

WELL-LOK TUBE FITTINGS

AISI 316

Technical specifications

- general information** Well-Lok tube fittings have been carefully designed and manufactured with continuous research and development backing to very stringent tolerances under rigid Quality Control procedures approved to ISO 9001-2000 quality management systems to provide zero leak, Torque free seal in instrumentation and process tubing.
Well-Lok tube fittings ensures maximum safety and reliability due to tests carried out such as high pressure, impulse, vibration, vacuum, temperature, pull out and burst pressure.
- material** Stainless Steel 316
- pressure rating** Well-Lok tube fitting are rated for working pressure higher than the tubing recommended in tubing data table as shown below. However, tubing should not be used above its maximum allowed working pressure.
- tubing selections** Stainless Steel 304 and 316 fully annealed seamless tubing according to standard ASTM A213 or ASTM A269 or equivalent, are suitable for use with Well-Lok tube fittings.
The tubing should be compatible with the process fluid, pressure and temperature.
For good performance of Well-Lok tube fittings, the tubing should be reasonably round, free from nicks, scratches, the surface finish should be good and tube ends are squarely cut and must be free from burrs.
The hardness of tubing as desired is 80Rb; the maximum allowed by ASTM is 90 Rb.

products in conformity with the directive 2002/95/EC **RoHS**

drawings and technical data are not binding

TABLE 1: TUBING DATA TABLES FOR INCH SIZE

TUBING O.D.	ALLOWABLE WORKING PRESSURE (PSI)							
	WALL THICKNESS IN INCH							
	0.028	0.035	0.049	0.065	0.083	0.095	0.109	0.120
1/8"	8600	10900						
3/16"	5500	7000	10300					
1/4"	4000	5100	7500	10300				
5/16"		4100	5900	8100				
3/8"		3300	4800	6600				
1/2"		2600	3700	5100	6700			
5/8"			3000	4000	5200	6100		
3/4"			2400	3300	4300	5000	5800	
7/8"			2100	2800	3600	4200	4900	
1"				2400	3200	3700	4200	4700

TABLE 2: TUBING DATA TABLES FOR METRIC SIZE

TUBING O.D.	ALLOWABLE WORKING PRESSURE (BAR)												
	WALL THICKNESS IN MILLIMETER												
	0.5	0.6	0.7	0.8	1.0	1.2	1.5	1.6	1.8	2.0	2.2	2.5	3.0
3	497	607	718	828	1032								
6			331	386	497	607	774	912					
8			208	280	359	440	558	607					
10				221	280	342	440	473					
12				182	231	280	359	386	440	497			
14					195	237	302	324	369	416	463	535	654
16					169	205	361	280	319	358	398	460	564
18					150	181	230	246	280	314	349	403	496
22					121	147	185	199	225	252	280	322	394
25					108	128	162	173	196	220	244	280	342

Working pressure (PSI) for seamless tubing. Multiply pressure rating by 0.80 for single welded tubing. Multiply pressure rating by 0.85 for double welded tubing.

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

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

For Example: The allowable pressure for type SS316, Size 1/4" OD x 0.035 wall at 600°F (316°C) would be equivalent to 5100 PSI x 0.85 = 4335 PSI

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Gas Service

Extra care must be taken while selecting tubing for gas application. In order to achieve a gas-tight seal, ferrules in instruments fittings must seal any minor surface imperfections. The tick walled tubing helps the ferrules to overcome minor surface imperfections. Tierre Group recommends the following minimum wall thickness of tubing for gas application.

TABLE 4: GAS APPLICATION TUBING

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

Pipe end NPT and ISO pressure ratings

Fitting that has both tube and pipe thread ends can have different pressure ratings. The pipe end pressure ratings chart given below for Ss316 shows the pressure ratings for male and female pipe thread ends. Working pressure is calculated on ANSI code for pressure piping B31.3 basis.

TABLE 5

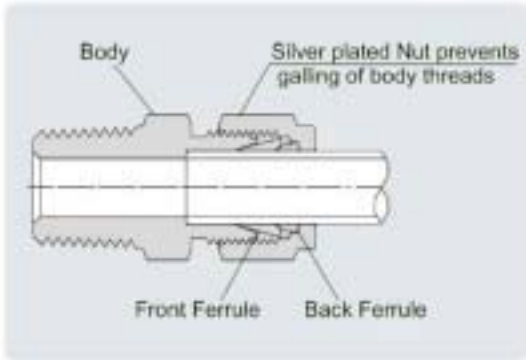
NPT / BSPT THREAD SIZE	WORKING PRESSURE IN PSIG			
	MALE THREAD		FEMALE THREAD	
	Straight Fittings	Shape Fitting	Straight Fittings	Shape Fitting
1/8"	9100	9100	6400	5500
1/4"	7500	7500	6600	5600
3/8"	7200	7200	5300	5000
1/2"	6600	5800	5200	4500
3/4"	6400	6400	4300	3500
1"	4600	4600	4500	3900

WELL-LOK TUBE FITTINGS

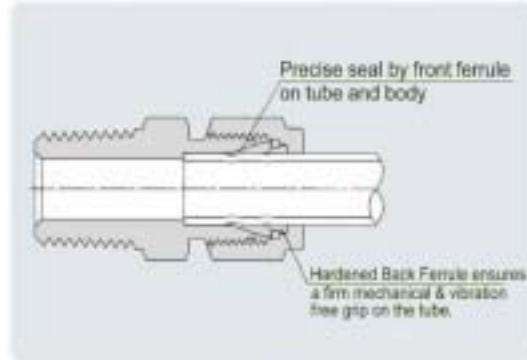
CONSTRUCTION OF WELL-LOK TUBE FITTINGS

Well-Lok Tube Fittings consist of four precision component such as NUT, BACK FERRULE, FRONT FERRULE and BODY.

Fractional Well-Lok Tube Fittings

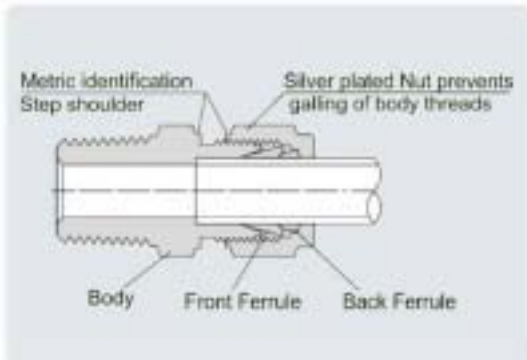


Finger tight Well-Lok Fractional Tube Fittings

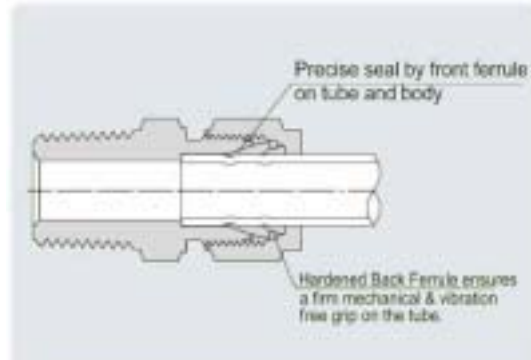


Assembled Well-Lok Fractional tube Fittings after tightening the Nut 1 1/4 turn from the finger tight position

Metric Well-Lok Tube Fittings



Finger tight Well-Lok Metric Tube Fittings



Assembled Well-Lok Metric tube Fittings after tightening the Nut 1 1/4 turn from the finger tight position

Gaugeability

Well-Lok tube fittings are manufactured to very stringent tolerances to meet the Gaugeability to check the gap between Nut and Body Hex, this allows easy inspection for sufficient tightening of the Nut before a system is pressurized, which ensures maximum safety and reliability.

