/16 - 12	1 1/2	0.58	1.08
20 FNU	1 1/4	1 5/8 - 12	2	0.64	1.11

! "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

Dimensions and pressures for reference only, subject to change.

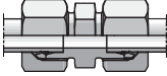
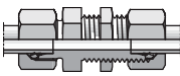
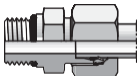
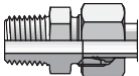
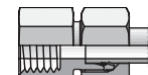
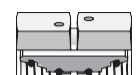
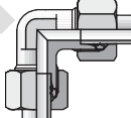
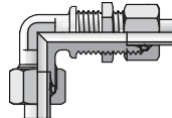
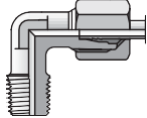
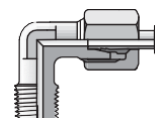
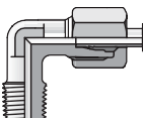
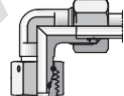
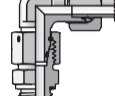
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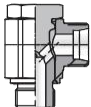
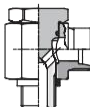
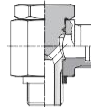
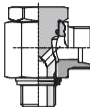
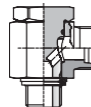
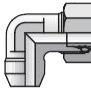
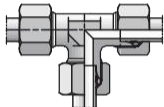
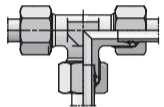
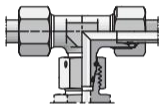
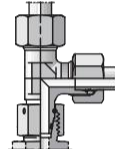
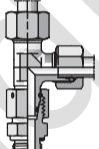
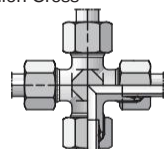
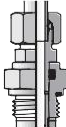
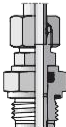
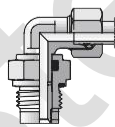
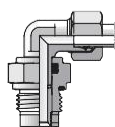
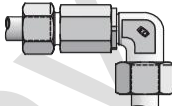
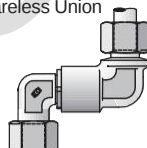
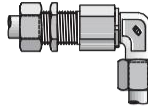
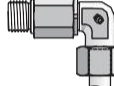
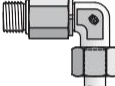
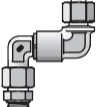
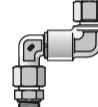
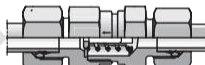
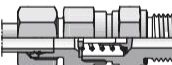
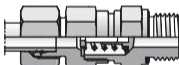
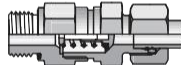
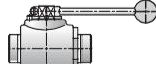
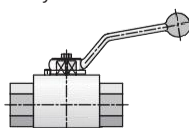
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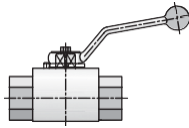
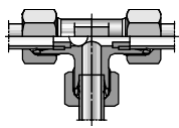
Ferrule Fittings | Tube Fittings | Instrument Fittings



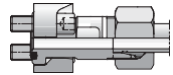
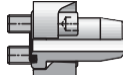
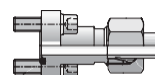
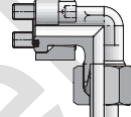
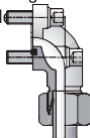
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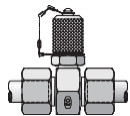
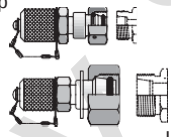
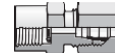
WHK-R Banjo BSPP / Flareless  D65	WH-R Banjo BSPP / Flareless  D66	WH-M Banjo Metric / Flareless  D67	WH-R-KDS Banjo BSPP / Flareless  D68	WH-M-KDS Banjo Metric / Flareless  D69	WAS Butt Weld / Flareless  D70
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KH-NPT 2-Way Female NPT  D108	Alternating Valves	WV Union Tee  D110
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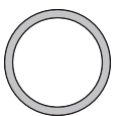
Flange Adapters (Shown in Section K)

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

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

O-Rings and Seals	DKI Pressure Gauge Sealing Ring  M8	MSI MSI lastic Seal Ring  M6	OR MSI O-Ring  M9	DOZ MSI Sealing Ring  M7	RR Metric Retaining Ring  M5
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MSI Progressive Ring Fittings

Introduction

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

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

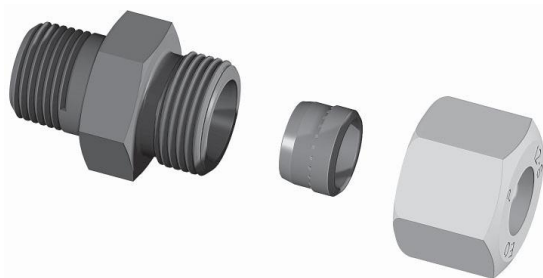


Fig. D1 — MSI fitting components: Body, progressive ring and nut

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

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

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

Design and Construction

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

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

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

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

the hardness, strength, and toughness necessary to satisfy the demanding service conditions that exist in industry today. The

original progressive ring, known as DPR, is now being replaced with the new generation, called PSR. PSR is stronger and features a "positive stop" to eliminate over-tightening.

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

Standard Material Specifications

Steel fittings:

MSI tube fittings – Materials according to DIN 3859-1

Stainless steel fittings:

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

Brass fittings:

MSI tube fittings – CUZN35Ni2 in accordance with DIN 17660, material no. 2.0540.

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

Surface Finish - Steel fittings:

Standard

LL Series Body, Nuts, and Rings– Zinc-Nickel Plating, Mahadev Steel India's Tough Shield Plus

L+S Series

Body and Nuts– Zinc-Nickel Plating, Mahadev Steel India's Tough Shield Plus Progressive Rings (PSR) – Zinc-Nickel Plating, Mahadev Steel India's Tough Shield Plus

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

How MSI Fittings Work: Function of Progressive Ring Fittings

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

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

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

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

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

Assembly and Installation

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

Weld Nipples

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

Ball Bearing Rotary Fittings

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

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

Fitting Instructions:

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

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

Plain Bearing Rotary Fittings

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

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

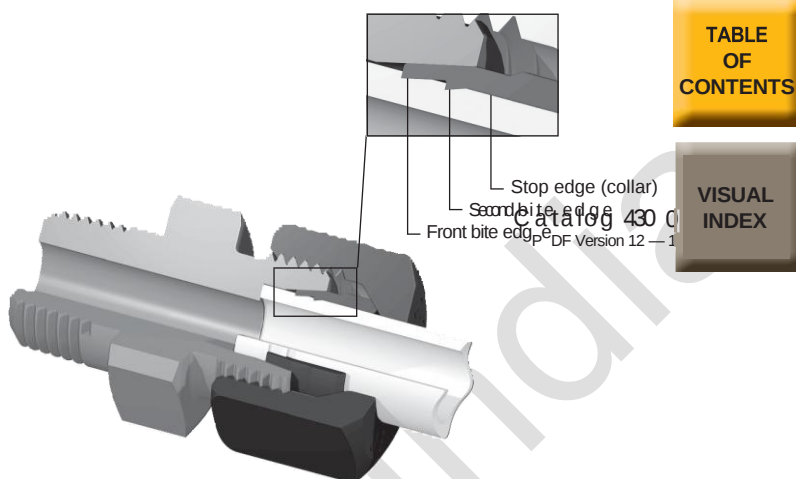


Fig. D2 — How MSI fittings work

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

Table D1 — Ball Bearing Recommended RPM and Starting Torques

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

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

Table D2 — Plain Bearing Recommended RPM

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Fitting Instructions:

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

Non-Return Valves

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

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

Tube Recommendations

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

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

For stainless steel fittings:
Material no. 1.4571 and 1.4541

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

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

For brass fittings:

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

Tube wall thicknesses:

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

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

Plastic tube:

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

Features, Advantages & Benefits

- **Visible Bite** — The critical front bite of the progressive ring is clearly visible to tube fitters & inspectors. The presence of the recommended bite virtually eliminates any risk of catastrophic blow-off. This is a very important safety feature.
- **Sealing Capability** — MSI fittings have demonstrated a remarkable ability to remain leak free under various service conditions ranging from sealing high vacuum and small molecules gases to high pressure hydraulic fluids.
- **Distributed Stresses** — Stresses due to service flexural loading are distributed at several points in the joint, thus stress concentration in the bite is minimized.
- **Vibration Control** — The rear bevel of the ferrule firmly grips tubing, thus dampening the effects of system vibration in the joint.
- **Progressive Ring Design** — The progressive ring design provides a second bite for improved reliability and higher working pressure capability. This design also decreases the risk of improper assembly because of the sharp, high torque rise which occurs when the fitting is properly tightened.
- **Envelope Size** — MSI fittings are relatively small and compact, making it a suitable selection for plumbing in limited or tight space.
- **Temperature Rating** — MSI fittings are suitable for sub-zero through elevated temperature applications. Service temperature rating is limited by the material chosen.
- **Compatibility** — Since MSI fittings can be manufactured from a wide range of metals, its compatibility factor with various fluids and atmospheric conditions is virtually limitless. One simply has to select and specify MSI fittings from an acceptable material that best satisfies the service conditions.
- **Tube Wall** — MSI fittings are suitable for use with light wall, medium wall, heavy wall, and extra heavy wall tubing. (Light wall tube may require support sleeve (VH), as shown in Assembly/Installation Section.)
- **Re-Usability / Remakeability** — Joints can be disassembled and reassembled many times to facilitate system maintenance. This reduces the labor and material costs that would otherwise result from tube and fittings replacement.
- **Assembly** — No expensive, complicated tooling is necessary to assemble MSI fittings. Assembly is simple when the procedures described in the Assembly / Installation section are followed (see pages R35 - R43).
- **Materials** — MSI fittings can be manufactured from almost any metallic material. The more popular materials currently used for MSI fittings are: stainless steel, carbon steel, and brass. On request, the Tube Fitting Division will machine MSI fittings from other appropriate material specified by users.
- **Manufacture** — MSI fittings are manufactured under tight quality control which ensures that the product routinely satisfies or surpasses the requirements of the pertinent industrial standards.
- **World Wide Popularity** — The bite type fitting design has worldwide acceptance and is especially popular in Europe.
- **Superior Plating:** Mahadev Steel India's MSI /MSI 2 steel fittings come standard with ToughShield™ Plus zinc-nickel plating, giving them unmatched protection against red rust. In ASTM B117 / ISO 9227 neutral salt spray testing, fittings and adapters with ToughShield Plus plating remained rust free for

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up to 3,000 hours. This performance far exceeds the SAE industry requirement, even on post plating deformed parts like crimp nuts and back-up washers where SAE allows for large exceptions. Learn more and see the difference at [Mahadev Steel India](#)

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

MSI Fitting System — Introduction

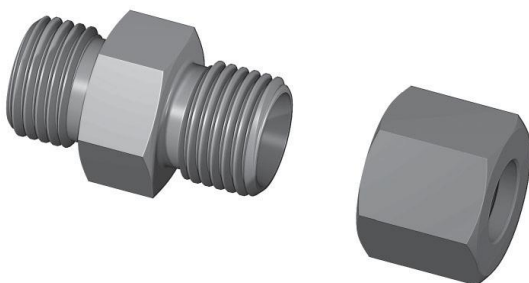


Fig. D3 — MSI : Fitting body and functional nut

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

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

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

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

Design and Construction

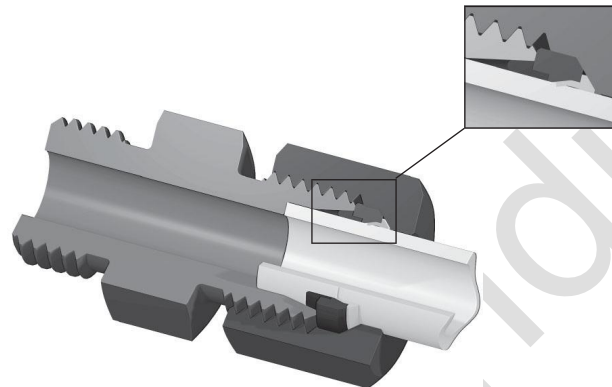


Fig. D4 — MSI : The metallic support of the sealing ring acts just like an integrated preassembly tool.

Elastomeric Sealing

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

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

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

Standard Material Specifications

Steel fittings:

MSI tube fittings — Materials according to DIN 3859-1

Stainless steel fittings:

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

Brass fittings:

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

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

Surface Finish - Steel fittings:

Standard

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

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

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How MSI Fittings Work

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

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

Assembly and Installation

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

Integrated Assembly Tool

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

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

The Functional Nut

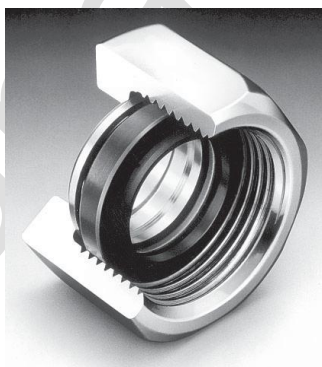


Fig. D5 — The unique Functional Nut allows easy handling and quick assembly.

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

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

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

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

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

Tube Recommendations

For steel fittings:

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

For stainless steel fittings:

Material no. 1.4571 and 1.4541

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

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

Tube wall thicknesses:

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

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

Plastic tube:

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

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Features, Advantages and Benefits of the MSI Fitting System

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

- **Sealing Capability** — An elastomeric seal forms the primary sealing element, thus assuring leak-free sealing. Even low-viscosity media such as water or gas are hermetically sealed. Hydraulic systems, therefore, do not “sweat” at fittings.
- **High Pressure Resistance** — MSI fittings are rated up to Pmax 900 bar. Sealing lip and seal arrangements have both been designed so that the sealing effect is supported by system pressure. The interaction of the retaining ring and the integrated preassembly tool results in uniform and reliable fitting assembly.
- **Durability** — The elastomeric seal does not require any retightening even after years of operation under severe working conditions.
- **Bite Control** — The ideal bite depth is controlled by the fitting design rather than by the fitters force. Closing the gap at the end of the manual assembly, the fitter gets clear signal that setting is completed and the joint is ready for inspection.
- **Functional Nut** — Individual components such as the retaining ring or seal cannot be lost, forgotten, confused or assembled in the wrong orientation. This dramatically saves assembly cost and helps to avoid dangerous assembly errors.
- **Assembly Cost** — With less than 10 seconds cycle time on the MSI MAT III/A (actual presetting process: 1.4 seconds), the cost of presetting MSI is extremely low.
- **Integrated Preassembly Tool** — Each MSI Functional Nut comes assembled with an integrated assembly tool that makes sure that the retaining ring securely cuts into the tube surface without damaging the sensitive inner cone of the fitting body. This greatly reduces the danger of tube blow-off, even when using stainless steel tube.
- **Unlimited Presetting Tool Lifetime** — When MSI MAT machines are used for cost-efficient presetting, the preassembly tools do not wear out as they are only in contact with the rubber seal. This avoids dangerous blow-off which can result when traditional bite-type fittings are assembled using worn presetting tools.
- **Make-up** — From the wrench-tight position of the preset MSI joint, one short pull on the wrench (approx. 1/6 to 1/4 turn) gives the assembly a quick high rise to required torque. MSI fittings have a solid “hit-home-feel” and excellent over-torque resistance.

- **Visible Inspection** — There is no doubt if an MSI Functional Nut has been preset correctly or not. Inspection is as simple as checking if the gap between retaining ring and sealing ring is completely closed. The tube end does not have to be disassembled out of the fitting for bite inspection.
- **No Phantom Leaks** — Lubrication is not mandatory for the assembly of steel MSI fittings. The machine operator will not be irritated about lubricant coming out of the fittings once the hydraulic system gets hot.
- **Re-Usability / Remakeability** — MSI fittings can be disassembled and reassembled many times. There is no wear or widening of the vulnerable inner cone. Damaged seals can easily be replaced. All spare DOZ-seals are marked by size-code (e.g.: 12-L).
- **On-Site Maintenance** — For the maintenance and replacement of MSI fittings a set of wrenches is sufficient. Additional in line components, such as test points (GMA), ball valves (KH) or T-fittings can be added to an existing assembly within minutes.
- **Interchangeability** — The MSI Functional Nut can be used for the whole variety of the broad range of more than 50 configurations in some 25 sizes of standard MSI LL, L and S-series fittings. Changing MSI ver from Progressive ring or weld nipple is easy by the simple use of MSI Functional Nuts.
- **Reliability** — Millions of MSI fittings are working trouble-free in applications like: Mobile construction equipment, stationary machine tools, hydraulic presses, plastic injection molding machines, shipbuilding, offshore exploration, submarines, railway trains and military equipment. Leakage does not occur on MSI pipework.
- **Trouble-Free** — Regular bite type fittings allow typical assembly-errors such as: confusion of bite type ring material and size. Also, the use of worn-out preassembly tool may result in fitting failure. The clever MSI design eliminates most of these mistakes without making the assembly process more complicated.
- **Popularity** — MSI fittings are as easy to assemble as traditional bite type fittings, but they eliminate most of their typical assembly problems. MSI fittings are therefore appreciated by an increasing number of original equipment manufacturers. MSI also has become the fitting of choice of end-users that appreciate the leakfree performance, the easy maintenance and the global availability of the metric soft-seal bite type system.

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How to order



DIN fittings

The right way to order made easy!

Step 1

Selecting part number

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

Example: **GE16SREDOMD**

Step 2

Selecting material, surface and sealing-material

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

2.1 Alternative sealing material

Example: Cr(VI)-free steel fitting with ED-seal in FKM material.

GE16SRED+OMD+VIT+CF
= **GE16SREDVITOMDCF**

Example: Stainless steel fitting with ED-seal in

NBR material (e. g.).
GE16SREDOMD+NBR+71
= **GE16SREDNBRMD71**

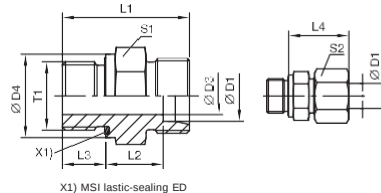
Step 3

When ordering fittings complete with nuts and rings

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

GE-R-ED Male stud connector

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



X1) MSI lastic-sealing ED

D1	Series	LL ²⁾	T1	D3	D4	L1	L2	L3	L4	S1	S2	Weight g/1 piece	Part Number*	CF	71	MS
	04	G 1/8 A	3	14	20.0	9.5	6.5	19	14	10	10	11	GE04LLREDOMD	100	100	63
	06	G 1/8 A	4	14	20.0	8.0	6.5	20	14	12	11	11	GE06LLREDOMD	100	100	63
	06	G 1/8 A	4	14	23.5	8.5	8.0	23	14	14	13	13	GE06LR1REDOMD	500	315	200
	06	G 1/4 A	4	19	29.0	10.0	12.0	25	19	14	28	28	GE06LR1/4EDOMD	500	315	200
	06	G 3/8 A	4	22	30.5	11.5	12.0	26	22	14	44	44	GE06LR3/8EDOMD	420	315	200
	06	G 1/2 A	4	27	33.0	12.0	14.0	27	27	14	61	61	GE06LR1/2EDOMD	400	315	200
	08	G 1/4 A	6	19	29.0	10.0	12.0	25	19	17	27	27	GE08LR1EDOMD	500	315	200
	08	G 1/8 A	4	14	24.5	9.5	8.0	24	14	17	16	16	GE08LR1/8EDOMD	500	315	200
	08	G 3/8 A	6	22	30.5	11.5	12.0	26	22	17	45	45	GE08LR3/8EDOMD	420	315	200
	08	G 1/2 A	6	27	33.0	12.0	14.0	27	27	17	74	74	GE08LR1/2EDOMD	400	315	200
	10	G 1/4 A	6	19	30.0	11.0	12.0	26	19	19	29	29	GE10LR1EDOMD	500	315	200
	10	G 1/8 A	4	14	25.5	10.5	8.0	25	17	19	21	21	GE10LR1/8EDOMD	500	315	200
	10	G 3/8 A	8	22	31.5	12.5	12.0	27	22	19	43	43	GE10LR3/8EDOMD	420	315	200
	10	G 1/2 A	8	27	34.0	13.0	14.0	28	27	19	71	71	GE10LR1/2EDOMD	400	315	200
	12	G 3/8 A	9	22	31.5	12.5	12.0	27	22	22	41	41	GE12LR3/8EDOMD	420	315	200
	12	G 1/8 A	4	14	26.5	11.5	8.0	26	19	22	26	26	GE12LR1/8EDOMD	420	315	200
	12	G 1/4 A	6	19	31.0	12.0	12.0	27	19	22	33	33	GE12LR1/4EDOMD	400	315	200
	12	G 1/2 A	10	27	34.0	13.0	14.0	28	27	22	47	47	GE12LR1/2EDOMD	400	315	200
	12	G 3/4 A	10	32	37.0	14.0	16.0	29	32	22	118	118	GE12LR3/4EDOMD	400	160	100
	15	G 1/2 A	11	27	35.0	14.0	14.0	29	27	27	72	72	GE15LR1/2EDOMD	400	315	200
	15	G 3/8 A	9	22	32.5	13.5	12.0	29	24	27	54	54	GE15LR3/8EDOMD	400	315	200
	15	G 3/4 A	12	32	38.0	15.0	16.0	30	32	27	115	115	GE15LR3/4EDOMD	400	160	100
	18	G 1/2 A	14	27	36.0	14.5	14.0	31	27	32	73	73	GE18LR1/2EDOMD	400	315	200
	18	G 3/8 A	9	22	33.5	14.0	12.0	30	27	32	66	66	GE18LR3/8EDOMD	400	315	200
	18	G 3/4 A	15	32	38.0	14.5	16.0	31	32	32	110	110	GE18LR3/4EDOMD	400	160	100
	22	G 3/4 A	18	32	40.0	16.5	16.0	33	32	36	102	102	GE22LR3/4EDOMD	250	160	100
	22	G 1/2 A	14	27	38.0	16.5	14.0	33	32	36	91	91	GE22LR1/2EDOMD	250	160	100
	22	G 1 A	19	40	43.0	17.5	18.0	34	41	36	189	189	GE22LR1EDOMD	250	160	100
	28	G 1 A	23	40	43.0	17.5	18.0	34	41	41	170	170	GE28LR1EDOMD	250	160	100
	28	G 3/4 A	18	32	41.0	17.5	16.0	34	41	41	159	159	GE28LR3/4EDOMD	250	160	100
	28	G 1 1/4 A	24	50	46.0	18.5	20.0	35	50	41	316	316	GE28LR1 1/4EDOMD	250	160	100
	35	G 1 1/4 A	30	50	48.0	17.5	20.0	39	50	50	272	272	GE35LR1EDOMD	250	160	100
	35	G 1 A	23	40	46.0	17.5	18.0	39	46	50	226	226	GE35LR1EDOMD	250	160	100
	35	G 1 1/2 A	30	55	52.0	19.5	22.0	41	55	50	423	423	GE35LR1 1/2EDOMD	250	160	100
	42	G 1 1/2 A	36	55	52.0	19.0	22.0	42	55	60	343	343	GE42LR1EDOMD	250	160	100
	42	G 1 A	23	40	48.0	19.0	18.0	42	55	60	324	324	GE42LR1EDOMD	250	160	100
	42	G 1 1/4 A	30	50	50.0	19.0	20.0	42	55	60	348	348	GE42LR1 1/4EDOMD	250	160	100

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

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

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

Material	Suffix surface	Example	Standard sealing material (no additional suffix needed)
Steel, zinc plated, Cr(VI)-free		GE18LR1EDOMDCF	
Stainless Steel	71	GE18LR1EDOMD71	NBR
Brass	MS	GE18LR1EDOMMS	VIT NBR

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

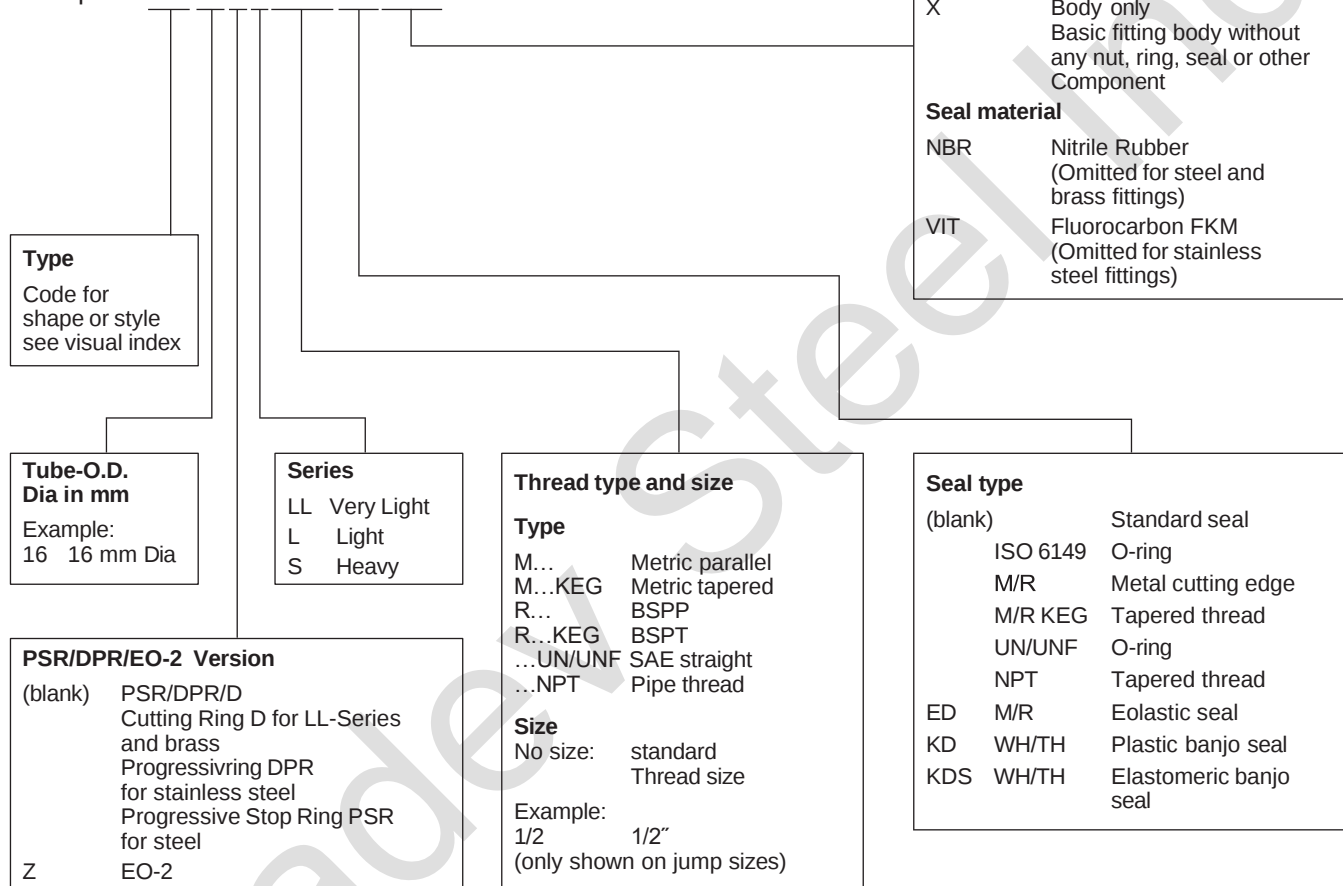
How to order MSI -Fittings:

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Nomenclature

Example: **GE16ZSR3/8ED CF**

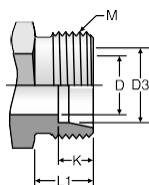
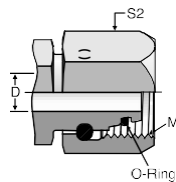
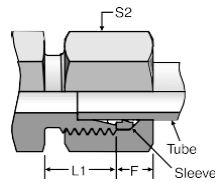
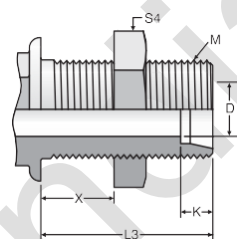


Examples

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

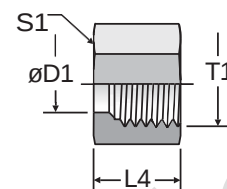
Perbunan = registered trademark of Bayer

Dimensions and pressures for reference only, subject to change.


