



PRODUCT SELECTION GUIDE >>

SHENZHEN WOFLY TECHNOLOGY CO.,LTD

Professional R & D and production of valve pipe fittings
manufacturers

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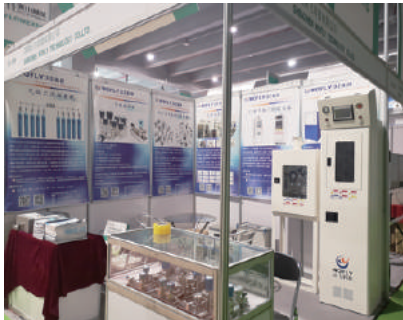
WOFLY Company Profile

Shenzhen Wofly Technology Co., Ltd. was established in 2011 with a registered capital of 21.8 million. It is a professional High-tech enterprise which has been engaging in gas application system such as electronic special gas system, laboratory gas system, industrial centralized gas supply system, bulk gas (liquid) system, High-purity gas and special process gas secondary piping system, chemical delivery system, pure water system. Wofly provides a full set of projects from technical consultation, overall planning, system design, selected equipment, prefabricated components, project site installation and construction, overall system inspection etc, integrating technical services, supporting products, and having won the "National High-tech Enterprise" certification.

Engineering projects include high-tech industries such as semiconductors, integrated circuits, optoelectronics, new energy, micro-electronics, biomedicine, scientific research institutes, standard testing etc, providing customers with complete solutions for high-purity media delivery systems and cooperating with research institutes of major universities across many national key laboratory projects, which has achieved gratifying results.

At the same time, Wofly has the professional contracting qualification of national construction electromechanical installation engineering, GC2 pipeline design and installation qualification, building construction safety production license etc. It is well-known industry brands such as AFK, Afklok, Wofly etc. GC special gas developed independently and produced by company Cabinets, GR special gas racks, VMB valve boxes, VMP valve discs, gas mixers, gas full/semi-automatic switching devices, gas pressure regulators, pipe fittings, valve instruments and other products are sold in mainland, China and 26 regions around the world, having won a number of national invention patents. Our work processes are certified to be in accordance to ISO 9001 quality management principles in order to pursue better quality and provide customers with higher and safer products.

After rapid development of several years, Wofly has sixty professional and technical personnel, including more than twenty design, R&D and engineering personnel, more than twenty plumbers, electricians, welders, ventilators and equipment installers. The plant area is 2500m2, of which the office area is 500m2 and the production workshop area is 2000m2. The subsidiaries of Wofly includes Xi'an Office (responsible for West China business), Wuhan subsidiary (responsible for Central China business) and Hong Kong subsidiary (responsible for overseas import and export trade).



Tube Fittings

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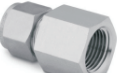
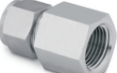
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Ferrule & Nut Set

Since its establishment in 2011, WOFLY has been a leader in the industry due to the design and manufacture of high-performance "dual ferrule compression heat transfer tube accessories" and "instrument valve" series products.

In addition, our company began to produce "UHP (Ultra High Purity) Application Parts and Valves" designed with its own technology since 2019.

Relying on excellent innovation capabilities and a large amount of investment in technology R&D and quality control, WOFLY can fully utilize its expertise and always rely on global oil, gas, petrochemical, onshore and offshore, shipbuilding, power plants, semiconductors, flat panel displays Oriented with the latest prospects of customers such as solar energy.

Our well-trained employees will do their utmost to provide customers with the best service guaranteed by excellent product performance.

Through systematic management, the use of the most advanced technology to accelerate the informatization process, to provide maximum support for our customers.

Features

Measurable

AFK heat pipe fittings are manufactured based on precise and tight tolerances. Without such tight tolerances, nuts, ferrules and accessories will not be able to cooperate with each other.

Corrosion resistance

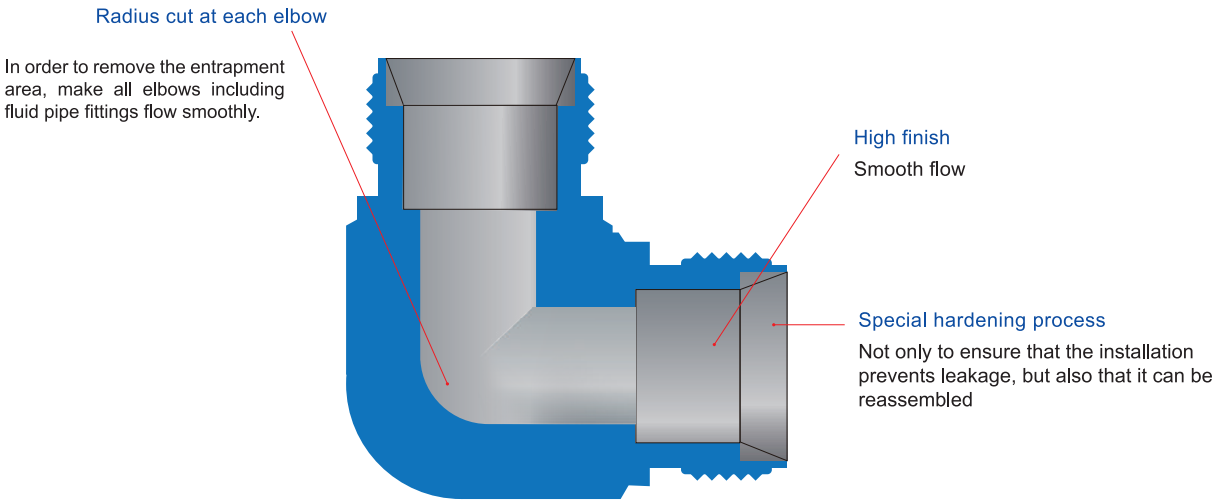
With the company's own special hardening process, AFK ferrules have the highest strength and corrosion resistance. This has been fully confirmed through years of application in multiple industrial fields.

Interchangeability

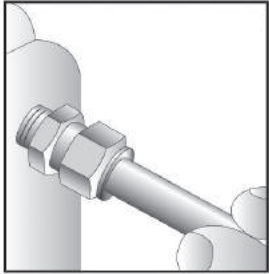
AFK heat transfer tube accessories can be interchanged with other heat transfer tube accessories manufactured in accordance with international standards.

Less torque and resistance to deformation

After tightening the nut, two ferrules will be driven between the nut and the accessory. While maintaining the mechanical properties of the original pipe, this axial movement will not transfer any torque from the fitting to the pipe.

