

LET-LOK[®]

COMPRESSION TUBE FITTINGS



1/16" THROUGH 1 1/2"-INCH 2 MM THROUGH 25 MM-METRIC



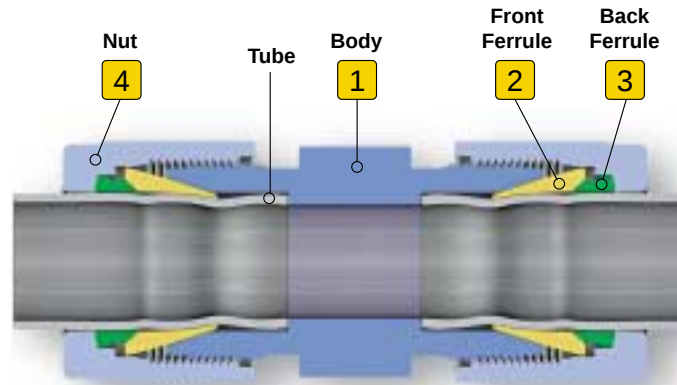
LET-LOK® TUBE FITTINGS DESCRIPTION

The HAM-LET® GROUP has produced high quality tube and pipe fittings in various materials for high pressure applications since its establishment in 1950.

As a result of tremendous efforts in research and development during the last five decades, HAM-LET® has gained an excellent reputation as a leading manufacturer of high pressure instrumentation products.

The LET-LOK® range of connectors has been developed to fill the rapidly increasing demand for tube fittings suitable for high pressure use in environments such as petrochemical, fluid, power, nuclear, electronic, as well as other major industrial settings. LET-LOK® tube fittings have been carefully manufactured to withstand the persistent demands for high-performance tube fittings.

Each one has passed a stringent tolerance test for high pressure, impulse, vibration, vacuum and temperature. These precision-machined fittings are manufactured to exacting standards, employing the most modern state-of-the-art computerized automation. All LET-LOK® fittings are backed by HAM-LET®'s commitment to the highest quality-control standards and skilled craftsmanship.



LET-LOK® tube fittings are composed of four parts:
1. body 2. front ferrule 3. back ferrule 4. nut.

LET-LOK® HOW DOES IT WORK ?

The LET-LOK® tube fitting is a mechanism used both to seal and to grip tubing. The mechanical advantage and geometry of this kind of fitting produces a leak-tight assembly.

To assemble, simply insert the tube into the complete assembly until the tube bottoms-out against the shoulder of the fitting body(1). The two ferrules are driven forward between the nut (4) and fitting body using the mechanical force created by rotating the nut clockwise. The back ferrule (3) is driven against the tapered rear of the front ferrule (2) and the front ferrule is driven by force into the tapered mouth of the body.

The rear ferrule is swaged radially inwards on the tube while lifting the front ferrule out to form a full-faced seal on the tapered surface of the body.

The 1¼ turn of the nut from the hand tight position assures consistent drive of the sealing members. This ensures an effective seal against high pressure as well as ultra high vacuum conditions.



LET-LOK® INSTALLATION INSTRUCTIONS

LET-LOK® fittings are supplied assembled and finger tight. Disassembly before use can allow the entry of dirt or other particles.



Insert the tubing into the LET-LOK® fitting.

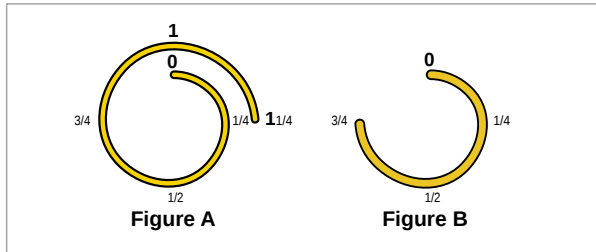
Check that the tube rests firmly on the fitting shoulder and that the nut is finger tight. At this point it is recommended that a scribe mark be drawn on the hex of the nut extending onto the fitting body. This mark will serve as an indicator for the starting point and proper pull-up.



Tighten the nut.

1-1/4 turns of the nut are required for 1/4" (6 mm) and higher (see Fig. A).

3/4 turn of the nut is required for 3/16" (4 mm) and lower (see Fig. B).



REASSEMBLY INSTRUCTIONS

LET-LOK® connections may be disconnected and remade repeatedly, without loss of leaktight seal.

1. Before disconnecting, mark the position of the nut in relation to the fitting body.
2. To reassemble, use a wrench to tighten nut to original position.
3. Tighten slightly with wrench until a slight rise in torque is felt.

TUBE CUTTING

Two different methods 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 appropriate blade for the tubing material is recommended.

Do not try to reduce the time of cutting by taking deep cuts with each turn of the cutter. This will work harden the tube.

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 get square ends, the tube must be cut with guide blocks.

This method of cutting necessitates deburring of the tube ends.

Warning

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).

TUBE HANDLING

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

SOME PRECAUTIONS TO BE TAKEN

1. Tubes must not be dragged on the floor.
2. Tubes must not be dragged out of a tubing rack, especially in case of large OD tubes.

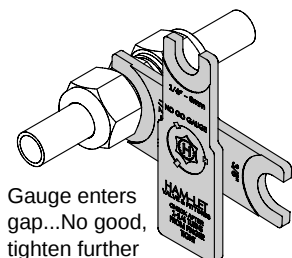
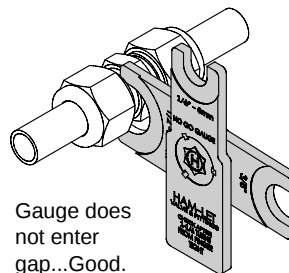
COPPER TUBING

If using copper tubing from a roll, hold the end of the tube and roll the roll outwards allowing the tubing to lie on a flat surface.

INSPECTION GAUGE

Use: This is a "No-Go" gauge and should be used as follows:

1. Make up the fitting according to the following instructions: 1/4 inch (6mm), 3/8 inch, 1/2 inch (12mm) - make up 1-1/4 turns from finger tight.
2. Check gap between nut and body, using the appropriate sized gauge. If the gauge slides easily into the gap, tighten the nut further until gauge can not enter the gap.



To order, use part No. 3900098

Available only in:

1/4 inch (6mm), 3/8 inch, 1/2 inch (12mm)



PHYSICAL DIFFERENCES AND MARKING

LET-LOK[®] METRIC FITTINGS:

Tee & Elbow (see Fig. 1)

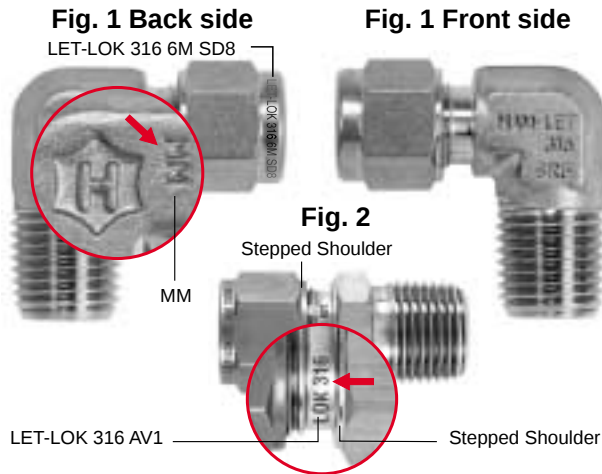
Body marked: MM

Straight Connectors: (see Fig. 2)

Body: Stepped shoulder

Marked: LET-LOK 316 AV1⁽²⁾

Nut: (see Figs.1 & 2) Stepped shoulder
marked: LET-LOK 316 6M⁽¹⁾ SD8⁽²⁾



LET-LOK[®] INCH FITTINGS:

Tee & Elbow: (See Fig. 3)

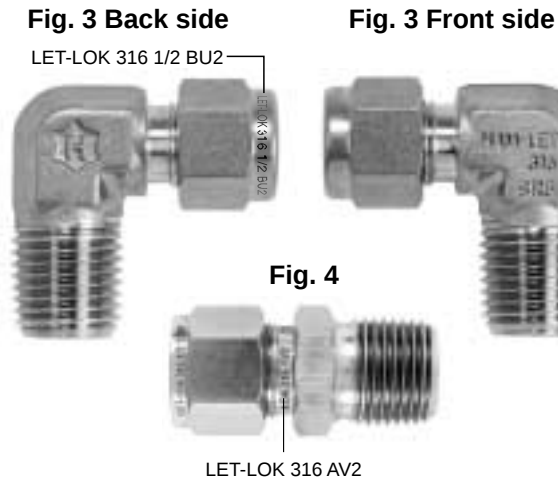
Straight Fittings: (see Fig. 4)

Body: Shoulder marked:

LET-LOK 316 AV2⁽²⁾

Nut: (See Fig. 3 & 4): Shoulder marked

LET-LOK 316 1/2⁽¹⁾ BU2⁽²⁾



⁽¹⁾ Tube O.D. ⁽²⁾ Material Batch

HIGH SAFETY

In applications where severe conditions and high pressure exist, we recommend the following installation procedures:

1. Check that the nut is finger tight.
2. Insert the tube (up to the shoulder).
3. Rotate the nut with a wrench until the tube does not rotate freely.
4. Mark position of the nut.
5. Rotate the nut 1-1/4 turns.

This method ensures that even if the tube O.D. is at the minimum tolerance, the ferrules will be in contact with the tube for the full 1-1/4 rotation.

TUBING DATA FOR LET-LOK[®] FITTINGS

In order to assure maximum fitting reliability and performance, great care should be given when selecting the tubing for each application.

TUBE SELECTION

Four variables must be considered when ordering tube for use with LET-LOK[®] fittings:

1. Material
2. Tube wall thickness
3. Tube surface finish
4. Tube hardness

Tubing should comply with standard ASTM A213 or ASTM A269, be seamless, and fully annealed.

The tube must be free of scratches and suitable for bending and flaring.

TUBE OD TOLERANCES

$$\left. \begin{array}{l} 1/16" - 1/8" \\ 2mm - 3mm \end{array} \right\} \pm 0.003"$$

$$\left. \begin{array}{l} 3/16" - 1/4" \\ 4mm - 25mm \end{array} \right\} \pm 0.005"$$

$$1/4" \left\} \pm 0.01"$$

Ovality of twice OD tolerance is not suitable for LET-LOK fittings. The tube must be reasonably round.

The ends of the tube must be free of burrs.

Tubing hardness: The hardness of the tube must be lower than the hardness of the fitting material.

The hardness must be not more than Rockwell HRB 80.

LET-LOK® TUBING DATA

TABLE 1: STAINLESS STEEL TUBING WALL THICKNESS OF TUBE IN INCHES

Tubing O.D.																		
mm	In	0.010	0.012	0.014	0.016	0.020	0.028	0.035	0.049	0.065	0.083	0.095	0.109	0.120	0.134	0.156	0.188	
	1/16	5600	6860	8150	9480	12080												Annealed 304 or 316 stainless steel tubing complying with ASTM A213, A269 or equivalent specifications. Based on ultimate tensile strength of 75,000 psi (5167 bar). For metal temp. from -20°F - 100°F (-29°C - 37°C). Suggested ordering information: Fully annealed high quality (Type 304 or 316) stainless steel hydraulic tubing ASTM A269 or A213 or equivalent, seamless or welded and drawn with a hardness of Rb80 or less. Tubing should be without scratches and suitable for flaring and bending.
2	1/8						8550	10950										
3	3/16						5500	7100	10300									
6	1/4						4100	5200	7600	10300								
8	5/16							4100	5900	8100								
10	3/8							3350	4850	6550								
12	1/2	Working pressure (psig) for seamless tubing; Multiply pressure rating by .80 for single welded tubing. Multiply pressure rating by .85 for double welded tubing.						2650	3750	5150	6750							
16	5/8									2950	4050	5250	6050					
20	3/4									2450	3350	4250	4950	5850				
22	7/8									2050	2850	3650	4250	4850				
25	1"										2400	3100	3600	4200	4700			
	1 1/4"										2400	2800	3300	3600	4100	4900		
	1 1/2"											2300	2700	3000	3400	4000	4900	

TABLE 2: COPPER TUBING WALL THICKNESS OF TUBE IN INCHES

Tubing O.D.		0.028	0.035	0.049	0.065	0.083	0.095	0.109	0.120	Annealed copper seamless tubing complying with ASTM B68 and ASTM B75 specified in temper designation O60. Based on ultimate tensile strength of 30,000 psi (2067 bar). For metal temperatures from -20°F to 100° F (-29°C to 37°C). Suggested ordering information: High quality soft annealed seamless copper tubing ASTM B75 or equivalent.
mm	in									
2	1/8	2700	3600							
3	3/16	1800	2300	3400						
6	1/4	1300	1600	2500	3500					
8	5/16		1300	1900	2700					
10	3/8		1000	1600	2200					
12	1/2		800	1100	1600	2100				
16	5/8			900	1200	1600	1900			
20	3/4			700	1000	1300	1500	1800		
22	7/8			600	800	1100	1300	1500		
25	1			500	700	900	1100	1300	1500	

TABLE 3: FACTORS USED TO DETERMINE ALLOWABLE PRESSURE AT HIGHER TEMPERATURES

°F	°C	A.I.S.I. 316	Copper	
200	93	1	0.80	
400	204	0.96	0.50	
600	316	0.85	-	
800	427	0.79	-	
1000	538	0.76	-	
1200	649	0.37	-	

TABLE 4: GAS APPLICATION TUBING

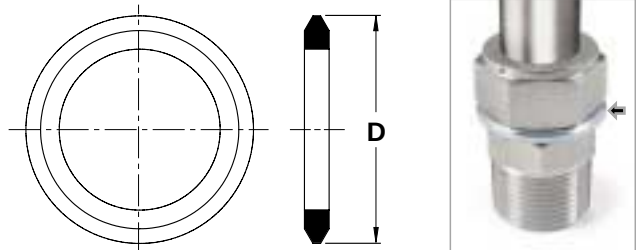
Inch		Metric		
Tubing O.D.	Min. Nominal Wall Thickness	Tubing O.D.	Min. Nominal Wall Thickness	
1/8"	0.028"	3 mm	0.8 mm	
3/16"	0.028"	6 mm	0.8 mm	
1/4"	0.028"	8 mm	1.0 mm	
5/16"	0.035"	10 mm	1.0 mm	
3/8"	0.035"	12 mm	1.0 mm	
1/2"	0.049"	14 mm	1.2 mm	
5/8"	0.065"	16 mm	1.5 mm	
3/4"	0.065"	18 mm	1.5 mm	
7/8"	0.083"	20 mm	1.8 mm	
1"	0.083"	22 mm	2.0 mm	
		25 mm	2.2 mm	

Warning! For Your Safety The system designer and user have the sole responsibility to select products suitable for their special application requirements and to ensure the proper installation, operation and maintenance of the product. Please consider application details, material compatibility and product ratings when making your selection. Improper selection or use of products can cause property damage or personal injury.

STOP COLLAR

LET-LOK	D	
In	In	mm
1/4	0.69	17.5
3/8	0.84	20.6
1/2	1.10	27.0
3/4	1.31	33.3
1	1.68	42.7

1. Remove the nut and ferrules from the fitting.
2. Insert the stop collar.
3. Assemble the nut and ferrules until finger tight.
4. Make up the fitting until the stop collar no longer rotates (feel with finger). At this stage it is guaranteed that the fitting is made up correctly.



Assembly Instructions - Stop Collar

ORDERING INFORMATION FOR ASSEMBLED STOP COLLAR (WITH FITTING)

7 6 8 L

SS = Stainless Steel
B = Brass

1/4

X

1/4

SC

S = Stainless Steel
C = Carbon Zinc Plated

Fitting type
(male LET-LOK
connector)

Fitting material

Tube O.D.
The O.D. size is always
the first to be described.

1/4 NPT

Stop Collar

Stop Collar material

HOW TO ORDER STOP COLLAR ONLY

1/4

SC

S = Stainless Steel
C = Carbon Plated

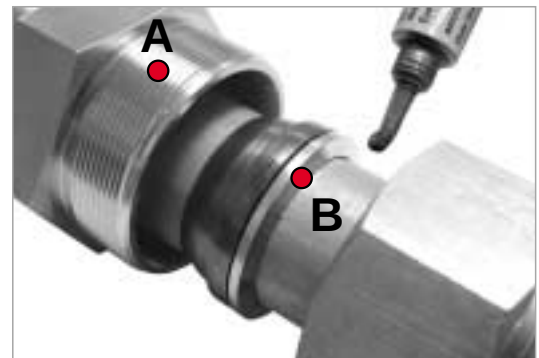
Tube O.D.
The O.D. size is always
the first to be described.

Stop Collar material

INSTALLATION INSTRUCTIONS FOR LET-LOK® FITTINGS 1 1/4" - 1 1/2"

1. Close the nut and ferrules on the tube with a hydraulic tool.
2. Open and release from the tool.
3. Apply the G-Rapid paste on areas A and B.
4. Tighten the nut on body 1/2 a turn with a wrench

To order, use part No. 3900753



LET-LOK® MATERIAL DESCRIPTION

EXAMPLE

7 6 8 L

1/4

x

1/4

Material Description

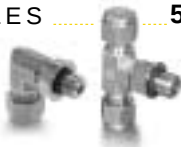
SS = Stainless Steel

B = Brass

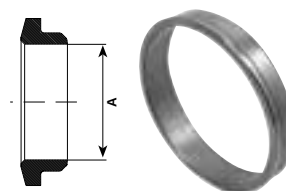
All orders should include material description and ordering information (See product table).

LET-LOK® INDEX

BACK FERRULE 08 760 LB 	REDUCING UNION TEE 14 764 LR 	PORT CONNECTOR 25 767 LP 
FRONT FERRULE 08 760 LF 	UNION ELBOW 16 765 L 	MALE CONNECTOR 26 768 L 
TUBE INSERT 09 760 LI 	FEMALE CONNECTOR 17 766 L 	MALE CONNECTOR 28 768 LR 
NUT 09 761 L 	FEMALE CONNECTOR 19 766 LR 	MALE CONNECTOR 30 768 LG 
UNION 10 762 L 	FEMALE CONNECTOR 20 766 LG 	MALE CONNECTOR 32 768 LOK 
REDUCING UNION 11 763 L 	REDUCER 21 767 LT 	MALE CONNECTOR 33 768 LOB 
UNION TEE 13 764 L 	REDUCING PORT CONNECTOR 24 767 LM 	MALE CONNECTOR 34 768 LOP 

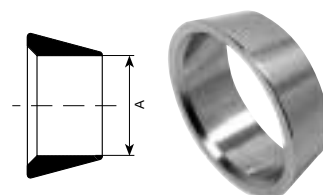
LET-LOK® INDEX		
MALE CONNECTOR 34 768 LO 	MALE BRANCH TEE 44 772 L 	MALE ADAPTER TUBE TO PIPE 54 739 LM 
MALE PIPE WELD CONNECTOR 35 768 LN 	FEMALE BRANCH TEE 45 772 LF 	LET LOK TO AN ADAPTER 56 761 LFL 
TUBE SOCKET WELD UNION 36 768 LW 	BULKHEAD UNION 46 774 L 	LET-LOK TO AN UNION 56 762 LFL 
MALE ELBOW 37 769 L 	BULKHEAD FEMALE CONNECTOR 47 774 LF 	LET-LOK TO AN BULKHEAD UNION 56 774 LFL 
MALE ELBOW 39 769 LR 	BULKHEAD REDUCER 47 774 LT 	MALE NUT 57 961 L 
MALE PIPE WELD ELBOW 40 769 LN 	BULKHEAD MALE CONNECTOR 48 774 LM 	UNION 57 962 L 
SOCKET WELD ELBOW 40 769 LW 	UNION CROSS 49 7102 L 	REDUCING UNION 57 963 L 
FEMALE ELBOW 41 770 L 	CAP 50 7108 L 	UNION TEE 57 964 L 
MALE RUN TEE 42 771 L 	PLUG 51 7121 L 	POSITIONABLES 58 
FEMALE RUN TEE 43 771 LF 	FEMALE ADAPTER TUBE TO PIPE 52 739 LF 	ALLOY 400 CONNECTORS 63

760 LB BACK FERRULE



METRIC		INCH			FERRULE SETS All Let-Lok Ferrules are available as sets. Ferrule sets simplify stocking and assembly. Ferrule sets prevent damage of single ferrules during shipping. The back and front ferrules are arranged as pairs in the set; ready for easy assembly.  To Order: Please add FS to the product description.
Ordering Information	A Tube O.D.	Ordering Information	A Tube O.D.		
	mm		in	mm	
760LB_2	2	760LB_1/16	1/16	1.58	
760LB_3	3	760LB_1/8	1/8	3.17	
760LB_4	4	760LB_3/16	3/16	4.76	
760LB_6	6	760LB_1/4	1/4	6.35	
760LB_8	8	760LB_5/16	5/16	7.93	
760LB_10	10	760LB_3/8	3/8	9.52	
760LB_12	12	760LB_1/2	1/2	12.70	
760LB_14	14	760LB_5/8	5/8	15.87	
760LB_15	15	760LB_3/4	3/4	19.05	
760LB_16	16	760LB_7/8	7/8	22.22	
760LB_18	18	760LB_1	1	25.40	
760LB_20	20	760LB_1 1/4	1 1/4	31.75	
760LB_22	22	760LB_1 1/2	1 1/2	38.10	
760LB_25	25				

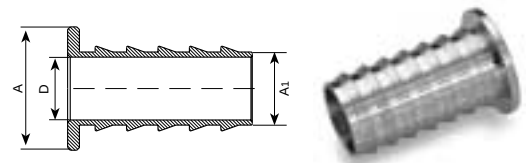
760 LF FRONT FERRULE



METRIC		INCH			
Ordering Information	A Tube O.D.	Ordering Information	A Tube O.D.		
	mm		in	mm	
760LF_2	2	760LF_1/16	1/16	1.58	
760LF_3	3	760LF_1/8	1/8	3.17	
760LF_4	4	760LF_3/16	3/16	4.76	
760LF_6	6	760LF_1/4	1/4	6.35	
760LF_8	8	760LF_5/16	5/16	7.93	
760LF_10	10	760LF_3/8	3/8	9.52	
760LF_12	12	760LF_1/2	1/2	12.70	
760LF_14	14	760LF_5/8	5/8	15.87	
760LF_15	15	760LF_3/4	3/4	19.05	
760LF_16	16	760LF_7/8	7/8	22.22	
760LF_18	18	760LF_1	1	25.40	
760LF_20	20	760LF_1 1/4	1 1/4	31.75	
760LF_22	22	760LF_1 1/2	1 1/2	38.10	
760LF_25	25				

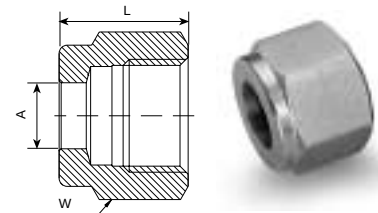
● "D" - Dimension is minimum opening. ● Dimensions are for reference only, and are subject to change without notice.

760 LI TUBE INSERT



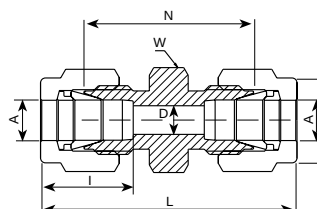
METRIC				INCH						
Ordering Information	A Tube O.D.	A1 Tube I.D.	D	Ordering Information	A Tube O.D.		A1 Tube I.D.		D	
	mm	mm	mm		in	mm	in	mm	in	mm
760LI_6 X 4	6	4	2.8	760LI_3/16 X 1/8	3/16	4.76	1/8	3.17	.09	2.30
760LI_8 X 6	8	6	4.4	760LI_1/4 X 1/8	1/4	6.35	1/8	3.17	.09	2.30
760LI_10 X 8	10	8	6.4	760LI_1/4 X 0.17"	1/4	6.35	.17	4.32	.11	2.70
760LI_12 X 8	12	8	6.4	760LI_1/4 X 3/16	1/4	6.35	3/16	4.76	.12	3.10
760LI_12 X 10	12	10	8.3	760LI_5/16 X 1/8	5/16	7.93	1/8	3.17	.09	2.30
				760LI_5/16 X 3/16	5/16	7.93	3/16	4.76	.12	3.00
				760LI_5/16 X 1/4	5/16	7.93	1/4	6.35	.18	4.65
				760LI_3/8 X 3/16	3/8	9.52	3/16	4.76	.12	3.10
				760LI_3/8 X 1/4	3/8	9.52	1/4	6.35	.18	4.65
				760LI_1/2 X 1/4	1/2	12.70	1/4	6.35	.18	4.65
				760LI_1/2 X 3/8	1/2	12.70	3/8	9.52	.31	7.80
				760LI_5/8 X 3/8	5/8	15.87	3/8	9.52	.31	7.80
				760LI_5/8 X 1/2	5/8	15.87	1/2	12.70	.44	11.10
				760LI_3/4 X 1/2	3/4	19.05	1/2	12.70	.44	11.10
				760LI_3/4 X 5/8	3/4	19.05	5/8	15.87	.56	14.20
				760LI_1" X 3/4	1	25.40	3/4	19.05	.69	17.50

761 L NUT



METRIC				INCH						
Ordering Information	A Tube O.D.	W Hex. Flat	L	Ordering Information	A Tube O.D.		W Hex. Flat		L	
	mm	mm	mm		in	mm	in	mm	in	mm
761L_2	2	12	11.9	761L_1/16	1/16	1.58	5/16	7.9	.31	7.87
761L_3	3	12	11.9	761L_1/8	1/8	3.17	7/16	11.1	.47	11.93
761L_4	4	12	11.9	761L_3/16	3/16	4.76	1/2	12.7	.47	11.93
761L_6	6	14	12.7	761L_1/4	1/4	6.35	9/16	14.3	.50	12.70
761L_8	8	16	13.5	761L_5/16	5/16	7.93	5/8	15.9	.53	13.46
761L_10	10	19	15.1	761L_3/8	3/8	9.52	11/16	17.5	.56	14.22
761L_12	12	22	17.4	761L_1/2	1/2	12.70	7/8	22.2	.69	17.52
761L_14	14	25	17.4	761L_5/8	5/8	15.87	1	25.4	.69	17.52
761L_15	15	25	17.4	761L_3/4	3/4	19.05	1 1/8	28.6	.69	17.52
761L_16	16	25	17.4	761L_7/8	7/8	22.22	1 1/4	31.8	.69	17.52
761L_18	18	30	17.4	761L_1	1	25.40	1 1/2	38.1	.81	20.57
761L_20	20	32	17.4	761L_1 1/4	1 1/4	31.75	1 7/8	47.6	1.25	31.75
761L_22	22	32	17.4	761L_1 1/2	1 1/2	38.10	2 1/4	57.2	1.50	38.10
761L_25	25	38	20.6							

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

**762 L
UNION**

TUBE (METRIC) TO TUBE (METRIC)

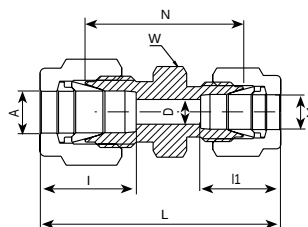
Ordering Information	A Tube O.D.		D		W Hex. Flat		N		L		I	
	mm		mm		mm		mm		mm		mm	
762L _ 2	2		1.7		12		22.4		35.6		12.9	
762L _ 3	3		2.4		12		22.1		35.3		12.9	
762L _ 4	4		2.4		12		24.1		37.3		13.7	
762L _ 6	6		4.8		14		26.2		41.0		15.3	
762L _ 8	8		6.4		15		28.2		43.2		16.2	
762L _ 10	10		7.9		18		31.0		46.2		17.2	
762L _ 12	12		9.5		22		31.0		51.2		22.8	
762L _ 14	14		11.1		24		31.8		52.0		22.8	
762L _ 15	15		11.9		24		31.8		52.0		24.4	
762L _ 16	16		12.7		24		31.8		52.0		24.4	
762L _ 18	18		15.1		27		33.3		53.5		24.4	
762L _ 20	20		15.9		30		34.8		55.0		26.0	
762L _ 22	22		18.3		30		34.8		55.0		26.0	
762L _ 25	25		21.8		35		40.4		65.0		31.3	

TUBE (INCH) TO TUBE (INCH)

Ordering Information	A Tube O.D.		D		W Hex. Flat		N		L		I	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
762L _ 1/16	1/16	1.58	.05	1.27	5/16	7.9	.69	17.52	.99	25.14	.34	8.6
762L _ 1/8	1/8	3.17	.09	2.28	7/16	11.1	.88	22.35	1.40	35.56	.50	12.7
762L _ 3/16	3/16	4.76	.12	3.04	7/16	11.1	.95	24.13	1.47	37.33	.54	13.7
762L _ 1/4	1/4	6.35	.19	4.82	1/2	12.7	1.03	26.16	1.61	40.89	.60	15.2
762L _ 5/16	5/16	7.93	.25	6.35	9/16	14.3	1.11	28.2	1.69	42.9	.64	16.3
762L _ 3/8	3/8	9.52	.28	7.11	5/8	15.9	1.19	30.22	1.77	44.95	.66	16.8
762L _ 1/2	1/2	12.70	.41	10.41	13/16	20.6	1.22	30.98	2.02	51.30	.90	22.9
762L _ 5/8	5/8	15.87	.50	12.70	15/16	23.8	1.25	31.75	2.05	52.07	.96	24.4
762L _ 3/4	3/4	19.05	.62	15.74	1 1/16	27.0	1.31	33.27	2.11	53.59	.96	24.4
762L _ 7/8	7/8	22.22	.72	18.28	1 3/16	30.2	1.38	35.05	2.17	55.11	1.02	26.0
762L _ 1	1	25.40	.88	22.35	1 3/8	34.9	1.59	40.38	2.55	64.77	1.23	31.3
762L _ 1 1/4	*1 1/4	31.75	1.09	27.70	1 3/4	44.5	1.89	48.00	3.63	92.20	1.62	41.2
762L _ 1 1/2	*1 1/2	38.1	1.34	34.00	2 1/8	54.0	2.11	53.60	4.25	107.95	1.97	50.0

* Including low friction paste, See page 5 • "D" - Dimension is minimum opening. • Dimensions are for reference only, and are subject to change without notice.

