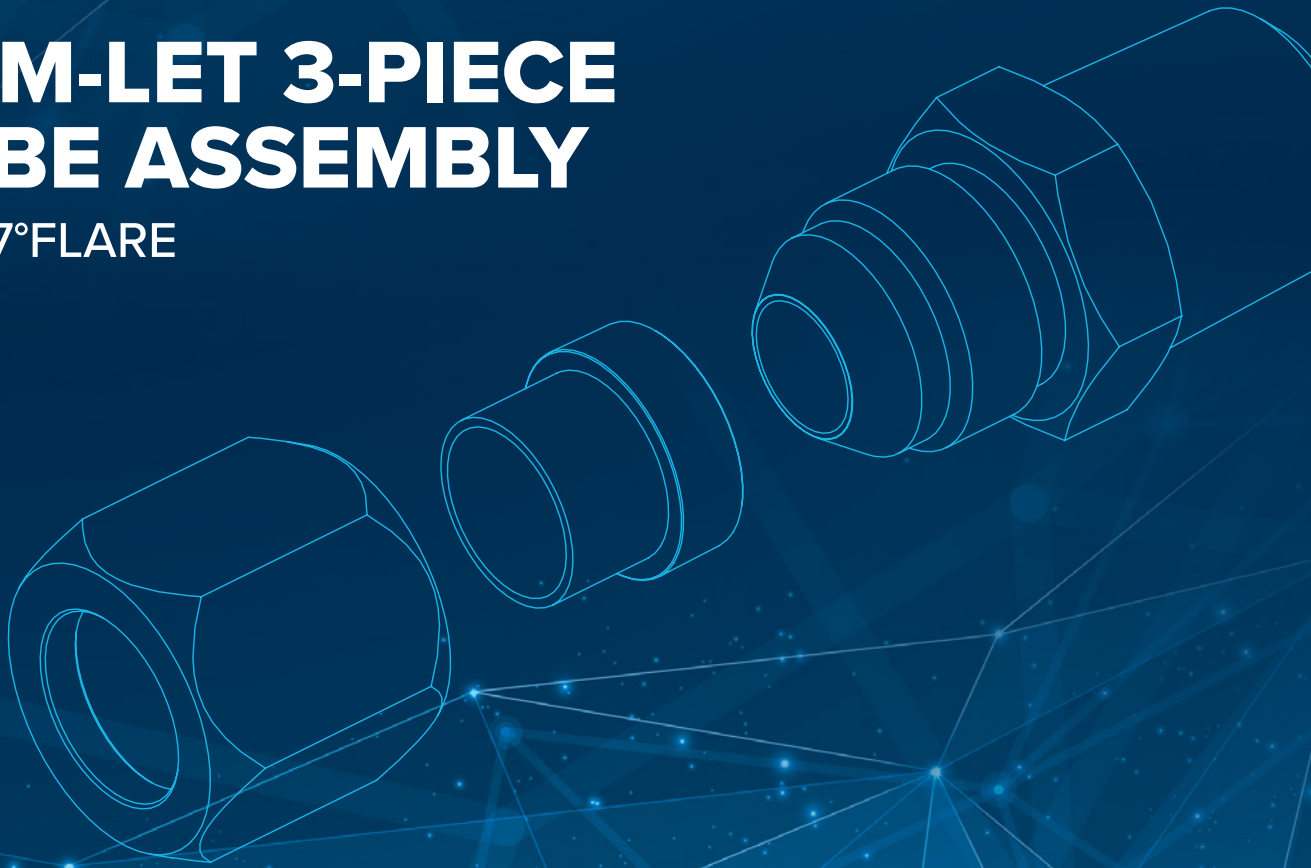


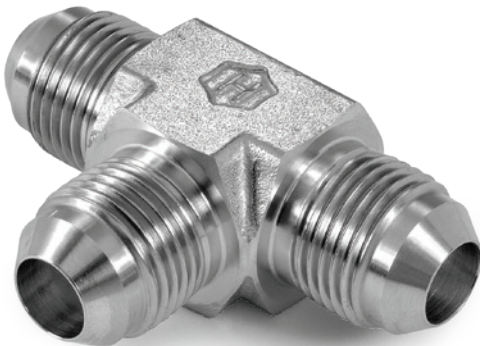


HAM-LET 3-PIECE TUBE ASSEMBLY

SAE37°FLARE



- ✓ Flared tube fittings, compliant with SAE J514 standard
- ✓ 316/316L stainless steel, 3-piece assembly
- ✓ Size ranges 1/8" to 2", and 6mm to 38mm



STAINLESS STEEL HIGH PRESSURE
37° TUBE FITTINGS 1/8" TO 2"

MEETS SAE STANDARD J514

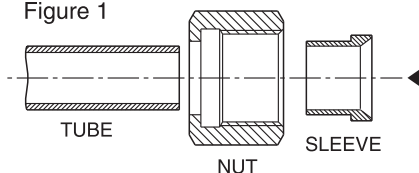
All 37° Flared Tube Fittings 3-Piece Tube Assembly can be used with a metric tube by using a metric 37° sleeve instead of an inch sleeve. Each dimension table shows which metric sleeve should be used for every size.

If necessary, see SAE Standard J514 for a complete list of dimensions.
NPT Tapered Pipe Threads meet the requirements of ASME/ANSI B.1.20.1.

ASSEMBLY INSTRUCTIONS

1. Cut the tube to the proper length.
2. Slide the nut and sleeve onto the tube. (see Fig.1).
3. With a special flaring tool, form the flare to 37° dimension according to SAE STD. J533. (see Fig. 2).
4. Screw the nut onto the body until finger tight.
5. From this position, tighten the nut with a wrench 1/4" turn in order to make a leak proof metal-to-a metal connection.

Figure 1



TUBING DATA FOR 37° FLARE THREE-PIECE TUBE ASSEMBLY

In order to ensure maximum fitting reliability and performance, please take great care when selecting the tube for each application. Tubing should be fully annealed, seamless, drawn, suitable for bending flaring according to standard ASTM-269, A.I.S.I. 316 or 304.

QUALITY

Lengths of finished tubing should be reasonably straight and have smooth ends, (free from burrs). Tubing should be free from scale and injurious defects, and it should have a workmanlike finish. Surface imperfections such as handling marks, die marks, or shallow pits are not considered injurious defects provided the imperfections are within the tolerances specified for diameter and wall thickness. The removal of such imperfections is not required. (Quality SAE J524:-)

TUBE HANDLING

Scratches on the tube might cause leaks. Therefore, it is important to handle the tube carefully to reduce the risk of leaks.

1. Do not drag tubes on the floor.
2. Do not drag tubes out of the tubing rack, especially in cases of large OD tubes.

TUBE CUTTING

Two different tools can be used to cut tubes:

1. Tube cutter
2. Hacksaw

TUBE CUTTER

To attain a leak-free connection, the tubing must be cut squarely. A good quality tube cutter with the correct cutting wheel for the type of tubing being cut is recommended. Do not try to reduce the time of cutting by taking deep cuts with each turn of the cutter.

The end of the tube must be deburred to avoid damage to the fitting and to ensure that the tube reaches the bottom of the fitting.

HACKSAW CUTTING

In order to cut the tube with a hacksaw and to attain square ends, the tube must be cut with guide blocks. This method of cutting requires deburring of the tube ends.

NOTE:

Do not hold the tube in a vise in the place where it will be inserted into the fitting. The vise will leave a mark on the tube that may cause leaks and might cause ovality.

ASSEMBLY INSTRUCTIONS

Perform flaring according to SAE J533. See Fig. 2.
See Table 1 below for dimensions.

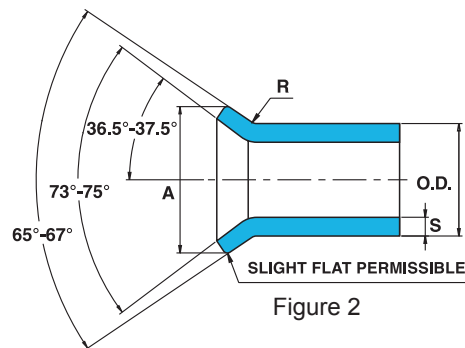


Figure 2

TABLE 1: FLARING

Nominal Tube O.D.	A Single Flare Diameter				R		S		DEBURRING PRIOR TO FLARING
inch	inch		mm		inch	mm	inch	mm	
	Max	Min	Max	Min	±0.02	±0.5	Max	Max	
1/8	0.20	0.18	5.08	4.58	0.03	0.8	0.035	0.88	
3/16	0.28	0.26	7.11	6.61	0.03	0.8	0.035	0.88	To ensure satisfactory flare production, tube end deburring might be required prior to flaring. It is usually necessary to break the inside corner smoothly before single flaring. In addition, some non-ferrous tubing is normally required to eliminate the cutoff burr which might otherwise create leakage paths across a substantial portion of the flare. Smoothly breaking the outside corner prior to single flaring, or both the outside and inside corners prior to double flaring, is acceptable for any tube material to minimize splitting.
1/4	0.36	0.34	9.14	8.64	0.03	0.8	0.065	1.65	
5/16	0.43	0.40	10.92	10.16	0.03	0.8	0.065	1.65	
3/8	0.49	0.46	12.44	11.69	0.04	1.0	0.065	1.65	
1/2	0.66	0.63	16.76	16.01	0.06	1.5	0.083	2.1	
5/8	0.79	0.76	20.06	19.31	0.06	1.5	0.095	2.41	
3/4	0.95	0.92	24.13	23.37	0.08	2.0	0.109	2.76	
7/8	1.07	1.04	27.17	26.42	0.08	2.0	0.109	2.76	
1	1.20	1.17	30.48	29.72	0.09	2.3	0.12	3.04	
1 1/8	1.38	1.35	35.05	34.29	0.09	2.3	0.12	3.04	
1 1/4	1.51	1.48	38.35	37.60	0.09	2.3	0.12	3.04	
1 1/2	1.73	1.70	43.94	43.18	0.11	2.8	0.12	3.04	
2	2.36	2.33	59.94	59.19	0.11	2.8	0.13	3.4	

Dimensions are for reference only and are subject to change without notice.