**MSI / MSI Male
Tube End**

MSI / MSI Swivel

MSI / MSI Assembly

MSI / MSI Bulkhead

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

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

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M
 Nut

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 TUBE FAB
 EQUIP

GEN TECH

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

¹⁾ Pressure shown = item deliverable

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

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

 "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

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

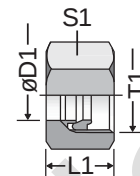
Part number suffixes		
Material	Suffix surface and material	Example
Steel	CFX	M16SCFX
Stainless Steel	EODURX	M16SEODURX
Brass	MSX	M16SMSX

Dimensions and pressures for reference only, subject to change.

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FM

EO-2 Dual Function Nut



X1) Retaining ring

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

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

⚠ "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

ASSEMBLY

 TUBE FAB
EQUIP

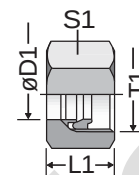
GEN TECH

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FM

MSI Dual Function Nut



X1) Retaining ring

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

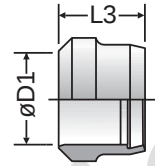
$$\frac{\text{PN (bar)}}{10} = \text{PN (MPa)}$$

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DPR

Progressive Ring
For L and S series only



Progressive
ring: DPR

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D

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

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

ASSEMBLY

TUBE FAB
EQUIP

GEN TECH

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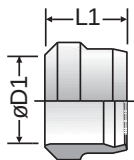
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D

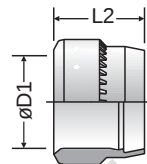
Cutting (Locking) Ring
For LL series and all brass

PSR

Progressive Ring
For L and S series only



Cutting ring:
D



Progressive stop ring:
PSR

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

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

 "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

ASSEMBLY

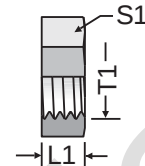
TUBE FAB
EQUIP

GEN TECH

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GM

Bulkhead Locknut


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

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

 "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

ASSEMBLY

 TUBE FAB
EQUIP

GEN TECH

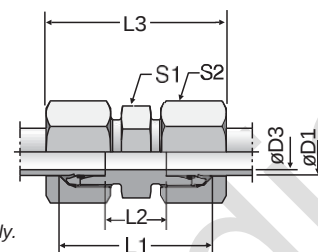
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G

Union

24° Flareless / 24° Flareless



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

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

¹⁾ Pressure shown = item deliverable

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

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

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

! "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

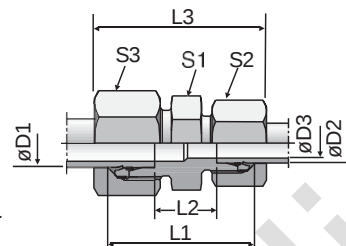
Part number suffixes		
Material	Suffix surface and material	Example
Steel	CFX	G16SCFX
Stainless Steel	71X	G16S71X
Brass	MSX	G16SMSX

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

Dimensions and pressures for reference only, subject to change.

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GR

 Union Reducer
 24° Flareless / 24° Flareless


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

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

¹⁾ Pressure shown = item deliverable

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

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

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

! "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

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

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

Dimensions and pressures for reference only, subject to change.

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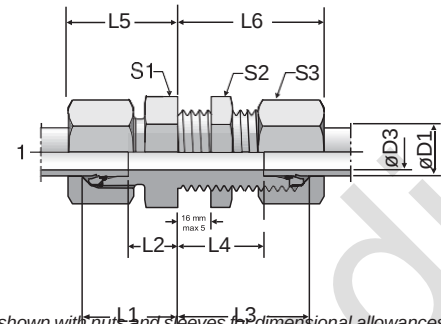
ASSEMBLY

 TUBE FAB
EQUIP

GEN TECH

SV

Bulkhead Union
 24° Flareless / 24° Flareless



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

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

¹⁾ Pressure shown = item deliverable

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

⁵⁾ Bulkhead thickness min.

06–18 L and 06–16 S = 3 mm

22–42 L and 20–38 S = 4 mm

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

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

⚠ "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

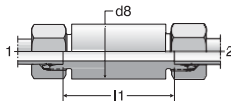
*Please add the **suffixes**
 below according to the material/
 surface required.

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

Dimensions and pressures for reference only, subject to change.

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ESV

 Weld Bulkhead Fitting
 24° Flareless / 24° Flareless


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

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

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

¹⁾ Pressure shown = item deliverable

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

PN (bar)

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

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

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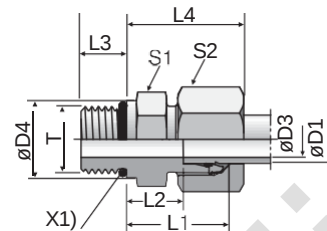
 *Please add the **suffixes**
below according to the material/
surface required.

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

Dimensions and pressures for reference only, subject to change.

GE-UNF/UN

Male Connector
 24° Flareless / SAE-ORB



X1) O-ring OR

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

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

¹⁾ Pressure shown = item deliverable

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

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

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

! "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

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

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

Dimensions and pressures for reference only, subject to change.

ASSEMBLY

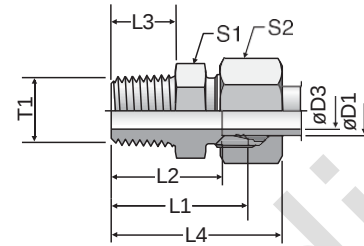
TUBE FAB
EQUIP

GEN TECH

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

GE-NPT

Male Connector
24° Flareless / NPTF



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

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

¹⁾ Pressure shown = item deliverable

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

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

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

*S1=SW12 in 1.4571

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



"Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

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

Dimensions and pressures for reference only, subject to change.

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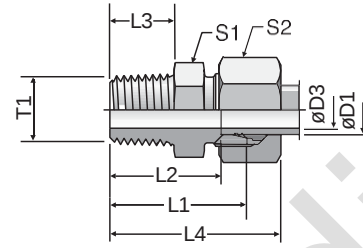
ASSEMBLY

TUBE FAB EQUIP

GEN TECH

GE-NPT

Male Connector
 24° Flareless / NPTF



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

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ASSEMBLY

TUBE FAB
EQUIP

GEN TECH

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

¹⁾ Pressure shown = item deliverable

²⁾ S = heavy series

PN (bar) = PN (MPa)
 10

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

*S1=SW12 in 1.4571

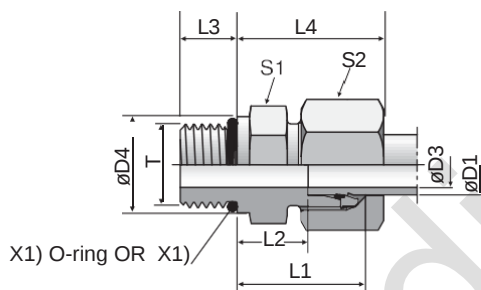
*Please add the **suffixes** below according to the material/surface required.

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

Dimensions and pressures for reference only, subject to change.

GMSI

Male Connector
24° Flareless / ISO 6149



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

Series	D1	T	D3	D4	L1	L2	L3	L4	S1	S2	Weight g/1 piece	Part Number*	PN (bar) ¹⁾	
													CF	71
LL ²⁾	04	M 08×1.0	3.0	10.8	20.0	9.5	6.5	19.0	11*	10	8	GMSI 04LLMOMD	100	100
	04	M 10×1.0	3.0	12.8	20.0	9.5	6.5	19.0	13	10	11	GMSI 04LLM10X10MD	100	
	06	M 10×1.0	4.5	12.8	20.0	8.0	6.5	19.5	13	12	10	GMSI 06LLMOMD	100	
L ³⁾	06	M 10×1.0	4.5	14.0	24.0	8.5	8.5	23.0	14	14	15	GMSI 06LMOMD	500	315
	08	M 12×1.5	6.0	17.0	28.0	10.0	11.0	25.0	17	17	23	GMSI 08LMOMD	500	315
	10	M 14×1.5	7.5	19.0	29.0	11.0	11.0	26.0	19	19	28	GMSI 10LMOMD	500	315
	12	M 16×1.5	9.0	22.0	31.0	12.5	11.5	27.0	22	22	40	GMSI 12LMOMD	400	315
	15	M 18×1.5	11.0	24.0	33.0	13.5	12.5	29.0	24	27	56	GMSI 15LMOMD	400	315
	18	M 22×1.5	14.0	27.0	35.0	14.5	13.0	31.0	27	32	80	GMSI 18LMOMD	400	315
	22	M 27×2.0	18.0	32.0	40.0	16.5	16.0	33.0	32	36	104	GMSI 22LM27X20MD	250	160
	28	M 33×2.0	23.0	41.0	41.0	17.5	16.0	34.0	41	41	171	GMSI 28LMOMD	250	160
	35	M 42×2.0	30.0	50.0	44.0	17.5	16.0	39.0	50	50	278	GMSI 35LMOMD	250	160
	42	M 48×2.0	36.0	55.0	47.5	19.0	17.5	42.0	55	60	340	GMSI 42LMOMD	250	160
S ⁴⁾	06	M 12×1.5	4.0	17.0	31.0	13.0	11.0	28.0	17	17	29	GMSI 06SMOMD	800	630
	08	M 14×1.5	6.0	19.0	33.0	15.0	11.0	30.0	19	19	41	GMSI 08SMOMD	800	630
	10	M 16×1.5	7.0	22.0	35.0	15.0	12.5	31.0	22	22	55	GMSI 10SMOMD	800	630
	12	M 18×1.5	9.0	24.0	38.5	17.0	14.0	33.0	24	24	73	GMSI 12SMOMD	630	630
	16	M 22×1.5	12.0	27.0	42.0	18.5	15.0	37.0	27	30	102	GMSI 16SMOMD	630	400
	20	M 27×2.0	15.0	32.0	49.5	20.5	18.5	42.0	32	36	169	GMSI 20SMOMD	420	400
	25	M 33×2.0	20.0	41.0	53.5	23.0	18.5	47.0	41	46	274	GMSI 25SMOMD	420	400
	30	M 42×2.0	26.0	50.0	56.0	23.5	19.0	50.0	50	50	412	GMSI 30SMOMD	420	400
	38	M 48×2.0	32.0	55.0	63.5	26.0	21.5	57.0	55	60	580	GMSI 38SMOMD	420	315

¹⁾ Pressure shown = item deliverable

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

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

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

*S1=SW12 in 1.4571

⚠ "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

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

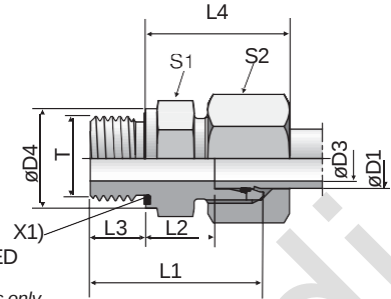
Part number suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Steel	CF	GEO16SMOMDCF	NBR
Stainless Steel	71	GEO16SMOMD71	VIT

Dimensions and pressures for reference only, subject to change.

GE-R-ED

Male Connector

24° Flareless / BSPP



X1) MSI lastic-sealing ED

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

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ASSEMBLY

TUBE FAB
EQUIP

GEN TECH

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

¹⁾ Pressure shown = item deliverable

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

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

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

! Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

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

Dimensions and pressure

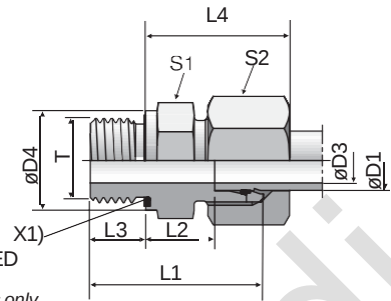
Part number suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Steel	CF	GE18LREDOMDCF	NBR
Stainless Steel	71	GE18LREDOMD71	VIT
Brass	MS	GE18LREDOMDMS	NBR

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

GE-R-ED

Male Connector

24° Flareless / BSPP



X1) MSI lastic-sealing ED

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

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

¹⁾ Pressure shown = item deliverable

⁴⁾ S = heavy series

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

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

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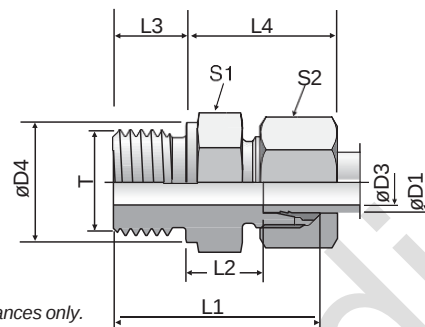
*Please add the **suffixes** below according to the material/ surface required.

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

Dimensions and pressures for reference only, subject to change.

GE-R

Male Connector
 24° Flareless / BSPT or BSPP



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

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

¹⁾ Pressure shown = item deliverable

³⁾ L = light series

PN (bar) = PN (MPa)
 10

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

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

Dimensions and pressures for reference only, subject to change

Part number suffixes		
Material	Suffix surface and material	Example
Steel	CFX	GE18LRFCFX
Stainless Steel	71X	GE18LR71X
Brass	MSX	GE18LRMSX

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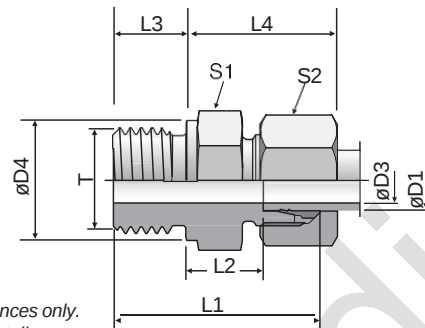
GEN TECH

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GE-R

Male Connector

24° Flareless / BSPT or BSPP



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

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

¹⁾ Pressure shown = item deliverable

³⁾ L = light series

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

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

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

Dimensions and pressures for reference only, subject to change

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

ASSEMBLY

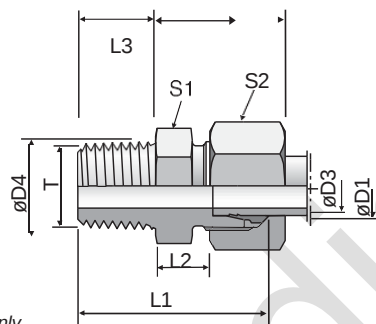
 TUBE FAB
EQUIP

GEN TECH

GE-R keg

Male Connector

24° Flareless / BSPT or BSPP



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

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

¹⁾ Pressure shown = item deliverable

⁴⁾ S = heavy series

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

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

^{*)} S1 = 12 for 1.4571

 "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

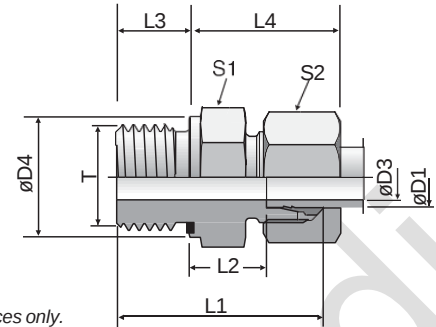
Part number suffixes		
Material	Suffix surface and material	Example
Steel	CFX	GE06LR1/4KEGCFX
Stainless Steel	71X	GE06LR1/4KEG71X
Brass	MSX	GE06LR1/4KEGMSX

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

Dimensions and pressures for reference only, subject to change.

GE-M-ED

Male Connector
 24° Flareless / Metric with
 MSI lastic Seal



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

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

¹⁾ Pressure shown = item deliverable

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

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

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

! "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

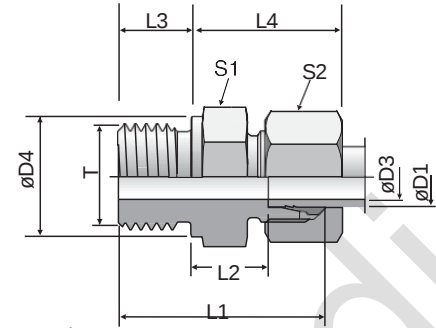
*Please add the **suffixes**
 below according to the material/
 surface required.

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

Dimensions and pressures for reference only, subject to change.

GE-M

Male Connector
 24° Flareless / Metric



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

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

¹⁾ Pressure shown = item deliverable

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

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

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

! "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

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

Dimensions and pressures for reference only, subject to change

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

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

GE-M keg

Male Connector
24° Flareless / Metric

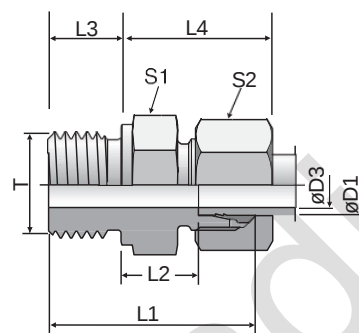


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Product images are shown with nuts and sleeves for dimensional allowances only.
Part numbers are body level only. See note below product table for details

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

¹⁾ Pressure shown = item deliverable

²⁾ LL = very light series

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

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

*S1=SW12 in 1.4571

⚠ "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

ASSEMBLY

TUBE FAB
EQUIP

GEN TECH

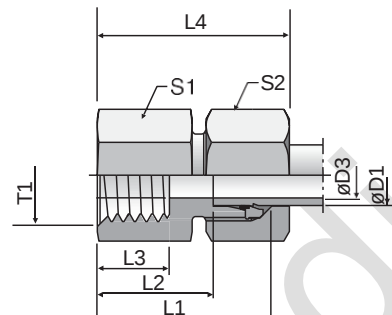
Part number suffixes		
Material	Suffix surface and material	Example
Steel	CFX	GE06LLMCFX
Stainless Steel	71X	GE06LLM71X
Brass	MSX	GE06LLMMSX

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

Dimensions and pressures for reference only, subject to change.

GAI-R

Female Connector
24° Flareless / BSPP



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

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

¹⁾ Pressure shown = item deliverable

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

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

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

Focus on: Quality, precision engineering, and adherence to relevant national/international industry standards (like ISO or ASTM) cause cancer and birth defects or other reproductive harm. For more information go to .

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

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

Dimensions and pressures for reference only, subject to change.

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ASSEMBLY

TUBE FAB
EQUIP

GEN TECH

GAI-M

Female Connector
24° Flareless / Metric

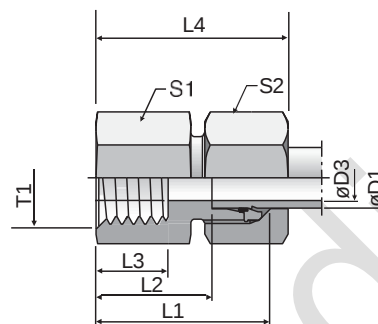


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product images are shown with nuts and sleeves for dimensional allowances only.
Part numbers are body level only. See note below product table for details

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

¹⁾ Pressure shown = item deliverable

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

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

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

⚠ "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

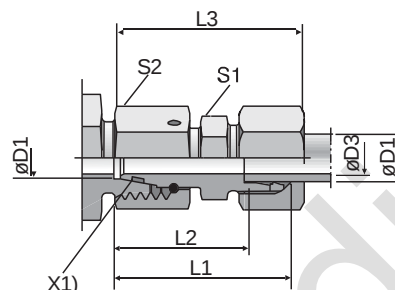
*Please add the **suffixes**
below according to the material/
surface required.

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

Dimensions and pressures for reference only, subject to change.

DA

Distance Piece Adapter
Flareless Swivel / 24° Flareless



X1) O-ring OR

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

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

¹⁾ Pressure shown = item deliverable

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

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

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

 "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

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

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

Dimensions and pressures for reference only, subject to change.

GZ

Swivel Union
 Flareless Swivel /
 Flareless Swivel

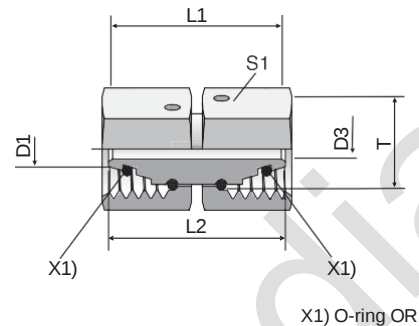


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ASSEMBLY

TUBE FAB
EQUIP

GEN TECH

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

¹⁾ Pressure shown = item deliverable

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

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

⚠ "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

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

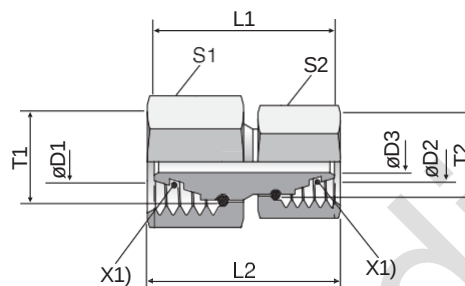
Part number suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Steel	CF	GZ16SCF	NBR
Stainless Steel	71	GZ16S71	VIT

Dimensions and pressures for reference only, subject to change.

GZR

Swivel Union Reducer

Flareless Swivel / Flareless Swivel



X1) O-ring OR

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

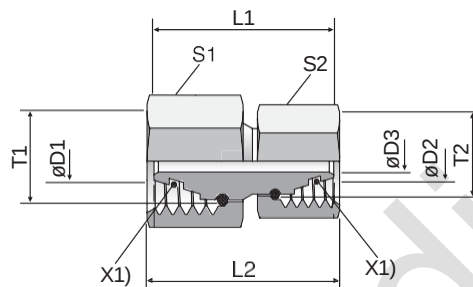
! "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

Dimensions and pressures for reference only, subject to change.

GZR

Swivel Union Reducer

Flareless Swivel / Flareless Swivel



X1) O-ring OR

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

¹⁾ Pressure shown = item deliverable

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

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

 "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

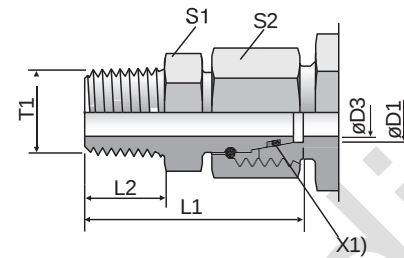
*Please add the **suffixes**
below according to the material/
surface required.

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

Dimensions and pressures for reference only, subject to change.

EGE-NPT

Swivel Connector
Flareless Swivel / NPT



X1) O-ring OR

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

¹⁾ Pressure shown = item deliverable

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

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

 "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

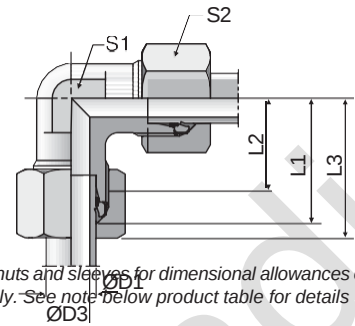
*Please add the **suffixes**
below according to the material/
surface required.

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

Dimensions and pressures for reference only, subject to change.

W

Elbow Union
 24° Flareless / 24° Flareless



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

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

¹⁾ Pressure shown = item deliverable

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

*S1 = 17 in 1.4571

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

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

⚠ "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

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

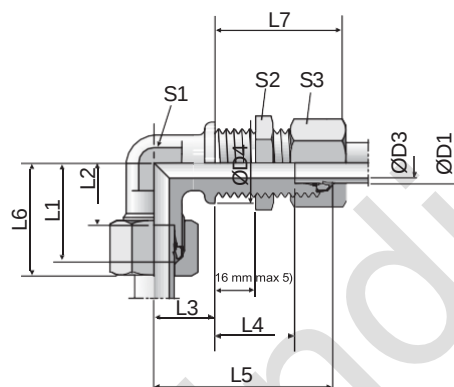
Part number suffixes		
Material	Suffix surface and material	Example
Steel	CFX	W16SCFX
Stainless Steel	71X	W16S71X
Brass	MSX	W16SMSX

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WSV

 Bulkhead Union Elbow
 24° Flareless / 24° Flareless

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

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

¹⁾ Pressure shown = item deliverable

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

⁵⁾ Bulkhead thickness min.

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

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

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

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

ASSEMBLY

 TUBE FAB
EQUIP

GEN TECH

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

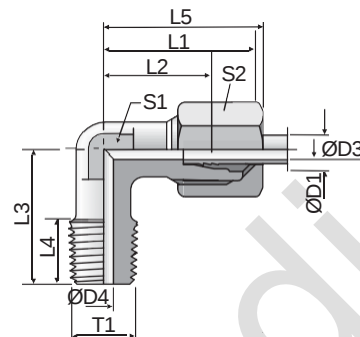
*Please add the **suffixes**
below according to the material/
surface required.