763 L

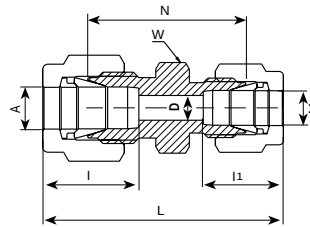
REDUCING UNION


TUBE (METRIC) TO TUBE (METRIC)								
Ordering Information	A	A1	D	W	N	L	I	I1
	Tube O.D.	Tube O.D.		Hex. Flat				
	mm	mm	mm	mm	mm	mm	mm	mm
763L _ 3 x 2	3	2	1.7	12	22.1	35.3	12.9	12.9
763L _ 6 x 2	6	2	1.7	14	24.6	38.6	15.3	12.9
763L _ 6 x 3	6	3	2.4	14	24.6	38.6	15.3	12.9
763L _ 6 x 4	6	4	2.4	14	25.4	39.4	15.3	13.7
763L _ 8 x 6	8	6	4.8	15	27.4	42.3	16.2	15.3
763L _ 10 x 6	10	6	4.8	18	29.5	44.5	17.2	15.3
763L _ 10 x 8	10	8	6.4	18	30.0	45.1	17.2	16.2
763L _ 12 x 6	12	6	4.8	22	29.5	47.0	22.8	15.3
763L _ 12 x 8	12	8	6.4	22	30.2	47.8	22.8	16.2
763L _ 12 x 10	12	10	7.9	22	31.0	48.7	22.8	17.2
763L _ 16 x 10	16	10	7.9	24	31.8	49.5	24.4	17.2
763L _ 16 x 12	16	12	9.5	24	31.8	52.0	24.4	22.8
763L _ 18 x 12	18	12	9.5	27	33.3	53.5	24.4	22.8
763L _ 25 x 18	25	18	15.1	35	38.6	61.0	31.3	24.4
763L _ 25 x 20	25	20	15.9	35	39.9	62.3	31.3	26.0
TUBE (METRIC) TO TUBE (INCH)								
Ordering Information	A	A1	D	W	N	L	I	I1
	Tube O.D.	Tube O.D.		Hex. Flat				
	mm	in	mm	mm	mm	mm	mm	mm
763L _ 2 x 1/4	2	1/4	1.7	14	24.0	38.6	12.9	15.2
763L _ 3 x 1/8	3	1/8	2.4	12	22.1	35.2	12.9	12.7
763L _ 4 x 1/8	4	1/8	2.4	12	23.4	36.5	13.7	12.7
763L _ 4 x 1/4	4	1/4	2.4	14	25.4	39.4	13.7	15.2
763L _ 6 x 1/8	6	1/8	2.4	14	24.6	38.5	15.3	12.7
763L _ 6 x 1/4	6	1/4	4.8	14	26.2	41.0	15.3	15.2
763L _ 6 x 5/16	6	5/16	4.8	14	27.4	42.3	15.3	16.2
763L _ 8 x 1/8	8	1/8	2.4	15	25.9	39.9	16.2	12.7
763L _ 8 x 1/4	8	1/4	4.8	15	27.4	42.3	16.2	15.2
763L _ 8 x 3/8	8	3/8	6.4	16	29.5	44.3	16.2	16.8
763L _ 10 x 1/8	10	1/8	2.4	18	27.7	41.8	17.2	12.7
763L _ 10 x 1/4	10	1/4	4.8	18	29.5	44.5	17.2	15.2
763L _ 10 x 5/16	10	5/16	6.4	18	30.0	45.1	17.2	16.2
763L _ 10 x 3/8	10	3/8	7.1	18	31.0	45.9	17.2	16.8
763L _ 12 x 5/16	12	5/16	6.4	22	30.2	47.8	22.8	16.2
763L _ 12 x 3/8	12	3/8	7.1	22	31.0	48.4	22.8	16.8
763L _ 12 x 1/2	12	1/2	9.5	22	31.0	51.2	22.8	22.9
763L _ 15 x 1/2	15	1/2	10.3	24	31.8	52.0	24.4	22.9
763L _ 16 x 5/8	16	5/8	12.7	24	31.8	52.0	24.4	24.4
763L _ 18 x 3/4	18	3/4	15.1	27	33.3	53.5	24.4	24.4

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

763 L

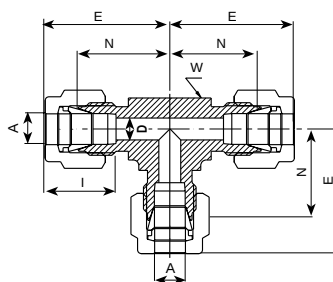
REDUCING UNION



TUBE (INCH) TO TUBE (INCH)

Ordering Information	A		A1		D		W		N		L		I		I1	
	Tube O.D.		Tube O.D.				Hex. Flat									
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
763L _ 1/8 x 1/16	1/8	3.17	1/16	1.58	.05	1.27	7/16	11.1	.81	20.57	1.22	30.98	.50	12.7	.34	8.6
763L _ 3/16 x 1/16	3/16	4.76	1/16	1.58	.05	1.27	7/16	11.1	.86	21.84	1.27	32.26	.54	13.7	.34	8.6
763L _ 3/16 x 1/8	3/16	4.76	1/8	3.17	.09	2.28	7/16	11.1	.92	23.36	1.44	36.57	.54	13.7	.50	12.7
763L _ 1/4 x 1/16	1/4	6.35	1/16	1.58	.05	1.27	1/2	12.7	.91	23.11	1.35	34.29	.60	15.2	.34	8.6
763L _ 1/4 x 1/8	1/4	6.35	1/8	3.17	.09	2.28	1/2	12.7	.97	24.63	1.52	38.60	.60	15.2	.50	12.7
763L _ 1/4 x 3/16	1/4	6.35	3/16	4.76	.12	3.04	1/2	12.7	1.00	25.40	1.55	37.37	.60	15.2	.54	13.7
763L _ 5/16 x 1/8	5/16	7.93	1/8	3.17	.09	2.28	9/16	14.3	1.01	25.65	1.56	39.62	.64	16.3	.50	12.7
763L _ 5/16 x 1/4	5/16	7.93	1/4	6.35	.19	4.82	9/16	14.3	1.08	27.43	1.66	42.16	.64	16.3	.60	15.2
763L _ 3/8 x 1/16	3/8	9.52	1/16	1.58	.05	1.27	5/8	15.9	1.00	25.40	1.44	36.58	.66	16.8	.34	8.6
763L _ 3/8 x 1/8	3/8	9.52	1/8	3.17	.09	2.28	5/8	15.9	1.06	26.92	1.61	40.89	.66	16.8	.50	12.7
763L _ 3/8 x 1/4	3/8	9.52	1/4	6.35	.19	4.82	5/8	15.9	1.12	28.44	1.70	43.18	.66	16.8	.60	15.2
763L _ 3/8 x 5/16	3/8	9.52	5/16	7.93	.25	6.35	5/8	15.9	1.16	29.46	1.74	44.19	.66	16.8	.64	16.3
763L _ 1/2 x 1/8	1/2	12.70	1/8	3.17	.09	2.28	13/16	20.6	1.12	28.44	1.78	45.21	.90	22.9	.50	12.7
763L _ 1/2 x 1/4	1/2	12.70	1/4	6.35	.19	4.82	13/16	20.6	1.16	29.46	1.85	46.99	.90	22.9	.60	15.2
763L _ 1/2 x 3/8	1/2	12.70	3/8	9.52	.28	7.11	13/16	20.6	1.22	30.98	1.91	48.51	.90	22.9	.66	16.8
763L _ 5/8 x 3/8	5/8	15.87	3/8	9.52	.28	7.11	15/16	23.8	1.25	31.75	1.94	49.27	.96	24.4	.66	16.8
763L _ 5/8 x 1/2	5/8	15.87	1/2	12.70	.41	10.41	15/16	23.8	1.25	31.75	2.05	52.07	.96	24.4	.90	22.9
763L _ 3/4 x 1/4	3/4	19.05	1/4	6.35	.19	4.82	1 1/16	27.0	1.25	31.75	1.94	49.28	.96	24.4	.60	15.2
763L _ 3/4 x 3/8	3/4	19.05	3/8	9.52	.28	7.11	1 1/16	27.0	1.31	33.27	2.00	50.80	.96	24.4	.66	16.8
763L _ 3/4 x 1/2	3/4	19.05	1/2	12.70	.41	10.41	1 1/16	27.0	1.31	33.27	2.11	53.59	.96	24.4	.90	22.9
763L _ 3/4 x 5/8	3/4	19.05	5/8	15.87	.50	12.70	1 1/16	27.0	1.31	33.27	2.11	53.59	.96	24.4	.96	24.4
763L _ 1 x 1/2	1	25.4	1/2	12.70	.41	10.41	1 3/8	34.9	1.61	38.10	2.38	60.45	1.23	31.2	.90	22.9
763L _ 1 x 3/4	1	25.4	3/4	19.05	.62	15.75	1 3/8	34.9	1.59	38.10	2.38	60.45	1.23	31.2	.96	24.4

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

**764 L
UNION TEE**

ALL TUBE (METRIC)

Description	A Tube O.D.		D		W Wrench Flat		N		E		I	
	mm		mm		in	mm	mm		mm		mm	
764L _ 2	2		1.7		3/8	9.5	15.7		22.3		12.9	
764L _ 3	3		2.4		3/8	9.5	15.7		22.3		12.9	
764L _ 4	4		2.4		1/2	12.7	18.8		25.4		13.7	
764L _ 6	6		4.8		1/2	12.7	19.6		27.0		15.3	
764L _ 8	8		6.4		5/8	15.9	22.4		29.9		16.2	
764L _ 10	10		7.9		11/16	17.5	23.9		31.5		17.2	
764L _ 12	12		9.5		13/16	20.6	25.9		36.0		22.8	
764L _ 14	14		11.1		15/16	23.8	28.7		38.8		24.4	
764L _ 15	15		11.9		15/16	23.8	28.7		38.8		24.4	
764L _ 16	16		12.7		15/16	23.8	28.7		38.8		24.4	
764L _ 18	18		15.1		1 1/8	28.6	29.7		39.8		24.4	
764L _ 20	20		15.9		1 3/8	34.9	34.5		44.6		26.0	
764L _ 22	22		18.3		1 3/8	34.9	34.5		44.6		26.0	
764L _ 25	25		21.8		1 3/8	34.9	36.8		49.1		31.3	

ALL TUBE (INCH)

Description	A Tube O.D.		D		W Wrench Flat		N		E		I	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
764L _ 1/16	1/16	1.58	.05	1.27	3/8	9.5	.56	14.22	.70	17.80	.34	8.6
764L _ 1/8	1/8	3.17	.09	2.28	3/8	9.5	.62	15.74	.88	22.35	.50	12.7
764L _ 3/16	3/16	4.76	.12	3.04	1/2	12.7	.70	17.80	.96	24.40	.54	13.7
764L _ 1/4	1/4	6.35	.19	4.82	1/2	12.7	.77	19.55	1.06	26.90	.60	15.2
764L _ 5/16	5/16	7.93	.25	6.35	5/8	15.9	.88	22.35	1.17	29.71	.64	16.3
764L _ 3/8	3/8	9.52	.28	7.11	5/8	15.9	.91	23.11	1.20	30.48	.66	16.8
764L _ 1/2	1/2	12.70	.41	10.41	13/16	20.6	1.02	25.90	1.42	30.10	.90	22.9
764L _ 5/8	5/8	15.87	.50	12.70	15/16	23.8	1.13	28.70	1.53	38.90	.96	24.4
764L _ 3/4	3/4	19.05	.62	15.74	1 1/8	28.6	1.17	29.70	1.57	39.90	.96	24.4
764L _ 7/8	7/8	22.22	.72	18.29	1 3/8	34.9	1.36	34.54	1.76	44.70	1.02	25.9
764L _ 1	1	25.40	.88	22.35	1 3/8	34.9	1.45	36.80	1.93	49.00	1.23	31.2
764L _ 1 1/4	*1 1/4	31.75	1.09	27.7	1 11/16	42.9	1.75	44.50	2.67	67.80	1.62	41.1
764L _ 1 1/2	*1 1/2	38.10	1.34	34.0	2	50.8	2.00	50.80	3.10	78.74	1.97	50.0

* Including low friction paste, See page 5 • "D" - Dimension is minimum opening. • Dimensions are for reference only, and are subject to change without notice.

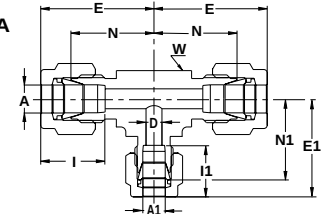
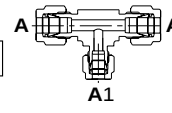
764 LR

REDUCING UNION TEE


Ordering Information	A Tube O.D.		A1 Tube O.D.		E		E1		I		I1		D		W Wrench Flat		N		N1	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
764LR_3/8 X 3/8 X 1/4	3/8	9.52	1/4	6.35	1.20	30.5	1.14	29.0	0.66	16.8	0.60	15.2	0.19	4.8	5/8	15.9	0.91	23.1	0.85	21.6
764LR_1/2 X 1/2 X 1/4	1/2	12.70	1/4	6.35	1.42	36.1	1.25	31.8	0.90	22.9	0.60	15.2	0.19	4.8	13/16	20.6	1.02	25.9	0.96	24.4
764LR_1/2 X 1/2 X 3/8	1/2	12.70	3/8	9.52	1.42	36.1	1.31	33.3	0.90	22.9	0.66	16.8	0.28	7.1	13/16	20.6	1.02	25.9	1.02	25.9
764LR_5/8 X 5/8 X 3/8	5/8	15.88	3/8	9.52	1.53	38.9	1.42	36.1	0.96	24.4	0.66	16.8	0.28	7.1	15/16	23.8	1.13	28.7	1.13	28.7
764LR_3/4 X 3/4 X 3/8	3/4	19.05	3/8	9.52	1.57	39.9	1.46	37.1	0.96	24.4	0.66	16.8	0.28	7.1	1 1/8	28.6	1.17	29.7	1.17	29.7
764LR_3/4 X 3/4 X 1/2	3/4	19.05	1/2	12.70	1.57	39.9	1.57	39.9	0.96	24.4	0.90	22.9	0.41	10.4	1 1/8	28.6	1.17	29.7	1.17	29.7
764LR_1 X 1 X 3/8	1	25.4	3/8	9.52	1.93	49.0	1.65	41.9	1.23	31.2	0.66	16.8	0.28	7.1	1 3/8	34.9	1.45	36.8	1.36	34.5
764LR_1 X 1 X 1/2	1	25.4	1/2	12.70	1.93	49.0	1.76	44.7	1.23	31.2	0.90	22.9	0.41	10.4	1 3/8	34.9	1.45	36.8	1.36	34.5
764LR_1 X 1 X 3/4	1	25.4	3/4	19.05	1.93	49.0	1.76	44.7	1.23	31.2	0.96	24.4	0.62	15.8	1 3/8	34.9	1.45	36.8	1.36	34.5

HOW TO ORDER

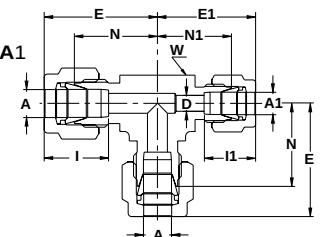
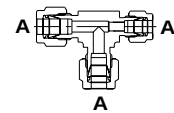
764LR A X A X A1



Ordering Information	A Tube O.D.		A1 Tube O.D.		E		E1		I		I1		D		W Wrench Flat		N		N1	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
764LR_3/8 X 1/4 X 3/8	3/8	9.52	1/4	6.35	1.20	30.5	1.14	29.0	0.66	16.8	0.60	15.2	0.19	4.8	5/8	15.9	0.91	23.1	0.85	21.6

HOW TO ORDER

764LR A X A1 X A



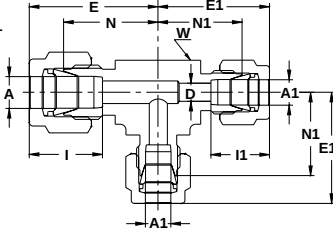
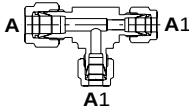
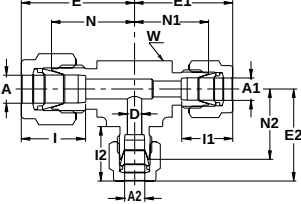
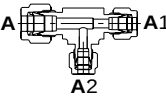
● "D" - Dimension is minimum opening. ● Dimensions are for reference only, and are subject to change without notice.

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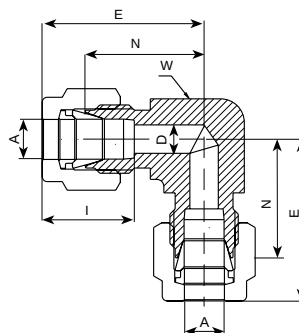
764 LR

REDUCING TEE (Cont'd)



Ordering Information	A Tube O.D.		A1 Tube O.D.		E		E1		I		I1		D		W Wrench Flat		N		N1							
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm						
764LR_1/2 X 3/8 X 3/8	1/2	12.70	3/8	9.52	1.42	36.1	1.31	33.3	0.90	22.9	0.66	16.8	0.28	7.1	13/16	20.6	1.02	25.9	1.02	25.9						
764LR_5/8 X 3/8 X 3/8	5/8	15.88	3/8	9.52	1.53	38.9	1.42	36.1	0.96	24.4	0.66	16.8	0.28	7.1	15/16	23.8	1.13	28.7	1.13	28.7						
764LR_3/4 X 3/8 X 3/8	3/4	19.05	3/8	9.52	1.57	39.9	1.46	37.1	0.96	24.4	0.66	16.8	0.28	7.1	1 1/8	28.6	1.17	29.7	1.17	29.7						
	HOW TO ORDER A A1 A1 764LR 1/2 X 3/8 X 3/8 																									
Ordering Information	A Tube O.D.		A1 Tube O.D.		A2 Tube O.D.		E		E1		E2		I		I1		I2		D		W Wrench Flat		N		N1&N2	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
764LR_5/8 X 1/2 X 3/8	5/8	15.88	1/2	12.70	3/8	9.52	1.53	38.9	1.53	38.9	1.42	36.1	0.96	24.4	0.90	22.9	0.66	16.8	0.28	7.1	15/16	23.8	1.13	28.7	1.13	28.7
764LR_3/4 X 1/2 X 3/8	3/4	19.05	1/2	12.70	3/8	9.52	1.57	39.9	1.57	39.9	1.46	37.1	0.96	24.4	0.90	22.9	0.66	16.8	0.28	7.1	1 1/8	28.6	1.17	29.7	1.17	29.7
764LR_1 X 3/4 X 3/8	1	25.4	3/4	19.05	3/8	9.52	1.93	49.0	1.76	44.7	1.65	41.9	1.23	31.2	0.96	24.4	0.66	16.8	0.28	7.1	1 3/8	34.9	1.45	36.8	1.36	34.5
	HOW TO ORDER A A1 A2 764LR 5/8 X 1/2 X 3/8 																									

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

**765 L
UNION ELBOW**

TUBE (METRIC) TO TUBE (METRIC)

Ordering Information	A Tube O.D.		D		W Wrench Flat		N		E		I	
	mm		mm		in	mm	mm		mm		mm	
765L_3	3		2.4		3/8	9.5	15.7		22.3		12.9	
765L_4	4		2.4		1/2	12.7	18.8		25.4		13.7	
765L_6	6		4.8		1/2	12.7	19.6		27.0		15.3	
765L_8	8		6.4		9/16	14.3	21.3		28.8		16.2	
765L_10	10		7.9		11/16	17.5	23.9		31.5		17.2	
765L_12	12		9.5		13/16	20.6	25.9		36.0		22.8	
765L_14	14		11.1		15/16	23.8	27.9		38.0		24.4	
765L_15	15		11.9		15/16	23.8	27.9		38.0		24.4	
765L_16	16		12.7		15/16	23.8	27.9		38.0		24.4	
765L_18	18		15.1		1 1/8	28.6	29.7		39.8		24.4	
765L_20	20		15.9		1 3/8	34.9	34.5		44.6		26.0	
765L_22	22		18.3		1 3/8	34.9	34.5		44.6		26.0	
765L_25	25		21.8		1 3/8	34.9	36.8		49.1		31.3	

TUBE (INCH) TO TUBE (INCH)

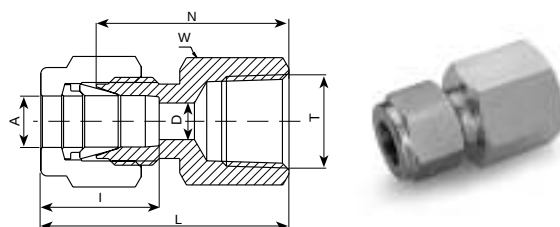
Ordering Information	A Tube O.D.		D		W Wrench Flat		N		E		I	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
765L_1/16	1/16	1.58	.05	1.25	3/8	9.5	.55	14.00	.70	17.81	.34	8.7
765L_1/8	1/8	3.17	.09	2.28	3/8	9.5	.62	15.74	.88	22.35	.50	12.7
765L_3/16	3/16	4.76	.12	3.04	1/2	12.7	.74	18.80	1.00	25.40	.54	13.7
765L_1/4	1/4	6.35	.19	4.82	1/2	12.7	.77	19.56	1.06	26.92	.60	15.2
765L_5/16	5/16	7.93	.25	6.35	9/16	14.3	.84	21.33	1.13	28.70	.64	16.3
765L_3/8	3/8	9.52	.28	7.11	5/8	15.9	.91	23.11	1.20	30.48	.66	16.8
765L_1/2	1/2	12.70	.41	10.41	13/16	20.6	1.02	25.90	1.42	36.06	.90	22.9
765L_5/8	5/8	15.87	.50	12.70	15/16	23.8	1.10	27.94	1.50	38.10	.96	24.4
765L_3/4	3/4	19.05	.62	15.74	1 1/8	28.6	1.17	29.71	1.57	39.89	.96	24.4
765L_7/8	7/8	22.22	.72	18.28	1 3/8	34.9	1.36	34.5	1.76	44.70	1.02	25.9
765L_1	1	25.40	.88	22.35	1 3/8	34.9	1.45	36.83	1.93	49.00	1.23	31.3
765L_1 1/4	*1 1/4	31.75	1.09	27.7	1 11/16	42.9	1.75	44.5	2.62	66.50	1.62	41.1
765L_1 1/2	*1 1/2	38.10	1.34	34.0	2	50.8	2.00	50.8	3.07	78.00	1.97	50.0

* Including low friction paste, See page 5 • "D" - Dimension is minimum opening. • Dimensions are for reference only, and are subject to change without notice.



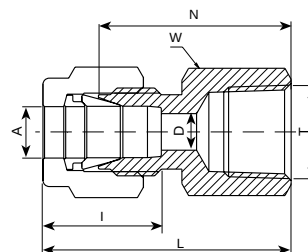
● "D" - Dimension is minimum opening. ● Dimensions are for reference only, and are subject to change without notice.