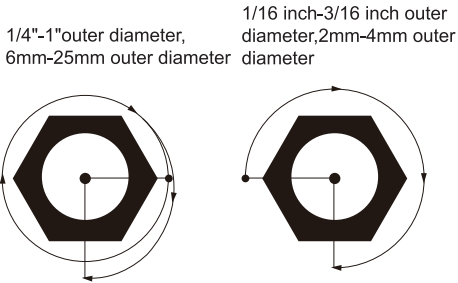


AFK tube fitting installation instructions



- 1. Insert the pipe firmly until it reaches the bottom of the fitting.
- 2. Tighten the nuts by hand.
- 3. Mark the nut with a pencil or a marker at the six o'clock position.
- 4. Fix the accessory with top drive back pliers or vice and tighten the nut.
- 5. 1-1/4 turn to the nine o'clock position.
- 6. The above steps apply to all accessories from 1/4 inch to 1 inch (6 mm to 25 mm).
- 7. Accessories from 1/16 inch to 3/16 inch (3 mm to 4 mm) only need to turn 3/4 times.

Reassembly-Simply insert the pipe into the fitting, tighten the nut to the previously marked position, and use a wrench to tighten slightly.



Material

AFK accessories are available in the following materials. Straight parts are made of cold-rolled bar, and special-shaped parts are made of forgings. For more details or special applications, please contact AFK dealer.

Materials	Bar Stock	Forgings
316 SS or 316L SS	ASTM A479 ASME SA479	ASTM A182 ASME SA182
Brass®	ASTM B16 ASTM B453	ASTM B283
Alloy 400 (Monel®)	ASTM B164	ASTM B564 ASME SB564
Alloy 600 (Inconel®)	ASTM B166	
Alloy 625 (Inconel®)	ASTM B446	
Alloy 825 (Incoloy®)	ASTM B425	
Alloy C-276 (Hastelloy C®)	ASTM B574	ASTM B564
PTFE	ASTM D1710	ASTM D3294
Duplex (SAF 2205®) UNS S31803 / S32205	ASTM A479	ASTM A182
Super Duplex (SAF 2507®) UNS S32750	ASTM A479	
UNS 31254 (Incoloy 25-6MO®)	ASTM B649	-

You can also choose nickel plating.
*Monel, Inconel, Incoloy, Incoloy 25-6MO are trademarks of special alloys.
*Hastelloy C is a trademark of American Hastelloy Co., Ltd.

Cleaning

In the entire closed cleaning process of AFK tube fittings, inorganic oil, free abrasive particles and grease are used.

Pipeline information

Proper selection of pipes is very important to ensure the maximum reliability and performance of accessories. When selecting the pipe material, size and wall thickness, special attention should be paid to the pressure, flow rate, temperature, environment and compatibility of the system.

Allowable maximum working pressure

Stainless steel pipe

Thoroughly tempered and seamless stainless steel pipes comply with ASTM A269 or similar standards.
The hardness should not exceed Rb80.
The pipeline should not be scratched and can be bent or flared.

Fractional(Inch) Tubing

Tube O.D. (inch)	Tube Wall Thickness (inch)										
	0.028	0.035	0.049	0.065	0.083	0.095	0.109	0.120	0.134	0.156	0.188
1/8	8550	10950									
3/16	5500	7100	10300								
1/4	4100	5200	7600	10300				Working pressure in psig			
5/16		4100	5900	8100							
3/8		3350	4850	6550							
1/2		2650	3750	5150	6750						
5/8			2950	4050	5250	6050					
3/4			2450	3350	4250	4950	5850				
4/8			2050	2850	3650	4250	4850				
1				2400	3100	3600	4200	4700			
1-1/4					2400	2800	3300	3600	4100	4900	
1-1/2						2300	2700	3000	3400	4000	4900
2							2000	2200	2500	2900	3600

Metric Tubing

Tube O.D. (mm)	Tube Wall Thickness (inch)										
	0.8	1.0	1.2	1.5	2.0	2.2	2.5	3.0	3.5	4.0	4.5
3	9700										
4	7900	11500									
6	4500	6100	7850	10300				Working pressure in psig			
8		4500	5650	7500							
10		3500	4350	5800	8400						
12		2900	3600	4800	6800						
14		2300	2900	4000	5500	6250					
15		200	2750	3650	5200	5800					
16			2450	3350	4800	5350	5800				
18			2150	2950	4200	4650	5350				
20			2030	2600	3750	4200	4800				
22			1750	2300	3350	3750	4350				
25					2900	3350	3750	4650			
38						2030	2300	2900	3500	3900	4500

For natural gas service applications, only use pipes with a wall thickness outside the gray area.
Based on final tensile strength of 74,000 psi (gauge pressure), allowable pressure of 20,000 psi (gauge pressure), temperature between -29 degrees Celsius (-20 degrees Fahrenheit) and 37 degrees Celsius (100 degrees Fahrenheit) between.

How to order

Fractional(Inch)Tube fittings

AFK score (imperial) tube fittings are ordered according to the product number shown below.

Example: The product number AMC-0804N-SS below indicates an externally threaded joint, 1/2 inch external diameter x1/4NPT standard conical pipe external thread, 316 stainless steel

MC	-	08	04	N	-	SS		
Fitting Type		Tube O.D.	Pipe Size	Thread Type		Material	NACE	Plating Only for Brass & Carbon Steel

Fractional(inch) Tube Designation																
Tube O.D.	inch	1/16	1/8	3/16	1/4	5/16	3/8	1/2	5/8	3/4	7/8	1	1-1/8	1-1/4	1-1/2	2
	mm	1.50	3.17	4.76	6.35	7.93	9.52	12.70	15.88	19.05	22.22	25.40	28.57	31.75	38.10	50.80
Designator		01	02	03	04	05	06	08	10	12	14	16	18	20	24	32

Pipe Size Designation									
Pipe Size	1/8	1/4	3/8	1/2	3/4	1	1-1/4	1-1/2	2
Designator	02	04	06	08	12	16	20	24	32

Thread Type Designation		
Designator	Thread Type	
N	NPT	National Standard Pipe Thread
R	ISO 7/1	Taper Pipe Thread
G	ISO 228/1	Parallel Pipe Thread
U	SAE J1926	Straight Thread Boss
S	SAE J514	37° Flared
T		Tube End
None		AFK Port

NACE Application		Plating Designation	
None	-	NP	Nickel
N	NACE Application	BP	Black Phosporized

Material Designation	
Designator	Materials
SS	316SS
BS	Brass
CS	Carbon Steel
MO	Alloy 400
IN60	Alloy 600
IN65	Alloy 625
IN85	Alloy 825
HC	Alloy C-276
TF	PTFE
DP	Duplex
SD	Super Duplex
6MO	6MO/SMO254

Metric Tube Fittings

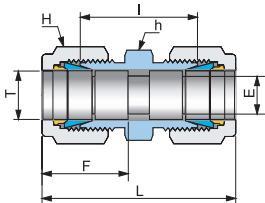
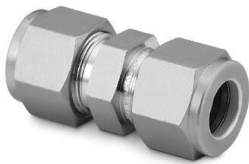
AFK metric size heat transfer tube accessories are ordered according to the product number shown below.

