

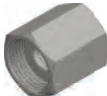
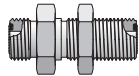
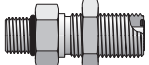
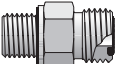
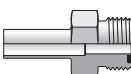
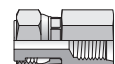
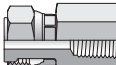
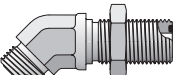
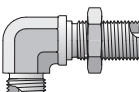
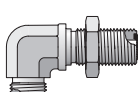
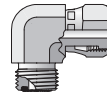
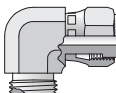
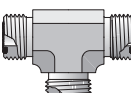
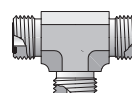
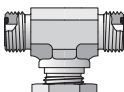
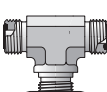
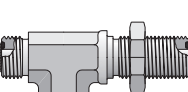
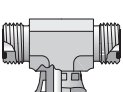
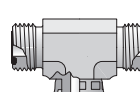
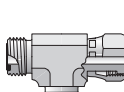
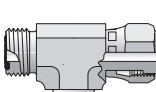
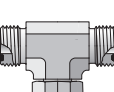
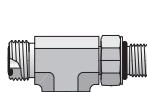
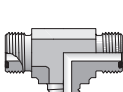
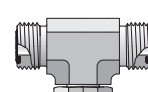
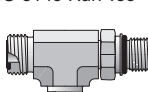
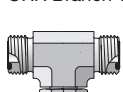
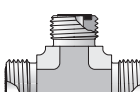
FastSeal	TLFA FastSeal  A8	Nuts, Sleeves, Locknuts	BL Tube Nut  A8	BML Tube Nut - mm Hex  A8	TPLS (Metric) Parflange Sleeve  A9
	TPL (Inch) Parflange Sleeve  A9		SBR (Inch and Metric) Braze Ring  A11	WLN Bulkhead Locknut  A11	WLNML Blkhd Locknut - mm Hex  A11
Straights	HLO Union  A12	HMLO Union - mm 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

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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)

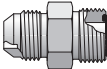
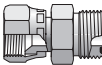
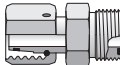
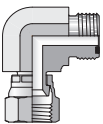
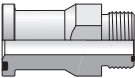
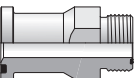
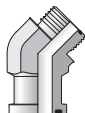
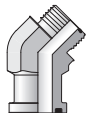
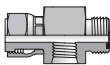
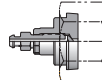
Conversion Adapters	XHLO 37° Flare / ORFS	XHL6 37° Flare / ORFS Swivel	LOHX6 ORFS / 37° Swivel	BUHLO ORFS / Flareless (inch)	LOHU86 Metric Swivel (EO)/ORFS
	 J3	 J3	 J3	 J4	 J4
LOEX6 ORFS / 37° Swivel	 J3				

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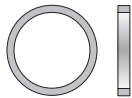
Flange Adapters (Shown in Section K)

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	BSPP Retaining O-Ring	EOlastic Seal Ring			
 M6	 M6	 M6			

Seal-Lok Introduction

The Seal-Lok fitting meets or exceeds the strict requirements of SAE J1453 and ISO 8434-3. It is an O-ring face seal type 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.

Seal-Lok 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). Seal-Lok's leak-free design and rugged construction make it suitable for a variety of applications where higher pressures, vibration and impulse are prevalent.

How Seal-Lok Fittings Work

The Seal-Lok 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 Seal-Lok fittings practically unlimited remakability. 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 Seal-Lok 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 Seal-Lok 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.

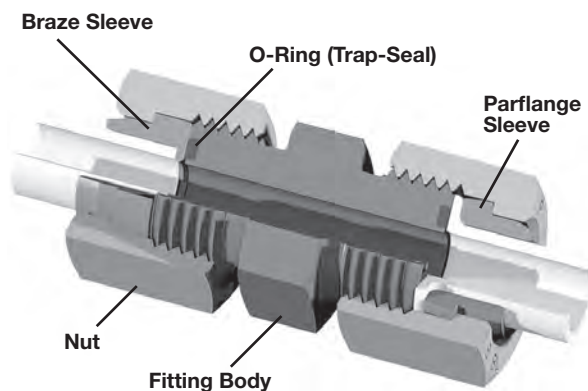


Fig. A1 — Seal-Lok Union cutaway with flanged and brazed assemblies

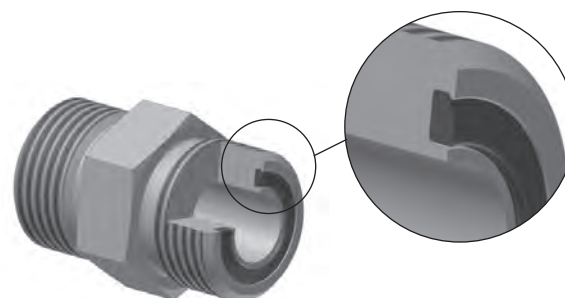


Fig. A2 — Captive O-ring Groove (CORG) Cutaway with Parker's Trap-Seal

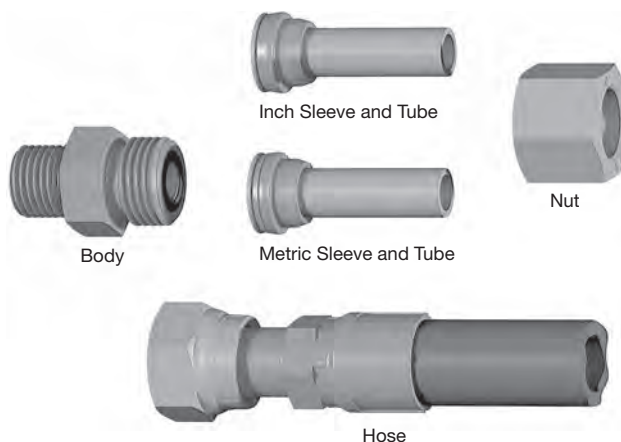


Fig. A3 — Seal-Lok Works with Inch or Metric Tube and Hose

Dimensions and pressures for reference only, subject to change.

International Acceptance

The tube/hose end connection for metric Seal-Lok is the same as standard (inch) Seal-Lok. It consists of a nut, a body, an O-ring, & a sleeve. The difference is at the port end of the fitting. Instead of the SAE straight thread connection for example, it

features a similar connection with metric threads per ISO 6149-2 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 Seal-Lok 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 Parker Advantage

Trap Seal™: The patented trapezoidal seal of the Seal-Lok 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 Seal-Lok connection is to withstand 200% torque above the rated value. This reduces the frequency of metal distortion and the potential of leaks. Seal-Lok reduces production assembly and maintenance costs by its resistance to over-torque.

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

High pressure rating: Seal-Lok 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: Parker's Seal-Lok 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 toughshield.com.

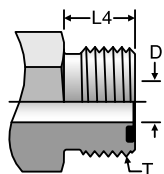
Robust Port Stud: The adjustable port stud is manufactured with a longer locknut designed to cover the uppermost threads. Since the backup washer is never exposed to the upper threads, it cannot be damaged during assembly. During assembly, exposed upper threads, which are common with fittings from other 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 Seal-Lok connection is completely assembled and disassembled, very little metal is distorting in the connection. Therefore, Seal-Lok allows for unlimited reusability in the field, reducing the component replacement and maintenance costs of the connection.

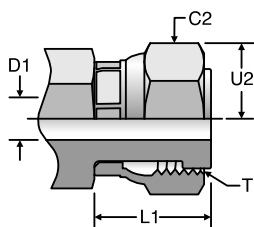
Dimensions and pressures for reference only, subject to change.

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

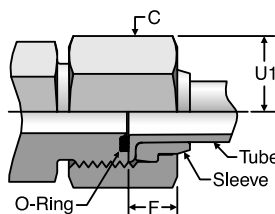
Seal-Lok O-Ring Face Seal Tube Ends



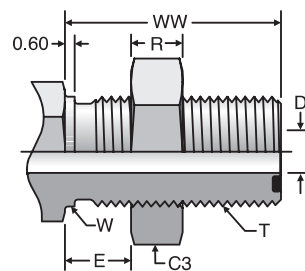
**Seal-Lok Male
Tube End**



**Seal-Lok Female
Swivel**



**Seal-Lok Tube End
Assembly**



Seal-Lok Bulkhead

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			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
SAE Dash Size	Tube O.D.		T UN/UNF	C		C2		C3		D ¹⁾	D1 ¹⁾	E	Ref. F	L1	L4	R	W ²⁾	WW	U1	U2
	(in.)	(mm)		(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.

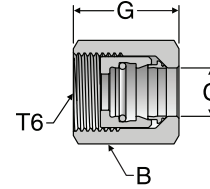
3) See page M4 for ORFS O-rings.

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.

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.

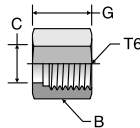
Please see the Assembly and Installation section for FastSeal Assembly instructions and refer to the equipment section for FastSeal assembly tools.

Parker'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

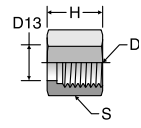
SAE 520110



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	•

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

** 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.

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

Dimensions and pressures for reference only, subject to change.

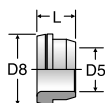
See Seal-Lok Xtreme for extreme temperature applications



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TPL (Metric)

Parflange Sleeve for
Metric Tubing
ORFS Mechanically
Attachable Sleeve



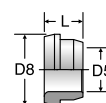
TUBE FITTING PART #		USED WITH FITTING SIZE	D5 END SIZE (mm)	D8 DIA (mm)	L (mm)	Material	
STEEL	STAINLESS STEEL					S	SS
TPLS6	TPLSS6	-4	6	12.75	7.5	•	•
TPLS8	TPLSS8	-6	8	15.75	8.5	•	•
TPLS10	TPLSS10	-6	10	15.75	8.5	•	•
TPLS12	TPLSS12	-8	12	18.90	10.5	•	•
TPLS14	TPLSS14	-10	14	23.50	10.5	•	•
TPLS15	TPLSS15	-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.

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

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.

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

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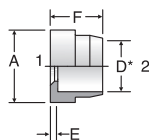


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TL (Inch)

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.

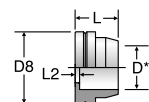
• Uses SBR silver braze rings

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

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: TLS10

**Different from SAE

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

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SBR (Inch)

Silver Braze Ring for Inch Tubing

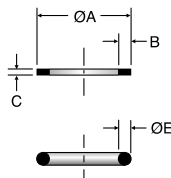
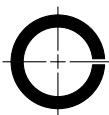
TUBE FITTING PART #	END SIZE (in.)	A DIA (in.)	B (in.)	C (in.)	E (in.)
4 SBR	1/4	0.260	—	—	0.05
6 SBR	3/8	0.390	0.07	0.03	—
8 SBR	1/2	0.515	0.07	0.03	—
10 SBR	5/8	0.640	0.07	0.03	—
12 SBR	3/4	0.765	0.08	0.04	—
14 SBR	7/8	0.890	—	—	0.06
16 SBR	1	1.015	0.08	0.04	—
20 SBR	1 1/4	1.265	0.08	0.04	—
24 SBR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

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



SBR (Metric)

Silver Braze Ring for Metric Tubing

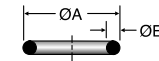
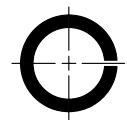
TUBE FITTING PART #	END SIZE (mm)	A DIA (mm)	E (mm)
SBR 6mm	6	6.4	1.2
SBR 8mm	8	8.4	1.2
SBR 10mm	10	10.4	1.2
SBR 12mm	12	12.4	1.2
SBR 16mm	16	16.4	1.2
SBR 20mm	20	20.4	1.6
SBR 25mm	25	25.4	1.6
SBR 30mm	30	30.4	1.6
SBR 38mm	38	38.4	1.6

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.

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



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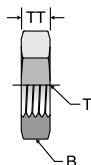
TUBE FAB EQUIP

GEN TECH

WLNL

Bulkhead Locknut

SAE 520118



TUBE FITTING PART #	END SIZE (in.)	T TUBE END UN/UNF-2A	B HEX (in.)	TT (in.)	Material -S
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	•

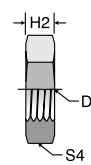
* Size 14 is not included in SAE J1453.

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

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 S
	(mm)	(in.)				
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	•

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Dimensions and pressures for reference only, subject to change.