TABLE 2: ALLOWABLE WORKING PRESSURE RATINGS (CAPABLE OF 4" TO 1" MIN. BURST)

Nom. SAE Dash Size	Nom. Tube O.D. Inches	37° Flare Straight Thread Inches / mm	Nom. Pipe Size Inches	SAE St.Threads Union and Bulkhead	Fittings with Pipe Threads	NOTE
2	1/8	5/16 - 24	1/8	5000	5000	As many factors influence the pressure at which a system will or will not perform satisfactorily, values shown in Table 2 should not be construed as guaranteed minimum.
3	3/16	3/8 - 24	1/8	5000	5000	
4	1/4	7/16 - 20	1/8	5000	5000	
5	5/16	1/2 - 20	1/8	5000	5000	
6	3/8	9/16 - 18	1/4	5000	5000	
8	1/2	3/4 - 16	3/8	4500	4000	
10	5/8	7/8 - 14	1/2	3500	3000	
12	3/4	1 1/16 - 12	3/4	3500	3000	
14	7/8	1 3/16 - 12	3/4	3000	2500	
16	1	1 5/16 - 12	1	3000	2000	
20	1 1/4	1 5/8 - 12	1 1/4	2500	1150	
24	1 1/2	1 7/8 - 12	1 1/2	2000	1000	
32	2	2 1/2 - 12	2	1500	1000	

SAE37°FLARE INDEX

SLEEVE

For 3-piece tube assembly
S.A.E. 070115
740HF



115

NUT

For 3-piece tube assembly
S.A.E. 070110
741HF



115

REDUCING ADAPTER

S.A.E. 070123
741HFL



116

UNION

S.A.E. 070101
742HF



117

LARGE HEX UNION

S.A.E. 070119
742HFL



117

UNION TEE

S.A.E. 070401
744HF



117

MALE BRANCH TEE

S.A.E. 070425
745HF



119

FEMALE CONNECTOR

S.A.E. 070103
746HF



120

MALE CONNECTOR

S.A.E. 070102
748HF



121

MALE CONNECTOR

S.A.E. 0701120
748HOB



122

MALE ELBOW

S.A.E. 070202
749HF



123

FEMALE ELBOW

S.A.E. 070203
750HF



124

MALE RUN TEE

S.A.E. 070424
751HF



125

UNION ELBOW

S.A.E. 070201
755HF



126

FEMALE RUN TEE

S.A.E. 070426
771HFL



127

FEMALE BRANCH TEE

S.A.E. 070427
772HFL



128

BULKHEAD UNION

S.A.E. 070601
774HFL



129

BULKHEAD LOCKNUT

S.A.E. 070118
774HFLN



129

CROSS

S.A.E. 070501
7102HFL



130

TUBE PLUG

S.A.E. 070109
7639HF



131

CAP

S.A.E. 070112
7640HF

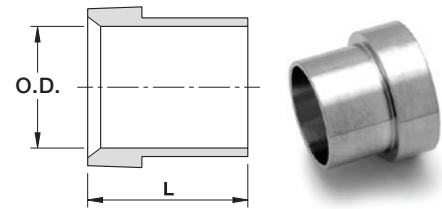


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All 37° Flared Tube Fittings 3-Piece Tube Assembly can be used with a metric tube by using a metric 37° sleeve instead of an inch sleeve. Each dimension table shows which metric sleeve should be used for every size.

740 HF SLEEVE FOR 3-PIECE TUBE ASSEMBLY

S.A.E. 070115



INCH SLEEVE

Ordering Information	Tube O.D.	L	
	inch	inch	mm
740HF SS 1/8"	1/8	0.34	8.6
740HF SS 3/16"	3/16	0.34	8.6
740HF SS 1/4"	1/4	0.41	10.4
740HF SS 5/16"	5/16	0.44	11.2
740HF SS 3/8"	3/8	0.50	12.7
740HF SS 1/2"	1/2	0.56	14.2
740HF SS 5/8"	5/8	0.66	16.8
740HF SS 3/4"	3/4	0.68	17.3
740HF SS 7/8"	7/8	0.76	19.3
740HF SS 1"	1	0.78	19.8
740HF SS 1 1/4"	1 1/4	0.91	23.1
740HF SS 1 1/2"	1 1/2	1.12	28.4
740HF SS 2"	2	1.19	30.2

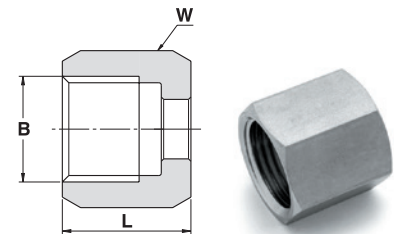
METRIC SLEEVE

Ordering Information	Tube O.D.	L
	mm	mm
	-	-
	-	-
740HF SS 6MM	6	10.4
740HF SS 8MM	8	11.2
740HF SS 10MM	10	12.7
740HF SS 12MM	12	14.2
740HF SS 16MM	16	16.8
740HF SS 18MM	18	17.3
740HF SS 20MM	20	19.3
740HF SS 25MM	25	19.8
740HF SS 32MM	32	23.1
740HF SS 38MM	38	28.4

Metric sleeves are used with standard nuts and bodies.

741 HF NUT FOR 3-PIECE TUBE ASSEMBLY

S.A.E. 070110

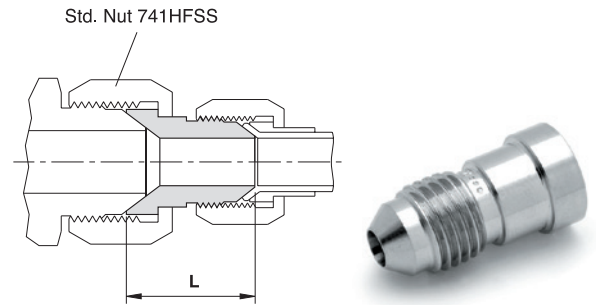


Ordering Information	Tube O.D.		B UN	W Hex. Flat	L	
	inch	mm		inch	inch	mm
741HF SS 1/8"	1/8	-	5/16 -24	3/8	0.54	13.7
741HF SS 3/16"	3/16	-	3/8 -24	7/16	0.60	15.2
741HF SS 1/4" / 6MM	1/4	6	7/16 -20	9/16	0.61	15.5
741HF SS 5/16" / 8MM	5/16	8	1/2 -20	5/8	0.67	17.0
741HF SS 3/8" / 10MM	3/8	10	9/16 -18	11/16	0.72	18.3
741HF SS 1/2" / 12MM	1/2	12	3/4 -16	7/8	0.84	21.3
741HF SS 5/8" / 16MM	5/8	16	7/8 -14	1	0.97	24.6
741HF SS 3/4" / 18MM	3/4	18	1 1/16 -12	1 1/4	1.02	25.9
741HF SS 7/8" / 20MM	7/8	20	1 3/16 -12	1 3/8	1.08	27.4
741HF SS 1" / 25MM	1	25	1 5/16 -12	1 1/2	1.12	28.4
741HF SS 1 1/4" / 32MM	1 1/4	32	1 5/8 -12	2	1.22	31.0
741HF SS 1 1/2" / 38MM	1 1/2	38	1 7/8 -12	2 1/4	1.41	35.8
741HF SS 2"	2	-	2 1/2 -12	2 7/8	1.74	44.2

741 HFL

REDUCING ADAPTER

S.A.E. 070123



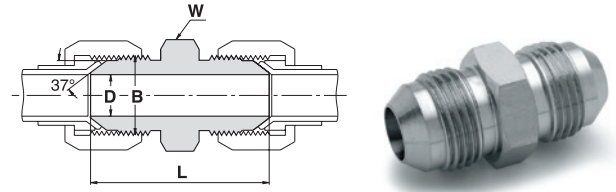
TUBE (INCH)

Ordering Information	Tube O.D.	B UN	L	
	inch		inch	mm
741HFL SS 3/8" X 1/4"	3/8 to 1/4	7/16 - 20	0.97	24.6
741HFL SS 1/2" X 1/4"	1/2 to 1/4	7/16 - 20	1.00	25.4
741HFL SS 1/2" X 3/8"	1/2 to 3/8	9/16 - 18	1.00	25.4
741HFL SS 5/8" X 1/4"	5/8 to 1/4	7/16 - 20	1.03	26.2
741HFL SS 5/8" X 3/8"	5/8 to 3/8	9/16 - 18	1.03	26.2
741HFL SS 3/4" X 1/4"	3/4 to 1/4	7/16 - 20	1.09	27.7
741HFL SS 3/4" X 3/8"	3/4 to 3/8	9/16 - 18	1.09	27.7
741HFL SS 3/4" X 1/2"	3/4 to 1/2	3/4 - 16	1.19	30.2
741HFL SS 3/4" X 5/8"	3/4 to 5/8	7/8 - 14	1.66	42.1
741HFL SS 7/8" X 3/8"	7/8 to 3/8	9/16 - 18	1.13	28.7
741HFL SS 7/8" X 5/8"	7/8 to 5/8	7/8 - 14	1.33	33.7
741HFL SS 7/8" X 3/4"	7/8 to 3/4	1 1/16 - 12	1.84	46.7
741HFL SS 1" X 3/4"	1 to 3/4	1 1/16 - 12	1.47	37.3
741HFL SS 1" X 7/8"	1 to 7/8	1 3/16 - 12	1.91	48.5
741HFL SS 1 1/4" X 3/4"	1 1/4 to 3/4	1 1/16 - 12	1.53	38.8
741HFL SS 1 1/4" X 1"	1 1/4 to 1	1 5/16 - 12	1.59	40.3
741HFL SS 1 1/2" X 1 1/4"	1 1/2 to 1 1/4	1 5/8 - 12	1.69	42.9

TUBE (MM)

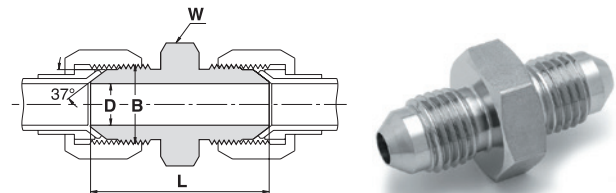
Ordering Information	Tube O.D.	B UN	L	
	inch to mm		inch	mm
741HFL SS 3/8" X 6MM	3/8 to 6	7/16 - 20	0.97	24.6
741HFL SS 1/2" X 6MM	1/2 to 6	7/16 - 20	1.00	25.4
741HFL SS 1/2" X 10MM	1/2 to 10	9/16 - 18	1.00	25.4
741HFL SS 5/8" X 6MM	5/8 to 6	7/16 - 20	1.03	26.2
741HFL SS 5/8" X 10MM	5/8 to 10	9/16 - 18	1.03	26.2
741HFL SS 5/8" X 12MM	5/8 to 12	3/4 - 16	1.44	36.5
741HFL SS 3/4" X 6MM	3/4 to 6	7/16 - 20	1.09	27.7
741HFL SS 3/4" X 10MM	3/4 to 10	9/16 - 18	1.09	27.7
741HFL SS 3/4" X 12MM	3/4 to 12	3/4 - 16	1.19	30.2
741HFL SS 3/4" X 16MM	3/4 to 16	7/8 - 14	1.66	42.1
741HFL SS 7/8" X 10MM	7/8 to 10	9/16 - 18	1.13	28.7
741HFL SS 7/8" X 16MM	7/8 to 16	7/8 - 14	1.33	33.7
741HFL SS 7/8" X 18MM	7/8 to 18	1 1/16 - 12	1.84	46.7
741HFL SS 1" X 18MM	1 to 18	1 1/16 - 12	1.47	37.3
741HFL SS 1" X 20MM	1 to 20	1 3/16 - 12	1.91	48.5
741HFL SS 1 1/4" X 18MM	1 1/4 to 18	1 1/16 - 12	1.53	38.8
741HFL SS 1 1/4" X 25MM	1 1/4 to 25	1 5/16 - 12	1.59	40.3
741HFL SS 1 1/2" X 32MM	1 1/2 to 32	1 5/8 - 12	1.69	42.9