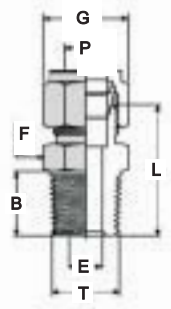
well-lok tube fittings

male connector inch tube male NPT thread

MCN



CODE	P (inch)	T	B (inch)	E (inch)	F (Hex) (inch)	G (Hex) (inch)	L (inch)	
MC-125-125N	1/8	N1/8	0.38	0.09	7/16	7/16	0.94	1
MC-125-250N	1/8	N1/4	0.56	0.09	9/16	7/16	1.14	1
MC-125-375N	1/8	N3/8	0.56	0.09	1 1/16	7/16	1.15	1
MC-125-500N	1/8	N1/2	0.75	0.09	7/8	7/16	1.40	1
MC-187-125N	3/16	N1/8	0.38	0.12	7/16	1/2	0.97	1
MC-187-250N	3/16	N1/4	0.56	0.12	9/16	1/2	1.17	1
MC-250-125N	1/4	N1/8	0.38	0.19	1/2	9/16	1.00	1
MC-250-250N	1/4	N1/4	0.56	0.19	9/16	9/16	1.20	1
MC-250-375N	1/4	N3/8	0.56	0.19	1 1/16	9/16	1.22	1
MC-250-500N	1/4	N1/2	0.75	0.19	7/8	9/16	1.47	1
MC-250-750N	1/4	N3/4	0.75	0.19	1 1/8	9/16	1.53	1
MC-312-125N	5/16	N1/8	0.38	0.19	9/16	5/8	1.05	1
MC-312-250N	5/16	N1/4	0.56	0.25	9/16	5/8	1.23	1
MC-312-375N	5/16	N3/8	0.56	0.25	1 1/16	5/8	1.25	1
MC-312-500N	5/16	N1/2	0.75	0.25	7/8	5/8	1.50	1
MC-375-125N	3/8	N1/8	0.38	0.19	5/8	1 1/16	1.10	1
MC-375-250N	3/8	N1/4	0.56	0.28	5/8	1 1/16	1.28	1
MC-375-375N	3/8	N3/8	0.56	0.28	1 1/16	1 1/16	1.28	1
MC-375-500N	3/8	N1/2	0.75	0.28	7/8	1 1/16	1.53	1
MC-375-750N	3/8	N3/4	0.75	0.28	1 1/8	1 1/16	1.59	1
MC-500-125N	1/2	N1/8	0.38	0.19	1 3/16	7/8	1.13	1
MC-500-250N	1/2	N1/4	0.5	0.28	1 3/16	7/8	1.31	1
MC-500-375N	1/2	N3/8	0.56	0.38	1 3/16	7/8	11.1	1
MC-500-500N	1/2	N1/2	0.75	0.41	7/8	7/8	1.53	1
MC-500-750N	1/2	N3/4	0.75	0.41	1 1/8	7/8	1.59	1
MC-500-1000N	1/2	N1	0.94	0.41	1 3/8	7/8	1.85	1
MC-625-375N	5/8	N3/8	0.56	0.38	1 5/16	1	1.34	1
MC-625-500N	5/8	N1/2	0.75	0.47	1 5/16	1	1.53	1
MC-625-750N	5/8	N3/4	0.75	0.50	1 1/8	1	1.59	1
MC-750-500N	3/4	N1/2	0.75	0.47	1 1/16	1 1/8	1.59	1
MC-750-750N	3/4	N3/4	0.75	0.62	1 1/8	1 1/8	1.59	1
MC-750-1000N	3/4	N1	0.94	0.62	1 3/8	1 1/8	1.85	1
MC-875-750N	7/8	N3/4	0.75	0.62	1 3/16	1 1/4	1.59	1
MC-875-1000N	7/8	N1	0.94	0.72	1 3/8	1 1/4	1.85	1
MC-1000-500N	1	N1/2	0.75	0.47	1 3/8	1 1/2	1.78	1
MC-1000-750N	1	N3/4	0.75	0.62	1 3/8	1 1/2	1.78	1
MC-1000-1000N	1	N1	0.94	0.88	1 3/8	1 1/2	1.97	1



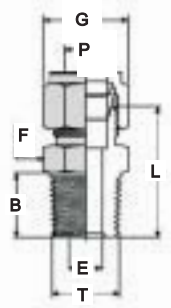
WELL-LOK TUBE FITTINGS

male connector metric tube male NPT thread

MCN



CODE	P (mm)	T	B (mm)	E (mm)	F (Hex) (mm)	G (Hex) (mm)	L (mm)	
MC-3-125N	3	N1/8	9.7	2.4	12.0	12.0	23.9	1
MC-3-250N	3	N1/4	14.3	2.4	14.0	12.0	29.0	1
MC-4-125N	4	N1/8	9.7	2.4	12.0	12.0	24.6	1
MC-4-250N	4	N1/4	14.3	2.4	14.0	12.0	29.7	1
MC-6-125N	6	N1/8	9.7	4.8	14.0	14.0	25.4	1
MC-6-250N	6	N1/4	14.3	4.8	14.0	14.0	30.5	1
MC-6-375N	6	N3/8	14.3	4.8	18.0	14.0	31.0	1
MC-6-500N	6	N1/2	19.0	4.8	22.0	14.0	37.3	1
MC-8-125N	8	N1/8	9.7	4.8	14.0	16.0	26.7	1
MC-8-250N	8	N1/4	14.3	6.4	14.0	16.0	31.2	1
MC-8-375N	8	N3/8	14.3	6.4	18.0	16.0	31.8	1
MC-8-500N	8	N1/2	19.0	6.4	22.0	16.0	38.1	1
MC-10-125N	10	N1/8	9.7	4.8	18.0	19.0	28.7	1
MC-10-250N	10	N1/4	14.3	7.9	18.0	19.0	33.3	1
MC-10-375N	10	N3/8	14.3	7.9	18.0	19.0	33.3	1
MC-10-500N	10	N1/2	19.0	7.9	22.0	19.0	38.9	1
MC-10-750N	10	N3/4	19.0	7.9	28.0	19.0	40.4	1
MC-12-125N	12	N1/8	9.7	4.8	22.0	22.0	28.7	1
MC-12-250N	12	N1/4	14.3	7.1	22.0	22.0	33.3	1
MC-12-375N	12	N3/8	14.3	9.5	22.0	22.0	33.3	1
MC-12-500N	12	N1/2	19.0	9.5	22.0	22.0	38.9	1
MC-12-750N	12	N3/4	19.0	9.5	28.0	22.0	40.4	1
MC-14-250N	14	N1/4	14.3	7.1	24.0	25.0	34.0	1
MC-14-375N	14	N3/8	14.3	9.5	24.0	25.0	34.0	1
MC-14-500N	14	N1/2	19.0	11.1	24.0	25.0	38.9	1
MC-15-500N	15	N1/2	19.0	11.9	24.0	25.0	38.9	1
MC-16-375N	16	N3/8	14.3	9.5	24.0	25.0	34.0	1
MC-16-500N	16	N1/2	19.0	11.9	24.0	25.0	38.9	1
MC-16-750N	16	N3/4	19.0	12.7	28.0	25.0	40.4	1
MC-18-500N	18	N1/2	19.0	11.9	27.0	30.0	40.4	1
MC-18-750N	18	N3/4	19.0	15.1	28.0	30.0	40.4	1
MC-20-500N	20	N1/2	19.0	11.9	30.0	32.0	42.2	1
MC-20-750N	20	N3/4	19.0	15.9	30.0	32.0	42.2	1
MC-22-750N	22	N3/4	19.0	15.9	30.0	32.0	42.2	1
MC-22-1000N	22	N1	23.9	18.3	35.0	32.0	47.0	1
MC-25-500N	25	N1/2	19.0	11.9	35.0	38.0	45.2	1
MC-25-750N	25	N3/4	19.0	15.9	35.0	38.0	45.2	1
MC-25-1000N	25	N1	23.9	21.8	35.0	38.0	50.0	1