See Seal-Lok Xtreme for extreme temperature applications

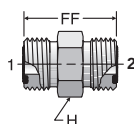


[Click here for CADs, Support Resources or to Configure Parts Online](#)

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

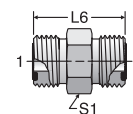
* Hex different from SAE

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

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

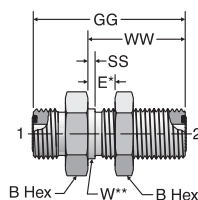
WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

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".

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

Dimensions and pressures for reference only, subject to change.

See Seal-Lok Xtreme for extreme temperature applications



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WMLO

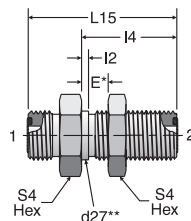
Bulkhead Union – mm Hex
ORFS / ORFS

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

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

WF5OLO

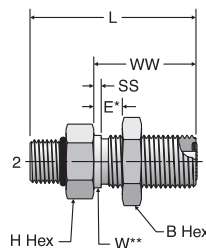
Straight Thread Bulkhead

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
	(in.)	(in.)									
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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Dimensions and pressures for reference only, subject to change.

See Seal-Lok Xtreme for extreme temperature applications

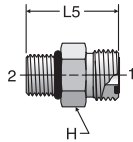


[Click here for CADs, Support Resources or to Configure Parts Online](#)

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

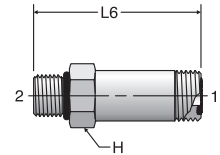
*Different from SAE

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

FF5OLO

Long Straight Thread Connector
ORFS-Long / SAE-ORB

SAE 521720 (previously 520122)

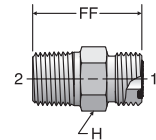


TUBE FITTING PART #	END SIZE		H HEX (in.)	L6 (in.)	Dynamic Pressure (x 1,000 PSI)	
	1 (in.)	2 UN/UNF-2A			-S	-SS
4 FF5OLO	1/4	7/16 - 20	5/8	2.07	9.2	9.2
6 FF5OLO	3/8	9/16 - 18	3/4	2.27	9.2	9.2
6-4 FF5OLO	3/8	7/16 - 20	3/4	2.39	9.2	9.2
8 FF5OLO	1/2	3/4 - 16	7/8	2.67	9.2	9.2
10 FF5OLO	5/8	7/8 - 14	1 1/16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

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

Dimensions and pressures for reference only, subject to change.

See Seal-Lok Xtreme for extreme temperature applications



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ASSEMBLY

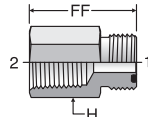
TUBE FAB
EQUIP

GEN TECH

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GLO

Female NPT
ORFS / Female Pipe

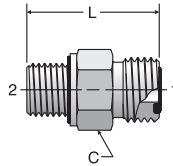


TUBE FITTING PART #	END SIZE		FF (in.)	H HEX (in.)	Dynamic Pressure (x 1,000 PSI)	
	1	2			-S	-SS
	(in.)	NPTF				
4 GLO	1/4	1/8 - 27	1.03	5/8	6.0	6.0
4-4 GLO	1/4	1/4 - 18	1.25	3/4	6.0	6.0
6 GLO	3/8	1/4 - 18	1.30	3/4	6.0	6.0
6-6 GLO	3/8	3/8 - 18	1.34	7/8	6.0	6.0
8 GLO	1/2	3/8 - 18	1.34	7/8	6.0	6.0

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F42EDMLO

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

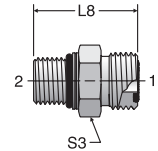


TUBE FITTING PART #	END SIZE			C HEX (mm)	L (mm)	Dynamic Pressure (x 1,000 PSI)	
	1		2			S	SS
	(mm)	(in.)	BSPP				
4F42EDMLO	6	1/4	1/8 - 28	17	25.7	9.2	9.2
4-4F42EDMLO	6	1/4	1/4 - 19	19	30.5	9.2	9.2
4-6F42EDMLO	6	1/4	3/8 - 19	22	31.6	9.2	9.2
4-8F42EDMLO	6	1/4	1/2 - 14	27	35.4	6.0	6.0
6F42EDMLO	8,10	3/8	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

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

F87OMLO

Metric Straight Thread Connector
ORFS / ISO 6149



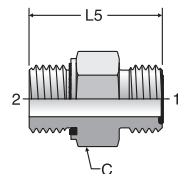
ISO 8434-3 SDS
SAE 52M0187

TUBE FITTING PART #	END SIZE			L8 (mm)	S3 HEX (mm)	Dynamic Pressure (x 1,000 PSI)	
	1		2			S	SS
	(mm)	(in.)	ISO 261				
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

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

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		2			S	SS
	(mm)	(in.)	Metric				
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

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Dimensions and pressures for reference only, subject to change.

See Seal-Lok Xtreme for extreme temperature applications



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TUBE FAB
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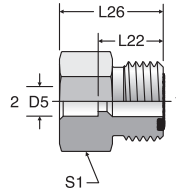
GEN TECH

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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

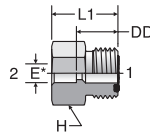
* D5 is for silver brazing. Standard steel parts are not recommended for welding.

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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	2					-S	-SS
	(in.)	(in.)						
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.

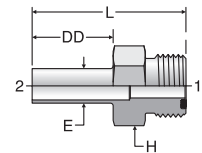
WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

Dimensions and pressures for reference only, subject to change.

See Seal-Lok Xtreme for extreme temperature applications

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.

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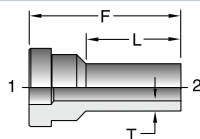
TUBE FAB
EQUIP

GEN TECH

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TLW1

Butt Weld
Sleeve

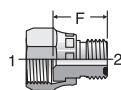


TUBE FITTING PART #	END SIZE		F (in.)	L (in.)	T (in.)	Dynamic Pressure (x 1,000 PSI)	
	1 (in.)	2 (in.)				-S	-SS
4-4X035 TLW1	1/4	1/4	1.20	0.75	0.035	5.9	
6-4X035 TLW1	3/8	1/4	1.26	0.75	0.035	5.9	
6-4X049 TLW1	3/8	1/4	1.26	0.75	0.049	8.6	
6-6X035 TLW1	3/8	3/8	1.20	0.75	0.035	3.8	
6-6X049 TLW1	3/8	3/8	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	

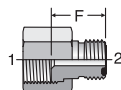
TRLON

Tube End Reducer
ORFS Swivel / ORFS Tube End

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



* Assembled
with
Crimp Nut



** Assembled
with Large
BL 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.)			
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).

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See Seal-Lok Xtreme for extreme temperature applications



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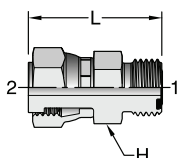
TUBE FAB
EQUIP

GEN TECH

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LOHL6

Tube End Extender / Expander
ORFS / ORFS Swivel

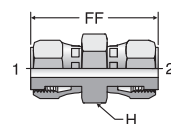


TUBE FITTING PART #	END SIZE		L (in.)	H HEX (in.)	Dynamic Pressure (x 1,000 PSI)	
	1 (in.)	2 (in.)			-S	-SS
4 LOHL6	1/4	1/4	1.33	5/8	9.2	9.2
6 LOHL6	3/8	3/8	1.44	3/4	9.2	9.2
6-4 LOHL6	3/8	1/4	1.37	3/4	9.2	9.2
8 LOHL6	1/2	1/2	1.67	7/8	9.2	9.2
8-6 LOHL6	1/2	3/8	1.62	7/8	9.2	9.2
10-8 LOHL6	5/8	1/2	1.81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

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HL6

Swivel Nut Union
ORFS Swivel / ORFS Swivel



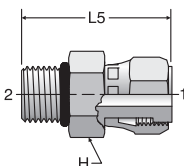
TUBE FITTING PART #	END SIZE		FF (in.)	H HEX (in.)	Dynamic Pressure (x 1,000 PSI)	
	1 (in.)	2 (in.)			-S	-SS
4 HL6	1/4	1/4	1.59	5/8	9.2	9.2
6 HL6	3/8	3/8	1.77	3/4	9.2	9.2
8 HL6	1/2	1/2	2.12	7/8	9.2	9.2
10 HL6	5/8	5/8	2.42	1 1/16	6.0	6.0
12 HL6	3/4	3/4	2.74	1 1/4	6.0	6.0
16 HL6	1	1	2.95	1 7/16	6.0	6.0

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F650L

Straight Thread Swivel Connector
ORFS Swivel / SAE-ORB

SAE 520181

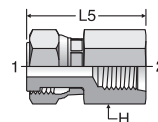


TUBE FITTING PART #	END SIZE		H HEX (in.)	L5 (in.)	Dynamic Pressure (x 1,000 PSI)	
	1 (in.)	2 UN/UNF-2A			-S	-SS
4 F650L	1/4	7/16 - 20	5/8	1.46	9.2	9.2
6 F650L	3/8	9/16 - 18	3/4	1.57	9.2	9.2
8 F650L	1/2	3/4 - 16	7/8	1.95	9.2	9.2
10 F650L	5/8	7/8 - 14	1 1/16	2.13	6.0	6.0
12 F650L	3/4	1 1/16 - 12	1 1/4	2.34	6.0	6.0
16 F650L	1	1 5/16 - 12	1 1/2	2.66	6.0	6.0
20 F650L	1 1/4	1 5/8 - 12	1 7/8	2.66	5.0	5.0

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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

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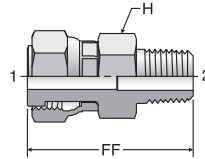
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F6L

Pipe Thread Swivel
Connector
ORFS Swivel / NPTF

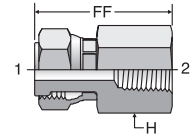


TUBE FITTING PART #	END SIZE		FF (in.)	H HEX (in.)	Dynamic Pressure (x 1,000 PSI)	
	1	2			-S	-SS
	(in.)	NPTF				
4 F6L	1/4	1/8 - 27	1.33	5/8	6.0	6.0
4-4 F6L	1/4	1/4 - 18	1.52	5/8	6.0	6.0
6 F6L	3/8	1/4 - 18	1.69	3/4	6.0	6.0
6-6 F6L	3/8	3/8 - 18	1.67	3/4	6.0	6.0
8 F6L	1/2	3/8 - 18	1.95	3/4	6.0	6.0
8-8 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

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

G6L

Female Pipe Thread Swivel
Connector
ORFS Swivel / NPTF

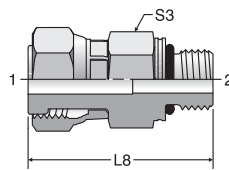


TUBE FITTING PART #	END SIZE		FF (in.)	H (in.)	Dynamic Pressure (x 1,000 PSI)	
	1	2			-S	-SS
	(in.)	NPTF				
4-4 G6L	1/4	1/4 - 18	1.48	3/4	6.0	6.0
6 G6L	3/8	1/4 - 18	1.60	7/8	6.0	6.0
8-4 G6L	1/2	1/4 - 18	1.75	7/8	6.0	6.0

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F687OML

Swivel ISO 6149 Connector
ORFS Swivel / ISO 6149

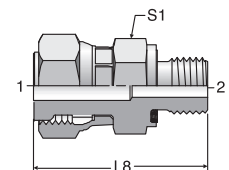


TUBE FITTING PART #	END SIZE			L8 (mm)	S3 HEX (mm)	Dynamic Pressure (x 1,000 PSI)	
	1	2				S	SS
	(mm)	(in.)	ISO 261				
4M12F687OML	6	1/4	M12x1.5	37.0	17	9.2	9.2
6M12F687OML	8, 10	3/8	M12x1.5	39.0	17	9.2	9.2
6M14F687OML	8, 10	3/8	M14x1.5	38.0	19	9.2	9.2
6M16F687OML	8, 10	3/8	M16x1.5	43.5	22	9.2	9.2
8M16F687OML	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

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

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

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

Dimensions and pressures for reference only, subject to change.