742 HF
UNION
 S.A.E. 070101



Ordering Information	Tube O.D.		B UN	D		W Hex. Flat	L	
	inch	mm		inch	mm		inch	mm
742HF SS 1/8"	1/8	-	5/16 - 24	0.062	1.6	7/16	1.17	29.7
742HF SS 3/16"	3/16	-	3/8 - 24	0.125	3.2	7/16	1.23	31.2
742HF SS 1/4" / 6MM	1/4	6	7/16 - 20	0.172	4.4	1/2	1.37	34.8
742HF SS 5/16" / 8MM	5/16	8	1/2 - 20	0.234	6.0	9/16	1.37	34.8
742HF SS 3/8" / 10MM	3/8	10	9/16 - 18	0.297	7.5	5/8	1.41	35.8
742HF SS 1/2" / 12MM	1/2	12	3/4 - 16	0.391	9.9	13/16	1.62	41.1
742HF SS 5/8" / 16MM	5/8	16	7/8 - 14	0.484	12.3	15/16	1.88	47.8
742HF SS 3/4" / 18MM	3/4	18	1 1/16 - 12	0.609	15.5	1 1/8	2.16	54.9
742HF SS 7/8" / 20MM	7/8	20	1 3/16 - 12	0.719	18.3	1 1/4	2.21	56.1
742HF SS 1" / 25MM	1	25	1 5/16 - 12	0.844	21.5	1 3/8	2.25	57.2
742HF SS 1 1/4" / 32MM	1 1/4	32	1 5/8 - 12	1.078	27.5	1 11/16	2.43	61.7
742HF SS 1 1/2" / 38MM	1 1/2	38	1 7/8 - 12	1.312	33.0	2	2.75	69.8
742HF SS 2"	2	-	2 1/2 - 12	1.781	45.0	2 5/8	3.04	86.4

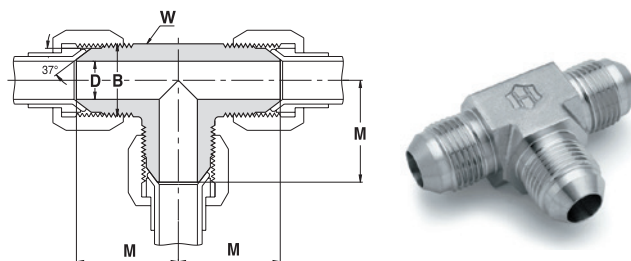
742 HFL
LARGE HEX UNION
 S.A.E. 070119



Ordering Information	Tube O.D.		B UN	D		W Hex. Flat	L	
	inch	mm		inch	mm		inch	mm
742HFL SS 1/8"	1/8	-	5/16 - 24	0.062	1.6	9/16	1.17	29.7
742HFL SS 3/16"	3/16	-	3/8 - 24	0.125	3.2	5/8	1.23	31.2
742HFL SS 1/4" / 6MM	1/4	6	7/16 - 20	0.172	4.4	11/16	1.37	34.8
742HFL SS 5/16" / 8MM	5/16	8	1/2 - 20	0.234	6.0	3/4	1.37	34.8
742HFL SS 3/8" / 10MM	3/8	10	9/16 - 18	0.297	7.5	13/16	1.41	35.8
742HFL SS 1/2" / 12MM	1/2	12	3/4 - 16	0.391	9.9	1	1.62	41.1
742HFL SS 5/8" / 16MM	5/8	16	7/8 - 14	0.484	12.3	1 1/8	1.88	47.8
742HFL SS 3/4" / 18MM	3/4	18	1 1/16 - 12	0.609	15.5	1 3/8	2.16	54.9
742HFL SS 7/8" / 20MM	7/8	20	1 3/16 - 12	0.719	18.3	1 1/2	2.21	56.1
742HFL SS 1" / 25MM	1	25	1 5/16 - 12	0.844	21.5	1 5/8	2.25	57.2
742HFL SS 1 1/4" / 32MM	1 1/4	32	1 5/8 - 12	1.078	27.5	1 7/8	2.43	61.7
742HFL SS 1 1/2" / 38MM	1 1/2	38	1 7/8 - 12	1.312	33.0	2 1/8	2.75	69.8
742HFL SS 2"	2	-	2 1/2 - 12	1.781	45.0	2 3/4	3.04	86.4

"D" Dimension is minimum opening. Dimensions are for reference only and subject to change without notice.

744 HF
UNION TEE
S.A.E. 070401

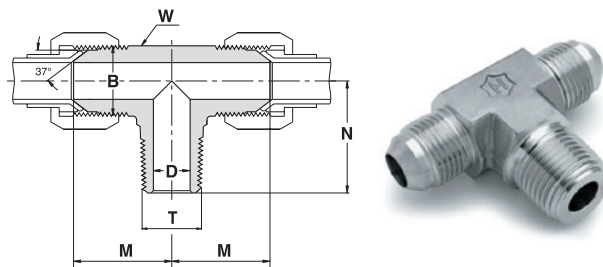


Ordering Information	Tube O.D.		B UN	D		W Wrench Flat	M	
	inch	mm		inch	mm	inch	inch	mm
744HF SS 1/8"	1/8	-	5/16 - 24	0.062	1.6	7/16	0.77	19.6
744HF SS 3/16"	3/16	-	3/8 - 24	0.125	3.2	1/2	0.83	21.1
744HF SS 1/4" / 6MM	1/4	6	7/16 - 20	0.172	4.4	1/2	0.89	22.6
744HF SS 5/16" / 8MM	5/16	8	1/2 - 20	0.234	6.0	5/8	0.95	24.1
744HF SS 3/8" / 10MM	3/8	10	9/16 - 18	0.297	7.5	5/8	1.06	26.9
744HF SS 1/2" / 12MM	1/2	12	3/4 - 16	0.391	9.9	15/16	1.25	31.8
744HF SS 5/8" / 16MM	5/8	16	7/8 - 14	0.484	12.3	15/16	1.45	36.8
744HF SS 3/4" / 18MM	3/4	18	1 1/16 - 12	0.609	15.5	1 3/8	1.66	42.2
744HF SS 7/8" / 20MM	7/8	20	1 3/16 - 12	0.719	18.3	1 3/8	1.80	45.7
744HF SS 1" / 25MM	1	25	1 5/16 - 12	0.844	21.5	1 3/8	1.81	46.0
744HF SS 1 1/4" / 32MM	1 1/4	32	1 5/8 - 12	1.078	27.5	2	2.06	52.3
744HF SS 1 1/2" / 38MM	1 1/2	38	1 7/8 - 12	1.312	33.0	*2	2.33	59.2
744HF SS 2"	2	-	2 1/2 - 12	1.781	45.0	*2 5/8	3.06	77.7

*Not from Forging

"D" Dimension is minimum opening. Dimensions are for reference only and are subject to change without notice.

745 HF
MALE BRANCH TEE
S.A.E. 070425

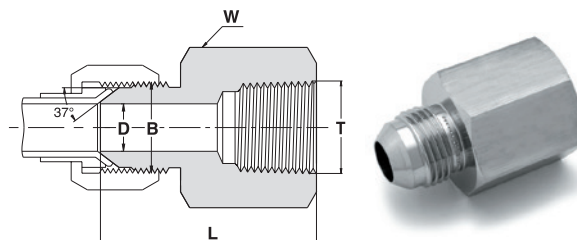


Ordering Information	Tube O.D.		B UN	T NPT	D		W Wrench Flat	M		N	
	inch	mm			inch	mm		inch	mm	inch	mm
745HF SS 1/8" X 1/8"	1/8	-	5/16 - 24	1/8 - 27	0.062	1.6	7/16	0.77	19.6	0.72	18.3
745HF SS 3/16" X 1/8"	3/16	-	3/8 - 24	1/8 - 27	0.125	3.2	1/2	0.83	21.1	0.72	18.3
745HF SS 1/4" / 6MM X 1/8"	1/4	6	7/16 - 20	1/8 - 27	0.172	4.4	1/2	0.89	22.6	0.78	19.8
745HF SS 1/4" / 6MM X 1/4"	1/4	6	7/16 - 20	1/4 - 18	0.172	4.4	5/8	1.06	26.9	1.09	27.7
745HF SS 5/16" / 8MM X 1/8"	5/16	8	1/2 - 20	1/8 - 27	0.190	4.8	5/8	0.95	24.1	0.78	19.8
745HF SS 5/16" / 8MM X 1/4"	5/16	8	1/2 - 20	1/4 - 18	0.234	6.0	5/8	1.06	26.9	1.09	27.7
745HF SS 3/8" / 10MM X 1/8"	3/8	10	9/16 - 18	1/8 - 27	0.190	4.8	5/8	1.06	26.9	0.90	22.8
745HF SS 3/8" / 10MM X 1/4"	3/8	10	9/16 - 18	1/4 - 18	0.280	7.1	5/8	1.06	26.9	1.09	27.7
745HF SS 3/8" / 10MM X 3/8"	3/8	10	9/16 - 18	3/8 - 18	0.297	7.5	13/16	1.14	29.0	1.22	31.0
745HF SS 3/8" / 10MM X 1/2"	3/8	10	9/16 - 18	1/2 - 14	0.297	7.5	15/16	1.23	31.2	1.47	37.3
745HF SS 1/2" / 12MM X 1/4"	1/2	12	3/4 - 16	1/4 - 18	0.280	7.1	15/16	1.25	31.8	1.22	31.0
745HF SS 1/2" / 12MM X 3/8"	1/2	12	3/4 - 16	3/8 - 18	0.380	9.5	15/16	1.25	31.8	1.22	31.0
745HF SS 1/2" / 12MM X 1/2"	1/2	12	3/4 - 16	1/2 - 14	0.391	9.9	15/16	1.33	33.7	1.47	37.3
745HF SS 1/2" / 12MM X 3/4"	1/2	12	3/4 - 16	3/4 - 14	0.391	9.9	1 1/8	1.42	36.0	1.59	40.4
745HF SS 5/8" / 16MM X 3/8"	5/8	16	7/8 - 14	3/8 - 18	0.380	9.5	15/16	1.45	36.8	1.30	33.0
745HF SS 5/8" / 16MM X 1/2"	5/8	16	7/8 - 14	1/2 - 14	0.470	11.9	15/16	1.45	36.8	1.47	37.3
745HF SS 5/8" / 16MM X 3/4"	5/8	16	7/8 - 14	3/4 - 14	0.484	12.3	1 1/8	1.53	38.9	1.59	40.4
745HF SS 3/4" / 18MM X 1/2"	3/4	18	1 1/16 - 12	1/2 - 14	0.470	11.9	1 1/8	1.66	41.0	1.59	40.4
745HF SS 3/4" / 18MM X 3/4"	3/4	18	1 1/16 - 12	3/4 - 14	0.609	15.5	1 1/8	1.66	41.0	1.59	40.4
745HF SS 7/8" / 20MM X 3/4"	7/8	20	1 3/16 - 12	3/4 - 14	0.719	18.3	1 3/8	1.73	43.9	1.69	42.9
745HF SS 1" / 25MM X 3/4"	1	25	1 5/16 - 12	3/4 - 14	0.719	18.3	1 3/8	1.81	46.0	1.78	45.2
745HF SS 1" / 25 MM X 1"	1	25	1 5/16 - 12	1-11.5	0.844	21.5	1 3/8	1.81	46.0	1.97	50.0
745HF SS 1 1/4" / 32 MM X 1"	1 1/4	32	1 5/8 - 12	1-11.5	0.844	21.5	2*	2.06	52.3	2.35	59.6
745HF SS 1 1/4" / 32 MM X 1 1/4"	1 1/4	32	1 5/8 - 12	1 1/4 -11.5	1.078	27.5	2*	2.06	52.3	2.38	60.5
745HF SS 1 1/2" / 38 MM X 1 1/2"	1 1/2	38	1 7/8 - 12	1 1/2 -11.5	1.312	33.0	2*	2.33	59.2	2.64	67.1
745HF SS 2" X 2"	2	-	1 7/8 - 12	2-11.5	1.781	45.0	2 5/8*	3.06	77.7	3.00	76.2