[illegible]

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

766 LR

FEMALE CONNECTOR

TUBE (METRIC) TO FEMALE ISO TAPERED THREAD

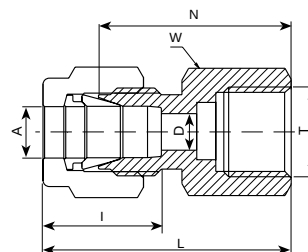
Ordering Information	A Tube O.D.	T (ISO)	D	W Hex. Flat	N	L	I
	mm	in	mm	mm	mm	mm	mm
766LR _ 3 X 1/8	3	R-1/8	2.4	14	22.1	28.7	12.9
766LR _ 6 X 1/8	6	R-1/8	4.8	14	23.9	31.3	15.3
766LR _ 6 X 1/4	6	R-1/4	4.8	19	28.4	35.8	15.3
766LR _ 6 X 3/8	6	R-3/8	4.8	22	30.2	37.6	15.3
766LR _ 6 X 1/2	6	R-1/2	4.8	27	35.1	42.5	15.3
766LR _ 8 X 1/8	8	R-1/8	6.4	15	24.6	32.1	16.2
766LR _ 8 X 1/4	8	R-1/4	6.4	19	29.5	37.0	16.2
766LR _ 8 X 3/8	8	R-3/8	6.4	22	31.0	38.5	16.2
766LR _ 8 X 1/2	8	R-1/2	6.4	27	35.8	43.3	16.2
766LR _ 10 X 1/8	10	R-1/8	7.9	18	25.4	33.0	17.2
766LR _ 10 X 1/4	10	R-1/4	7.9	19	30.2	37.8	17.2
766LR _ 10 X 3/8	10	R-3/8	7.9	22	31.8	39.4	17.2
766LR _ 10 X 1/2	10	R-1/2	7.9	27	36.6	44.2	17.2
766LR _ 12 X 1/8	12	R-1/8	8.3	22	25.4	35.5	22.8
766LR _ 12 X 1/4	12	R-1/4	9.5	22	30.2	40.3	22.8
766LR _ 12 X 3/8	12	R-3/8	9.5	22	31.8	41.9	22.8
766LR _ 12 X 1/2	12	R-1/2	9.5	27	36.6	46.7	22.8
766LR _ 12 X 3/4	12	R-3/4	9.5	35	38.9	49.0	22.8
766LR _ 15 X 3/8	15	R-3/8	11.9	24	31.8	41.9	24.4
766LR _ 15 X 1/2	15	R-1/2	11.9	27	36.6	46.7	24.4
766LR _ 20 X 1/2	20	R-1/2	15.9	30	37.8	47.9	26.0
766LR _ 20 X 3/4	20	R-3/4	15.9	35	39.6	49.7	26.0
766LR _ 22 X 3/4	22	R-3/4	18.3	35	39.6	49.7	26.0
766LR _ 22 X 1	22	R-1	18.3	41	47.8	57.9	26.0
766LR _ 25 X 3/4	25	R-3/4	21.8	35	41.1	53.4	31.3
766LR _ 25 X 1	25	R-1	21.8	41	50.0	62.3	31.3

Reference Specifications:
DIN - 2999
BS - 21
JIS - B0203
ISO - 7/1-BSP-T

Designation:
Marking LR on Hex.

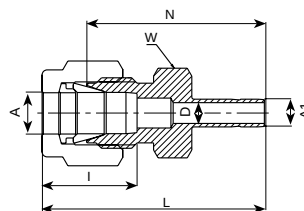
● "D" - Dimension is minimum opening. ● Dimensions are for reference only, and are subject to change without notice.

766 LG
FEMALE CONNECTOR



TUBE (METRIC) TO FEMALE ISO PARALLEL THREAD							
Ordering Information	A Tube O.D.	T (ISO)	D	W Hex. Flat	N	L	I
	mm	in	mm	mm	mm	mm	mm
766LG _ 3 X 1/4	3	G-1/4	2.4	19	28.7	35.3	12.9
766LG _ 6 X 1/4	6	G-1/4	4.8	19	30.2	37.6	15.3
766LG _ 6 X 3/8	6	G-3/8	4.8	24	30.2	37.6	15.3
766LG _ 6 X 1/2	6	G-1/2	4.8	27	36.1	43.5	15.3
766LG _ 8 X 1/4	8	G-1/4	5.5	19	31.0	38.5	16.2
766LG _ 8 X 3/8	8	G-3/8	6.5	24	28.7	36.2	16.2
766LG _ 8 X 1/2	8	G-1/2	7.0	27	33.5	41.0	16.2
766LG _ 10 X 1/4	10	G-1/4	5.5	19	31.8	39.4	17.2
766LG _ 10 X 3/8	10	G-3/8	6.5	24	31.2	38.8	17.2
766LG _ 10 X 1/2	10	G-1/2	7.0	27	34.5	42.1	17.2
766LG _ 12 X 1/4	12	G-1/4	5.5	22	31.8	41.9	22.8
766LG _ 12 X 3/8	12	G-3/8	6.5	24	34.3	44.4	22.8
766LG _ 12 X 1/2	12	G-1/2	7.0	27	38.1	48.2	22.8
766LG _ 20 X 1/2	20	G-1/2	7.0	30	44.2	54.3	26.0
766LG _ 22 X 1/2	22	G-1/2	7.0	30	44.2	54.3	26.0
							Reference Specifications: DIN - ISO 228/1 BS - 2779 JIS - B0202 ISO - 228/1-BSP-P Designation: Marking LG on Hex.

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

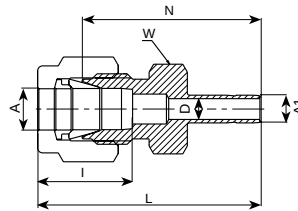
**767 LT
REDUCER**


TUBE (METRIC) TO STUB (METRIC)							
Ordering Information	A Tube O.D.	A1 Tube O.D.	D	W Hex. Flat	N	L	I
	mm	mm	mm	mm	mm	mm	mm
767LT _ 2 X 3	2	3	1.7	12	26.9	33.5	12.9
767LT _ 3 X 4	3	4	2.4	12	28.4	35.0	12.9
767LT _ 3 X 6	3	6	2.4	12	29.5	36.1	12.9
767LT _ 3 X 10	3	10	2.4	14	31.8	38.4	12.9
767LT _ 4 X 6	4	6	2.4	12	30.5	37.1	13.7
767LT _ 6 X 3	6	3	1.8	14	29.5	36.9	15.3
767LT _ 6 X 8	6	8	4.8	14	32.5	39.9	15.3
767LT _ 6 X 10	6	10	4.8	14	33.3	40.7	15.3
767LT _ 6 X 12	6	12	4.8	14	38.9	46.3	15.3
767LT _ 6 X 18	6	18	4.8	22	42.2	49.6	15.3
767LT _ 8 X 6	8	6	4.0	15	32.8	40.3	16.2
767LT _ 8 X 10	8	10	6.4	15	34.5	42.0	16.2
767LT _ 8 X 12	8	12	6.4	15	40.1	47.6	16.2
767LT _ 10 X 6	10	6	4.0	18	34.8	42.4	17.2
767LT _ 10 X 8	10	8	5.6	18	35.8	43.4	17.2
767LT _ 10 X 12	10	12	7.9	18	42.2	49.8	17.2
767LT _ 10 X 15	10	15	7.9	18	43.7	51.3	17.2
767LT _ 10 X 18	10	18	7.9	22	43.7	51.3	17.2
767LT _ 12 X 6	12	6	4.0	22	34.8	44.9	22.8
767LT _ 12 X 10	12	10	7.7	22	36.6	46.7	22.8
767LT _ 12 X 16	12	16	9.5	22	43.7	53.8	22.8
767LT _ 12 X 18	12	18	9.5	22	43.7	53.8	22.8
767LT _ 12 X 20	12	20	9.5	22	46.0	56.1	22.8
767LT _ 12 X 22	12	22	9.5	24	46.0	56.1	22.8
767LT _ 12 X 25	12	25	9.5	27	52.3	62.4	22.8
767LT _ 16 X 12	16	12	9.1	24	42.9	53.0	24.4
767LT _ 18 X 12	18	12	9.1	27	44.5	54.6	24.4
767LT _ 18 X 16	18	16	12.7	27	46.0	56.1	24.4
767LT _ 18 X 20	18	20	15.1	27	47.5	57.6	24.4
767LT _ 18 X 22	18	22	15.1	27	47.5	57.6	24.4
767LT _ 18 X 25	18	25	15.1	27	52.3	62.4	24.4
767LT _ 20 X 16	20	16	12.7	30	47.8	57.9	26.0
767LT _ 20 X 18	20	18	13.9	30	47.8	57.9	26.0
767LT _ 20 X 22	20	22	15.8	30	49.3	59.4	26.0
767LT _ 20 X 25	20	25	15.9	30	54.1	64.2	26.0
767LT _ 22 X 18	22	18	13.9	30	47.8	57.9	26.0
767LT _ 22 X 20	22	20	15.1	30	49.3	59.4	26.0
767LT _ 22 X 25	22	25	18.3	30	54.1	64.2	26.0
767LT _ 25 X 18	25	18	13.9	35	50.8	63.1	31.3
767LT _ 25 X 20	25	20	15.1	35	52.3	64.6	31.3

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

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767 LT REDUCER (Cont'd)

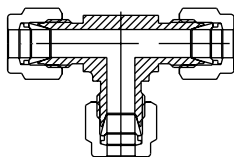


TUBE (METRIC) TO STUB (INCH)

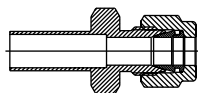
Ordering Information	A Tube O.D.	A1 Tube O.D.	D	W Hex. Flat	N	L	I
	mm	in	mm	mm	mm	mm	mm
767LT _ 2 X 1/8	2	1/8	1.7	12	26.9	33.5	12.9
767LT _ 3 X 1/8	3	1/8	2.0	12	26.9	33.5	12.9
767LT _ 3 X 1/4	3	1/4	2.4	12	29.5	36.1	12.9
767LT _ 4 X 1/4	4	1/4	2.4	12	30.5	37.1	13.7
767LT _ 6 X 1/8	6	1/8	2.2	14	29.5	36.9	15.3
767LT _ 6 X 5/16	6	5/16	4.8	14	32.5	39.9	15.3
767LT _ 6 X 3/8	6	3/8	4.8	14	33.3	40.7	15.3
767LT _ 6 X 1/2	6	1/2	4.8	14	38.9	46.3	15.3
767LT _ 8 X 3/8	8	3/8	6.4	15	34.5	42.0	16.2
767LT _ 8 X 1/2	8	1/2	6.4	15	40.1	47.6	16.2
767LT _ 10 X 3/8	10	3/8	7.1	18	36.6	44.2	17.2
767LT _ 10 X 1/2	10	1/2	7.9	18	42.2	49.8	17.2
767LT _ 12 X 1/2	12	1/2	9.5	22	42.2	52.3	22.8
767LT _ 12 X 3/4	12	3/4	9.5	22	43.7	53.8	22.8
767LT _ 18 X 3/4	18	3/4	15.1	27	46.0	56.1	24.4
767LT _ 18 X 1	18	1	15.1	27	52.3	62.4	24.4
767LT _ 25 X 1	25	1	20.2	35	57.2	69.4	31.3

HEAT EXCHANGER TEE ; INFORMATION

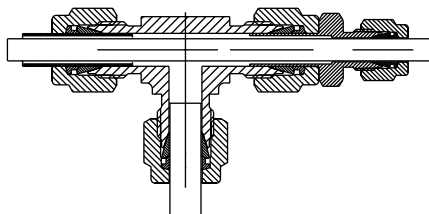
UNION TEE - 764 L



REDUCER - 767 LT

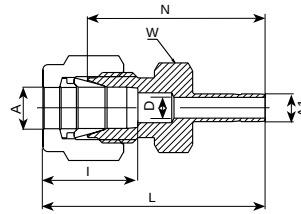


Heat exchanger tee made with
Let-lok tube fittings:

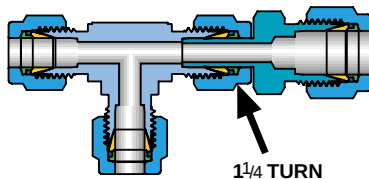


● "D" - Dimension is minimum opening. ● Dimensions are for reference only, and are subject to change without notice.

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**767 LT
REDUCER (Cont'd)**

TUBE (INCH) TO STUB (INCH)

Ordering Information	A Tube O.D.		A1 Tube O.D.		D		W Hex. Flat		N		L		I	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
767LT _ 1/16 X 1/8	1/16	1.58	1/8	3.17	.05	1.27	5/16	7.9	1.00	25.40	1.15	29.21	.34	8.6
767LT _ 1/16 X 1/4	1/16	1.58	1/4	6.35	.05	1.27	5/16	7.9	1.09	27.68	1.24	31.50	.34	8.6
767LT _ 1/8 X 1/16	1/8	3.17	1/16	1.58	.03	0.76	7/16	11.1	0.88	22.35	1.14	28.96	.50	12.7
767LT _ 1/8 X 3/16	1/8	3.17	3/16	4.76	.09	2.28	7/16	11.1	1.09	27.68	1.35	34.29	.50	12.7
767LT _ 1/8 X 1/4	1/8	3.17	1/4	6.35	.09	2.28	7/16	11.1	1.16	29.46	1.42	36.06	.50	12.7
767LT _ 1/8 X 3/8	1/8	3.17	3/8	9.52	.09	2.28	7/16	11.1	1.22	30.98	1.48	37.59	.50	12.7
767LT _ 1/8 X 1/2	1/8	3.17	1/2	12.70	.09	2.28	9/16	14.3	1.48	37.59	1.74	44.20	.50	12.7
767LT _ 3/16 X 1/8	3/16	4.76	1/8	3.17	.08	2.03	7/16	11.1	1.11	28.19	1.37	34.80	.54	13.7
767LT _ 3/16 X 1/4	3/16	4.76	1/4	6.35	.12	3.04	7/16	11.1	1.20	30.48	1.46	37.08	.60	13.7
767LT _ 1/4 X 1/8	1/4	6.35	1/8	3.17	.08	2.03	1/2	12.7	1.16	29.46	1.45	36.83	.60	15.2
767LT _ 1/4 X 3/16	1/4	6.35	3/16	4.76	.12	3.04	1/2	12.7	1.19	30.22	1.48	37.59	.60	15.2
767LT _ 1/4 X 1/4	1/4	6.35	1/4	6.35	.17	4.20	1/2	12.7	1.25	31.75	1.54	39.11	.60	15.2
767LT _ 1/4 X 5/16	1/4	6.35	5/16	7.93	.19	4.82	1/2	12.7	1.28	32.51	1.57	39.87	.60	15.2
767LT _ 1/4 X 3/8	1/4	6.35	3/8	9.52	.19	4.82	1/2	12.7	1.31	33.27	1.60	40.64	.60	15.2
767LT _ 1/4 X 1/2	1/4	6.35	1/2	12.70	.19	4.82	9/16	14.3	1.53	38.86	1.82	46.22	.60	15.2
767LT _ 1/4 X 5/8	1/4	6.35	5/8	7.93	.19	4.82	11/16	17.5	1.60	40.64	1.89	48.00	.60	15.2
767LT _ 1/4 X 3/4	1/4	6.35	3/4	19.05	.19	4.82	13/16	20.6	1.59	40.39	1.88	47.75	.60	15.2
767LT _ 5/16 X 3/8	5/16	7.93	3/8	9.52	.25	6.35	9/16	14.3	1.36	34.54	1.65	41.91	.64	16.3
767LT _ 5/16 X 1/2	5/16	7.93	1/2	12.70	.25	6.35	9/16	14.3	1.58	40.13	1.87	47.49	.64	16.3
767LT _ 3/8 X 1/4	3/8	9.52	1/4	6.35	.17	4.20	5/8	15.9	1.34	34.03	1.63	41.40	.66	16.8
767LT _ 3/8 X 3/8	3/8	9.52	3/8	9.52	.28	7.11	5/8	15.9	1.41	35.81	1.70	43.18	.66	16.8
767LT _ 3/8 X 1/2	3/8	9.52	1/2	12.70	.28	7.11	5/8	15.9	1.62	41.14	1.91	48.51	.66	16.8
767LT _ 3/8 X 5/8	3/8	9.52	5/8	15.87	.28	7.11	11/16	17.5	1.69	42.92	1.98	50.29	.66	16.8
767LT _ 3/8 X 3/4	3/8	9.52	3/4	19.05	.28	7.11	13/16	20.6	1.69	42.92	1.98	50.29	.66	16.8
767LT _ 1/2 X 1/4	1/2	12.70	1/4	6.35	.19	4.82	13/16	20.6	1.37	34.80	1.77	44.96	.90	22.9
767LT _ 1/2 X 3/8	1/2	12.70	3/8	9.52	.28	7.11	13/16	20.6	1.44	36.58	1.84	46.74	.90	22.9
767LT _ 1/2 X 1/2	1/2	12.70	1/2	12.70	.39	9.91	13/16	20.6	1.66	42.16	2.06	52.32	.90	22.9
767LT _ 1/2 X 5/8	1/2	12.70	5/8	15.87	.41	10.41	13/16	20.6	1.72	43.68	2.12	53.84	.90	22.9
767LT _ 1/2 X 3/4	1/2	12.70	3/4	19.05	.41	10.41	13/16	20.6	1.72	43.68	2.12	53.84	.90	22.9
767LT _ 1/2 X 1	1/2	12.70	1	25.40	.41	10.41	1 1/16	27.0	1.97	50.03	2.37	60.19	.90	22.9
767LT _ 5/8 X 3/4	5/8	15.87	3/4	19.05	.50	12.70	15/16	23.8	1.75	44.45	2.15	54.61	.96	24.4
767LT _ 5/8 X 7/8	5/8	15.87	7/8	22.22	.50	12.70	15/16	23.8	1.81	45.97	2.21	56.13	.96	24.4
767LT _ 5/8 X 1	5/8	15.87	1	25.40	.50	12.70	1 1/16	27.0	2.00	50.80	2.40	60.96	.96	24.4
767LT _ 3/4 X 1/2	3/4	19.05	1/2	12.70	.39	9.91	1 1/16	27.0	1.75	44.45	2.15	54.61	.96	24.4
767LT _ 3/4 X 1	3/4	19.05	1	25.40	.62	15.75	1 1/16	27.0	2.06	52.32	2.46	62.48	.96	24.4
767LT _ 1 X 1 1/4	1	25.40	*1 1/4	31.75	.88	22.35	1 3/8	34.9	2.69	68.33	3.17	80.52	1.23	31.2
767LT _ 1 X 1 1/2	1	25.40	*1 1/2	38.10	.88	22.35	1 5/8	41.3	3.03	76.96	3.51	89.15	1.23	31.2
767LT _ 1 1/4 X 1 1/2	1 1/4	31.75	*1 1/2	38.1	1.09	27.7	1 3/4	44.5	3.23	82.00	4.10	104.1	1.62	41.10

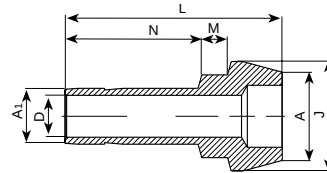
ASSEMBLY INSTRUCTIONS
Reducer tube to stub 767 LT


★ Supplied assembled on tube stub end (A1) nut+front & back ferrule. Tighten the nut on the body 1/2 a turn with a wrench. low friction paste, see page 5.

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

767 LM

REDUCING PORT CONNECTOR



CONNECTS TWO LET-LOK® PORTS (METRIC)

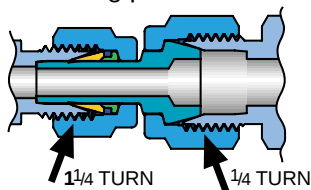
Ordering Information	A Tube O.D.	A1 Tube O.D.	D		N		L		J		M	
	mm	mm	mm		mm		mm		mm		mm	
767LM _ 6 X 3	6	3	2.1		13.5		22.9		9.0		3.2	
767LM _ 8 X 6	8	6	4.0		15.7		24.7		11.0		3.1	
767LM _ 10 X 6	10	6	4.0		15.7		25.8		13.1		3.4	
767LM _ 10 X 8	10	8	5.6		16.8		26.1		13.1		3.1	
767LM _ 12 X 6	12	6	4.0		15.7		29.1		15.0		3.6	
767LM _ 12 X 8	12	8	5.6		16.8		30.1		15.0		3.4	
767LM _ 12 X 10	12	10	7.1		17.5		30.6		15.0		3.1	
767LM _ 16X 12	16	12	8.8		23.1		37.5		19.0		3.4	

CONNECTS TWO LET-LOK® PORTS (INCH)

Ordering Information	A Tube O.D.		A1 Tube O.D.		D		N		L		J		M	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
767LM _ 1/8 X 1/16	1/8	3.17	1/16	1.58	.03	0.75	.34	8.64	.68	17.3	.24	6.10	.08	2.03
767LM _ 1/4 X 1/16	1/4	6.35	1/16	1.58	.03	0.75	.34	8.64	.71	18.0	.37	9.40	.14	3.55
767LM _ 1/4 X 1/8	1/4	6.35	1/8	3.17	.09	2.28	.53	13.46	.89	22.6	.37	9.40	.13	3.30
767LM _ 3/8 X 1/8	3/8	9.52	1/8	3.17	.09	2.20	.53	13.46	.91	23.2	.50	12.70	.15	3.81
767LM _ 3/8 X 1/4	3/8	9.52	1/4	6.35	.17	4.20	.62	15.75	.98	24.9	.50	12.70	.13	3.30
767LM _ 1/2 X 1/4	1/2	12.70	1/4	6.35	.17	4.20	.62	15.75	1.15	29.2	.62	15.75	.15	3.81
767LM _ 1/2 X 3/8	1/2	12.70	3/8	9.52	.28	7.10	.69	17.52	1.20	30.5	.62	15.75	.13	3.30
767LM _ 3/4 X 1/2	3/4	19.05	1/2	12.70	.39	9.90	.91	23.11	1.49	37.9	.87	22.10	.15	3.81

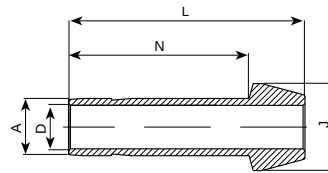
ASSEMBLY INSTRUCTIONS

Reducing port connector 767LM



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

767 LP PORT CONNECTOR



CONNECTS TWO LET-LOK® PORTS (METRIC)

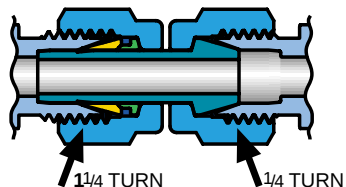
Ordering Information	A Tube O.D.		D		N		L		J	
	mm		mm		mm		mm		mm	
767LP _ 3	3		2.1		15.7		22.2		6.0	
767LP _ 6	6		4.0		18.7		25.0		9.0	
767LP _ 8	8		6.0		20.0		25.9		11.0	
767LP _ 10	10		7.1		20.2		27.1		13.1	
767LP _ 12	12		8.8		26.0		36.2		15.0	
767LP _ 16	16		12.7		27.6		37.4		19.0	
767LP _ 18	18		13.9		27.6		37.4		21.1	

CONNECTS TWO LET-LOK® PORTS (INCH)

Ordering Information	A Tube O.D.		D		N		L		J	
	in	mm	in	mm	in	mm	in	mm	in	mm
767LP _ 1/16	1/16	1.58	.03	0.75	.42	10.66	.54	13.7	.13	3.30
767LP _ 1/8	1/8	3.17	.09	2.20	.62	15.75	.88	22.4	.24	6.10
767LP _ 1/4	1/4	6.35	.17	4.20	.74	18.80	.98	24.9	.37	9.40
767LP _ 5/16	5/16	7.93	.24	6.00	.79	20.06	1.02	25.9	.43	10.92
767LP _ 3/8	3/8	9.52	.30	7.60	.80	20.32	1.03	26.2	.50	12.70
767LP _ 1/2	1/2	12.70	.39	9.90	1.02	25.90	1.41	35.8	.62	15.75
767LP _ 3/4	3/4	19.05	.59	15.00	1.09	27.68	1.47	37.3	.87	22.10
767LP _ 1	1	25.40	.80	20.30	1.36	34.54	1.90	48.1	1.12	28.45

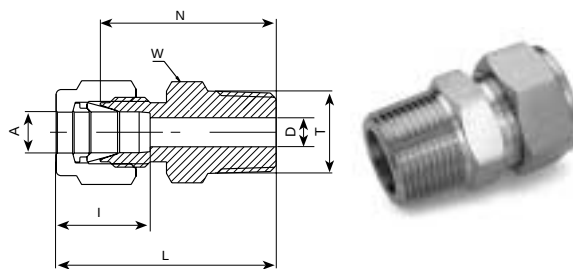
ASSEMBLY INSTRUCTIONS

Port connector 767LP



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

768 L

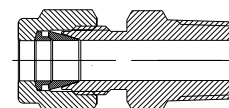
MALE CONNECTOR

TUBE (METRIC) MALE NPT THREAD

Ordering Information	A Tube O.D.	T (NPT)	D	W Hex. Flat	N	L	I
	mm	in	mm	mm	mm	mm	mm
768L _ 3 X 1/8	3	1/8	2.4	12	23.9	30.5	12.9
768L _ 3 X 1/4	3	1/4	2.4	14	29.0	35.6	12.9
768L _ 4 X 1/8	4	1/8	2.4	12	24.6	31.2	13.7
768L _ 4 X 1/4	4	1/4	2.4	14	29.7	36.3	13.7
768L _ 6 X 1/8	6	1/8	4.8	14	25.4	32.8	15.3
768L _ 6 X 1/4	6	1/4	4.8	14	30.5	37.9	15.3
768L _ 6 X 3/8	6	3/8	4.8	18	31.0	38.4	15.3
768L _ 6 X 1/2	6	1/2	4.8	22	37.3	44.7	15.3
768L _ 8 X 1/8	8	1/8	4.8	15	26.7	34.2	16.2
768L _ 8 X 1/4	8	1/4	6.4	15	31.2	38.7	16.2
768L _ 8 X 3/8	8	3/8	6.4	18	31.8	39.3	16.2
768L _ 8 X 1/2	8	1/2	6.4	22	31.8	45.6	16.2
768L _ 10 X 1/8	10	1/8	4.8	18	28.7	36.3	17.2
768L _ 10 X 1/4	10	1/4	7.9	18	33.3	40.9	17.2
768L _ 10 X 3/8	10	3/8	7.9	18	33.3	40.9	17.2
768L _ 10 X 1/2	10	1/2	7.9	22	38.1	46.5	17.2
768L _ 10 X 3/4	10	3/4	7.9	27	40.4	48.0	17.2
768L _ 12 X 1/8	12	1/8	4.8	22	28.7	38.8	22.8
768L _ 12 X 1/4	12	1/4	7.1	22	33.3	43.4	22.8
768L _ 12 X 3/8	12	3/8	9.5	22	33.3	43.4	22.8
768L _ 12 X 1/2	12	1/2	9.5	22	30.9	49.0	22.8
768L _ 12 X 3/4	12	3/4	9.5	27	40.4	50.5	22.8
768L _ 14 X 1/4	14	1/4	7.1	24	34.0	44.1	24.4
768L _ 14 X 3/8	14	3/8	9.5	24	34.0	44.1	24.4
768L _ 14 X 1/2	14	1/2	11.1	24	38.9	49.0	24.4
768L _ 15 X 1/2	15	1/2	11.9	24	38.9	49.0	24.4
768L _ 16 X 3/8	16	3/8	9.5	24	34.0	44.1	24.4
768L _ 16 X 1/2	16	1/2	11.9	24	38.9	49.0	24.4
768L _ 16 X 3/4	16	3/4	12.7	27	40.4	50.5	24.4
768L _ 18 X 1/2	18	1/2	11.9	27	40.4	50.5	24.4
768L _ 18 X 3/4	18	3/4	15.1	27	40.4	50.5	24.4
768L _ 20 X 1/2	20	1/2	11.9	30	42.2	52.3	26.0
768L _ 20 X 3/4	20	3/4	15.9	30	42.2	52.3	26.0
768L _ 22 X 3/4	22	3/4	15.9	30	42.2	52.3	26.0
768L _ 22 X 1	22	1	18.3	35	47.0	57.1	26.0
768L _ 25 X 1/2	25	1/2	11.9	35	45.2	57.5	31.3
768L _ 25 X 3/4	25	3/4	15.9	35	45.2	57.5	31.3
768L _ 25 X 1	25	1	21.8	35	50.0	62.3	31.3

THERMOCOUPLE - CONNECTORS - ORDERING INFORMATION
Thermoelement

For ordering : use catalog number of the selected fitting and add the suffix TC.