See Seal-Lok Xtreme for extreme temperature applications



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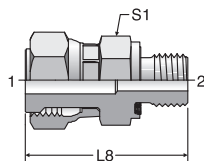
TUBE FAB
EQUIP

GEN TECH

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

F642EDML

Swivel BSPP Connector
ORFS Swivel / BSPP-ED



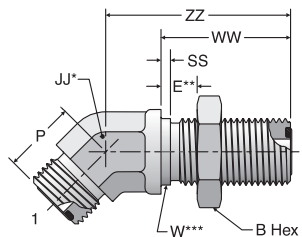
TUBE FITTING PART #	END SIZE		BSPP	L8 (mm)	S1 HEX (mm)	Dynamic Pressure (x 1,000 PSI)	
	1	2				S	SS
	(mm)	(in.)					
4F642EDML	6	1/4	1/8	34.0	14	7.2	7.2
6F642EDML	8, 10	3/8	1/4	40.2	19	9.2	9.2
8F642EDML	12	1/2	3/8	47.3	22	9.2	9.2
10F642EDML	14, 15, 16	5/8	1/2	51.8	27	6.0	6.0
12F642EDML	18, 20	3/4	3/4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

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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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A20

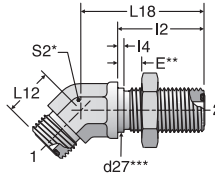
Parker Hannifin Corporation
Tube Fittings Division
Columbus, Ohio
<http://www.parker.com/tfd>

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WNMLO

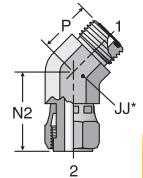
45° Bulkhead Union Elbow – mm Hex
ORFS / ORFS

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.

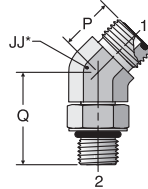
TUBE FITTING PART #	END SIZE	JJ (in.)	N2 (in.)	P (in.)	Dynamic Pressure (x 1,000 PSI)	
	1 & 2				-S	-SS
	(in.)					
4 V6LO	1/4	9/16	0.99	0.63	9.2	9.2
6 V6LO	3/8	3/4	1.12	0.74	9.2	9.2
8 V6LO	1/2	3/4	1.49	0.80	9.2	9.2
10 V6LO	5/8	1 1/16	1.53	0.92	6.0	6.0
12 V6LO	3/4	1 3/16	1.73	1.02	6.0	6.0
16 V6LO	1	1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

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V5OLO

45° Straight Thread Elbow
ORFS / SAE-ORB

SAE 520320

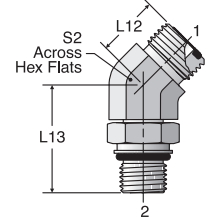


* JJ – Across Hex Flats

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

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Dimensions and pressures for reference only, subject to change.

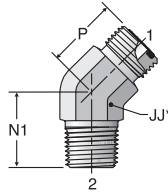
See Seal-Lok Xtreme for extreme temperature applications



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VLO

45° Male Elbow
ORFS / NPTF

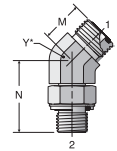


* JJ – Across Wrench Flats

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

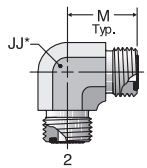
TUBE FITTING PART #	END SIZE			M (mm)	N (mm)	Y (mm)	Dynamic Pressure (x 1,000 PSI)	
	1		2				S	SS
	(mm)	(in.)	BSP					
4V4OMLO	6	1/4	1/8 - 28	16.0	27.5	14	4.0	4.0
4-4V4OMLO	6	1/4	1/4 - 19	17.5	32.0	19	4.0	4.0
6V4OMLO	8,10	3/8	1/4 - 19	19.0	32.0	19	4.0	4.0
6-6V4OMLO	8,10	3/8	3/8 - 19	19.0	33.5	19	4.0	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

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

ELO

Union Elbow
ORFS / ORFS

SAE 520201



* JJ – Across Wrench Flats

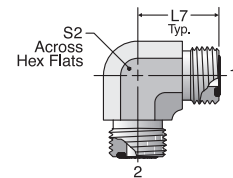
TUBE FITTING PART #	END SIZE		JJ (in.)	M (in.)	Dynamic Pressure (x 1,000 PSI)	
	1	2			-S	-SS
	(in.)	(in.)				
4 ELO	1/4	1/4	9/16	0.85	9.2	9.2
6 ELO	3/8	3/8	3/4	0.98	9.2	9.2
8 ELO	1/2	1/2	3/4	1.10	9.2	9.2
10 ELO	5/8	5/8	1 1/16	1.32	6.0	6.0
12 ELO	3/4	3/4	1 3/16	1.48	6.0	6.0
16 ELO	1	1	1 7/16	1.63	6.0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

Dimensions and pressures for reference only, subject to change.

See Seal-Lok Xtreme for extreme temperature applications



A22

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

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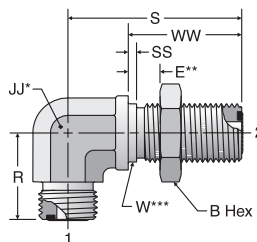
WELO

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

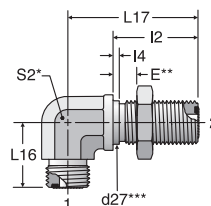
Bulkhead Union Elbow – mm Hex
ORFS / ORFS

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.

Dimensions and pressures for reference only, subject to change.

See Seal-Lok Xtreme for extreme temperature applications

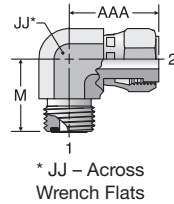


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C6LO

Swivel Nut Elbow
ORFS / ORFS Swivel

SAE 520221

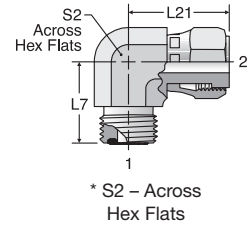


TUBE FITTING PART #	END SIZE		AAA (in.)	JJ (in.)	M (in.)	Dynamic Pressure (x 1,000 PSI)	
	1 (in.)	2 (in.)				-S	-SS
4 C6LO	1/4	1/4	1.07	9/16	0.85	9.2	9.2
6 C6LO	3/8	3/8	1.17	3/4	0.98	9.2	9.2
8 C6LO	1/2	1/2	1.50	3/4	1.10	9.2	9.2
10 C6LO	5/8	5/8	1.61	1 1/16	1.32	6.0	6.0
12 C6LO	3/4	3/4	1.83	1 3/16	1.48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

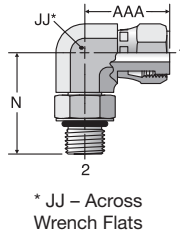


TUBE FITTING PART #	END SIZE		L7 (mm)	L21 (mm)	S2 (mm)	Dynamic Pressure (x 1,000 PSI)	
	1 (mm)	2 (in.)				S	SS
4C6MLO	6	1/4	21.5	27.2	14	9.2	9.2
6C6MLO	8,10	3/8	25.0	29.7	19	9.2	9.2
8C6MLO	12	1/2	28.0	38.0	19	9.2	9.2
10C6MLO	14,15,16	5/8	33.5	41.0	27	6.0	6.0
12C6MLO	18,20	3/4	37.5	46.5	30	6.0	6.0
16C6MLO	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

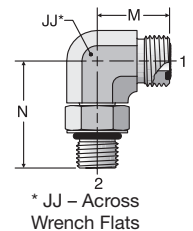


TUBE FITTING PART #	END SIZE		AAA (in.)	JJ (in.)	N (in.)	Dynamic Pressure (x 1,000 PSI)	
	1 (in.)	2 UN/UNF-2A				-S	-SS
4 AOEL6	1/4	7/16 - 20	1.04	9/16	1.30	6.0	6.0
6 AOEL6	3/8	9/16 - 18	1.17	3/4	1.46	6.0	6.0
8 AOEL6	1/2	3/4 - 16	1.50	3/4	1.59	6.0	6.0
10 AOEL6	5/8	7/8 - 14	1.65	1 1/16	1.97	6.0	6.0
12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

Dimensions and pressures for reference only, subject to change.

See Seal-Lok Xtreme for extreme temperature applications



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TUBE FAB
EQUIP

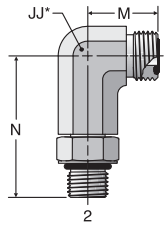
GEN TECH

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

CC5OLO

Long Straight Thread Elbow
ORFS-Long / SAE-ORB

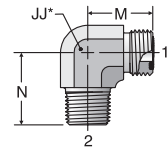
SAE 521520



* JJ — Across
Wrench Flats

CLO

Male Pipe Elbow
ORFS / NPTF



* JJ — Across
Wrench Flats

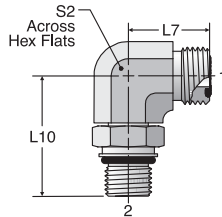
TUBE FITTING PART #	END SIZE		JJ (in.)	M (in.)	N (in.)	Dynamic Pressure (x 1,000 PSI)	
	1	2				-S	-SS
	(in.)	UN-UNF-2A					
4 CC5OLO	1/4	7/16 - 20	3/4	0.85	2.23	6.0	6.0
6 CC5OLO	3/8	9/16 - 18	7/8	0.98	2.62	6.0	6.0
8 CC5OLO	1/2	3/4 - 16	7/8	1.10	2.95	6.0	6.0
10 CC5OLO	5/8	7/8 - 14	1 1/16	1.32	3.50	6.0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

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

*** JJ for these parts does not conform to SAE.

Dimensions and pressures for reference only, subject to change.

See Seal-Lok Xtreme for extreme temperature applications



A25

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

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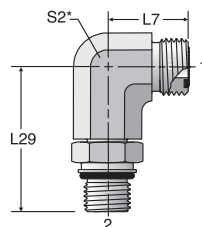
GEN TECH

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CC870MLO

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

ISO 8434-3 SDEL
SAE 52M1587



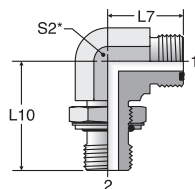
* S2 – Across
Hex Flats

TUBE FITTING PART #	END SIZE			L7 (mm)	L29 (mm)	S2 (mm)	Dynamic Pressure (x 1,000 PSI)	
	1		2				S	SS
	(mm)	(in.)						
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

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

C80MLO

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					
4M12C80MLO	6	1/4	M12X1.5	21.5	33.0	14	3.6	3.6
6M12C80MLO	8, 10	3/8	M12X1.5	25.0	35.5	19	3.6	3.6
6M14C80MLO	8, 10	3/8	M14X1.5	25.0	35.5	19	3.6	3.6
6M16C80MLO	8, 10	3/8	M16X1.5	25.0	37.5	19	3.6	3.6
8M14C80MLO	12	1/2	M14X1.5	28.0	36.0	19	3.6	3.6
8M18C80MLO	12	1/2	M18X1.5	28.0	41.0	19	3.6	3.6
8M22C80MLO	12	1/2	M22X1.5	31.5	49.0	27	3.6	3.6
10M22C80MLO	14, 15, 16	5/8	M22X1.5	33.5	49.0	27	3.6	3.6
12M27C80MLO	18, 20	3/4	M27X2	37.5	55.5	30	3.6	3.6
16M33C80MLO	22, 25	1	M33X2	41.5	59.5	36	2.5	2.5
20M38C80MLO	28, 30, 32	1 1/4	M38X2	44.5	62.0	41	2.5	2.5
20M42C80MLO	28, 30, 32	1 1/4	M42X2	44.5	63.0	41	2.5	2.5

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

Dimensions and pressures for reference only, subject to change.

See Seal-Lok Xtreme for extreme temperature applications



A26

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

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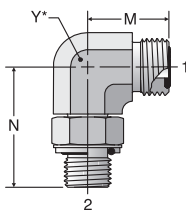
TUBE FAB
EQUIP

GEN TECH

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C40MLO

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

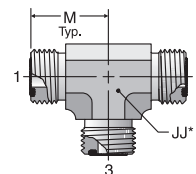


* Y – Across
Wrench Flats

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

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

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

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See Seal-Lok Xtreme for extreme temperature applications



A27

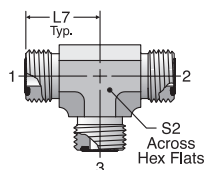
Parker Hannifin Corporation
Tube Fittings Division
Columbus, Ohio
<http://www.parker.com/tfd>

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JMLO

Union Tee – mm Hex
ORFS (all three ends)

ISO 8434-3 T
SAE 52M0401

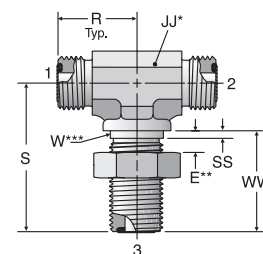


* S2 – Across Hex Flats

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		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

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 PS	
	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.