*Not from forging

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746 HF
FEMALE CONNECTOR
S.A.E. 070103



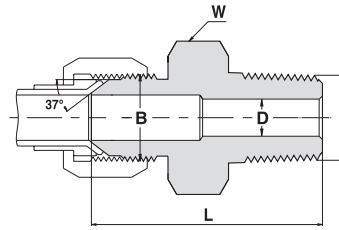
Ordering Information	Tube O.D.		B UN	T NPT	D		W Hex. Flat	L	
	inch	mm			inch	mm		inch	mm
746HF SS 1/8" X 1/8"	1/8	-	5/16 - 24	1/8 - 27	0.062	1.6	9/16	1.12	28.4
746HF SS 3/16" X 1/8"	3/16	-	3/8 - 24	1/8 - 27	0.125	3.2	9/16	1.13	28.7
746HF SS 1/4" / 6MM X 1/8"	1/4	6	7/16 - 20	1/8 - 27	0.172	4.4	9/16	1.19	30.2
746HF SS 1/4" / 6MM X 1/4"	1/4	6	7/16 - 20	1/4 - 18	0.172	4.4	3/4	1.39	35.3
746HF SS 5/16" / 8MM X 1/8"	5/16	8	1/2 - 20	1/8 - 27	0.234	6.0	9/16	1.17	29.7
746HF SS 5/16" / 8MM X 1/4"	5/16	8	1/2 - 20	1/4 - 18	0.234	6.0	3/4	1.39	35.3
746HF SS 3/8" / 10MM X 1/4"	3/8	10	9/16 - 18	1/4 - 18	0.297	7.5	3/4	1.40	35.6
746HF SS 3/8" / 10MM X 3/8"	3/8	10	9/16 - 18	3/8 - 18	0.297	7.5	7/8	1.46	37.1
746HF SS 1/2" / 12MM X 3/8"	1/2	12	3/4 - 16	3/8 - 18	0.391	9.9	7/8	1.56	39.6
746HF SS 1/2" / 12MM X 1/2"	1/2	12	3/4 - 16	1/2 - 14	0.391	9.9	1 1/8	1.79	45.6
746HF SS 5/8" / 16MM X 1/2"	5/8	16	7/8 - 14	1/2 - 14	0.484	12.3	1 1/8	1.89	48.0
746HF SS 3/4" / 18MM X 1/2"	3/4	18	1 1/16 - 12	1/2 - 14	0.609	15.5	1 1/8	2.05	52.1
746HF SS 3/4" / 18MM X 3/4"	3/4	18	1 1/16 - 12	3/4 - 14	0.609	15.5	1 3/8	2.06	52.3
746HF SS 7/8" / 20MM X 3/4"	7/8	20	1 3/16 - 12	3/4 - 14	0.719	18.3	1 3/8	2.06	52.3
746HF SS 1" / 25MM X 1"	1	25	1 5/16 - 12	1 - 11.5	0.844	21.5	1 5/8	2.35	59.7
746HF SS 1 1/4" / 32MM X 1 1/4"	1 1/4	32	1 5/8 - 12	1 1/4 - 11.5	1.078	27.5	2	2.49	63.2
746HF SS 1 1/2" / 38MM X 1 1/2"	1 1/2	38	1 7/8 - 12	1 1/2 - 11.5	1.312	33.0	2 3/8	2.62	66.5
746HF SS 2" X 2"	2	-	2 1/2 - 12	2 - 11.5	1.781	45.0	2 7/8	2.97	75.4

"D" Dimension is minimum opening. Dimensions are for reference only and subject to change without notice.

748 HF

MALE CONNECTOR

S.A.E. 070102



Ordering Information	Tube O.D.		B UN	T NPT	D		W Hex. Flat	L	
	inch	mm			inch	mm		inch	mm
748HF SS 1/8" X 1/8"	1/8	-	5/16 - 24	1/8 - 27	0.062	1.6	7/16	1.11	28.2
748HF SS 3/16" X 1/8"	3/16	-	3/8 - 24	1/8 - 27	0.125	3.2	7/16	1.14	29.0
748HF SS 1/4" / 6MM X 1/8"	1/4	6	7/16 - 20	1/8 - 27	0.172	4.4	1/2	1.22	31.0
748HF SS 1/4" / 6MM X 1/4"	1/4	6	7/16 - 20	1/4 - 18	0.172	4.4	9/16	1.42	36.0
748HF SS 1/4" / 6MM X 1/2"	1/4	6	7/16 - 20	1/2 - 14	0.172	4.4	7/8	1.61	41.0
748HF SS 5/16" / 8MM X 1/8"	5/16	8	1/2 - 20	1/8 - 27	0.190	4.8	9/16	1.22	31.0
748HF SS 5/16" / 8MM X 1/4"	5/16	8	1/2 - 20	1/4 - 18	0.234	6.0	9/16	1.42	36.1
748HF SS 3/8" / 10MM X 1/8"	3/8	10	9/16 - 18	1/8 - 27	0.190	4.8	5/8	1.25	31.8
748HF SS 3/8" / 10MM X 1/4"	3/8	10	9/16 - 18	1/4 - 18	0.280	7.1	5/8	1.43	36.3
748HF SS 3/8" / 10MM X 3/8"	3/8	10	9/16 - 18	3/8 - 18	0.297	7.5	3/4	1.43	36.3
748HF SS 3/8" / 10MM X 1/2"	3/8	10	9/16 - 18	1/2 - 14	0.297	7.5	7/8	1.69	42.5
748HF SS 1/2" / 12MM X 1/4"	1/2	12	3/4 - 16	1/4 - 18	0.280	7.1	13/16	1.53	38.9
748HF SS 1/2" / 12MM X 3/8"	1/2	12	3/4 - 16	3/8 - 18	0.380	9.5	13/16	1.53	38.9
748HF SS 1/2" / 12MM X 1/2"	1/2	12	3/4 - 16	1/2 - 14	0.391	9.9	7/8	1.79	45.4
748HF SS 1/2" / 12MM X 3/4"	1/2	12	3/4 - 16	3/4 - 14	0.391	9.9	1 1/8	1.85	47.0
748HF SS 5/8" / 16MM X 3/8"	5/8	16	7/8 - 14	3/8 - 18	0.380	9.5	15/16	1.70	43.1
748HF SS 5/8" / 16MM X 1/2"	5/8	16	7/8 - 14	1/2 - 14	0.484	11.9	15/16	1.89	48.0
748HF SS 5/8" / 16MM X 3/4"	5/8	16	7/8 - 14	3/4 - 14	0.470	12.3	1 1/8	1.95	49.5
748HF SS 3/4" / 18MM X 3/4"	3/4	18	1 1/16 - 12	3/4 - 14	0.609	15.5	1 1/8	2.06	52.3
748HF SS 3/4" / 18MM X 1"	3/4	18	1 1/16 - 12	1 - 11.5	0.609	15.5	1 3/8	2.25	57.1
748HF SS 7/8" / 20MM X 3/4"	7/8	20	1 3/16 - 12	3/4 - 14	0.719	18.3	1 1/4	2.09	53.1
748HF SS 1" / 25MM X 3/4"	1	25	1 5/16 - 12	3/4 - 14	0.719	18.3	1 3/8	2.11	53.5
748HF SS 1" / 25MM X 1"	1	25	1 5/16 - 12	1 - 11.5	0.844	21.5	1 3/8	2.30	58.4
748HF SS 1 1/4" / 32MM X 1"	1 1/4	32	1 5/8 - 12	1 - 11.5	0.844	21.5	1 3/4	2.42	61.5
748HF SS 1 1/4" / 32MM X 1 1/4"	1 1/4	32	1 5/8 - 12	1 1/4 - 11.5	1.078	27.5	1 3/4	2.45	62.2
748HF SS 1 1/2" / 38MM X 1 1/4"	1 1/2	38	1 7/8 - 12	1 1/4 - 11.5	1.312	33.0	2	2.68	68.1
748HF SS 1 1/2" / 38MM X 1 1/2"	1 1/2	38	1 7/8 - 12	1 1/2 - 11.5	1.312	33.0	2	2.68	68.1
748HF SS 2" X 2"	2	-	2 1/2 - 12	2 - 11.5	1.781	45.0	2 5/8	3.11	79.0

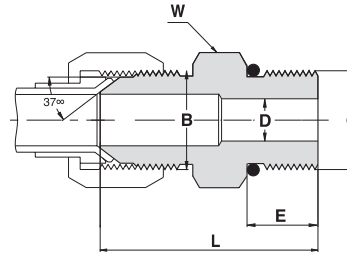
"D" Dimension is minimum opening. Dimensions are for reference only and subject to change without notice.