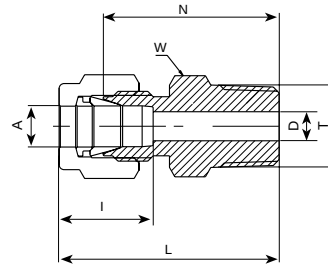
Example: 768 L ss 1/4 x 1/4 TC



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

For inches, see next page

768 L

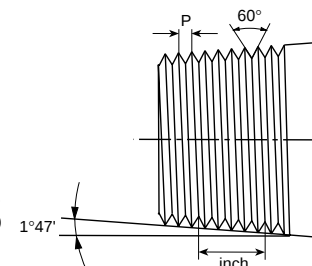
MALE CONNECTOR (Cont'd)

TUBE (INCH) MALE NPT THREAD

Ordering Information	A Tube O.D.		T (NPT)	D		W Hex. Flat		N		L		I	
	in	mm		in	mm	in	mm	in	mm	in	mm	in	mm
768L _ 1/16 X 1/16	1/16	1.58	1/16	.05	1.27	5/16	7.9	.79	21.10	.94	23.88	.34	8.6
768L _ 1/16 X 1/8	1/16	1.58	1/8	.05	1.27	7/16	11.1	.88	22.35	1.03	26.10	.34	8.6
768L _ 1/8 X 1/16	1/8	3.17	1/16	.09	2.28	7/16	11.1	.91	23.11	1.17	29.71	.50	12.7
768L _ 1/8 X 1/8	1/8	3.17	1/8	.09	2.28	7/16	11.1	.94	23.90	1.20	30.48	.50	12.7
768L _ 1/8 X 1/4	1/8	3.17	1/4	.09	2.28	9/16	14.3	1.14	28.95	1.40	35.56	.50	12.7
768L _ 3/16 X 1/8	3/16	4.76	1/8	.12	3.04	7/16	11.1	.97	24.53	1.23	31.24	.54	13.7
768L _ 3/16 X 1/4	3/16	4.76	1/4	.12	3.04	9/16	14.3	1.17	29.72	1.43	36.32	.54	13.7
768L _ 1/4 X 1/16	1/4	6.35	1/16	.12	3.04	1/2	12.7	1.00	25.40	1.29	32.76	.60	15.2
768L _ 1/4 X 1/8	1/4	6.35	1/8	.19	4.82	1/2	12.7	1.00	25.40	1.29	32.76	.60	15.2
768L _ 1/4 X 1/4	1/4	6.35	1/4	.19	4.82	9/16	14.3	1.20	30.50	1.49	37.85	.60	15.2
768L _ 1/4 X 3/8	1/4	6.35	3/8	.19	4.82	11/16	17.5	1.22	30.78	1.51	38.35	.60	15.2
768L _ 1/4 X 1/2	1/4	6.35	1/2	.19	4.82	7/8	22.2	1.47	37.34	1.76	44.70	.60	15.2
768L _ 5/16 X 1/8	5/16	7.93	1/8	.19	4.82	9/16	14.3	1.05	26.67	1.34	34.03	.64	16.2
768L _ 5/16 X 1/4	5/16	7.93	1/4	.25	6.35	9/16	14.3	1.23	31.24	1.52	38.60	.64	16.2
768L _ 3/8 X 1/8	3/8	9.52	1/8	.19	4.82	5/8	15.9	1.10	27.90	1.39	35.30	.66	16.8
768L _ 3/8 X 1/4	3/8	9.52	1/4	.28	7.11	5/8	15.9	1.28	32.51	1.57	39.87	.66	16.8
768L _ 3/8 X 3/8	3/8	9.52	3/8	.28	7.11	11/16	17.5	1.28	32.51	1.57	39.87	.66	16.8
768L _ 3/8 X 1/2	3/8	9.52	1/2	.28	7.11	7/8	22.2	1.52	38.90	1.82	46.23	.66	16.8
768L _ 3/8 X 3/4	3/8	9.52	3/4	.28	7.11	1 1/16	27.0	1.59	40.38	1.88	47.75	.66	16.8
768L _ 1/2 X 1/8	1/2	12.70	1/8	.19	4.82	13/16	20.6	1.13	28.70	1.53	38.86	.90	22.9
768L _ 1/2 X 1/4	1/2	12.70	1/4	.28	7.11	13/16	20.6	1.31	33.27	1.71	43.43	.90	22.9
768L _ 1/2 X 3/8	1/2	12.70	3/8	.38	9.65	13/16	20.6	1.31	33.27	1.71	43.43	.90	22.9
768L _ 1/2 X 1/2	1/2	12.70	1/2	.41	10.41	7/8	22.2	1.53	38.90	1.93	49.02	.90	22.9
768L _ 1/2 X 3/4	1/2	12.70	3/4	.41	10.41	1 1/16	27.0	1.59	40.38	1.99	50.54	.90	22.9
768L _ 1/2 X 1	1/2	12.70	1	.41	10.41	1 3/8	34.9	1.85	47.00	2.25	57.15	.90	22.9
768L _ 5/8 X 3/8	5/8	15.87	3/8	.38	9.65	15/16	23.8	1.34	34.03	1.74	44.19	.96	24.4
768L _ 5/8 X 1/2	5/8	15.87	1/2	.47	11.90	15/16	23.8	1.53	38.86	1.93	49.02	.96	24.4
768L _ 5/8 X 3/4	5/8	15.87	3/4	.50	12.70	1 1/16	27.0	1.59	40.38	1.99	50.54	.96	24.4
768L _ 3/4 X 1/2	3/4	19.05	1/2	.50	12.70	1 1/16	27.0	1.59	40.38	1.99	50.54	.96	24.4
768L _ 3/4 X 3/4	3/4	19.05	3/4	.62	15.74	1 1/16	27.0	1.59	40.38	1.99	50.54	.96	24.4
768L _ 3/4 X 1	3/4	19.05	1	.62	15.74	1 3/8	34.9	1.85	47.00	2.25	57.15	.96	24.4
768L _ 7/8 X 3/4	7/8	22.22	3/4	.72	18.28	1 3/16	30.2	1.59	40.38	1.99	50.54	1.02	25.9
768L _ 1 X 3/4	1	25.40	3/4	.72	18.28	1 3/8	34.9	1.78	45.21	2.26	57.40	1.23	31.2
768L _ 1 X 1	1	25.40	1	.88	22.35	1 3/8	34.9	1.97	50.03	2.45	62.23	1.23	31.2

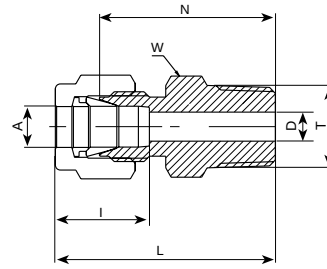
Reference Specifications:

- 60° Thread angle
- Pitch measured in inches
- Truncation of root and crest are flat
- Taper angle 1° 47'

American Standard Pipe Thread (NPT).
NPT (National Pipe Tapered) is made to
specifications outlined in ANSI B1.20.1.



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

**768 LR
MALE CONNECTOR**

TUBE (METRIC) ISO TAPERED THREAD

Ordering Information	A Tube O.D.	T (ISO)	D	W Hex. Flat	N	L	I
	mm	in	mm	mm	mm	mm	mm
768LR _ 2 X 1/8	2	R-1/8	1.7	12	23.9	30.5	12.9
768LR _ 3 X 1/8	3	R-1/8	2.4	12	23.9	30.5	12.9
768LR _ 3 X 1/4	3	R-1/4	2.4	14	29.0	35.6	12.9
768LR _ 4 X 1/8	4	R-1/8	2.4	12	24.6	31.2	13.7
768LR _ 4 X 1/4	4	R-1/4	2.4	14	29.7	36.3	13.7
768LR _ 6 X 1/8	6	R-1/8	4.8	14	25.4	32.8	15.3
768LR _ 6 X 1/4	6	R-1/4	4.8	14	30.5	37.9	15.3
768LR _ 6 X 3/8	6	R-3/8	4.8	18	31.0	38.4	15.3
768LR _ 6 X 1/2	6	R-1/2	4.8	22	37.3	44.7	15.3
768LR _ 8 X 1/8	8	R-1/8	4.8	15	26.7	34.2	16.2
768LR _ 8 X 1/4	8	R-1/4	6.4	15	31.2	38.7	16.2
768LR _ 8 X 3/8	8	R-3/8	6.4	18	31.8	39.2	16.2
768LR _ 8 X 1/2	8	R-1/2	6.4	22	38.1	45.6	16.2
768LR _ 10 X 1/8	10	R-1/8	4.8	18	28.7	36.3	17.2
768LR _ 10 X 1/4	10	R-1/4	7.9	18	33.3	40.9	17.2
768LR _ 10 X 3/8	10	R-3/8	7.9	18	33.3	40.9	17.2
768LR _ 10 X 1/2	10	R-1/2	7.9	22	38.9	46.5	17.2
768LR _ 12 X 1/4	12	R-1/4	7.1	22	33.3	43.4	22.8
768LR _ 12 X 3/8	12	R-3/8	9.5	22	33.3	43.4	22.8
768LR _ 12 X 1/2	12	R-1/2	9.5	22	38.9	49.0	22.8
768LR _ 12 X 3/4	12	R-3/4	9.5	27	40.4	50.5	22.8
768LR _ 15 X 1/2	15	R-1/2	11.9	24	38.9	49.0	24.4
768LR _ 16 X 1/4	16	R-1/4	7.1	24	34.0	44.1	24.4
768LR _ 16 X 3/8	16	R-3/8	9.5	24	34.0	44.1	24.4
768LR _ 16 X 1/2	16	R-1/2	11.9	24	38.9	49.0	24.4
768LR _ 16 X 3/4	16	R-3/4	12.7	27	40.4	50.5	24.4
768LR _ 18 X 1/2	18	R-1/2	11.9	27	40.4	50.5	24.4
768LR _ 18 X 3/4	18	R-3/4	15.1	27	40.4	50.5	24.4
768LR _ 20 X 1/2	20	R-1/2	11.9	30	42.2	52.3	26.0
768LR _ 20 X 3/4	20	R-3/4	15.9	30	42.2	52.3	26.0
768LR _ 22 X 3/4	22	R-3/4	15.9	30	42.2	52.3	26.0
768LR _ 22 X 1	22	R-1	18.3	35	47.0	57.1	26.0
768LR _ 25 X 3/4	25	R-3/4	15.9	35	45.2	57.5	31.3
768LR _ 25 X 1	25	R-1	21.8	35	50.0	62.3	31.3

Reference Specifications:

DIN - ISO 2999

BS - 21

JIS - B0203

ISO - 7/1-BSP-T

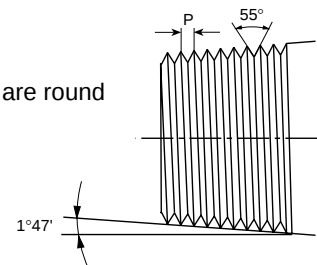
• 55° Thread angle

• Truncation of root and crest are round

• Taper angle 1°47'

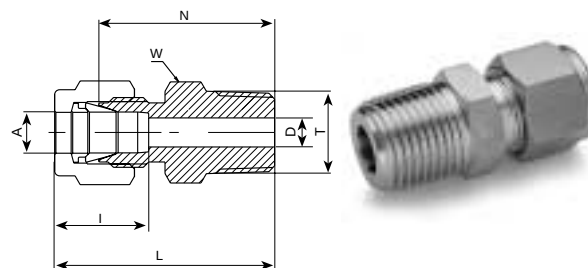
Designation:

Marking LR on Hex.

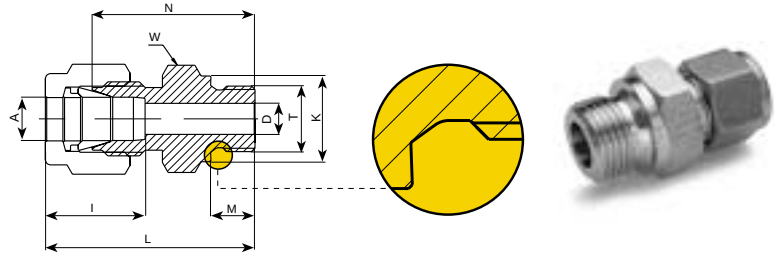


• "D" - Dimension is minimum opening. • Dimensions are for reference only, and are subject to change without notice.

For inches, see next page

[illegible]

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

**768 LG
MALE CONNECTOR**

TUBE (METRIC) ISO PARALLEL THREAD

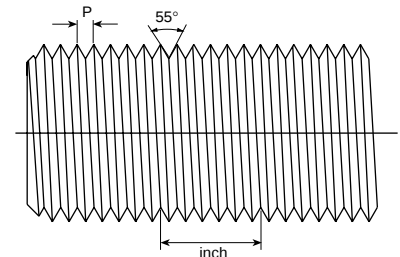
Ordering Information	A Tube O.D.	T (P-ISO)	D	K	W Hex. Flat	N	M	L	I
	mm	in	mm	mm	mm	mm	mm	mm	mm
768LG _ 2 X 1/8	2	G-1/8	1.7	13.8	14	23.4	7.1	30.0	12.9
768LG _ 3 X 1/8	3	G-1/8	2.4	13.8	14	23.4	7.1	30.0	12.9
768LG _ 3 X 1/4	3	G-1/4	2.4	18.0	19	28.7	11.2	35.3	12.9
768LG _ 4 X 1/8	4	G-1/8	2.4	13.8	14	24.1	7.1	30.7	13.7
768LG _ 6 X 1/8	6	G-1/8	4.0	13.8	14	24.9	7.1	24.9	15.3
768LG _ 6 X 1/4	6	G-1/4	4.8	18.0	19	30.2	11.2	37.6	15.3
768LG _ 6 X 3/8	6	G-3/8	4.8	21.8	22	31.5	11.2	38.9	15.3
768LG _ 6 X 1/2	6	G-1/2	4.8	26.0	27	37.3	14.2	44.7	15.3
768LG _ 8 X 1/8	8	G-1/8	4.0	13.8	15	25.7	7.1	33.2	16.2
768LG _ 8 X 1/4	8	G-1/4	6.4	13.8	19	31.0	11.2	38.5	16.2
768LG _ 8 X 3/8	8	G-3/8	6.4	21.8	22	32.3	11.2	39.8	16.2
768LG _ 8 X 1/2	8	G-1/2	6.4	26.0	27	38.1	14.2	45.6	16.2
768LG _ 10 X 1/4	10	G-1/4	5.9	18.0	19	31.8	11.2	39.4	17.2
768LG _ 10 X 3/8	10	G-3/8	7.9	21.8	22	33.0	11.2	40.6	17.2
768LG _ 10 X 1/2	10	G-1/2	7.9	26.0	27	38.9	14.2	46.5	17.2
768LG _ 12 X 1/4	12	G-1/4	5.9	18.0	22	32.5	11.2	42.6	22.8
768LG _ 12 X 3/8	12	G-3/8	7.9	21.8	22	33.0	11.2	43.1	22.8
768LG _ 12 X 1/2	12	G-1/2	9.5	26.0	27	38.9	14.2	49.0	22.8
768LG _ 12 X 3/4	12	G-3/4	9.5	32.0	35	42.7	15.7	52.8	22.8
768LG _ 16 X 3/8	16	G-3/8	7.9	21.8	24	33.8	11.2	43.9	24.4
768LG _ 16 X 1/2	16	G-1/2	11.9	26.0	27	38.9	14.2	49.0	24.4
768LG _ 18 X 1/2	18	G-1/2	11.9	26.0	27	38.9	14.2	49.0	24.4
768LG _ 18 X 3/4	18	G-3/4	15.1	32.0	35	42.7	15.7	52.8	24.4
768LG _ 20 X 1/2	20	G-1/2	11.9	26.0	30	40.4	14.2	50.5	26.0
768LG _ 20 X 3/4	20	G-3/4	15.9	32.0	35	42.7	15.7	52.8	26.0
768LG _ 22 X 3/4	22	G-3/4	15.9	32.0	35	42.7	15.7	52.8	26.0
768LG _ 22 X 1	22	G-1	18.3	39.0	41	45.2	18.3	55.3	26.0
768LG _ 25 X 3/4	25	G-3/4	15.9	32.0	35	45.2	15.7	57.5	31.3
768LG _ 25 X 1	25	G-1	19.8	39.0	41	47.8	18.3	60.1	31.3

Reference Specifications:

DIN - ISO 228/1
 BS - 2779
 JIS - B0202
 ISO - 228/1-BSP-P

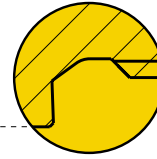
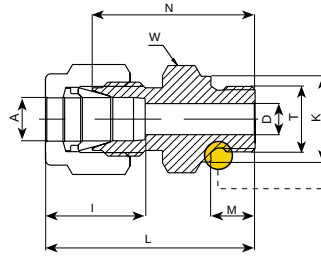
- 55° Thread angle
- Pitch measured in inches
- Truncation of root and crest are round
- Diameter measured in inches

Designation:
 Marking LG on Hex.



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

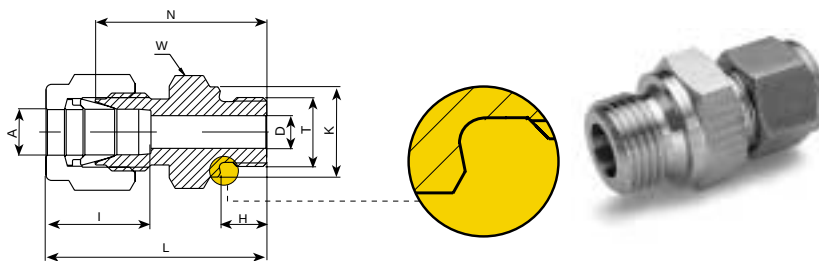
For inches, see next page

768 LG
MALE CONNECTOR (Cont'd)

TUBE (INCH) ISO PARALLEL THREAD

Ordering Information	A Tube O.D.		T (P-ISO)		D		K		W Hex. Flat		N		M		L		I	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
768LG _ 1/8 X 1/8	1/8	3.17	1/8	3.17	0.09	2.30	0.54	13.80	9/16	14.3	0.92	23.40	0.28	7.10	1.18	30.00	0.50	12.70
768LG _ 1/8 X 1/4	1/8	3.17	1/4	6.35	0.09	2.30	0.71	18.00	3/4	19.1	1.13	28.70	0.44	11.20	1.39	35.30	0.50	12.70
768LG _ 1/8 X 3/8	1/8	3.17	3/8	9.52	0.09	2.30	0.86	21.80	7/8	22.2	1.17	29.72	0.44	11.20	1.46	37.00	0.50	12.70
768LG _ 1/8 X 1/2	1/8	3.17	1/2	12.70	0.09	2.30	1.02	26.00	1 1/16	27.0	1.40	35.70	0.56	14.20	1.69	43.00	0.50	12.70
768LG _ 3/16 X 1/8	3/16	4.76	1/8	3.17	0.12	3.10	0.54	13.80	9/16	14.3	0.95	24.10	0.28	7.10	1.20	30.70	0.54	13.75
768LG _ 1/4 X 1/8	1/4	6.35	1/8	3.17	0.16	4.10	0.54	13.80	9/16	14.3	0.98	24.90	0.28	7.10	1.27	32.26	0.60	15.24
768LG _ 1/4 X 1/4	1/4	6.35	1/4	6.35	0.19	4.80	0.71	18.00	3/4	19.1	1.19	30.20	0.44	11.20	1.48	37.60	0.60	15.24
768LG _ 1/4 X 3/8	1/4	6.35	3/8	9.52	0.19	4.80	0.86	21.80	7/8	22.2	1.24	31.50	0.44	11.20	1.53	38.86	0.60	15.24
768LG _ 1/4 X 1/2	1/4	6.35	1/2	12.70	0.19	4.80	1.02	26.00	1 1/16	27.0	1.47	37.30	0.56	14.20	1.76	44.70	0.60	15.24
768LG _ 5/16 X 1/4	5/16	7.93	1/4	6.35	0.25	6.40	0.71	18.00	3/4	19.1	1.22	31.00	0.44	11.20	1.51	38.36	0.63	16.11
768LG _ 5/16 X 3/8	5/16	7.93	3/8	9.52	0.25	6.40	0.86	21.80	7/8	22.2	1.27	32.30	0.44	11.20	1.56	39.66	0.63	16.11
768LG _ 3/8 X 1/4	3/8	9.52	1/4	6.35	0.23	5.80	0.71	18.00	3/4	19.1	1.25	31.75	0.44	11.20	1.54	39.11	0.66	16.76
768LG _ 3/8 X 3/8	3/8	9.52	3/8	9.52	0.28	7.10	0.86	21.80	7/8	22.2	1.30	33.00	0.44	11.20	1.59	40.40	0.66	16.76
768LG _ 3/8 X 1/2	3/8	9.52	1/2	12.70	0.28	7.10	1.02	26.00	1 1/16	27.0	1.53	38.86	0.56	14.20	1.82	46.22	0.66	16.76
768LG _ 1/2 X 1/4	1/2	12.70	1/4	6.35	0.23	5.80	0.71	18.00	13/16	20.6	1.28	32.50	0.44	11.20	1.68	42.67	0.90	22.86
768LG _ 1/2 X 3/8	1/2	12.70	3/8	9.52	0.31	7.90	0.86	21.80	7/8	22.2	1.30	33.00	0.44	11.20	1.70	43.18	0.90	22.86
768LG _ 1/2 X 1/2	1/2	12.70	1/2	12.70	0.41	10.40	1.02	26.00	1 1/16	27.0	1.47	37.40	0.56	14.20	1.93	49.00	0.90	22.86
768LG _ 1/2 X 3/4	1/2	12.70	3/4	19.05	0.41	10.40	1.26	32.00	1 5/16	33.3	1.68	42.70	0.62	15.70	2.08	52.86	0.90	22.86
768LG _ 5/8 X 3/8	5/8	15.87	3/8	9.52	0.31	7.90	0.86	21.80		24.0	1.33	33.80	0.44	11.20	1.73	43.96	0.96	24.38
768LG _ 5/8 X 1/2	5/8	15.87	1/2	12.70	0.47	11.90	1.02	26.00	1 1/16	27.0	1.53	38.90	0.56	14.20	1.93	49.10	0.96	24.38
768LG _ 3/4 X 1/2	3/4	19.05	1/2	12.70	0.47	11.90	1.02	26.00	1 1/16	27.0	1.53	38.86	0.56	14.20	1.93	49.00	0.96	24.38
768LG _ 3/4 X 3/4	3/4	19.05	3/4	19.05	0.62	15.80	1.26	32.00	1 5/16	33.3	1.68	42.70	0.62	15.70	2.08	52.83	0.96	24.38
768LG _ 1 X 1/2	1	25.40	1/2	12.70	0.47	11.90	1.02	26.00	1 3/8	34.9	1.72	43.70	0.56	14.20	2.20	55.80	1.23	31.24
768LG _ 1 X 3/4	1	25.40	3/4	19.05	0.62	15.90	1.26	32.00	1 3/8	34.9	1.78	45.20	0.62	15.70	2.65	67.30	1.23	31.24
768LG _ 1 X 1	1	25.40	1	25.40	0.78	19.80	1.54	39.00	1 5/8	41.3	1.88	47.80	0.72	18.30	2.36	59.94	1.23	31.24

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

768 LOK MALE CONNECTOR



ISO PARALLEL THREAD

Ordering Information	A Tube O.D.	T (P-ISO)	D	K	W Hex. Flat	N	H	L	I
	mm	in	mm	mm	mm	mm	mm	mm	mm
768LOK _ 3 X 1/8	3	G-1/8A	2.4	13.8	14	23.4	7.1	30.0	12.9
768LOK _ 3 X 1/4	3	G-1/4A	2.4	18.0	19	28.7	11.2	35.3	12.9
768LOK _ 4 X 1/8	4	G-1/8A	2.4	13.8	14	24.1	7.1	30.7	13.7
768LOK _ 6 X 1/8	6	G-1/8A	4.0	13.8	14	24.9	7.1	32.3	15.3
768LOK _ 6 X 1/4	6	G-1/4A	4.8	18.0	19	30.2	11.2	37.6	15.3
768LOK _ 6 X 3/8	6	G-3/8A	4.8	21.8	22	31.5	11.2	38.9	15.3
768LOK _ 6 X 1/2	6	G-1/2A	4.8	26.0	27	37.3	14.2	44.7	15.3
768LOK _ 8 X 1/8	8	G-1/8A	4.0	13.8	15	25.7	7.1	33.2	16.2
768LOK _ 8 X 1/4	8	G-1/4A	6.4	18.0	19	31.0	11.2	38.5	16.2
768LOK _ 8 X 3/8	8	G-3/8A	6.4	21.8	22	32.3	11.2	39.8	16.2
768LOK _ 8 X 1/2	8	G-1/2A	6.4	26.0	27	38.1	14.2	45.6	16.2
768LOK _ 10 X 1/4	10	G-1/4A	5.9	18.0	19	31.8	11.2	39.4	17.2
768LOK _ 10 X 3/8	10	G-3/8A	7.9	21.8	22	33.0	11.2	40.6	17.2
768LOK _ 10 X 1/2	10	G-1/2A	7.9	26.0	27	38.9	14.2	46.5	19.5
768LOK _ 12 X 1/4	12	G-1/4A	5.9	18.0	22	32.5	11.2	42.6	17.2
768LOK _ 12 X 3/8	12	G-3/8A	7.9	21.8	22	33.0	11.2	43.1	22.8
768LOK _ 12 X 1/2	12	G-1/2A	9.5	26.0	27	38.9	14.2	49.0	22.8
768LOK _ 12 X 3/4	12	G-3/4A	9.5	32.0	35	42.7	15.7	52.8	22.8
768LOK _ 15 X 1/2	15	G-1/2A	11.9	26.0	27	38.9	14.2	49.0	22.8
768LOK _ 16 X 3/8	16	G-3/8A	7.9	21.8	24	33.8	11.2	43.9	22.4
768LOK _ 16 X 1/2	16	G-1/2A	11.9	26.0	27	38.9	14.2	49.0	22.4
768LOK _ 18 X 1/2	18	G-1/2A	11.9	26.0	27	38.9	14.2	49.0	22.4
768LOK _ 18 X 3/4	18	G-3/4A	15.1	32.0	35	42.7	15.7	52.8	22.4
768LOK _ 20 X 1/2	20	G-1/2A	11.9	26.0	30	40.4	14.2	50.5	26.0
768LOK _ 20 X 3/4	20	G-3/4A	15.9	32.0	35	42.7	15.7	52.8	26.0
768LOK _ 22 X 3/4	22	G-3/4A	15.9	32.0	35	42.7	15.7	52.8	26.0
768LOK _ 22 X 1	22	G-1A	18.3	39.0	40	45.2	18.3	55.3	26.0
768LOK _ 25 X 3/4	25	G-3/4A	15.9	32.0	35	45.2	15.7	57.5	31.3
768LOK _ 25 X 1	25	G-1A	19.8	39.0	40	47.8	18.3	60.1	31.3

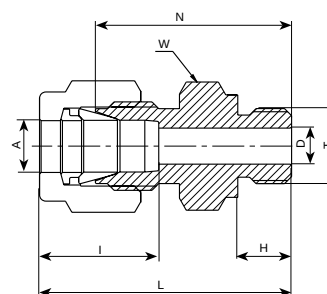
Reference Specifications:

DIN - ISO 228/1
BS - 2779
JIS - B0202
ISO - 228/1-BSP-P

Designation:

Marking LOK on Hex.