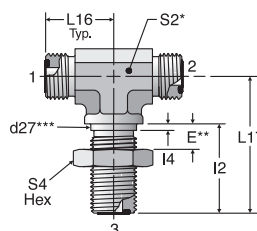
** E – Maximum bulkhead thickness.

*** 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
WJMLOWLNML - Body with Locknut
(See page A11 for WLNML)



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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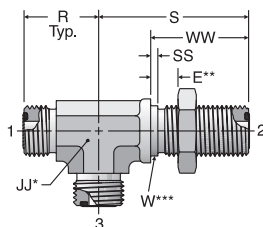
WJJLO

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

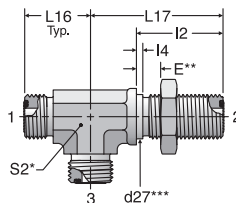
Bulkhead Run Tee – mm Hex
ORFS (all three ends)

ISO 8434-3 BHRT

SAE 52M0958

WJJMLOWLNML - Body with Locknut

(See page A11 for WLNML)



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.

Dimensions and pressures for reference only, subject to change.

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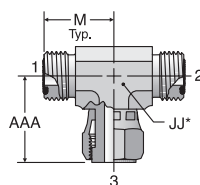


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S6LO

Swivel Nut Branch Tee
ORFS / ORFS / ORFS Swivel

SAE 520433



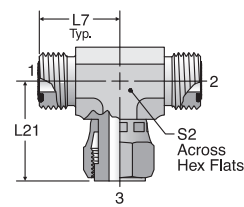
* JJ – Across
Wrench Flats

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



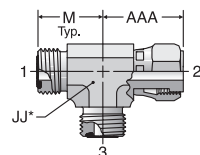
* S2 – Across
Wrench Flats

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



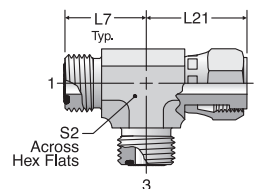
* JJ – Across
Wrench Flats

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

Dimensions and pressures for reference only, subject to change.

See Seal-Lok Xtreme for extreme temperature applications



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

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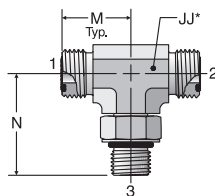
GEN TECH

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S5OLO

Straight Thread Branch Tee
ORFS / ORFS / SAE-ORB

SAE 520429



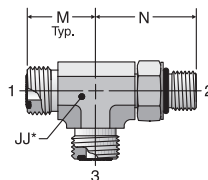
* JJ – Across
Wrench Flats

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

Dimensions and pressures for reference only, subject to change.

See Seal-Lok Xtreme for extreme temperature applications



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

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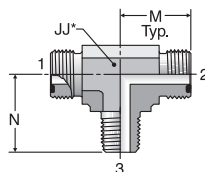
GEN TECH

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SLO

Male Pipe Tee
ORFS / ORFS / NPTF

SAE 520425



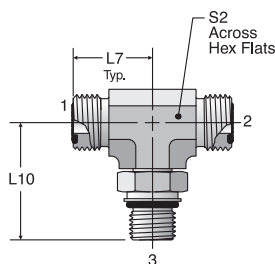
* JJ – Across
Wrench Flats

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

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Dimensions and pressures for reference only, subject to change.

See Seal-Lok Xtreme for extreme temperature applications



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

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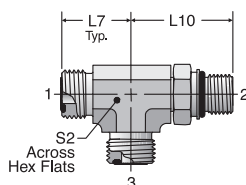
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R87OMLO

Metric Straight Thread Run Tee

ORFS / ISO 6149 / ORFS

ISO 8434-3 SDRT
SAE 52M0488



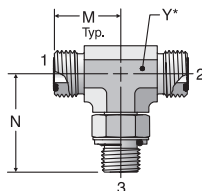
TUBE FITTING PART #	END SIZE			L7 (mm)	L10 (mm)	S2 (mm)	Dynamic Pressure (x 1,000 PSI)	
	1 & 3		2				S	SS
	(mm)	(in.)	ISO 261					
4M12R87OMLO	6	1/4	M12X1.5	21.5	33.0	14	6.0	6.0
4M14R87OMLO	6	1/4	M14X1.5	23.5	35.5	19	6.0	6.0
6M14R87OMLO	8,10	3/8	M14X1.5	25.0	35.5	19	6.0	6.0
6M16R87OMLO	8,10	3/8	M16X1.5	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

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Dimensions and pressures for reference only, subject to change.

See Seal-Lok Xtreme for extreme temperature applications



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

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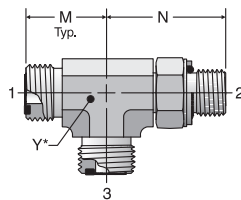
TUBE FAB
EQUIP

GEN TECH

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

R4OMLO

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



* Y – Across
Wrench Flats

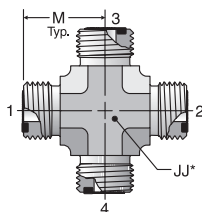
TUBE FITTING PART #	END SIZE			M (mm)	N (mm)	Y (mm)	Dynamic Pressure (x 1,000 PSI)	
	1 & 3		2 BSPP				S	SS
	(mm)	(in.)						
4R4OMLO	6	1/4	1/8 - 28	21.5	30.0	14	4.0	4.0
4-4-4R4OMLO	6	1/4	1/4 - 19	23.5	36.0	19	4.0	4.0
6R4OMLO	8,10	3/8	1/4 - 19	25.0	36.0	19	4.0	4.0
6-6-6R4OMLO	8,10	3/8	3/8 - 19	26.5	38.0	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

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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

Dimensions and pressures for reference only, subject to change.

See Seal-Lok Xtreme for extreme temperature applications

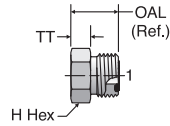


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PNLO

Plug
ORFS

SAE 520109



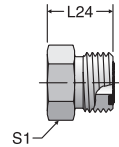
TUBE FITTING PART #	END SIZE 1 (in.)	H HEX (in.)	OAL (REF) (in.)	TT (in.)	Dynamic Pressure (x 1,000 PSI)	
					-S	-SS
4 PNLO	1/4	5/8	0.65	0.20	9.2	9.2
6 PNLO	3/8	3/4	0.75	0.32	9.2	9.2
8 PNLO	1/2	7/8	0.87	0.35	9.2	9.2
10 PNLO	5/8	1 1/16	1.02	0.41	6.0	6.0
12 PNLO	3/4	1 1/4	1.08	0.41	6.0	6.0
14 PNLO	7/8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

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PNMLO

Plug – mm Hex
ORFS

ISO 8434-3 PL
SAE 52M0109



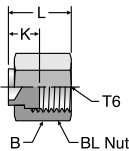
TUBE FITTING PART #	ORFS TUBE O.D.		L24 (mm)	S1 HEX (mm)	Dynamic Pressure (x 1,000 PSI)	
	(mm)	(in.)			S	SS
4PNMLO	6	1/4	16.5	17	9.2	9.2
6PNMLO	8,10	3/8	19.0	19	9.2	9.2
8PNMLO	12	1/2	22.0	22	9.2	9.2
10PNMLO	14,15,16	5/8	26.0	27	6.0	6.0
12PNMLO	18,20	3/4	27.5	32	6.0	6.0
16PNMLO	22,25	1	28.0	41	6.0	6.0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

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FNL

Cap
ORFS

SAE 520112

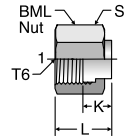


TUBE FITTING PART #	TUBE O.D. (in.)	T6 SWIVEL UN/UNF-2B	B HEX (in.)	K (in.)	L (in.)	Dynamic Pressure (x 1,000 PSI)	
						-S	-SS
4 FNL	1/4	9/16 - 18	11/16	0.35	0.66	9.2	9.2
6 FNL	3/8	11/16 - 16	13/16	0.41	0.74	9.2	9.2
8 FNL	1/2	13/16 - 16	15/16	0.47	0.87	9.2	9.2
10 FNL	5/8	1 - 14	1 1/8	0.53	1.02	6.0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

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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

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See Seal-Lok Xtreme for extreme temperature applications



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

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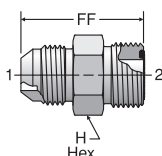
TUBE FAB EQUIP

GEN TECH

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XHLO

Male Adapter
37° Flare / ORFS

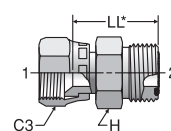


TUBE FITTING PART #	END SIZE		FF (in.)	H HEX (in.)	Dynamic Pressure (x 1,000 PSI)	
	1	2			-S	-SS
	(in.)	(in.)				
4 XHLO	1/4	1/4	1.25	5/8	7.5	9.0
6 XHLO	3/8	3/8	1.34	3/4	6.0	7.2
8 XHLO	1/2	1/2	1.55	7/8	6.0	7.2
10 XHLO	5/8	5/8	1.83	1 1/16	5.0	6.0
12 XHLO	3/4	3/4	2.05	1 1/4	5.0	6.0
16 XHLO	1	1	2.16	1 1/2	4.5	5.4
20 XHLO	1 1/4	1 1/4	2.29	1 3/4	4.0	4.8
24 XHLO	1 1/2	1 1/2	2.48	2 1/8	3.0	3.6

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LOHX6

Swivel Adapter
37° Flare Swivel / ORFS



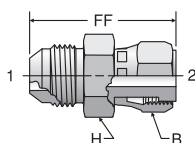
*LL – End to base of flare

TUBE FITTING PART #	END SIZE		C3 HEX (in.)	H HEX (in.)	LL Ref. (in.)	Dynamic Pressure (x 1,000 PSI)	
	1	2				-S	-SS
	(in.)	(in.)					
4 LOHX6	1/4	1/4	9/16	5/8	0.89	7.5	9.0
6 LOHX6	3/8	3/8	11/16	3/4	1.06	5.0	6.0
8 LOHX6	1/2	1/2	7/8	7/8	1.21	5.0	6.0
10 LOHX6	5/8	5/8	1	1 1/16	1.40	5.0	6.0
12 LOHX6	3/4	3/4	1 1/4	1 1/4	1.48	5.0	6.0
16 LOHX6	1	1	1 1/2	1 1/2	1.64	3.6	4.3
20 LOHX6	1 1/4	1 1/4	2	1 3/4	1.77	3.6	4.3

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XHL6

Male Swivel Adapter
ORFS Swivel / 37° Flare

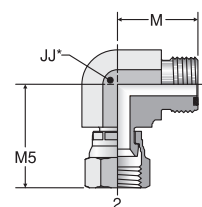


TUBE FITTING PART #	END SIZE		B HEX (in.)	FF (in.)	H HEX (inch) (in.)	Dynamic Pressure (x 1,000 PSI)	
	1	2				-S	-SS
	(in.)	(in.)					
4 XHL6	1/4	1/4	11/16	1.50	5/8	7.5	9.2
6 XHL6	3/8	3/8	13/16	1.61	3/4	6.0	7.2
8 XHL6	1/2	1/2	15/16	1.90	7/8	6.0	7.2
10 XHL6	5/8	5/8	1 1/8	2.20	1 1/16	5.0	6.0
12 XHL6	3/4	3/4	1 3/8	2.50	1 1/4	5.0	6.0
16 XHL6	1	1	1 5/8	2.66	1 1/2	4.5	5.4
20 XHL6	1 1/4	1 1/4	1 7/8	2.80	1 11/16	4.0	4.8

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LOEX6

Swivel Elbow
ORFS / 37° Flare Swivel



* JJ – Across wrench flats

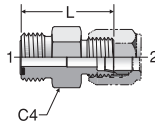
TUBE FITTING PART #	END SIZE		JJ (in.)	M (in.)	M5 (in.)	Dynamic Pressure (x 1,000 PSI)	
	1	2				-S	-SS
	(in.)	UN/UNF-2B					
4 LOEX6	1/4	1/4	9/16	0.85	1.08	7.5	7.5
6 LOEX6	3/8	3/8	3/4	0.98	1.25	5.0	5.0
8 LOEX6	1/2	1/2	3/4	1.10	1.38	5.0	5.0
10 LOEX6	5/8	5/8	1 1/16	1.31	1.63	5.0	5.0
12 LOEX6	3/4	3/4	1 3/16	1.47	1.80	5.0	5.0
16 LOEX6	1	1	1 7/16	1.64	2.00	4.0	4.0
20 LOEX6	1 1/4	1 1/4	1 5/8	1.76	2.31	3.6	3.6
24 LOEX6	1 1/2	1 1/2	1 7/8	1.92	2.59	3.0	3.0

Dimensions and pressures for reference only, subject to change.