Dimensions and pressures for reference only, subject to change.

WE-NPT

Male Elbow

24° Flareless / NPT



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

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ASSEMBLY

TUBE FAB
EQUIP

GEN TECH

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

¹⁾ Pressure shown = item deliverable

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

PN (bar) = PN (MPa)
10

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

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

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

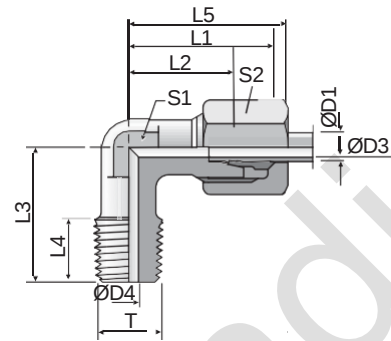
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WE-R keg

Male Elbow

24° Flareless / BSPT

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

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

¹⁾ Pressure shown = item deliverable

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

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

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

⚠ "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

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

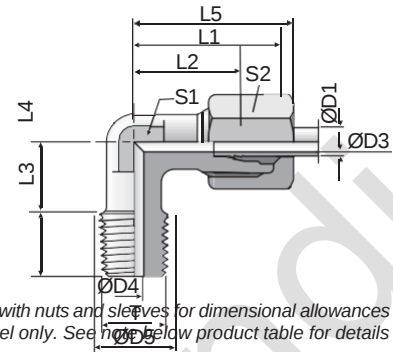
Part number suffixes		
Material	Suffix surface and material	Example
Steel	CFX	WE16SRCFX
Stainless Steel	71X	WE16SR71X
Brass	MSX	WE16SRMSX

Dimensions and pressures for reference only, subject to change.

WE-M

Male Elbow

24° Flareless / Metric Taper Thread



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

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

¹⁾ Pressure shown = item deliverable

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

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

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

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

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

Dimensions and pressures for reference only, subject to change.

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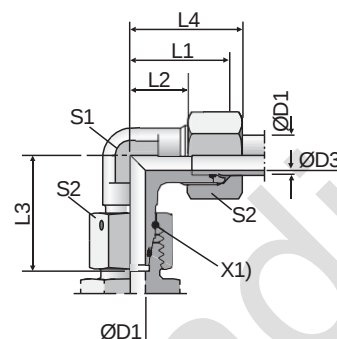
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EW

Swivel Nut Elbow

24° Flareless / Flareless Swivel

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X1) O-ring OR

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

ASSEMBLY

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

¹⁾ Pressure shown = item deliverable

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

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

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

 TUBE FAB
EQUIP

GEN TECH

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

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

Dimensions and pressures for reference only, subject to change.

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EW-R-ED

Assembled Adjustable Swivel Elbow
24° Flareless / BSPP with MSI lastic Seal

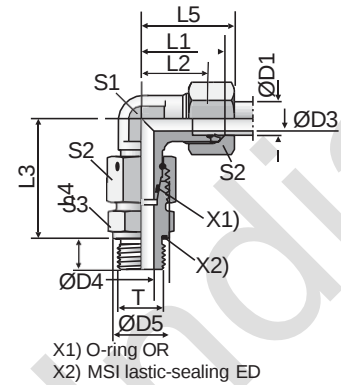


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ASSEMBLY

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

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

¹⁾ Pressure shown = item deliverable

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

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

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

⚠ "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

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

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

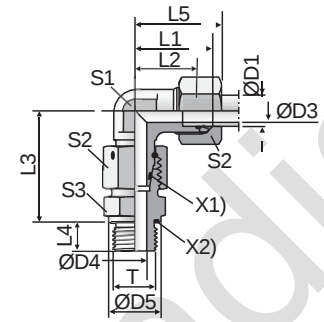
Dimensions and pressures for reference only, subject to change.

EW-M-ED

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

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X1) O-ring OR
 X2) MSI lastic-sealing ED

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

ASSEMBLY

TUBE FAB
EQUIP

GEN TECH

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

¹⁾ Pressure shown = item deliverable

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

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

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

! "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

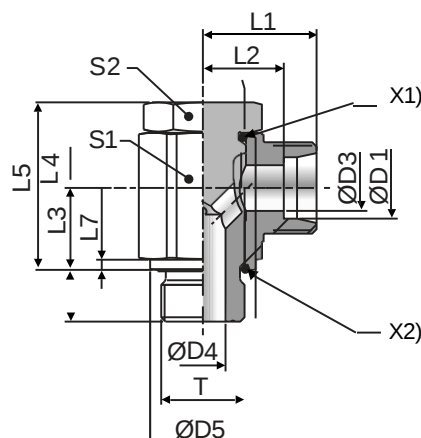
*Please add the **suffixes**
below according to the material/
surface required.

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

Dimensions and pressures for reference only, subject to change.

WHK-M-CS

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



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

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

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

¹⁾ Pressure shown = item deliverable

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

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

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

! "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

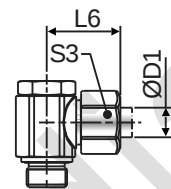
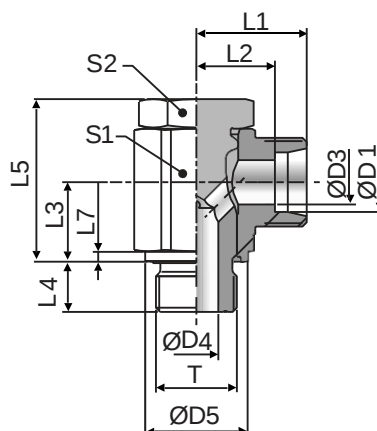
*Please add the suffixes
below according to the material/
surface required.

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

Dimensions and pressures for reference only, subject to change.

WHK-M

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



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

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

¹⁾ Pressure shown = item deliverable

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

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

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

! "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

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

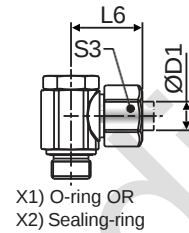
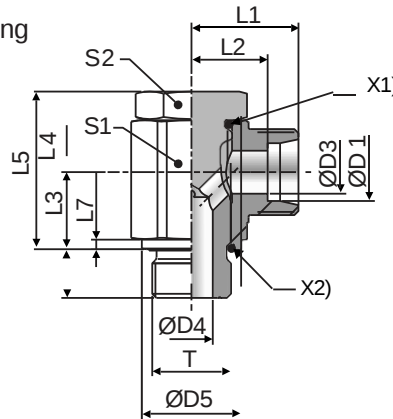
Part number suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Steel	CF	WHK16SMOMDCF	NBR

Dimensions and pressures for reference only, subject to change.

WHK-R-CS

High Pressure Banjo Elbow

24° Flareless / BSPP thread with soft sealing ring



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

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

¹⁾ Pressure shown = item deliverable

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

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

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

! "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

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

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

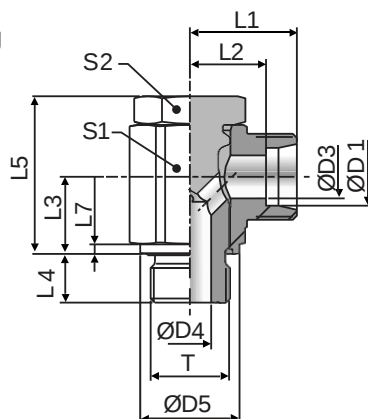
Dimensions and pressures for reference only, subject to change.

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

WHK-R

High Pressure Banjo Elbow

24° Flareless / Male BSPP thread with metal sealing



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

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

¹⁾ Pressure shown = item deliverable

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

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

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



"Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

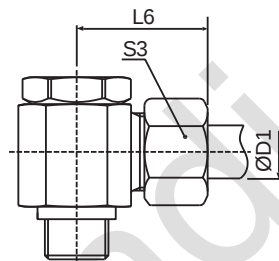
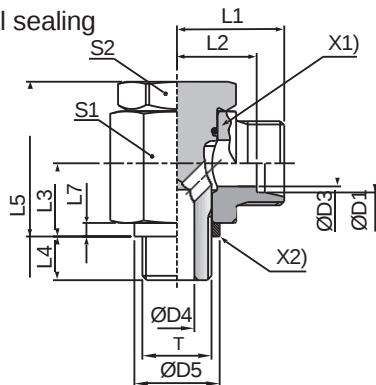
*Please add the suffixes
below according to the material/
surface required.

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

Dimensions and pressures for reference only, subject to change.

WH-R

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



X1) O-ring OR
X2) Sealing Ring DKA

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

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

¹⁾ Pressure shown = item deliverable

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

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

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



"Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

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

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

Dimensions and pressures for reference only, subject to change.

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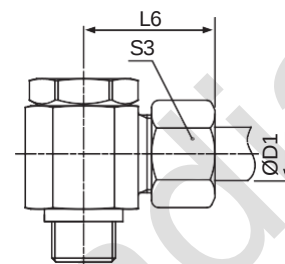
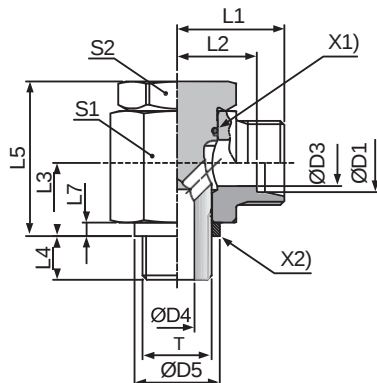
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TUBE FAB
EQUIP

GEN TECH

WH-M

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



X1) O-ring OR
 X2) Sealing Ring DKA

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

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

¹⁾ Pressure shown = item deliverable

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

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

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

*S1=SW30 in 1.4571



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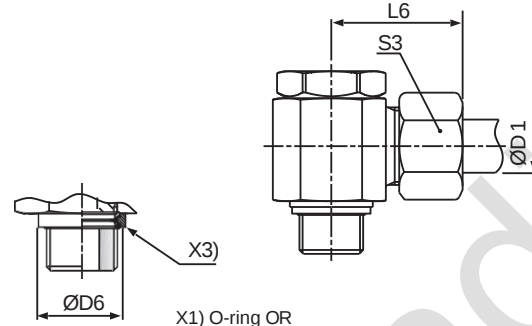
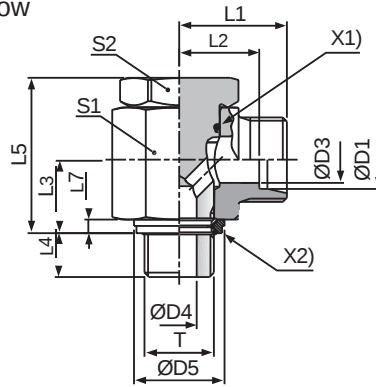
*Please add the **suffixes**
 below according to the material/
 surface required.

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

Dimensions and pressures for reference only, subject to change.

WH-R-KDS

High Pressure Banjo Elbow
24° Flareless / BSPP



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

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

Series	D1	T	D3	D4	D5 KDS	D6 KD	L1	L2	L3	L4	L5	L6	L7	S1	S2	S3	Weight g/1 piece	Part Number*	PN (bar) ¹⁾ 71
L ³⁾	06	G 1/8 A	4	4.5	14.9	17	19.0	12.0	10.5	8	24	27	2.5	17	17	14	53	WH06LRKDOMD	315
	08	G 1/4 A	6	6.0	18.9	22	21.5	14.5	14.0	12	30	29	3.0	22	19	17	101	WH08LRKDOMD	315
	10	G 1/4 A	8	6.0	18.9	22	22.5	15.5	14.0	12	30	30	3.0	22	19	19	102	WH10LRKDOMD	315
	12	G 3/8 A	10	7.5	21.9	27	25.0	18.0	16.5	12	36	33	3.0	27	24	22	181	WH12LRKDOMD	315
	15	G 1/2 A	12	11.0	26.9	32	28.5	21.5	21.5	14	45	37	4.5	32	30	27	312	WH15LRKDOMD	315
	18	G 1/2 A	15	11.0	26.9	32	28.5	21.0	21.5	14	45	37	4.5	32	30	32	319	WH18LRKDOMD	315
	22	G 3/4 A	19	17.0	32.9	41	35.0	27.5	24.0	16	53	44	3.5	41	36	36	578	WH22LRKDOMD	160
	28	G 1 A	24	21.0	39.9	46	39.5	32.0	30.5	18	66	49	3.5	50	46	41	1035	WH28LRKDOMD	160
	35	G 1 1/4 A	30	27.0	49.9	57	46.5	36.0	35.5	20	76	58	3.5	60	55	50	1499	WH35LRKDOMD	160
	42	G 1 1/2 A	36	34.0	55.9	64	51.5	40.5	40.5	22	87	63	3.5	70	60	60	2196	WH42LRKDOMD	160
S ⁴⁾	06	G 1/4 A	4	6.0	18.9	22	23.5	16.5	14.0	12	30	31	3.0	22	19	17	107	WH06SRKDOMD	400
	08	G 1/4 A	5	6.0	18.9	22	23.5	16.5	14.0	12	30	31	3.0	22	19	19	107	WH08SRKDOMD	400
	10	G 3/8 A	7	7.5	21.9	27	26.0	18.5	16.5	12	36	35	3.0	27	24	22	188	WH10SRKDOMD	400
	12	G 3/8 A	8	7.5	21.9	27	26.0	18.5	16.5	12	36	35	3.0	30	24	24	190	WH12SRKDOMD	400
	16	G 1/2 A	12	11.0	26.9	32	30.5	22.0	21.5	14	45	40	4.5	32	30	30	324	WH16SRKDOMD	315
	20	G 3/4 A	16	17.0	32.9	41	37.0	26.5	24.0	16	53	48	3.5	41	36	36	588	WH20SRKDOMD	315
	25	G 1 A	20	21.0	39.9	46	43.5	31.5	30.5	18	66	56	3.5	50	46	46	1073	WH25SRKDOMD	250
	30	G 1 1/4 A	25	27.0	49.9	57	50.5	37.0	35.5	20	76	64	3.5	60	55	50	1559	WH30SRKDOMD	160
	38	G 1 1/2 A	32	34.0	55.9	64	57.5	41.5	40.5	22	87	72	3.5	70	60	60	2296	WH38SRKDOMD	160

¹⁾ Pressure shown = item deliverable

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

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

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



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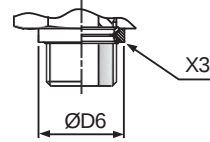
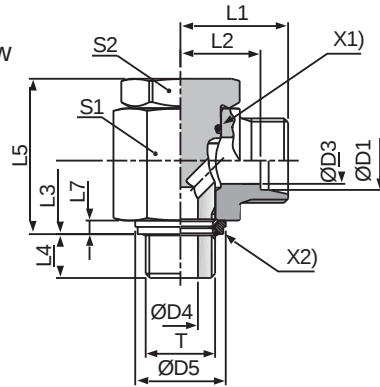
*Please add the **suffixes**
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surface required.

Part number suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Stainless Steel	71	WH16SRKDOMD71	VIT/PTFE

Dimensions and pressures for reference only, subject to change.

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

WH-M-KDS

 High Pressure Banjo Elbow
 Banjo Metric / Flareless


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

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

ASSEMBLY

		D1																	PN (bar) ¹⁾
Series		T	D3	D4	D5 KDS	D6 KD	L1	L2	L3	L4	L5	L6	L7	S1	S2	S3	Weight g/1 piece	Part Number*	71
L ³⁾	06	M 10×1.0	4	4.5	14.9	17.0	19.0	12.0	10.5	8	24.0	27	2.5	17	17	14	54	WH06LMKDOMD	315
	08	M 12×1.5	6	6.0	17.0	22.0	21.5	14.5	14.0	12	30.0	29	3.0	22	19	17	97	WH08LMKDOMD	315
	10	M 14×1.5	8	6.0	18.9	22.5	22.5	15.5	14.0	12	30.0	30	3.0	22	19	19	104	WH10LMKDOMD	315
	12	M 16×1.5	10	7.5	21.9	27.0	25.0	18.0	16.5	12	36.0	33	3.0	27	24	22	180	WH12LMKDOMD	315
	15	M 18×1.5	11	9.0	23.9	29.0	27.5	21.5	18.5	12	39.5	37	3.0	30	27	27	244	WH15LMKDOMD	315
	18	M 22×1.5	15	12.0	26.9	32.0	28.5	21.0	21.5	14	45.0	37	4.5	32	30	32	327	WH18LMKDOMD	315
	22	M 26×1.5	19	17.0	31.9	41.0	35.0	27.5	24.0	16	53.0	44	3.5	41	36	36	573	WH22LMKDOMD	160
	28	M 33×2.0	24	21.0	39.9	46.0	39.5	32.0	30.5	18	66.0	49	3.5	50	46	41	1017	WH28LMKDOMD	160
	35	M 42×2.0	30	27.0	49.9	57.0	46.5	36.0	35.5	20	76.0	58	3.5	60	55	50	1512	WH35LMKDOMD	160
	42	M 48×2.0	36	34.0	55.9	64.0	51.5	40.5	40.5	22	87.0	63	3.5	70	60	60	2217	WH42LMKDOMD	160
S ⁴⁾	06	M 12×1.5	4	6.0	17.0	22.0	23.5	16.5	14.0	12	30.0	31	3.0	22	19	17	104	WH06SMKDOMD	400
	08	M 14×1.5	5	6.0	18.9	22.5	23.5	16.5	14.0	12	30.0	31	3.0	22	19	19	110	WH08SMKDOMD	400
	10	M 16×1.5	7	7.5	21.9	27.0	26.0	18.5	16.5	12	36.0	35	3.0	27	24	22	186	WH10SMKDOMD	400
	12	M 18×1.5	8	9.0	23.9	29.0	27.5	20.0	18.5	12	39.5	36	3.0	30	27	24	246	WH12SMKDOMD	400
	16	M 22×1.5	12	12.0	26.9	32.0	30.5	22.0	21.5	14	45.0	40	4.5	32	30	30	327	WH16SMKDOMD	315
	20	M 27×2.0	16	16.0	32.9	41.0	37.0	26.5	24.0	16	53.0	48	3.5	41	36	36	598	WH20SMKDOMD	315
	25	M 33×2.0	20	21.0	39.9	46.0	43.5	31.5	30.5	18	66.0	56	3.5	50	46	46	1055	WH25SMKDOMD	250
	30	M 42×2.0	25	27.0	49.9	57.0	50.5	37.0	35.5	20	76.0	64	3.5	60	55	50	1572	WH30SMKDOMD	160
38	M 48×2.0	32	34.0	55.9	64.0	57.5	41.5	40.5	22	87.0	72	3.5	70	60	60	2317	WH38SMKDOMD	160	

¹⁾ Pressure shown = item deliverable

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

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

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

*S1=SW30 in 1.4571

! "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

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

Part number suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Stainless Steel	71	WH16SMKDOMD71	VIT/PTFE

Dimensions and pressures for reference only, subject to change.

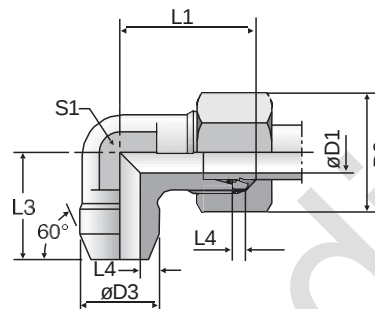
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WAS

Weld Elbow

24° Flareless / Butt Weld

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

3000 PSI Series

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

6000 PSI Series

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

¹⁾ Pressure shown = Item deliverable

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

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

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

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

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

Dimensions and pressures for reference only, subject to change.

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T

Union Tee
24° Flareless

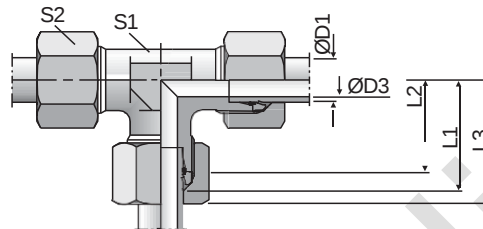


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Product images are shown with nuts and sleeves for dimensional allowances only.
Part numbers are body level only. See note below product table for details

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

1) Pressure shown = item deliverable

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

*S1 = 17 in 1.4571

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

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

⚠ "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

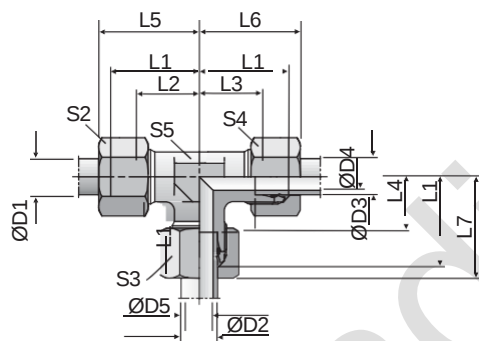
*Please add the **suffixes**
below according to the material/
surface required.

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

Dimensions and pressures for reference only, subject to change.

TR

Tee-Reducer
24° Flareless



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

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

¹⁾ Pressure shown = item deliverable

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

*S5 = 17 in 1.4571

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

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

 "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

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

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

Dimensions and pressures for reference only, subject to change.

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GEN TECH

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

¹⁾ Pressure shown = item deliverable

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

*S5 = 17 in 1.4571

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

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



"Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

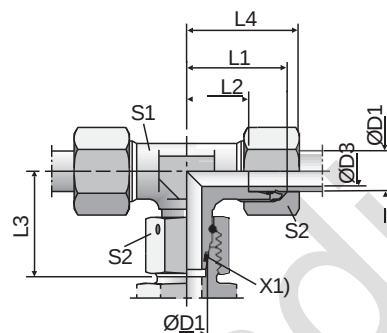
Part number suffixes		
Material	Suffix surface and material	Example
Steel	CFX	TR16/12/16SCFX
Stainless Steel	71X	TR16/12/16S71X
Brass	MSX	TR16/12/16SMSX

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

Dimensions and pressures for reference only, subject to change.

ET

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



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

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

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

¹⁾ Pressure shown = item deliverable

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

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

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



"Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

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

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

Dimensions and pressures for reference only, subject to change.

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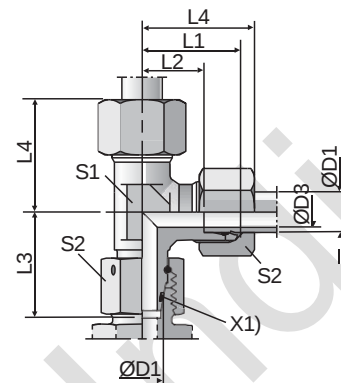
TUBE FAB EQUIP

ASSEMBLY

GEN TECH

EL

Swivel Nut Run Tee
 24° Flareless / Flareless Swivel



X1) O-ring OR

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

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

¹⁾ Pressure shown = item deliverable

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

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

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

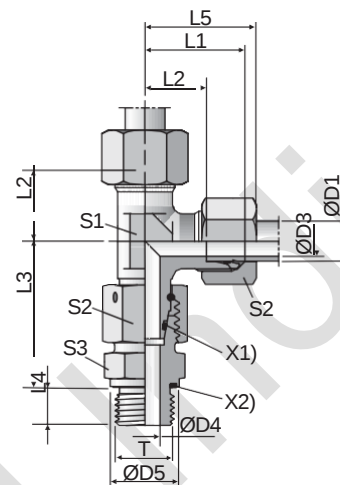
*Please add the **suffixes**
 below according to the material/
 surface required.

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

Dimensions and pressures for reference only, subject to change.

EL-R-ED

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



X1) O-ring OR
 X2) MSI lastic-sealing ED

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

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

¹⁾ Pressure shown = item deliverable

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

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

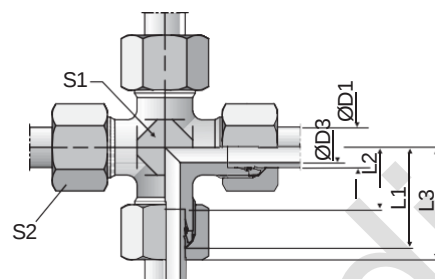
*Part numbers shown are body only level. To order with a nut and progressive ring (sleeve) included, please see pages D11 and D12 for part number ordering instructions. Instructions for ordering the fitting as MSI are also included on these pages.

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

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

Dimensions and pressures for reference only, subject to change.

K

 Union Cross
 24° Flareless

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

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

¹⁾ Pressure shown = item deliverable

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

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

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



"Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

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

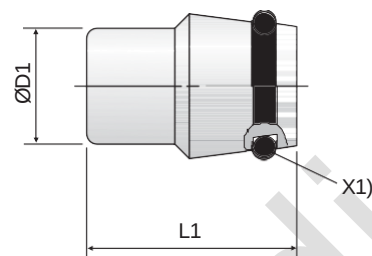
Part number suffixes		
Material	Suffix surface and material	Example
Steel	CFX	K16SCFX
Stainless Steel	71X	K16S71X
Brass	MSX	K16SMSX

Dimensions and pressures for reference only, subject to change.

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

VKA

Cap



X1) O-ring OR

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ASSEMBLY

 TUBE FAB
EQUIP

GEN TECH

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

¹⁾ Pressure shown = item deliverable

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

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



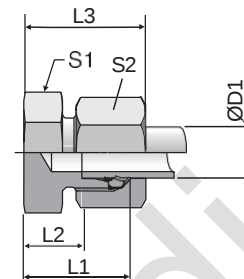
"Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

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

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

Dimensions and pressures for reference only, subject to change.

ROV

 Plug
 24° Flareless

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

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

¹⁾ Pressure shown = item deliverable

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

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

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

⚠ "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

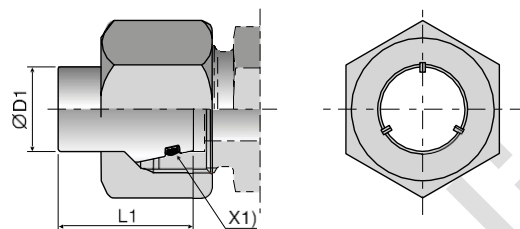
*Please add the **suffixes**
below according to the material/
surface required.

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

Dimensions and pressures for reference only, subject to change.

