



Standard Part

O-Ring Face Seal Auxiliary Components

STPL550

87331987

Rev CB

Page 1 of 15

1. SCOPE

This standard contains metric and inch auxiliary components for applicable O-Ring Face Seal fittings. Both metric and inch tube sizes are listed. Refer to SAE J1453-3 and ISO 8434-3 for dimensions not shown in this standard.

2. ACRONYMS

ORFS—O-Ring Face Seal

3. RELATED DOCUMENTS

3.1 RELATED STANDARDS

SAE J1453-3—ORFS Fittings

SAE J514—Hydraulic Tube Fittings

ISO 8434-3—ORFS Fittings

ISO 6149-2—Connections for fluid power and general use

ISO 261—General Purpose Metric Screw Threads

ISO 1179—Connections for general use and fluid power

CNH ENS0150 (87692757)—Fabrication of hydraulic tubes and ports

CNH ENS0360 (87346984)—Corrosion Resistance for Hydraulic Fittings

CNH STPL020 (87692742)—ORFS Hydraulic Fittings – Basic Requirements

3.2 REPLACED STANDARDS

Case L-001—ORFS Fittings (Partial)

Case LM-001—ORFS Fittings (Partial)

4. CROSS REFERENCE

For cross reference listing of company part numbers, go to the [PARTsolutions](#).

5. REQUIREMENTS

5.1 MATERIAL

Parts shall be made from carbon steel (CST) and meet the requirements in CNH STPL020 (87692742).

5.2 FINISH

The external surfaces and threads of all carbon steel parts shall be zinc plated per CNH ENS0360 (87346984) or coated with a suitable material that passes a 72 hour salt spray test in accordance with ASTM B 117. Braze-on type fittings shall be protected from corrosion by an oil film or other corrosion protection coating but does not need to meet the 72 hour salt spray test requirements.

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5.3 ADDITIONAL PARTS

Fittings supplied per this standard are to include the O-Ring on all ends as applicable.

5.4 PROTECTION

The sealing face and threads of components (both internal and external) must be protected by the manufacturer from nicks and scratches detrimental to their function. All passages must be securely capped or plugged to prevent entrance of dirt or other contaminants prior to assembly and for parts distribution handling and storage. Paper caps and plugs are not permitted.

5.5 BASIC REQUIREMENTS

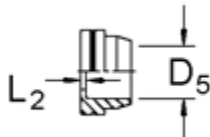
All fittings supplied per this standard must meet the requirement listed in CNH STPL020 (87692742)—ORFS Hydraulic Fittings Basic Requirements

5.6 TRAPEZOIDAL CROSS-SECTION SEAL (TCS)

All fittings listed in the column "Trapezoidal Seal Fitting Part No." of this standard must be supplied with Trapezoidal Cross-section Seal (TCS) and must meet the requirements listed in CNH STPL020 (87692742), specifically section 7.3.2 ALTERNATE O-RINGS.

In the description of these parts, TCS will be included to differentiate from standard O-Ring fittings.

O-RING FACE SEAL BRAZE SLEEVE
SAE 520115;
SAE 5201M15; ISO 8434-3 BRSL

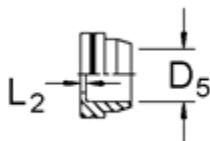


BRAZE SLEEVE (D5 dimension is for silver braze)

Tube OD		Tube Nut (Ref.)	L2±0.15	Metric Tubing		Inch Tubing	
mm	Inch			D5 Drill	Part No.	D5 Drill	Part No.
6	1/4	86639092	1.0	6.15	87644283	6.5	86637677
8	5/16	84052987	1.0	8.15	87644284	8.09	
10	3/8	84052987	1.0	10.15	86642912	9.68	86637678
12	1/2	85802628	1.0	12.15	86642913	12.85	86637689
16	5/8	85802819	1.5	16.15	86642914	16.03	86637690
20	3/4	85802972	1.5	20.18	86642915	19.23	86637691
25	1	86639097	1.5	25.18	86642916	25.58	86637692
30	1-1/4	86639098	1.5	30.20	87530370	31.95	86637693
38	1-1/2	86639099	1.5	38.20	84246774	38.3	86637694

For Tube Nut details, see page 14 O-Ring Face Seal Tube Nut.