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BUHLO

Ferulok Male Adapter
ORFS / SAE Flareless

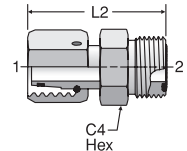


TUBE FITTING PART #	END SIZE		C4 HEX (in.)	L (in.)	Dynamic Pressure (x 1,000 PSI)	
	1	2			-S	-SS
	(in.)	(in.)				
6 BUHLO	3/8	3/8	3/4	1.25	6.0	7.2
8 BUHLO	1/2	1/2	7/8	1.45	5.0	6.0
10 BUHLO	5/8	5/8	1 1/16	1.70	5.0	6.0
12 BUHLO	3/4	3/4	1 1/4	1.88	4.5	5.4
16 BUHLO	1	1	1 1/2	1.94	4.0	4.8

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LOHU86

EO Swivel Adapter
24° Flareless Metric
Swivel (EO) / ORFS

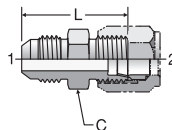


TUBE FITTING PART #	END SIZE		C4 HEX (in.)	L2 (in.)	Dynamic Pressure (x 1,000 PSI)	
	1	2			-S	-SS
	EO Swivel	(in.)				
L Series						
4-6L LOHU86	6L	1/4	5/8	1.32	4.5	5.4
4-8L LOHU86	8L	1/4	5/8	1.32	4.5	5.4
6-10L LOHU86	10L	3/8	3/4	1.44	4.5	5.4
8-12L LOHU86	12L	1/2	7/8	1.53	4.5	5.4
10-15L LOHU86	15L	5/8	1 1/16	1.82	4.5	5.4
12-18L LOHU86	18L	3/4	1 1/4	1.89	4.5	5.4
16-22L LOHU86	22L	1	1 1/2	2.08	2.5	3.0
S Series						
4-6S LOHU86	6S	1/4	5/8	1.32	9.2	9.2
4-8S LOHU86	8S	1/4	5/8	1.34	9.2	9.2
6-10S LOHU86	10S	3/8	3/4	1.44	9.2	9.2
8-12S LOHU86	12S	1/2	7/8	1.59	9.2	9.2
10-14S LOHU86	14S	5/8	1 1/16	1.84	9.2	9.2
10-16S LOHU86	16S	5/8	1 1/16	1.84	5.8	5.8
12-20S LOHU86	20S	3/4	1 1/4	2.05	5.8	5.8
16-25S LOHU86	25S	1	1 1/2	2.15	5.8	5.8

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XHBU

Union Adapter
SAE Flareless / 37° Flare

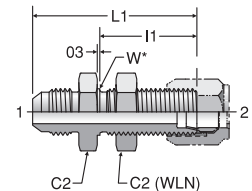


TUBE FITTING PART #	END SIZE		C HEX (in.)	L (in.)	Dynamic Pressure (x 1,000 PSI)	
	1	2			-S	-SS
	(in.)	(in.)				
4 XHBU	1/4	1/4	1/2	1.19	5.0	7.7
6 XHBU	3/8	3/8	5/8	1.28	5.0	7.7
8 XHBU	1/2	1/2	13/16	1.47	5.0	7.7
10 XHBU	5/8	5/8	15/16	1.69	5.0	6.0
12 XHBU	3/4	3/4	1 1/8	1.94	4.5	6.0
16 XHBU	1	1	1 5/8	1.97	4.0	4.8
20 XHBU	1 1/4	1 1/4	1 3/4	2.00	3.0	3.6
24 XHBU	1 1/2	1 1/2	2 1/8	2.16	2.0	2.4

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

XHBU2

Bulkhead Union Adapter
SAE Flareless Bulkhead /
37° Flare



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

TUBE FITTING PART #	END SIZE		C2 HEX (in.)	I1 (in.)	L1 (in.)	W (in.)	Max. Bulkhead Thickness	Dynamic Pressure (x 1,000 PSI)	
	1	2						-S	-SS
	(in.)	(in.)							
4 XHBU2	1/4	1/4	11/16	1.13	1.94	0.44	0.38	5.0	7.7
6 XHBU2	3/8	3/8	13/16	1.17	2.08	0.56	0.40	5.0	7.7
8 XHBU2	1/2	1/2	1	1.31	2.31	0.75	0.40	5.0	7.7
10 XHBU2	5/8	5/8	1 1/8	1.45	2.56	0.88	0.37	5.0	7.7
12 XHBU2	3/4	3/4	1 3/8	1.56	2.94	1.06	0.43	4.5	5.4
16 XHBU2	1	1	1 5/8	1.56	2.95	1.31	0.43	4.0	4.8

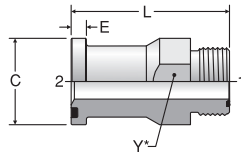
WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

Dimensions and pressures for reference only, subject to change.

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

LOHQ1

Code 61 Flange Connector
Code 61 / ORFS



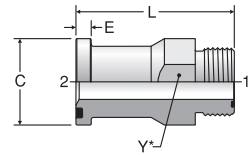
* Y – Across Wrench Flats

TUBE FITTING PART #	END SIZE		C (in.)	E (in.)	L (in.)	Y (in.)	Dynamic Pressure (x 1,000 PSI) -S
	1 (in.)	2 Code 61					
12 LOHQ1	3/4	3/4	1.500	0.265	2.79	1 3/8	5.0
16 LOHQ1	1	1	1.750	0.315	2.81	1 5/8	5.0
20 LOHQ1	1 1/4	1 1/4	2.000	0.315	3.21	1 7/8	4.0
24 LOHQ1	1 1/2	1 1/2	2.375	0.315	3.29	2 1/8	3.0

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

LOHQ2

Code 62 Flange Connector
Code 62 / ORFS



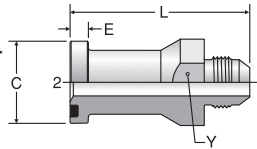
* Y – Across Wrench Flats

TUBE FITTING PART #	END SIZE		C (in.)	E (in.)	L (in.)	Y (in.)	Dynamic Pressure (x 1,000 PSI) -S
	1 (in.)	2 Code 62					
12 LOHQ2	3/4	3/4	1.625	0.345	3.02	1 3/8	6.0
12-16 LOHQ2	3/4	1	1.875	0.375	3.34	1 5/8	6.0
16 LOHQ2	1	1	1.875	0.375	3.36	1 5/8	6.0
20 LOHQ2	1 1/4	1 1/4	2.125	0.405	3.48	1 7/8	6.0
24 LOHQ2	1 1/2	1 1/2	2.500	0.495	4.14	2 1/8	5.0

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

XHQ1

Code 61 Flange Connector
Code 61 / 37° Flare



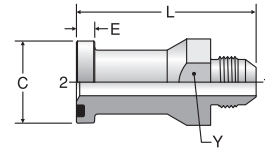
* Y – Across Wrench Flats

TUBE FITTING PART #	END SIZE		C (in.)	E (in.)	L (in.)	Y (in.)	Dynamic Pressure (x 1,000 PSI) -S
	1 (in.)	2 Code 61					
12 XHQ1	3/4	3/4	1.500	0.265	2.77	1 3/8	5.0
16 XHQ1	1	1	1.750	0.315	2.91	1 5/8	5.0
20 XHQ1	1 1/4	1 1/4	2.000	0.315	3.36	1 7/8	4.0
24 XHQ1	1 1/2	1 1/2	2.375	0.315	3.57	2 1/8	3.0
32 XHQ1	2	2	2.812	0.375	4.04	2 5/8	2.0

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

XHQ2

Code 62 Flange Connector
Code 62 / 37° Flare



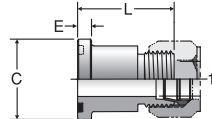
* Y – Across Wrench Flats

TUBE FITTING PART #	END SIZE		C (in.)	E (in.)	L (in.)	Y (in.)	Dynamic Pressure (x 1,000 PSI) -S
	1 (in.)	2 Code 62					
12 XHQ2	3/4	3/4	1.625	0.345	3.08	1 3/8	5.0
16 XHQ2	1	1	1.875	0.375	3.43	1 5/8	5.0
20 XHQ2	1 1/4	1 1/4	2.125	0.405	3.60	1 7/8	4.0
24 XHQ2	1 1/2	1 1/2	2.500	0.495	4.34	2 1/8	3.0

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

BUHQ1

Code 61 Connector
Code 61 / Flareless



TUBE FITTING PART #	END SIZE		C (in.)	E (in.)	L (in.)	Dynamic Pressure (x 1,000 PSI) -S
	1 (in.)	2 Code 61				
12 BUHQ1	3/4	3/4	1.500	0.265	1.82	
16 BUHQ1	1	1	1.750	0.315	1.88	
20 BUHQ1	1 1/4	1 1/4	2.000	0.315	1.82	
24 BUHQ1	1 1/2	1 1/2	2.375	0.315	1.94	
32 BUHQ1	2	2	2.812	0.375	1.97	

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

Dimensions and pressures for reference only, subject to change.

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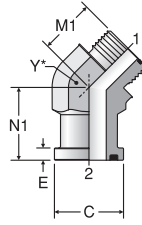
FAQs

GEN TECH

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LOVQ1

Code 61 Flange 45° Elbow
Code 61 / ORFS



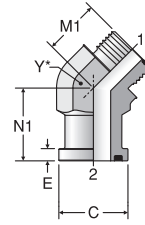
* Y – Across Wrench Flats

TUBE FITTING PART #	END SIZE		C (in.)	E (in.)	M1 (in.)	N1 (in.)	Y (in.)	Dynamic Pressure (x 1,000 PSI)
	1 (in.)	2 (in.)						-S
12 LOVQ1	3/4	3/4	1.500	0.265	1.28	1.58	1 7/16	5.0
16 LOVQ1	1	1	1.750	0.315	1.47	1.85	1 5/8	5.0
20 LOVQ1	1 1/4	1 1/4	2.000	0.315	1.59	2.04	1 7/8	4.0
24 LOVQ1	1 1/2	1 1/2	2.375	0.315	1.78	2.38	2 1/2	3.0

WARNING: This product can expose you to chemicals including Diisononyl Phthalate which is known to the State of California to cause cancer. For more information go to www.p65warnings.ca.gov.

LOVQ2

Code 62 Flange 45° Elbow
Code 62 / ORFS



* Y – Across Wrench Flats

TUBE FITTING PART #	END SIZE		C (in.)	E (in.)	M1 (in.)	N1 (in.)	Y (in.)	Dynamic Pressure (x 1,000 PSI)
	1 (in.)	2 (in.)						-S
12 LOVQ2	3/4	3/4	1.625	0.345	1.28	1.58	1 7/16	6.0
16 LOVQ2	1	1	1.875	0.375	1.47	1.85	1 5/8	6.0
20 LOVQ2	1 1/4	1 1/4	2.125	0.405	1.59	2.04	1 7/8	5.0
24 LOVQ2	1 1/2	1 1/2	2.500	0.495	1.78	2.38	2 1/2	4.5

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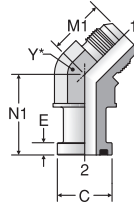
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GEN TECH

XVQ1

Code 61 Flange 45° Elbow
Code 61 / 37° Flare



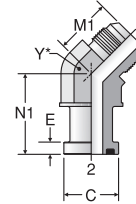
* Y – Across Wrench Flats

TUBE FITTING PART #	END SIZE		C (in.)	E (in.)	M1 (in.)	N1 (in.)	Y (in.)	Dynamic Pressure (x 1,000 PSI)
	1 (in.)	2 (in.)						-S
12 XVQ1	3/4	3/4	1.500	0.265	1.28	1.58	1 7/16	5.0
16 XVQ1	1	1	1.750	0.315	1.47	1.85	1 5/8	5.0
20 XVQ1	1 1/4	1 1/4	2.000	0.315	1.59	2.04	1 7/8	4.0
24 XVQ1	1 1/2	1 1/2	2.375	0.315	1.78	2.38	2 1/2	3.0
32 XVQ1	2	2	2.812	0.375	2.22	3.00	2 1/2	2.0

WARNING: This product can expose you to chemicals including Diisononyl Phthalate which is known to the State of California to cause cancer. For more information go to www.p65warnings.ca.gov.