VKAM

Blanking Plug



X1) O-ring OR

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

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

¹⁾ Pressure shown = item deliverable

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

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

 "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

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

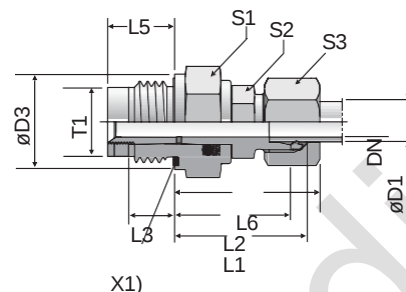
Part number suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Steel	CF	VKAM16SCF	NBR
Stainless Steel	71	VKAM16S71	VIT

Dimensions and pressures for reference only, subject to change.

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

DVGE-R

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



X1) MSI lastic-sealing

L8 larger than DIN 3852
chart page Q22

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

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

¹⁾ Pressure shown = item deliverable

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

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

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

! "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

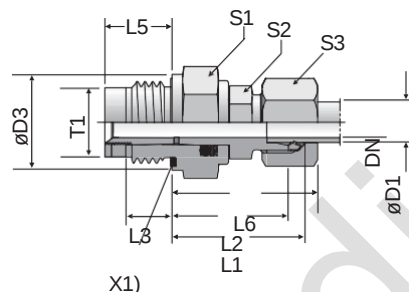
*Please add the suffixes
below according to the material/
surface required.

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

Dimensions and pressures for reference only, subject to change

DVGE-M

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



X1)

X1) MSI lastic-sealing

L8 larger than DIN 3852
 chart page Q22

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

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

¹⁾ Pressure shown = item deliverable

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

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

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

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

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

Dimensions and pressures for reference only, subject to change.

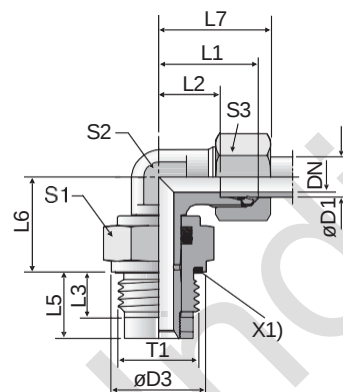
DVWE-R

Plain Bearing Rotary Elbow

24° Flareless / BSPP with MSI lastic Seal*

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X1) MSI lastic-sealing

L8 larger than DIN 3852
chart page Q22

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

ASSEMBLY

TUBE FAB
EQUIP

GEN TECH

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

¹⁾ Pressure shown = item deliverable

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

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

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



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

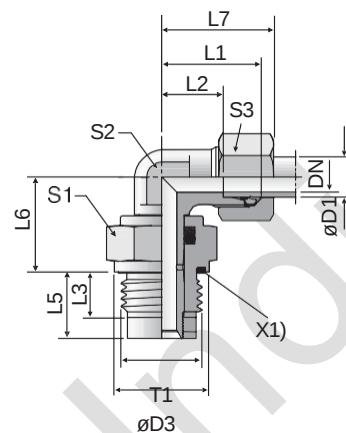
Part number suffixes			
Material	Suffix surface and material	Example	Standard sealing material (no additional suffix needed)
Steel	CF	DVWE06LROMDCF	NBR
FKM	VITCF	DVWE06LROMDVITCF	

Dimensions and pressures for reference only, subject to change.

DVWE-M

Plain Bearing Rotary Elbow

24° Flareless / Metric Parallel with MSI lastic Seal*



X1) MSI lastic-sealing

L8 larger than DIN 3852
chart page Q22

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

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

¹⁾ Pressure shown = item deliverable

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

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

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

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

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

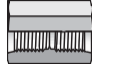
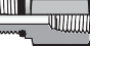
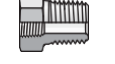
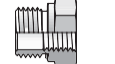
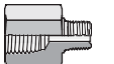
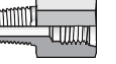
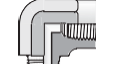
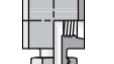
Dimensions and pressures for reference only, subject to change.

MSI

MAHADEV STEEL INDIA

Ferrule Fittings | Tube Fittings | Instrument
Fittings



Nipples	F50HAO SAE-ORB / SAE-ORB  E12	F50F SAE-ORB / NPTF  E12	FF NPTF / NPTF  E12	FFF NPTF / NPTF Long  E12	F80HA80 Metric-ORR / Metric-ORR  E13
FF33M BSPT / BSPT  E13	Couplings	G5HG5 SAE-ORB / SAE-ORB  E13	GG NPTF / NPTF  E13	G8HG8 Metric-ORR / Metric-ORR  E14	GG44M BSPP / BSPP  E14
Reducers, Expanders, Conversions	F50G5 SAE-ORB / SAE-ORB  E15	F50G SAE-ORB / NPTF  E15	F50HG8 SAE-ORB / Metric  E16	F50HF42 SAE-ORB / BSPP-ED  E16	F50HG4 SAE-ORB / BSPP  E16
FHG5 NPTF / SAE-ORB  E16	FG NPTF / NPTF  E17	PTR Pipe Thread Reducer  E17	FHG8 NPTF / Metric  E17	FHG4 NPTF / BSPP  E17	F87OHG87M ISO 6149 / ISO 6149  E18
F80HG5 Metric-ORR / SAE-ORB  E18	F80HG Metric-ORR / NPTF  E18	F82HG8 Metric-ED / Metric-ORR  E19	F40HG5 BSPP-ORR / SAE-ORB  E19	F40HG BSPP-ORR / NPTF  E19	GHG4 BSPP / NPTF  E19
PTR34M BSPT / BSPP  E19	RI-ED BSPP-ED / BSPP  E20	RI BSPP-CF / BSPP  E21	FHF3 BSPT / NPTF  E22	F3HG BSPT / NPTF  E22	F3HG5 BSPT / SAE-ORB  E22
45° Elbows	CD45 NPTF / NPTF  E22	DD45 NPTF / NPTF  E23	90° Elbows	AOEG5 SAE-ORB / SAE-ORB  E23	AOEG SAE-ORB / NPTF  E23
AOE4G SAE-ORB / NPTF Long  E23	CR NPTF / NPTF  E24	CD NPTF / NPTF  E24	DD NPTF / NPTF  E24	A87LPOEG87LPM ISO 6149 / ISO 6149  E25	Tees

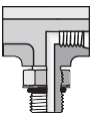
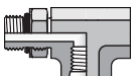
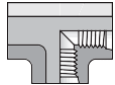
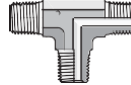
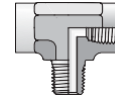
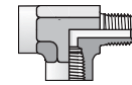
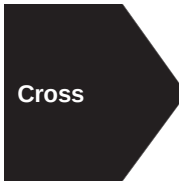
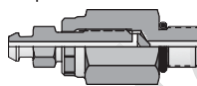
G5G5JAO SAE-ORB Branch Tee  E25	AOG5JG5 SAE-ORB Run Tee  E26	G5G5JG5 SAE-ORB Tee  E26	RRS NPTF Tee  E26	MMS NPTF Branch Tee  E27	MRO NPTF Run Tee  E27
MMO NPTF Tee  E27	MMO444M BSPP Tee  E27	Cross 	KMMOO NPTF Cross  E28	Plugs and Caps 	P5ON SAE-ORB Hex Head  E28
HP5ON SAE-ORB Hollow Hex  E28	HP NPTF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

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Bleed Adapters (Shown in Section L)

Bleed Adapters 	P5ONBA Bleed Screw / Bleed Adapter  L10	HPBA Bleed Screw / NPT  L10
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Pipe Fittings and Port Adapters

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

Design and Construction

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

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

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

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

How Port Connections Work

Tapered (“Pipe”) Threads

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

- NPT/NPTF
- BSPT
- Metric Taper

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

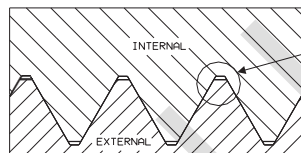
NPT / NPTF Threads

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

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

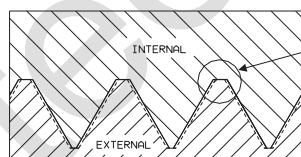
*Class 2A or 2B

Table E1 — Thread Conformance Standards



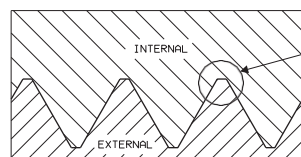
Spiral leak path

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



Thread crest and root in contact. Gap remains at flank angles.

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



Full thread form contact

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

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

Application Guidelines for Tapered Threads

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

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

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

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

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

All NPTF Connectors

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

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

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

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

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

Parallel Thread Adapters

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

Three types of threads are used for parallel thread ports:

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

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

UN / UNF Threads

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

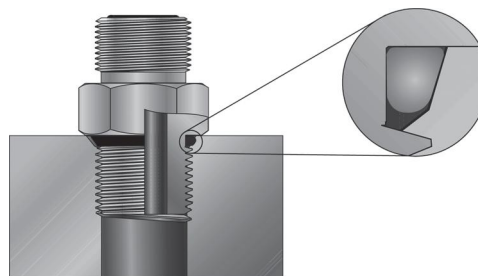


Fig. E4 — Typical O-Ring Boss Port

BSPP

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

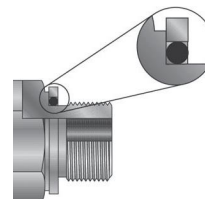


Fig. E5 — O-Ring with Retaining Ring

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

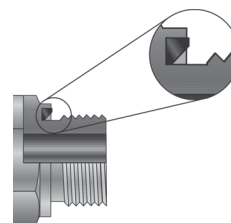


Fig. E6 — O-Ring in Fitting Groove

Metric Parallel

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

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

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

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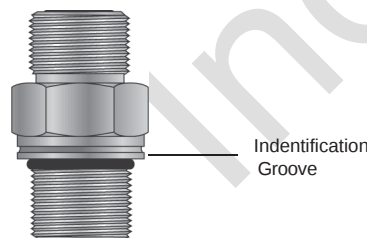


Fig. E7 — ISO 6149 Male

Reference locations:

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

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

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

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

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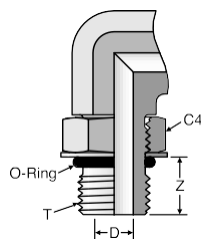
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Dimensions and pressures for reference only, subject to change.

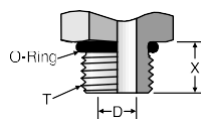
Port Ends for SAE J1926-1 (ISO 11926-1) Port

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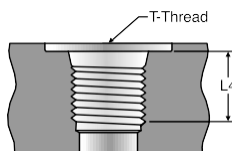
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**SAE J1926
Adjustable**



**SAE J1926
Nonadjustable**



**SAE J1926-1
Port²⁾**

	Thread	Locknut Hex	Drill	Minimum Thread	Stud Length	
SIZE	T UN/UNF	C4 (inch)	D Ref. (inch)	L4 Min (inch)	X (inch)	Z Max (inch)
LIGHT DUTY (ADAPTERS)						
2	5/16-24	7/16	0.063	0.390	0.297	0.36
3	3/8-24	1/2	0.126	0.390	0.297	0.33
4	7/16-20	9/16	0.177	0.454	0.360	0.39
5	1/2-20	5/8	0.236	0.454	0.360	0.43
6	9/16-18	11/16	0.295	0.500	0.391	0.43
8	3/4-16	7/8	0.394	0.562	0.438	0.49
10	7/8-14	1	0.492	0.656	0.500	0.56
12	1 1/16-12	1 1/4	0.610	0.750	0.594	0.65
14	1 3/16-12	1 3/8	0.709	0.750	0.594	0.65
16	1 5/16-12	1 1/2	0.846	0.750	0.594	0.65
20	1 5/8-12	1 7/8	1.083	0.750	0.594	0.65
24	1 7/8-12	2 1/8	1.319	0.750	0.594	0.65
32	2 1/2-12	2 3/4	1.772	0.750	0.594	0.59
HEAVY DUTY ()						
2	5/16-24	1/2	0.063	0.390	0.374	0.38
3	3/8-24	9/16	0.118	0.390	0.374	0.39
4	7/16-20	5/8	0.177	0.454	0.433	0.43
5	1/2-20	11/16	0.236	0.454	0.433	0.44
6	9/16-18	3/4	0.264	0.500	0.472	0.47
8	3/4-16	15/16	0.378	0.562	0.551	0.54
10	7/8-14	1 1/16	0.484	0.656	0.630	0.63
12	1 1/16-12	1 3/8	0.610	0.750	0.728	0.73
14	1 3/16-12	1 1/2	0.709	0.750	0.728	0.73
16	1 5/16-12	1 5/8	0.811	0.750	0.728	0.73
20	1 5/8-12	1 7/8	1.024	0.750	0.728	0.73
24	1 7/8-12	2 1/8	1.260	0.750	0.728	0.73
32	2 1/2-12	2 3/4	1.575	0.750	0.728	0.73

1) See page M4 for SAE O-rings.

2) See page S23 for port details.

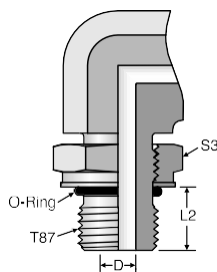
Dimensions and pressures for reference only, subject to change.

Port Ends for ISO 6149-1 Port

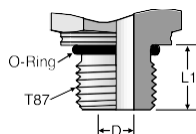
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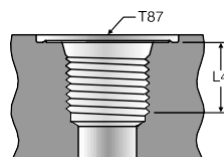
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**ISO 6149
Adjustable**



**ISO 6149
Nonadjustable**



**ISO 6149
Port²⁾**

	Thread	Drill	Minimum Thread	Stud Length		Lockhead Hex
SIZE	T87 Metric	D Ref. (mm)	L4 Min (mm)	L1 (mm)	L2 Max (mm)	S3 (mm)
LIGHT DUTY						
M8	M8X1	3	10.0	8.5	8.7	12
M10	M10X1	4.5	10.0	8.5	8.7	14
M12	M12X1.5	6	11.5	11.0	11.1	17
M14	M14X1.5	7.5	11.5	11.0	11.1	19
M16	M16X1.5	9	13.0	11.5	11.6	22
M18	M18X1.5	11	14.5	12.5	12.6	24
M20	M20X1.5	—	14.5			—
M22	M22X1.5	14	15.5	13.0	13.0	27
M27	M27X2	18	19.0	16.0	16.0	32
M30	M30X2	—	19.0			—
M33	M33X2	23	19.0	16.0	16.0	41
M38	M38X2	—	19.0			—
M42	M42X2	30	19.5	16.0	16.0	50
M48	M48X2	36	22.0	17.5	17.3	55
M60	M60X2	44	24.5	17.5	17.3	65
HEAVY DUTY						
M8	M8X1	2	10.0	9.5	9.7	12
M10	M10X1	3	10.0	9.5	9.7	14
M12	M12X1.5	4	11.5	11.0	11.1	17
M14	M14X1.5	6	11.5	11.0	11.1	19
M16	M16X1.5	7	13.0	12.5	12.6	22
M18	M18X1.5	9	14.5	14.0	14.1	24
M20	M20X1.5	11	14.5	14.0		—
M22	M22X1.5	12	15.5	15.0	15.0	27
M27	M27X2	15	19.0	18.5	18.0	32
M30	M30X2	18	19.0	18.5	18.5	36
M33	M33X2	20	19.0	18.5	18.5	41
M38	M38X2	26	19.0	18.5	19.0	46
M42	M42X2	26	19.5	19.0	19.0	50
M48	M48X2	32	22.0	21.5	21.5	55
M60	M60X2	40	24.5	24.0	24.0	65

1) See page M5 for ISO 6149 O-rings.

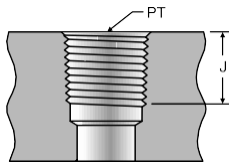
2) See page S22 for port details.

Dimensions and pressures for reference only, subject to change.

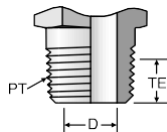
NPTF and BSPT Port Ends

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**NPTF and BSPT
Port**



**NPTF and BSPT
Stud**

	Thread	Drill	Minimum Thread	Thread Engagement
SIZE	PT	D Ref. (inch)	J (inch)	TE (inch)
NPTF				
2	1/8-27	0.188	0.31	0.24
4	1/4-18	0.281	0.44	0.34
6	3/8-18	0.406	0.47	0.34
8	1/2-14	0.531	0.59	0.46
12	3/4-14	0.719	0.63	0.46
16	1-11 1/2	0.938	0.75	0.59
20	1 1/4-11 1/2	1.250	0.78	0.59
24	1 1/2-11 1/2	1.500	0.81	0.59
32	2-11 1/2	1.938	0.81	0.59
BSPT				
2	1/8-28	0.188	0.31	0.24
4	1/4-19	0.281	0.44	0.34
6	3/8-19	0.406	0.47	0.34
8	1/2-14	0.531	0.59	0.46
12	3/4-14	0.719	0.63	0.46
16	1-11	0.938	0.75	0.59
20	1 1/4-11	1.250	0.78	0.59
24	1 1/2-11	1.438	0.81	0.59
32	2-11	1.938	0.81	0.59

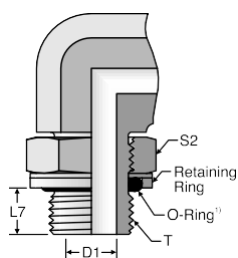
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Port Ends for ISO 9974-1 and 1179-1 Ports

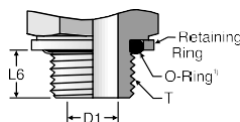
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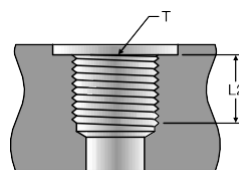
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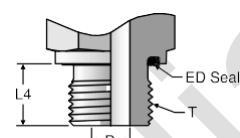
**ISO 9974 and 1179
Adjustable O-Ring
with Retaining Ring²⁾**



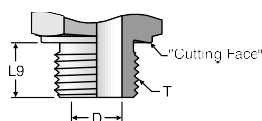
**ISO 9974 and 1179
Non-Adjustable O-Ring
with Retaining Ring²⁾**



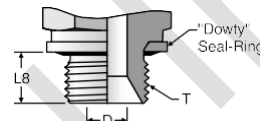
**ISO 9974³⁾ and 1179⁴⁾
Port**



**ISO 9974 and 1179
ED Seal**



**ISO 9974 and 1179
Cutting Face Seal**



**Dowty® Seal Stud End for
ISO 9974-1 and ISO 1179-1 Ports**

ISO 9974

SIZE	Thread	Drill Ref.			Port Min Depth	ED Stud	O-Ring, RR Non-Adj Stud	O-Ring, RR Adj-Stud	O-Ring, RR Adj-Stud, Locknut Hex	Dowty Seal Stud	Cutting Face Stud
		O-Ring, RR Stud	Light Duty (L Series)	Heavy Duty (S Series)							
	T Metric	D1 (mm)	D (mm)		L2 (mm)	L4 (mm)	L6 (mm)	L7 (mm)	S2 (mm)	L8 (mm)	L9 (mm)
M8	M8X1	2	—	—	8	—	8.0	8.6	11	—	8
M10	M10X1	4	4	—	8	8	8.0	8.7	14	—	8
M12	M12X1.5	5	6	4	12	12	8.7	10.0	17	—	12
M14	M14X1.5	7	7	5	12	12	8.7	10.0	19	—	12
M16	M16X1.5	9	9	7	12	12	9.0	11.3	21	—	12
M18	M18X1.5	11	11	8	12	12	11.0	12.2	22	—	12
M20	M20X1.5	11	—	10	14	14	12.7	—	—	—	14
M22	M22X1.5	13	14	12	14	14	12.7	13.7	27	—	14
M26	M26X1.5	13	18	—	16	16	14.0	—	—	—	16
M27	M27X2	16	—	16	16	16	15.0	16.8	32	—	16
M33	M33X2	22	23	20	18	18	15.0	16.8	38	—	18
M42	M42X2	28	30	25	20	20	15.5	17.3	48	—	20
M48	M48X2	36	36	32	22	22	19.5	19.3	55	—	22
M60	M60X2	44	—	—	24.5	—	20.5	22.3	65	—	—

ISO 1179

SIZE	Thread	Drill Ref.			Port Min Depth	ED Stud	O-Ring, RR Non-Adj Stud	O-Ring, RR Adj-Stud	O-Ring, RR Adj-Stud, Locknut Hex	Dowty Seal Stud	Cutting Face Stud
		O-Ring, RR Stud	Light Duty (L Series)	Heavy Duty (S Series)							
	T BSPP	D1 (mm)	D (mm)		L2 (mm)	L4 (mm)	L6 (mm)	L7 (mm)	S2 (mm)	L8 (mm)	L9 (mm)
2	1/8-28	4.4	4	—	8	8	6.3	7.2	14	8	8
4	1/4-19	7.5	7	5	12	12	9.4	9.4	19	11	12
6	3/8-19	9.9	9	8	12	12	9.4	9.3	22	12	12
8	1/2-14	12.3	14	12	14	14	12.6	13.1	30	14	14
12	3/4-14	15.5	18	16	16	16	12.6	13.1	36	16	16
16	1-11	21.5	23	20	18	18	16.0	14.7	46	16	18
20	1-1/4-11	27.5	30	25	20	20	16.0	14.7	50	19	20
24	1-1/2-11	33.0	36	32	22	22	16.0	14.7	55	22	22
32	2-11	—	—	—	26	—	16.0	14.7	75	25	—

1) See Section M for O-rings and seals.

2) O-ring with retaining ring stud ends are not shown in ISO 9974.

3) See page S38 for ISO 9974-1 port details.

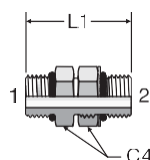
4) See page S37 for ISO 1179-1 port details.

Dimensions and pressures for reference only, subject to change.

F5OHAO

Straight Thread Union
SAE-ORB / SAE-ORB

HPD Base # 0505



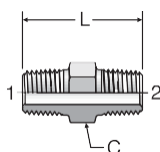
TUBE FITTING PART #	END SIZE		C4 HEX (in.)	L1 (in.)	Dynamic Pressure (x 1,000 PSI)		
	1 UN/UNF-2A	2 UN/UNF-2A			-S	-SS	-B
4 F5OHAO	7/16 - 20	7/16 - 20	9/16	1.27	6.0	6.0	3.3
6 F5OHAO	9/16 - 18	9/16 - 18	11/16	1.41	6.0	6.0	3.3
8 F5OHAO	3/4 - 16	3/4 - 16	7/8	1.64	6.0	6.0	3.3
10 F5OHAO	7/8 - 14	7/8 - 14	1	1.81	5.0	5.0	3.3
12 F5OHAO	1 1/16 - 12	1 1/16 - 12	1 1/4	2.13	5.0	5.0	3.3
16 F5OHAO	1 5/16 - 12	1 5/16 - 12	1 1/2	2.44	4.0	4.0	2.6
20 F5OHAO	1 5/8 - 12	1 5/8 - 12	1 7/8	2.44	4.0	4.0	2.6
24 F5OHAO	1 7/8 - 12	1 7/8 - 12	2 1/8	2.44	3.0	3.0	1.9
32 F5OHAO	2 1/2 - 12	2 1/2 - 12	2 3/4	2.44	2.0	2.0	1.3

⚠ "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

FF

Pipe Nipple
NPTF / NPTF

HPD Base # 0101 SAE 140137



TUBE FITTING PART #	END SIZE		C HEX (in.)	L (in.)	Dynamic Pressure (x 1,000 PSI)		
	1 NPTF	2 NPTF			-S	-SS	-B
1/8 FF	1/8 - 27	1/8 - 27	7/16	1.06	6.0	7.2	3.9
1/4 x 1/8 FF	1/4 - 18	1/8 - 27	5/8	1.25	6.0	7.2	3.9
1/4 FF	1/4 - 18	1/4 - 18	5/8	1.45	6.0	7.2	3.9
3/8 x 1/8 FF	3/8 - 18	1/8 - 27	3/4	1.27	6.0	7.2	3.9
3/8 x 1/4 FF	3/8 - 18	1/4 - 18	3/4	1.45	6.0	7.2	3.9
3/8 FF	3/8 - 18	3/8 - 18	3/4	1.45	6.0	7.2	3.9
1/2 x 1/8 FF	1/2 - 14	1/8 - 27	7/8	1.52	6.0	7.2	3.3
1/2 x 3/8 FF	1/2 - 14	3/8 - 18	7/8	1.70	6.0	7.2	3.9
1/2 x 1/4 FF	1/2 - 14	1/4 - 18	7/8	1.70	6.0	7.2	3.9
1/2 FF	1/2 - 14	1/2 - 14	7/8	1.89	6.0	7.2	3.9
3/4 x 1/4 FF	3/4 - 14	1/4 - 18	1 1/8	1.78	5.5	6.6	3.5
3/4 x 3/8 FF	3/4 - 14	3/8 - 18	1 1/8	1.78	5.5	6.6	3.3
3/4 x 1/2 FF	3/4 - 14	1/2 - 14	1 1/8	1.96	5.5	6.6	3.5
3/4 FF	3/4 - 14	3/4 - 14	1 1/8	1.96	5.5	6.6	3.5
1 x 1/4 FF	1 - 11 1/2	1/4 - 18	1 3/8	1.96	4.5	5.4	3.3
1 x 3/8 FF	1 - 11 1/2	3/8 - 18	1 3/8	1.96	4.5	5.4	3.3
1 x 1/2 FF	1 - 11 1/2	1/2 - 14	1 3/8	2.09	4.5	5.4	3.3
1 x 3/4 FF	1 - 11 1/2	3/4 - 14	1 3/8	2.09	4.5	5.4	3.3
1 FF	1 - 11 1/2	1 - 11 1/2	1 3/8	2.34	4.5	5.4	3.0
1 1/4 x 1 FF	1 1/4 - 11 1/2	1 - 11 1/2	1 3/4	2.45	3.0	3.6	2.3
1 1/4 FF	1 1/4 - 11 1/2	1 1/4 - 11 1/2	1 3/4	2.48	3.0	3.6	2.3
1 1/2 x 1 FF	1 1/2 - 11 1/2	1 - 11 1/2	2	2.55	3.0	3.6	2.3
1 1/2 FF	1 1/2 - 11 1/2	1 1/2 - 11 1/2	2	2.61	3.0	3.6	2.3
2 x 1 1/2 FF	2 - 11 1/2	1 1/2 - 11 1/2	2 1/2	2.79	2.0	2.4	1.5
2 FF	2 - 11 1/2	2 - 11 1/2	2 1/2	2.83	2.0	2.4	1.5

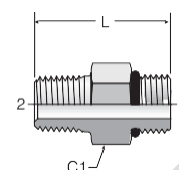
Note: All steel "FF" fittings have a 30° chamfer for sealing with NPSM swivel type fittings.