O-RING FACE SEAL BRAZE SLEEVE



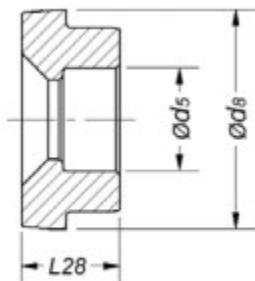
BRAZE REDUCING SLEEVE (D5 dimension is for silver braze)

Non Preferred Part Numbers. See Page 5 and 6 for Preferred Part Numbers

Tube Nut (Ref.)	L2	Metric Tubing				Inch Tubing			
		Tube OD mm	ORFS Tube OD	D5	Part No.	Tube OD Inch	ORFS Tube OD	D5	Part No.
84052987	1	6	10	6.15	47512724	1/4	3/8	6.50	
86639092	1	8	6	8.20	47903938				
84052987	1	8	10	8.15	47131569	5/16	3/8	8.08	84480443
85802628	1	6	12	6.15		1/4	1/2	6.50	
85802628	1	8	12	8.15	47745121				
85802628	1	10	12	10.15	47663546	3/8	1/2	9.68	87752088
85802819	1	6	16	6.15		1/4	5/8	6.50	
85802819	1	8	16	8.15	51512437				
85802819	1	10	16	10.15		3/8	5/8	9.68	
85802819	1.50	12	16	12.15	84529663	1/2	5/8	12.85	87016906
85802972	1	6	20	6.15		1/4	3/4	6.50	
85802972	1	8	20	8.15					
85802972	1	10	20	10.15		3/8	3/4	9.68	
85802972	1.50	12	20	12.15	47572950	1/2	3/4	12.85	
85802972	1.50	16	20	16.15	48080668	5/8	3/4	16.03	86637697
86639097	1.50	12	25	12.15		1/2	1	12.85	
86639097	1.50	16	25	16.15		5/8	1	16.03	
86639097	1.50	20	25	20.18	47382001	3/4	1	19.23	84576089
86639098	1.50	28	32	28.18	87608194				
86639098	1.50	28	36	28.18	87644285				
86639098	1.50	32	36	32.18	86642917				
	7.11					1-1/4	1-1/2	32	47512686

For Tube Nut details, see page 14 O-Ring Face Seal Tube Nut.

O-RING FACE SEAL BRAZE SLEEVE
SAE 520115;
ISO 8434-3 BRRDSL
Preferred Part Numbers



BRAZE REDUCING SLEEVE (D5 dimension is for silver braze)

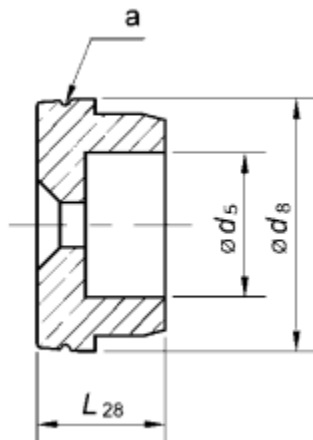
Tube Nut (Ref.)	L28 mm	Inch Tubing				
		Tube OD Inch	ORFS Tube OD Inch	d5 mm	d8 mm	Part No.
84052987	10.5	1/4	3/8	6.50	15.75	
85802628	12	1/4	1/2	6.50	18.9	
84052987	10.5	5/16	3/8	8.09	15.75	51684227
85802628	12	3/8	1/2	9.68	18.9	51684228
85802819	13.5	1/4	5/8	6.50	23.45	
85802819	13.5	3/8	5/8	9.68	23.45	
85802819	13.5	1/2	5/8	12.85	23.45	51684229
85802972	14.5	1/4	3/4	6.50	27.85	
85802972	14.5	3/8	3/4	9.68	27.85	
85802972	14.5	1/2	3/4	12.85	27.85	
85802972	14.5	5/8	3/4	16.03	27.85	51684286
86639097	15.5	1/2	1	12.85	34.2	
86639097	15.5	5/8	1	16.03	34.2	
86639097	17	3/4	1	19.23	34.2	51684287
86639099	21.082	1	1-1/2	25.654	48.514	92649616

For Tube Nut details, see page 14 O-Ring Face Seal Tube Nut.