Example: The product number AMC-M1204R-SS below indicates an externally threaded joint, 12 mm external diameter x1/4BSPT standard pipe external thread, 316 stainless steel

FC	-	M12	04	R	-	SS		
Fitting Type		Tube O.D.	Pipe Size	Thread Type		Material	NACE	Plating Only for Brass & Carbon Steel

Metric Tube O.D Designation																		
Tube OD	mm	2	3	4	6	8	10	12	14	15	16	18	20	22	25	28	32	38
Designator		M02	M03	M04	M06	M08	M10	M12	M14	M15	M16	M18	M20	M22	M25	M28	M32	M38

U
Union



Connects Fractional(Inch) Tube

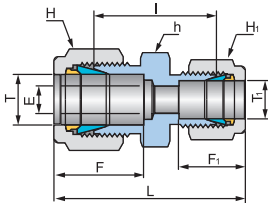
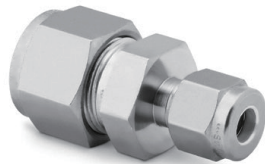
Part No.	Tube OD T		Dimensions (mm)							
	inch	mm	E Min.	h		H		F	I	L
				inch	mm	inch	mm			
U-01	1/16	1.58	1.3	5/16	7.93	5/16	7.93	8.6	17.5	25.1
U-02	1/8	3.17	2.3	7/16	11.11	7/16	11.11	12.7	22.4	35.6
U-03	3/16	4.76	3.0	7/16	11.11	1/2	12.70	12.7	24.1	37.3
U-04	1/4	6.35	4.8	1/2	12.70	9/16	14.28	15.2	26.2	40.9
U-05	5/16	7.93	6.4	9/16	14.28	5/8	15.87	16.3	28.2	42.9
U-06	3/8	9.52	7.1	5/8	15.87	11/16	17.46	16.8	30.2	45.0
U-08	1/2	12.70	10.4	13/16	20.63	7/8	22.22	22.9	31.0	51.3
U-10	5/8	15.87	12.7	15/16	23.81	1	25.40	24.4	31.8	52.1
U-12	3/4	19.05	15.7	1-1/16	26.98	1-1/8	28.57	24.4	33.3	53.6
U-14	7/8	22.22	18.3	1-3/16	30.16	1-1/4	31.75	25.9	35.1	55.4
U-16	1	25.40	22.4	1-3/8	34.92	1-1/2	38.10	31.2	40.4	64.8
U-20	1-1/4	31.75	27.7	1-3/4	44.45	1-7/8	47.63	41.1	48.0	92.2
U-24	1-1/2	38.10	34.0	2-1/8	53.97	2-1/4	57.15	50.0	53.6	108.0
U-32	2	50.80	46.0	2-3/4	69.85	3	76.20	67.6	74.7	149.4

Connects Metric Tube

Part No.	Tube OD T		Dimensions (mm)						
	mm		E Min.	h	H	F	I	L	
				inch	mm				
U-M02	2		1.7	11.11	11.11	12.9	22.4	35.6	
U-M03	3		2.4	11.11	11.11	12.9	22.1	35.3	
U-M04	4		2.4	11.11	12.70	13.7	24.1	37.3	
U-M06	6		4.8	12.70	14.28	15.3	26.2	41.0	
U-M08	8		6.4	14.28	15.87	16.2	28.2	43.2	
U-M10	10		7.9	17.46	19.05	17.2	31.0	46.2	
U-M12	12		9.5	20.63	22.22	22.8	31.0	51.2	
U-M14	14		11.1	23.81	25.40	24.4	31.8	52.0	
U-M15	15		11.9	23.81	25.40	24.4	31.8	52.0	
U-M16	16		12.7	23.81	25.40	24.4	31.8	52.0	
U-M18	18		15.1	26.98	30.16	24.4	33.3	53.5	
U-M22	22		18.3	30.16	31.75	26.0	34.8	55.0	
U-M25	25		21.8	34.92	38.10	31.3	40.4	65.0	
U-M28	28		21.8	44.45	47.63	36.6	43.4	85.0	
U-M30	30		26.2	44.45	50.80	39.6	49.5	92.7	
U-M32	32		28.6	44.45	50.80	42.0	51.3	97.3	
U-M38	38		33.7	55.56	57.15	49.4	58.4	114.0	

This size is for reference only, subject to possible changes in the actual product (without notice).
E refers to the smallest opening. F and L are the standard hand-tightened dimensions.

RU
Reducing Union

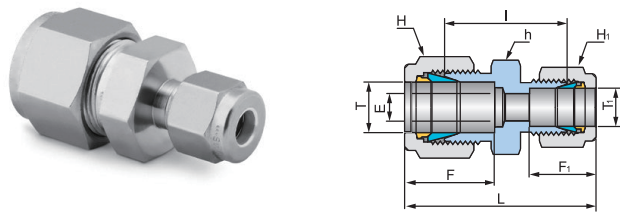


Connects Fractional(Inch) Tube

Part No.	Tube OD T		Tube OD T ₁		Dimensions (mm)										
	inch	mm	inch	mm	E Min.	h		H		H ₁		F	F ₁	I	L
						inch	mm	inch	mm	inch	mm				
RU-0201	1/8	3.17	1/16	1.58	1.3	7/16	11.11	7/16	11.11	5/16	7.93	12.7	8.6	20.6	31.0
RU-0301	3/16	4.76	1/16	1.58	1.3	7/16	11.11	1/2	12.70	5/16	7.93	13.7	8.6	21.9	32.3
RU-0302	3/16	4.76	1/8	3.17	2.3	7/16	11.11	1/2	12.70	7/16	11.11	13.7	12.7	23.4	36.6
RU-0401	1/4	6.35	1/16	1.58	1.3	1/2	12.70	9/16	14.28	5/16	7.93	15.2	8.6	23.1	34.3
RU-0402	1/4	6.35	1/8	3.17	2.3	1/2	12.70	9/16	14.28	7/16	11.11	15.2	12.7	24.6	38.6
RU-0403	1/4	6.35	3/16	4.76	3.0	1/2	12.70	9/16	14.28	1/2	12.70	15.2	13.7	25.4	39.4
RU-0502	5/16	7.93	1/8	3.17	2.3	9/16	14.28	5/8	15.87	7/16	11.11	16.3	12.7	25.9	39.6
RU-0504	5/16	7.93	1/4	6.35	4.8	9/16	14.28	5/8	15.87	9/16	14.28	16.3	15.2	27.4	42.2
RU-0601	3/8	9.52	1/16	1.58	1.3	5/8	15.87	11/16	17.46	5/16	7.93	16.8	8.6	25.4	36.6
RU-0602	3/8	9.52	1/8	3.17	2.3	5/8	15.87	11/16	17.46	7/16	11.11	16.8	12.7	26.9	40.9
RU-0604	3/8	9.52	1/4	6.35	4.8	5/8	15.87	11/16	17.46	9/16	14.28	16.8	15.2	28.4	43.2
RU-0605	3/8	9.52	5/16	7.93	6.4	5/8	15.87	11/16	17.46	5/8	15.87	16.8	16.3	29.5	44.2
RU-0802	1/2	12.70	1/8	3.17	2.3	13/16	20.63	7/8	22.22	7/16	11.11	22.9	12.7	28.4	45.2
RU-0804	1/2	12.70	1/4	6.35	4.8	13/16	20.63	7/8	22.22	9/16	14.28	22.9	15.2	29.5	47.0
RU-0806	1/2	12.70	3/8	9.52	7.1	13/16	20.63	7/8	22.22	11/16	17.46	22.9	16.8	31.0	48.5
RU-1006	5/8	15.87	3/8	9.52	7.1	15/16	23.81	1	25.40	11/16	17.46	24.4	16.8	31.8	49.3
RU-1008	5/8	15.87	1/2	12.70	10.4	15/16	23.81	1	25.40	7/8	22.22	24.4	22.9	31.8	52.1
RU-1204	3/4	19.05	1/4	6.35	4.8	1-1/16	26.98	1-1/8	28.57	9/16	14.28	24.4	15.2	31.8	49.3
RU-1206	3/4	19.05	3/8	9.52	7.1	1-1/16	26.98	1-1/8	28.57	11/16	17.46	24.4	16.8	33.3	50.8
RU-1208	3/4	19.05	1/2	12.70	10.4	1-1/16	26.98	1-1/8	28.57	7/8	22.22	24.4	22.9	33.3	53.6
RU-1210	3/4	19.05	5/8	15.87	12.7	1-1/16	26.98	1-1/8	28.57	1	25.40	24.4	24.4	33.3	53.6
RU-1608	1	25.40	1/2	12.70	10.4	1-3/8	34.92	1-1/2	38.10	7/8	22.22	31.2	22.9	40.9	63.2
RU-1612	1	25.40	3/4	19.05	15.7	1-3/8	34.92	1-1/2	38.10	1-1/8	28.57	31.2	24.4	40.9	63.2