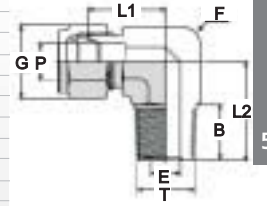
well-lok tube fittings

male elbow inch tube male NPT thread

MEN



CODE	P (inch)	T	B (inch)	E (inch)	F (Hex) (inch)	G (Hex) (inch)	L1 (inch)	L2 (inch)	
ME-125-125N	1/8	N1/8	0.38	0.09	7/16	7/16	0.67	0.70	1
ME-125-250N	1/8	N1/4	0.56	0.09	9/16	7/16	0.71	0.92	1
ME-187-125N	3/16	N1/8	0.38	0.12	1/2	1/2	0.74	0.74	1
ME-187-250N	3/16	N1/4	0.56	0.12	9/16	1/2	0.74	0.92	1
ME-250-125N	1/4	N1/8	0.38	0.19	1/2	9/16	0.77	0.74	1
ME-250-250N	1/4	N1/4	0.56	0.19	9/16	9/16	0.77	0.92	1
ME-250-375N	1/4	N3/8	0.56	0.19	1 1/16	9/16	0.88	1.03	1
ME-250-500N	1/4	N1/2	0.75	0.19	7/8	9/16	0.96	1.30	1
ME-312-125N	5/16	N1/8	0.38	0.19	9/16	5/8	0.84	0.78	1
ME-312-250N	5/16	N1/4	0.56	0.25	9/16	5/8	0.84	0.96	1
ME-312-375N	5/16	N3/8	0.56	0.25	1 1/16	5/8	0.91	1.03	1
ME-375-125N	3/8	N1/8	0.38	0.19	5/8	1 1/16	0.91	0.82	1
ME-375-250N	3/8	N1/4	0.56	0.28	5/8	1 1/16	0.91	1.00	1
ME-375-375N	3/8	N3/8	0.56	0.28	1 1/16	1 1/16	0.94	1.03	1
ME-375-500N	3/8	N1/2	0.75	0.28	7/8	1 1/16	1.02	1.30	1
ME-375-750N	3/8	N3/4	0.75	0.28	1 1/8	1 1/16	1.17	1.45	1
ME-500-250N	1/2	N1/4	0.56	0.28	1 3/16	7/8	1.02	1.11	1
ME-500-375N	1/2	N3/8	0.56	0.38	1 3/16	7/8	1.02	1.11	1
ME-500-500N	1/2	N1/2	0.75	0.41	7/8	7/8	1.02	1.30	1
ME-500-750N	1/2	N3/4	0.75	0.41	1 1/8	7/8	1.17	1.45	1
ME-625-375N	5/8	N3/8	0.56	0.38	1 5/16	1	1.10	1.19	1
ME-625-500N	5/8	N1/2	0.75	0.47	1 5/16	1	1.10	1.38	1
ME-625-750N	5/8	N3/4	0.75	0.50	1 1/8	1	1.17	1.45	1
ME-750-500N	3/4	N1/2	0.75	0.47	1 1/16	1 1/8	1.17	1.45	1
ME-750-750N	3/4	N3/4	0.75	0.62	1 1/8	1 1/8	1.17	1.45	1
ME-875-750N	7/8	N3/4	0.75	0.62	1 3/8	1 1/4	1.36	1.64	1
ME-1000-750N	1	N3/4	0.75	0.62	1 3/8	1 1/2	1.45	1.64	1
ME-1000-1000N	1	N1	0.94	0.88	1 3/8	1 1/2	1.45	1.83	1



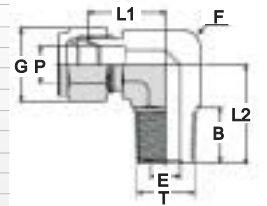
WELL-LOK TUBE FITTINGS

male elbow metric tube male NPT thread

MEN



CODE	P (mm)	T	B (mm)	E (mm)	F (Hex) (inch)	G (Hex) (mm)	L1 (mm)	L2 (mm)	
ME-3-125N	3	N1/8	9.7	2.4	7/16	12.0	17.0	17.8	1
ME-3-250N	3	N1/4	14.3	2.4	9/16	12.0	18.0	23.4	1
ME-4-125N	4	N1/8	9.7	2.4	1/2	12.0	18.8	18.8	1
ME-4-250N	4	N1/4	14.3	2.4	9/16	12.0	18.8	23.4	1
ME-6-125N	6	N1/8	9.7	4.8	1/2	14.0	19.6	18.8	1
ME-6-250N	6	N1/4	14.3	4.8	9/16	14.0	19.6	23.4	1
ME-6-375N	6	N3/8	14.3	4.8	1 1/16	14.0	22.4	26.2	1
ME-6-500N	6	N1/2	19.0	4.8	7/8	14.0	24.4	33.0	1
ME-8-125N	8	N1/8	9.7	4.8	9/16	16.0	21.3	19.8	1
ME-8-250N	8	N1/4	14.3	6.4	9/16	16.0	21.3	24.4	1
ME-8-375N	8	N3/8	14.3	6.4	1 1/16	16.0	23.1	26.2	1
ME-8-500N	8	N1/2	19.0	6.4	7/8	16.0	25.1	33.0	1
ME-10-250N	10	N1/4	14.3	7.5	1 1/16	19.0	23.9	26.2	1
ME-10-375N	10	N3/8	14.3	7.9	1 1/16	19.0	23.9	26.2	1
ME-10-500N	10	N1/2	19.0	7.9	7/8	19.0	25.9	33.0	1
ME-12-250N	12	N1/4	14.3	7.1	1 3/16	22.0	25.9	28.2	1
ME-12-375N	12	N3/8	14.3	9.5	1 3/16	22.0	25.9	28.2	1
ME-12-500N	12	N1/2	19.0	9.5	7/8	22.0	25.9	33.0	1
ME-12-750N	12	N3/4	19.0	9.5	1 1/8	22.0	29.7	36.8	1
ME-15-500N	15	N1/2	19.0	11.9	1 5/16	25.0	27.9	35.1	1
ME-16-375N	16	N3/8	14.3	9.5	1 5/16	25.0	27.9	30.2	1
ME-16-500N	16	N1/2	19.0	11.9	1 5/16	25.0	27.9	35.1	1
ME-16-750N	16	N3/4	19.0	12.7	1 1/8	25.0	29.7	36.8	1
ME-18-500N	18	N1/2	19.0	11.9	1 1/16	30.0	29.7	36.8	1
ME-18-750N	18	N3/4	19.0	15.1	1 1/8	30.0	29.7	36.8	1
ME-20-500N	20	N1/2	19.0	11.9	1 1/4	32.0	34.5	41.7	1
ME-20-750N	20	N3/4	19.0	15.9	1 1/4	32.0	34.5	41.7	1
ME-22-750N	22	N3/4	19.0	15.9	1 1/4	32.0	34.5	41.7	1
ME-22-1000N	22	N1	23.9	18.3	1 3/8	32.0	34.5	46.5	1
ME-25-750N	25	N3/4	19.0	15.9	1 3/8	38.0	36.8	41.7	1
ME-25-1000N	25	N1	23.9	21.8	1 3/8	38.0	36.8	46.5	1