O-RING FACE SEAL BRAZE SLEEVE

SAE 5201M15; ISO 8434-3 BRRDSL

Preferred Part Numbers



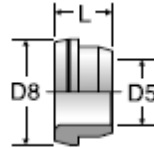
a. Identification groove for metric tube sleeve only

BRAZE REDUCING SLEEVE (D5 dimension is for silver braze)

Tube Nut (Ref.)	L28	Metric Tubing				Part No.
		Tube OD mm	ORFS Tube OD	d5	d8	
84052987	10.5	6	10	6.15	15.75	51684612
86639092		8	6	8.20		51684615
84052987	10.5	8	10	8.15	15.75	51684618
85802628	12	6	12	6.15	18.9	51684619
85802628	12	8	12	8.15	18.9	51684622
85802628	12	10	12	10.15	18.9	51684624
85802819	13.5	6	16	6.15	23.45	
85802819	13.5	8	16	8.15	23.45	51684641
85802819	13.5	10	16	10.15	23.45	91822001
85802819	13.5	12	16	12.15	23.45	51684642
85802972	14.5	6	20	6.15	27.85	
85802972	14.5	8	20	8.15	27.85	
85802972	14.5	10	20	10.15	27.85	90365850
85802972	14.5	12	20	12.15	27.85	51684718
85802972	14.5	16	20	16.15	27.85	51684727
86639097	15.5	12	25	12.15	34.2	90473598
86639097	15.5	16	25	16.15	34.2	90473612
86639097	17	20	25	20.18	34.2	51684730
86639097		20	32	20.18		91715983
86639098		28	32	28.18		51684733
86639098		28	36	28.18		51684736
86639098		32	36	32.18		51684738

For Tube Nut details, see page 14 O-Ring Face Seal Tube Nut.

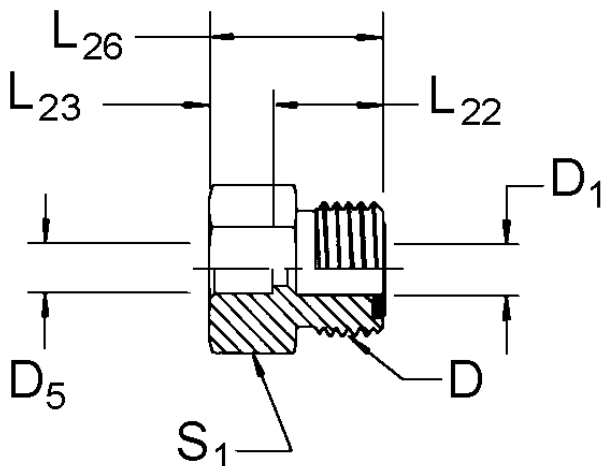
SLEEVE FOR METRIC TUBING ORFS MECHANICALLY ATTACHABLE SLEEVE



Tube Nut (Ref.)	Used w/Fitting Size	D5 Tube Size	D8 Diameter	L	Part Number
86639092	-4	6	12.75	7.5	5184877
84052987	-5	8	15.7	8.5	84052986
84052987	-6	10	16	8.5	87648727
85802628	-8	12	18.9	10.5	85802627
85802819	-10	16	23.4	10.5	85802818
85802972	-12	18	27.8	12	5191988
85802972	-12	20	27.8	12	85802971
86639097	-16	25	34	13.5	87497923
86639098		28	41	13	51517320
86639098	-20	30	40.5	14	87732113
86639098	-20	32	40.5	14	48064053
86639099	-24	38	48.5	14	84156981

For Tube Nut details, see page 14 O-Ring Face Seal Tube Nut.