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RU
Reducing Union



Connects Metric Tube

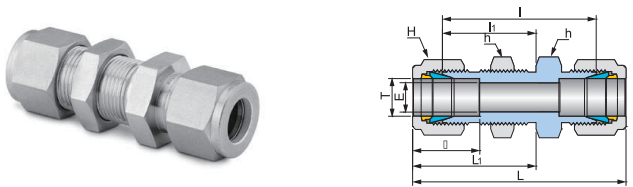
Part No.	Tube OD T	Tube OD T ₁	Dimensions (mm)							
	mm	mm	E Min.	L mm	H mm	h ₁ mm	F	F ₁	I	L
RU-M06M03	6	3	2.4	12.70	14.28	11.11	15.3	12.9	24.6	38.6
RU-M06M04	6	4	2.4	12.70	14.28	12.70	15.3	13.7	25.4	39.4
RU-M08M06	8	6	4.8	14.28	15.87	14.28	16.2	15.3	27.4	42.3
RU-M10M06	10	6	4.8	17.46	19.05	14.28	17.2	15.3	29.5	44.5
RU-M12M06	12	6	4.8	20.63	22.22	14.28	22.8	15.3	29.5	47.0
RU-M12M08	12	8	6.4	20.63	22.22	15.87	22.8	16.2	30.2	47.8
RU-M12M10	12	10	7.9	20.63	22.22	19.05	22.8	17.2	31.0	48.7
RU-M16M10	16	10	7.9	23.81	25.40	19.05	24.4	17.2	31.8	49.5
RU-M16M12	16	12	9.5	23.81	25.40	22.22	24.4	22.8	31.8	52.0
RU-M18M12	18	12	9.5	26.98	30.16	22.22	24.4	22.8	33.3	53.5
RU-M25M18	25	18	15.1	34.92	38.10	30.16	31.3	24.4	38.6	61.0
RU-M25M20	25	20	15.9	34.92	38.10	31.75	31.3	26.0	39.9	62.3

Connects Metric Tube to Fractional(Inch) Tube

Part No.	Tube OD T	Tube OD T ₁		Dimensions (mm)								
	mm	inch	mm	E Min.	L	H	h ₁		F	F ₁	I	L
					mm	mm	inch	mm				
RU-M0402	4	1/8	3.17	2.4	11.11	12.70	7/16	11.11	13.7	12.7	23.4	36.5
RU-M0404	4	1/4	6.35	2.4	12.70	12.70	9/16	14.28	13.7	15.2	25.4	39.4
RU-M0602	6	1/8	3.17	2.4	12.70	14.28	7/16	11.11	15.3	12.7	24.6	38.5
RU-M0604	6	1/4	6.35	4.8	12.70	14.28	9/16	14.28	15.3	15.2	26.2	41.0
RU-M0605	6	5/16	7.93	4.8	14.28	14.28	5/8	15.87	15.3	16.3	27.4	42.3
RU-M0804	8	1/4	6.35	4.8	14.28	15.87	9/16	14.28	16.2	15.2	27.4	42.3
RU-M1004	10	1/4	6.35	4.8	17.46	19.05	9/16	14.28	17.2	15.2	29.5	44.5
RU-M1006	10	3/8	9.52	7.1	17.46	19.05	11/16	17.46	17.2	16.8	31.0	45.9
RU-M1206	12	3/8	9.52	7.1	20.63	22.22	11/16	17.46	22.8	16.8	31.0	48.4
RU-M1208	12	1/2	12.70	9.5	20.63	22.22	7/8	22.22	22.8	22.9	31.0	51.2
RU-M1508	15	1/2	12.70	10.4	23.81	25.40	7/8	22.22	24.4	22.9	31.8	52.0