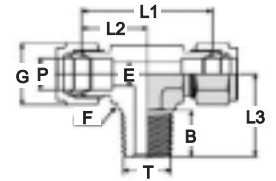


male branch tee inch tube male NPT thread

MBTN



CODE	P (inch)	T	B (inch)	E (inch)	F (Hex) (inch)	G (Hex) (inch)	L1 (inch)	L2 (inch)	L3 (inch)	
MBT-125-125N	1/8	N1/8	0.38	0.09	7/16	7/16	1.34	0.67	0.70	1
MBT-125-250N	1/8	N1/4	0.56	0.09	9/16	7/16	1.42	0.71	0.92	1
MBT-187-125N	3/16	N1/8	0.38	0.12	7/16	1/2	1.40	0.70	0.70	1
MBT-250-125N	1/4	N1/8	0.38	0.19	1/2	9/16	1.54	0.77	0.74	1
MBT-250-250N	1/4	N1/4	0.56	0.19	9/16	9/16	1.54	0.77	0.92	1
MBT-312-125N	5/16	N1/8	0.38	0.19	9/16	5/8	1.76	0.88	0.82	1
MBT-375-250N	3/8	N1/4	0.56	0.28	5/8	1 1/16	1.82	0.91	1.00	1
MBT-375-375N	3/8	N3/8	0.56	0.28	13/16	1 1/16	2.04	1.02	1.11	1
MBT-500-375N	1/2	N3/8	0.56	0.38	1 3/16	7/8	2.04	1.02	1.11	1
MBT-500-500N	1/2	N1/2	0.75	0.41	7/8	7/8	2.04	1.02	1.30	1
MBT-625-500N	5/8	N1/2	0.75	0.47	1	1	2.26	1.13	1.41	1
MBT-750-750N	3/4	N3/4	0.75	0.62	1 1/8	1 1/8	2.34	1.17	1.45	1

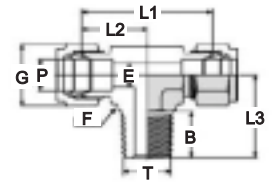


male branch tee metric tube male NPT thread

MBTN



CODE	P (mm)	T	B (mm)	E (mm)	F (Hex) (inch)	G (Hex) (mm)	L1 (mm)	L2 (mm)	L3 (mm)	
MBT-6-125N	6	N1/8	9.7	4.8	1/2	14	39.1	19.6	18.8	1
MBT-6-250N	6	N1/4	14.2	4.8	9/16	14	39.1	19.6	23.4	1
MBT-8-125N	8	N1/8	9.7	4.8	9/16	16	44.7	22.4	20.8	1
MBT-8-250N	8	N1/4	14.2	6.4	9/16	16	44.7	22.4	25.4	1
MBT-10-250N	10	N1/4	14.2	7.1	1 3/16	19	51.8	25.9	28.2	1
MBT-12-250N	12	N1/4	14.2	7.1	1 3/16	22	51.8	25.9	28.2	1
MBT-12-375N	12	N3/8	14.2	9.5	1 3/16	22	51.8	25.9	28.2	1
MBT-12-500N	12	N1/2	19.0	9.5	7/8	22	51.8	25.9	33.0	1
MBT-16-500N	16	N1/2	19.0	11.9	1	25	57.4	28.7	35.8	1

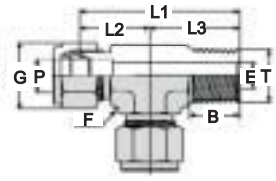


male run tee inch tube male NPT thread

MRTN



CODE	P (inch)	T	B (inch)	E (inch)	F (Hex) (inch)	G (Hex) (inch)	L1 (inch)	L2 (inch)	L3 (inch)	
MRT-125-125N	1/8	N1/8	0.38	0.09	7/16	7/16	1.37	0.67	0.70	1
MRT-125-250N	1/8	N1/4	0.56	0.09	9/16	7/16	1.63	0.71	0.92	1
MRT-187-125N	3/16	N1/8	0.38	0.12	7/16	1/2	1.40	0.70	0.70	1
MRT-250-125N	1/4	N1/8	0.38	0.19	1/2	9/16	1.51	0.77	0.74	1
MRT-250-250N	1/4	N1/4	0.56	0.19	9/16	9/16	1.69	0.77	0.92	1
MRT-312-125N	5/16	N1/8	0.38	0.19	9/16	5/8	1.70	0.88	0.82	1
MRT-375-250N	3/8	N1/4	0.56	0.28	5/8	1 1/16	1.91	0.91	1.00	1
MRT-375-375N	3/8	N3/8	0.56	0.28	1 3/16	1 1/16	2.13	1.02	1.11	1
MRT-500-375N	1/2	N3/8	0.56	0.38	1 3/16	7/8	2.13	1.02	1.11	1
MRT-500-500N	1/2	N1/2	0.75	0.41	7/8	7/8	2.32	1.02	1.30	1
MRT-625-500N	5/8	N1/2	0.75	0.47	1 5/16	1	2.48	1.10	1.38	1
MRT-750-750N	3/4	N3/4	0.75	0.62	1 1/16	1 1/8	2.62	1.17	1.45	1

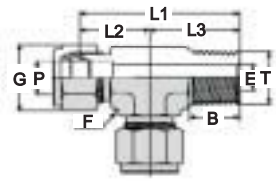


male run tee metric tube male NPT thread

MRTN



CODE	P (mm)	T	B (mm)	E (mm)	F (Hex) (inch)	G (Hex) (mm)	L1 (mm)	L2 (mm)	L3 (mm)	
MRT-6-125N	6	N1/8	9.7	4.8	1/2	14	38.4	19.6	18.0	1
MRT-6-250N	6	N1/4	14.2	4.8	9/16	14	42.9	19.6	23.4	1
MRT-8-250N	8	N1/4	14.2	6.4	9/16	16	47.8	22.4	25.4	1
MRT-12-250N	12	N1/4	14.2	7.1	1 3/16	22	54.1	25.9	28.2	1
MRT-12-375N	12	N3/8	14.2	9.5	1 3/16	22	54.1	25.9	28.2	1
MRT-12-500N	12	N1/2	19.0	9.5	7/8	22	58.9	25.9	33.0	1
MRT-16-500N	16	N1/2	19.0	11.9	1 5/16	25	63.0	27.9	35.0	1

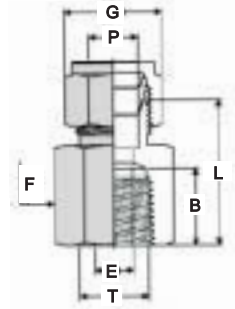


female connector inch tube female NPT thread

FCN



CODE	P (inch)	T	B (inch)	E (inch)	F (Hex) (inch)	G (Hex) (inch)	L1 (inch)	
FC-125-125N	1/8	N1/8	0.41	0.09	9/16	7/16	0.87	1
FC-125-250N	1/8	N1/4	0.59	0.09	3/4	7/16	1.06	1
FC-187-125N	3/16	N1/8	0.39	0.12	9/16	1/2	0.91	1
FC-250-125N	1/4	N1/8	0.39	0.19	9/16	9/16	0.94	1
FC-250-250N	1/4	N1/4	0.59	0.19	3/4	9/16	1.12	1
FC-250-375N	1/4	N3/8	0.59	0.19	7/8	9/16	1.19	1
FC-250-500N	1/4	N1/2	0.78	0.19	1 1/16	9/16	1.38	1
FC-312-125N	5/16	N1/8	0.41	0.25	9/16	5/8	0.97	1
FC-312-250N	5/16	N1/4	0.59	0.25	3/4	5/8	1.16	1
FC-312-375N	5/16	N3/8	0.59	0.25	7/8	5/8	1.22	1
FC-375-125N	3/8	N1/8	0.41	0.28	5/8	1 1/16	1.00	1
FC-375-250N	3/8	N1/4	0.59	0.28	3/4	1 1/16	1.19	1
FC-375-375N	3/8	N3/8	0.59	0.28	7/8	1 1/16	1.25	1
FC-375-500N	3/8	N1/2	0.78	0.28	1 1/16	1 1/16	1.44	1
FC-375-750N	3/8	N3/4	0.81	0.28	1 5/16	1 1/16	1.59	1
FC-500-250N	1/2	N1/4	0.59	0.41	1 3/16	7/8	1.19	1
FC-500-375N	1/2	N3/8	0.59	0.41	7/8	7/8	1.25	1
FC-500-500N	1/2	N1/2	0.78	0.41	1 1/16	7/8	1.44	1
FC-500-750N	1/2	N3/4	0.81	0.41	1 5/16	7/8	1.50	1
FC-625-375N	5/8	N3/8	0.59	0.50	1 5/16	1	1.25	1
FC-625-500N	5/8	N1/2	0.78	0.50	1 1/16	1	1.44	1
FC-625-750N	5/8	N3/4	0.81	0.50	1 5/16	1	1.50	1
FC-750-500N	3/4	N1/2	0.78	0.62	1 1/16	1 1/8	1.44	1
FC-750-750N	3/4	N3/4	0.81	0.62	1 5/16	1 1/8	1.50	1
FC-875-750N	7/8	N3/4	0.81	0.72	1 5/16	1 1/4	1.56	1
FC-1000-750N	1	N3/4	0.81	0.88	1 3/8	1 1/2	1.62	1
FC-1000-1000N	1	N1	1.00	0.88	1 5/8	1 1/2	1.97	1