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

**768 LOB
MALE CONNECTOR**

SAE/MS STRAIGHT THREAD BOSS*

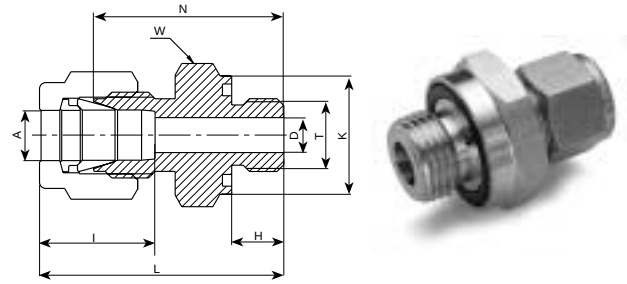
Ordering Information	A Tube O.D.		T Straight Thread UN	D		W Hex. Flat		N		H		L		I		O-ring**
	in	mm		in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	
768LOB _ 1/8 X 5/16-24	1/8	3.17	5/16-24	.09	2.28	7/16	11.1	0.92	23.37	.30	7.62	1.18	29.97	0.50	12.7	-902
768LOB _ 1/4 X 7/16-20	1/4	6.35	7/16-20	.19	4.82	9/16	14.3	1.05	26.67	.36	9.14	1.34	34.03	0.60	15.2	-904
768LOB _ 1/4 X 9/16-18	1/4	6.35	9/16-18	.19	4.82	11/16	17.5	1.11	28.19	.39	9.90	1.40	35.56	0.60	15.2	-906
768LOB _ 1/4 X 3/4 -16	1/4	6.35	3/4 -16	.19	4.82	7/8	22.2	1.19	30.20	.44	11.17	1.48	37.59	0.60	15.2	-908
768LOB _ 1/4 X 7/8-14	1/4	6.35	7/8-14	.19	4.82	1	25.4	1.31	33.27	.50	12.70	1.60	40.64	0.60	15.2	-910
768LOB _ 5/16 X 1/2-20	5/16	7.93	1/2-20	.25	6.40	5/8	15.9	1.08	27.43	.36	9.14	1.37	34.80	0.64	16.2	-905
768LOB _ 3/8 X 7/16-20	3/8	9.52	7/16-20	.20	5.10	5/8	15.9	1.11	28.19	.36	9.14	1.40	35.56	0.66	16.8	-904
768LOB _ 3/8 X 9/16-18	3/8	9.52	9/16-18	.28	7.11	11/16	17.5	1.17	29.71	.39	9.90	1.46	37.02	0.66	16.8	-906
768LOB _ 3/8 X 3/4 -16	3/8	9.52	3/4 -16	.28	7.11	7/8	22.2	1.25	31.75	.44	11.17	1.54	39.11	0.66	16.8	-908
768LOB _ 3/8 X 7/8-14	3/8	9.52	7/8-14	.28	7.11	1	25.4	1.37	34.80	.50	12.70	1.66	42.16	0.66	16.8	-910
768LOB _ 1/2 X 9/16-18	1/2	12.70	9/16-18	.28	7.11	13/16	20.6	1.14	28.95	.39	9.90	1.54	39.11	0.90	22.9	-906
768LOB _ 1/2 X 3/4 -16	1/2	12.70	3/4 -16	.41	10.41	7/8	22.2	1.25	31.75	.44	11.17	1.65	41.91	0.90	22.9	-908
768LOB _ 1/2 X 7/8-14	1/2	12.70	7/8-14	.41	10.41	1	25.4	1.37	34.80	.50	12.70	1.77	44.96	0.90	22.9	-910
768LOB _ 1/2 X 1 1/16-12	1/2	12.70	1 1/16-12	.41	10.41	1 1/4	31.8	1.53	38.86	.59	14.98	1.93	49.02	0.90	22.9	-912
768LOB _ 5/8 X 3/4 -16	5/8	15.87	3/4 -16	.42	10.66	15/16	23.8	1.25	31.75	.44	11.17	1.65	41.91	0.96	22.4	-908
768LOB _ 5/8 X 7/8 -14	5/8	15.87	7/8 -14	.50	12.70	1	25.4	1.38	35.05	.50	12.70	1.78	45.21	0.96	22.4	-910
768LOB _ 3/4 X 3/4 -16	3/4	19.05	3/4 -16	.42	10.66	1 1/16	27.0	1.41	35.81	.44	11.17	1.81	46.0	0.96	22.4	-908
768LOB _ 3/4 X 1 1/16 -12	3/4	19.05	1 1/16 -12	.62	15.74	1 1/4	31.8	1.53	38.86	.59	14.98	1.93	49.02	0.96	22.4	-912
768LOB _ 7/8 X 1 3/16 -12	7/8	22.22	1 3/16 -12	.72	18.29	1 3/8	34.9	1.53	38.86	.59	14.98	1.93	49.02	1.02	25.9	-914
768LOB _ 1 X 1 1/16 -12	1	25.40	1 1/16 -12	.66	16.76	1 3/8	34.9	1.62	41.20	.59	14.98	2.10	53.34	1.23	31.2	-912
768LOB _ 1 X 1 5/16 -12	1	25.40	1 5/16 -12	.88	22.35	1 1/2	38.1	1.66	42.16	.59	14.98	2.14	54.35	1.23	31.2	-916
Designation: Marking LOB on Hex.																

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

* Per SAE J1926 and MS 16142. See page 60 for mounting dimensions.

** O-rings used are Viton 90 Durometer. Other O-ring materials are available on request. For more technical information, see page 60.

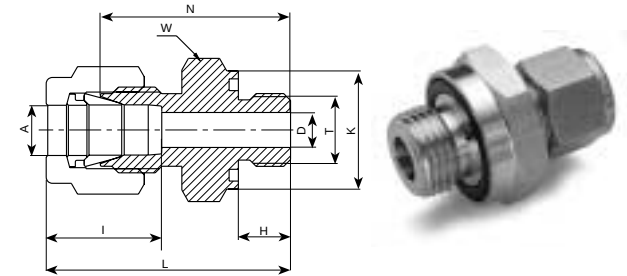
768 LOP MALE CONNECTOR



O-SEAL NPT TAPERED THREAD

Ordering Information	A Tube O.D.		T (NPT) Short	D		K		W Hex. Flat		N		H		L		I		O-ring***
	in	mm		in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	
768LOP _ 1/8 X 1/8	1/8	3.17	1/8	.09	2.28	.74	18.79	3/4	19.1	1.03	26.16	.28	7.11	1.29	32.76	.50	12.70	-111
768LOP _ 1/4 X 1/8	1/4	6.35	1/8	.19	4.82	.74	18.79	3/4	19.1	1.09	27.70	.28	7.11	1.38	35.05	.60	15.24	-111
768LOP _ 1/4 X 1/4	1/4	6.35	1/4	.19	4.82	.93	23.62	15/16	23.8	1.22	31.00	.38	9.65	1.51	38.40	.60	15.24	-113
768LOP _ 3/8 X 1/4	3/8	9.52	1/4	.28	7.11	.93	23.62	15/16	23.8	1.28	32.51	.38	9.65	1.57	39.88	.66	16.76	-113
768LOP _ 3/8 X 3/8	3/8	9.52	3/8	.28	7.11	1.12	28.45	1 1/8	28.6	1.34	34.04	.41	10.41	1.63	41.40	.66	16.76	-116
768LOP _ 3/8 X 1/2	3/8	9.52	1/2	.28	7.11	1.30	33.02	1 5/16	33.3	1.56	39.62	.53	13.46	1.85	46.99	.66	16.76	-212
768LOP _ 1/2 X 1/2	1/2	12.70	1/2	.41	10.41	1.30	33.02	1 5/16	33.3	1.56	39.62	.53	13.46	1.96	49.78	.90	22.86	-212
Designation: Marking LOP on Hex.																		

768 LO MALE CONNECTOR



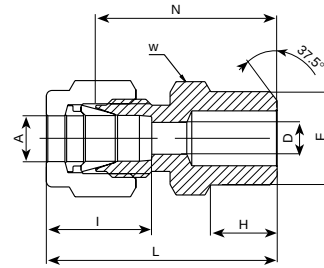
O-SEAL MALE UNF THREAD

Ordering Information	A Tube O.D.		T Straight Thread UNF	D		K		W Hex. Flat		N		H		L		I		O-ring***
	in	mm		in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	
768LO _ 1/16 X 5/16-24	1/16	1.58	5/16-24	.05	1.27	.55	14.0	9/16	14.3	.90	22.86	.34	8.63	1.05	26.67	.34	8.63	-011
768LO _ 1/8 X 5/16-24	1/8	3.17	5/16-24	.09	2.28	.55	14.0	9/16	14.3	1.03	26.20	.34	8.63	1.29	32.77	.50	12.70	-011
768LO _ 3/16 X 3/8-24	3/16	4.76	3/8-24	.12	3.04	.62	15.75	5/8	15.9	1.09	27.70	.38	9.65	1.35	34.29	.54	13.72	-012
768LO _ 1/4 X 7/16-20	1/4	6.35	7/16-20	.19	4.22	.74	18.80	3/4	19.1	1.22	31.00	.41	10.41	1.51	38.35	.60	15.24	-111
768LO _ 5/16 X 1/2-20	5/16	7.93	1/2-20	.25	6.35	.86	21.84	7/8	22.2	1.31	33.30	.44	11.17	1.60	40.64	.64	16.25	-112
768LO _ 3/8 X 9/16-18	3/8	9.52	9/16-18	.28	7.11	.93	23.62	15/16	23.8	1.38	35.05	.47	11.93	1.67	40.89	.66	16.76	-113
768LO _ 1/2 X 3/4-16	1/2	12.70	3/4-16	.41	10.41	1.12	28.45	1 1/8	28.6	1.41	35.81	.47	11.93	1.81	45.77	.90	22.86	-116
768LO _ 3/4 X 1 1/16-12	3/4	19.05	1 1/16-12	.62	15.74	1.49	37.85	1 1/2	38.1	1.66	42.20	.56	14.22	2.06	52.32	.96	24.38	-215
768LO _ 1 X 1 5/16-12	1	25.40	1 5/16-12	.88	22.35	1.74	44.20	1 3/4	44.5	1.81	45.97	.56	14.22	2.29	58.17	1.23	31.24	-219
Designation: Marking LO on Hex.																		

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

*** O-rings used are Buna 70 Durometer.

768 LN

MALE PIPE WELD CONNECTOR

TUBE (METRIC)

Ordering Information	A Tube O.D.		F Pipe Size		D		W Hex. Flat		N		H		L		I	
	mm		in	mm	mm		mm		mm		mm		mm		mm	
768LN _ 3 X 1/8	3		1/8	10.30	2.4		12		23.1		9.7		30.5		12.9	
768LN _ 4 X 1/8	4		1/8	10.30	2.4		12		24.1		9.7		31.2		13.7	
768LN _ 6 X 1/8	6		1/8	10.30	4.8		14		25.4		9.7		32.8		15.3	
768LN _ 6 X 1/4	6		1/4	13.70	4.8		14		30.2		14.2		37.9		15.3	
768LN _ 8 X 1/8	8		1/8	10.30	5.1		15		26.7		9.7		34.2		16.2	
768LN _ 8 X 1/4	8		1/4	13.70	6.4		15		31.2		14.2		38.7		16.2	
768LN _ 8 X 1/2	8		1/2	21.34	6.4		22		37.3		19.0		45.6		16.2	
768LN _ 10 X 1/4	10		1/4	13.70	7.1		18		33.3		14.2		40.9		17.2	
768LN _ 10 X 3/8	10		3/8	17.10	7.9		18		32.5		14.2		40.9		17.2	
768LN _ 10 X 1/2	10		1/2	21.34	7.9		22		38.1		19.0		46.5		17.2	
768LN _ 12 X 1/4	12		1/4	13.70	7.1		22		33.3		14.2		43.4		22.8	
768LN _ 12 X 3/8	12		3/8	17.10	9.5		22		33.3		14.2		43.4		22.8	
768LN _ 12 X 1/2	12		1/2	21.34	9.5		22		38.1		19.0		49.0		22.8	
768LN _ 15 X 1/2	15		1/2	21.34	11.9		24		38.9		19.0		49.0		24.4	
768LN _ 16 X 1/2	16		1/2	21.34	12.7		24		38.9		19.0		49.0		24.4	
768LN _ 18 X 1/2	18		1/2	21.34	13.5		27		40.4		19.0		50.5		24.4	

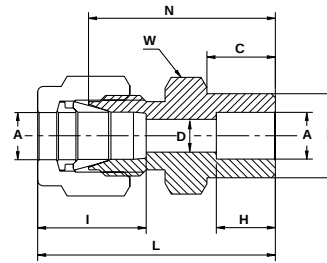
TUBE (INCH)

Ordering Information	A Tube O.D.		F Pipe Size		D		W Hex. Flat		N		H		L		I	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
768LN _ 1/8 X 1/8	1/8	3.17	1/8	10.30	.09	2.28	7/16	11.1	.94	23.88	.38	9.65	1.20	30.48	.50	12.70
768LN _ 3/16 X 1/8	3/16	4.76	1/8	10.30	.12	3.04	7/16	11.1	.97	24.60	.38	9.65	1.23	31.25	.54	13.72
768LN _ 1/4 X 1/8	1/4	6.35	1/8	10.30	.19	4.82	1/2	12.7	1.00	25.40	.38	9.65	1.29	32.77	.60	15.24
768LN _ 1/4 X 1/4	1/4	6.35	1/4	13.70	.19	4.82	9/16	14.3	1.19	30.22	.56	14.22	1.48	37.59	.60	15.24
768LN _ 5/16 X 1/8	5/16	7.93	1/8	10.30	.20	5.08	9/16	14.3	1.05	26.67	.38	9.65	1.34	34.04	.64	16.25
768LN _ 5/16 X 1/4	5/16	7.93	1/4	13.70	.25	6.35	9/16	14.3	1.23	31.24	.56	14.22	1.52	38.61	.64	16.25
768LN _ 3/8 X 1/4	3/8	9.52	1/4	13.70	.28	7.11	5/8	15.9	1.28	32.51	.56	14.22	1.57	39.87	.66	16.76
768LN _ 3/8 X 3/8	3/8	9.52	3/8	17.10	.28	7.11	11/16	17.5	1.28	32.51	.56	14.22	1.57	39.87	.66	16.76
768LN _ 3/8 X 1/2	3/8	9.52	1/2	21.34	.28	7.11	7/8	22.2	1.53	38.86	.75	19.05	1.82	46.22	.66	16.76
768LN _ 1/2 X 3/8	1/2	12.70	3/8	17.10	.41	10.41	13/16	20.6	1.31	33.27	.56	14.22	1.71	44.43	.90	22.86
768LN _ 1/2 X 1/2	1/2	12.70	1/2	21.34	.41	10.41	7/8	22.2	1.53	38.86	.75	19.05	1.93	49.00	.90	22.86
768LN _ 1/2 X 3/4	1/2	12.70	3/4	26.67	.41	10.41	1 1/16	27.0	1.59	40.40	.75	19.05	1.99	50.55	.90	22.86
768LN _ 5/8 X 1/2	5/8	15.87	1/2	21.34	.50	12.70	15/16	23.8	1.53	38.86	.75	19.05	1.93	49.02	.96	24.38
768LN _ 3/4 X 3/4	3/4	19.05	3/4	26.67	.62	15.74	1 1/16	27.0	1.59	40.40	.75	19.05	1.99	50.55	.96	24.38
768LN _ 1 X 1	1	25.40	1	33.40	.88	22.35	1 3/8	34.9	1.97	50.03	.94	23.87	2.45	62.23	1.23	31.24

Designation:
Marking LN on Hex.

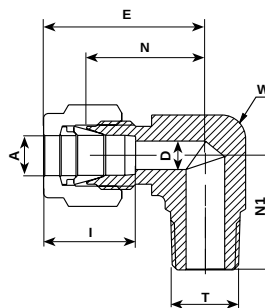
● "D" - Dimension is minimum opening. ● Dimensions are for reference only, and are subject to change without notice.

768 LW
TUBE SOCKET WELD UNION



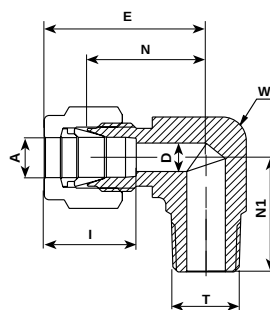
TUBE (INCH)																		
Ordering Information	A Tube O.D.		C		D		W Hex. Flat		F		H		I		L		N	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
768LW _ 1/8 X 1/8	1/8	3.17	0.34	8.64	0.09	2.28	7/16	11.1	0.31	7.87	0.25	6.35	0.50	12.70	1.14	28.96	0.88	22.35
768LW _ 1/4 X 1/4	1/4	6.35	0.41	10.41	0.19	4.80	1/2	12.7	0.44	11.18	0.31	7.90	0.60	15.20	1.32	33.53	1.03	26.16
768LW _ 3/8 X 3/8	3/8	9.52	0.47	11.94	0.28	7.10	5/8	15.9	0.62	15.75	0.38	9.65	0.66	16.80	1.48	37.60	1.19	30.23
768LW _ 1/2 X 1/2	1/2	12.70	0.47	11.94	0.41	10.40	13/16	20.6	0.75	19.05	0.50	12.70	0.90	22.90	1.62	41.15	1.22	31.00
768LW _ 3/4 X 3/4	3/4	19.05	0.47	11.94	0.62	15.80	1 1/16	27.0	1.05	26.67	0.56	14.20	0.96	24.40	1.71	43.43	1.31	33.28
768LW _ 1 X 1	1	25.40	0.56	14.22	0.88	22.35	1 3/8	34.9	1.31	33.27	0.75	19.05	1.23	31.20	2.07	52.58	1.59	40.40
															Designation: Marking LW on Hex.			

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

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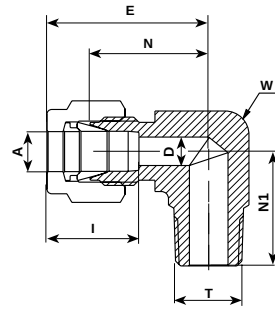
For inches, see next page

7 6 9 L

MALE ELBOW (Cont'd)

TUBE (INCH) MALE NPT THREAD

Ordering Information	A Tube O.D.		T (NPT)	D		W Wrench Flat		N		E		N1		I	
	in	mm	in	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
769L _ 1/16 X 1/16	1/16	1.58	1/16	.05	1.27	7/16	11.1	.06	15.24	.75	19.05	.70	17.78	.34	8.6
769L _ 1/16 X 1/8	1/16	1.58	1/8	.05	1.27	7/16	11.1	.06	15.24	.75	19.05	.70	17.78	.34	8.6
769L _ 1/8 X 1/16	1/8	3.17	1/16	.09	2.28	7/16	11.1	.67	17.02	.93	23.62	.70	17.78	.50	12.7
769L _ 1/8 X 1/8	1/8	3.17	1/8	.09	2.28	7/16	11.1	.67	17.02	.93	23.62	.70	17.28	.50	12.7
769L _ 1/8 X 1/4	1/8	3.17	1/4	.09	2.28	1/2	12.7	.71	18.03	.97	24.64	.92	23.37	.50	12.7
769L _ 3/16 X 1/8	3/16	4.76	1/8	.12	3.04	1/2	12.7	.74	18.80	1.00	25.40	.74	18.80	.54	13.7
769L _ 3/16 X 1/4	3/16	4.76	1/4	.12	3.04	1/2	12.7	.74	18.80	1.00	25.40	.92	23.37	.54	13.7
769L _ 1/4 X 1/8	1/4	6.35	1/8	.19	4.82	1/2	12.7	.77	19.56	1.06	26.92	.74	18.80	.60	15.2
769L _ 1/4 X 1/4	1/4	6.35	1/4	.19	4.82	1/2	12.7	.77	19.56	1.06	26.92	.92	23.37	.60	15.2
769L _ 1/4 X 3/8	1/4	6.35	3/8	.19	4.82	11/16	17.5	.88	22.35	1.17	29.71	1.03	26.16	.60	15.2
769L _ 1/4 X 1/2	1/4	6.35	1/2	.19	4.82	13/16	20.6	.96	24.38	1.25	31.75	1.30	33.02	.60	15.2
769L _ 5/16 X 1/8	5/16	7.93	1/8	.19	4.82	9/16	14.3	.84	21.34	1.13	28.70	.78	45.21	.64	16.2
769L _ 5/16 X 1/4	5/16	7.93	1/4	.25	6.35	9/16	14.3	.84	21.34	1.13	28.70	.96	49.78	.64	16.2
769L _ 5/16 X 3/8	5/16	7.93	3/8	.25	6.35	11/16	17.5	.91	23.11	1.20	30.48	1.03	26.16	.64	16.2
769L _ 3/8 X 1/8	3/8	9.52	1/8	.19	4.82	5/8	15.9	.91	23.11	1.20	30.48	.82	20.83	.66	14.8
769L _ 3/8 X 1/4	3/8	9.52	1/4	.28	7.11	5/8	15.9	.91	23.11	1.20	30.48	1.00	25.40	.66	14.8
769L _ 3/8 X 3/8	3/8	9.52	3/8	.28	7.11	11/16	17.5	.94	23.87	1.23	31.24	1.03	26.16	.66	14.8
769L _ 3/8 X 1/2	3/8	9.52	1/2	.28	7.11	13/16	20.6	1.02	25.90	1.31	33.28	1.30	33.02	.66	14.8
769L _ 3/8 X 3/4	3/8	9.52	3/4	.28	7.11	1-1/8	28.6	1.17	29.71	1.46	37.08	1.45	36.83	.66	14.8
769L _ 1/2 X 1/4	1/2	12.70	1/4	.28	7.11	13/16	20.6	1.02	25.90	1.42	36.07	1.11	28.19	.90	22.9
769L _ 1/2 X 3/8	1/2	12.70	3/8	.38	9.65	13/16	20.6	1.02	25.90	1.42	36.07	1.11	28.19	.90	22.9
769L _ 1/2 X 1/2	1/2	12.70	1/2	.41	10.41	13/16	20.6	1.02	25.90	1.42	36.07	1.30	33.02	.90	22.9
769L _ 1/2 X 3/4	1/2	12.70	3/4	.41	10.41	1 1/8	28.6	1.17	29.71	1.57	39.88	1.45	36.83	.90	22.9
769L _ 5/8 X 3/8	5/8	15.87	3/8	.38	9.61	15/16	23.8	1.10	27.94	1.50	38.10	1.19	30.23	.96	24.4
769L _ 5/8 X 1/2	5/8	15.87	1/2	.47	11.94	15/16	23.8	1.10	27.94	1.50	38.10	1.38	35.05	.96	24.4
769L _ 5/8 X 3/4	5/8	15.87	3/4	.50	12.70	1 1/8	28.6	1.17	29.71	1.57	39.88	1.45	36.83	.96	24.4
769L _ 3/4 X 1/2	3/4	19.05	1/2	.47	11.94	1 1/8	28.6	1.17	29.71	1.57	39.88	1.45	36.83	.96	24.4
769L _ 3/4 X 3/4	3/4	19.05	3/4	.62	15.74	1 1/8	28.6	1.17	29.71	1.57	39.88	1.45	36.83	.96	24.4
769L _ 7/8 X 3/4	7/8	22.22	3/4	.62	15.74	1 3/8	34.9	1.36	34.54	1.76	44.70	1.64	41.66	1.02	25.9
769L _ 1 X 3/4	1	25.40	3/4	.62	15.74	1 3/8	34.9	1.45	36.83	1.93	49.02	1.64	41.66	1.23	31.2
769L _ 1 X 1	1	25.40	1	.88	22.35	1 3/8	34.9	1.45	36.83	1.93	49.02	1.83	46.48	1.23	31.2
769L _ 1 1/4 X 1 1/4	1 1/4	31.75	1 1/4	1.09	27.7	1 11/16	42.9	1.75	44.45	2.62	66.50	1.88	47.75	1.62	41.1
769L _ 1 1/2 X 1 1/2	1 1/2	38.1	1 1/2	1.34	34.0	2	50.8	2.00	50.80	3.07	78.00	2.38	60.45	1.97	50.0

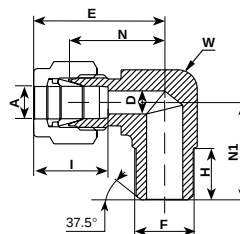
● "D" - Dimension is minimum opening. ● Dimensions are for reference only, and are subject to change without notice.