METRIC O-RING FACE SEAL BRAZE STRAIGHT MALE CONNECTOR SAE 52M0104 / ISO 8434-3 BRS



Metric Tube

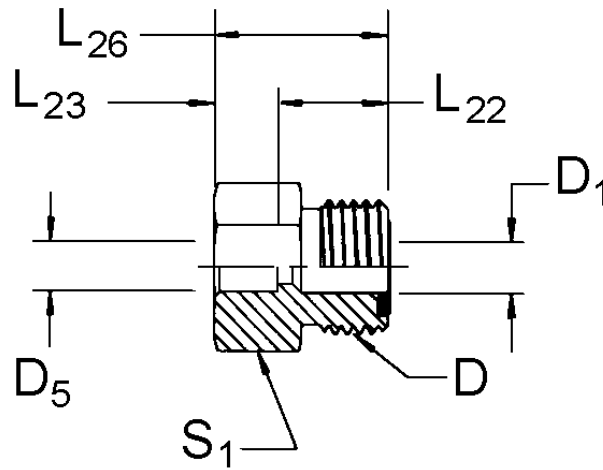
Tube OD	O-Ring (Service)	D	D1	L22	L23	L26	S1	D5	Part No.
6	9825770	9/16-18	5.0	13.5	8.5	22.0	17	6.15	87644286
8	9993141	11/16-16	5.5	14.5	8.5	23.0	19	8.15	87531650
10	9993141	11/16-16	6.5	14.5	8.5	23.0	19	10.15	87742353
12	9992298	13/16-16	9.5	16.0	8.5	24.5	22	12.15	87668379
16	9993141	11/16-16	6.5	14.5	9	23.5	22	16.15	91751837
16	9992298	13/16-16	9.5	16.0	9	25	22	16.15	47550991
16	9992069	1-14	12.5	21.5	8.5	30	27	16.15	5189229
20	9991976	1-3/16-12	15.5	21.0	12.5	33.5	32	20.18	47126664
25	9824050	1-7/16-12	20.5	24.5	14.0	38.5	41	25.18	86639091
28	9824050	1-7/16-12	20.5	24.5	14.0	38.5	41	28.18	90334976
30	9824051	1-11/16-12	26.0	24.5	14.0	38.5	46	30.2	90327710
38	9840589	2-12	32.0	24.5	14.0	38.5	55	38.2	

Inch Tube

Tube OD	O-Ring (Service)	D	D1	L22	L23	L26	S1	D5	Part No.
1/4	9825770	9/16-18	5.0	13.5	8.5	22.0	17	6.5	
5/16	9993141	11/16-16	6.5	13.5	8.5	22.0	17	8.09	
3/8	9993141	11/16-16	6.5	14.5	8.5	23.0	19	9.68	86639086
1/2	9992298	13/16-16	9.5	16.0	8.5	24.5	22	12.85	86639087
5/8	9992069	1-14	12.5	19.0	8.5	27.5	27	16.03	86639088
3/4	9991976	1-3/16-12	15.5	21.0	12.5	33.5	32	19.23	86639089
1	9824050	1-7/16-12	20.5	24.5	14.0	38.5	41	25.58	86639090
1-1/4	9824051	1-11/16-12	26.0	24.5	14.0	38.5	46	31.95	87657974
1-1/2	9840589	2-12	32.0	24.5	14.0	38.5	55	38.30	84173773

D5 dimension is for silver braze
Part number includes seal ring

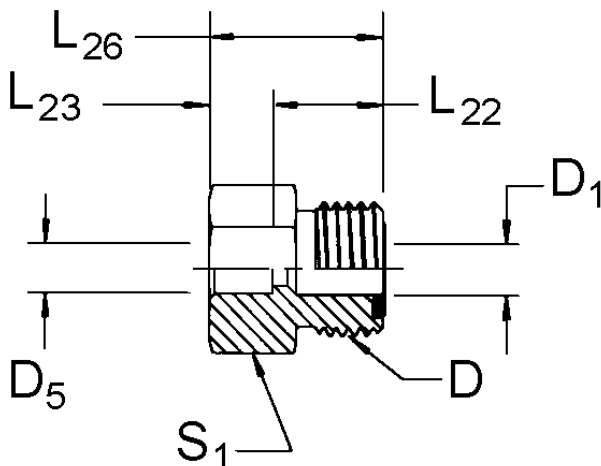
METRIC O-RING FACE SEAL BRAZE STRAIGHT MALE JUMP CONNECTOR SAE 52M0104 / ISO 8434-3 BRS