XVQ2

Code 62 Flange 45° Elbow
Code 62 / 37° Flare

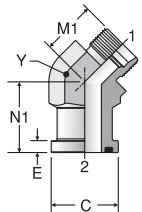


* Y – Across Wrench Flats

TUBE FITTING PART #	END SIZE		C (in.)	E (in.)	M1 (in.)	N1 (in.)	Y (in.)	Dynamic Pressure (x 1,000 PSI)
	1 (in.)	2 (in.)						-S
12 XVQ2	3/4	3/4	1.625	0.345	1.28	1.58	1 7/16	5.0
16 XVQ2	1	1	1.875	0.375	1.47	1.85	1 5/8	5.0
20 XVQ2	1 1/4	1 1/4	2.125	0.405	1.59	2.04	1 7/8	4.0
24 XVQ2	1 1/2	1 1/2	2.500	0.495	1.78	2.38	2 1/2	3.0

BUVQ1

Code 61 45° Elbow
Code 61 / Flareless



* Y – Across Wrench Flats

TUBE FITTING PART #	END SIZE		C (in.)	E (in.)	M1 (in.)	N1 (in.)	Y (in.)	Dynamic Pressure (x 1,000 PSI)
	1 (in.)	2 (in.)						-S
12 BUVQ1	3/4	3/4	1.500	0.265	1.27	1.58	1 7/16	
16 BUVQ1	1	1	1.750	0.315	1.36	1.85	1 5/8	
20 BUVQ1	1 1/4	1 1/4	2.000	0.315	1.45	2.40	1 7/8	
24 BUVQ1	1 1/2	1 1/2	2.375	0.315	1.52	2.90	2 1/2	
32 BUVQ1	2	2	2.812	0.375	1.83	3.00	2 1/2	

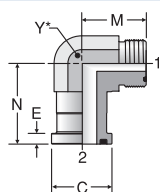
Dimensions and pressures for reference only, subject to change.



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LOEQ1

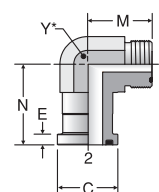
Code 61 Flange 90° Elbow
Code 61 / ORFS



* Y – Across Wrench Flats

LOEQ2

Code 62 Flange 90° Elbow
Code 62 / ORFS



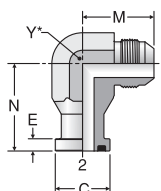
* Y – Across Wrench Flats

TUBE FITTING PART #	END SIZE		C (in.)	E (in.)	M (in.)	N (in.)	Y (in.)	Dynamic Pressure (x 1,000 PSI)	
	1 (in.)	2 (in.)						-S	-B
12 LOEQ1	3/4	3/4	1.500	0.265	1.66	2.13	1 3/16	5.0	
16 LOEQ1	1	1	1.750	0.315	1.81	2.37	1 7/16	5.0	
20 LOEQ1	1 1/4	1 1/4	2.000	0.315	2.06	2.62	1 5/8	4.0	
24 LOEQ1	1 1/2	1 1/2	2.375	0.315	2.54	2.64	2	3.0	

TUBE FITTING PART #	END SIZE		C (in.)	E (in.)	M (in.)	N (in.)	Y (in.)	Dynamic Pressure (x 1,000 PSI)	
	1 (in.)	2 (in.)						-S	-B
12 LOEQ2	3/4	3/4	1.625	0.345	1.66	2.13	1 3/16	6.0	
16 LOEQ2	1	1	1.875	0.375	1.81	2.37	1 7/16	6.0	
20 LOEQ2	1 1/4	1 1/4	2.125	0.405	2.06	2.76	1 5/8	5.0	
24 LOEQ2	1 1/2	1 1/2	2.500	0.495	2.33	3.15	2	4.5	

XEQ1

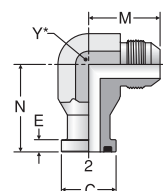
Code 61 Flange 90° Elbow
Code 61 / 37° Flare



* Y – Across Wrench Flats

XEQ2

Code 62 Flange 90° Elbow
Code 62 / 37° Flare



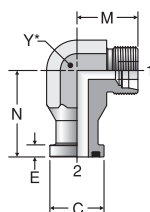
* Y – Across Wrench Flats

TUBE FITTING PART #	END SIZE		C (in.)	E (in.)	M (in.)	N (in.)	Y (in.)	Dynamic Pressure (x 1,000 PSI)		
	1 (in.)	2 (in.)						-S	-SS	-B
12 XEQ1	3/4	3/4	1.500	0.265	1.66	2.13	1 3/16	5.0		
16 XEQ1	1	1	1.750	0.315	1.81	2.37	1 7/16	5.0		
20 XEQ1	1 1/4	1 1/4	2.000	0.315	2.06	2.62	1 5/8	4.0		
24 XEQ1	1 1/2	1 1/2	2.375	0.315	2.33	3.15	2	3.0		
32 XEQ1	2	2	2.812	0.375	3.06	4.25	2 1/2	2.0		

TUBE FITTING PART #	END SIZE		C (in.)	E (in.)	M (in.)	N (in.)	Y (in.)	Dynamic Pressure (x 1,000 PSI)		
	1 (in.)	2 (in.)						-S	-SS	-B
12 XEQ2	3/4	3/4	1.625	0.345	1.66	2.13	1 3/16	5.0		
16 XEQ2	1	1	1.875	0.375	1.81	2.57	1 7/16	5.0		
20 XEQ2	1 1/4	1 1/4	2.125	0.405	2.06	2.76	1 5/8	4.0		
24 XEQ2	1 1/2	1 1/2	2.500	0.495	2.33	3.15	2	3.0		

BUEQ1

Code 61 90° Elbow
Code 61 / Flareless



* Y – Across Wrench Flats

TUBE FITTING PART #	END SIZE		C (in.)	E (in.)	M (in.)	N (in.)	Y (in.)	Dynamic Pressure (x 1,000 PSI)		
	1 (in.)	2 (in.)						-S	-SS	-B
12 BUEQ1	3/4	3/4	1.500	0.265	1.73	1.81	1 3/16			
16 BUEQ1	1	1	1.750	0.315	1.99	2.13	1 7/16			
20 BUEQ1	1 1/4	1 1/4	2.000	0.315	1.99	2.26	1 5/8			
24 BUEQ1	1 1/2	1 1/2	2.375	0.315	2.33	2.64	2			
32 BUEQ1	2	2	2.812	0.375	2.45	4.25	2 1/2			

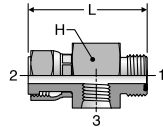
WARNING: This product can expose you to chemicals including Diisononyl Phthalate which is known to the State of California to cause cancer. For more information go to www.p65warnings.ca.gov.

Dimensions and pressures for reference only, subject to change.



LOHL6G5TP

Gauge Port Tee
ORFS / ORFS Swivel /
SAE-ORB

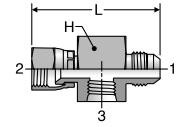


TUBE FITTING PART #	END SIZE			H (in.)	L (in.)	Pressure (x 1,000 PSI) Dynamic -S
	1 (in.)	2 (in.)	3 UN/UNF			
4-4 LOHL6G5TP	1/4	1/4	7/16-20	1-1/16	1.83	6.0
6-4 LOHL6G5TP	3/8	3/8	7/16-20	1-1/16	1.95	6.0
8-4 LOHL6G5TP	1/2	1/2	7/16-20	1-1/16	2.18	6.0
10-4 LOHL6G5TP	5/8	5/8	7/16-20	1-1/8	2.40	6.0
12-4 LOHL6G5TP	3/4	3/4	7/16-20	1-1/4	2.59	6.0
16-4 LOHL6G5TP	1	1	7/16-20	1-1/2	2.85	6.0
20-4 LOHL6G5TP	1 1/4	1 1/4	7/16-20	1-3/4	3.07	5.0
24-4 LOHL6G5TP	1 1/2	1 1/2	7/16-20	2-1/8	3.22	4.0

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

XHX6G5TP

Gauge Port Tee
37° Flare / 37° Swivel /
SAE-ORB

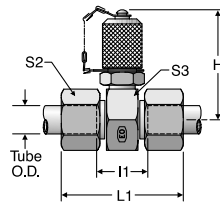


TUBE FITTING PART #	END SIZE			H (in.)	L (in.)	Pressure (x 1,000 PSI) Dynamic -S
	1 (in.)	2 (in.)	3 UN/UNF			
4-4 XHX6G5TP	1/4	1/4	7/16-20	1-1/16	1.99	6.0
6-4 XHX6G5TP	3/8	3/8	7/16-20	1-1/16	2.08	5.0
8-4 XHX6G5TP	1/2	1/2	7/16-20	1-1/16	2.30	5.0
10-4 XHX6G5TP	5/8	5/8	7/16-20	1-1/8	2.49	5.0
12-4 XHX6G5TP	3/4	3/4	7/16-20	1-1/4	2.66	5.0
16-4 XHX6G5TP	1	1	7/16-20	1-1/2	2.99	4.0
20-4 XHX6G5TP	1 1/4	1 1/4	7/16-20	1-3/4	3.33	4.0
24-4 XHX6G5TP	1 1/2	1 1/2	7/16-20	2	3.71	2.5

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

GMA3

Diagnostic Tip
EO Tube / EO Tube /
M16 x 2.0 Integrated Tip



TUBE FITTING PART #	END SIZE (mm)	H (mm)	I1 (mm)	L1 (mm)	S2 (mm)	S3 (mm)	Pressure (x 1,000 PSI) Dynamic CF
GMA3/06L	6	49	21	51	14	24	4.5
GMA3/08L	8	49	21	51	17	24	4.5
GMA3/10L	10	49	23	53	19	24	4.5
GMA3/12L	12	50	23	53	22	27	4.5
GMA3/15L	15	52	25	55	27	30	4.5
GMA3/18L	18	53	24	57	32	32	4.5
GMA3/22L	22	55	28	61	36	36	2.3
GMA3/28L	28	57	28	61	41	41	2.3
GMA3/35L	35	60	26	69	50	46	2.3
GMA3/42L	42	64	25	71	60	55	2.3
GMA3/06S	6	49	25	55	17	24	9.1
GMA3/08S	8	49	25	55	19	24	9.1
GMA3/10S	10	49	24	57	22	24	9.1
GMA3/12S	12	49	24	57	24	24	9.1
GMA3/14S	14	50	27	63	27	27	9.1
GMA3/16S	16	52	26	63	30	30	5.8
GMA3/20S	20	55	26	69	36	36	5.8
GMA3/25S	25	57	27	75	46	41	5.8
GMA3/30S	30	60	28	81	50	46	5.8
GMA3/38S	38	64	29	91	60	55	4.5

To specify EO-2, add "Z" between tube size and series.
Example: GMA3/28ZCF

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

Dimensions and pressures for reference only, subject to change.

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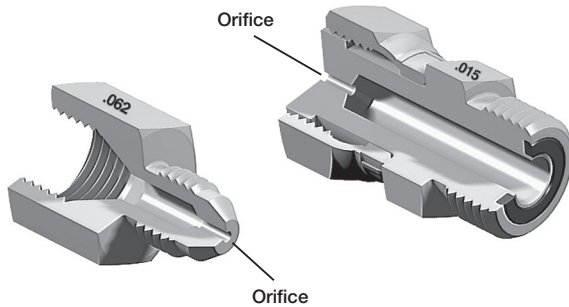
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Orifice Fittings

These compact and cost effective orifice adapters allow OEMs to pre-set, at the factory, a specified orifice in specific hydraulic tube or hose lines. Costly flow control valves can be eliminated or minimized in a system by selecting the proper orifice sizes at the factory. OEMs can also be assured that end users are not adjusting the factory established flow and speed characteristics of the hydraulic system.