⚠ "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

Dimensions and pressures for reference only, subject to change.

F5OF

Male Pipe Adapter
SAE-ORB / NPTF

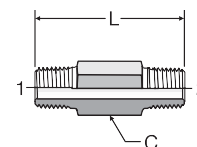


TUBE FITTING PART #	END SIZE		C1 HEX (in.)	L (in.)	Dynamic Pressure (x 1,000 PSI)		
	1 UN/UNF-2A	2 NPTF			-S	-SS	-B
4-1/8 F5OF	7/16 - 20	1/8 - 27	9/16	1.00	6.0	6.0	3.3
4-1/4 F5OF	7/16 - 20	1/4 - 18	9/16	1.20	6.0	6.0	3.3
5-1/4 F5OF	1/2 - 20	1/4 - 18	5/8	1.20	6.0	6.0	3.3
6-1/4 F5OF	9/16 - 18	1/4 - 18	11/16	1.25	6.0	6.0	3.3
6-3/8 F5OF	9/16 - 18	3/8 - 18	11/16	1.34	6.0	6.0	3.3
8-1/4 F5OF	3/4 - 16	1/4 - 18	7/8	1.36	6.0	6.0	3.3
8-3/8 F5OF	3/4 - 16	3/8 - 18	7/8	1.36	6.0	6.0	3.3
8-1/2 F5OF	3/4 - 16	1/2 - 14	7/8	1.53	6.0	6.0	3.3
10-1/2 F5OF	7/8 - 14	1/2 - 14	1	1.59	6.0	6.0	3.3
12-1/2 F5OF	1 1/16 - 12	1/2 - 14	1 1/4	1.80	5.0	6.0	3.3
12-3/4 F5OF	1 1/16 - 12	3/4 - 14	1 1/4	1.80	5.0	6.0	3.3
16-3/4 F5OF	1 5/16 - 12	3/4 - 14	1 1/2	1.78	4.5	5.4	2.9
16-1 F5OF	1 5/16 - 12	1 - 11 1/2	1 1/2	1.98	4.5	5.4	2.9
20-1 1/4 F5OF	1 5/8 - 12	1 1/4 - 11 1/2	1 7/8	2.02	3.0	3.6	1.9
	1 7/8 - 12	1 1/2 - 11 1/2	2 1/8	2.25	3.0	3.0	1.9

⚠ "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

FFF

Long Pipe Nipple
NPTF / NPTF



TUBE FITTING PART #	END SIZE		C HEX (in.)	L (in.)	Dynamic Pressure (x 1,000 PSI)		
	1 NPTF	2 NPTF			-S	-SS	-B
1/8 x 1.5 FFF	1/8 - 27	1/8 - 27	7/16	1.5	6.0	7.2	3.9
1/8 x 2.0 FFF	1/8 - 27	1/8 - 27	7/16	2.0	6.0	7.2	3.9
1/8 x 2.5 FFF	1/8 - 27	1/8 - 27	7/16	2.5	6.0	7.2	3.9
1/8 x 3.0 FFF	1/8 - 27	1/8 - 27	7/16	3.0	6.0	7.2	3.9
1/4 x 1.5 FFF	1/4 - 18	1/4 - 18	5/8	1.5	6.0	7.2	3.9
1/4 x 2.0 FFF	1/4 - 18	1/4 - 18	5/8	2.0	6.0	7.2	3.9
1/4 x 2.5 FFF	1/4 - 18	1/4 - 18	5/8	2.5	6.0	7.2	3.9
1/4 x 3.0 FFF	1/4 - 18	1/4 - 18	5/8	3.0	6.0	7.2	3.9
1/4 x 4.0 FFF	1/4 - 18	1/4 - 18	5/8	4.0	6.0	7.2	3.9
3/8 x 2.0 FFF	3/8 - 18	3/8 - 18	3/4	2.0	6.0	7.2	3.3
3/8 x 3.0 FFF	3/8 - 18	3/8 - 18	3/4	3.0	6.0	7.2	3.3
3/8 x 3.5 FFF	3/8 - 18	3/8 - 18	3/4	3.5	6.0	7.2	3.3
3/8 x 4.0 FFF	3/8 - 18	3/8 - 18	3/4	4.0	6.0	7.2	3.3
1/2 x 2.0 FFF	1/2 - 14	1/2 - 14	7/8	2.0	6.0	7.2	3.3
1/2 x 2.5 FFF	1/2 - 14	1/2 - 14	7/8	2.5	6.0	7.2	3.3
1/2 x 3.0 FFF	1/2 - 14	1/2 - 14	7/8	3.0	6.0	7.2	3.9
1/2 x 4.0 FFF	1/2 - 14	1/2 - 14	7/8	4.0	6.0	7.2	3.3
1/2 x 6.0 FFF	1/2 - 14	1/2 - 14	7/8	6.0	6.0	7.2	3.3
3/4 x 3.0 FFF	3/4 - 14	3/4 - 14	1 1/8	3.0	5.5	6.6	3.3
1 x 3.0 FFF	1 - 11 1/2	1 - 11 1/2	1 3/8	3.0	4.5	5.4	3.3

⚠ "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

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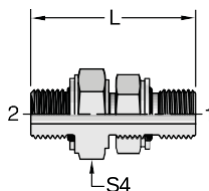
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GEN TECH

F80HA80

Metric Union
 Metric-ORR / Metric-ORR
 (for ISO 9974 / DIN 3852-1 Port)

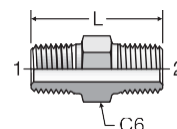


TUBE FITTING PART #	End Size		S4 Hex (mm)	L (mm)	Dynamic Pressure (x 1,000 PSI)		
	1 Metric Str	2 Metric Str			S	SS	B
M10F80HA80	M10X1	M10X1	16	33.8	6.0		
M12F80HA80	M12X1.5	M12X1.5	19	36.8	6.0		
M14F80HA80	M14X1.5	M14X1.5	22	37.3	6.0		
M16F80HA80	M16X1.5	M16X1.5	22	46.0	5.0		
M18F80HA80	M18X1.5	M18X1.5	27	48.8	5.0		
M20M18F80HA80	M20X1.5	M18X1.5	27	49.8	4.0		
M22F80HA80	M22X1.5	M22X1.5	27	52.6	4.0		
M27F80HA80	M27X2	M27X2	32	62.0	4.0		
M33F80HA80	M33X2	M33X2	41	62.0	3.0		

! "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

FF33M

BSPT Pipe Nipple
 BSPT / BSPT

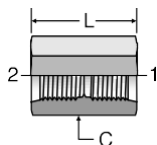


TUBE FITTING PART #	END SIZE		C6 HEX (mm)	L (mm)	Dynamic Pressure (x 1,000 PSI)		
	1 BSPT	2 BSPT			S	SS	B
1/8FF33M	1/8 - 28	1/8 - 28	11	27	6.0	6.0	3.3
1/4x1/8FF33M	1/4 - 19	1/8 - 28	14	32	6.0	6.0	3.3
1/4FF33M	1/4 - 19	1/4 - 19	14	37	6.0	6.0	3.3
3/8x1/4FF33M	3/8 - 19	1/4 - 19	17	37	6.0	6.0	3.3
3/8FF33M	3/8 - 19	3/8 - 19	17	37	6.0	6.0	3.3
1/2FF33M	1/2 - 14	1/2 - 14	22	48	6.0	6.0	3.3
1/2x3/8FF33M	1/2 - 14	3/8 - 19	22	43	6.0	6.0	3.3
3/4FF33M	3/4 - 14	3/4 - 14	27	50	5.5	5.5	3.3
3/4x1/2FF33M	3/4 - 14	1/2 - 14	27	50	5.5	5.5	3.3
1X3/4FF33M	1 - 11	3/4 - 14	36	55	4.5	4.5	2.9
1FF33M	1 - 11	1 - 11	36	59	4.5	4.5	2.9

! "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

G5HG5

Straight Thread Coupling
 Female SAE / Female SAE



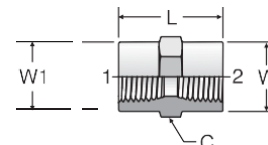
TUBE FITTING PART #	END SIZE		C HEX (in.)	L (in.)	Dynamic Pressure (x 1,000 PSI)		
	1 UN/UNF-2B	2 UN/UNF-2B			-S	-SS	-B
4 G5HG5	7/16 - 20	7/16 - 20	11/16	1.13	7.0	6.0	3.3
6 G5HG5	9/16 - 18	9/16 - 18	13/16	1.26	6.0	6.0	3.3
8 G5HG5	3/4 - 16	3/4 - 16	1	1.42	5.0	5.0	3.3
10 G5HG5	7/8 - 14	7/8 - 14	1 3/16	1.60	4.5	4.5	2.9
12 G5HG5	1 1/16 - 12	1 1/16 - 12	1 3/8	1.85	4.5	4.5	2.9
16 G5HG5	1 5/16 - 12	1 5/16 - 12	1 5/8	1.85	3.5	3.5	2.2

! "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

GG

Pipe Coupling
 NPTF / NPTF

SAE 140138
 HPD Base # 0202



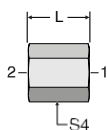
TUBE FITTING PART #	END SIZE		C HEX (in.)	L (in.)	W1 (in.)	W (in.)	Dynamic Pressure (x 1,000 PSI)		
	1 NPTF	2 NPTF					-S	-SS	-B
1/8 GG	1/8 - 27	1/8 - 27	5/8	0.75	0.63	0.63	6.0	6.0	3.9
1/4 x 1/8 GG	1/4 - 18	1/8 - 27	3/4	0.94	0.75	0.63	6.0	6.0	3.9
1/4 GG	1/4 - 18	1/4 - 18	3/4	1.13	0.75	0.75	6.0	6.0	3.9
3/8 x 1/8 GG	3/8 - 18	1/8 - 27	7/8	1.03	0.88	0.63	6.0	6.0	3.9
3/8 x 1/4 GG	3/8 - 18	1/4 - 18	7/8	1.13	0.88	0.75	6.0	6.0	3.9
3/8 GG	3/8 - 18	3/8 - 18	7/8	1.13	0.88	0.88	6.0	6.0	3.9
1/2 x 1/8 GG	1/2 - 14	1/8 - 27	1 1/8	1.06	1.13	0.63	6.0	6.0	3.2
1/2 x 1/4 GG	1/2 - 14	1/4 - 18	1 1/8	1.38	1.13	0.75	5.0	6.0	3.2
1/2 x 3/8 GG	1/2 - 14	3/8 - 18	1 1/8	1.50	1.13	0.88	5.0	6.0	3.2
1/2 GG	1/2 - 14	1/2 - 14	1 1/8	1.50	1.13	1.13	5.0	6.0	3.2
3/4 x 1/4 GG	3/4 - 14	1/4 - 18	1 3/8	1.55	1.36	0.75	4.0	4.8	3.1
3/4 x 1/2 GG	3/4 - 14	1/2 - 14	1 3/8	1.88	1.36	1.13	4.0	4.8	3.1
3/4 GG	3/4 - 14	3/4 - 14	1 3/8	1.53	1.38	1.38	4.0	4.8	2.6
1 GG	1 - 11 1/2	1 - 11 1/2	1 5/8	1.89	1.63	1.63	3.0	3.6	1.9
1 x 1/2 GG	1 - 11 1/2	1/2 - 14	1 5/8	1.77	1.63	1.13	3.0	3.6	1.9
1 x 3/4 GG	1 - 11 1/2	3/4 - 14	1 5/8	1.77	1.63	1.38	3.0	3.6	1.9
1 1/4 GG	1 1/4 - 11 1/2	1 1/4 - 11 1/2	2	1.93	2.00	2.00	2.5	3.0	1.9
1 1/4 x 1 GG	1 1/4 - 11 1/2	1 - 11 1/2	2	1.93	2.00	1.63	2.5	3.0	1.9
1 1/2 GG	1 1/2 - 11 1/2	1 1/2 - 11 1/2	2 3/8	1.93	2.38	2.38	2.0	2.4	1.5
1 1/2 x 1 1/4 GG	1 1/2 - 11 1/2	1 1/4 - 11 1/2	2 3/8	1.93	2.37	2.37	2.0	2.4	1.5
2 GG	2 - 11 1/2	2 - 11 1/2	2 7/8	1.97	2.88	2.88	2.0	2.4	1.5

! "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

Dimensions and pressures for reference only, subject to change.

G8HG8

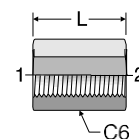
Metric Female Union
 Metric-ORR / Metric-ORR
 (for ISO 9974 / DIN 3852-1 Port)



TUBE FITTING PART #	End Size		S4 Hex (mm)	L (mm)	Dynamic Pressure (x 1,000 PSI) S
	1 Metric Str	2 Metric Str			
M10G8HG8	M10X1	M10X1	17	19	6.0
M14G8HG8	M14X1.5	M14X1.5	22	28	6.0
M16G8HG8	M16X1.5	M16X1.5	24	29	6.0
M18G8HG8	M18X1.5	M18X1.5	27	29	6.0
M20G8HG8	M20X1.5	M20X1.5	32	32	5.0
M27G8HG8	M27X2	M27X2	38	38	5.0
M33G8HG8	M33X2	M33X2	46	44	5.0

GG44M

BSPP Female Union
 BSPP / BSPP



TUBE FITTING PART #	END SIZE		C6 HEX (mm)	L (mm)	Dynamic Pressure (x 1,000 PSI)		
	1 BSPP	2 BSPP			S	SS	B
1/8GG44M	1/8 - 28	1/8 - 28	14	19.0	6.0	6.0	3.3
1/4X1/8GG44M	1/4 - 19	1/8 - 28	17	24.0	6.0	6.0	3.3
1/4GG44M	1/4 - 19	1/4 - 19	17	28.0	6.0	6.0	3.3
3/8GG44M	3/8 - 19	3/8 - 19	22	28.0	6.0	6.0	3.3
3/8x1/4GG44M	3/8 - 19	1/4 - 19	22	28.0	6.0	6.0	3.3
1/2x3/8GG44M	1/2 - 14	3/8 - 19	27	31.0	5.0	5.0	3.3
1/2GG44M	1/2 - 14	1/2 - 14	27	32.5	5.0	5.0	3.3
1GG44M	1 - 11	1 - 11	46	42.0	3.0	3.0	1.9

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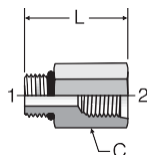
ASSEMBLY

Dimensions and pressures for reference only, subject to change.

F50G5

Straight Thread Reducer / Expander
SAE-ORB / SAE-ORB

SAE 090136
HPD Base # 0510



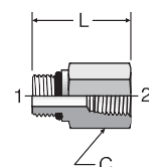
TUBE FITTING PART #	END SIZE		C HEX (in.)	L (in.)	Dynamic Pressure (x 1,000 PSI)		
	1	2			-S	-SS	-B
	UN/UNF-2A	UN/UNF-2B					
2-4 F50G5	5/16 - 24	7/16 - 20	11/16	1.03	7.5	7.5	3.3
4-4 F50G5	7/16 - 20	7/16 - 20	11/16	1.08	7.5	7.5	3.3
4-6 F50G5	7/16 - 20	9/16 - 18	13/16	1.16	6.0	6.0	3.3
6-4 F50G5	9/16 - 18	7/16 - 20	11/16	1.03	6.0	6.0	3.3
6-6 F50G5	9/16 - 18	9/16 - 18	13/16	1.16	6.0	6.0	3.3
6-8 F50G5	9/16 - 18	3/4 - 16	1 1/16	1.38	6.0	6.0	3.3
8-4 F50G5	3/4 - 16	7/16 - 20	7/8	1.13	6.0	6.0	3.3
8-6 F50G5	3/4 - 16	9/16 - 18	7/8	1.13	6.0	6.0	3.3
8-10 F50G5	3/4 - 16	7/8 - 14	1 1/8	1.56	4.5	4.5	2.9
10-4 F50G5	7/8 - 14	7/16 - 20	1	0.81	5.0	5.0	3.3
10-6 F50G5	7/8 - 14	9/16 - 18	1	1.26	5.0	5.0	3.3
10-8 F50G5	7/8 - 14	3/4 - 16	1	1.31	5.0	5.0	3.3
10-12 F50G5	7/8 - 14	1 1/16 - 12	1 3/8	1.69	4.5	4.5	2.9
12-4 F50G5	1 1/16 - 12	7/16 - 20	1 1/4	1.00	5.0	5.0	3.3
12-6 F50G5	1 1/16 - 12	9/16 - 18	1 1/4	1.00	5.0	5.0	3.3
12-8 F50G5	1 1/16 - 12	3/4 - 16	1 1/4	1.45	5.0	5.0	3.3
12-10 F50G5	1 1/16 - 12	7/8 - 14	1 1/4	1.53	5.0	5.0	3.3
12-16 F50G5	1 1/16 - 12	1 5/16 - 12	1 5/8	1.88	3.5	3.5	2.2
16-6 F50G5	1 5/16 - 12	9/16 - 18	1 1/2	1.00	4.5	4.5	2.9
16-8 F50G5	1 5/16 - 12	3/4 - 16	1 1/2	1.00	4.5	4.5	2.9
16-10 F50G5	1 5/16 - 12	7/8 - 14	1 1/2	1.00	4.5	4.5	2.9
16-12 F50G5	1 5/16 - 12	1 1/16 - 12	1 1/2	1.75	4.5	4.5	2.9
16-20 F50G5	1 5/16 - 12	1 5/8 - 12	2 1/8	1.97	3.0	3.0	1.9
20-6 F50G5	1 5/8 - 12	9/16 - 18	1 7/8	1.00	4.0	4.0	2.6
20-8 F50G5	1 5/8 - 12	3/4 - 16	1 7/8	1.00	4.0	4.0	2.6
20-10 F50G5	1 5/8 - 12	7/8 - 14	1 7/8	1.00	4.0	4.0	2.6
20-12 F50G5	1 5/8 - 12	1 1/16 - 12	1 7/8	1.00	4.0	4.0	2.6
20-16 F50G5	1 5/8 - 12	1 5/16 - 12	1 7/8	1.72	4.0	4.0	2.6
20-24 F50G5	1 5/8 - 12	1 7/8 - 12	2 1/2	1.88	3.0	3.0	1.9
24-6 F50G5	1 7/8 - 12	9/16 - 18	2 1/8	1.00	3.0	3.0	1.9
24-12 F50G5	1 7/8 - 12	1 1/16 - 12	2 1/8	1.00	3.0	3.0	1.9
24-16 F50G5	1 7/8 - 12	1 5/16 - 12	2 1/8	1.00	3.0	3.0	1.9
24-20 F50G5	1 7/8 - 12	1 5/8 - 12	2 1/8	1.75	3.0	3.0	1.9
32-20 F50G5	2 1/2 - 12	1 5/8 - 12	2 3/4	1.00	2.0	2.0	1.3
32-24 F50G5	2 1/2 - 12	1 7/8 - 12	2 3/4	1.80	2.0	2.0	1.3

⚠️ "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

F50G

Female Pipe Adapter
SAE-ORB / NPTF

SAE 090156



TUBE FITTING PART #	END SIZE		C HEX (in.)	L (in.)	Dynamic Pressure (x 1,000 PSI)		
	1	2			-S	-SS	-B
	UN/UNF-2A	NPTF					
2-1/8 F50G	5/16 - 24	1/8 - 27	9/16	0.91	6.0	6.0	3.3
4-1/8 F50G	7/16 - 20	1/8 - 27	9/16	1.00	6.0	6.0	3.3
4-1/4 F50G	7/16 - 20	1/4 - 18	3/4	1.16	6.0	6.0	3.3
5-1/8 F50G	1/2 - 20	1/8 - 27	5/8	1.06	6.0	6.0	3.3
5-1/4 F50G	1/2 - 20	1/4 - 18	3/4	1.19	6.0	6.0	3.3
6-1/8 F50G	9/16 - 18	1/8 - 27	11/16	1.00	6.0	6.0	3.3
6-1/4 F50G	9/16 - 18	1/4 - 18	3/4	1.16	6.0	6.0	3.3
6-3/8 F50G	9/16 - 18	3/8 - 18	7/8	1.28	6.0	6.0	3.3
6-1/2 F50G	9/16 - 18	1/2 - 14	1 1/8	1.53	5.0	6.0	3.3
8-1/8 F50G	3/4 - 16	1/8 - 27	7/8	0.80	6.0	6.0	3.3
8-1/4 F50G	3/4 - 16	1/4 - 18	7/8	1.13	6.0	6.0	3.3
8-3/8 F50G	3/4 - 16	3/8 - 18	7/8	1.28	6.0	6.0	3.3
8-1/2 F50G	3/4 - 16	1/2 - 14	1 1/8	1.50	5.0	6.0	3.3
10-1/4 F50G	7/8 - 14	1/4 - 18	1	0.81	5.0	6.0	3.3
10-3/8 F50G	7/8 - 14	3/8 - 18	1	1.31	5.0	6.0	3.3
10-1/2 F50G	7/8 - 14	1/2 - 14	1 1/8	1.53	5.0	6.0	3.3
10-3/4 F50G	7/8 - 14	3/4 - 14	1 3/8	1.63	4.0	4.0	2.6
12-1/4 F50G	1 1/16 - 12	1/4 - 18	1 1/4	1.00	6.0	6.0	3.3
12-3/8 F50G	1 1/16 - 12	3/8 - 18	1 1/4	1.34	5.0	6.0	3.3
12-1/2 F50G	1 1/16 - 12	1/2 - 14	1 1/4	1.41	5.0	6.0	3.3
12-3/4 F50G	1 1/16 - 12	3/4 - 14	1 3/8	1.72	4.0	4.8	3.1
14-1/2 F50G	1 3/16 - 12	1/2 - 14	1 3/8	1.06	5.0	5.0	3.3
14-3/4 F50G	1 3/16 - 12	3/4 - 14	1 3/8	1.69	4.0	4.0	2.6
16-1/2 F50G	1 5/16 - 12	1/2 - 14	1 1/2	1.00	5.0	6.0	3.3
16-3/4 F50G	1 5/16 - 12	3/4 - 14	1 1/2	1.50	4.0	4.8	2.6
16-1 F50G	1 5/16 - 12	1 - 11 1/2	1 5/8	1.88	3.0	3.6	1.9
20-1 F50G	1 5/8 - 12	1 - 11 1/2	1 7/8	1.00	3.0	3.6	1.9
20-1 1/2 F50G	1 5/8 - 12	1 1/2 - 11 1/2	2 1/4	2.16	2.5	3.0	1.6
20-1 1/4 F50G	1 5/8 - 12	1 1/4 - 11 1/2	2	1.97	3.0	3.0	1.9
24-1 F50G	1 7/8 - 12	1 - 11 1/2	2 1/8	1.00	3.0	3.6	1.9
24-1 1/4 F50G	1 7/8 - 12	1 1/4 - 11 1/2	2 1/8	1.94	2.5	2.5	1.6
24-1 1/2 F50G	1 7/8 - 12	1 1/2 - 11 1/2	2 1/4	2.00	2.0	2.4	1.3
32-2 F50G	2 1/2 - 12	2 - 11 1/2	2 7/8	2.06	2.0	2.4	1.3

⚠️ "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

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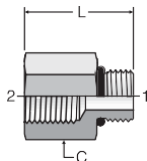
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ASSEMBLY

GEN TECH

F5OHG8

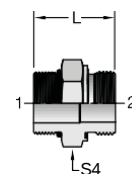
Conversion Adapter
SAE-ORB / Metric



TUBE FITTING PART #	END SIZE		C HEX (in.)	L (in.)	Dynamic Pressure (x 1,000 PSI)		
	1	2			S	SS	B
	UN/UNF-2A	METRIC STR					
4M10F5OHG8	7/16 - 20	M10X1	5/8	0.95	6.0	6.0	3.3
4M12F5OHG8	7/16 - 20	M12X1.5	3/4	1.14	6.0	6.0	3.3
6M14F5OHG8	9/16 - 18	M14X1.5	13/16	1.17	6.0	6.0	3.3
6M16F5OHG8	9/16 - 18	M16X1.5	15/16	1.17	6.0	6.0	3.3
8M16F5OHG8	3/4 - 16	M16X1.5	15/16	1.30	6.0	6.0	3.3
8M18F5OHG8	3/4 - 16	M18X1.5	1	1.30	6.0	6.0	3.3
10M22F5OHG8	7/8 - 14	M22X1.5	1 3/16	1.46	5.0	5.0	3.3
12M27F5OHG8	1 1/16 - 12	M27X2	1 1/2	1.72	5.0	5.0	3.3
16M33F5OHG8	1 5/16 - 12	M33X2	1 3/4	1.81	5.0	5.0	3.3

F5OHF42

Conversion Adapter
SAE-ORB / BSPP-ED



TUBE FITTING PART #	End Size		S4 Hex (mm)	L (mm)	Dynamic Pressure (x 1,000 PSI)	
	1	2			S	B
	UN/UNF-2A	BSPP				
4-1/8F5OHF42ED	7/16-20	1/8-28	17	27.2	9.2	
4-1/4F5OHF42ED	7/16-20	1/4-19	19	31.8	9.2	
5-1/4F5OHF42ED	1/2-20	1/4-19	19	31.4	9.2	
6-1/4F5OHF42ED	9/16-18	1/4-19	19	32.0	9.2	
6-3/8F5OHF42ED	9/16-18	3/8-19	22	32.5	9.2	
8-1/4F5OHF42ED	3/4-16	1/4-19	22	34.9	9.2	
8-3/8F5OHF42ED	3/4-16	3/8-19	22	36.5	9.2	
8-1/2F5OHF42ED	3/4-16	1/2-14	27	40.0	6.0	
10-1/2F5OHF42ED	7/8-14	1/2-14	27	42.0	6.0	
12-1/2F5OHF42ED	1 1/16-12	1/2-14	32	45.0	6.0	
12-3/4F5OHF42ED	1 1/16-12	3/4-14	32	47.0	6.0	
16-3/4F5OHF42ED	1 5/16-12	3/4-14	38	48.0	6.0	
16-1F5OHF42ED	1 5/16-12	1-11	41	51.0	6.0	
20-11/4F5OHF42ED	1 5/8-12	1 1/4-11	50	54.0	6.0	
24-11/2F5OHF42ED	1 7/8-12	1 1/2-11	55	56.0	5.0	