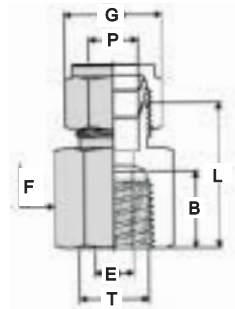


female connector metric tube female NPT thread

FCN



CODE	P (mm)	T	B (mm)	E (mm)	F (Hex) (mm)	G (Hex) (mm)	L1 (mm)	
FC-3-125N	3	N1/8	10.4	2.4	14	12	22.1	1
FC-3-250N	3	N1/4	15.0	2.4	19	12	26.9	1
FC-4-125N	4	N1/8	10.4	2.4	14	12	23.1	1
FC-6-125N	6	N1/8	10.4	4.8	14	14	23.9	1
FC-6-250N	6	N1/4	15.0	4.8	19	14	28.4	1
FC-6-375N	6	N3/8	15.0	4.8	22	14	30.2	1
FC-6-500N	6	N1/2	19.8	4.8	27	14	35.1	1
FC-8-125N	8	N1/8	10.4	6.4	15	16	24.6	1
FC-8-250N	8	N1/4	15.0	6.4	19	16	29.5	1
FC-8-375N	8	N3/8	15.0	6.4	22	16	31.0	1
FC-8-500N	8	N1/2	19.8	6.4	27	16	35.8	1
FC-10-250N	10	N1/4	15.0	7.9	19	19	30.2	1
FC-10-375N	10	N3/8	15.0	7.9	22	19	31.8	1
FC-10-500N	10	N1/2	19.8	7.9	27	19	36.6	1
FC-12-250N	12	N1/4	15.0	9.5	22	22	30.2	1
FC-12-375N	12	N3/8	15.0	9.5	22	22	31.8	1
FC-12-500N	12	N1/2	19.8	9.5	27	22	36.6	1
FC-15-500N	15	N1/2	19.8	11.9	27	25	36.6	1
FC-16-500N	16	N1/2	19.8	12.7	27	25	36.8	1
FC-20-500N	20	N1/2	19.8	15.9	30	32	37.8	1
FC-20-750N	20	N3/4	20.6	15.9	35	32	39.6	1
FC-22-750N	22	N3/4	20.6	18.3	35	32	39.6	1
FC-22-1000N	22	N1	25.4	18.3	41	32	47.8	1
FC-25-750N	25	N3/4	20.6	21.8	35	38	41.1	1
FC-25-1000N	25	N1	25.4	21.8	41	38	50.0	1

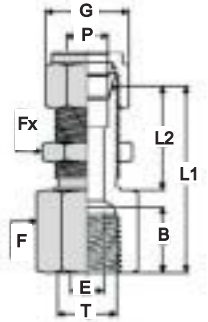


bulkhead female connector inch tube female NPT thread

BFCN



CODE	P (inch)	T	B (inch)	E (inch)	F (Hex) (inch)	Fx(Hex) (inch)	G (Hex) (inch)	L1 (inch)	L2 (inch)	PANEL HOLE size (inch)	max PANEL THICKNESS (inch)	
BFC-125-125N	1/8	N1/8	0.41	0.09	9/16	9/16	7/16	1.50	0.97	21/64	0.50	1
BFC-187-125N	3/16	N1/8	0.41	0.12	9/16	9/16	1/2	1.53	1.00	25/64	0.50	1
BFC-250-125N	1/4	N1/8	0.41	0.19	5/8	5/8	9/16	1.56	1.02	29/64	0.40	1
BFC-250-250N	1/4	N1/4	0.59	0.19	3/4	3/4	9/16	1.75	1.02	29/64	0.40	1
BFC-312-125N	5/16	N1/8	0.41	0.25	11/16	11/16	5/8	1.66	1.12	33/64	0.44	1
BFC-375-250N	3/8	N1/4	0.5	0.28	3/4	3/4	11/16	1.88	1.15	37/64	0.44	1
BFC-500-375N	1/2	N3/8	0.59	0.41	15/16	1 5/16	7/8	2.03	1.25	49/64	0.50	1
BFC-500-500N	1/2	N1/2	0.78	0.41	11/16	1 5/16	7/8	2.22	1.25	49/64	0.50	1
BFC-625-500N	5/8	N1/2	0.78	0.50	11/16	11/16	1	2.25	1.28	57/64	0.50	1
BFC-750-750N	3/4	N3/4	0.81	0.62	13/8	13/16	11/8	2.50	1.47	11/64	0.66	1
BFC-875-750N	7/8	N3/4	0.81	0.72	13/8	13/8	11/4	2.78	1.69	19/64	0.66	1
BFC-1000-1000N	1	N1	1	0.88	1 5/8	15/8	11/2	3.19	1.78	121/64	0.75	1

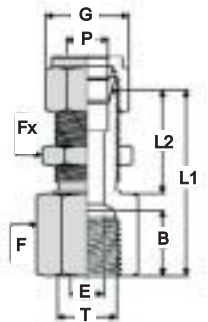


bulkhead female connector metric tube female NPT thread

BFCN



CODE	P (mm)	T	B (mm)	E (mm)	F (Hex) (mm)	Fx(Hex) (mm)	G (Hex) (mm)	L1 (mm)	L2 (mm)	PANEL HOLE size (mm)	max PANEL THICKNESS (mm)	
BFC-6-125N	6	N1/8	10.4	4.8	16.0	16.0	14	39.7	26.2	11.5	10.2	1
BFC-6-250N	6	N1/4	15.0	4.8	19.0	16.0	14	44.5	26.2	11.5	10.2	1
BFC-8-125N	8	N1/8	10.4	6.4	18.0	18.0	16	42.1	28.5	13.1	11.2	1
BFC-10-250N	10	N1/4	15.0	7.1	19.0	19.0	19	47.6	29.4	16.3	11.2	1
BFC-12-375N	12	N3/8	15.0	10.4	25.0	24.0	22	50.8	31.8	19.5	12.7	1
BFC-12-500N	12	N1/2	19.8	10.4	27.0	24.0	22	56.3	31.8	19.5	12.7	1

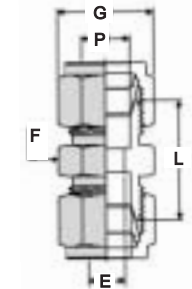


union inch tubes

U



CODE	P (inch)	E (inch)	F (Hex) (inch)	G (Hex) (inch)	L (inch)	
U-125	1/8	0.09	7/16	7/16	0.88	1
U-187	3/16	0.12	7/16	1/2	0.95	1
U-250	1/4	0.19	1/2	9/16	1.03	1
U-312	5/16	0.25	9/16	5/8	1.11	1
U-375	3/8	0.28	5/8	11/16	1.19	1
U-500	1/2	0.41	13/16	7/8	1.22	1
U-625	5/8	0.50	15/16	1	1.25	1
U-750	3/4	0.62	11/16	11/8	1.31	1
U-875	7/8	0.72	13/16	11/4	1.37	1
U-1000	1	0.88	13/8	11/2	1.59	1