The Parker Advantage

- 37° flare and O-ring face seal configurations as standard
- Three standard body sizes available: 1/4", 3/8", and 1/2"
- Available in commonly accepted pre-set orifice sizes as shown on accompanying tables
- Designed for permanent or temporary installation
- Can be installed in-line into hydraulic system by simply connecting between hose swivel and adapter
- Orifice size is permanently stamped on body
- Can eliminate costly flow control valves

Applications:

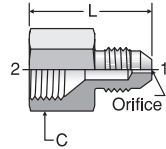
- Fixed rotation speed for hydraulic motors
- Fixed speed on cylinder extend or retract

Direct Port Orifice Fittings:

Available as a custom product, Parker also offers a line of orifice adapters that will replace a traditional port adapter.

XHX7 Orifice

In-Line Orifice Connector
37° Flare / Female 37° Seat

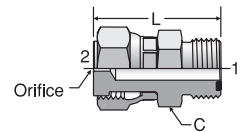


TUBE FITTING PART #	END SIZE	C	ORIFICE	L	Pressure (x 1,000 PSI)
	1 & 2 (in.)	HEX (in.)	(in.)	(in.)	Dynamic -S
4 XHX7-S .015 Orifice	1/4	9/16	.015	1.10	5.0
4 XHX7-S .031 Orifice	1/4	9/16	.031	1.10	5.0
4 XHX7-S .047 Orifice	1/4	9/16	.047	1.10	5.0
4 XHX7-S .062 Orifice	1/4	9/16	.062	1.10	5.0
4 XHX7-S .078 Orifice	1/4	9/16	.078	1.10	5.0
4 XHX7-S .094 Orifice	1/4	9/16	.094	1.10	5.0
6 XHX7-S .015 Orifice	3/8	11/16	.015	1.18	5.0
6 XHX7-S .031 Orifice	3/8	11/16	.031	1.18	5.0
6 XHX7-S .047 Orifice	3/8	11/16	.047	1.18	5.0
6 XHX7-S .062 Orifice	3/8	11/16	.062	1.18	5.0
6 XHX7-S .078 Orifice	3/8	11/16	.078	1.18	5.0
6 XHX7-S .094 Orifice	3/8	11/16	.094	1.18	5.0
8 XHX7-S .015 Orifice	1/2	7/8	.015	1.32	5.0
8 XHX7-S .031 Orifice	1/2	7/8	.031	1.32	5.0
8 XHX7-S .047 Orifice	1/2	7/8	.047	1.32	5.0
8 XHX7-S .062 Orifice	1/2	7/8	.062	1.32	5.0
8 XHX7-S .078 Orifice	1/2	7/8	.078	1.32	5.0
8 XHX7-S .094 Orifice	1/2	7/8	.094	1.32	5.0

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LOHL6 Orifice

In-Line Orifice Connector
ORFS Swivel / ORFS



TUBE FITTING PART #	END SIZE	C	ORIFICE	L	Pressure (x 1,000 PSI)
	1 & 2 (in.)	HEX (in.)	(in.)	(in.)	Dynamic -S
4 LOHL6-S .015 Orifice	1/4	5/8	.015	1.33	9.2
4 LOHL6-S .031 Orifice	1/4	5/8	.031	1.33	9.2
4 LOHL6-S .047 Orifice	1/4	5/8	.047	1.33	9.2
4 LOHL6-S .062 Orifice	1/4	5/8	.062	1.33	9.2
4 LOHL6-S .078 Orifice	1/4	5/8	.078	1.33	9.2
4 LOHL6-S .094 Orifice	1/4	5/8	.094	1.33	9.2
6 LOHL6-S .015 Orifice	3/8	3/4	.015	1.44	9.2
6 LOHL6-S .031 Orifice	3/8	3/4	.031	1.44	9.2
6 LOHL6-S .047 Orifice	3/8	3/4	.047	1.44	9.2
6 LOHL6-S .062 Orifice	3/8	3/4	.062	1.44	9.2
6 LOHL6-S .078 Orifice	3/8	3/4	.078	1.44	9.2
6 LOHL6-S .094 Orifice	3/8	3/4	.094	1.44	9.2
8 LOHL6-S .015 Orifice	1/2	7/8	.015	1.67	9.2
8 LOHL6-S .031 Orifice	1/2	7/8	.031	1.67	9.2
8 LOHL6-S .047 Orifice	1/2	7/8	.047	1.67	9.2
8 LOHL6-S .062 Orifice	1/2	7/8	.062	1.67	9.2
8 LOHL6-S .078 Orifice	1/2	7/8	.078	1.67	9.2
8 LOHL6-S .094 Orifice	1/2	7/8	.094	1.67	9.2

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

Dimensions and pressures for reference only, subject to change.

Bleed Adapters

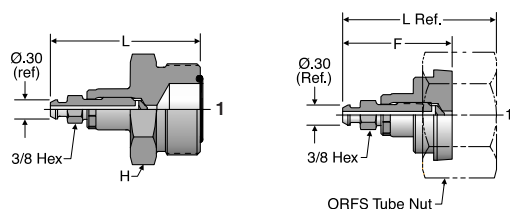
Entrapped air is a major contributor to inefficient operation. Typically, bleeding hydraulic systems is done by cracking a connection to “bleed off” the entrapped air. This practice is not recommended, especially in larger size fittings where high forces can exist. Parker’s bleed adapters are especially beneficial in applications where elastomeric seals (O-rings) can be extruded and/or damaged during bleeding such as with O-ring face seal fittings.

Parker’s bleed adapters are designed specifically for installation directly to ORFS (O-ring Face Seal) type fittings or into SAE/NPT manifolds and valves where bleeding is often required.

Product Characteristics

- Bleed hydraulic systems without “cracking” hydraulic connections
- Uses standard automotive bleed screw design
- Bleed screw is permanently crimped into body housing for blowout prevention
- In-port options with SAE and NPT male studs
- Tube/hose connection options to male and female ORFS

ORFS Bleed Adapters



PNLOBA

FNLBA

ORFS Tube Nut sold separately

TUBE FITTING PART #	END SIZE 1 (in.)	F (in.)	H (in.)	L (in.)	Pressure (x 1,000 PSI) Dynamic -S
4 PNLOBA	1/4	-	11/16	1.90	9.2
6 PNLOBA	3/8	-	3/4	1.97	9.2
8 PNLOBA	1/2	-	7/8	2.07	9.2
10 PNLOBA	5/8	-	1 1/16	2.19	6.0
12 PNLOBA	3/4	-	1 1/4	2.27	6.0
16 PNLOBA	1	-	1 1/2	2.35	6.0
20 PNLOBA	1 1/4	-	1 3/4	2.41	6.0
24 PNLOBA	1 1/2	-	2 1/8	2.48	5.0
8 FNLBA	1/2	1.63	15/16	2.07	9.2
10 FNLBA	5/8	1.63	1 1/8	2.17	6.0
12 FNLBA	3/4	1.63	1 3/8	2.21	6.0
16 FNLBA	1	1.63	1 5/8	2.21	6.0
20 FNLBA	1 1/4	1.63	1 7/8	2.21	6.0
24 FNLBA	1 1/2	1.63	2 1/4	2.21	5.0

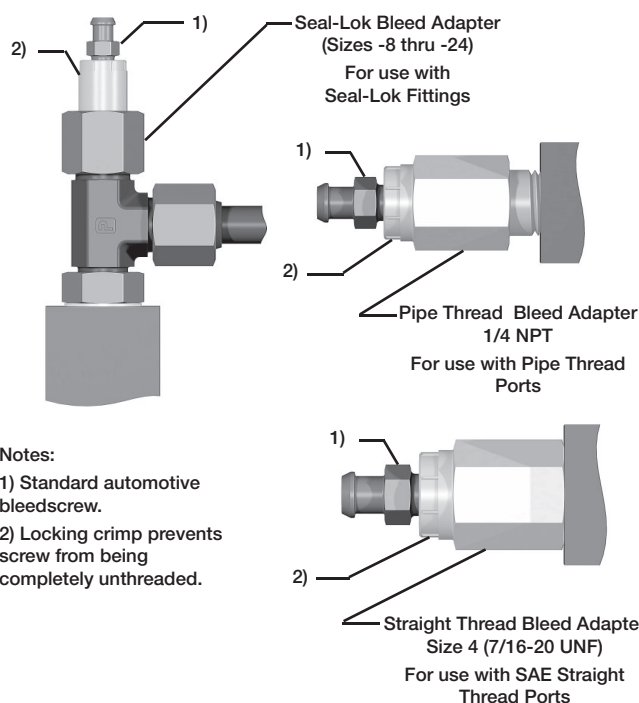
WARNING: This product can expose you to chemicals including Lead and Lead Compounds which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.p65warnings.ca.gov.

Bleeding Hydraulic Systems with Parker Bleed Adapters

Whenever possible, the bleed adapter should be mounted at the highest point within the hydraulic system. The trapped air can be relieved while the system is running at low pressure. To bleed, loosen the bleed screw 1/2 turn counterclockwise. After the hydraulic fluid begins to run freely from the bleed screw, the bleed screw should be re-tightened.

Bleed Screw Tightening Torque: 35-40 in.-lbs.

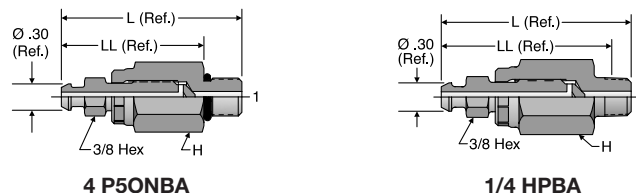
Warning: When bleeding hydraulic fluid, operate the system below 500 psi. To avoid injury, ensure that all persons are clear of the path of discharge. Another recommended practice is to attach a section of hose over the bleed screw/adapter to direct oil away from the area and to reduce oil spillage.



Notes:

- 1) Standard automotive bleedscrew.
- 2) Locking crimp prevents screw from being completely unthreaded.

Port Bleed Adapters



TUBE FITTING PART #	END SIZE 1	BODY HEX (in.)	H (in.)	L REF. (in.)	LL REF. (in.)	Pressure (x 1,000 PSI) Static -S	Dynamic -S
4 P5ONBA	7/16-20 UN/UNF-2A	11/16	11/16	2.05	1.62	10.0	6.0
1/4 HPBA	1/4-18 NPTF	11/16	11/16	2.20	1.86	10.0	6.0

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

Dimensions and pressures for reference only, subject to change.

Screen Fittings

Introduction

Parker screen fittings ensure the final measure of protection against particles that find their way into a system (even a properly filtrated one) during installation, maintenance, failure of components, or by other means. Screen fittings provide a vital safeguard for critical components against damage due to contamination. They are intended to work in conjunction with a good filtration system and are available with screens that retain particle sizes from 480 to 65 micron.

Parker screen fittings are ideal for protecting:

- Gauges and instrumentation
- Critical hydraulic components such as pump compensator load sensing controls, proportional valves, relief valves, etc.
- Precision orifices from clogging
- Expensive components in test bench circuits (against particle contamination created by failed components)

Design and Construction

Fitting Body. Parker screen fittings utilize standard Seal-Lok O-ring face seal and Triple-Lok 37° flare fitting bodies located in Section A and B respectively in this catalog. All screen fittings are manufactured with the micron rating stamped on the fitting body.

Screen. Screen fittings are constructed with stainless-steel screen elements. Sizes -6 through -12 fittings are manufactured with a dome-style screen, while size -4 fittings are made with a basket-style screen (see Fig. L7 and L8). Table L3 displays the various micron ratings for available screens. Additionally, Parker screen fittings have bi-directional flow capacity and can be installed in either the tube or port end of the fitting. Screens are not sold separately.

Screen fittings are for last measurement of protection, not for filtration. A filter is recommended for hydraulic systems. To prevent build up of debris, screens must be replaced or cleaned when filters are replaced or during flushing of hydraulic system.

Square Mesh Number	Nominal Micron Rating
40	480*
60	320*
80	230
100	165*
150	125
200	100
325	65

Table L3 – Micron Ratings for available screens

**These micron ratings are not available as standard from stock*

Pressure Ratings

Parker screen fittings have the same dynamic pressure ratings as the equivalent fitting body (without the screen). Refer to sections A and B for the pressure ratings for Seal-Lok O-ring face seal and Triple-Lok 37° flare fittings.

How to Order:

Please call the Tube Fittings Division for part number and ordering - 614-279-7070

Dimensions and pressures for reference only, subject to change.