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BU
Bulkhead Union



Connects Fractional(Inch) Tube

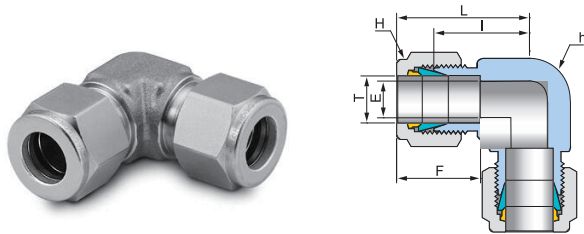
Part No.	Tube OD T		Dimensions (mm)											
			E Min.	h		H		F	I	I ₁	L	L ₁	Panel Hole Size	Max Panel hickness
	inch	mm		inch	mm	inch	mm							
BU-01	1/16	1.68	1.3	5/16	7.93	5/16	7.93	8.6	23.9	13.5	31.5	17.3	5.2	3.1
BU-02	1/8	3.17	2.3	1/2	12.70	7/16	11.11	12.7	38.1	24.6	51.3	31.2	8.3	12.7
BU-03	3/16	4.76	3.0	9/16	14.28	1/2	12.70	13.7	40.4	25.4	53.6	32.0	9.9	12.7
BU-04	1/4	6.35	4.8	5/8	15.87	9/16	14.28	15.2	42.9	26.2	57.7	33.5	11.5	10.2
BU-05	5/16	7.93	6.4	11/16	17.46	5/8	15.87	16.3	46.0	28.4	60.7	35.8	13.1	11.2
BU-06	3/8	9.52	7.1	3/4	19.05	11/16	17.46	16.8	47.5	29.5	62.2	36.8	14.7	11.2
BU-08	1/2	12.70	10.4	15/16	23.81	7/8	22.22	22.9	50.8	31.8	71.1	41.9	19.4	12.7
BU-10	5/8	15.87	12.7	1-1/16	26.98	1	25.40	24.4	52.3	32.5	72.6	42.7	22.6	12.7
BU-12	3/4	19.05	15.7	1-3/16	30.16	1-1/8	28.57	24.4	58.7	37.3	79.0	47.5	25.8	16.8
BU-14	7/8	22.22	18.3	1-3/8	34.92	1-1/4	31.75	25.9	64.3	42.9	84.6	53.1	29.0	19.1
BU-16	1	25.40	22.4	1-5/8	41.27	1-1/2	38.10	31.2	71.4	45.2	95.8	57.4	33.7	19.1
BU-20	1-1/4	31.75	27.7	1-7/8	47.63	1-7/8	47.63	41.1	78.9	47.8	123.2	69.9	41.7	19.1
BU-24	1-1/2	38.10	34.0	2-1/4	57.15	2-1/4	57.15	50.0	84.8	49.3	139.2	76.5	49.6	19.1
BU-32	2	50.80	46.0	2-3/4	69.85	3	76.20	67.6	105.7	56.4	180.3	93.7	67.1	19.1

Connects Metric Tube

Part No.	Tube OD	Dimensions (mm)									
	T	E Min.	h	H	F	I	I ₁	L	L ₁	Panel Hole Size	Max Panel hickness
	mm		mm	mm							
BU-M03	3	2.4	14.28	11.11	12.9	38.1	24.6	51.3	31.2	8.3	12.7
BU-M04	4	2.4	14.28	12.70	13.7	40.4	25.4	53.6	32.0	9.9	12.7
BU-M06	6	4.8	15.87	14.28	15.3	42.9	26.2	57.7	33.6	11.5	10.2
BU-M08	8	6.4	17.46	15.87	16.2	46.0	28.6	61.0	36.1	13.1	11.2
BU-M10	10	7.9	22.22	19.05	17.2	48.5	29.4	63.7	37.0	16.2	11.2
BU-M12	12	9.5	23.81	22.22	22.8	50.8	31.8	71.0	41.9	19.5	12.7
BU-M14	14	11.1	26.98	25.40	24.4	52.3	32.5	72.5	42.6	22.8	12.7
BU-M15	15	11.9	26.98	25.40	24.4	52.3	32.5	72.5	42.6	22.8	12.7
BU-M16	16	12.7	26.98	25.40	24.4	52.3	32.5	72.5	42.6	22.8	12.7
BU-M18	18	15.1	30.16	30.16	24.4	58.7	37.3	78.9	47.4	26.0	16.8
BU-M20	20	15.9	34.92	31.75	26.0	64.3	42.9	84.5	53.0	29.0	17.0
BU-M22	22	18.3	34.92	31.75	26.0	64.3	42.9	84.5	53.0	29.0	19.1
BU-M25	25	21.8	41.27	38.10	31.3	71.4	45.2	96.0	57.5	33.7	19.1
BU-M32	32	28.6	50.80	50.80	42.0	82.3	49.5	128.3	72.5	42.5	19.0
BU-M38	38	33.7	60.30	57.15	49.4	89.8	51.9	145.0	79.5	50.5	19.0

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EU
Union Elbow



Connects Fractional(Inch) Tube

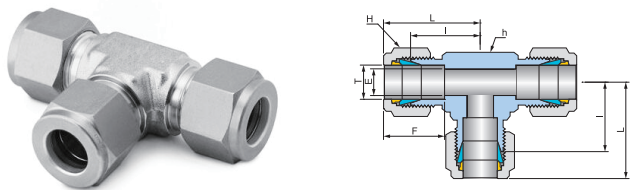
Part No.	Tube OD T		Dimensions (mm)							
			E Min.	h		H		F	I	L
	inch	mm		inch	mm	inch	mm			
EU-01	1/16	1.68	1.3	3/8	9.52	5/16	7.92	8.6	14.0	17.8
EU-02	1/8	3.17	2.3	3/8	9.52	7/16	11.11	12.7	15.7	22.4
EU-03	3/16	4.76	3.0	1/2	12.70	1/2	12.70	13.7	17.8	24.4
EU-04	1/4	6.35	4.8	1/2	12.70	9/16	14.28	15.2	19.6	26.9
EU-05	5/16	7.93	6.4	9/16	14.28	5/8	15.87	16.3	21.3	28.7
EU-06	3/8	9.52	7.1	5/8	15.87	11/16	17.46	16.8	23.1	30.5
EU-08	1/2	12.70	10.4	13/16	20.63	7/8	22.22	22.9	25.9	36.1
EU-10	5/8	15.87	12.7	15/16	23.81	1	25.40	24.4	28.7	38.8
EU-12	3/4	19.05	15.7	1-1/16	26.98	1-1/8	28.57	24.4	29.7	39.9
EU-14	7/8	22.22	18.3	1-3/16	30.16	1-1/4	31.75	25.9	34.5	44.7
EU-16	1	25.40	22.4	1-3/8	34.92	1-1/2	38.10	31.2	36.8	49.0
EU-20	1-1/4	31.75	27.7	1-11/16	42.86	1-7/8	47.63	41.1	44.5	66.5
EU-24	1-1/2	38.10	34.0	2	50.80	2-1/4	57.15	50.0	50.8	78.0
EU-32	2	50.80	46.0	2-3/4	69.85	3	76.20	67.6	69.8	107.2

Connects Metric Tube

Part No.	Tube OD T	Dimensions (mm)					
		E Min.	h	H	F	I	L
	mm		inch	mm			
EU-M03	3	2.4	9.52	11.11	12.9	15.7	22.3
EU-M04	4	2.4	12.70	12.70	13.7	18.8	25.4
EU-M06	6	4.8	12.70	14.28	15.3	19.6	27.0
EU-M08	8	6.4	14.28	15.87	16.2	21.3	28.8
EU-M10	10	7.9	17.46	19.05	17.2	23.9	31.5
EU-M12	12	9.5	20.63	22.22	22.8	25.9	36.0
EU-M14	14	11.1	23.81	25.40	24.4	28.7	38.8
EU-M15	15	11.9	23.81	25.40	24.4	28.7	38.8
EU-M16	16	12.7	23.81	25.40	24.4	28.7	38.8
EU-M18	18	15.1	26.98	30.16	24.4	29.7	39.8
EU-M20	20	15.9	34.92	31.75	26.0	34.5	44.6
EU-M22	22	18.3	34.92	31.75	26.0	34.5	44.6
EU-M25	25	21.8	34.92	38.10	31.3	36.8	49.1
EU-M28	28	21.8	42.86	47.63	36.6	43.2	64.0
EU-M30	30	26.2	47.63	50.80	39.6	48.3	69.9
EU-M32	32	28.6	47.63	50.80	42.0	49.3	72.3
EU-M38	38	33.7	55.56	57.15	49.4	56.4	84.0