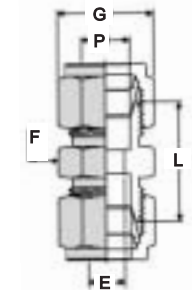


union metric tubes


U

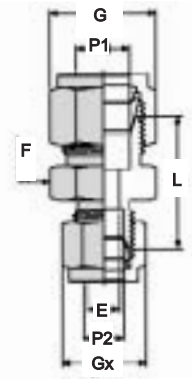


CODE	P (mm)	E (mm)	F (Hex) (mm)	G (Hex) (mm)	L (mm)	
U-3	3	2.4	11	11	22.1	1
U-4	4	2.4	12	12	24.1	1
U-6	6	4.8	14	14	26.2	1
U-8	8	6.4	16	16	28.2	1
U-10	10	7.9	18	19	31.0	1
U-12	12	9.5	22	22	31.0	1
U-14	14	11.1	24	25	31.8	1
U-15	15	11.9	24	25	31.8	1
U-16	16	12.7	24	25	31.8	1
U-18	18	15.1	27	30	33.3	1
U-20	20	15.9	30	32	34.8	1
U-22	22	18.3	30	32	34.8	1
U-25	25	21.8	35	38	40.4	1




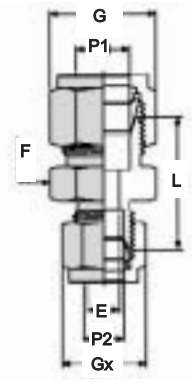
reducing union inch tubes

RU	CODE	P1 (inch)	P2 (inch)	E (inch)	F (Hex) (inch)	G (Hex) (inch)	Gx (Hex) (inch)	L (inch)	
	RU-187-125	3/16	1/8	0.09	7/16	1/2	7/16	0.92	1
	RU-250-125	1/4	1/8	0.09	1/2	9/16	7/16	0.97	1
	RU-250-187	1/4	3/16	0.12	1/2	9/16	1/2	1.00	1
	RU-312-125	5/16	1/8	0.09	9/16	5/8	7/16	1.01	1
	RU-312-250	5/16	1/4	0.19	9/16	5/8	9/16	1.08	1
	RU-375-125	3/8	1/8	0.09	5/8	1 1/16	7/16	1.06	1
	RU-375-250	3/8	1/4	0.19	5/8	1 1/16	9/16	1.12	1
	RU-375-312	3/8	5/16	0.25	5/8	1 1/16	5/8	1.16	1
	RU-500-125	1/2	1/8	0.09	1 3/16	7/8	7/16	1.12	1
	RU-500-250	1/2	1/4	0.19	1 3/16	7/8	9/16	1.16	1
	RU-500-375	1/2	3/8	0.28	1 3/16	7/8	1 1/16	1.22	1
	RU-625-375	5/8	3/8	0.28	1 5/16	1	1 1/16	1.25	1
	RU-625-500	5/8	1/2	0.41	1 5/16	1	7/8	1.25	1
	RU-750-250	3/4	1/4	0.19	1 1/16	1 1/8	9/16	1.25	1
	RU-750-375	3/4	3/8	0.28	1 1/16	1 1/8	1 1/16	1.31	1
	RU-750-500	3/4	1/2	0.41	1 1/16	1 1/8	7/8	1.31	1
	RU-750-625	3/4	5/8	0.50	1 1/16	1 1/8	1	1.31	1
	RU-1000-500	1	1/2	0.41	1 3/8	1 1/2	7/8	1.50	1
	RU-1000-750	1	3/4	0.62	1 3/8	1 1/2	1 1/8	1.50	1




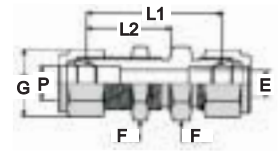
reducing union metric tubes

RU	CODE	P1 (mm)	P2 (mm)	E (mm)	F (Hex) (mm)	G (Hex) (mm)	Gx (Hex) (mm)	L (mm)	
	RU-6-3	6	3	2.4	14.0	14.0	11.0	24.6	1
	RU-6-4	6	4	2.4	14.0	14.0	12.0	25.4	1
	RU-8-6	8	6	4.8	16.0	16.0	14.0	27.4	1
	RU-10-6	10	6	4.8	18.0	19.0	14.0	29.5	1
	RU-10-8	10	8	6.4	18.0	19.0	16.0	30.0	1
	RU-12-6	12	6	4.8	22.0	22.0	14.0	29.5	1
	RU-12-8	12	8	6.4	22.0	22.0	16.0	30.2	1
	RU-12-10	12	10	7.9	22.0	22.0	19.0	31.0	1
	RU-16-10	16	10	7.9	24.0	25.0	19.0	31.8	1
	RU-16-12	16	12	9.5	24.0	25.0	22.0	31.8	1
	RU-18-12	18	12	9.5	27.0	30.0	22.0	33.3	1
	RU-25-18	25	18	15.1	35.0	38.0	30.0	38.6	1
	RU-25-20	25	20	15.9	35.0	38.0	32.0	39.9	1




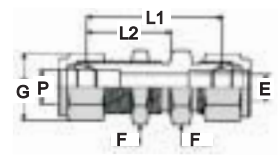
bulkhead union inch tubes

BU	CODE	P (inch)	E (inch)	F (Hex) (inch)	G (Hex) (inch)	L1 (inch)	L2 (inch)	PANEL HOLE size (inch)	max PANEL THICKNESS (inch)	
	BU-125	1/8	0.09	1/2	7/16	1.50	0.97	21/64	0.50	1
	BU-187	3/16	0.12	9/16	1/2	1.59	1.00	25/64	0.50	1
	BU-250	1/4	0.19	5/8	9/16	1.69	1.03	29/64	0.40	1
	BU-312	5/16	0.25	1 1/16	5/8	1.81	1.12	33/64	0.44	1
	BU-375	3/8	0.28	3/4	1 1/16	1.87	1.16	37/64	0.44	1
	BU-500	1/2	0.41	1 5/16	7/8	2.00	1.25	49/64	0.50	1
	BU-625	5/8	0.50	1 1/16	1	2.06	1.28	57/64	0.50	1
	BU-750	3/4	0.63	1 3/16	1 1/8	2.31	1.47	11/64	0.66	1
	BU-1000	1	0.88	1 5/8	1 1/2	2.81	1.78	121/64	0.75	1



bulkhead union metric tubes

BU	CODE	P (mm)	E (mm)	F (Hex) (mm)	G (Hex) (mm)	L1 (mm)	L2 (mm)	PANEL HOLE size (mm)	max PANEL THICKNESS (mm)	
	BU-3	3	2.4	14	11	38.1	24.6	8.3	12.7	1
	BU-4	4	2.4	14	12	40.4	25.4	9.9	12.7	1
	BU-6	6	4.8	16	14	42.9	26.2	11.5	10.2	1
	BU-8	8	6.4	18	16	46.0	28.6	13.1	11.2	1
	BU-10	10	7.9	22	19	48.5	29.4	16.3	11.2	1
	BU-12	12	9.5	24	22	50.8	31.8	19.5	12.7	1
	BU-14	14	11.1	27	25	52.3	32.5	22.5	12.7	1
	BU-15	15	11.9	27	25	52.3	32.5	22.8	12.7	1
	BU-16	16	12.7	27	25	52.3	32.5	22.8	12.7	1
	BU-18	18	15.1	30	30	58.7	37.3	26.0	16.8	1
	BU-20	20	15.9	35	32	64.3	42.9	29.0	19.0	1
	BU-25	25	21.8	40	38	71.4	42.2	33.8	24.0	1