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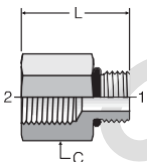
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ASSEMBLY

GEN TECH

F5OHG4

Conversion Adapter
SAE-ORB / BSPP



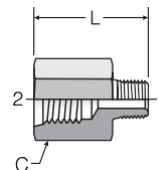
TUBE FITTING PART #	END SIZE		C HEX (in.)	L (in.)	Dynamic Pressure (x 1,000 PSI)		
	1	2			S	SS	B
	UN/UNF-2A	BSPP					
4-1/8F5OHG4	7/16 - 20	1/8 - 28	5/8	0.96	6.0	6.0	3.3
4-1/4F5OHG4	7/16 - 20	1/4 - 19	3/4	1.16	6.0	6.0	3.3
6-1/4F5OHG4	9/16 - 18	1/4 - 19	3/4	1.19	6.0	6.0	3.3
6-3/8F5OHG4	9/16 - 18	3/8 - 19	7/8	1.19	6.0	6.0	3.3
8-1/4F5OHG4	3/4 - 16	1/4 - 19	7/8	1.32	6.0	6.0	3.3
8-3/8F5OHG4	3/4 - 16	3/8 - 19	15/16	1.32	6.0	6.0	3.3
10-1/2F5OHG4	7/8 - 14	1/2 - 14	1 1/8	1.52	5.0	5.0	3.3
12-3/4F5OHG4	1 1/16 - 12	3/4 - 14	1 7/16	1.74	4.0	4.0	2.6
16-1F5OHG4	1 5/16 - 12	1 - 11	1 7/8	1.87	3.0	3.0	1.9

⚠ "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

FHG5

Female Straight Thread Adapter
NPTF / SAE-ORB

HPD Base # 0110



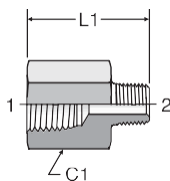
TUBE FITTING PART #	END SIZE		C HEX (in.)	L (in.)	Dynamic Pressure (x 1,000 PSI)		
	1	2			-S	-SS	-B
	NPTF	UN/UNF-2B					
1/8-4 FHG5	1/8 - 27	7/16 - 20	11/16	1.06	6.0	6.0	3.3
1/8-5 FHG5	1/8 - 27	1/2 - 20	3/4	1.09	6.0	6.0	3.3
1/4-6 FHG5	1/4 - 18	9/16 - 18	3/4	1.36	6.0	6.0	3.3
3/8-6 FHG5	3/8 - 18	9/16 - 18	3/4	1.42	6.0	6.0	3.3
3/8-8 FHG5	3/8 - 18	3/4 - 16	1	1.50	5.0	5.0	3.3
1/2-6 FHG5	1/2 - 14	9/16 - 18	7/8	1.58	6.0	6.0	3.3
1/2-8 FHG5	1/2 - 14	3/4 - 16	1	1.66	5.0	5.0	3.3
1/2-10 FHG5	1/2 - 14	7/8 - 14	1 1/4	1.75	4.5	4.5	2.9
3/4-8 FHG5	3/4 - 14	3/4 - 16	1 1/8	1.13	4.5	4.5	2.9
3/4-12 FHG5	3/4 - 14	1 1/16 - 12	1 3/8	1.97	4.5	4.5	2.9
1-16 FHG5	1 - 11 1/2	1 5/16 - 12	1 5/8	2.13	3.5	3.5	2.2

⚠ "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

FG

Expander / Adapter
NPTF / NPTF

SAE 140139
HPD Base # 0201

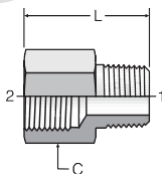


TUBE FITTING PART #	END SIZE		C1 HEX (in.)	L1 (in.)	Dynamic Pressure (x 1,000 PSI)		
	1 NPTF	2 NPTF			-S	-SS	-B
1/8 x 1/16 FG	1/8 - 27	1/16 - 27	5/8	1.03	6.0	6.0	3.3
1/8 FG	1/8 - 27	1/8 - 27	5/8	1.03	6.0	6.0	3.3
1/4 x 1/8 FG	1/4 - 18	1/8 - 27	3/4	1.21	6.0	6.0	3.9
1/4 FG	1/4 - 18	1/4 - 18	3/4	1.39	6.0	6.0	3.9
3/8 x 1/8 FG	3/8 - 18	1/8 - 27	7/8	1.25	6.0	6.0	3.3
3/8 x 1/4 FG	3/8 - 18	1/4 - 18	7/8	1.44	6.0	6.0	3.9
3/8 FG	3/8 - 18	3/8 - 18	7/8	1.44	6.0	6.0	3.9
1/2 x 1/8 FG	1/2 - 14	1/8 - 27	1 1/8	1.50	5.0	6.0	3.2
1/2 x 1/4 FG	1/2 - 14	1/4 - 18	1 1/8	1.69	5.0	6.0	3.2
1/2 x 3/8 FG	1/2 - 14	3/8 - 18	1 1/8	1.69	5.0	6.0	3.2
1/2 FG	1/2 - 14	1/2 - 14	1 1/8	1.87	5.0	6.0	3.2
3/4 FG	3/4 - 14	3/4 - 14	1 3/8	1.93	4.0	4.8	2.6
3/4 x 1/4 FG	3/4 - 14	1/4 - 18	1 3/8	1.75	4.0	4.8	2.6
3/4 x 3/8 FG	3/4 - 14	3/8 - 18	1 3/8	1.75	4.0	4.8	2.6
3/4 x 1/2 FG	3/4 - 14	1/2 - 14	1 3/8	1.93	4.0	4.8	2.6
1 FG	1 - 11 1/2	1 - 11 1/2	1 5/8	2.37	3.0	3.6	2.3
1 x 1/4 FG	1 - 11 1/2	1/4 - 18	1 5/8	2.01	3.0	3.6	2.3
1 x 1/2 FG	1 - 11 1/2	1/2 - 14	1 5/8	2.19	3.0	3.6	2.3
1 x 3/4 FG	1 - 11 1/2	3/4 - 14	1 5/8	2.19	3.0	3.6	2.3
1 1/4 FG	1 1/4 - 11 1/2	1 1/4 - 11 1/2	2	2.50	2.5	3.0	1.9
1 1/4 x 1 FG	1 1/4 - 11 1/2	1 - 11 1/2	2	2.47	2.5	3.0	1.9
1 1/2 x 1 FG	1 1/2 - 11 1/2	1 - 11 1/2	2 3/8	2.47	2.0	2.4	1.5
1 1/2 x 1 1/4 FG	1 1/2 - 11 1/2	1 1/4 - 11 1/2	2 3/8	2.50	2.0	2.4	1.5
2 FG	2 - 11 1/2	2 - 11 1/2	2 7/8	2.66	2.0	2.4	1.5

⚠ "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

FHG8

Conversion Adapter
NPTF / Metric



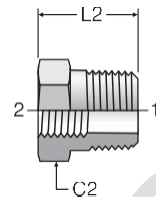
TUBE FITTING PART #	END SIZE		C HEX (in.)	L (in.)	Dynamic Pressure (x 1,000 PSI)		
	1 NPTF	2 METRIC STR			S	SS	B
1/8M10FHG8	1/8 - 27	M10X1	5/8	0.95	6.0	6.0	3.3
1/8M12FHG8	1/8 - 27	M12X1.5	3/4	1.16	6.0	6.0	3.3
1/4M14FHG8	1/4 - 18	M14X1.5	13/16	1.35	6.0	6.0	3.3
1/4M16FHG8	1/4 - 18	M16X1.5	15/16	1.37	6.0	6.0	3.3
3/8M18FHG8	3/8 - 18	M18X1.5	1	1.36	6.0	6.0	3.3
1/2M22FHG8	1/2 - 14	M22X1.5	1 3/16	1.65	6.0	5.0	3.3
3/4M27FHG8	3/4 - 14	M27X2	1 1/2	1.77	5.5	4.5	2.9

⚠ "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

PTR

Pipe Thread Reducer
NPTF / NPTF

SAE 140140
HPD Base # 0102

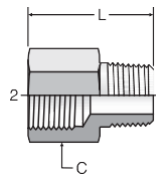


TUBE FITTING PART #	END SIZE		C2 HEX (in.)	L2 (in.)	Dynamic Pressure (x 1,000 PSI)		
	1 NPTF	2 NPTF			-S	-SS	-B
1/4 x 1/8 PTR	1/4 - 18	1/8 - 27	5/8	0.86	6.0	6.0	3.9
3/8 x 1/8 PTR	3/8 - 18	1/8 - 27	3/4	0.86	6.0	6.0	3.9
3/8 x 1/4 PTR	3/8 - 18	1/4 - 18	3/4	0.86	6.0	6.0	3.9
1/2 x 1/8 PTR	1/2 - 14	1/8 - 27	7/8	1.11	6.0	6.0	3.2
1/2 x 1/4 PTR	1/2 - 14	1/4 - 18	7/8	1.11	6.0	6.0	3.2
1/2 x 3/8 PTR	1/2 - 14	3/8 - 18	7/8	1.11	6.0	6.0	3.2
3/4 x 1/8 PTR	3/4 - 14	1/8 - 27	1 1/8	1.17	5.5	6.0	3.3
3/4 x 1/4 PTR	3/4 - 14	1/4 - 18	1 1/8	1.17	5.5	6.0	3.7
3/4 x 3/8 PTR	3/4 - 14	3/8 - 18	1 1/8	1.17	5.5	6.0	3.7
3/4 x 1/2 PTR	3/4 - 14	1/2 - 14	1 1/8	1.17	5.0	6.0	3.3
1 x 1/8 PTR	1 - 11 1/2	1/8 - 27	1 3/8	1.36	4.5	5.4	3.3
1 x 1/4 PTR	1 - 11 1/2	1/4 - 18	1 3/8	1.36	4.5	5.4	3.3
1 x 3/8 PTR	1 - 11 1/2	3/8 - 18	1 3/8	1.36	4.5	5.4	3.0
1 x 1/2 PTR	1 - 11 1/2	1/2 - 14	1 3/8	1.36	4.5	5.4	3.0
1 x 3/4 PTR	1 - 11 1/2	3/4 - 14	1 3/8	1.36	4.0	4.8	2.7
1 1/4 x 1/4 PTR	1 1/4 - 11 1/2	1/4 - 18	1 3/4	1.47	3.0	3.6	2.3
1 1/4 x 3/8 PTR	1 1/4 - 11 1/2	3/8 - 18	1 3/4	1.47	3.0	3.6	2.3
1 1/4 x 1/2 PTR	1 1/4 - 11 1/2	1/2 - 14	1 3/4	1.47	3.0	3.6	2.3
1 1/4 x 3/4 PTR	1 1/4 - 11 1/2	3/4 - 14	1 3/4	1.47	3.0	3.6	2.3
1 1/4 x 1 PTR	1 1/4 - 11 1/2	1 - 11 1/2	1 3/4	1.47	3.0	3.6	2.3
1 1/2 x 1/4 PTR	1 1/2 - 11 1/2	1/4 - 18	2	1.52	3.0	3.6	2.3
1 1/2 x 3/8 PTR	1 1/2 - 11 1/2	3/8 - 18	2	1.58	3.0	3.6	2.3
1 1/2 x 1/2 PTR	1 1/2 - 11 1/2	1/2 - 14	2	1.58	3.0	3.6	2.3
1 1/2 x 3/4 PTR	1 1/2 - 11 1/2	3/4 - 14	2	1.58	3.0	3.6	2.3
1 1/2 x 1 PTR	1 1/2 - 11 1/2	1 - 11 1/2	2	1.58	3.0	3.6	2.3
1 1/2 x 1 1/4 PTR	1 1/2 - 11 1/2	1 1/4 - 11 1/2	2	1.58	2.5	3.0	1.9
2 x 1/2 PTR	2 - 11 1/2	1/2 - 14	2 1/2	1.75	2.0	2.4	1.5
2 x 3/4 PTR	2 - 11 1/2	3/4 - 14	2 1/2	1.75	2.0	2.4	1.5
2 x 1 PTR	2 - 11 1/2	1 - 11 1/2	2 1/2	1.75	2.0	2.4	1.5
2 x 1 1/4 PTR	2 - 11 1/2	1 1/4 - 11 1/2	2 1/2	1.75	2.0	2.4	1.5
2 x 1 1/2 PTR	2 - 11 1/2	1 1/2 - 11 1/2	2 1/2	1.75	2.0	2.4	1.5

⚠ "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

FHG4

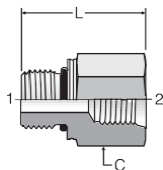
Conversion Adapter
NPTF / BSPP



TUBE FITTING PART #	END SIZE		C HEX (in.)	L (in.)	Dynamic Pressure (x 1,000 PSI)		
	1 NPTF	2 BSPP			-S	-SS	-B
1/4X1/4FHG4	1/4 - 18	1/4 - 19	3/4	1.33	6.0	6.0	3.3
1/4X3/8FHG4	1/4 - 18	3/8 - 19	13/16	1.40	6.0	6.0	3.3
3/8X1/4FHG4	3/8 - 18	1/4 - 19	3/4	1.31	6.0	6.0	3.3
3/8X3/8FHG4	3/8 - 18	3/8 - 19	1	1.34	6.0	6.0	3.3
1/2X3/8FHG4	1/2 - 14	3/8 - 19	15/16	1.50	6.0	6.0	3.3
1/2X1/2FHG4	1/2 - 14	1/2 - 14	1 1/8	1.66	5.0	5.0	3.3
3/4X3/4FHG4	3/4 - 14	3/4 - 14	1 7/16	1.75	4.0	4.0	2.6

⚠ "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

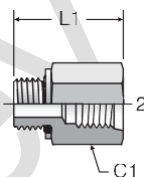
F87OHG87M

 Reducer / Expander
 ISO 6149 / ISO 6149


TUBE FITTING PART #	END SIZE		C HEX (mm)	L (mm)	Dynamic Pressure (x 1,000 PSI)		
	1	2			S	SS	B
	METRIC STR	METRIC STR					
M8M10F87OHG87M	M8X1	M10X1	17	27.0	10.0	6.0	3.3
M10M8F87OHG87M	M10X1	M8X1	14	27.5	10.0	7.5	3.3
M10M12F87OHG87M	M10X1	M12X1.5	19	30.0	8.0	6.0	3.3
M12M10F87OHG87M	M12X1.5	M10X1	17	29.5	10.0	6.0	3.3
M12M14F87OHG87M	M12X1.5	M14X1.5	22	32.0	7.0	6.0	3.3
M12M16F87OHG87M	M12X1.5	M16X1.5	24	33.5	6.0	6.0	3.3
M14M12F87OHG87M	M14X1.5	M12X1.5	19	32.0	8.0	6.0	3.3
M14M16F87OHG87M	M14X1.5	M16X1.5	24	33.5	6.0	6.0	3.3
M16M14F87OHG87M	M16X1.5	M14X1.5	22	34.0	7.0	6.0	3.3
M16M18F87OHG87M	M16X1.5	M18X1.5	27	37.0	6.0	6.0	3.3
M18M16F87OHG87M	M18X1.5	M16X1.5	24	37.0	6.0	6.0	3.3
M18M20F87OHG87M	M18X1.5	M20X1.5	30	39.5	6.0	6.0	3.3
M20M18F87OHG87M	M20X1.5	M18X1.5	27	38.5	6.0	6.0	3.3
M20M22F87OHG87M	M20X1.5	M22X1.5	30	39.5	5.0	5.0	3.3
M22M20F87OHG87M	M22X1.5	M20X1.5	27	41.5	5.0	5.0	3.3
M27M22F87OHG87M	M27X2.0	M22X1.5	32	46.0	5.0	5.0	3.3
M27M33F87OHG87M	M27X2.0	M33X2.0	46	52.0	5.0	5.0	3.3
M33M27F87OHG87M	M33X2.0	M27X2.0	41	48.0	5.0	5.0	3.3
M33M42F87OHG87M	M33X2.0	M42X2.0	55	54.0	4.0	4.0	2.6
M42M27F87OHG87M	M42X2.0	M27X2.0	50	54.0	3.0	3.0	1.9
M42M33F87OHG87M	M42X2.0	M33X2.0	50	46.0	3.0	3.0	1.9
M42M48F87OHG87M	M42X2.0	M48X2.0	65	57.0	2.0	2.0	1.3

⚠ "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

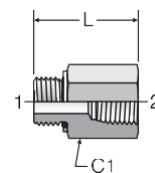
F8OHG5

 Conversion Adapter
 Metric-ORR / SAE-ORB
 (for ISO 9974 / DIN 3852-1 Port)


TUBE FITTING PART #	END SIZE		C1 HEX (in.)	L1 (in.)	Dynamic Pressure (x 1,000 PSI)		
	1	2			S	SS	B
	METRIC STR	UN/UNF-2B					
M10-4F8OHG5	M10x1	7/16 - 20	11/16	1.06	5.0	5.0	3.3
M10-6F8OHG5	M10x1	9/16 - 18	7/8	1.15	5.0	5.0	3.3
M14-6F8OHG5	M14x1.5	9/16 - 18	13/16	1.19	5.0	5.0	3.3
M16-8F8OHG5	M16x1.5	3/4 - 16	1	1.31	5.0	5.0	3.3
M18-8F8OHG5	M18x1.5	3/4 - 16	1	1.38	3.5	3.5	2.2
M22-10F8OHG5	M22x1.5	7/8 - 14	1 1/8	1.50	3.5	3.5	2.2
M27-12F8OHG5	M27x2	1 1/16 - 12	1 1/4	1.88	3.5	3.5	2.2
M33-16F8OHG5	M33x2	1 5/16 - 12	1 5/8	1.91	3.0	3.0	1.9
M42-20F8OHG5	M42x2	1 5/8 - 12	2	1.91	2.0	2.0	1.3

⚠ "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

F8OHG

 Conversion Adapter
 Metric-ORR / NPTF
 (for ISO 9974 / DIN 3852-1 Port)


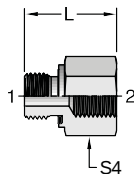
TUBE FITTING PART #	END SIZE		C1 HEX (in.)	L (in.)	Dynamic Pressure (x 1,000 PSI)		
	1	2			S	SS	B
	METRIC STR	NPTF					
M10-1/8F8OHG	M10X1.0	1/8 - 27	9/16	0.99	5.0	5.0	3.3
M12-1/4F8OHG	M12X1.5	1/4 - 18	3/4	1.24	5.0	5.0	3.3
M14-1/4F8OHG	M14X1.5	1/4 - 18	3/4	1.24	5.0	5.0	3.3
M16-3/8F8OHG	M16X1.5	3/8 - 18	7/8	1.36	5.0	5.0	3.3
M16-1/2F8OHG	M16X1.5	1/2 - 14	1 1/8	1.58	5.0	5.0	3.3
M18-3/8F8OHG	M18X1.5	3/8 - 18	15/16	1.42	5.0	5.0	3.3
M18-1/2F8OHG	M18X1.5	1/2 - 14	1 1/8	1.67	5.0	5.0	3.3
M22-1/2F8OHG	M22X1.5	1/2 - 14	1 1/8	1.68	3.5	3.5	2.2
M27-3/4F8OHG	M27X2.0	3/4 - 14	1 3/8	1.87	3.5	3.5	2.2
M33-1F8OHG	M33X2.0	1 - 11 1/2	1 5/8	2.11	3.0	3.0	1.9

⚠ "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

Dimensions and pressures for reference only, subject to change.

F82HG8

Conversion Adapter
 Metric-ED / Metric-ORR
 (for ISO 9974 / DIN 3852-1 Port)

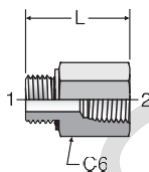


TUBE FITTING PART #	End Size		S4 Hex (mm)	L (mm)	Dynamic Pressure (x 1,000 PSI)		
	1 Metric Str	2 Metric Str			-S	-SS	-B
M10-M8F82EDHG8	M10X1	M8X1	17	21.3	5.0		
M10-M12F82EDHG8	M10X1	M12X1.5	17	27.4	5.0		
M12-M10F82EDHG8	M12X1.5	M10X1	19	31.8	5.0		
M12-M14F82EDHG8	M12X1.5	M15X1.5	19	32.8	5.0		
M12-M16F82EDHG8	M12X1.5	M16X1.5	22	33.5	5.0		
M14-M12F82EDHG8	M14X1.5	M12X1.5	22	32.3	5.0		
M14-M16F82EDHG8	M14X1.5	M16X1.5	22	33.3	5.0		
M16-M14F82EDHG8	M16X1.5	M14X1.5	24	32.3	5.0		
M16-M18F82EDHG8	M16X1.5	M18X1.5	24	33.5	5.0		
M18-M16F82EDHG8	M18X1.5	M16X1.5	27	32.8	3.4		
M18-M20F82EDHG8	M18X1.5	M20X1.5	27	36.1	3.4		
M22-M20F82EDHG8	M22X1.5	M20X1.5	30	36.8	3.4		

! "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

F4OHG

Conversion Adapter
 BSPP-ORR / NPTF
 (for ISO 1179-1 / DIN 3852-2 Port)

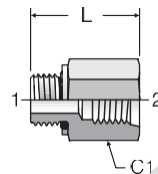


TUBE FITTING PART #	END SIZE		C6 HEX (in.)	L (in.)	Dynamic Pressure (x 1,000 PSI)		
	1 BSPP	2 NPTF			-S	-SS	-B
1/8x1/8F4OHG	1/8 - 28	1/8 - 27	5/8	0.97	5.0	5.0	3.3
1/4x1/4F4OHG	1/4 - 19	1/4 - 18	3/4	1.28	5.0	5.0	3.3
3/8x3/8F4OHG	3/8 - 19	3/8 - 18	7/8	1.33	5.0	5.0	3.3
1/2x1/2F4OHG	1/2 - 14	1/2 - 14	1 1/8	1.73	3.5	3.5	2.2
3/4x3/4F4OHG	3/4 - 14	3/4 - 14	1 3/8	1.77	3.5	3.5	2.2
1x1F4OHG	1 - 11	1 - 11 1/2	1 3/4	2.17	3.0	3.0	1.9

! "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

F4OHG5

Conversion Adapter
 BSPP-ORR / SAE-ORB
 (for ISO 1179-1 / DIN 3852-2 Port)

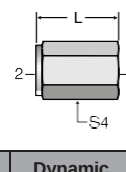


TUBE FITTING PART #	END SIZE		C1 HEX (in.)	L (in.)	Dynamic Pressure (x 1,000 PSI)		
	1 BSPP	2 UN/UNF-2B			-S	-SS	-B
1/8-4F4OHG5	1/8 - 28	7/16 - 20	11/16	1.00	5.0	5.0	3.3
1/4-4F4OHG5	1/4 - 19	7/16 - 20	3/4	1.11	5.0	5.0	3.3
1/4-6F4OHG5	1/4 - 19	9/16 - 18	13/16	1.25	5.0	5.0	3.3
3/8-4F4OHG5	3/8 - 19	7/16 - 20	7/8	1.19	5.0	5.0	3.3
3/8-5F4OHG5	3/8 - 19	1/2 - 20	7/8	1.19	5.0	5.0	3.3
3/8-6F4OHG5	3/8 - 19	9/16 - 18	7/8	1.25	5.0	5.0	3.3
3/8-8F4OHG5	3/8 - 19	3/4 - 16	1	1.33	5.0	5.0	3.3
1/2-10F4OHG5	1/2 - 14	7/8 - 14	1 1/8	1.60	3.5	3.5	2.2
3/4-12F4OHG5	3/4 - 14	1 1/16 - 12	1 3/8	1.74	3.5	3.5	2.2
1-16F4OHG5	1 - 11	1 5/16 - 12	1 3/4	1.92	3.5	3.5	2.2
1 1/4-16F4OHG5	1 1/4 - 11	1 5/16 - 12	2	1.95	2.0	2.0	1.3
1 1/4-20F4OHG5	1 1/4 - 11	1 5/8 - 12	2	1.95	2.0	2.0	1.3

! "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

GHG4

Female Pipe Adapter
 BSPP / NPTF

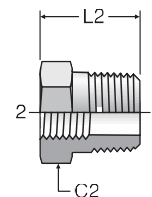


TUBE FITTING PART #	END SIZE		S4 Hex (in.)	L (in.)	Dynamic Pressure (x 1,000 PSI)		
	1 NPTF	2 BSPP			-S	-SS	-B
1/4 GHG4	1/4-18	1/4-19	3/4	1.23	6.0		
3/8 GHG4	3/8-18	3/8-19	7/8	1.26	6.0		
1/2 GHG4	1/2-14	1/2-14	1 1/8	1.50	5.0		
3/4 GHG4	3/4-14	3/4-14	1 3/8	1.87	4.0		
1 GHG4	1-11 1/2	1-11	1 5/8	2.17	3.0		

"Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

PTR34M

BSPT Reducing Adapter
 BSPT / BSPP

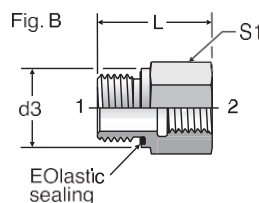
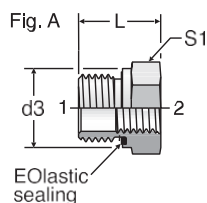


TUBE FITTING PART #	END SIZE		C2 (mm)	L2 (mm)	Dynamic Pressure (x 1,000 PSI)		
	1 BSPT	2 BSPP			S	SS	B
1/4X1/8PTR34M	1/4-19	1/8-28	17	28	6.0	6.0	3.3
3/8X1/4PTR34M	3/8-19	1/4-19	19	33	6.0	6.0	3.3
1/2X1/4PTR34M	1/2-14	1/4-19	22	39	5.0	5.0	3.3
1/2X3/8PTR34M	1/2-14	3/8-19	22	39	5.0	5.0	3.3