748 HOB

MALE CONNECTOR

SAE STRAIGHT THREAD BOSS CONNECTS FLARED

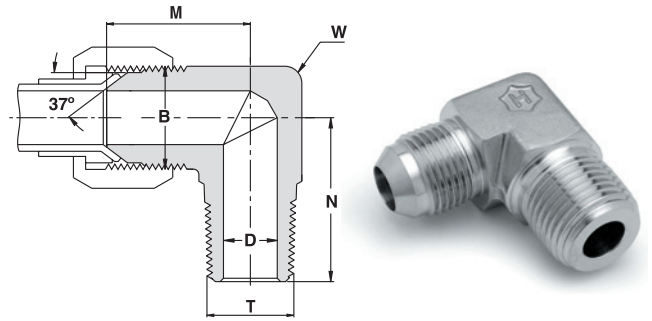
TUBE ENDS TO STRAIGHT THREAD BOSS S.A.E. 070120



Ordering Information	Tube O.D.		B UN	C UN	D		W Hex. Flat	E		L		O-Ring STD. Dash No.
	inch	mm			inch	mm		inch	mm	inch	mm	
748HOB SS 1/8" X 5/16"-24	1/8	-	5/16 - 24	5/16 - 24	0.062	1.6	7/16	0.30	7.5	1.06	26.9	-902
748HOB SS 3/16" X 3/8"-24	3/16	-	3/8 - 24	3/8 - 24	0.125	3.2	1/2	0.30	7.5	1.10	27.9	-903
748HOB SS 1/4" / 6MM X 7/16"-20	1/4	6	7/16 - 20	7/16 - 20	0.172	4.4	9/16	0.36	9.1	1.23	31.2	-904
748HOB SS 1/4" / 6MM X 1/2"-20	1/4	6	7/16 - 20	1/2 - 20	0.172	4.4	5/8	0.36	9.1	1.23	31.2	-905
748HOB SS 1/4" / 6MM X 9/16"-18	1/4	6	7/16 - 20	9/16 - 18	0.172	4.4	11/16	0.39	9.9	1.30	33.0	-906
748HOB SS 1/4" / 6MM X 3/4"-16	1/4	6	7/16 - 20	3/4 - 16	0.172	4.4	7/8	0.44	11.1	1.37	34.8	-908
748HOB SS 5/16" / 8MM X 1/2"-20	5/16	8	1/2 - 20	1/2 - 20	0.234	6.0	5/8	0.36	9.1	1.23	31.2	-905
748HOB SS 3/8" / 10MM X 9/16"-18	3/8	10	9/16 - 18	9/16 - 18	0.280	7.1	11/16	0.39	9.9	1.30	33.0	-906
748HOB SS 3/8" / 10MM X 3/4"-16	3/8	10	9/16 - 18	3/4 - 16	0.297	7.5	7/8	0.44	11.1	1.38	35.1	-908
748HOB SS 3/8" / 10MM X 7/8"-14	3/8	10	9/16 - 18	7/8 - 14	0.297	7.5	1	0.50	12.7	1.50	38.1	-910
748HOB SS 1/2" / 12MM X 3/4"-16	1/2	12	3/4 - 16	3/4 - 16	0.391	9.9	7/8	0.44	11.1	1.48	37.6	-908
748HOB SS 1/2" / 12MM X 9/16"-18	1/2	12	3/4 - 16	9/16 - 18	0.280	7.1	13/16	0.39	9.9	1.44	36.6	-906
748HOB SS 1/2" / 12MM X 7/8"-14	1/2	12	3/4 - 16	7/8 - 14	0.391	9.9	1	0.50	12.7	1.60	40.6	-910
748HOB SS 1/2" / 12MM X 1 1/16"-12	1/2	12	3/4 - 16	1 1/16 - 12	0.391	9.9	1 1/4	0.59	15.1	1.76	44.7	-912
748HOB SS 5/8" / 16MM X 7/8"-14	5/8	16	7/8 - 14	7/8 - 14	0.484	12.3	1	0.50	12.7	1.70	43.2	-910
748HOB SS 5/8" / 16MM X 3/4"-16	5/8	16	7/8 - 14	3/4 - 16	0.484	12.3	15/16	0.44	11.1	1.60	40.6	-908
748HOB SS 5/8" / 16MM X 1 1/16"-12	5/8	16	7/8 - 14	1 1/16 - 12	0.484	12.3	1 1/4	0.59	15.1	1.86	47.2	-912
748HOB SS 3/4" / 18MM X 1 1/16"-12	3/4	18	1 1/16 - 12	1 1/16 - 12	0.609	15.5	1 1/4	0.59	15.1	1.97	50.0	-912
748HOB SS 3/4" / 18MM X 3/4"-16	3/4	18	1 1/16 - 12	3/4 - 16	0.420	10.7	1 1/8	0.44	11.1	1.78	45.2	-908
748HOB SS 3/4" / 18MM X 7/8"-14	3/4	18	1 1/16 - 12	7/8 - 14	0.50	12.7	1 1/8	0.50	12.7	1.83	46.4	-910
748HOB SS 3/4" / 18MM X 1 5/16"-12	3/4	18	1 1/16 - 12	1 5/16 - 12	0.609	15.5	1 1/2	0.59	15.1	2.00	50.8	-916
748HOB SS 7/8" / 20MM X 1 3/16"-12	7/8	20	1 3/16 - 12	1 3/16 - 12	0.719	18.3	1 3/8	0.59	15.1	1.99	50.5	-914
748HOB SS 7/8" / 20MM X 1 5/16"-12	7/8	20	1 3/16 - 12	1 5/16 - 12	0.719	18.3	1 1/2	0.59	15.1	2.02	51.3	-916
748HOB SS 1" / 25MM X 1 1/16"-12	1	25	1 5/16 - 12	1 1/16 - 12	0.650	16.7	1 3/8	0.59	15.1	2.01	51.1	-912
748HOB SS 1" / 25MM X 1 3/16"-12	1	25	1 5/16 - 12	1 3/16 - 12	0.719	18.3	1 3/8	0.59	15.1	2.04	51.8	-914
748HOB SS 1" / 25MM X 1 5/16"-12	1	25	1 5/16 - 12	1 5/16 - 12	0.844	21.5	1 1/2	0.59	15.1	2.04	51.8	-916

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749 HF
MALE ELBOW
S.A.E. 070202

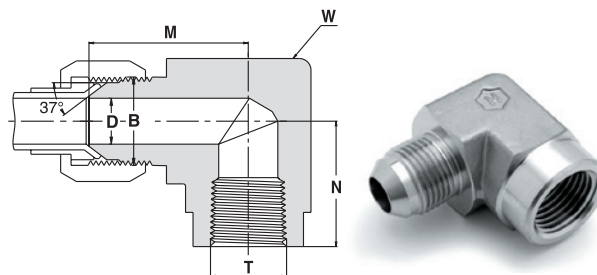


Ordering Information	Tube O.D.		B UN	T NPT	D		W Wrench Flat	M		N	
	inch	mm			inch	mm		inch	mm	inch	mm
749HF SS 1/8" X 1/8"	1/8	-	5/16 - 24	1/8 - 27	0.062	1.6	7/16	0.77	19.6	0.72	18.3
749HF SS 3/16" X 1/8"	3/16	-	3/8 - 24	1/8 - 27	0.125	3.2	1/2	0.83	21.1	0.72	18.3
749HF SS 1/4" / 6MM X 1/8"	1/4	6	7/16 - 20	1/8 - 27	0.172	4.4	1/2	0.89	22.6	0.78	19.8
749HF SS 1/4" / 6MM X 1/4"	1/4	6	7/16 - 20	1/4 - 18	0.172	4.4	5/8	1.06	26.9	1.09	27.7
749HF SS 5/16" / 8MMX 1/8"	5/16	8	1/2 - 20	1/8 - 27	0.190	4.8	5/8	0.95	24.1	0.78	19.8
749HF SS 5/16" / 8MM X 1/4"	5/16	8	1/2 - 20	1/4 - 18	0.234	6.0	5/8	1.06	26.9	1.09	27.7
749HF SS 3/8" / 10MMX 1/8"	3/8	10	9/16 - 18	1/8 - 27	0.190	4.8	5/8	1.06	26.9	0.90	22.8
749HF SS 3/8" / 10MM X 1/4"	3/8	10	9/16 - 18	1/4 - 18	0.280	7.1	5/8	1.06	26.9	1.09	27.7
749HF SS 3/8" / 10MM X 3/8"	3/8	10	9/16 - 18	3/8 - 18	0.297	7.5	13/16	1.14	29.0	1.22	31.0
749HF SS 3/8" / 10MM X 1/2"	3/8	10	9/16 - 18	1/2 - 14	0.297	7.5	15/16	1.23	31.2	1.47	37.3
749HF SS 1/2" / 12MM X 1/4"	1/2	12	3/4 - 16	1/4 - 18	0.280	7.1	15/16	1.25	31.8	1.22	31.0
749HF SS 1/2" / 12MM X 3/8"	1/2	12	3/4 - 16	3/8 - 18	0.380	9.5	15/16	1.25	31.8	1.22	31.0
749HF SS 1/2" / 12MM X 1/2"	1/2	12	3/4 - 16	1/2 - 14	0.391	9.9	15/16	1.33	33.7	1.47	37.3
749HF SS 1/2" / 12MM X 3/4"	1/2	12	3/4 - 16	3/4 - 14	0.391	9.9	1 1/8	1.42	36.0	1.59	40.4
749HF SS 5/8" / 16MM X 3/8"	5/8	16	7/8 - 14	3/8 - 18	0.380	9.5	15/16	1.45	36.8	1.30	33.0
749HF SS 5/8" / 16MM X 1/2"	5/8	16	7/8 - 14	1/2 - 14	0.470	11.9	15/16	1.45	36.8	1.47	37.3
749HF SS 5/8" / 16MM X 3/4"	5/8	16	7/8 - 14	3/4 - 14	0.484	12.3	1 1/8	1.53	38.9	1.59	40.4
749HF SS 3/4" / 18MM X 1/2"	3/4	18	1 1/16 - 12	1/2 - 14	0.470	11.9	1 1/8	1.66	41.0	1.59	40.4
749HF SS 3/4" / 18MM X 3/4"	3/4	18	1 1/16 - 12	3/4 - 14	0.609	15.5	1 1/8	1.66	41.0	1.59	40.4
749HF SS 7/8" / 20MM X 3/4"	7/8	20	1 3/16 - 12	3/4 - 14	0.719	18.3	1 3/8	1.73	43.9	1.69	42.9
749HF SS 1" / 25MM X 3/4"	1	25	1 5/16 - 12	3/4 - 14	0.719	18.3	1 3/8	1.81	46.0	1.78	45.2
749HF SS 1" / 25MM X 1"	1	25	1 5/16 - 12	1-11.5	0.844	21.5	1 3/8	1.81	46.0	1.97	50.0
749HF SS 1 1/4" / 32MM X 1"	1 1/4	32	1 5/8 - 12	1-11.5	0.844	21.5	2	2.06	52.3	2.35	59.6
749HF SS 1 1/4" / 32MM X 1 1/4"	1 1/4	32	1 5/8 - 12	1 1/4 -11.5	1.078	27.5	2	2.06	52.3	2.38	60.5
749HF SS 1 1/2" / 38MM X 1 1/2"	1 1/2	38	1 7/8 - 12	1 1/2 -11.5	1.312	33.0	2*	2.33	59.2	2.64	67.1
749HF SS 2" X 2"	2	-	2 1/2 - 12	2 -11.5	1.781	45.0	2 5/8v	3.06	77.7	3.00	76.2

*Not from forging

"D" Dimension is minimum opening. Dimensions are for reference only and are subject to change without notice.