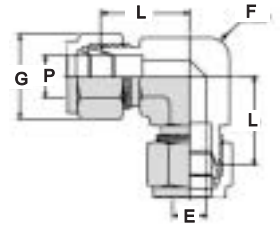


union elbow inch tubes

UE



CODE	P (inch)	E (inch)	F (Hex) (inch)	G (Hex) (inch)	L (inch)	
UE-125	1/8	0.09	7/16	7/16	0.62	1
UE-187	3/16	0.12	7/16	1/2	0.74	1
UE-250	1/4	0.19	1/2	9/16	0.77	1
UE-312	5/16	0.25	9/16	5/8	0.84	1
UE-375	3/8	0.28	5/8	11/16	0.91	1
UE-500	1/2	0.41	13/16	7/8	1.02	1
UE-625	5/8	0.50	1 5/16	1	1.10	1
UE-750	3/4	0.62	1 1/16	1 1/8	1.17	1
UE-875	7/8	0.72	1 3/8	1 1/4	1.36	1
UE-1000	1	0.88	1 3/8	1 1/2	1.45	1

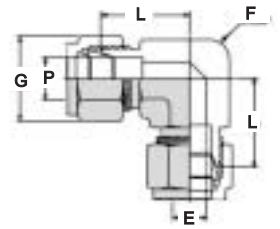


union elbow metric tubes

UE



CODE	P (mm)	E (mm)	F (Hex) (inch)	G (Hex) (mm)	L (mm)	
UE-3	3	2.4	7/16	12	15.7	1
UE-4	4	2.4	7/16	12	18.8	1
UE-6	6	4.8	1/2	14	19.6	1
UE-8	8	6.4	9/16	16	21.3	1
UE-10	10	7.9	1 1/16	19	23.9	1
UE-12	12	9.5	1 3/16	22	25.9	1
UE-14	14	11.1	1 5/16	25	27.9	1
UE-15	15	11.9	1 5/16	25	27.9	1
UE-16	16	12.7	1 5/16	25	27.9	1
UE-18	18	15.1	1 1/16	30	29.7	1
UE-20	20	15.9	1 3/8	32	34.5	1
UE-22	22	18.3	1 3/8	32	34.5	1
UE-25	25	21.8	1 3/8	38	36.8	1

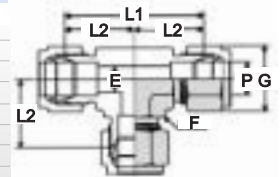


union tee inch tubes

UT



CODE	P (inch)	E (inch)	F (Hex) (inch)	G (Hex) (inch)	L1 (inch)	L2 (inch)	
UT-125	1/8	0.09	3/8	7/16	1.24	0.62	1
UT-187	3/16	0.12	7/16	1/2	1.40	0.70	1
UT-250	1/4	0.19	1/2	9/16	1.54	0.77	1
UT-312	5/16	0.25	5/8	5/8	1.76	0.88	1
UT-375	3/8	0.28	5/8	1 1/16	1.82	0.91	1
UT-500	1/2	0.41	1 3/16	7/8	2.04	1.02	1
UT-625	5/8	0.50	1	1	2.26	1.13	1
UT-750	3/4	0.62	1 1/16	1 1/8	2.34	1.17	1
UT-875	7/8	0.72	1 3/8	1 1/4	2.72	1.36	1
UT-1000	1	0.88	1 3/8	1 1/2	2.90	1.45	1

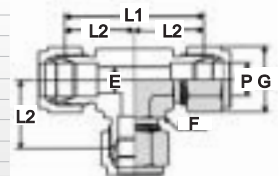


union tee metric tubes

UT



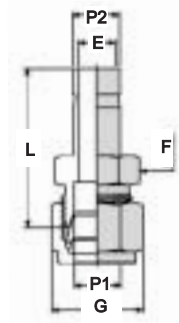
CODE	P (mm)	E (mm)	F (Hex) (inch)	G (Hex) (mm)	L1 (mm)	L2 (mm)	
UT-3	3	2.4	3/8	11	31.5	15.7	1
UT-4	4	2.4	1/2	12	37.6	18.8	1
UT-6	6	4.8	1/2	14	39.1	19.6	1
UT-8	8	6.4	5/8	16	44.7	22.4	1
UT-10	10	7.9	1 1/16	19	47.8	23.9	1
UT-12	12	9.5	1 3/16	22	51.8	25.9	1
UT-14	14	11.1	1	25	57.4	28.7	1
UT-15	15	11.9	1	25	57.4	28.7	1
UT-16	16	12.7	1	25	57.4	28.7	1
UT-18	18	15.1	1 1/16	30	59.4	29.7	1
UT-20	20	15.9	1 3/8	32	69.1	34.5	1
UT-22	22	18.3	1 3/8	32	69.1	34.5	1
UT-25	25	21.8	1 3/8	38	73.1	36.8	1



reducer inch tube inch ports connection

R

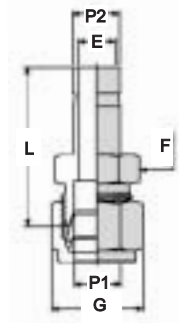
CODE	P1 (inch)	P2 (inch)	E (inch)	F (Hex) (inch)	G (Hex) (inch)	L (inch)	
R-125-125	1/8	1/8	0.08	7/16	7/16	1.06	1
R-125-187	1/8	3/16	0.09	7/16	7/16	1.09	1
R-125-250	1/8	1/4	0.09	7/16	7/16	1.16	1
R-125-375	1/8	3/8	0.09	7/16	7/16	1.22	1
R-125-500	1/8	1/2	0.09	9/16	7/16	1.48	1
R-187-125	3/16	1/8	0.08	7/16	1/2	1.11	1
R-187-250	3/16	1/4	0.12	7/16	1/2	1.20	1
R-250-125	1/4	1/8	0.08	1/2	9/16	1.16	1
R-250-187	1/4	3/16	0.12	1/2	9/16	1.19	1
R-250-250	1/4	1/4	0.19	1/2	9/16	1.25	1
R-250-312	1/4	5/16	0.19	1/2	9/16	1.28	1
R-250-375	1/4	3/8	0.19	1/2	9/16	1.31	1
R-250-500	1/4	1/2	0.19	9/16	9/16	1.53	1
R-250-625	1/4	5/8	0.19	1 1/16	9/16	1.60	1
R-250-750	1/4	3/4	0.19	1 3/16	9/16	1.59	1
R-312-375	5/16	3/8	0.25	9/16	5/8	1.36	1
R-312-500	5/16	1/2	0.25	9/16	5/8	1.58	1
R-375-250	3/8	1/4	0.19	5/8	1 1/16	1.34	1
R-375-375	3/8	3/8	0.28	5/8	1 1/16	1.41	1
R-375-500	3/8	1/2	0.28	5/8	1 1/16	1.62	1
R-375-625	3/8	5/8	0.28	1 1/16	1 1/16	1.69	1
R-375-750	3/8	3/4	0.28	1 3/16	1 1/16	1.69	1
R-500-250	1/2	1/4	0.19	1 3/16	7/8	1.37	1
R-500-375	1/2	3/8	0.28	1 3/16	7/8	1.44	1
R-500-500	1/2	1/2	0.39	1 3/16	7/8	1.66	1
R-500-625	1/2	5/8	0.41	1 3/16	7/8	1.72	1
R-500-750	1/2	3/4	0.41	1 3/16	7/8	1.72	1
R-500-1000	1/2	1	0.41	1 1/16	7/8	1.97	1
R-625-750	5/8	3/4	0.50	1 5/16	1	1.75	1
R-625-875	5/8	7/8	0.50	1 5/16	1	1.81	1
R-625-1000	5/8	1	0.50	1 1/16	1	2.00	1
R-750-500	3/4	1/2	0.39	1 1/16	1 1/8	1.75	1
R-750-1000	3/4	1	0.62	1 1/16	1 1/8	2.06	1