Metric Tube

Tube OD ORFS mm	Tube OD Braze mm	D	O-Ring	S1 Hex	L22	L23	L26	D5	D1	Part Number
6	10	9/16-18	9825770	17	13.5	8.5	22	10.05	5	51411325
12	08	13/16-16	9992298	22	16	8.5	24.5	8.15	5.5	48074984
16	20	1-14	9992069	27	19	12.5	31.5	20.18	12.5	48197411
16	25	1-14	9992069	32	21	14	35	25.18	12.5	91722284
20	16	1-3/16-12	9991976	32	21.2	12.5	33.7	16.15	12.5	48005122
25	20	1-7/16-12	9824050	41	24.5	12.5	37	20.18	15.5	51545897

INCH O-RING FACE SEAL BRAZE STRAIGHT MALE CONNECTOR SAE 520104



Metric Tube

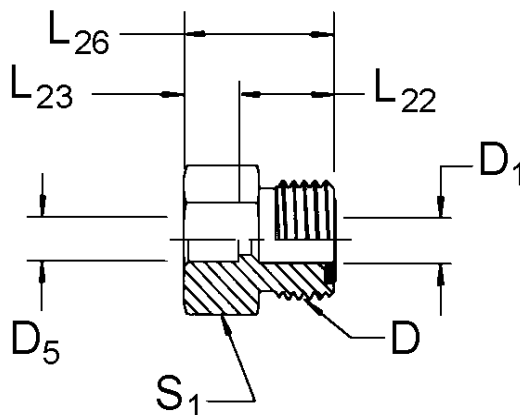
Tube OD	O-Ring (Service)	D	D1	L22	L23	L26	S1	D5	Part No.
6	9825770	9/16-18	.172	.530	.330	.860	5/8	.242	
8	9993141	11/16-16	.264	.570	.330	.900	3/4	.321	
10	9993141	11/16-16	.264	.570	.330	.900	3/4	.400	
12	9992298	13/16-16	.378	.640	.330	.970	7/8	.478	
16	9992069	1-14	.484	.740	.330	1.070	1-1/16	.636	
20	9991976	1-3/16-12	.609	.830	.490	1.320	1-1/4	.794	47126664
25	9824050	1-7/16-12	.811	.970	.550	1.520	1-1/2	.991	87530408
28	9824051	1-11/16-12	1.024	.970	.550	1.520	1-3/4	1.109	51644859
30	9824051	1-11/16-12	1.024	.964	.551	1.51	2-1/8	1.188	
32	9824051	1-11/16-12	1.024	.970	.550	1.520	1-3/4	1.267	
38	9840589	2-12	1.260	.970	.550	1.520	2-1/8	1.503	

Inch Tube

Tube OD	O-Ring (Service)	D	D1	L22	L23	L26	S1	D5	Part No.
1/4	9825770	9/16-18	.172	.530	.330	.860	5/8	.256	84365546
5/16	9993141	11/16-16	.255	.531	.335	.866	3/4	.318	47692796
3/8	9993141	11/16-16	.264	.570	.330	.900	3/4	.381	86637670
1/2	9992298	13/16-16	.378	.640	.330	.970	7/8	.506	86637671
5/8	9992069	1-14	.484	.740	.330	1.070	1-1/16	.631	86637672
3/4	9991976	1-3/16-12	.609	.830	.490	1.320	1-1/4	.757	86637673
1	9824050	1-7/16-12	.811	.970	.550	1.520	1-1/2	1.007	86637674
1-1/4	9824051	1-11/16-12	1.024	.970	.550	1.520	1-3/4	1.258	87530407
1-1/2	9840589	2-12	1.260	.970	.550	1.520	2-1/8	1.508	

D5 dimension is for silver braze
Part number includes seal ring

INCH O-RING FACE SEAL BRAZE STRAIGHT MALE JUMP CONNECTOR SAE 520104



Metric Tube

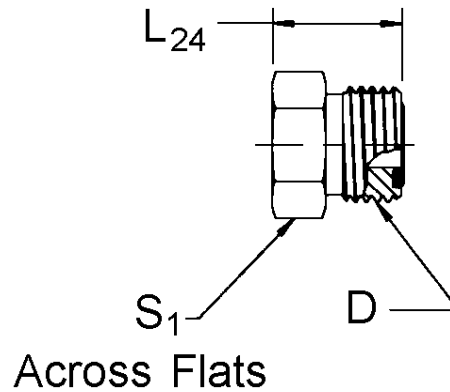
Tube OD ORFS mm	Tube OD Braze mm	D	O-Ring	S1 Hex	L22	L23	L26	D5	D1	Part Number
6	8	9/16-18	9825770	17	13.5	8.5	22	8.15	5	48085028
6	12	9/16-18	9825770	16			22			84345029
10	8	11/16-16	9993141	19	14.5	8.5	23	8.15	6.5	
10	12	11/16-16	9993141	19	14.5	8.5	23	12.15	6.5	87329604
12	10	13/16-16	9992298	22	17.1	8.5	25.6	10.15	8.0	47858612