750 HF
FEMALE ELBOW
S.A.E. 070203

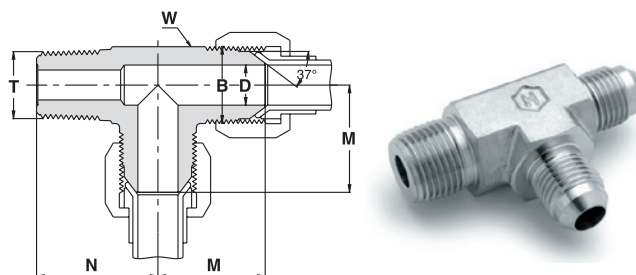


Ordering Information	Tube O.D.		B UN	T NPT	D		W Wrench Flat	M		N	
	inch	mm			inch	mm		inch	mm	inch	mm
750HF SS 1/8" X 1/8"	1/8	-	5/16 - 24	1/8 - 27	0.062	1.6	5/8	1.00	25.4	0.66	16.8
750HF SS 3/16" X 1/8"	3/16	-	3/8 - 24	1/8 - 27	0.125	3.2	5/8	1.03	26.2	0.66	16.8
750HF SS 1/4" / 6MM X 1/8"	1/4	6	7/16 - 20	1/8 - 27	0.172	4.4	5/8	1.08	27.4	0.66	16.8
750HF SS 1/4" / 6MM X 1/4"	1/4	6	7/16 - 20	1/4 - 18	0.172	4.4	13/16	1.22	30.9	0.88	22.4
750HF SS 5/16" / 8MM X 1/8"	5/16	8	1/2 - 20	1/8 - 27	0.234	6.0	5/8	1.08	27.4	0.66	16.8
750HF SS 5/16" / 8MM X 1/4"	5/16	8	1/2 - 20	1/4 - 18	0.234	6.0	13/16	1.22	30.9	0.88	22.4
750HF SS 3/8" / 10MM X 1/8"	3/8	10	9/16 - 18	1/8 - 27	0.297	7.5	5/8	1.06	26.9	0.66	16.8
750HF SS 3/8" / 10MM X 1/4"	3/8	10	9/16 - 18	1/4 - 18	0.297	7.5	13/16	1.23	31.2	0.88	22.4
750HF SS 3/8" / 10MM X 3/8"	3/8	10	9/16 - 18	3/8 - 18	0.297	7.5	15/16	1.31	33.2	1.02	25.9
750HF SS 1/2" / 12MM X 1/4"	1/2	12	3/4 - 16	1/4 - 18	0.391	9.9	13/16	1.25	31.6	0.88	22.4
750HF SS 1/2" / 12MM X 3/8"	1/2	12	3/4 - 16	3/8 - 18	0.391	9.9	15/16	1.42	36.1	1.02	25.9
750HF SS 1/2" / 12MM X 1/2"	1/2	12	3/4 - 16	1/2 - 14	0.391	9.9	1 1/8	1.42	36.1	1.23	31.2
750HF SS 5/8" / 16MM X 1/2"	5/8	16	7/8 - 14	1/2 - 14	0.484	12.3	1 1/8	1.64	41.5	1.23	31.2
750HF SS 3/4" / 18MM X 1/2"	3/4	18	1 1/16 - 12	1/2 - 14	0.609	15.5	1 3/8	1.66	42.1	1.23	31.2
750HF SS 3/4" / 18MM X 3/4"	3/4	18	1 1/16 - 12	3/4 - 14	0.609	15.5	1 3/8	1.89	48.0	1.36	34.5
750HF SS 7/8" / 20MM X 3/4"	7/8	20	1 3/16 - 12	3/4 - 14	0.719	18.3	1 3/8	1.86	47.2	1.42	36.1
750HF SS 1" / 25MM X 1"	1	25	1 5/16 - 12	1 - 11.5	0.844	21.5	1 5/8	2.17	55.1	1.62	41.1
750HF SS 1 1/4" / 32MM X 1 1/4"	1 1/4	32	1 5/8 - 12	1 1/4 - 11.5	1.078	27.5	2 1/8*	2.33	59.2	1.70	43.2
750HF SS 1 1/2" / 38MM X 1 1/2"	1 1/2	38	1 7/8 - 12	1 1/2 - 11.5	1.312	33.0	2 3/8*	2.89	73.4	2.08	52.8
750HF SS 2" X 2"	2	-	2 1/2 - 12	2 - 11.5	1.781	45.0	2 7/8*	3.30	83.8	2.39	60.7

*Not from forging

"D" Dimension is minimum opening. Dimensions are for reference only and subject to change without notice.

751 HF
MALE RUN TEE
S.A.E. 070424

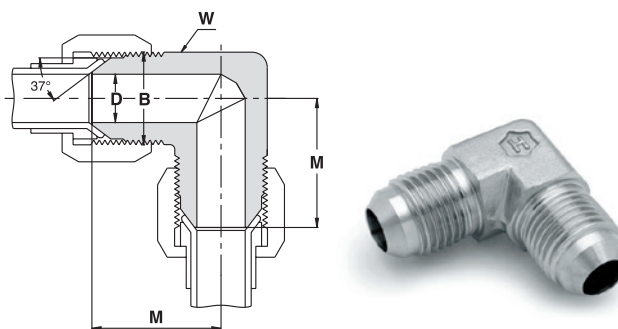


Ordering Information	Tube O.D.		B UN	T NPT	D		W Wrench Flat	M		N	
	inch	mm			inch	mm		inch	mm	inch	mm
751HF SS 1/8" X 1/8"	1/8	-	5/16 - 24	1/8 - 27	0.062	1.6	7/16	0.77	19.6	0.72	18.3
751HF SS 3/16" X 1/8"	3/16	-	3/8 - 24	1/8 - 27	0.125	3.2	1/2	0.83	21.1	0.72	18.3
751HF SS 1/4" / 6MM X 1/8"	1/4	6	7/16 - 20	1/8 - 27	0.172	4.4	1/2	0.89	22.6	0.78	19.8
751HF SS 1/4" / 6MM X 1/4"	1/4	6	7/16 - 20	1/4 - 18	0.172	4.4	5/8	1.06	26.9	1.09	27.7
751HF SS 5/16" / 8MM X 1/8"	5/16	8	1/2 - 20	1/8 - 27	0.190	4.8	5/8	0.95	24.1	0.78	19.8
751HF SS 5/16" / 8MM X 1/4"	5/16	8	1/2 - 20	1/4 - 18	0.234	6.0	5/8	1.06	26.9	1.09	27.7
751HF SS 3/8" / 10MM X 1/8"	3/8	10	9/16 - 18	1/8 - 27	0.190	4.8	5/8	1.06	26.9	0.90	22.8
751HF SS 3/8" / 10MM X 1/4"	3/8	10	9/16 - 18	1/4 - 18	0.280	7.1	5/8	1.06	26.9	1.09	27.7
751HF SS 3/8" / 10MM X 3/8"	3/8	10	9/16 - 18	3/8 - 18	0.297	7.5	13/16	1.14	29.0	1.22	31.0
751HF SS 3/8" / 10MM X 1/2"	3/8	10	9/16 - 18	1/2 - 14	0.297	7.5	15/16	1.23	31.2	1.47	37.3
751HF SS 1/2" / 12MM X 1/4"	1/2	12	3/4 - 16	1/4 - 18	0.280	7.1	15/16	1.25	31.8	1.22	31.0
751HF SS 1/2" / 12MM X 3/8"	1/2	12	3/4 - 16	3/8 - 18	0.380	9.5	15/16	1.25	31.8	1.22	31.0
751HF SS 1/2" / 12MM X 1/2"	1/2	12	3/4 - 16	1/2 - 14	0.391	9.9	15/16	1.33	33.7	1.47	37.3
751HF SS 1/2" / 12MM X 3/4"	1/2	12	3/4 - 16	3/4 - 14	0.391	9.9	1 1/8	1.42	36.0	1.59	40.4
751HF SS 5/8" / 16MM X 3/8"	5/8	16	7/8 - 14	3/8 - 18	0.380	9.5	15/16	1.45	36.8	1.30	33.0
751HF SS 5/8" / 16MM X 1/2"	5/8	16	7/8 - 14	1/2 - 14	0.470	11.9	15/16	1.45	36.8	1.47	37.3
751HF SS 5/8" / 16MM X 3/4"	5/8	16	7/8 - 14	3/4 - 14	0.484	12.3	1 1/8	1.53	38.9	1.59	40.4
751HF SS 3/4" / 18MM X 1/2"	3/4	18	1 1/16 - 12	1/2 - 14	0.470	11.9	1 1/8	1.66	41.0	1.59	40.4
751HF SS 3/4" / 18MM X 3/4"	3/4	18	1 1/16 - 12	3/4 - 14	0.609	15.5	1 1/8	1.66	41.0	1.59	40.4
751HF SS 7/8" / 20MM X 3/4"	7/8	20	1 3/16 - 12	3/4 - 14	0.719	18.3	1 3/8	1.73	43.9	1.69	42.9
751HF SS 1" / 25MM X 3/4"	1	25	1 5/16 - 12	3/4 - 14	0.719	18.3	1 3/8	1.81	46.0	1.78	45.2
751HF SS 1" / 25MM X 1"	1	25	1 5/16 - 12	1 - 11.5	0.844	21.5	1 3/8	1.81	46.0	1.97	50.0
751HF SS 1 1/4" / 32MM X 1"	1 1/4	32	1 5/8 - 12	1 - 11.5	0.844	21.5	2*	2.06	52.3	2.35	59.6
751HF SS 1 1/4" / 32MM X 1 1/4"	1 1/4	32	1 5/8 - 12	1 1/4 - 11.5	1.078	27.5	2*	2.06	52.3	2.38	60.5
751HF SS 1 1/2" / 38MM X 1 1/2"	1 1/2	38	1 7/8 - 12	1 1/2 - 11.5	1.312	33.0	2*	2.33	59.2	2.64	67.1
751HF SS 2" X 2"	2	-	2 1/2 - 12	2 - 11.5	1.781	45.0	2 5/2*8	3.06	77.7	3.00	76.2

*Not from Forging

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755 HF
UNION ELBOW
S.A.E. 070201