reducer metric tube metric ports connection

R

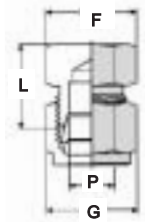
CODE	P1 (mm)	P2 (mm)	E (mm)	F (Hex) (mm)	G (Hex) (mm)	L (mm)	
R-3-4	3	4	2.4	12	12	28.4	1
R-3-6	3	6	2.4	12	12	29.5	1
R-3-10	3	10	2.4	14	12	31.8	1
R-4-6	4	6	2.4	12	12	30.5	1
R-6-3	6	3	1.8	14	14	39.5	1
R-6-8	6	8	4.8	14	14	32.5	1
R-6-10	6	10	4.8	14	14	33.3	1
R-6-12	6	12	4.8	14	14	38.9	1
R-6-18	6	18	4.8	22	14	42.2	1
R-8-6	8	6	4.6	16	16	32.8	1
R-8-10	8	10	6.4	16	16	34.5	1
R-8-12	8	12	6.4	16	16	40.1	1
R-10-6	10	6	4.6	18	19	34.8	1
R-10-8	10	8	6.4	18	19	35.8	1
R-10-12	10	12	7.9	18	19	42.2	1
R-10-15	10	15	7.9	18	19	43.7	1
R-10-18	10	18	7.9	22	19	43.7	1
R-12-6	12	6	4.6	22	22	34.8	1
R-12-8	12	8	6.4	22	22	35.8	1
R-12-10	12	10	7.7	22	22	36.6	1
R-12-16	12	16	9.5	22	22	43.7	1
R-12-18	12	18	9.5	22	22	43.7	1
R-12-20	12	20	9.5	22	22	46.0	1
R-12-22	12	22	9.5	24	22	46.0	1
R-12-25	12	25	9.5	27	22	52.3	1
R-16-12	16	12	9.1	24	25	42.9	1
R-18-12	18	12	9.1	27	30	44.5	1
R-18-16	18	16	12.7	27	30	46.0	1
R-18-20	18	20	15.1	27	30	47.5	1
R-18-22	18	22	15.1	27	30	47.5	1
R-18-25	18	25	15.1	27	30	52.3	1
R-20-16	20	16	12.7	30	32	47.8	1
R-20-18	20	18	13.9	30	32	47.8	1
R-20-22	20	22	15.8	30	32	49.3	1
R-20-25	20	25	15.8	30	32	54.1	1
R-22-18	22	18	13.9	30	32	47.8	1
R-22-20	22	20	15.1	30	32	49.3	1
R-22-25	22	25	18.3	30	32	54.1	1
R-25-18	25	18	13.9	35	38	50.8	1
R-25-20	25	20	15.1	35	38	52.3	1



cap end inch tube

C

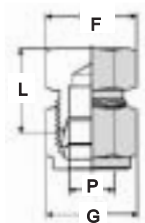
CODE	P (inch)	F (Hex) (inch)	G (Hex) (inch)	L (inch)	
C-125	1/8	7/16	7/16	0.53	1
C-187	3/16	7/16	1/2	0.58	1
C-250	1/4	1/2	9/16	0.63	1
C-312	5/16	9/16	5/8	0.67	1
C-375	3/8	5/8	11/16	0.72	1
C-500	1/2	13/16	7/8	0.75	1
C-625	5/8	1 5/16	1	0.78	1
C-750	3/4	11/16	1 1/8	0.84	1
C-875	7/8	13/8	1 1/4	0.94	1
C-1000	1	13/8	1 1/2	1.03	1



cap end metric tube

C

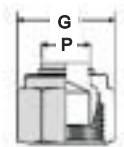
CODE	P (mm)	F (Hex) (mm)	G (Hex) (mm)	L (mm)	
C-3	3	11	11	13.5	1
C-4	4	12	12	14.7	1
C-6	6	14	14	15.7	1
C-8	8	16	16	17.0	1
C-10	10	18	17	19.0	1
C-12	12	22	22	19.0	1
C-14	14	24	25	19.8	1
C-15	15	24	25	19.8	1
C-16	16	24	25	19.8	1
C-18	18	27	30	21.3	1
C-20	20	30	32	23.9	1
C-22	22	30	32	23.9	1
C-25	25	35	38	26.2	1



plug inch tube

P

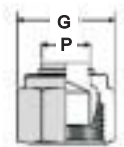
CODE	P (inch)	G (Hex) (inch)	
P-125	1/8	7/16	1
P-187	3/16	1/2	1
P-250	1/4	9/16	1
P-312	5/16	5/8	1
P-375	3/8	11/16	1
P-500	1/2	7/8	1
P-625	5/8	1	1
P-750	3/4	1 1/8	1
P-875	7/8	1 1/4	1
P-1000	1	1 1/2	1



plug metric tube

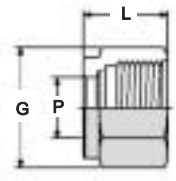
P

CODE	P (mm)	G (Hex) (mm)	
P-3	3	11	1
P-4	4	12	1
P-6	6	14	1
P-8	8	16	1
P-10	10	19	1
P-12	12	22	1
P-14	14	25	1
P-15	15	25	1
P-16	16	25	1
P-18	18	30	1
P-20	20	32	1
P-22	22	32	1
P-25	25	38	1



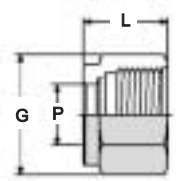
nut inch tube

N	CODE	P (inch)		G (Hex) (inch)		L (inch)	
	N-125		1/8		7/16		0.47
	N-187		3/16		1/2		0.47
	N-250		1/4		9/16		0.50
	N-312		5/16		5/8		0.53
	N-375		3/8		11/16		0.56
	N-500		1/2		7/8		0.69
	N-625		5/8		1		0.69
	N-750		3/4		1 1/8		0.69
	N-875		7/8		1 1/4		0.69
	N-1000		1		1 1/2		0.81



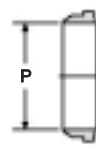
nut metric tube

N	CODE	P (mm)		G (Hex) (mm)		L (mm)	
	N-3		3		11		11.9
	N-4		4		12		11.9
	N-6		6		14		12.7
	N-8		8		16		13.5
	N-10		10		19		15.1
	N-12		12		22		17.4
	N-14		14		25		17.4
	N-15		15		25		17.4
	N-16		16		25		17.4
	N-18		18		30		17.4
	N-20		20		32		17.4
	N-22		22		32		17.4
	N-25		25		38		20.6



back ferrule inch tube

BF	CODE	P (inch)	
	BF-125		1/8
	BF-187		3/16
	BF-250		1/4
	BF-312		5/16
	BF-375		3/8
	BF-500		1/2
	BF-625		5/8
	BF-750		3/4
	BF-875		7/8
	BF-1000		1

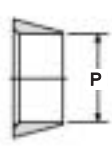


back ferrule metric tube

BF	CODE	P (mm)	
	BF-3		3
	BF-4		4
	BF-6		6
	BF-8		8
	BF-10		10
	BF-12		12
	BF-14		14
	BF-15		15
	BF-16		16
	BF-18		18
	BF-20		20
	BF-22		22
	BF-25		25

front ferrule inch tube

FF	CODE	P (inch)	
	FF-125		1/8
	FF-187		3/16
	FF-250		1/4
	FF-312		5/16
	FF-375		3/8
	FF-500		1/2
	FF-625		5/8
	FF-750		3/4
	FF-875		7/8
	FF-1000		1



front ferrule metric tube

FF	CODE	P (mm)	
	FF-3		3
	FF-4		4
	FF-6		6
	FF-8		8
	FF-10		10
	FF-12		12
	FF-14		14
	FF-15		15
	FF-16		16
	FF-18		18
	FF-20		20
	FF-22		22
	FF-25		25