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UT
Union Tee



Connects Fractional(Inch) Tube

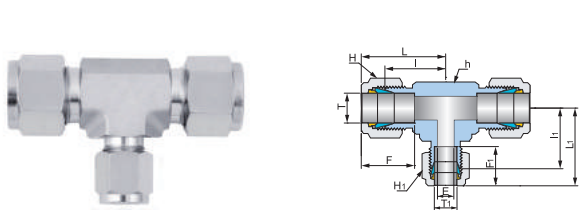
Part No.	Tube OD T		Dimensions (mm)							
			E Min.	h		H		F	I	L
	inch	mm		inch	mm	inch	mm			
UT-01	1/16	1.68	1.3	3/8	9.52	5/16	7.93	8.6	14.0	17.8
UT-02	1/8	3.17	2.3	3/8	9.52	7/16	11.11	12.7	15.7	22.4
UT-03	3/16	4.76	3.0	1/2	12.70	1/2	12.70	13.7	17.8	24.4
UT-04	1/4	6.35	4.8	1/2	12.70	9/16	14.28	15.2	19.6	26.9
UT-05	5/16	7.93	6.4	5/8	15.87	5/8	15.87	16.3	21.3	28.7
UT-06	3/8	9.52	7.1	5/8	15.87	11/16	17.46	16.8	23.1	30.5
UT-08	1/2	12.7	10.4	13/16	20.63	7/8	22.22	22.9	25.9	36.1
UT-10	5/8	15.87	12.7	15/16	23.81	1	25.40	24.4	28.7	38.8
UT-12	3/4	19.05	15.7	1-1/16	26.98	1-1/8	28.57	24.4	29.7	39.9
UT-14	7/8	22.22	18.3	1-3/16	30.16	1-1/4	31.75	25.9	34.5	44.7
UT-16	1	25.4	22.4	1-3/8	34.92	1-1/2	38.10	31.2	36.8	49.0
UT-20	1-1/4	31.75	27.7	1-11/16	42.86	1-7/8	47.63	41.1	44.5	66.5
UT-24	1-1/2	38.1	34.0	2	50.80	2-1/4	57.15	50.0	50.8	78.0
UT-32	2	50.8	46.0	2-3/4	69.85	3	76.20	67.6	69.8	107.2

Connects Metric Tube

Part No.	Tube OD T	Dimensions (mm)					
		E Min.	h	H	F	I	I ₁
	mm		mm	mm			
UT-M02	2	1.7	9.52	12.70	12.9	15.7	22.3
UT-M03	3	2.4	9.52	11.11	12.9	15.7	22.3
UT-M04	4	2.4	12.70	12.70	13.7	18.8	25.4
UT-M06	6	4.8	12.70	14.28	15.3	19.6	27.0
UT-M08	8	6.4	14.28	15.87	16.2	21.3	28.8
UT-M10	10	7.9	17.46	19.05	17.2	23.9	31.5
UT-M12	12	9.5	20.63	22.22	22.8	25.9	36.0
UT-M14	14	11.1	23.81	25.40	24.4	28.7	38.8
UT-M15	15	11.9	23.81	25.40	24.4	28.7	38.8
UT-M16	16	12.7	23.81	25.40	24.4	28.7	38.8
UT-M18	18	15.1	26.98	30.16	24.4	29.7	39.8
UT-M20	20	15.9	34.92	31.75	26.0	34.5	44.6
UT-M22	22	18.3	34.92	31.75	26.0	34.5	44.6
UT-M25	25	21.8	34.92	38.10	31.3	36.8	49.1
UT-M28	28	21.8	42.86	47.63	36.6	43.2	64.0
UT-M30	30	26.2	47.63	50.80	39.6	48.3	69.9
UT-M32	32	28.6	47.63	50.80	42.0	49.3	72.3
UT-M38	38	33.7	55.56	57.15	49.4	56.4	84.0

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RBT
Reducing Union Branch Tee

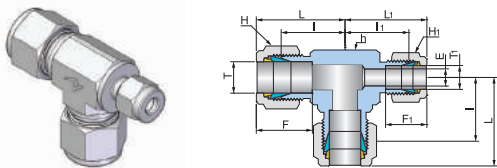


Connects Fractional(Inch) Tube

Part No.	Tube OD T		Tube OD T ₁		Dimensions (mm)												
	inch	mm	inch	mm	E Min.	h		H		H ₁		F	F ₁	I	I ₁	L	L ₁
						inch	mm	inch	mm	inch	mm						
RBT-0604	3/8	9.52	1/4	6.35	4.8	5/8	15.87	11/16	17.46	9/16	14.28	16.8	15.2	23.1	21.6	30.5	29.0
RBT-0804	1/2	12.7	1/4	6.35	4.8	13/16	20.63	7/8	22.22	9/16	14.28	22.9	15.2	25.9	24.4	36.1	31.8
RBT-0806	1/2	12.7	3/8	9.52	7.1	13/16	20.63	7/8	22.22	11/16	17.46	22.9	16.8	25.9	25.9	36.1	33.3
RBT-1006	5/8	15.87	3/8	9.52	7.1	15/16	23.81	1	25.40	11/16	17.46	24.4	16.8	28.7	28.7	38.9	36.1
RBT-1204	3/4	19.05	1/4	6.35	4.8	1-1/16	26.98	1-1/8	28.57	9/16	14.28	24.4	15.2	29.7	29.7	39.9	37.1
RBT-1206	3/4	19.05	3/8	9.52	7.1	1-1/16	26.98	1-1/8	28.57	11/16	17.46	24.4	16.8	29.7	29.7	39.9	37.1
RBT-1208	3/4	19.05	1/2	12.7	10.4	1-1/16	26.98	1-1/8	28.57	7/8	22.22	24.4	22.9	29.7	29.7	39.9	39.9
RBT-1604	1	25.4	1/4	6.35	4.8	1-3/8	34.92	1-1/2	38.10	9/16	14.28	31.2	15.2	36.8	33.0	49.0	40.4
RBT-1606	1	25.4	3/8	9.52	7.1	1-3/8	34.92	1-1/2	38.10	11/16	17.46	31.2	16.8	36.8	34.5	49.0	41.9
RBT-1608	1	25.4	1/2	12.7	10.4	1-3/8	34.92	1-1/2	38.10	7/8	22.22	31.2	22.9	36.8	34.5	49.0	44.7
RBT-1612	1	25.4	3/4	19.05	15.7	1-3/8	34.92	1-1/2	38.10	1-1/8	28.57	31.2	24.4	36.8	34.5	49.0	44.7
RBT-2416	1-1/2	38.1	1	25.4	22.4	2	50.8	2-1/4	57.15	1-1/2	38.10	50.0	31.2	50.8	47.8	78.7	59.9