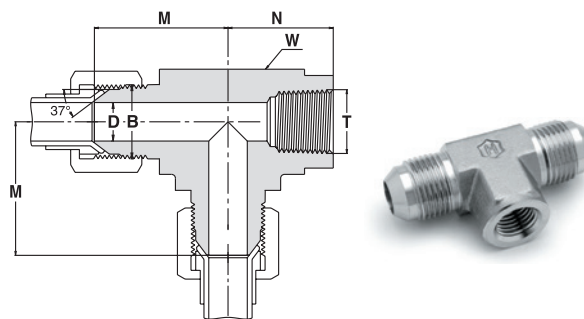


Ordering Information	Tube O.D.		B UN	D		W Wrench Flat	M	
	inch	mm		inch	mm		inch	mm
755HF SS 1/8"	1/8	-	5/16 - 24	0.062	1.6	7/16	0.77	19.6
755HF SS 3/16"	3/16	-	3/8 - 24	0.125	3.2	1/2	0.83	21.1
755HF SS 1/4" / 6MM	1/4	6	7/16 - 20	0.172	4.4	1/2	0.89	22.6
755HF SS 5/16" / 8MM	5/16	8	1/2 - 20	0.234	6.0	5/8	0.95	24.1
755HF SS 3/8" / 10MM	3/8	10	9/16 - 18	0.297	7.5	5/8	1.06	26.9
755HF SS 1/2" / 12MM	1/2	12	3/4 - 16	0.391	9.9	15/16	1.25	31.8
755HF SS 5/8" / 16MM	5/8	16	7/8 - 14	0.484	12.3	15/16	1.45	36.8
755HF SS 3/4" / 18MM	3/4	18	1 1/16 - 12	0.609	15.5	1 3/8	1.66	42.2
755HF SS 7/8" / 20MM	7/8	20	1 3/16 - 12	0.719	18.3	1 3/8	1.80	45.7
755HF SS 1" / 25MM	1	25	1 5/16 - 12	0.844	21.5	1 3/8	1.81	46.0
755HF SS 1 1/4" / 32MM	1 1/4	32	1 5/8 - 12	1.078	27.5	2	2.06	52.3
755HF SS 1 1/2" / 38MM	1 1/2	38	1 7/8 - 12	1.312	33.0	2*	2.33	59.2
755HF SS 2"	2	-	2 1/2 - 12	1.781	45.0	2 5/8*	3.06	77.7

*Not from forging

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771 HFL
FEMALE RUN TEE
S.A.E. 070426



Ordering Information	TUBE O.D.		B UN	T NPT	D		W Wrench Flat	M		N	
	inch	mm			inch	mm		inch	mm	inch	mm
771HFL SS 1/8" X 1/8"	1/8	-	5/16 - 24	1/8 - 27	0.062	1.6	5/8	1.00	25.4	0.66	16.8
771HFL SS 3/16" X 1/8"	3/16	-	3/8 - 24	1/8 - 27	0.125	3.2	5/8	1.03	26.2	0.66	16.8
771HFL SS 1/4" / 6MM X 1/8"	1/4	6	7/16 - 20	1/8 - 27	0.172	4.4	5/8	1.08	27.4	0.66	16.8
771HFL SS 1/4" / 6MM X 1/4"	1/4	6	7/16 - 20	1/4 - 18	0.172	4.4	13/16	1.22	30.9	0.88	22.4
771HFL SS 5/16" / 8MM X 1/8"	5/16	8	1/2 - 20	1/8 - 27	0.234	6.0	5/8	1.08	27.4	0.66	16.8
771HFL SS 5/16" / 8MM X 1/4"	5/16	8	1/2 - 20	1/4 - 18	0.234	6.0	13/16	1.22	30.9	0.88	22.4
771HFL SS 3/8" / 10MM X 1/8"	3/8	10	9/16 - 18	1/8 - 27	0.297	7.5	5/8	1.06	26.9	0.66	16.8
771HFL SS 3/8" / 10MM X 1/4"	3/8	10	9/16 - 18	1/4 - 18	0.297	7.5	13/16	1.23	31.2	0.88	22.4
771HFL SS 3/8" / 10MM X 3/8"	3/8	10	9/16 - 18	3/8 - 18	0.297	7.5	15/16	1.31	33.2	1.02	25.9
771HFL SS 1/2" / 12MM X 1/4"	1/2	12	3/4 - 16	1/4 - 18	0.391	9.9	13/16	1.25	31.6	0.88	22.4
771HFL SS 1/2" / 12MM X 3/8"	1/2	12	3/4 - 16	3/8 - 18	0.391	9.9	15/16	1.42	36.1	1.02	25.9
771HFL SS 1/2" / 12MM X 1/2"	1/2	12	3/4 - 16	1/2 - 14	0.391	9.9	1 1/8	1.42	36.1	1.23	31.2
771HFL SS 5/8" / 16MM X 1/2"	5/8	16	7/8 - 14	1/2 - 14	0.484	12.3	1 1/8	1.64	41.5	1.23	31.2
771HFL SS 3/4" / 18MM X 1/2"	3/4	18	1 1/16 - 12	1/2 - 14	0.609	15.5	1 3/8	1.66	42.1	1.23	31.2
771HFL SS 3/4" / 18MM X 3/4"	3/4	18	1 1/16 - 12	3/4 - 14	0.609	15.5	1 3/8	1.89	48.0	1.36	34.5
771HFL SS 7/8" / 20MM X 3/4"	7/8	20	1 3/16 - 12	3/4 - 14	0.719	18.3	1 3/8	1.86	47.2	1.42	36.1
771HFL SS 1" / 25MM X 1"	1	25	1 5/16 - 12	1 - 11.5	0.844	21.5	1 5/8*	2.17	55.1	1.62	41.1
771HFL SS 1 1/4" / 32MM X 1 1/4"	1 1/4	32	1 5/8 - 12	1 1/4 - 11.5	1.078	27.5	2 1/8*	2.33	59.2	1.70	43.2
771HFL SS 1 1/2" / 38MM X 1 1/2"	1 1/2	38	1 7/8 - 12	1 1/2 - 11.5	1.312	33.0	2 3/8*	2.89	73.4	2.08	52.8
771HFL SS 2" X 2"	2	-	2 1/2 - 12	2 - 11.5	1.781	45.0	2 7/8*	3.30	83.8	2.39	60.7

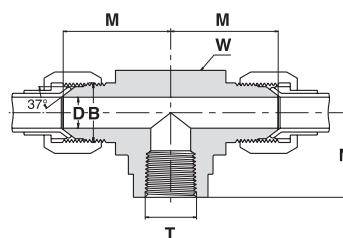
*Not from forging

"D" Dimension is minimum opening. Dimensions are for reference only and subject to change without notice.

772 HFL

FEMALE BRANCH TEE

S.A.E. 070427

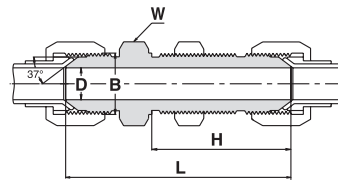


Ordering Information	Tube O.D.		B UN	T NPT	D		W Wrench Flat	M		N	
	inch	mm			inch	mm		inch	mm	inch	mm
772HFL SS 1/8" X 1/8"	1/8	-	5/16 - 24	1/8 - 27	0.062	1.6	5/8	1.00	25.4	0.66	16.8
772HFL SS 3/16" X 1/8"	3/16	-	3/8 - 24	1/8 - 27	0.125	3.2	5/8	1.03	26.2	0.66	16.8
772HFL SS 1/4" / 6MM X 1/8"	1/4	6	7/16 - 20	1/8 - 27	0.172	4.4	5/8	1.08	27.4	0.66	16.8
772HFL SS 1/4" / 6MM X 1/4"	1/4	6	7/16 - 20	1/4 - 18	0.172	4.4	13/16	1.22	30.9	0.88	22.4
772HFL SS 5/16" / 8MM X 1/8"	5/16	8	1/2 - 20	1/8 - 27	0.234	6.0	5/8	1.08	27.4	0.66	16.8
772HFL SS 5/16" / 8MM X 1/4"	5/16	8	1/2 - 20	1/4 - 18	0.234	6.0	13/16	1.22	30.9	0.88	22.4
772HFL SS 3/8" / 10MM X 1/8"	3/8	10	9/16 - 18	1/8 - 27	0.297	7.5	5/8	1.06	26.9	0.66	16.8
772HFL SS 3/8" / 10MM X 1/4"	3/8	10	9/16 - 18	1/4 - 18	0.297	7.5	13/16	1.23	31.2	0.88	22.4
772HFL SS 3/8" / 10MM X 3/8"	3/8	10	9/16 - 18	3/8 - 18	0.297	7.5	15/16	1.31	33.2	1.02	25.9
772HFL SS 1/2" / 12MM X 1/4"	1/2	12	3/4 - 16	1/4 - 18	0.391	9.9	13/16	1.25	31.6	0.88	22.4
772HFL SS 1/2" / 12MM X 3/8"	1/2	12	3/4 - 16	3/8 - 18	0.391	9.9	15/16	1.42	36.1	1.02	25.9
772HFL SS 1/2" / 12MM X 1/2"	1/2	12	3/4 - 16	1/2 - 14	0.391	9.9	1 1/8	1.42	36.1	1.23	31.2
772HFL SS 5/8" / 16MM X 1/2"	5/8	16	7/8 - 14	1/2 - 14	0.484	12.3	1 1/8	1.64	41.5	1.23	31.2
772HFL SS 3/4" / 18MM X 1/2"	3/4	18	1 1/16 - 12	1/2 - 14	0.609	15.5	1 3/8	1.66	42.1	1.23	31.2
772HFL SS 3/4" / 18MM X 3/4"	3/4	18	1 1/16 - 12	3/4 - 14	0.609	15.5	1 3/8	1.89	48.0	1.36	34.5
772HFL SS 7/8" / 20MM X 3/4"	7/8	20	1 3/16 - 12	3/4 - 14	0.719	18.3	1 3/8	1.86	47.2	1.42	36.1
772HFL SS 1" / 25MM X 1"	1	25	1 5/16 - 12	1 - 11.5	0.844	21.5	1 5/8*	2.17	55.1	1.62	41.1
772HFL SS 1 1/4" / 32MM X 1 1/4"	1 1/4	32	1 5/8 - 12	1 1/4 - 11.5	1.078	27.5	2 1/8*	2.33	59.2	1.70	43.2
772HFL SS 1 1/2" / 38MM X 1 1/2"	1 1/2	38	1 7/8 - 12	1 1/2 - 11.5	1.312	33.0	2 3/8*	2.89	73.4	2.08	52.8
772HFL SS 2" X 2"	2	-	2 1/2 - 12	2 - 11.5	1.781	45.0	2 7/8*	3.30	83.8	2.39	60.7

*Not from forging

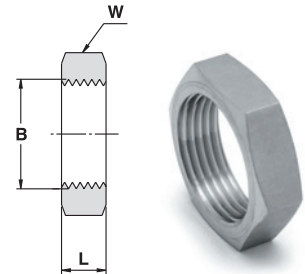
"D" Dimension is minimum opening. Dimensions are for reference only and subject to change without notice.