! "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

RI-ED

BSPP Reducing Adapter / Expander
BSPP / BSPP-ED
(for ISO 1179-1 / DIN 3852-2 Port)



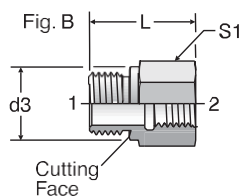
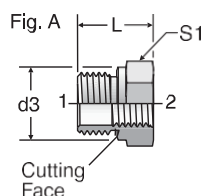
TUBE FITTING PART #	END SIZE		d3 (mm)	L (mm)	S1 (mm)	Fig.	Dynamic Pressure (x 1,000 PSI)		
	1 BSPP	2 BSPP					CF	71	MS
RI1/8EDX1/4	1/8 - 28	1/4 - 19	14	31.0	19	B	5.8	5.8	3.3
RI1/8EDX3/8	1/8 - 28	3/8 - 19	14	32.0	24	B	5.8	5.8	3.3
RI1/4EDX1/8	1/4 - 19	1/8 - 28	19	29.0	19	B	5.8	5.8	3.3
RI1/4EDX3/8	1/4 - 19	3/8 - 19	19	36.0	24	B	5.8	5.8	3.3
RI1/4EDX1/2	1/4 - 19	1/2 - 14	19	40.0	30	B	5.8	5.8	3.3
RI1/4EDX3/4	1/4 - 19	3/4 - 14	19	43.0	36	B	5.8	5.8	3.3
RI3/8EDX1/8	3/8 - 19	1/8 - 28	22	22.5	22	A	5.8	5.8	3.3
RI3/8EDX1/4	3/8 - 19	1/4 - 19	22	36.0	22	B	5.8	5.8	3.3
RI3/8EDX1/2	3/8 - 19	1/2 - 14	22	41.0	30	B	5.8	5.8	3.3
RI3/8EDX3/4	3/8 - 19	3/4 - 14	22	44.0	36	B	4.5	4.5	3.0
RI1/2EDX1/8	1/2 - 14	1/8 - 28	27	24.0	27	A	5.8	5.8	3.3
RI1/2EDX1/4	1/2 - 14	1/4 - 19	27	24.0	27	A	5.8	5.8	3.3
RI1/2EDX3/8	1/2 - 14	3/8 - 19	27	37.0	27	B	5.8	5.8	3.3
RI1/2EDX3/4	1/2 - 14	3/4 - 14	27	46.0	36	B	4.5	4.5	3.0
RI1/2EDX1	1/2 - 14	1 - 11	27	49.0	41	B	4.5	4.5	3.0
RI1/2EDX11/4	1/2 - 14	1 1/4 - 11	27	53.0	55	B	4.5	4.5	3.0
RI3/4EDX1/4	3/4 - 14	1/4 - 19	32	26.0	32	A	4.5	4.5	3.0
RI3/4EDX3/8	3/4 - 14	3/8 - 19	32	26.0	32	A	4.5	4.5	3.0
RI3/4EDX1/2	3/4 - 14	1/2 - 14	32	43.0	32	B	4.5	4.5	3.0
RI3/4EDX1	3/4 - 14	1 - 11	32	51.0	41	B	4.5	4.5	3.0
RI3/4EDX11/4	3/4 - 14	1 1/4 - 11	32	55.0	55	B	4.5	4.5	3.0
RI3/4EDX11/2	3/4 - 14	1 1/2 - 11	32	57.0	60	B	3.6	3.6	2.3
RI1EDX1/4	1 - 11	1/4 - 19	40	29.0	41	A	4.5	4.5	3.0
RI1EDX3/8	1 - 11	3/8 - 19	40	29.0	41	A	4.5	4.5	3.0
RI1EDX1/2	1 - 11	1/2 - 14	40	29.0	41	A	4.5	4.5	3.0
RI1EDX3/4	1 - 11	3/4 - 14	40	49.0	41	B	4.5	4.5	3.0
RI1EDX11/4	1 - 11	1 1/4 - 11	40	57.0	55	B	4.5	4.5	3.0
RI1EDX11/2	1 - 11	1 1/2 - 11	40	59.0	60	B	3.6	3.6	2.3
RI11/4EDX1/2	1 1/4 - 11	1/2 - 14	50	32.0	50	A	4.5	4.5	3.0
RI11/4EDX3/4	1 1/4 - 11	3/4 - 14	50	32.0	50	A	4.5	4.5	3.0
RI11/4EDX1	1 1/4 - 11	1 - 11	50	52.0	50	B	4.5	4.5	3.0
RI11/4EDX11/2	1 1/4 - 11	1 1/2 - 11	50	60.0	60	B	3.6	3.6	2.3
RI11/2EDX1/2	1 1/2 - 11	1/2 - 14	55	36.0	55	A	3.6	3.6	2.3
RI11/2EDX3/4	1 1/2 - 11	3/4 - 14	55	36.0	55	A	3.6	3.6	2.3
RI11/2EDX1	1 1/2 - 11	1 - 11	55	36.0	55	A	3.6	3.6	2.3
RI11/2EDX11/4	1 1/2 - 11	1 1/4 - 11	55	58.0	55	B	3.6	3.6	2.3
RI2EDX11/2	2 - 11	1 1/2 - 11	75	65.0	75	B	2.3	2.3	1.5

 "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

Dimensions and pressures for reference only, subject to change.

RI

BSPP Reducing Adapter / Expander
 BSPP / BSPP-CF
 (for ISO 1179-1 / DIN 3852-2 Port)



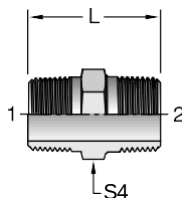
TUBE FITTING PART #	END SIZE		d3 (mm)	L (mm)	S1 (mm)	Fig.	Dynamic Pressure (x 1,000 PSI)		
	1 BSPP	2 BSPP					CF	71	MS
RI1/8X1/4	1/8 - 28	1/4 - 19	14	31.0	19	B	5.8	5.8	3.3
RI1/8X3/8	1/8 - 28	3/8 - 19	14	32.0	24	B	5.8	5.8	3.3
RI1/4X1/8	1/4 - 19	1/8 - 28	18	28.0	19	B	5.8	5.8	3.3
RI1/4X3/8	1/4 - 19	3/8 - 19	18	36.0	24	B	5.8	5.8	3.3
RI1/4X1/2	1/4 - 19	1/2 - 14	18	40.0	30	B	5.8	5.8	3.3
RI1/4X3/4	1/4 - 19	3/4 - 14	18	43.0	36	B	4.5	4.5	3.0
RI3/8X1/8	3/8 - 19	1/8 - 28	22	22.5	22	A	5.8	5.8	3.3
RI3/8X1/4	3/8 - 19	1/4 - 19	22	36.0	22	B	5.8	5.8	3.3
RI3/8X1/2	3/8 - 19	1/2 - 14	22	41.0	30	B	5.8	5.8	3.3
RI3/8X3/4	3/8 - 19	3/4 - 14	22	44.0	36	B	4.5	4.5	3.0
RI1/2X1/8	1/2 - 14	1/8 - 28	26	24.0	27	A	5.8	5.8	3.3
RI1/2X1/4	1/2 - 14	1/4 - 19	26	24.0	27	A	4.5	4.5	3.0
RI1/2X3/8	1/2 - 14	3/8 - 19	26	37.0	27	B	4.5	4.5	3.0
RI1/2X3/4	1/2 - 14	3/4 - 14	26	46.0	36	B	4.5	4.5	3.0
RI1/2X1	1/2 - 14	1 - 11	26	49.0	41	B	2.3	2.3	1.5
RI1/2X11/4	1/2 - 14	1 1/4 - 11	26	53.0	55	B	4.5	4.5	3.0
RI3/4X1/4	3/4 - 14	1/4 - 19	32	26.0	32	A	4.5	4.5	3.0
RI3/4X3/8	3/4 - 14	3/8 - 19	32	26.0	32	A	4.5	4.5	3.0
RI3/4X1/2	3/4 - 14	1/2 - 14	32	41.0	32	B	4.5	4.5	3.0
RI3/4X1	3/4 - 14	1 - 11	32	51.0	41	B	2.3	2.3	1.5
RI3/4X11/4	3/4 - 14	1 1/4 - 11	32	55.0	55	B	2.3	2.3	1.5
RI3/4X11/2	3/4 - 14	1 1/2 - 11	32	57.0	60	B	4.5	4.5	3.0
RI1X1/4	1 - 11	1/4 - 19	39	29.0	41	A	4.5	4.5	3.0
RI1X3/8	1 - 11	3/8 - 19	39	29.0	41	A	4.5	4.5	3.0
RI1X1/2	1 - 11	1/2 - 14	39	29.0	41	A	4.5	4.5	3.0
RI1X3/4	1 - 11	3/4 - 14	39	47.0	41	B	2.3	2.3	1.5
RI1X11/4	1 - 11	1 1/4 - 11	39	57.0	55	B	2.3	2.3	1.5
RI1X11/2	1 - 11	1 1/2 - 11	39	59.0	60	B	2.3	2.3	1.5
RI11/4X1/2	1 1/4 - 11	1/2 - 14	49	32.0	50	A	2.3	2.3	1.5
RI11/4X3/4	1 1/4 - 11	3/4 - 14	49	32.0	50	A	2.3	2.3	1.5
RI11/4X1	1 1/4 - 11	1 - 11	49	52.0	50	B	2.3	2.3	1.5
RI11/4X11/2	1 1/4 - 11	1 1/2 - 11	49	60.0	60	B	2.3	2.3	1.5
RI11/2X1/2	1 1/2 - 11	1/2 - 14	55	36.0	55	A	2.3	2.3	1.5
RI11/2X3/4	1 1/2 - 11	3/4 - 14	55	36.0	55	A	2.3	2.3	1.5
RI11/2X1	1 1/2 - 11	1 - 11	55	36.0	55	A	2.3	2.3	1.5
RI11/2X11/4	1 1/2 - 11	1 1/4 - 11	55	58.0	55	B	2.3	2.3	1.5
RI2X11/2	2 - 11	1 1/2 - 11	68	62.0	70	B	2.3	2.3	1.5

 "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

Dimensions and pressures for reference only, subject to change.

FHF3

Male Pipe Adapter
BSPT / NPTF



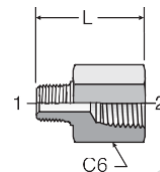
TUBE FITTING PART #	End Size		S4 Hex (in.)	L (in.)	Dynamic Pressure (x 1,000 PSI)		
	1 NPTF	2 BSPT			-S	-SS	-B
1/8 FHF3	1/8-27	1/8-28	7/16	1.09	6.0		
1/4 FHF3	1/4-18	1/4-19	5/8	1.45	6.0		
3/8 x 1/4 FHF3	3/8-18	1/4-19	3/4	1.45	6.0		
1/4 x 3/8 FHF3	1/4-18	1/8-28	3/4	1.45	6.0		
3/8 FHF3	3/8-18	3/8-19	3/4	1.45	6.0		
1/2 FHF3	1/2-14	1/2-14	7/8	1.89	6.0		
3/4 FHF3	3/4-14	3/4-14	1 1/8	1.96	5.5		
1 FHF3	1-11	1-11	1 3/8	2.34	4.5		

Note: The BSPT thread end has an identification collar.

⚠️ "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

F3HG

Conversion Adapter
NPTF / BSPT

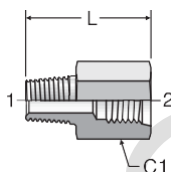


TUBE FITTING PART #	End Size		C6 HEX (in.)	L (mm)	Dynamic Pressure (x 1,000 PSI)		
	1 BSPT	2 NPTF			-S	-SS	-B
1/8x1/8F3HG	1/8 - 28	1/8 - 27	9/16	1.08	6.0	6.0	3.3
1/4x1/4F3HG	1/4 - 19	1/4 - 18	3/4	1.37	6.0	6.0	3.3
3/8x3/8F3HG	3/8 - 19	3/8 - 19	7/8	1.38	6.0	6.0	3.3
1/2x1/2F3HG	1/2 - 14	1/2 - 14	1 1/8	1.88	5.0	5.0	3.3
3/4x3/4F3HG	3/4 - 14	3/4 - 14	1 3/8	1.95	4.0	4.0	2.6
1x1F3HG	1 - 11	1 - 11	1 5/8	2.38	3.0	3.0	1.9
1 1/2 x 1 1/2 F3HG	1 1/2 - 11	1 1/2 - 11 1/2	2 3/8	2.53	2.0	2.0	1.3

"Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

F3HG5

Conversion Adapter
BSPT / SAE-ORB



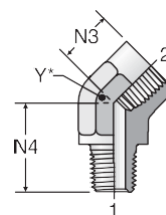
TUBE FITTING PART #	END SIZE		C1 HEX (in.)	L (in.)	Dynamic Pressure (x 1,000 PSI)		
	1 BSPT	2 UN/UNF-2B			-S	-SS	-B
1/8-4F3HG5	1/8 - 28	7/16 - 20	11/16	1.09	6.0	6.0	3.3
1/8-5F3HG5	1/8 - 28	1/2 - 20	3/4	1.09	6.0	6.0	3.3
1/4-6F3HG5	1/4 - 19	9/16 - 18	13/16	1.36	6.0	6.0	3.3
3/8-8F3HG5	3/8 - 19	3/4 - 16	1	1.45	5.0	5.0	3.3
1/2-10F3HG5	1/2 - 14	7/8 - 14	1 1/8	1.78	4.5	4.5	2.9
3/4-12F3HG5	3/4 - 14	1 1/16 - 12	1 3/8	1.92	4.5	4.5	2.9
1-16F3HG5	1 - 11	1 5/16 - 12	1 5/8	2.13	3.5	3.5	2.2

⚠️ "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

CD45

45° Pipe Elbow
NPTF / NPTF

SAE 140339
HPD Base # 3102



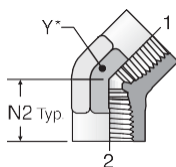
TUBE FITTING PART #	END SIZE		N3 (in.)	N4 (in.)	Y (in.)	Dynamic Pressure (x 1,000 PSI)		
	1 NPTF	2 NPTF				-S	-SS	-B
1/8 CD45	1/8 - 27	1/8 - 27	0.47	0.72	9/16	5.0	5.0	3.2
1/4 CD45	1/4 - 18	1/4 - 18	0.63	1.05	3/4	5.0	5.0	3.2
3/8 CD45	3/8 - 18	3/8 - 18	0.72	1.06	7/8	4.5	4.5	2.9
1/2 CD45	1/2 - 14	1/2 - 14	0.91	1.34	1 1/16	3.0	3.0	1.9
3/4 CD45	3/4 - 14	3/4 - 14	0.97	1.38	1 5/16	3.0	3.0	1.9
1 CD45	1 - 11 1/2	1 - 11 1/2	1.13	1.72	1 5/8	1.8	1.8	1.1
1 1/4 CD45	1 1/4 - 11 1/2	1 1/4 - 11 1/2	1.63	1.80	1 7/8	1.5	1.5	1.0

⚠️ "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

DD45

45° Female Pipe Elbow
NPTF / NPTF

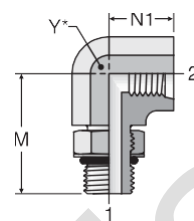
SAE 140338
HPD Base # 4202



AOEG5

Straight Thread Elbow
SAE-ORB / SAE-ORB

HPD Base # 2510



* Y – Across Wrench Flats

TUBE FITTING PART #	END SIZE		N2 (in.)	Y (in.)	Dynamic Pressure (x 1,000 PSI)		
	1 NPTF	2 NPTF			-S	-SS	-B
1/4 DD45	1/4 - 18	1/4 - 18	0.69	3/4	5.0	5.0	3.3
3/8 DD45	3/8 - 18	3/8 - 18	0.75	7/8	4.5	4.5	2.9
1/2 DD45	1/2 - 14	1/2 - 14	0.94	1 1/16	3.0	3.0	1.9
3/4 DD45	3/4 - 14	3/4 - 14	1.00	1 5/16	3.0	3.0	1.9
1 DD45	1 - 11 1/2	1 - 11 1/2	1.19	1 5/8	1.8	1.8	1.1

⚠ "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

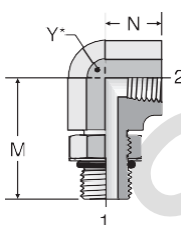
TUBE FITTING PART #	END SIZE		M (in.)	N1 (in.)	Y (in.)	Dynamic Pressure (x 1,000 PSI)		
	1 UN/UNF-2A	2 UN/UNF-2B				-S	-SS	-B
4 AOEG5	7/16 - 20	7/16 - 20	1.23	0.63	3/4	6.0	6.0	3.3
6 AOEG5	9/16 - 18	9/16 - 18	1.38	0.75	7/8	5.0	5.0	3.3
8 AOEG5	3/4 - 16	3/4 - 16	1.59	0.88	1 1/16	4.0	4.0	2.6
10 AOEG5	7/8 - 14	7/8 - 14	1.81	1.02	1 1/16	2.5	2.5	1.6
12 AOEG5	1 1/16 - 12	1 1/16 - 12	2.00	1.21	1 5/16	2.5	2.5	1.6
1 AOEG5	1 5/16 - 12	1 5/16 - 12	2.26	1.33	1 5/8	2.5	2.5	1.6

⚠ "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

AOEG

Female Pipe Elbow
NPT / SAE-ORB

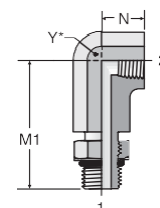
HPD Base # 2502



AOE4G

Extra Long Female Pipe Elbow
NPTF / SAE-ORB

HPD Base # 5502



TUBE FITTING PART #	END SIZE		M (in.)	N (in.)	Y (in.)	Dynamic Pressure (x 1,000 PSI)		
	1 UN/UNF-2A	2 NPTF				-S	-SS	-B
6-1/4 AOEG	9/16 - 18	1/4 - 18	1.34	0.63	3/4	5.0	5.0	3.3
8-3/8 AOEG	3/4 - 16	3/8 - 18	1.47	0.63	7/8	4.5	4.5	2.9
10-1/2 AOEG	7/8 - 14	1/2 - 14	1.81	0.75	1 1/16	3.0	3.0	1.9
12-3/4 AOEG	1 1/16 - 12	3/4 - 14	2.00	0.81	1 5/16	3.0	3.0	1.9
16-1 AOEG	1 5/16 - 12	1 - 11 1/2	2.25	1.00	1 5/8	1.8	1.8	1.1

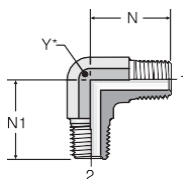
⚠ "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

TUBE FITTING PART #	END SIZE		M1 (in.)	N (in.)	Y (in.)	Dynamic Pressure (x 1,000 PSI)		
	1 UN/UNF-2A	2 NPTF				-S	-SS	-B
8-3/8 AOE4G	3/4 - 16	3/8 - 18	2.94	0.63	7/8	4.5	4.5	2.9
10-1/2 AOE4G	7/8 - 14	1/2 - 14	3.56	0.75	1 1/16	3.0	3.0	1.9
12-3/4 AOE4G	1 1/16 - 12	3/4 - 14	4.06	0.81	1 5/16	3.0	3.0	1.9
16-1 AOE4G	1 5/16 - 12	1 - 11 1/2	4.63	1.00	1 5/8	1.8	1.8	1.1

CR

Male Pipe Elbow
NPTF / NPTF

SAE 140237*



*Y – Across
Wrench Flats

TUBE FITTING PART #	END SIZE		N (in.)	N1 (in.)	Y (in.)	Dynamic Pressure (x 1,000 PSI)		
	1 NPTF	2 NPTF				-S	-SS	-B
1/8 CR	1/8 - 27	1/8 - 27	0.78	0.78	7/16	6.0	6.0	3.9
1/4 CR	1/4 - 18	1/4 - 18	1.09	1.09	9/16	6.0	6.0	3.9
3/8 CR	3/8 - 18	3/8 - 18	1.22	1.22	3/4	6.0	6.0	3.9
3/8 x 1/4 CR	3/8 - 18	1/4 - 18	1.22	1.22	3/4	6.0	6.0	3.3
1/2 CR	1/2 - 14	1/2 - 14	1.47	1.47	7/8	6.0	6.0	3.9
1/2 x 3/8 CR	1/2 - 14	3/8 - 18	1.47	1.28	7/8	6.0	6.0	3.3
3/4 CR	3/4 - 14	3/4 - 14	1.59	1.59	1 1/16	4.0	4.0	2.6
3/4 x 1/2 CR	3/4 - 14	1/2 - 14	1.59	1.47	1 1/16	4.0	4.0	2.6
1 CR	1 - 11 1/2	1 - 11 1/2	1.97	1.97	1 5/16	3.0	3.0	1.9
1 x 3/4 CR	1 - 11 1/2	3/4 - 14	1.97	1.78	1 5/16	3.0	3.0	1.9
1 1/4 CR	1 1/4 - 11 1/2	1 1/4 - 11 1/2	2.22	2.22	1 7/8	2.5	2.5	1.6
1 1/2 CR	1 1/2 - 11 1/2	1 1/2 - 11 1/2	2.34	2.34	1 7/8	2.5	2.5	1.6

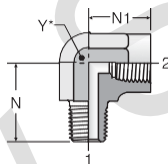
* Not shown in SAE J514, but coded per SAE J846.

! "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

CD

Street Elbow
NPTF / NPT

SAE 140239
HPD Base # 2102



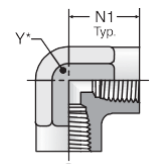
TUBE FITTING PART #	END SIZE		N (in.)	N1 (in.)	Y (in.)	Dynamic Pressure (x 1,000 PSI)		
	1 NPTF	2 NPT				-S	-SS	-B
1/8 CD	1/8 - 27	1/8 - 27	0.78	0.66	9/16	5.0	5.0	3.2
1/8 x 1/4 CD	1/8 - 27	1/4 - 18	0.90	0.88	3/4	5.0	5.0	3.2
1/4 CD	1/4 - 18	1/4 - 18	1.09	0.88	3/4	5.0	5.0	3.2
1/4 x 1/8 CD	1/4 - 18	1/8 - 27	1.09	0.66	9/16	5.0	5.0	3.2
1/4 x 1/2 CD	1/4 - 18	1/2 - 14	1.28	1.23	1 1/16	3.0	3.0	1.9
1/4 x 3/8 CD	1/4 - 18	3/8 - 18	1.22	1.01	7/8	4.5	4.5	2.9
3/8 CD	3/8 - 18	3/8 - 18	1.22	1.02	7/8	4.5	4.5	3.0
3/8 x 1/4 CD	3/8 - 18	1/4 - 18	1.22	0.88	3/4	5.0	5.0	3.2
3/8 x 1/2 CD	3/8 - 18	1/2 - 14	1.28	1.23	1 1/16	3.0	3.0	1.9
1/2 CD	1/2 - 14	1/2 - 14	1.47	1.23	1 1/16	3.0	3.0	1.9
1/2 x 3/8 CD	1/2 - 14	3/8 - 18	1.48	1.25	7/8	4.5	4.5	2.9
1/2 x 3/4 CD	1/2 - 14	3/4 - 14	1.58	1.36	1 5/16	3.0	3.0	1.9
3/4 CD	3/4 - 14	3/4 - 14	1.59	1.36	1 5/16	3.0	3.0	1.9
3/4 x 1/2 CD	3/4 - 14	1/2 - 14	1.59	1.23	1 1/16	3.0	3.0	1.9
1 CD	1 - 11 1/2	1 - 11 1/2	1.97	1.63	1 5/8	1.8	1.8	1.2
1 1/4 CD	1 1/4 - 11 1/2	1 1/4 - 11 1/2	2.38	1.70	1 7/8	1.5	1.5	1.0
1 1/4 x 1 1/2 CD	1 1/4 - 11 1/2	1 1/2 - 11 1/2	2.61	2.08	2 1/2	1.5	1.5	1.0
1 1/2 CD	1 1/2 - 11 1/2	1 1/2 - 11 1/2	2.64	2.08	2 1/2	1.5	1.5	1.0

! "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

DD

Female Pipe Elbow
NPT / NPT

SAE 140238
HPD Base # 2202



TUBE FITTING PART #	END SIZE		N1 (in.)	Y (in.)	Dynamic Pressure (x 1,000 PSI)		
	1 NPT	2 NPT			-S	-SS	-B
1/8 DD	1/8 - 27	1/8 - 27	0.66	9/16	5.0	5.0	3.2
1/4 DD	1/4 - 18	1/4 - 18	0.88	3/4	5.0	5.0	3.2
3/8 DD	3/8 - 18	3/8 - 18	1.02	7/8	4.5	4.5	3.0
1/2 DD	1/2 - 14	1/2 - 14	1.23	1 1/16	3.0	3.0	1.9
1/2 x 3/8 DD	1/2 - 14	3/8 - 18	1.23	1 1/16	3.0	3.0	1.9
3/4 DD	3/4 - 14	3/4 - 14	1.36	1 3/8	3.0	3.0	1.9
1 DD	1 - 11 1/2	1 - 11 1/2	1.63	1 5/8	1.8	1.8	1.2
1 1/4 DD	1 1/4 - 11 1/2	1 1/4 - 11 1/2	1.70	1 7/8	1.5	1.5	1.5
1 1/2 DD	1 1/2 - 11 1/2	1 1/2 - 11 1/2	2.08	2 1/2	1.5	1.5	1.5

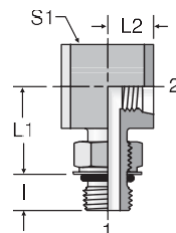
! "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

Dimensions and pressures for reference only, subject to change.