**769 LR
MALE ELBOW**

TUBE (METRIC) ISO TAPERED THREAD

Ordering Information	A	T	D	W		N	E	N1	I
	Tube O.D.	(ISO)		Wrench Flat					
	mm	in	mm	in	mm	mm	mm	mm	mm
769LR _ 3 X 1/18	3	R-1/8	2.4	7/16	11.1	17.0	23.6	17.8	12.9
769LR _ 3 X 1/4	3	R-1/4	2.4	1/2	12.7	18.0	24.6	23.4	12.9
769LR _ 4 X 1/8	4	R-1/8	2.4	1/2	12.7	18.8	25.4	18.8	13.7
769LR _ 4 X 1/4	4	R-1/4	2.4	1/2	12.7	18.8	25.4	23.4	13.7
769LR _ 6 X 1/8	6	R-1/8	4.8	1/2	12.7	19.6	27.0	18.8	15.3
769LR _ 6 X 1/4	6	R-1/4	4.8	1/2	12.7	19.6	27.0	23.4	15.3
769LR _ 6 X 3/8	6	R-3/8	4.8	11/16	17.5	22.4	29.8	26.2	15.3
769LR _ 6 X 1/2	6	R-1/2	4.8	13/16	20.6	24.4	31.8	33.0	15.3
769LR _ 8 X 1/8	8	R-1/8	4.8	9/16	14.3	21.3	28.8	19.8	16.2
769LR _ 8 X 1/4	8	R-1/4	6.4	9/16	14.3	21.3	28.8	24.4	16.2
769LR _ 8 X 3/8	8	R-3/8	6.4	11/16	17.5	23.1	30.6	26.2	16.2
769LR _ 8 X 1/2	8	R-1/2	6.4	13/16	20.6	25.1	32.6	33.0	16.2
769LR _ 10 X 1/8	10	R-1/8	4.8	11/16	17.5	23.9	31.5	21.6	17.2
769LR _ 10 X 1/4	10	R-1/4	7.1	11/16	17.5	23.9	31.5	26.2	17.2
769LR _ 10 X 3/8	10	R-3/8	7.9	11/16	17.5	23.9	31.5	26.2	17.2
769LR _ 10 X 1/2	10	R-1/2	7.9	13/16	20.6	25.9	33.5	33.0	17.2
769LR _ 12 X 1/8	12	R-1/8	4.8	13/16	20.6	25.9	36.0	23.6	22.8
769LR _ 12 X 1/4	12	R-1/4	7.1	13/16	20.6	25.9	36.0	28.2	22.8
769LR _ 12 X 3/8	12	R-3/8	9.5	13/16	20.6	25.9	36.0	28.2	22.8
769LR _ 12 X 1/2	12	R-1/2	9.5	13/16	20.6	25.9	36.0	33.0	22.8
769LR _ 12 X 3/4	12	R-3/4	9.5	1 1/8	28.6	29.7	39.8	36.8	22.8
769LR _ 16 X 3/8	16	R-3/8	9.5	15/16	23.8	27.9	38.0	30.2	24.4
769LR _ 16 X 1/2	16	R-1/2	11.9	15/16	23.8	27.9	38.0	35.1	24.4
769LR _ 18 X 1/2	18	R-1/2	11.9	1 1/8	28.6	29.7	39.8	36.8	24.4
769LR _ 18 X 3/4	18	R-3/4	15.1	1 1/8	28.6	29.7	39.8	36.8	24.4
769LR _ 20 X 1/2	20	R-1/2	11.9	1 3/8	34.9	34.5	44.6	41.7	26.0
769LR _ 20 X 3/4	20	R-3/4	15.9	1 3/8	34.9	34.5	44.6	41.7	26.0
769LR _ 22 X 3/4	22	R-3/4	15.9	1 3/8	34.9	34.5	44.6	41.7	26.0
769LR _ 22 X 1	22	R -1	18.3	1 3/8	34.9	34.5	44.6	46.5	26.0
769LR _ 25 X 3/4	25	R-3/4	15.9	1 3/8	34.9	36.8	49.1	41.7	31.3
769LR _ 25 X 1	25	R -1	21.8	1 3/8	34.9	36.8	49.1	46.5	31.3
							Reference Specifications: DIN - 2999 BS - 21 JIS - B0203 ISO - 7/1-BSP-T Designation: Marking LR on Flat.		

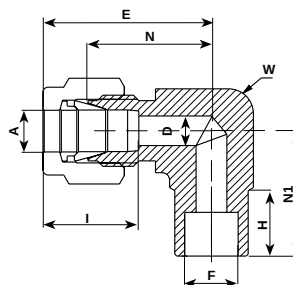
● "D" - Dimension is minimum opening. ● Dimensions are for reference only, and are subject to change without notice.

7 6 9 L N

MALE PIPE WELD ELBOW


Ordering Information	A Tube O.D.		F Pipe Size		D		W Wrench Flat		N		H		E		N1		I	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
769LN _ 1/4 X 1/8	1/4	6.35	1/8	10.30	.19	4.82	1/2	12.7	.77	19.56	.38	7.65	1.06	26.92	.74	18.8	0.60	15.24
769LN _ 1/4 X 1/4	1/4	6.35	1/4	13.70	.19	4.82	1/2	12.7	.77	19.56	.56	14.22	1.06	26.92	.92	23.37	0.60	15.24
769LN _ 3/8 X 1/4	3/8	9.52	1/4	13.70	.28	7.11	5/8	15.9	.91	23.11	.56	14.22	1.20	30.48	1.00	25.40	0.66	16.76
769LN _ 1/2 X 1/2	1/2	12.70	1/2	21.34	.41	10.41	13/16	20.6	1.02	25.90	.75	19.05	1.42	36.06	1.30	33.02	0.90	22.86
769LN _ 3/4 X 3/4	3/4	19.05	3/4	26.67	.62	15.75	1 1/8	28.6	1.17	29.72	.75	19.05	1.57	39.88	1.45	36.83	0.96	24.38
															Designation: Marking LN on Flat.			

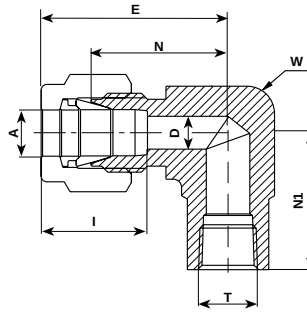
7 6 9 L W

TUBE SOCKET WELD ELBOW


Ordering Information	A Tube O.D.		F		D		W Wrench Flat		N		H		E		N1		I	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
769LW _ 1/4 X 1/4	1/4	6.35	1/4	6.35	.19	4.82	1/2	12.7	.77	19.60	.31	7.87	1.06	26.98	.77	19.60	0.60	15.24
769LW _ 3/8 X 3/8	3/8	9.52	3/8	9.52	.28	7.11	5/8	15.9	.91	23.11	.38	9.65	1.20	30.98	.91	23.11	0.66	16.76
769LW _ 1/2 X 1/2	1/2	12.70	1/2	12.70	.41	10.41	13/16	20.6	1.02	25.90	.50	12.70	1.42	36.06	1.02	25.90	0.90	22.86
															Designation: Marking LW on Flat.			

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

770 L

FEMALE ELBOW

TUBE (METRIC) TO FEMALE NPT THREAD

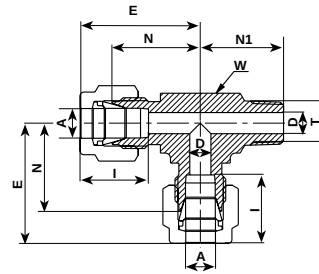
Ordering Information	A Tube O.D.		T (NPT)	D		W Wrench Flat		N		E		N1		I	
	mm			mm		in	mm	mm		mm		mm		mm	
770L _ 6 X 1/8	6		1/8	4.8		5/8	15.9	19.6		27.0		21.6		15.3	
770L _ 6 X 1/4	6		1/4	4.8		13/16	20.6	22.4		29.8		22.4		15.3	
770L _ 10 X 1/4	10		1/4	7.9		13/16	20.6	25.9		33.5		22.4		17.2	
770L _ 12 X 1/4	12		1/4	9.5		13/16	20.6	25.9		36.0		22.4		22.8	
770L _ 12 X 1/2	12		1/2	9.5		1 1/8	28.6	28.7		38.5		28.4		22.8	

TUBE (INCH) TO FEMALE NPT THREAD

Ordering Information	A Tube O.D.		T (NPT)	D		W Wrench Flat		N		E		N1		I	
	in	mm		in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
770L _ 1/8 X 1/8	1/8	3.17	1/8	.09	2.28	5/8	15.9	.71	18.03	.97	24.64	.75	19.05	.50	12.7
770L _ 1/8 X 1/4	1/8	3.17	1/4	.09	2.28	13/16	20.6	.82	20.80	1.08	27.43	.94	23.75	.50	12.7
770L _ 3/16 X 1/8	3/16	4.76	1/8	.12	3.04	5/8	15.9	.74	18.8	1.00	25.40	.75	19.05	.54	13.7
770L _ 1/4 X 1/8	1/4	6.35	1/8	.19	4.82	5/8	15.9	.77	19.55	1.06	26.92	.75	19.05	.60	15.3
770L _ 1/4 X 1/4	1/4	6.35	1/4	.19	4.82	11/16	17.5	.88	22.40	1.17	29.72	.88	22.40	.60	15.3
770L _ 1/4 X 3/8	1/4	6.35	3/8	.19	4.82	15/16	23.8	.96	24.38	1.25	31.75	.88	22.40	.60	15.3
770L _ 1/4 X 1/2	1/4	6.35	1/2	.19	4.82	1 1/8	28.6	1.07	27.18	1.36	34.54	1.12	28.45	.60	15.2
770L _ 5/16 X 1/8	5/16	9.52	1/8	.25	6.35	9/16	14.3	.84	21.30	1.13	28.70	.75	19.05	.64	16.2
770L _ 5/16 X 1/4	5/16	7.93	1/4	.25	6.35	13/16	20.6	.91	23.11	1.20	30.48	.88	22.40	.64	16.2
770L _ 3/8 X 1/8	3/8	7.93	1/8	.28	7.11	5/8	15.9	.91	23.11	1.20	30.48	.75	19.05	.66	16.9
770L _ 3/8 X 1/4	3/8	9.52	1/4	.28	7.11	13/16	20.6	.88	22.40	1.23	31.24	.88	22.40	.66	16.9
770L _ 3/8 X 3/8	3/8	9.52	3/8	.28	7.11	15/16	23.8	.88	22.40	1.31	33.27	.88	22.40	.66	16.9
770L _ 3/8 X 1/2	3/8	9.52	1/2	.28	7.11	1 1/8	28.6	1.12	28.45	1.42	36.07	1.12	28.45	.66	16.9
770L _ 1/2 X 1/4	1/2	12.70	1/4	.41	10.41	13/16	20.6	1.02	25.90	1.42	36.07	.88	22.40	.90	22.9
770L _ 1/2 X 3/8	1/2	12.70	3/8	.41	10.41	15/16	23.8	1.02	25.90	1.42	36.07	.88	22.40	.90	22.9
770L _ 1/2 X 1/2	1/2	12.70	1/2	.41	10.41	1 1/8	28.6	1.12	28.44	1.53	36.86	1.13	28.70	.90	22.9
770L _ 5/8 X 3/8	5/8	15.87	3/8	.50	12.70	15/16	23.8	1.10	27.90	1.50	38.10	.88	22.40	.96	22.9
770L _ 5/8 X 1/2	5/8	15.87	1/2	.50	12.70	1 1/8	28.6	1.17	29.70	1.57	39.86	1.12	28.45	.96	22.9
770L _ 3/4 X 1/2	3/4	19.05	1/2	.62	15.74	1 1/8	28.6	1.17	29.70	1.57	39.86	1.12	28.45	.96	22.9
770L _ 3/4 X 3/4	3/4	19.05	3/4	.62	15.74	1 3/8	34.9	1.25	31.75	1.76	44.70	1.25	31.75	.96	22.9
770L _ 7/8 X 3/4	7/8	22.22	3/4	.72	18.28	1 3/8	34.9	1.25	31.75	1.76	44.70	1.25	31.75	1.02	25.9
770L _ 1 X 3/4	1	25.40	3/4	.88	22.35	1 3/8	34.9	1.25	31.75	1.93	49.02	1.25	31.75	1.23	31.2
770L _ 1 X 1	1	25.40	1	.88	22.35	1 11/16	42.9	1.50	38.10	2.11	53.59	1.50	38.10	1.23	31.2

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

771 L

MALE RUN TEE

TUBE (METRIC) TO MALE NPT THREAD

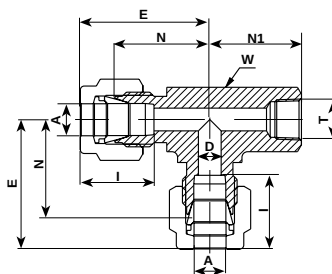
Ordering Information	A	T	D	W		N	E	N1	I
	Tube O.D.	(NPT)		Wrench Flat					
	mm	in	mm	in	mm	mm	mm	mm	mm
771L _ 6 X 1/8	6	1/8	4.8	1/2	12.7	19.6	27.0	18.0	15.3
771L _ 6 X 1/4	6	1/4	4.8	1/2	12.7	19.6	27.0	23.4	15.3
771L _ 8 X 1/8	8	1/8	4.8	5/8	15.9	22.4	29.9	20.8	16.2
771L _ 8 X 1/4	8	1/4	6.4	5/8	15.9	22.4	29.9	25.4	16.2
771L _ 10 X 1/4	10	1/4	7.1	13/16	20.6	25.9	33.5	28.2	16.2
771L _ 12 X 1/4	12	1/4	7.1	13/16	20.6	25.9	36.0	28.2	22.8
771L _ 12 X 3/8	12	3/8	9.5	13/16	20.6	25.9	36.0	28.2	22.8
771L _ 12 X 1/2	12	1/2	9.5	15/16	23.8	25.9	36.0	33.0	22.8
771L _ 16 X 1/2	16	1/2	11.9	15/16	23.8	27.9	38.0	35.0	24.4

TUBE (INCH) TO MALE NPT THREAD

Ordering Information	A		T	D		W		N		E		N1		I	
	Tube O.D.		(NPT)	Wrench Flat											
	in	mm	in	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
771L _ 1/8 X 1/8	1/8	3.17	1/8	.09	2.28	7/16	11.1	.67	17.02	.93	23.62	.70	17.78	.50	12.7
771L _ 1/8 X 1/4	1/8	3.17	1/4	.09	2.28	1/2	12.7	.71	18.03	.97	24.64	.92	23.40	.50	12.7
771L _ 3/16 X 1/8	3/16	4.76	1/8	.12	3.05	7/16	11.1	.70	17.78	.96	24.38	.70	17.78	.54	13.7
771L _ 1/4 X 1/8	1/4	6.35	1/8	.19	4.82	1/2	12.7	.77	19.56	1.06	26.92	.74	18.8	.60	15.2
771L _ 1/4 X 1/4	1/4	6.35	1/4	.19	4.82	1/2	12.7	.77	19.56	1.06	26.92	.92	23.37	.60	15.2
771L _ 5/16 X 1/8	5/16	7.93	1/8	.19	4.82	5/8	15.9	.88	22.35	1.17	29.71	.82	20.83	.64	16.25
771L _ 3/8 X 1/4	3/8	9.52	1/4	.28	7.11	5/8	15.9	.91	23.11	1.20	30.48	1.00	25.40	.66	16.76
771L _ 3/8 X 3/8	3/8	9.52	3/8	.28	7.11	13/16	20.6	1.02	25.91	1.31	33.27	1.11	28.19	.66	16.76
771L _ 1/2 X 3/8	1/2	12.70	3/8	.38	9.5	13/16	20.6	1.02	25.91	1.42	36.07	1.11	28.19	.90	22.86
771L _ 1/2 X 1/2	1/2	12.70	1/2	.41	10.41	15/16	23.8	1.02	25.91	1.42	36.07	1.30	33.00	.90	22.86
771L _ 5/8 X 1/2	5/8	15.87	1/2	.47	11.94	15/16	23.8	1.10	27.94	1.50	38.1	1.38	35.05	.96	24.38
771L _ 3/4 X 3/4	3/4	19.05	3/4	.62	15.75	1 1/8	28.6	1.17	29.72	1.57	39.88	1.45	36.83	.96	24.38

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

771 LF

FEMALE RUN TEE

TUBE (METRIC) TO FEMALE NPT THREAD

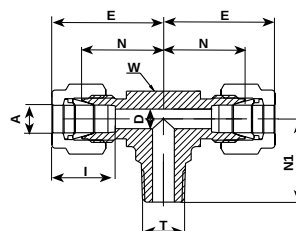
Ordering Information	A Tube O.D.		T (NPT)		D		W Wrench Flat		N		E		N1		I	
	mm		in		in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
771LF _ 6 X 1/8	6		1/8		.19	4.8	5/8	15.9	.77	19.6	1.06	27.0	.74	19.00	.60	15.3
771LF _ 6 X 1/4	6		1/4		.19	4.8	13/16	20.6	.88	22.4	1.17	29.8	.87	22.30	.60	15.3
771LF _ 12 X 1/4	12		1/4		.37	9.5	13/16	20.6	1.01	25.9	1.41	36.0	.88	22.40	.89	22.8
771LF _ 12 X 1/2	12		1/2		.37	9.5	1 1/8	28.6	1.16	29.7	1.57	39.8	1.12	28.50	.89	22.8

TUBE (INCH) TO FEMALE NPT THREAD

Ordering Information	A Tube O.D.		T (NPT)		D		W Wrench Flat		N		E		N1		I	
	in	mm	in		in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
771LF _ 1/8 X 1/8	1/8	3.17	1/8		.09	2.28	5/8	15.9	.71	18.00	.97	24.44	.75	19.05	0.5	12.7
771LF _ 1/4 X 1/8	1/4	6.35	1/8		.19	4.82	5/8	15.9	.77	19.55	1.06	26.92	.75	19.05	0.6	15.2
771LF _ 1/4 X 1/4	1/4	6.35	1/4		.19	4.82	13/16	20.6	.88	22.35	1.17	29.71	.88	22.35	0.6	15.2
771LF _ 3/8 X 1/4	3/8	9.52	1/4		.28	7.11	13/16	20.6	.94	23.87	1.23	31.24	.88	22.35	0.66	16.8
771LF _ 1/2 X 3/8	1/2	12.70	3/8		.41	10.41	15/16	23.8	1.02	25.9	1.42	36.07	.88	22.35	0.9	22.9
771LF _ 1/2 X 1/2	1/2	12.70	1/2		.41	10.41	1 1/8	28.6	1.17	29.72	1.57	39.88	1.12	28.45	0.9	22.9
771LF _ 3/4 X 3/4	3/4	19.05	3/4		.62	15.75	1 3/8	34.9	1.36	34.54	1.76	44.70	1.25	31.75	0.9	24.4

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

772 L

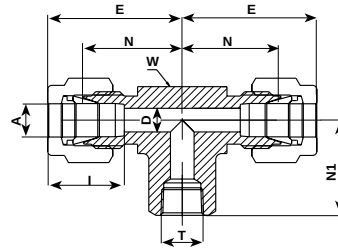
MALE BRANCH TEE

TUBE (METRIC) TO MALE NPT THREAD

Ordering Information	A	T	D		W		N		E		N1		I
	Tube O.D.	(NPT)			Wrench Flat								
	mm	in	mm		in	mm	mm		mm		mm		mm
772L _ 6 X 1/8	6	1/8	4.8		1/2	12.7	19.6		27.0		18.8		15.3
772L _ 6 X 1/4	6	1/4	4.8		1/2	12.7	19.6		27.0		23.4		15.3
772L _ 8 X 1/8	8	1/8	4.8		5/8	15.9	22.4		29.9		20.8		16.2
772L _ 8 X 1/4	8	1/4	6.4		5/8	15.9	22.4		29.9		25.4		16.2
772L _ 10 X 1/4	10	1/4	7.1		13/16	20.6	25.9		33.5		28.2		17.2
772L _ 12 X 1/4	12	1/4	7.1		13/16	20.6	25.9		36.0		28.2		22.8
772L _ 12 X 3/8	12	3/8	9.5		13/16	20.6	25.9		36.0		28.2		22.8
772L _ 12 X 1/2	12	1/2	9.5		15/16	23.8	25.9		36.0		33.0		22.8
772L _ 16 X 1/2	16	1/2	11.9		15/16	23.8	28.7		38.8		35.8		24.4

TUBE (INCH) TO MALE NPT THREAD

Ordering Information	A		T	D		W		N		E		N1		I
	Tube O.D.		(NPT)			Wrench Flat								
	in	mm	in	in	mm	in	mm	in	mm	in	mm	in	mm	in
772L _ 1/8 X 1/8	1/8	3.17	1/8	.09	2.28	7/16	11.1	.67	17.02	.93	23.62	.70	17.78	.50
772L _ 1/8 X 1/4	1/8	3.17	1/4	.09	2.28	1/2	12.7	.71	18.03	.97	24.64	.92	23.37	.50
772L _ 3/16 X 1/8	3/16	4.76	1/8	.12	3.04	7/16	11.1	.70	17.78	.96	24.38	.70	17.78	.54
772L _ 1/4 X 1/8	1/4	6.35	1/8	.19	4.82	1/2	12.7	.77	19.56	1.06	26.9	.74	18.8	.60
772L _ 1/4 X 1/4	1/4	6.35	1/4	.19	4.82	1/2	12.7	.77	19.56	1.06	26.9	.92	23.87	.60
772L _ 5/16 X 1/8	5/16	7.93	1/8	.19	4.82	5/8	15.9	.88	22.35	1.17	29.71	.82	20.83	.64
772L _ 3/8 X 1/4	3/8	9.52	1/4	.28	7.11	5/8	15.9	.91	23.11	1.20	30.48	1.00	25.40	.66
772L _ 3/8 X 3/8	3/8	9.52	3/8	.28	7.11	13/16	20.6	1.02	25.91	1.31	33.27	1.11	28.19	.66
772L _ 1/2 X 3/8	1/2	12.70	3/8	.38	9.65	13/16	20.6	1.02	25.91	1.42	36.07	1.11	28.19	.90
772L _ 1/2 X 1/2	1/2	12.70	1/2	.41	10.41	15/16	23.8	1.02	25.96	1.42	36.07	1.30	33.02	.90
772L _ 5/8 X 1/2	5/8	15.87	1/2	.47	11.94	15/16	23.8	1.13	28.7	1.53	38.86	1.41	35.8	.96
772L _ 3/4 X 3/4	3/4	19.05	3/4	.62	15.75	1 1/8	28.6	1.17	29.72	1.57	39.88	1.45	36.83	.96

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

**772LF
FEMALE BRANCH TEE**

TUBE (METRIC) TO FEMALE NPT THREAD

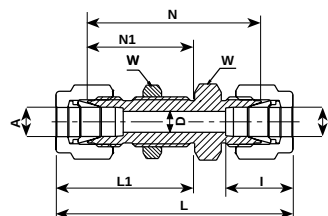
Ordering Information	A Tube O.D.	T (NPT)	D		W Wrench Flat		N		E		N1		I	
	mm	in	mm	mm	in	mm	mm	mm	mm	mm	mm	mm	mm	mm
772LF _ 6 X 1/8	6	1/8	4.8	5/8	15.9	19.6	27.0	19.0	15.3					
772LF _ 6 X 1/4	6	1/4	4.8	13/16	20.6	22.4	29.8	22.4	15.3					
772LF _ 10 X 1/4	10	1/4	7.9	13/16	20.6	25.9	33.5	22.4	17.2					
772LF _ 10 X 3/8	10	3/8	7.9	15/16	23.8	25.9	33.5	22.4	17.2					
772LF _ 12 X 1/4	12	1/4	9.5	13/16	20.6	25.9	36.0	22.4	22.8					
772LF _ 12 X 1/2	12	1/2	9.5	1 1/8	28.6	28.7	38.8	28.4	22.8					
772LF _ 16 X 1/2	16	1/2	12.7	1 1/8	28.6	28.7	38.8	28.4	24.4					

TUBE (INCH) TO FEMALE NPT THREAD

Ordering Information	A Tube O.D.		T (NPT)	D		W Wrench Flat		N		E		N1		I	
	in	mm	in	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
772LF _ 1/8 X 1/8	1/8	3.17	1/8	.09	2.28	5/8	15.9	.70	18.00	.97	24.64	.75	19.05	.50	12.7
772LF _ 1/4 X 1/8	1/4	6.35	1/8	.19	4.82	5/8	15.9	.77	19.56	1.06	26.96	.75	19.05	.60	15.2
772LF _ 1/4 X 1/4	1/4	6.35	1/4	.19	4.82	13/16	20.6	.88	22.35	1.17	29.71	.88	22.35	.60	15.2
772LF _ 3/8 X 1/4	3/8	9.52	1/4	.28	7.11	13/16	20.6	.94	23.88	1.23	31.24	.88	22.35	.66	16.8
772LF _ 1/2 X 1/4	1/2	12.70	1/4	.41	10.41	13/16	20.6	1.02	25.90	1.42	36.06	.88	22.35	.90	22.9
772LF _ 1/2 X 3/8	1/2	12.70	3/8	.41	10.41	15/16	23.8	1.02	25.90	1.42	36.07	.88	22.35	.90	22.9
772LF _ 1/2 X 1/2	1/2	12.70	1/2	.41	10.41	1 1/8	28.6	1.13	28.70	1.53	38.86	1.12	28.45	.90	22.9
772LF _ 5/8 X 1/2	5/8	15.87	1/2	.50	12.70	1 1/8	28.6	1.13	28.70	1.53	38.86	1.12	28.44	.96	24.4
772LF _ 3/4 X 3/4	3/4	19.05	3/4	.62	15.74	1 3/8	34.9	1.36	34.50	1.76	44.70	1.25	31.75	.96	24.4
772LF _ 1 X 3/4	1	25.4	3/4	.88	22.35	1 3/8	34.9	1.45	36.83	1.93	49.02	1.25	31.75	1.23	31.2
772LF _ 1 X 1	1	25.4	1	.88	22.35	1 11/16	42.9	1.63	41.40	2.11	53.60	1.50	38.10	1.23	31.2

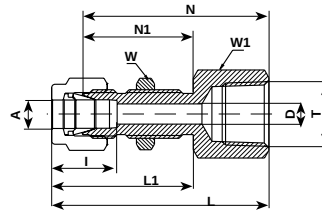
● "D" - Dimension is minimum opening. ● Dimensions are for reference only, and are subject to change without notice.