Inch Tube

Tube OD ORFS In.	Tube OD Braze In.	D	O-Ring	S1 Hex	L22	L23	L26	D5	Part No.
1/4	3/8	9/16-18	9825770	5/8	.530	.330	.860	.381	84535910
3/8	1/4	11/16-16	9993141	5/8	.570	.330	.900	.256	84535911
3/8	1/2	11/16-16	9993141	3/4	.570	.330	.900	.506	84535913
1/2	3/8	13/16-16	9992298	3/4	.640	.330	.970	.381	84535915
1/2	5/8	13/16-16	9992298	7/8	.640	.330	.970	.631	84535916
5/8	3/4	1-14	9992069	1-1/16	.740	.490	1.230	.757	84535918
3/4	1	1-3/16-12	9991976	1-1/4	.830	.490	1.320	1.007	51411322
3/4	1	1-3/16-12	9991976	1-1/2	.830	.550	1.380	1.007	84535919
1	3/4	1-7/16-12	9824050	1-1/2	.970	.490	1.460	.757	84535933
1	1-1/4	1-7/16-12	9824050	1-3/4	.970	.550	1.520	1.258	86637675
1-1/4	1-1/2	1-11/16-12	9824051	2-1/8	.970	.550	1.520	1.508	84533149

D5 dimension is for silver braze
Part number includes seal ring

O-RING FACE SEAL TUBE END PLUG SAE 520109

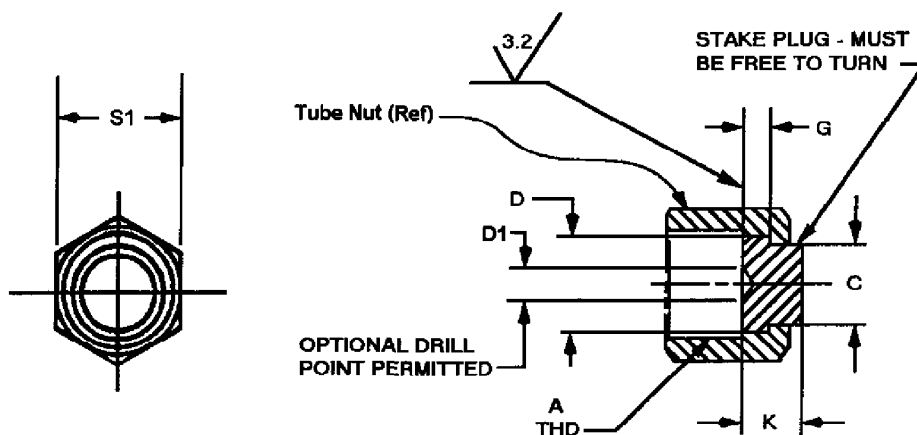


Metric & Inch

Tube OD		D Thread	O-Ring (Service)	L24	S	Std. O-Ring Fitting Part Number	Trapezoidal Seal Fitting Part No.
					Metric Inch	Metric Inch	Metric Inch
6	1/4	9/16-18	9825770	16.5	16	84577049	
					5/8		
8 & 10	5/16 & 3/8	11/16-16	9993141	19	19	87737590	92762766
					3/4	9843614	
12	1/2	13/16-16	9992298	22	22	9840573	92764446
					7/8		
16	5/8	1-14	9992069	26	27	9847692	
					1-1/16		
20	3/4	1-3/16-12	9991976	27.5	32	9847693	92767958
					1-1/4		
25	1	1-7/16-12	9824050	28	41	9847694	
					1-1/2		
30	1-1/4	1-11/16-12	9824051	28	46	9847695	
					1-3/4		
38	1-1/2	2-12	9840589	28	55		
					2-1/8		