Connects Metric Tube

Part No.	Tube OD T	Tube OD T ₁	Dimensions (mm)									
	mm	mm	E Min.	h	H	H _i	F	F ₁	I	I ₁	L	L ₁
				inch	mm	mm						
RBT-M08M06	8	6	4.8	14.28	15.87	14.28	16.2	15.3	21.3	21.3	28.8	28.7
RBT-M10M06	10	6	4.8	17.46	19.05	14.28	17.2	15.3	23.9	22.3	31.5	29.7
RBT-M12M06	12	6	4.8	20.63	22.22	14.28	22.8	15.3	25.9	24.4	36.0	31.8
RBT-M16M12	16	12	9.5	26.98	25.40	22.22	24.4	22.8	28.7	28.7	38.8	38.8
RBT-M18M12	18	12	9.5	26.98	30.16	22.22	24.4	22.8	29.7	29.7	39.8	39.8
RBT-M22M12	22	12	9.5	34.92	31.75	22.22	26.0	22.8	34.5	34.5	44.6	44.6
RBT-M25M12	25	12	9.5	34.92	38.10	22.22	31.3	22.8	36.8	34.5	49.1	44.6

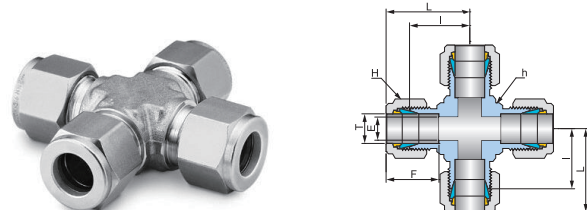


RRT
Reducing Union Run Tee

Connects Fractional(Inch) Tube

Part No.	Tube OD T		Tube OD T ₁		Dimensions (mm)												
	inch	mm	inch	mm	E Min.	h		H		H ₁		F	F ₁	I	I ₁	L	L ₁
						inch	mm	inch	mm	inch	mm						
RRT-0604	3/8	9.52	1/4	6.35	4.8	5/8	15.87	11/16	17.46	9/16	14.28	16.8	15.2	23.1	21.6	30.5	29.0
RRT-0804	1/2	12.7	1/4	6.35	4.8	13/16	20.63	7/8	22.22	9/16	14.28	22.9	15.2	25.9	24.4	36.1	31.8
RRT-0806	1/2	12.7	3/8	9.52	7.1	13/16	20.63	7/8	22.22	11/16	17.46	22.9	16.8	25.9	25.9	36.1	33.3
RRT-1006	5/8	15.87	3/8	9.52	7.1	1	25.40	1	25.40	11/16	17.46	24.4	16.8	28.7	28.7	38.9	36.1
RRT-1206	3/4	19.05	3/8	9.52	7.1	1-1/16	26.98	1-1/8	28.57	11/16	17.46	24.4	16.8	29.7	29.7	39.9	37.1
RRT-1208	3/4	19.05	1/2	12.7	10.4	1-1/16	26.98	1-1/8	28.57	7/8	22.22	24.4	22.9	29.7	29.7	39.9	39.9
RRT-1608	1	25.4	1/2	12.7	10.4	1-3/8	34.92	1-1/2	38.10	7/8	22.22	31.2	22.9	36.8	34.5	49.0	44.7
RRT-1612	1	25.4	3/4	19.05	15.7	1-3/8	34.92	1-1/2	38.10	1-1/8	28.57	31.2	24.4	36.8	34.5	49.0	44.7

UC
Union Cross



Connects Fractional(Inch) Tube

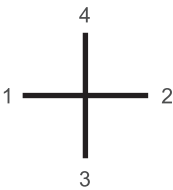
Part No.	Tube OD T		Dimensions (mm)							
	inch	mm	E Min.	h		H		F	I	L
				inch	mm	inch	mm			
UC-02	1/8	3.17	2.3	3/8	9.52	7/16	11.11	12.7	15.7	22.4
UC-03	3/16	4.76	3.0	1/2	12.70	1/2	12.70	13.7	17.8	24.4
UC-04	1/4	6.35	4.8	1/2	12.70	9/16	14.28	15.2	19.6	26.9
UC-05	5/16	7.93	6.4	5/8	15.87	5/8	15.87	16.3	21.3	28.7
UC-06	3/8	9.52	7.1	5/8	15.87	11/16	17.46	16.8	23.1	30.5
UC-08	1/2	12.7	10.4	13/16	20.63	7/8	22.22	22.9	25.9	36.1
UC-10	5/8	15.87	15.9	1-1/16	26.98	1	25.40	24.4	28.7	38.8
UC-12	3/4	19.05	12.7	1-1/16	26.98	1-1/8	28.57	24.4	29.7	39.9
UC-14	7/8	22.22	18.3	1-3/8	34.92	1-1/4	31.75	25.9	34.5	44.7
UC-16	1	25.4	22.4	1-3/8	34.92	1-1/2	38.10	31.2	36.8	49.0

Connects Metric Tube

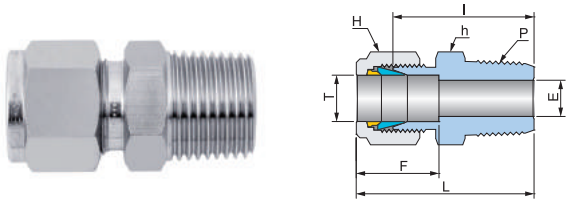
Part No.	Tube OD T	Dimensions (mm)					
	mm	E Min.	h		H	F	I
			mm	mm			
UC-M03	3	2.4	9.52	11.11	12.9	15.7	22.3
UC-M06	6	4.8	12.70	14.28	15.3	19.6	27.0
UC-M08	8	6.4	15.87	15.87	16.2	21.3	28.8
UC-M10	10	7.9	17.46	19.05	17.2	23.9	31.5
UC-M12	12	9.5	20.63	22.22	22.8	25.9	36.0
UC-M16	16	12.7	26.98	25.40	24.4	28.7	38.8
UC-M18	18	15.1	26.98	30.16	24.4	29.7	39.8
UC-M20	20	15.9	34.92	31.75	26.0	34.5	44.6
UC-M22	22	18.3	34.92	31.75	26.0	34.5	44.6
UC-M25	25	21.8	34.92	38.10	31.3	36.8	49.1

Product No. of Tee and Tee

First, mark the 1 and 2 sizes as the main branch.
Secondly, mark the 3 and 4 sizes as branches (3 applies to tees and tees, 4 only applies to tees).