774 L

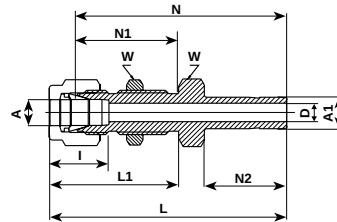
BULKHEAD UNION


TUBE (METRIC) TO TUBE (METRIC)																			
Ordering Information	A Tube O.D.		D		W Hex. Flat		N		N1		L		L1		I		Panel hole drill size		Max. Panel thickness
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
774L_3	3		2.4		14		38.1		24.6		51.3		31.2		12.9		8.30		12.7
774L_4	4		2.4		14		40.4		25.4		53.6		32.0		13.7		9.90		12.7
774L_6	6		4.8		16		42.9		26.2		57.7		33.6		15.3		11.50		10.2
774L_8	8		6.4		18		46.0		28.6		61.0		36.1		16.2		13.10		11.2
774L_10	10		7.9		22		48.5		29.4		63.7		37.0		17.2		16.25		11.2
774L_12	12		9.5		24		50.8		31.8		71.0		41.9		22.8		19.50		12.7
774L_15	15		11.9		27		52.3		32.5		72.5		42.6		24.4		22.80		12.7
774L_16	16		12.7		27		52.3		32.5		72.5		42.6		24.4		22.80		12.7
774L_18	18		15.1		30		58.7		37.3		78.9		47.4		24.4		26.00		16.8
774L_20	20		15.9		35		64.3		42.9		84.5		53.0		26.0		29.00		23.9
774L_25	25		21.8		41		71.4		45.2		86.6		52.8		26.6		33.70		19.0
TUBE (INCH) TO TUBE (INCH)																			
Ordering Information	A Tube O.D.		D		W Hex. Flat		N		N1		L		L1		I		Panel hole drill size		Max. Panel thickness
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in
774L_1/16	1/16	1.58	.05	1.27	5/16	7.9	0.94	23.88	0.53	13.46	1.24	31.5	0.68	17.3	.34	8.6	13/64	5.16	.12
774L_1/8	1/8	3.17	.09	2.28	1/2	12.7	1.50	38.10	0.97	24.63	2.02	51.30	1.23	31.24	.50	12.7	21/64	8.33	.50
774L_3/16	3/16	4.76	.12	3.04	9/16	14.3	1.59	40.38	1.00	25.40	2.11	53.59	1.26	32.00	.54	13.7	25/64	9.92	.50
774L_1/4	1/4	6.35	.19	4.82	5/8	15.9	1.69	42.92	1.03	26.16	2.27	57.65	1.32	33.52	.60	15.2	29/64	11.50	.40
774L_5/16	5/16	7.93	.25	6.35	11/16	17.5	1.81	45.97	1.12	28.44	2.39	60.70	1.41	35.81	.64	16.2	33/64	13.09	.44
774L_3/8	3/8	9.52	.28	7.11	3/4	19.1	1.87	47.5	1.16	29.46	2.45	62.2	1.45	36.83	.66	16.8	37/64	14.68	.44
774L_1/2	1/2	12.70	.41	10.41	15/16	23.8	2.00	50.20	1.25	31.75	2.80	71.12	1.65	41.91	.90	22.9	49/64	19.44	.50
774L_5/8	5/8	15.87	.50	12.70	1 1/16	27.0	2.06	52.32	1.28	32.51	2.86	72.64	1.68	42.67	.96	24.4	57/64	22.62	.50
774L_3/4	3/4	19.05	.62	15.90	1 3/16	30.2	2.31	58.67	1.47	37.33	3.11	78.99	1.87	47.49	.96	24.4	1 1/64	25.79	.66
774L_1	1	25.40	.88	22.35	1 5/8	41.3	2.81	71.37	1.78	45.21	3.77	95.76	2.26	57.40	1.23	31.2	1 21/64	33.73	.75

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

774 LF
BULKHEAD FEMALE CONNECTOR

TUBE (INCH) TO FEMALE NPT THREAD

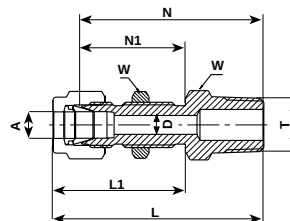
Ordering Information	A Tube O.D.		T (NPT)	D		W Hex. Flat		W1 Hex. Flat		N		N1		L		L1		I		Panel hole drill size		Max. panel thickness	
	in	mm		in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
774LF_1/8X1/8	1/8	3.17	1/8	.09	2.28	9/16	14.3	1/2	12.7	1.50	38.10	.97	24.63	1.76	44.70	1.23	31.24	.50	12.7	21/64	8.33	.50	12.70
774LF_1/4X1/8	1/4	6.35	1/8	.19	4.82	5/8	15.9	5/8	15.9	1.56	39.62	1.03	26.16	1.85	46.99	1.32	33.52	.60	15.2	29/64	11.50	.40	10.16
774LF_1/4X1/4	1/4	6.35	1/4	.19	4.82	3/4	19.1	5/8	15.9	1.75	44.45	1.03	26.16	2.04	51.81	1.32	33.52	.60	15.2	29/64	11.50	.40	10.16
774LF_3/8X1/4	3/8	9.52	1/4	.28	7.11	3/4	19.1	3/4	19.1	1.88	47.75	1.16	29.46	2.17	55.11	1.45	36.83	.66	16.8	37/64	14.68	.44	11.17
774LF_1/2X3/8	1/2	12.70	3/8	.41	10.41	15/16	23.8	15/16	23.8	2.03	51.56	1.25	31.75	2.43	61.72	1.65	41.91	.90	22.9	49/64	19.44	.50	12.70
774LF_1/2X1/2	1/2	12.70	1/2	.41	10.41	1 1/16	27.0	15/16	23.8	2.22	56.38	1.25	31.75	2.62	66.54	1.65	41.91	.90	22.9	49/64	19.44	.50	12.70

774 LT
BULKHEAD REDUCER

TUBE (INCH) TO TUBE (INCH)

Ordering Information	A Tube O.D.		A1 Tube O.D.	D		W Hex. Flat		N		N1		N2		L		L1		I	
	in	mm		in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
774LT_1/8 X 1/8	1/8	3.17	1/8	.08	2.03	1/2	12.7	1.69	42.92	.97	24.63	.53	13.46	1.95	49.53	1.23	31.24	0.5	12.7
774LT_1/4 X 1/4	1/4	6.35	1/4	.17	4.20	5/8	15.9	1.91	48.50	1.03	26.16	.62	15.74	2.20	55.88	1.32	33.52	0.6	15.2
774LT_3/8 X 3/8	3/8	9.52	3/8	.28	7.11	3/4	19.1	2.12	53.85	1.16	29.46	.69	17.52	2.41	61.21	1.45	36.83	0.66	16.8
774LT_1/2 X 1/2	1/2	12.70	1/2	.39	9.90	15/16	23.8	2.47	62.73	1.25	31.75	.91	23.11	2.87	72.89	1.65	41.91	0.9	22.9

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

774 LM

BULKHEAD MALE CONNECTOR

TUBE (METRIC) TO MALE NPT THREAD

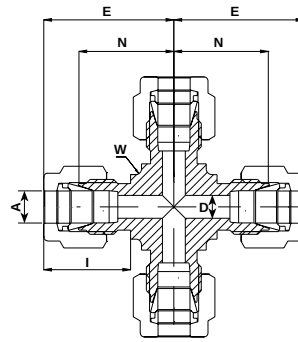
Ordering Information	A Tube O.D.	T (NPT)	D		W Hex. Flat		N		N1		L		L1		Panel hole drill size		Max. panel thickness	
	mm	in	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
774LM _ 6 X 1/8	6	1/8	4.8		16		42.2		26.2		49.6		33.6		11.5		10.2	
774LM _ 6 X 1/4	6	1/4	4.8		16		46.2		26.2		53.6		33.6		11.5		10.2	
774LM _ 12 X 1/2	12	1/2	9.5		24		58.7		31.8		68.8		41.9		19.5		12.7	

TUBE (INCH) TO MALE NPT THREAD

Ordering Information	A Tube O.D.		T (NPT)	D		W Hex. Flat		N		N1		L		L1		Panel hole drill size		Max. panel thickness	
	in	mm	in	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
774LM _ 1/8 X 1/8	1/8	3.17	1/8	.09	2.28	1/2	12.7	1.57	39.90	.97	24.60	1.83	46.48	1.23	31.24	21/64	8.33	.50	12.70
774LM _ 1/4 X 1/8	1/4	6.35	1/8	.19	4.82	5/8	15.9	1.66	42.20	1.03	26.20	1.95	49.53	1.32	33.52	29/64	11.50	.40	10.16
774LM _ 1/4 X 1/4	1/4	6.35	1/4	.19	4.82	5/8	15.9	1.84	46.70	1.03	26.16	2.13	54.10	1.32	33.52	29/64	11.50	.40	10.16
774LM _ 3/8 X 1/4	3/8	9.52	1/4	.28	7.11	3/4	19.1	1.97	50.00	1.16	29.46	2.26	57.40	1.45	36.83	37/64	14.68	.44	11.17
774LM _ 1/2 X 3/8	1/2	12.70	3/8	.40	10.40	15/16	23.8	2.09	53.10	1.25	31.75	2.49	63.25	1.65	41.91	49/64	19.44	.50	12.70
774LM _ 1/2 X 1/2	1/2	12.70	1/2	.40	10.40	15/16	23.8	2.31	58.70	1.25	31.70	2.71	68.83	1.65	41.91	49/64	19.44	.50	12.70

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

7102 L
UNION CROSS

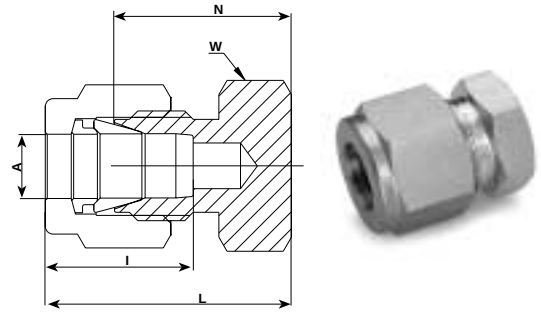

ALL TUBES (METRIC)

Ordering Information	A Tube O.D.	D		W Wrench Flat		N		E		I	
	mm	mm		in	mm	mm		mm		mm	
7102L _ 3	3	2.4		3/8	9.5	15.7		22.3		12.9	
7102L _ 6	6	4.8		1/2	12.7	19.6		27.0		15.3	
7102L _ 8	8	6.4		5/8	15.9	22.4		29.9		16.2	
7102L _ 10	10	7.9		13/16	20.6	25.9		33.5		17.2	
7102L _ 12	12	9.5		13/16	20.6	25.9		36.0		22.8	
7102L _ 18	18	15.1		1 1/16	27.0	28.2		38.3		24.4	
7102L _ 20	20	15.9		1 3/8	34.9	34.5		44.6		26.0	

ALL TUBES (INCH)

Ordering Information	A Tube O.D.		D		W Wrench Flat		N		E		I	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
7102L _ 1/8	1/8	3.17	.09	2.28	3/8	9.5	.62	15.74	.88	22.35	.50	12.7
7102L _ 1/4	1/4	6.35	.19	4.82	1/2	12.7	.77	19.56	1.06	26.92	.60	15.2
7102L _ 5/16	5/16	7.93	.25	6.35	5/8	15.9	.88	22.35	1.17	29.71	.64	16.2
7102L _ 3/8	3/8	9.52	.28	7.11	5/8	15.9	.91	23.11	1.20	30.48	.66	16.8
7102L _ 1/2	1/2	12.70	.41	10.41	13/16	20.6	1.02	25.9	1.42	36.07	.90	22.9
7102L _ 3/4	3/4	19.05	.62	15.74	1 1/16	27.0	1.17	29.72	1.57	39.88	.96	24.4
7102L _ 1	1	25.40	.88	22.35	1 3/8	34.9	1.45	36.8	1.93	49.02	1.23	31.2

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

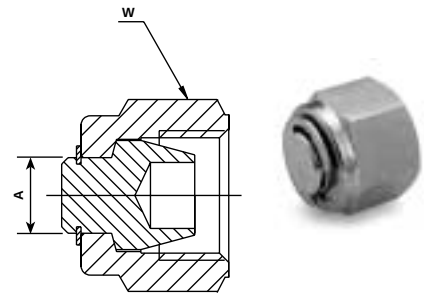


CAPPING END OF TUBE (METRIC)					
Ordering Information	A Tube O.D.	W Hex. Flat	N	L	I
	mm	mm	mm	mm	mm
7108L_2	2	12	13.5	20.1	12.9
7108L_3	3	12	13.5	20.1	12.9
7108L_4	4	12	14.7	21.3	13.7
7108L_6	6	14	15.7	23.1	15.3
7108L_8	8	15	17.0	24.5	16.2
7108L_10	10	18	15.0	26.6	17.2
7108L_12	12	22	19.0	29.1	22.8
7108L_15	15	24	19.8	29.9	24.4
7108L_16	16	24	19.8	29.9	24.4
7108L_18	18	27	21.3	31.4	24.4
7108L_20	20	30	23.9	34.0	26.0
7108L_22	22	30	23.9	34.0	26.0
7108L_25	25	35	26.2	38.5	31.3

CAPPING END OF TUBE (INCH)										
Ordering Information	A Tube O.D.		W Hex. Flat		N		L		I	
	in	mm	in	mm	in	mm	in	mm	in	mm
7108L _ 1/16	1/16	1.58	5/16	7.9	.44	11.17	.59	14.98	.34	8.6
7108L _ 1/8	1/8	3.17	7/16	11.1	.53	13.46	.79	20.06	.50	12.7
7108L _ 3/16	3/16	4.76	7/16	11.1	.58	14.73	.84	21.84	.54	13.7
7108L _ 1/4	1/4	6.35	1/2	12.7	.63	16.00	.92	23.37	.60	15.2
7108L _ 5/16	5/16	7.93	9/16	14.3	.67	17.01	.96	24.38	.64	16.2
7108L _ 3/8	3/8	9.52	5/8	15.9	.72	18.28	1.01	26.65	.66	16.2
7108L _ 1/2	1/2	12.70	13/16	20.6	.75	19.05	1.15	29.21	.90	16.8
7108L _ 5/8	5/8	15.87	15/16	23.8	.78	19.81	1.18	29.97	.96	22.9
7108L _ 3/4	3/4	19.05	1 1/16	27.0	.84	21.33	1.24	31.49	.96	24.4
7108L _ 7/8	7/8	22.22	1 3/16	30.2	.94	23.88	1.34	34.04	1.02	25.9
7108L _ 1	1	25.40	1 3/8	34.9	1.03	26.16	1.51	38.35	1.23	31.2

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7121L PLUG



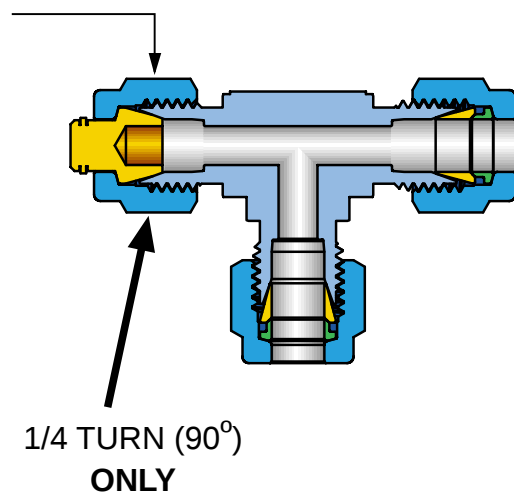
PLUGGING UNUSED PORT OF FITTING (METRIC)

Ordering Information	A		W	
	mm		Hex. Flat	
7121L_3	3		12	
7121L_4	4		12	
7121L_6	6		14	
7121L_8	8		16	
7121L_10	10		19	
7121L_12	12		22	
7121L_15	15		25	
7121L_16	16		25	
7121L_18	18		30	
7121L_20	20		32	
7121L_22	22		32	
7121L_25	25		38	

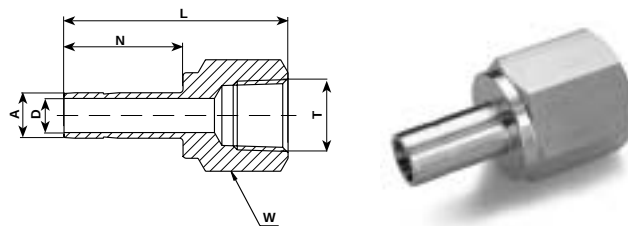
PLUGGING UNUSED PORT OF FITTING (INCH)

Ordering Information	A		W	
	in	mm	in	mm
7121L_1/16	1/16	1.58	5/16	7.9
7121L_1/8	1/8	3.17	7/16	11.1
7121L_3/16	3/16	4.76	1/2	12.7
7121L_1/4	1/4	6.35	9/16	14.3
7121L_5/16	5/16	7.93	5/8	15.9
7121L_3/8	3/8	9.52	11/16	17.5
7121L_1/2	1/2	12.70	7/8	22.2
7121L_5/8	5/8	15.87	1	25.4
7121L_3/4	3/4	19.05	1 1/8	28.6
7121L_1	1	25.40	1 1/2	38.1

PLUG ASSEMBLY INSTRUCTIONS 7121L XX XX



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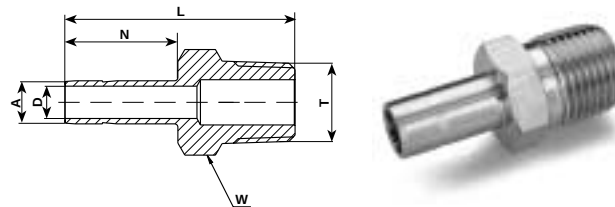


HAM-LET
ADVANCED CONTROL TECHNOLOGY

A technical diagram of a bolt and nut assembly. The bolt has a total length L and a threaded section of length N . The nut has a height T . The bolt has a major diameter D and a minor diameter A . The width of the nut is W . The diagram shows the bolt passing through the nut, with the threaded portion of the bolt engaged with the internal threads of the nut.



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TUBE (METRIC) MALE PIPE							
Ordering Information	A Tube O.D.	T (NPT)	D	W Hex. Flat		N	L
	mm	in	mm	in	mm	mm	mm
739LM _ 3 X 1/8	3	1/8	2.1	-	12	13.5	30.0
739LM _ 3 X 1/4	3	1/4	2.1	-	14	13.5	35.3
739LM _ 6 X 1/8	6	1/8	4.0	-	12	15.7	32.8
739LM _ 6 X 1/4	6	1/4	4.0	-	14	15.7	38.1
739LM _ 6 X 3/8	6	3/8	4.0	11/16	17.5	15.7	37.0
739LM _ 6 X 1/2	6	1/2	4.0	-	22	15.7	43.4
739LM _ 8 X 1/8	8	1/8	5.6	-	12	16.8	33.5
739LM _ 8 X 1/4	8	1/4	5.6	-	14	16.8	39.1
739LM _ 8 X 1/2	8	1/2	5.6	-	22	16.8	43.0
739LM _ 10 X 1/4	10	1/4	7.1	9/16	14.3	17.5	39.9
739LM _ 10 X 3/8	10	3/8	7.7	-	18	17.5	40.6
739LM _ 10 X 1/2	10	1/2	7.7	-	22	17.5	46.2
739LM _ 12 X 1/4	12	1/4	7.1	-	16	23.1	46.5
739LM _ 12 X 3/8	12	3/8	9.1	-	18	23.1	46.5
739LM _ 12 X 1/2	12	1/2	9.1	-	22	23.1	52.0
739LM _ 16 X 1/2	16	1/2	11.9	-	22	24.7	50.5
739LM _ 20 X 3/4	20	3/4	15.1	-	27	26.6	54.3

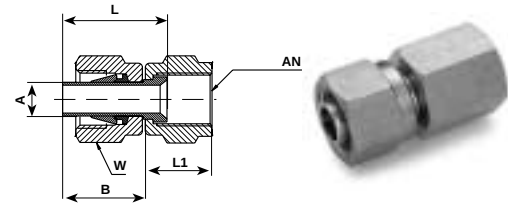
For inches, see next page



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

7 6 1 LFL

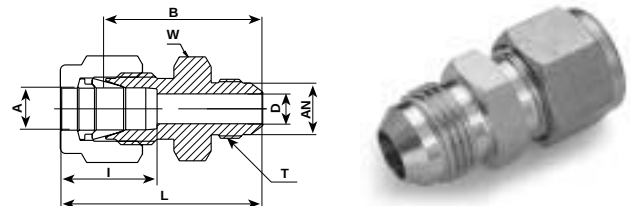
LET-LOK[®] TO AN ADAPTER



Ordering Information	A Tube O.D.		AN Tube Flare Size		W Hex. Flat		L		L1		B	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm
761LFL _ 1/8 X 1/8	1/8	3.17	1/8	3.17	3/8	9.5	.73	18.54	.54	13.71	.53	13.46
761LFL _ 1/8 X 1/4	1/8	3.17	1/4	6.35	9/16	14.3	.75	19.05	.62	15.74	.53	13.46
761LFL _ 1/4 X 1/4	1/4	6.35	1/4	6.35	9/16	14.3	.84	21.33	.62	15.74	.62	15.75
761LFL _ 3/8 X 3/8	3/8	9.52	3/8	9.52	11/16	17.5	.98	24.89	.72	21.59	.69	17.53
761LFL _ 1/2 X 1/2	1/2	12.70	1/2	12.70	7/8	22.2	1.25	31.75	.85	21.59	.91	23.1

7 6 2 LFL

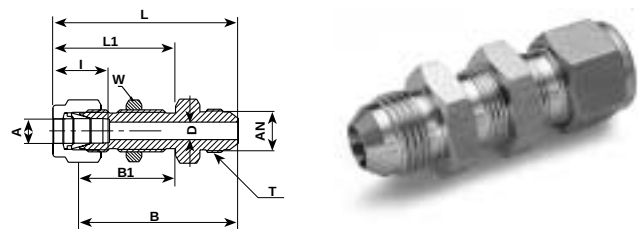
LET-LOK[®] TO AN UNION



TUBE (INCH) TO TUBE (INCH)															
Ordering Information	A Tube O.D.		AN Tube Flare Size		D		W Hex. Flat		B		L		I		T Straight Thread
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	
762LFL _ 1/16 X 1/8	1/16	1.58	1/8	3.17	.05	1.27	7/16	11.1	0.92	23.36	1.07	27.18	.34	8.64	5/16-24
762LFL _ 1/8 X 1/8	1/8	3.17	1/8	3.17	.06	1.52	7/16	11.1	1.01	25.65	1.27	32.26	.50	12.70	5/16-24
762LFL _ 1/8 X 1/4	1/8	3.17	1/4	6.35	.09	2.28	1/2	12.7	1.12	28.44	1.38	35.05	.50	12.70	7/16-20
762LFL _ 1/4 X 1/4	1/4	6.35	1/4	6.35	.17	4.31	1/2	12.7	1.19	30.22	1.48	37.59	.60	15.24	7/16-20
762LFL _ 3/8 X 1/4	3/8	9.52	1/4	6.35	.17	4.31	5/8	15.9	1.27	32.25	1.56	39.62	.66	16.76	7/16-20
762LFL _ 3/8 X 3/8	3/8	9.52	3/8	9.52	.28	7.11	5/8	15.9	1.27	32.25	1.56	39.62	.66	16.76	9/16-18
762LFL _ 1/2 X 1/2	1/2	12.70	1/2	12.70	.39	9.90	13/16	20.6	1.41	35.8	1.81	45.96	.90	22.86	3/4-16
762LFL _ 3/4 X 3/4	3/4	19.05	3/4	19.05	.61	15.49	1 1/8	28.6	1.70	43.18	2.10	53.34	.96	24.38	1 1/16-12
762LFL _ 1 X 1	1	25.40	1	25.40	.84	21.34	1 3/8	34.9	1.94	49.28	2.42	61.47	1.23	31.24	1 5/16-12

7 7 4 LFL

LET-LOK[®] TO AN BULKHEAD UNION

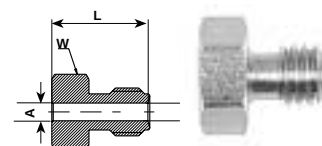


TUBE (INCH) TO TUBE (INCH)																							
Ordering Information	A Tube O.D.		AN Tube Flare Size		D		W Hex. Flat		B		B1		L		L1		T Straigh Thread	Panel hole drill size		Max. panel thickness		I	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	in	mm	in	mm	in	mm
774LFL _ 1/4 X 1/4	1/4	6.35	1/4	6.35	.17	4.30	5/8	15.9	1.83	46.48	1.03	26.16	2.12	53.84	1.32	33.52	7/16-20	29/64	11.50	0.40	10.16	0.6	15.2
774LFL _ 3/8 X 3/8	3/8	9.52	3/8	9.52	.28	7.11	3/4	19.1	1.96	49.78	1.16	29.46	2.25	57.15	1.45	36.83	9/16-18	37/64	14.68	0.44	11.17	0.66	16.8
774LFL _ 1/2 X 1/2	1/2	12.70	1/2	12.70	.39	9.90	15/16	23.8	2.19	55.63	1.25	31.75	2.59	65.79	1.65	41.91	3/4-16	49/64	19.45	0.50	12.70	0.90	22.9
774LFL _ 3/4 X 3/4	3/4	19.05	3/4	19.05	.61	15.49	1 3/16	30.2	2.71	68.83	1.47	37.34	3.11	78.99	1.87	47.5	1 1/16-12	1 1/64	25.80	0.66	16.76	0.96	24.4
774LFL _ 1 X 1	1	25.40	1	25.40	.84	21.33	1 5/8	41.3	3.16	80.26	1.78	45.21	3.64	92.46	2.26	57.4	1 5/16-12	121/64	33.73	0.75	19.05	1.23	31.2

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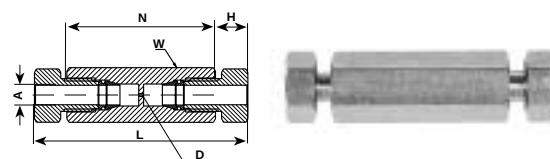
CHROMATOGRAPH FITTINGS

9 6 1 L MALE NUT (INCH)



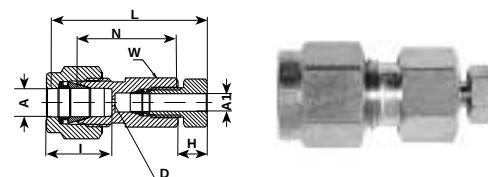
Ordering Information	A Tube O.D.		W Hex. Flat		L		
	in	mm	in	mm	in	mm	
961L _ 1/16	1/16	1.58	1/4	6.4	3/8	9.52	

9 6 2 L UNION (INCH)



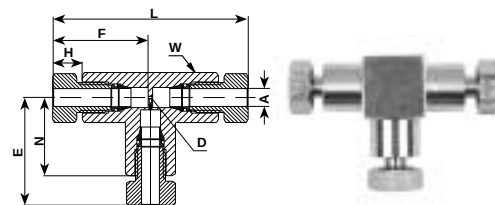
Ordering Information	A Tube O.D.		D		W Hex. Flat		N		H		L		Dead space
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	
962L _ 1/16	1/16	1.58	0.013	0.33	1/4	6.4	0.84	21.34	0.2	5.08	1.25	31.75	6.6 x 10 ⁻⁵ cc

9 6 3 L REDUCING UNION (INCH)



Ordering Information	A Tube O.D.		A1 Tube O.D.		D		W Hex. Flat		N		L		H		I		Dead space
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	
963L _ 1/4 X 1/16	1/4	6.35	1/16	1.58	.013	0.33	1/2	12.7	.75	19.05	1.24	31.50	.20	5.08	0.6	15.2	6.8 x 10 ⁻⁵ cc
963L _ 3/8 X 1/16	3/8	9.52	1/16	1.58	.013	0.33	5/8	15.9	.81	20.57	1.30	33.02	.20	5.08	0.66	16.8	6.8 x 10 ⁻⁵ cc

9 6 4 L UNION TEE (INCH)



Ordering Information	A Tube O.D.		D		W Wrench Flat		N		H		F		E		L		Dead Space
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	
964L _ 1/16	1/16	1.58	.013	0.33	3/8	9.5	0.45	11.43	0.20	5.08	0.61	15.49	0.65	16.51	1.30	33.02	2.8 x 10 ⁻⁴ cc

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

LET-LOK® TUBE FITTINGS

POSITIONABLES

PER SAE J1926 AND MS 16142

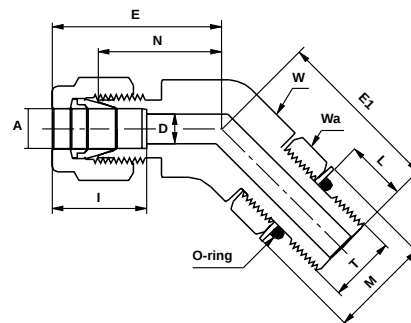
769 LOB

Technical drawing of a mechanical assembly, likely a valve or actuator, showing dimensions and components. The drawing includes labels for dimensions: E, N, W, Wa, E1, L, M, T, D, I, and labels for components: O-ring.