Part number includes seal ring.
Shaded area represents Inch fittings

O-RING FACE SEAL CAP SAE 520112



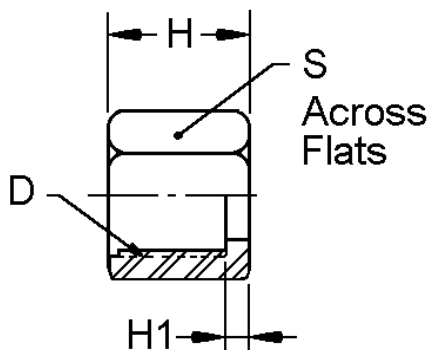
Metric & Inch

Tube OD		A Thread	C Boss Dia.	D Shld'r Dia	D1* Drill Pt. Dia	G Shld'r Width	K Plug Width	S1	Part No.
mm	Inch							Metric Inch	Metric Inch
6 & 8	1/4 & 5/16	9/16-18	10.2	12.75	4	4	9.0	17	87668376
								11/16	
10	3/8	11/16-16	13.25	15.75	5	4.7	10.5	22	9625546
								13/16	87331950
12	1/2	13/16-16	16.3	18.9	8	5	12.0	24	9840575
								15/16	87331951
16	5/8	1-14	20.75	23.45	10	6	13.5	30	9840576
								1-1/8	47818474
20	3/4	1-3/16-12	23.75	27.85	10	6.5	15.0	36	9847689
								1-3/8	
25	1	1-7/16-12	28.7	34.2	15	7	16.0	41	9847690
								1-5/8	
30	1-1/4	1-11/16-12	35.6	40.55	15	7	16.0	50	9847691
								1-7/8	
38	1-1/2	2-12	43.55	48.5	15	7	16.0	60	9847688
								2-1/4	

Shaded area represents Inch fittings

*D1 drill is optional

O-RING FACE SEAL TUBE NUT

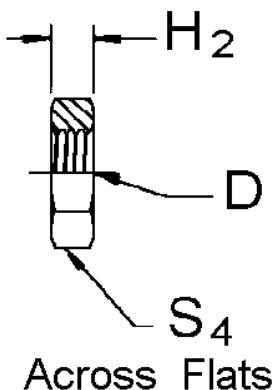


Metric & Inch

Tube OD		D Thread	H	H1 ±0.15	S	Part No.
mm	Inch				Metric Inch	Metric Inch
6	1/4	9/16-18	15	3	17 11/16	86639092
8 & 10	5/16 & 3/8	11/16-16	17	4	22 13/16	84052987 82981690
12	1/2	13/16-16	20	5	24 15/16	85802628 86541144
16	5/8	1-14	24	5.5	30 1-1/8	85802819 86624028
20	3/4	1-3/16-12	26.5	6.5	36 1-3/8	85802972 87530409
25	1	1-7/16-12	27.5	7	41 1-5/8	86639097 86541146
30	1-1/4	1-11/16-12	27.5	7	50 1-7/8	86639098 87530411
38	1-1/2	2-12	27.5	7	60 2-1/4	86639099 86637676

Shaded area represents Inch fittings

BULKHEAD LOCKNUT



Inch Threads

Tube OD		D	H2	S4 HEX	Part No.
mm	Inch			Metric	Metric
				Inch	Inch
6	1/4	9/16-18	7	22	86639063
				13/16	87381288
8 & 10	5/16 & 3/8	11/16-16	8	27	87010704
				1	87381287
12	1/2	13/16-16	9	30	86639083
				1-1/8	87381289
16	5/8	1-14	10.5	36	86639085
				1-5/16	87381294
20	3/4	1-3/16-12	10.5	41	86639062
				1-1/2	47603496*
25	1	1-7/16-12	10.5	46	86639084
				1-3/4	48110513
30	1-1/4	1-11/16-12	10.5	50	48061836
				2	87559423
38	1-1/2	2-12	10.5	60	
				2-3/8	87533994

Shaded area represents Inch fittings

* Also shown on STPL110

Metric Threads

Tube OD		D	H2	S4 HEX	Part No.
mm	Inch				
16	5/8	M24x1.5	6	32	5129168