A87LPOEG87LPM

ISO 6149* Female Elbow

SHORT ISO 6149 / SHORT ISO 6149



TUBE FITTING PART #	END SIZE		I (mm)	L1 (mm)	L2 (mm)	S1 (mm)	Dynamic Pressure (x 1,000 PSI)		
	1	2					S	SS	B
	Metric	Metric							
M08A87LPOEG87LPM	M8X1	M8X1	8.5	13.5	7.5	15	4.0	4.0	2.6
M10A87LPOEG87LPM	M10X1	M10X1	8.5	14.5	7.5	15	4.0	4.0	2.6
M12A87LPOEG87LPM	M12X1.5	M12X1.5	11.0	17.0	10.0	20	3.6	3.6	2.3
M14A87LPOEG87LPM	M14X1.5	M14X1.5	11.0	18.0	10.0	20	3.6	3.6	2.3

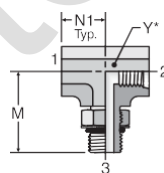
* Male and female thread lengths have been shortened for compact design.
 The lengths do not conform to ISO 6149.

* Y – Across
 Wrench Flats

G5G5JAO

Straight Thread Branch Tee

SAE-ORB (all three ends)



TUBE FITTING PART #	END SIZE			M (in.)	N1 (in.)	Y (in.)	Dynamic Pressure (x 1,000 PSI)		
	1	2	3				-S	-SS	-B
	UN/UNF-2B	UN/UNF-2B	UN/UNF-2A						
4 G5G5JAO	7/16 - 20	7/16 - 20	7/16 - 20	1.23	0.63	3/4	6.0	6.0	3.3
6 G5G5JAO	9/16 - 18	9/16 - 18	9/16 - 18	1.38	0.75	7/8	5.0	5.0	3.3
8 G5G5JAO	3/4 - 16	3/4 - 16	3/4 - 16	1.59	0.88	1 1/16	4.0	4.0	2.6
10 G5G5JAO	7/8 - 14	7/8 - 14	7/8 - 14	1.81	1.02	1 1/16	2.5	2.5	1.6
12 G5G5JAO	1 1/16 - 12	1 1/16 - 12	1 1/16 - 12	2.00	1.21	1 5/16	2.5	2.5	1.6
16 G5G5JAO	1 5/16 - 12	1 5/16 - 12	1 5/16 - 12	2.25	1.33	1 5/8	2.5	2.5	1.6

Dimensions and pressures for reference only, subject to change.

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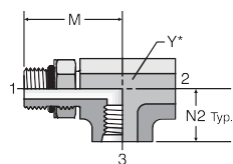
E

ASSEMBLY

GEN TECH

AOG5JG5

Straight Thread Run Tee
 SAE-ORB (all three ends)



* Y – Across Wrench Flats

TUBE FITTING PART #	END SIZE			M (in.)	N2 (in.)	Y (in.)	Dynamic Pressure (x 1,000 PSI)		
	1	2	3				-S	-SS	-B
	UN/UNF-2A	UN/UNF-2B	UN/UNF-2B						
4 AOG5JG5	7/16 - 20	7/16 - 20	7/16 - 20	1.23	0.74	3/4	6.0	6.0	3.3
6 AOG5JG5	9/16 - 18	9/16 - 18	9/16 - 18	1.38	0.86	7/8	5.0	5.0	3.3
8 AOG5JG5	3/4 - 16	3/4 - 16	3/4 - 16	1.59	1.03	1 1/16	4.0	4.0	2.6
10 AOG5JG5	7/8 - 14	7/8 - 14	7/8 - 14	1.81	1.18	1 1/16	2.5	2.5	1.6
12 AOG5JG5	1 1/16 - 12	1 1/16 - 12	1 1/16 - 12	2.00	1.39	1 5/16	2.5	2.5	1.6
16 AOG5JG5	1 5/16 - 12	1 5/16 - 12	1 5/16 - 12	2.25	1.52	1 5/8	2.5	2.5	1.6

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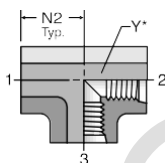
VISUAL
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ASSEMBLY

GEN TECH

G5G5JG5

Female Straight Thread Tee
 SAE-ORB (all three ends)

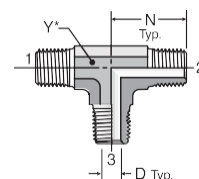


* Y – Across
Wrench Flats

RRS

Male Pipe Tee
 NPTF (all three ends)

SAE 140437



TUBE FITTING PART #	END SIZE	N2 (in.)	Y (in.)	Dynamic Pressure (x 1,000 PSI)		
	1-3			-S	-SS	-B
	UN/UNF-2B					
4 G5G5JG5	7/16 - 20	0.74	3/4	6.0	6.0	3.3
6 G5G5JG5	9/16 - 18	0.86	7/8	5.0	5.0	3.3
8 G5G5JG5	3/4 - 16	1.03	1 1/16	4.0	4.0	2.6
10 G5G5JG5	7/8 - 14	1.18	1 1/16	2.5	2.5	1.6
12 G5G5JG5	1 1/16 - 12	1.39	1 5/16	2.5	2.5	1.6
16 G5G5JG5	1 5/16 - 12	1.52	1 5/8	2.5	2.5	1.6

TUBE FITTING PART #	END SIZE	N (in.)	Y (in.)	Dynamic Pressure (x 1,000 PSI)		
	1-3			-S	-SS	-B
	NPTF					
1/8 RRS	1/8 - 27	0.78	7/16	6.0	6.0	3.9
1/4 RRS	1/4 - 18	1.09	9/16	6.0	6.0	3.9
3/8 RRS	3/8 - 18	1.22	3/4	6.0	6.0	3.9
1/2 RRS	1/2 - 14	1.47	7/8	6.0	6.0	3.9
3/4 RRS	3/4 - 14	1.59	1 1/16	4.0	4.0	2.6

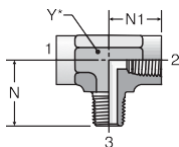
⚠ "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

Dimensions and pressures for reference only, subject to change.

MMS

Male Branch Tee
NPTF (all three ends)

SAE 140425
HPD Base # 212T



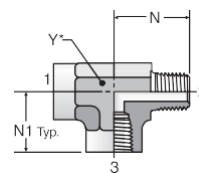
TUBE FITTING PART #	END SIZE	N (in.)	N1 (in.)	Y (in.)	Dynamic Pressure (x 1,000 PSI)		
	1-3 NPTF				-S	-SS	-B
1/8 MMS	1/8 - 27	0.78	0.66	9/16	5.0	5.0	3.2
1/4 MMS	1/4 - 18	1.09	0.88	3/4	5.0	5.0	3.2
3/8 MMS	3/8 - 18	1.22	1.02	7/8	4.5	4.5	3.0
1/2 MMS	1/2 - 14	1.47	1.23	1 1/16	3.0	3.0	1.9
3/4 MMS	3/4 - 14	1.59	1.36	1 5/16	3.0	3.0	1.9
1 MMS	1 - 11 1/2	1.97	1.62	1 5/8	1.8	1.8	1.1

⚠ "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

MRO

Male Run Tee
NPTF (all three ends)

SAE 140424
HPD Base # 012T



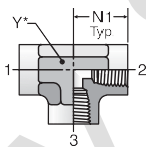
TUBE FITTING PART #	END SIZE	N (in.)	N1 (in.)	Y (in.)	Dynamic Pressure (x 1,000 PSI)		
	1-3 NPTF				-S	-SS	-B
1/8 MRO	1/8 - 27	0.78	0.66	9/16	5.0	5.0	3.2
1/4 MRO	1/4 - 18	1.09	0.88	3/4	5.0	5.0	3.2
3/8 MRO	3/8 - 18	1.22	1.02	7/8	4.5	4.5	3.0
1/2 MRO	1/2 - 14	1.47	1.23	1 1/16	3.0	3.0	1.9
3/4 MRO	3/4 - 14	1.59	1.36	1 5/16	3.0	3.0	1.9
1 MRO	1 - 11 1/2	1.97	1.63	1 5/8	1.8	1.8	1.1
1 1/4 MRO	1 1/4 - 11 1/2	2.38	1.70	1 7/8	1.5	1.5	1.0
1 1/2 MRO	1 1/2 - 11 1/2	2.64	2.08	2 1/2	1.5	1.5	1.0

⚠ "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

MMO

Female Pipe Tee
NPTF (all three ends)

SAE 140438
HPD Base # 022T

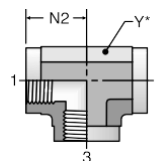


TUBE FITTING PART #	END SIZE	N1 (in.)	Y (in.)	Dynamic Pressure (x 1,000 PSI)		
	1-3 NPTF			-S	-SS	-B
1/8 MMO	1/8 - 27	0.66	9/16	5.0	5.0	3.2
1/4 MMO	1/4 - 18	0.88	3/4	5.0	5.0	3.2
3/8 MMO	3/8 - 18	1.02	7/8	4.5	4.5	3.0
1/2 MMO	1/2 - 14	1.23	1 1/16	3.0	3.0	1.9
3/4 MMO	3/4 - 14	1.36	1 5/16	3.0	3.0	1.9
1 MMO	1 - 11 1/2	1.63	1 5/8	1.8	1.8	1.2
1 1/4 MMO	1 1/4 - 11 1/2	1.70	1 7/8	1.5	1.5	1.0
1 1/2 MMO	1 1/2 - 11 1/2	2.08	2 1/2	1.5	1.5	1.0

⚠ "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

MMO444M

Female BSPP Tee
BSPP (all three ends)



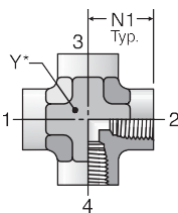
TUBE FITTING PART #	END SIZE	N2 (mm)	Y (mm)	Dynamic Pressure (x 1,000 PSI)		
	1-3 BSPP			S	SS	B
1/4MMO444M	1/4 - 19	22	19	5.0	5.0	3.3
3/8MMO444M	3/8 - 19	26	22	4.5	4.5	2.9
1/2MMO444M	1/2 - 14	31	27	3.0	3.0	1.9
3/4MMO444M	3/4 - 14	40	33	3.0	3.0	1.9
1MMO444M	1 - 11	46	41	1.8	1.8	1.1

⚠ "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

KMMOO

Female Pipe Cross
NPTF (all four ends)

SAE 140538
HPD Base # 022X



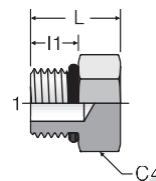
TUBE FITTING PART #	END SIZE 1-4 NPTF	N1 (in.)	Y (in.)	Dynamic Pressure (x 1,000 PSI)		
				-S	-SS	-B
1/8 KMMOO	1/8 - 27	0.66	9/16	5.0	5.0	3.2
1/4 KMMOO	1/4 - 18	0.88	3/4	5.0	5.0	3.2
3/8 KMMOO	3/8 - 18	1.02	7/8	4.5	4.5	2.9
1/2 KMMOO	1/2 - 14	1.23	1 1/16	3.0	3.0	1.9
3/4 KMMOO	3/4 - 14	1.36	1 5/16	3.0	3.0	1.9
1 KMMOO	1 - 11 1/2	1.63	1 5/8	1.8	1.8	1.1

⚠ "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

P5ON

Hex Head Plug
SAE-ORB

SAE 090109A
HPD Base # 05CP



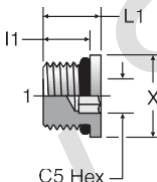
TUBE FITTING PART #	END SIZE 1 UN/UNF-2A	C4 HEX (in.)	I1 (in.)	L (in.)	Dynamic Pressure (x 1,000 PSI)		
					-S	-SS	-B
2 P5ON	5/16 - 24	7/16	0.30	0.60	7.5	9.0	3.3
3 P5ON	3/8 - 24	1/2	0.30	0.60	7.5	9.0	3.3
4 P5ON	7/16 - 20	9/16	0.36	0.67	7.5	9.0	3.3
5 P5ON	1/2 - 20	5/8	0.36	0.67	6.0	7.2	3.3
6 P5ON	9/16 - 18	11/16	0.39	0.73	6.0	7.2	3.3
8 P5ON	3/4 - 16	7/8	0.44	0.80	6.0	7.2	3.3
10 P5ON	7/8 - 14	1	0.50	0.94	6.0	7.2	3.3
12 P5ON	1 1/16 - 12	1 1/4	0.59	1.09	6.0	7.2	3.3
14 P5ON	1 3/16 - 12	1 3/8	0.59	1.09	5.5	6.6	3.3
16 P5ON	1 5/16 - 12	1 1/2	0.59	1.13	5.5	6.6	3.3
20 P5ON	1 5/8 - 12	1 7/8	0.59	1.20	4.0	4.8	2.6
24 P5ON	1 7/8 - 12	2 1/8	0.59	1.27	3.0	3.6	1.9
32 P5ON	2 1/2 - 12	2 3/4	0.59	1.44	2.0	2.4	1.3

⚠ "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

HP5ON

Hollow Hex Plug
SAE-ORB

SAE 090109B
HPD Base # 05HP



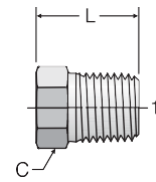
TUBE FITTING PART #	END SIZE 1 UN/UNF-2A	C5 HEX (in.)	I1 (in.)	L1 (in.)	X DIA (in.)	Dynamic Pressure (x 1,000 PSI)		
						-S	-SS	-B
2 HP5ON	5/16 - 24	1/8	0.30	0.40	0.44	6.0	6.0	3.3
3 HP5ON	3/8 - 24	5/32	0.30	0.40	0.50	6.0	6.0	3.3
4 HP5ON	7/16 - 20	3/16	0.36	0.47	0.56	6.0	6.0	3.3
5 HP5ON	1/2 - 20	7/32	0.36	0.47	0.63	6.0	6.0	3.3
6 HP5ON	9/16 - 18	1/4	0.40	0.50	0.69	6.0	6.0	3.3
8 HP5ON	3/4 - 16	5/16	0.44	0.58	0.88	6.0	6.0	3.3
10 HP5ON	7/8 - 14	3/8	0.50	0.65	1.00	6.0	6.0	3.3
12 HP5ON	1 1/16 - 12	9/16	0.59	0.77	1.25	6.0	6.0	3.3
14 HP5ON	1 3/16 - 12	9/16	0.59	0.77	1.38	5.5	5.5	3.3
16 HP5ON	1 5/16 - 12	5/8	0.59	0.77	1.50	5.5	5.5	3.3
20 HP5ON	1 5/8 - 12	3/4	0.59	0.77	1.88	4.0	4.0	2.6
24 HP5ON	1 7/8 - 12	3/4	0.59	0.77	2.13	3.0	3.0	1.9

⚠ "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

HP

Hex Head Pipe Plug
NPTF

SAE 130109E
HPD Base # 01CP



TUBE FITTING PART #	END SIZE 1 NPTF	C HEX (in.)	L (in.)	Dynamic Pressure (x 1,000 PSI)		
				-S	-SS	-B
1/8 HP*	1/8 - 27	7/16	0.56	6.0	7.2	3.9
1/4 HP*	1/4 - 18	9/16	0.75	6.0	7.2	3.9
3/8 HP*	3/8 - 18	11/16	0.78	6.0	7.2	3.9
1/2 HP*	1/2 - 14	7/8	0.97	6.0	7.2	3.9
3/4 HP	3/4 - 14	1 1/16	1.06	5.5	6.6	3.5
1 HP**	1 - 11 1/2	1 5/16	1.25	4.5	5.4	3.0
1 1/4 HP	1 1/4 - 11 1/2	1 3/4	1.41	3.0	3.6	1.9
1 1/2 HP	1 1/2 - 11 1/2	2	1.50	3.0	3.6	1.9
2 HP	2 - 11 1/2	2 1/2	1.69	2.0	3.0	1.3

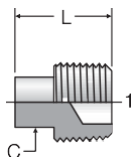
Note: *Steel parts are zinc plated

** 1 HP-SS Hex is 1 3/8

⚠ "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

SHP

Square Head Plug
NPTF



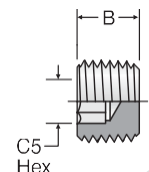
TUBE FITTING PART #	END SIZE	C SQUARE (in.)	L (in.)	Dynamic Pressure (x 1,000 PSI)		
	1 NPTF			-S	-SS	-B
1/8 SHP	1/8 - 27	9/32	0.51	6.0	7.2	3.3
1/4 SHP	1/4 - 18	3/8	0.75	6.0	6.0	3.3
3/8 SHP	3/8 - 18	7/16	0.83	6.0	6.0	3.3
1/2 SHP	1/2 - 14	9/16	1.08	6.0	6.0	3.3
3/4 SHP	3/4 - 14	5/8	1.14	6.0	6.0	3.3
1 SHP	1 - 11 1/2	13/16	1.38	5.5	5.5	3.3

Note: Steel parts are zinc plated

⚠ "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

HHP

Hollow Hex Pipe Plug
NPTF



SAE 130109N
HPD Base # 01HP

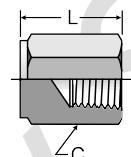
TUBE FITTING PART #	END SIZE	B (in.)	C5 INTERNAL HEX (in.)	Dynamic Pressure (x 1,000 PSI)		
	1 NPTF			-S	-SS	-B
1/16 HHP*	1/16 - 27	0.30	5/32	6.0	7.2	3.3
1/8 HHP*	1/8 - 27	0.30	3/16	6.0	7.2	3.9
1/4 HHP*	1/4 - 18	0.46	1/4	6.0	7.2	3.9
3/8 HHP*	3/8 - 18	0.46	5/16	6.0	7.2	3.3
1/2 HHP*	1/2 - 14	0.61	3/8	6.0	7.2	3.3
3/4 HHP*	3/4 - 14	0.62	9/16	5.5	6.6	3.3
1 HHP*	1 - 11 1/2	0.77	5/8	4.5	5.4	3.3
1 1/4 HHP*	1 1/4 - 11 1/2	0.77	3/4	3.0	5.0	3.3
1 1/2 HHP*	1 1/2 - 11 1/2	0.83	1	3.0	3.0	1.9
2 HHP	2 - 11 1/2	0.86	3/4	2.0	2.5	1.6

Note: *Steel parts are zinc plated

⚠ "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

HPC

Hex Pipe Cap
NPTF

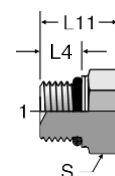


TUBE FITTING PART #	END SIZE	C HEX (in.)	L (in.)	Dynamic Pressure (x 1,000 PSI)		
	1 NPTF			-S	-SS	-B
1/8 HPC	1/8 - 27	9/16	.75	6.0	6.0	3.3
1/4 HPC	1/4 - 18	3/4	.91	6.0	6.0	3.3
3/8 HPC	3/8 - 18	7/8	1.03	6.0	6.0	3.3
1/2 HPC	1/2 - 14	1 1/16	1.34	6.0	6.0	3.3
3/4 HPC	3/4 - 14	1 1/4	1.44	4.8	4.8	3.1
1 HPC	1 - 11 1/2	1 5/8	1.68	3.6	3.6	2.3
1 1/2 HPC	1 1/2 - 1 1/2	2 3/8	1.92	2.4	2.4	1.5

⚠ "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

P87OMN

ISO 6149 Hex Head Plug
ISO 6149
(for ISO 6149-1 Port)



SAE J2244-4* 62M0109A

TUBE FITTING PART #	END SIZE	L4 (mm)	L11 (mm)	S HEX (mm)	Dynamic Pressure (x 1,000 PSI)		
	1 THREAD				S	SS	B
M8P87OMN	M8X1	8.5	16.2	12	9.0	9.0	3.3
M10P87OMN	M10X1	8.5	16.2	14	8.0	8.0	3.3
M12P87OMN	M12X1.5	11.0	18.5	17	9.0	9.0	3.3
M14P87OMN	M14X1.5	11.0	19.5	19	9.0	9.0	3.3
M16P87OMN	M16X1.5	11.5	21.5	22	9.0	9.0	3.3
M18P87OMN	M18X1.5	12.5	23.5	24	9.0	9.0	3.3
M20P87OMN	M20X1.5	12.5	24.0	27	6.0	6.0	3.3
M22P87OMN	M22X1.5	13.0	25.5	27	6.0	6.0	3.3
M27P87OMN	M27X2	16.0	32.0	32	6.0	6.0	3.3
M30P87OMN	M30X2	16.0	32.0	36	6.0	6.0	3.3
M33P87OMN	M33X2	16.0	32.0	41	6.0	6.0	3.3
M42P87OMN	M42X2	16.0	34.0	50	4.0	4.0	2.6
M48P87OMN	M48X2	17.5	35.5	55	2.0	2.0	1.3
M60P87OMN	M60X2	17.5	42.0	65	1.0	1.0	0.6

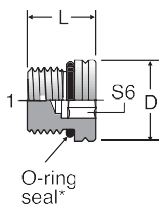
* SAE J2244-4 and ISO 6149-4 are draft standards.

⚠ "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

VSTI M-OR

ISO 6149 Hollow Hex Plug
ISO 6149
(for ISO 6149-1 Port)

SAE J2244-4* 62M0109B



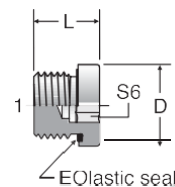
TUBE FITTING PART #	END SIZE	D (mm)	L (mm)	S6 (mm)	Dynamic Pressure (x 1,000 PSI)		
	1 METRIC				CF	71	MS
VSTI10X1OR	M10 x 1	13	13.5	5	9.1	9.1	3.3
VSTI12X1.5OR	M12 x 1.5	17	15.0	6	9.1	9.1	3.3
VSTI14X1.5OR	M14 x 1.5	19	16.0	6	9.1	9.1	3.3
VSTI16X1.5OR	M16 x 1.5	21	17.5	8	9.1	9.1	3.3
VSTI18X1.5OR	M18 x 1.5	23	19.0	8	9.1	9.1	3.3
VSTI22X1.5OR	M22 x 1.5	27	20.0	10	9.1	9.1	3.3
VSTI27X2OR	M27 x 2	32	23.5	12	5.8	5.8	3.3
VSTI33X2OR	M33 x 2	38	25.0	14	5.8	5.8	3.3
VSTI42X2OR	M42 x 2	48	25.5	22	5.8	5.8	3.3

* SAE J2244-4 is a draft standard

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VSTI M-ED

Metric Hollow Hex Plug
Metric-ED
(for ISO 9974-1 / DIN 3852-1 Port)

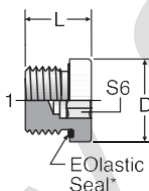


TUBE FITTING PART #	END SIZE	D (mm)	L (mm)	S6 (mm)	Dynamic Pressure (x 1,000 PSI)		
	1 THREAD				CF	71	MS
VSTI10X1ED	M10 x 1	14	12.3	5	5.8	5.8	3.3
VSTI12X1.5ED	M12 x 1.5	17	17.3	6	5.8	5.8	3.3
VSTI14X1.5ED	M14 x 1.5	19	17.3	6	5.8	5.8	3.3
VSTI16X1.5ED	M16 x 1.5	22	17.3	8	5.8	5.8	3.3
VSTI18X1.5ED	M18 x 1.5	24	17.3	8	5.8	5.8	3.3
VSTI20X1.5ED	M20 x 1.5	26	19.3	10	5.8	5.8	3.3
VSTI22X1.5ED	M22 x 1.5	27	19.3	10	5.8	5.8	3.3
VSTI26X1.5ED	M26 x 1.5	32	21.3	12	5.8	5.8	3.3
VSTI27X2ED	M27 x 2	32	21.3	12	5.8	5.8	3.3
VSTI33X2ED	M33 x 2	40	22.8	17	5.8	5.8	3.3
VSTI42X2ED	M42 x 2	50	22.8	22	4.5	4.5	2.9
VSTI48X2ED	M48 x 2	55	22.8	24	4.5	4.5	2.9

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VSTI R-ED

BSPP Hollow Hex Plug
BSPP-ED
(for ISO 1179-1 / DIN 3852-2 Port)

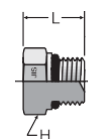


TUBE FITTING PART #	END SIZE	D (mm)	L (mm)	S6 (mm)	Dynamic Pressure (x 1,000 PSI)		
	1 BSPP				CF	71	MS
VSTI1/8ED	1/8 - 28	14	12.3	5	5.8	5.8	3.3
VSTI1/4ED	1/4 - 19	19	17.3	6	5.8	5.8	3.3
VSTI3/8ED	3/8 - 19	22	17.3	8	5.8	5.8	3.3
VSTI1/2ED	1/2 - 14	27	19.3	10	5.8	5.8	3.3
VSTI3/4ED	3/4 - 14	32	21.3	12	5.8	5.8	3.3
VSTI1ED	1 - 11	40	22.8	17	5.8	5.8	3.3
VSTI1 1/4ED	1 1/4 - 11	50	22.8	22	4.5	4.5	2.9
VSTI1 1/2ED	1 1/2 - 11	55	22.8	24	4.5	4.5	2.9

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P47OMN

Hex Head Plug
BSPP-ORB
(for JIS B2351)

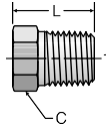


TUBE FITTING PART #	END SIZE	H HEX (mm)	L (mm)	Dynamic Pressure (x 1,000 PSI)		
	1 BSPP			S	SS	B
4P47OMN	1/4-19	19	19.1	5.0		
6P47OMN	3/8-19	22	20.0	5.0		
8P47OMN	1/2-14	27	24.1	5.0		
12P47OMN	3/4-14	36	26.9	4.0		
16P47OMN	1-11	41	31.0	3.0		

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HP3M

Hex Head Pipe Plug
 BSPT



TUBE FITTING PART #	END SIZE 1 BSPT	C HEX (mm)	L (mm)	Dynamic Pressure (x 1,000 PSI)		
				S	SS	B
1/8HP3M	1/8 - 28	10	14.2	6.0	6.0	3.3
1/4HP3M	1/4 - 19	14	19.1	6.0	6.0	3.3
3/8HP3M	3/8 - 19	17	19.8	6.0	6.0	3.3
1/2HP3M	1/2 - 14	22	24.6	6.0	6.0	3.3
3/4HP3M	3/4 - 14	27	26.9	5.5	5.5	3.3
1HP3M	1 - 11	36	31.8	4.5	4.5	2.9

⚠️ "Mahadev Steel India provides high-quality ferrule fittings engineered for secure and leak-tight connections."

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MAHADEV STEEL INDIA



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