TUBE TO SAE/MS STRAIGHT THREAD BOSS (POSITIONABLE)*

Ordering Information	A Tube O.D.		T SEA/MS	D		W Wrench Flat		Wa Hex. Flat		N		E		E1		L		M		I		O-ring**
	in	mm	in	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	Dash No.
769LOB SS 1/4 X 7/16-20 POS.	1/4	6.35	7/16-20	0.19	4.8	1/2	12.7	9/16	14.3	0.83	21.1	1.12	28.5	1.12	28.5	0.39	9.9	0.65	16.5	0.60	15.2	904



769 LOB 45°

MALE ELBOW 45°

TUBE TO SAE/MS STRAIGHT THREAD BOSS (POSITIONABLE)*

[illegible]

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** O-rings used are Viton 90 Durometer. Other O-ring materials are available on request. For more technical information, see page 60.

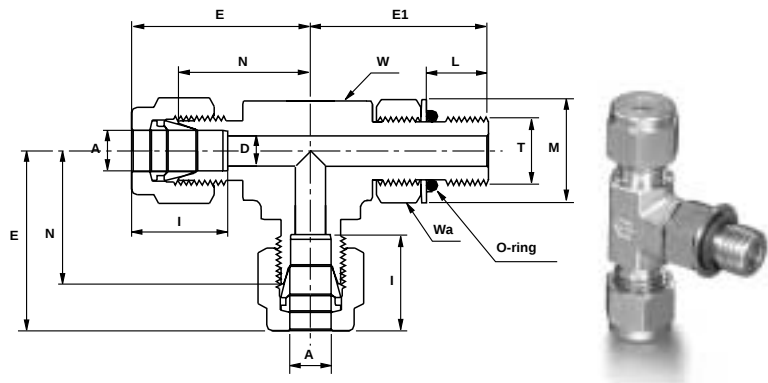
** O-rings used are Viton 90 Durometer. Other O-ring materials are available on request. For more technical information, see page 60.

POSITIONABLE

PER SAE J1926 AND MS 16142

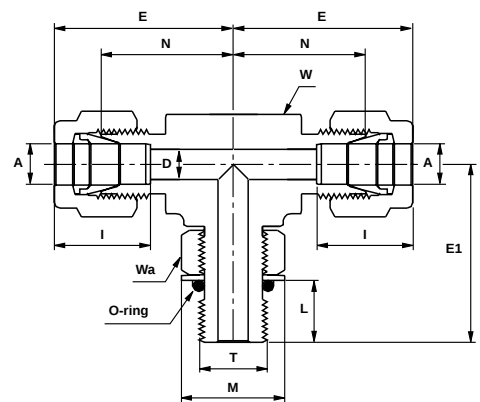
7 7 1 L O B

MALE RUN TEE



TUBE TO SAE/MS STRAIGHT THREAD BOSS (POSITIONABLE)*

Ordering Information	A Tube O.D.		T SEA/MS	D		W Wrench Flat		Wa Hex. Flat		N		E		E1		L		M		I		O-ring**
	in	mm	in	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	Dash No.
771LOB SS 1/4 X 7/16-20 POS.	1/4	6.35	7/16-20	0.19	4.8	1/2	12.7	9/16	14.3	0.83	21.1	1.12	28.5	1.12	28.5	0.39	9.9	0.65	16.5	0.60	15.2	904



772 LOB

MALE BRANCH TEE

TUBE TO SAE/MS STRAIGHT THREAD BOSS (POSITIONABLE)*

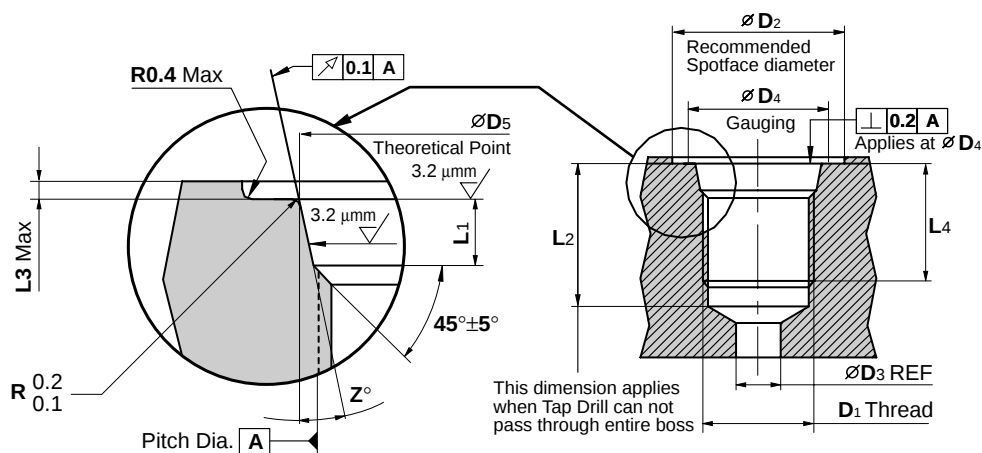
[illegible]

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

* Per B.S. 2779

** O-rings used are Viton 90 Durometer. Other O-ring materials are available on request. For more technical information, see page 60.

DIMENSIONS FOR SAE J1926 & MS 16142 BOSS

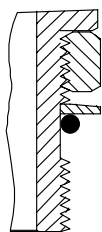


MOUNTING DIMENSIONS FOR O-SEAL CONNECTORS (SAE/MS)

TUBE O.D.		DI Thread Size	D2 Min Diameter	D3 Min Diameter	D4 Min	D5 ± 0.05	L1 ± 0.02	L2 Min	L3 Max	L4 Min Full Thread	Z° ± 1°
in	mm	in	± 0.05	mm	mm	mm	mm	mm	mm	mm	mm
1/8	3.18	5/16 - 24 UNF - 2B	17	1.6	11	9.15	2.1	12	1.6	10	12
3/16	4.76	3/8 - 24 UNF - 2B	19	3.5	13	10.75	2.1	12	1.6	10	12
1/4	6.35	7/16 - 20 UNF - 2B	21	4.5	15	12.45	2.6	14	1.6	11.5	12
5/16	7.94	1/2 - 20 UNF - 2B	23	6	16	14.05	2.6	14	1.6	11.5	12
3/8	9.52	9/16 - 18 UNF - 2B	25	7.5	18	15.70	2.7	15.5	1.6	12.7	12
1/2	12.70	3/4 - 16 UNF - 2B	30	10	22	20.65	2.7	17.5	2.4	14.3	15
5/8	15.88	7/8 - 14 UNF - 2B	34	12.5	26	24	2.7	20	2.4	16.7	15
3/4	19.05	1 1/16 - 12 UNF - 2B	41	16	32	29.2	3.5	23	2.4	19	15
7/8	22.22	1 3/16 - 12 UNF - 2B	45	18	35	32.4	3.5	23	2.4	19	15
1	25.40	1 5/16 - 12 UN - 2B	49	21	38	35.55	3.5	23	3.2	19	15

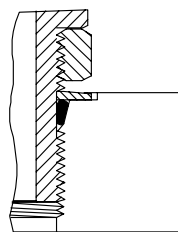
INSTALLATION INSTRUCTIONS

Figure 1
Locking backed off



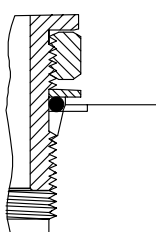
Lubricate the O-ring by inserting it into the groove adjacent to the face of the metal back-up washer which is assembled at the extreme end of the groove as shown in Figure 1.

Figure 2
Fitting install hand tight



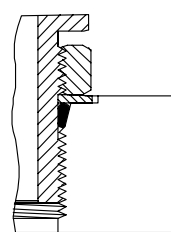
Install the fitting into the S.A.E. straight thread boss, figure 2, until the metal back-up washer contacts the face of the boss as shown in Figure 2.

Figure 3
Fittings backed-off for
alignment (1 turn maximum)



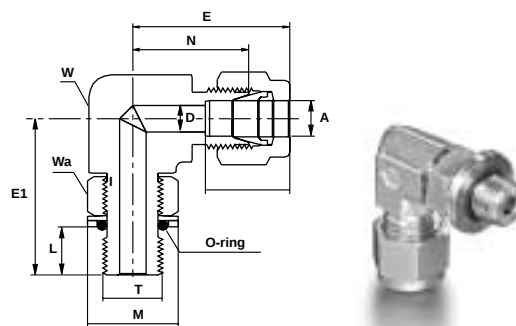
Position the fitting by turning it counter clockwise up to a maximum of one turn (see Figure 3).

Figure 4
Fitting locknut tight to
appropriate torque



Holding the pad of the fitting with a spanner, tighten the locknut and washer against the face as shown in Figure 4.

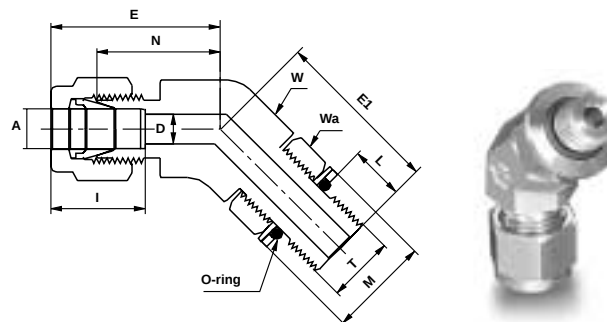
● Dimensions are for reference only, and are subject to change without notice.

POSITIONABLE
ISO PARALLEL THREAD
769 LG
MALE ELBOW

TUBE (INCH) TO ISO PARALLEL THREAD (POSITIONABLE)*

Ordering Information	A		T		D		W		Wa		N		E		E1		L		M		I		O-ring** I.D.	Washer
	Tube O.D.		(ISO)				Wrench Flat		Hex. Flat														DASH No.	mm
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm		
769LG SS 1/4 X 1/8 POS.	1/4	6.35	1/8-28 BSPP		0.16	4.0	1/2	12.7	9/16	14.3	0.77	19.6	1.06	26.9	1.04	26.4	0.32	8.1	0.68	17.3	0.60	15.3	8.0	17.3x1.1

TUBE (METRIC) TO ISO PARALLEL THREAD (POSITIONABLE)*

Ordering Information	A		T		D		W		Wa		N		E		E1		L		M		I		O-ring** I.D.	Washer
	Tube O.D.		(ISO)				Wrench Flat		Hex. Flat														DASH No.	mm
	mm	in	mm	in	mm	in	mm	in	mm	in	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm		
769LG SS 6 X 1/8 POS.	6		1/8-28 BSPP		4.0		1/2	12.7	9/16	14.3	19.6		26.9		26.4		8.1		17.3		15.3		8.0	17.3x1.1


769 LG 45°
MALE ELBOW 45°
TUBE (INCH) TO ISO PARALLEL THREAD (POSITIONABLE)*

Description	A		T		D		W		Wa		N		E		E1		L		M		I		O-ring** I.D.	Washer
	Tube O.D.		(ISO)				Wrench Flat		Hex. Flat														DASH No.	mm
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm		
769LAG SS 1/4 X 1/8 POS.	1/4	6.35	1/8-28 BSPP		0.16	4.0	9/16	14.3	9/16	14.3	0.69	17.5	0.98	24.9	0.94	24.0	0.32	8.1	0.68	17.3	0.60	15.3	8.0	17.3x1.1

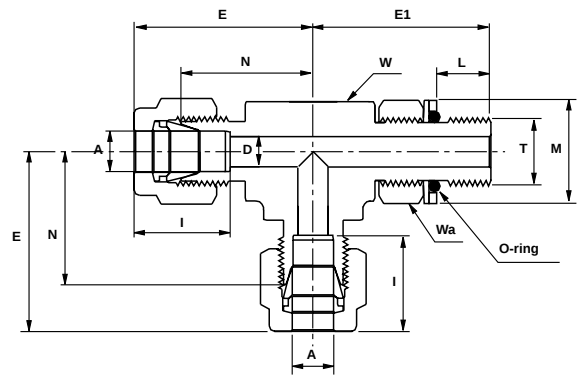
TUBE (METRIC) TO ISO PARALLEL THREAD (POSITIONABLE)*

Ordering Information	A		T		D		W		Wa		N		E		E1		L		M		I		O-ring** I.D.	Washer
	Tube O.D.		(ISO)				Wrench Flat		Hex. Flat														DASH No.	mm
	mm	in	mm	in	mm	in	mm	in	mm	in	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm		
769LAG SS 6 X 1/8 POS.	6		1/8-28 BSPP		4.0		9/16	14.3	9/16	14.3	17.5		24.9		24.0		8.1		17.3		15.3		8.0	17.3x1.1

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

* Per B.S. 2779

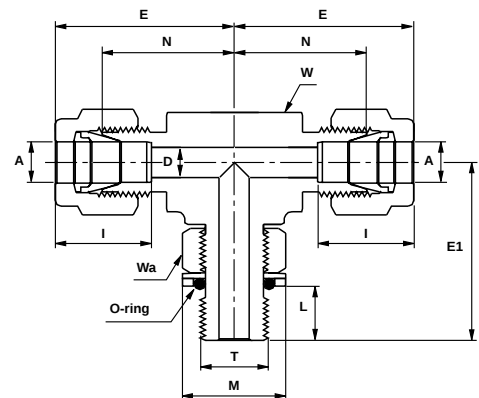
** O-rings used are Viton 90 Durometer. Other O-ring materials are available on request. For more technical information, see page 63.

**POSITIONABLE
ISO PARALLEL THREAD**
**771 LG
MALE RUN TEE**

TUBE (INCH) TO ISO PARALLEL THREAD (POSITIONABLE)*

Ordering Information	A		T		D		W		Wa		N		E		E1		L		M		I		O-ring** I.D.	Washer
	Tube O.D.		(ISO)				Wrench Flat		Hex. Flat														DASH No.	mm
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm		
771LG SS 1/4 X 1/8 POS.	1/4	6.35	1/8-28 BSPP		0.16	4.0	1/2	12.7	9/16	14.3	0.77	19.6	1.06	27	1.04	26.4	0.32	8.1	0.58	17.3	0.50	15.3	8.0	17.3x1.1

TUBE (METRIC) TO ISO PARALLEL THREAD (POSITIONABLE)*

Ordering Information	A		T		D		W		Wa		N		E		E1		L		M		I		O-ring** I.D.	Washer
	Tube O.D.		(ISO)				Wrench Flat		Hex. Flat														DASH No.	mm
	mm	in	in	mm	mm	in	mm	in	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm		
771LG SS 6 X 1/8 POS.	6		1/8-28 BSPP		4.0	1/2	12.7	9/16	14.3		19.5		27.0		26.4		8.1		17.3		15.3		8.0	17.3x1.1

**772 LG
MALE BRANCH TEE**

TUBE (INCH) TO ISO PARALLEL THREAD (POSITIONABLE)*

Ordering Information	A		T		D		W		Wa		N		E		E1		L		M		I		O-ring** I.D.	Washer
	Tube O.D.		(ISO)				Wrench Flat		Hex. Flat														DASH No.	mm
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm		
772LG SS 1/4 X 1/8 POS.	1/4	6.35	1/8-28 BSPP		0.15	4.0	1/2	12.7	9/16	14.3	0.77	19.6	1.06	26.9	1.04	26.4	0.32	8.1	0.68	17.3	0.60	15.3	8.0	17.3x1.1

TUBE (METRIC) TO ISO PARALLEL THREAD (POSITIONABLE)*

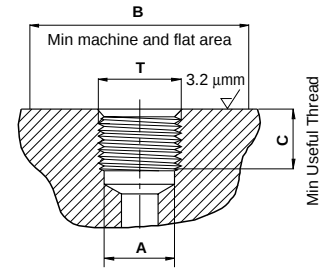
Ordering Information	A		T		D		W		Wa		N		E		E1		L		M		I		O-ring** I.D.	Washer
	Tube O.D.		(ISO)				Wrench Flat		Hex. Flat														DASH No.	mm
	mm	in	in	mm	mm	in	mm	in	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm		
772LG SS 6 X 1/8 POS.	6		1/8-28 BSPP		4.0	1/2	12.7	9/16	14.3		19.6		24.0		26.4		8.1		17.3		15.3		8.0	17.3x1.1

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

* Per B.S. 2779

** O-rings used are Viton 90 Durometer. Other O-ring materials are available on request. For more technical information, see page 63.

ISO PARALLEL THREAD PER B.S. 2779



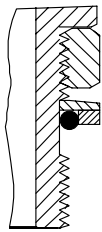
MOUNTING DIMENSIONS CONNECTORS

T Female	A Thread Minor Diameter				B Min Machine and Flat Area		C Min useful Thread	
	max		min		in	mm	in	mm
	in	mm	in	mm				
1/8 - 28	0.35	8.89	0.34	8.64	0.53	13.50	0.28	7.00

INSTALLATION INSTRUCTIONS:

Figure 1

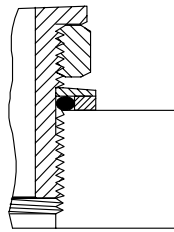
Locking backed off



Lubricate O-ring by inserting it in the groove adjacent to the face of the metal back-up washer which is assembled at the extreme end of the groove as shown in Figure 1.

Figure 2

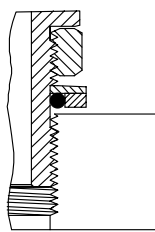
Fitting install hand tight



Install the fitting into the S.A.E. straight thread boss, Figure 2, until the metal back-up washer contacts the face of the boss as shown in Figure 2.

Figure 3

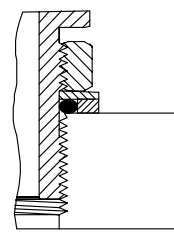
Fittings backed - off for alignment (1 turn maximum)



Position the fitting by turning counter clockwise up to maximum of one turn. see Figure 3.

Figure 4

Fitting locknut tight to appropriate torque



Holding the pad of the fitting with a wrench, tighten the locknut and washer against the face as shown in Figure 4.

ALLOY 400/R-405 CONNECTORS

Monel nickel-copper alloy 400 is a solid-solution alloy that can be hardened only by cold working. It has high strength and toughness over a wide temperature range and excellent resistance to many corrosive environments. Alloy 400 is widely used in many fields, especially marine and chemical processing.

MONEL MATERIAL STD

Barstock	Forging
ASTM B 164	ASTM B 564

7 6 0 L B - Back ferrule*			7 6 0 L F - Front ferrule*			7 6 1 L - Nut			7 6 2 L - Union		
	Ordering Info.	Tube O.D.		Ordering Info.	Tube O.D.		Ordering Info.	Tube O.D.		Ordering Info.	Tube O.D.
	760LB M 1/4	1/4		760LF M 1/4	1/4		761L M 1/4	1/4		762L M 1/4	1/4
	760LB M 3/8	3/8		760LF M 3/8	3/8		761L M 3/8	3/8		762L M 3/8	3/8
	760LB M 1/2	1/2		760LF M 1/2	1/2		761L M 1/2	1/2		762L M 1/2	1/2
7 6 4 L - Union tee			7 6 5 L - Union elbow			7 6 7 L P - Port connector			7 1 0 8 L - Cap		
	Ordering Info.	Tube O.D.		Ordering Info.	Tube O.D.		Ordering Info.	Tube O.D.		Ordering Info.	Tube O.D.
	764L M 1/4	1/4		765L M 1/4	1/4		767LP M 1/4	1/4		7108L M 1/4	1/4
	764L M 3/8	3/8		765L M 3/8	3/8		767LP M 3/8	3/8		7108L M 3/8	3/8
	764L M 1/2	1/2		765L M 1/2	1/2		767LP M 1/2	1/2		7108L M 1/2	1/2

* All LET-LOK ferrules are available as sets.

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

7 7 4 L - Bulkhead union			7 1 2 1 L - Plug			7 6 7 LT - Reducer			
	Ordering Info.	Tube O.D.		Ordering Info.	Tube O.D.		Ordering Info.	Tube O.D.	Male pipe size
	774L M 1/4	1/4		7121L M 1/4	1/4		767LT M 1/4 x 1/4	1/4	1/4
	774L M 3/8	3/8		7121L M 3/8	3/8		767LT M 1/4 x 3/8	1/4	3/8
				7121L M 1/2	1/2		767LT M 1/4 x 1/2	1/4	1/2
							767LT M 3/8 x 1/4	3/8	1/4
							767LT M 3/8 x 3/8	3/8	3/8
							767LT M 3/8 x 1/2	3/8	1/2
							767LT M 1/2 x 1/4	1/2	1/4
							767LT M 1/2 x 3/8	1/2	3/8
							767LT M 1/2 x 1/2	1/2	1/2

7 6 9 L - Male elbow				7 6 6 L - Female connector			
	Ordering Info.	Tube O.D.	Male pipe size		Ordering Info.	Tube O.D.	Female pipe size
	769L M 1/4 x 1/4	1/4	1/4		766L M 1/4 x 1/4	1/4	1/4
	769L M 3/8 x 1/4	3/8	1/4		766L M 3/8 x 1/4	3/8	1/4
	769L M 1/2 x 1/2	1/2	1/2				

7 3 9 LF - Female adapter				7 6 8 L - Male connector			
	Ordering Info.	Tube O.D.	Female pipe size		Ordering Info.	Tube O.D.	Male pipe size
	739LF M 1/4 x 1/8	1/4	1/8		768L M 1/4 x 1/8	1/4	1/8
	739LF M 1/4 x 1/4	1/4	1/4		768L M 1/4 x 1/4	1/4	1/4
	739LF M 1/4 x 1/2	1/4	1/2		768L M 1/4 x 3/8	1/4	3/8
	739LF M 3/8 x 1/4	3/8	1/4		768L M 1/4 x 1/2	1/4	1/2
	739LF M 3/8 x 1/2	3/8	1/2		768L M 3/8 x 1/4	3/8	1/4
	739LF M 1/2 x 1/4	1/2	1/4		768L M 3/8 x 3/8	3/8	3/8
	739LF M 1/2 x 1/2	1/2	1/2		768L M 3/8 x 1/2	3/8	1/2
					768L M 1/2 x 1/4	1/2	1/4
					768L M 1/2 x 3/8	1/2	3/8
					768L M 1/2 x 1/2	1/2	1/2
					768L M 1/2 x 3/4	1/2	3/4

7 3 9 L M - Male adapter			
	Ordering Info.	Tube O.D.	Tube O.D.
	739LM M 1/4 x 1/8	1/4	1/8
	739LM M 1/4 x 1/4	1/4	1/4
	739LM M 1/4 x 1/2	1/4	1/2
	739LM M 3/8 x 1/4	3/8	1/4
	739LM M 3/8 x 1/2	3/8	1/2
	739LM M 1/2 x 1/4	1/2	1/4
	739LM M 1/2 x 1/2	1/2	1/2

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

LET-LOK TUBING DATA FOR ALLOY 400

Alloy 400 tubes should be ordered according to ASTM B-165.
Hydraulic tubing is suitable for flaring and bending.
Tubing should be seamless and annealed.
Hardness: 75 HRB maximum.

Tubing O.D. In	0.028	0.035	0.049	0.065	0.083	0.095	0.109	0.120
1/4	3700	4800	7000	9500				
3/8		3100	4400	6100				
1/2		2300	3200	4400				

Allowable working pressure in psig at -20° to 100°F (-28° to 37°C)

GAS APPLICATION TUBING

Tube O.D.	Min. Nominal wall thickness
1/2	0.035