Fig. L6 — Screen Fittings.



Fig. L7 — Six dome-style screens and one basket-style screen.



Fig. L8 — Fitting cutaway with dome-style screen.

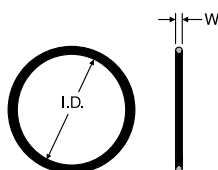
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ORFS O-Ring

ORFS Tube End O-Ring

Specify size and compound

Example: 2-018 NBR (standard NBR)

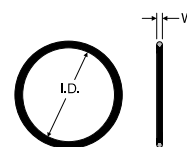


XO O-Ring

Triple-Lok 2 O-Ring

Specify size and compound

Example: 2-019 NBR (standard NBR)



TUBE FITTING PART #	FITTING DASH SIZE	END SIZE		I.D.		W		Material		
		(in.)	(mm)	(in.)	(mm)	(in.)	(mm)	NBR*	FKM**	CNG***
2-011	4	1/4	6	0.30	7.7	0.07	1.78	•	•	•
2-012	6	3/8	8, 10	0.36	9.3	0.07	1.78	•	•	•
2-014	8	1/2	12	0.49	12.4	0.07	1.78	•	•	•
2-016	10	5/8	14, 15, 16	0.61	15.6	0.07	1.78	•	•	•
2-018	12	3/4	18, 20	0.74	18.8	0.07	1.78	•	•	•
2-020	14	7/8	22	0.86	21.8	0.07	1.78	•	•	•
2-021	16	1	25	0.93	23.5	0.07	1.78	•	•	•
2-025	20	1 1/4	28, 30, 32	1.18	29.9	0.07	1.78	•	•	•
2-029	24	1 1/2	35, 38	1.49	37.8	0.07	1.78	•	•	•
2-135	32	2	50	1.93	49.0	0.10	2.54	•	•	•

* NBR is the standard compound — 90-durometer Nitrile.

** FKM is an optional 90-durometer fluorocarbon compound.

*** CNG is an optional 85 durometer HNBR compound for CNG applications

See page M3 for O-ring Material Selection and data.

TUBE FITTING PART #	TUBE O.D. (in.)	I.D. (in.)	W (in.)	Material NBR
5-193	1/4	0.18	0.04	•
5-179	5/16	0.24	0.04	•
5-056	3/8	0.30	0.04	•
5-058	1/2	0.43	0.05	•
2-013	5/8	0.43	0.07	•
2-016	3/4	0.61	0.07	•
2-017	7/8	0.68	0.07	•
2-019	1	0.80	0.07	•
2-023	1 1/4	1.05	0.07	•
2-026	1 1/2	1.24	0.07	•
2-133	2	1.80	0.10	•

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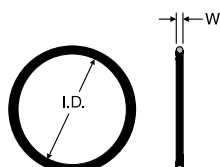
FAQs

SAE O-Ring

SAE Straight Thread Port O-Ring

Specify size and compound

Example: 3-906 NBR (standard NBR)



TUBE FITTING PART #	FITTING DASH SIZE	I.D. (in.)	W (in.)	Material		
				NBR*	FKM**	CNG***
3-902	2	0.24	0.06	•	•	
3-903	3	0.30	0.06	•	•	
3-904	4	0.35	0.07	•	•	•
3-905	5	0.41	0.07	•	•	
3-906	6	0.47	0.08	•	•	•
3-908	8	0.64	0.09	•	•	•
3-910	10	0.76	0.10	•	•	
3-912	12	0.92	0.12	•	•	
3-914	14	1.05	0.12	•	•	
3-916	16	1.17	0.12	•	•	
3-920	20	1.48	0.12	•	•	
3-924	24	1.72	0.12	•	•	
3-932	32	2.34	0.12	•	•	

* NBR is the standard compound — 90-durometer Nitrile.

** FKM is an optional 90-durometer fluorocarbon compound.

*** CNG is an optional 85 durometer HNBR compound for CNG applications

See page M3 for O-ring Material Selection and data.

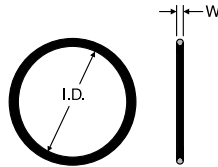
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ISO 6149 O-Ring

Metric Straight Thread
Port O-Ring

Specify size and compound (for option compound only)
Example: M-12 ISO O-RING (standard NBR)
M-12 ISO FKM (optional FKM o-ring)



TUBE FITTING PART #	PORT THREAD	I.D. (mm)	W (mm)	Material	
				NBR**	FKM***
M-8 ISO O-Ring	M8 x 1	6.1	1.6	•	
M-10 ISO O-Ring	M10 x 1	8.1	1.6	•	
M-12 ISO O-Ring	M12 x 1.5	9.3	2.2	•	•
M-14 ISO O-Ring	M14 x 1.5	11.3	2.2	•	•
M-16 ISO O-Ring	M16 x 1.5	13.3	2.2	•	•
M-18 ISO O-Ring	M18 x 1.5	15.3	2.2	•	•
M-22 ISO O-Ring	M22 x 1.5	19.3	2.2	•	•
M-27 ISO O-Ring	M27 x 2	23.6	2.9	•	•
*M-30 ISO O-Ring	M30 x 2	26.6	2.9	•	
M-33 ISO O-Ring	M33 x 2	29.6	2.9	•	•
M-38 ISO O-Ring	M38 x 2	34.6	2.9	•	
M-42 ISO O-Ring	M42 x 2	38.6	2.9	•	•
M-48 ISO O-Ring	M48 x 2	44.6	2.9	•	•
M-60 ISO O-Ring	M60 x 2	56.6	2.9	•	

* M30X2 is not a standard ISO 6149 size.

** NBR is the standard compound — 90-durometer peroxide-cured Nitrile.

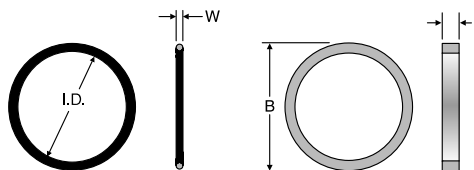
*** FKM is an optional 90-durometer fluorocarbon compound.

See page M3 for O-ring Material Selection and data.

Metric O-Ring & Retaining Ring

For ISO 9974-1 / DIN 3852-1Port

Specify size, compound and material
Example: 2-012 NBR (standard NBR O-ring)
M12RRCF (standard steel retaining ring)



TUBE FITTING PART #	METRIC THREAD SIZE	I.D. (mm)	W (mm)	From Stock		TUBE FITTING PART #	B (mm)	L (mm)	Material	
				NBR*	FKM**				CF (S)	71 (SS)
3-902	M8 x 1	6.07	1.63	•	•	M8RR	13.15	1.00	•	
6-074	M10 x 1	8.00	1.50	•	•	M10RR	14.75	1.00	•	
2-012	M12 x 1.5	9.25	1.78	•	•	M12RR	17.75	1.30	•	
2-013	M14 x 1.5	10.82	1.78	•	•	M14RR	19.75	1.30	•	
3-907	M16 x 1.5	13.46	2.08	•	•	M16RR	21.75	1.50	•	
2-114	M18 x 1.5	15.54	2.62	•	•	M18RR	23.75	2.00	•	
2-017	M20 x 1.5	17.17	1.78	•		M20RR	25.75	1.30	•	
2-018	M22 x 1.5	18.77	1.78	•	•	M22RR	27.75	1.30	•	
2-019	M24 x 1.5	20.35	1.78	•		M24RR	29.75	1.30	•	
2-118	M26 x 1.5	21.89	2.62	•		M26RR	31.75	2.00	•	
2-119	M27 x 2	23.47	2.62	•	•	M27RR	32.75	2.00	•	
2-121	M30 x 2	26.64	2.62	•		M30RR	36.32	2.00	•	
2-122	M33 x 2	28.24	2.62	•		M33RR	39.75	2.00	•	
2-124	M36 x 2	31.42	2.62	•		M36RR	42.75	2.00	•	
2-128	M42 x 2	37.77	2.62	•		M42RR	49.75	2.00	•	
2-130	M45 x 2	40.94	2.62	•		M45RR	52.75	2.00	•	
2-132	M48 x 2	44.12	2.62	•		M48RR	54.95	2.00	•	
2-133	M50 x 2	45.69	2.62	•		M50RR	56.31	2.00	•	

* NBR is the standard compound — 90-durometer Nitrile.

** FKM is an optional 90-durometer fluorocarbon compound.

See page M3 for O-ring Material Selection and data.

Dimensions for reference only, subject to change.

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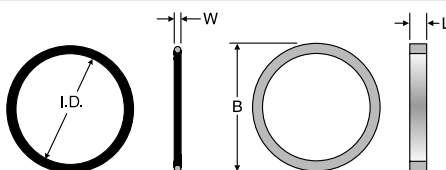
BSPP O-Ring & Retaining Ring

For ISO 1179-1 / DIN 3852-2 Port

Specify size and compound (for O-ring only)

Example: 2-113 NBR (standard NBR O-ring)

8207-3/8 RETAINING RING (standard steel retaining ring)



TUBE FITTING PART #	BSPP THREAD SIZE	I.D. (mm)	W (mm)	Material		STEEL TUBE FITTING PART #	STAINLESS STEEL TUBE FITTING PART #	B (mm)	L (mm)
				NBR*	FKM**				
5-585	1/8-28	8	2	•	•	8207-1/8	1/8 Retaining Ring	15.0	1.4
2-111	1/4-19	10.77	2.62	•	•	8207-1/4	1/4 Retaining Ring	19.5	1.9
2-113	3/8-19	13.94	2.62	•	•	8207-3/8	3/8 Retaining Ring	23.5	1.9
5-256	1/2-14	17.96	2.62	•	•	8207-1/2	1/2 Retaining Ring	28.5	1.9
2-119	3/4-14	23.47	2.62	•	•	8207-3/4	3/4 Retaining Ring	34.5	2.6
2-217	1-11	29.74	3.53	•	•	8207-1	1 Retaining Ring	43.5	2.6
2-222	1 1/4-11	37.69	3.53	•		8207-1-1/4	1 1/4 Retaining Ring	52.5	2.6
2-224	1 1/2-11	44.04	3.53	•		8207-1-1/2	1 1/2 Retaining Ring	60.0	2.6

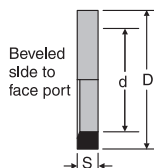
* NBR is the standard compound — 90-durometer Nitrile.

** FKM is an optional 90-durometer fluorocarbon compound.

See page M3 for O-ring Material Selection and data.

EOlastic Seal Ring

EOlastic Soft Seal for
BSPP & Metric Threads (“ED Seal”)
DIN 3869



Specify size and compound

(for optional compound only)

Example: ED8X1X (standard NBR)

ED8X1VITX (optional FKM)

TUBE FITTING PART #	For Male Metric Thread	For Male Thread BSPP	D (mm)	d (mm)	S (mm)	Material	
						NBR*	FKM**
ED8X1X	M8 x 1		9.9	6.5	1.0	•	•
ED10X1X	M10 x 1	G 1/8 A	11.9	8.4	1.0	•	•
ED12X1.5X	M12 x 1.5		14.4	9.8	1.5	•	•
ED14X1.5X	M14 x 1.5	G 1/4 A	16.5	11.6	1.5	•	•
ED16X1.5X	M16 x 1.5		18.9	13.8	1.5	•	•
ED3/8X		G 3/8 A	18.9	14.7	1.5	•	•
ED18X1.5X	M18 x 1.5		20.9	15.7	1.5	•	•
ED20X1.5X	M20 x 1.5		22.9	17.8	1.5	•	•
ED1/2X		G 1/2 A	23.9	18.5	1.5	•	•
ED22X1.5X	M22 x 1.5		24.3	19.6	1.5	•	•
ED26X1.5X	M26 x 1.5	G 3/4 A	29.2	23.9	1.5	•	•
ED26X1.5X	M27 x 2	G 3/4 A	29.2	23.9	1.5	•	•
ED33X2X	M33 x 2	G 1 A	35.7	29.7	2.0	•	•
ED42X2X	M42 x 2	G 1 1/4 A	45.8	38.8	2.0	•	•
ED48X2X	M48 x 2	G 1 1/2 A	50.7	44.7	2.0	•	•

* NBR is the standard compound — 90-durometer Nitrile.

** FKM is an optional 85-durometer fluorocarbon compound (for part number VIT is used as suffix). Example: ED8X1VITX

Dimensions for reference only, subject to change.