774 HFL
BULKHEAD UNION
S.A.E. 070601



Ordering Information	Tube O.D.		B UN	D		W Hex. Flat	H		L	
	inch	mm		inch	mm	inch	inch	mm	inch	mm
774HFL SS 3/16"	3/16	-	3/8 - 24	0.125	3.2	5/8	1.11	28.2	1.90	48.3
774HFL SS 1/4" / 6MM	1/4	6	7/16 - 20	0.172	4.4	11/16	1.20	30.5	2.07	52.6
774HFL SS 5/16" / 8MM	5/16	8	1/2 - 20	0.234	6.0	3/4	1.20	30.5	2.07	52.6
774HFL SS 3/8" / 10MM	3/8	10	9/16 - 18	0.297	7.5	13/16	1.28	32.5	2.18	55.4
774HFL SS 1/2" / 12MM	1/2	12	3/4 - 16	0.391	9.9	1	1.44	36.6	2.44	62.0
774HFL SS 5/8" / 16MM	5/8	16	7/8 - 14	0.484	12.3	1 1/8	1.58	40.1	2.74	69.6
774HFL SS 3/4" / 18MM	3/4	18	1 1/16 - 12	0.609	15.5	1 3/8	1.75	44.4	3.09	78.5
774HFL SS 7/8" / 20MM	7/8	20	1 3/16 - 12	0.719	18.3	1 1/2	1.75	44.4	3.12	79.2
774HFL SS 1" / 25MM	1	25	1 5/16 - 12	0.844	21.5	1 5/8	1.75	44.4	3.14	79.8
774HFL SS 1 1/4" / 32MM	1 1/4	32	1 5/8 - 12	1.078	27.5	1 7/8	1.80	45.7	3.31	84.1
774HFL SS 1 1/2" / 38MM	1 1/2	38	1 7/8 - 12	1.312	33.0	2 1/8	1.81	46.0	3.52	89.4
774HFL SS 2"	2	-	2 1/2 - 12	1.781	45.0	2 3/4	2.09	53.1	4.20	106.7

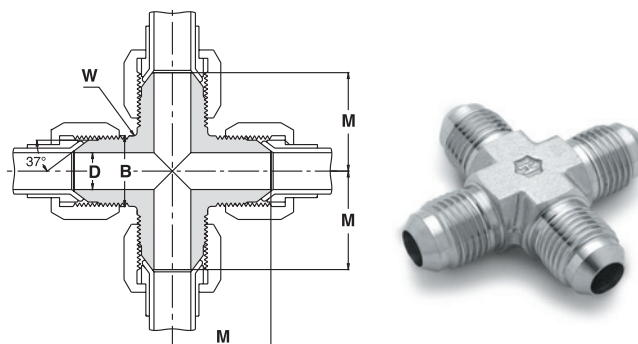
774 HFLN
BULKHEAD LOCKNUT
S.A.E. 070118



Ordering Information	Tube O.D.	B UNF	W Hex. Flat	L	
	inch		inch	inch	mm
774HFLN SS 3/16"	3/16	3/8 - 24	5/8	0.22	5.6
774HFLN SS 1/4" / 6MM	1/4	7/16 - 20	11/16	0.25	6.4
774HFLN SS 5/16" / 8MM	5/16	1/2 - 20	3/4	0.25	6.4
774HFLN SS 3/8" / 10MM	3/8	9/16 - 18	13/16	0.27	6.9
774HFLN SS 1/2" / 12MM	1/2	3/4 - 16	1	0.31	7.9
774HFLN SS 5/8" / 16MM	5/8	7/8 - 14	1 1/8	0.36	9.1
774HFLN SS 3/4" / 18MM	3/4	1 1/16 - 12	1 3/8	0.41	10.4
774HFLN SS 7/8" / 20MM	7/8	1 3/16 - 12	1 1/2	0.41	10.4
774HFLN SS 1" / 25MM	1	1 5/16 - 12	1 5/8	0.41	10.4
774HFLN SS 1 1/4" / 32MM	1 1/4	1 5/8 - 12	1 7/8	0.41	10.4
774HFLN SS 1 1/2" / 38MM	1 1/2	1 7/8 - 12	2 1/8	0.41	10.4
774HFLN SS 2"	2	1 1/2 - 12	2 3/4	0.41	10.4

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7102 HFL
CROSS
 S.A.E. 070501

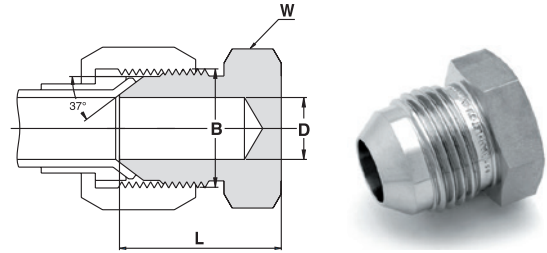


Ordering Information	Tube O.D.		B UN	D		W Wrench Flat	M	
	inch	mm		inch	mm		inch	mm
7102HFL SS 1/8"	1/8	-	5/16 - 24	0.062	1.6	7/16	0.77	19.6
7102HFL SS 3/16"	3/16	-	3/8 - 24	0.125	3.2	1/2	0.83	21.1
7102HFL SS 1/4" / 6MM	1/4	6	7/16 - 20	0.172	4.4	1/2	0.89	22.6
7102HFL SS 5/16" / 8MM	5/16	8	1/2 - 20	0.234	6.0	5/8	0.95	24.1
7102HFL SS 3/8" / 10MM	3/8	10	9/16 - 18	0.297	7.5	5/8	1.06	26.9
7102HFL SS 1/2" / 12MM	1/2	12	3/4 - 16	0.391	9.9	13/16	1.25	31.8
7102HFL SS 5/8" / 16MM	5/8	16	7/8 - 14	0.484	12.3	15/16*	1.45	36.8
7102HFL SS 3/4" / 18MM	3/4	18	1 1/16 - 12	0.609	15.5	1 1/8*	1.66	42.2
7102HFL SS 7/8" / 20MM	7/8	20	1 3/16 - 12	0.719	18.3	1 3/8*	1.80	45.7
7102HFL SS 1" / 25MM	1	25	1 5/16 - 12	0.844	21.5	1 3/8*	1.81	46.0
7102HFL SS 1 1/4" / 32MM	1 1/4	32	1 5/8 - 12	1.078	27.5	1 11/16*	2.06	51.0
7102HFL SS 1 1/2" / 38MM	1 1/2	38	1 7/8 - 12	1.312	33.0	2*	2.33	59.2
7102HFL SS 2"	2	-	2 1/2 - 12	1.781	45.0	2 5/8*	3.06	77.7

*Not from forging

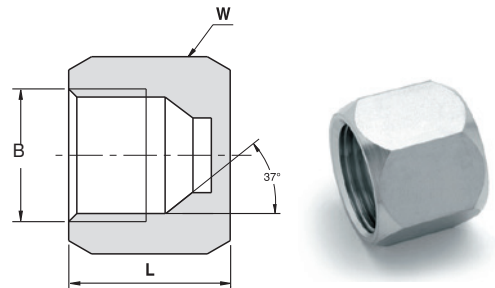
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7639 HF
TUBE PLUG
S.A.E. 070109



Ordering Information	Tube O.D.		B UN	D		W Hex. Flat	L	
	inch	mm		inch	mm		inch	mm
7639HF SS 1/8"	1/8	-	5/16 - 24	0.062	1.6	7/16	0.70	17.8
7639HF SS 3/16"	3/16	-	3/8 - 24	0.125	3.2	7/16	0.73	18.5
7639HF SS 1/4" / 6MM	1/4	6	7/16 - 20	0.172	4.4	1/2	0.80	20.3
7639HF SS 5/16" / 8MM	5/16	8	1/2 - 20	0.234	6.0	9/16	0.80	20.3
7639HF SS 3/8" / 10MM	3/8	10	9/16 - 18	0.297	7.5	5/8	0.84	21.3
7639HF SS 1/2" / 12MM	1/2	12	3/4 - 16	0.391	9.9	13/16	0.94	23.9
7639HF SS 5/8" / 16MM	5/8	16	7/8 - 14	0.484	12.3	15/16	1.10	27.9
7639HF SS 3/4" / 18MM	3/4	18	1 1/16 - 12	0.609	15.5	1 1/8	1.28	32.5
7639HF SS 7/8" / 20MM	7/8	20	1 3/16 - 12	0.719	18.3	1 1/4	1.31	33.3
7639HF SS 1" / 25MM	1	25	1 5/16 - 12	0.844	21.5	1 3/8	1.33	33.8
7639HF SS 1 1/4" / 32MM	1 1/4	32	1 5/8 - 12	1.078	27.5	1 11/16	1.45	36.8
7639HF SS 1 1/2" / 38MM	1 1/2	38	1 7/8 - 12	1.312	33.0	2	1.65	41.9
7639HF SS 2"	2	-	2 1/2 - 12	1.781	45.0	2 5/8	2.05	52.1

7640 HF
CAP
S.A.E. 070112



Ordering Information	TUBE O.D.	B UN	W Hex. Flat	L	
	inch		inch	inch	mm
7640HF SS 1/8"	1/8	5/16 - 24	3/8	0.550	12.7
7640HF SS 3/16"	3/16	3/8 - 24	7/16	0.562	14.3
7640HF SS 1/4" / 6MM	1/4	7/16 - 20	9/16	0.594	15.1
7640HF SS 5/16" / 8MM	5/16	1/2 - 20	5/8	0.609	15.5
7640HF SS 3/8" / 10MM	3/8	9/16 - 18	11/16	0.625	15.9
7640HF SS 1/2" / 12MM	1/2	3/4 - 16	7/8	0.750	19.0
7640HF SS 5/8" / 16MM	5/8	7/8 - 14	1	0.844	21.4
7640HF SS 3/4" / 18MM	3/4	1 1/16 - 12	1 1/4	0.906	23.0
7640HF SS 7/8" / 20MM	7/8	1 3/16 - 12	1 3/8	0.969	24.6
7640HF SS 1" / 25MM	1	1 5/16 - 12	1 1/2	1.016	25.8
7640HF SS 1 1/4" / 32MM	1 1/4	1 5/8 - 12	2	1.062	27.0
7640HF SS 1 1/2" / 38MM	1 1/2	1 7/8 - 12	2 1/4	1.188	30.2
7640HF SS 2"	2	1 1/2 - 12	2 7/8	1.438	36.5

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