MC
Male Connector



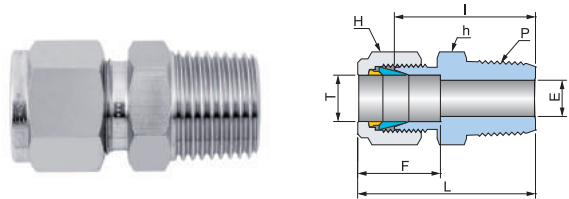
Connects Fractional(Inch) Tube to Female NPT Thread

Part No.	Tube OD T		P NPT	Dimensions (mm)							
	inch	mm		E Min.	h		H		F	I	L
					inch	mm	inch	mm			
MC-0101N	1/16	1.58	1/16	1.3	5/16	7.93	5/16	7.93	8.6	20.0	23.8
MC-0102N	1/16	1.58	1/8	1.3	7/16	11.10	5/16	7.93	8.6	22.4	26.2
MC-0104N	1/16	1.58	1/4	1.3	9/16	14.28	5/16	7.93	8.6	27.2	31.0
MC-0201N	1/8	3.17	1/16	2.3	7/16	11.10	7/16	11.10	12.7	23.1	29.7
MC-0202N	1/8	3.17	1/8	2.3	7/16	11.10	7/16	11.10	12.7	23.9	30.5
MC-0204N	1/8	3.17	1/4	2.3	9/16	14.28	7/16	11.10	12.7	29.0	35.6
MC-0206N	1/8	3.17	3/8	2.3	11/16	17.46	7/16	11.10	12.7	29.2	35.8
MC-0208N	1/8	3.17	1/2	2.3	7/8	22.22	7/16	11.10	12.7	35.6	42.2
MC-0302N	3/16	4.76	1/8	3.0	7/16	11.10	1/2	12.70	13.7	24.6	31.2
MC-0304N	3/16	4.76	1/4	3.0	9/16	14.28	1/2	12.70	13.7	29.7	36.3
MC-0401N	1/4	6.35	1/16	3.0	1/2	12.70	9/16	14.28	15.2	25.4	32.8
MC-0402N	1/4	6.35	1/8	4.8	1/2	12.70	9/16	14.28	15.2	25.4	32.8
MC-0404N	1/4	6.35	1/4	4.8	9/16	14.28	9/16	14.28	15.2	30.5	37.8
MC-0406N	1/4	6.35	3/8	4.8	11/16	17.46	9/16	14.28	15.2	31.0	38.4
MC-0408N	1/4	6.35	1/2	4.8	7/8	22.22	9/16	14.28	15.2	37.3	44.7
MC-0412N	1/4	6.35	3/4	4.8	1-1/16	26.98	9/16	14.28	15.2	38.9	46.2
MC-0502N	5/16	7.93	1/8	4.8	9/16	14.28	5/8	15.87	16.3	26.7	34.0
MC-0504N	5/16	7.93	1/4	6.4	9/16	14.28	5/8	15.87	16.3	31.2	38.6
MC-0506N	5/16	7.93	3/8	6.4	11/16	17.46	5/8	15.87	16.3	31.8	39.1
MC-0602N	3/8	9.52	1/8	4.8	5/8	15.87	11/16	17.46	16.8	27.9	35.3
MC-0604N	3/8	9.52	1/4	7.1	5/8	15.87	11/16	17.46	16.8	32.5	39.9
MC-0606N	3/8	9.52	3/8	7.1	11/16	17.46	11/16	17.46	16.8	32.5	39.9
MC-0608N	3/8	9.52	1/2	7.1	7/8	22.22	11/16	17.46	16.8	38.9	46.2
MC-0612N	3/8	9.52	3/4	7.1	1-1/16	26.98	11/16	17.46	16.8	40.4	47.8
MC-0616N	3/8	9.52	1	7.1	1-3/8	34.92	11/16	17.46	16.8	47.0	54.4
MC-0802N	1/2	12.70	1/8	4.8	13/16	20.63	7/8	22.22	22.9	28.7	38.9
MC-0804N	1/2	12.70	1/4	7.1	13/16	20.63	7/8	22.22	22.9	33.3	43.4
MC-0806N	1/2	12.70	3/8	9.7	13/16	20.63	7/8	22.22	22.9	33.3	43.4
MC-0808N	1/2	12.70	1/2	10.4	7/8	22.22	7/8	22.22	22.9	38.9	49.0
MC-0812N	1/2	12.70	3/4	10.4	1-1/16	26.98	7/8	22.22	22.9	40.4	50.5
MC-0816N	1/2	12.70	1	10.4	1-3/8	34.92	7/8	22.22	22.9	47.0	57.2
MC-1006N	5/8	15.87	3/8	9.7	15/16	23.81	1	25.40	24.4	34.0	44.2
MC-1008N	5/8	15.87	1/2	11.9	15/16	23.81	1	25.40	24.4	38.9	49.0
MC-1012N	5/8	15.87	3/4	12.7	1-1/16	26.98	1	25.40	24.4	40.4	50.5
MC-1206N	3/4	19.05	3/8	10.4	1-1/16	26.98	1-1/8	28.57	24.4	35.4	45.6
MC-1208N	3/4	19.05	1/2	11.9	1-1/16	26.98	1-1/8	28.57	24.4	40.4	50.5
MC-1212N	3/4	19.05	3/4	15.7	1-1/16	26.98	1-1/8	28.57	24.4	40.4	50.5
MC-1216N	3/4	19.05	1	15.7	1-3/8	34.92	1-1/8	28.57	24.4	47.0	57.2
MC-1412N	7/8	22.22	3/4	15.7	1-3/16	30.16	1-1/4	31.75	25.9	40.4	50.5
MC-1416N	7/8	22.22	1	18.3	1-3/8	34.92	1-1/4	31.75	25.9	47.0	57.2
MC-1608N	1	25.40	1/2	11.9	1-3/8	34.92	1-1/2	38.10	31.2	45.2	57.4
MC-1612N	1	25.40	3/4	15.7	1-3/8	34.92	1-1/2	38.10	31.2	45.2	57.4
MC-1616N	1	25.40	1	22.4	1-3/8	34.92	1-1/2	38.10	31.2	50.0	62.2
MC-2016N	1-1/4	31.75	1	22.4	1-3/4	44.45	1-7/8	47.63	41.1	55.1	77.2
MC-2020N	1-1/4	31.75	1-1/4	27.7	1-3/4	44.45	1-7/8	47.63	41.1	55.1	77.2
MC-2424N	1-1/2	38.10	1-1/2	34.0	2-1/8	53.97	2-1/4	57.15	50.0	61.7	88.9
MC-3232N	2	50.80	2	46.0	2-3/4	69.85	3	76.20	67.6	76.2	113.5

All fractional MCs can be equipped with ISO standard tapered pipe threads. To order, please add "R" instead of "N" at the end. Place

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E refers to the smallest opening. F and L are the standard hand-tightened dimensions.

MC
Male Connector



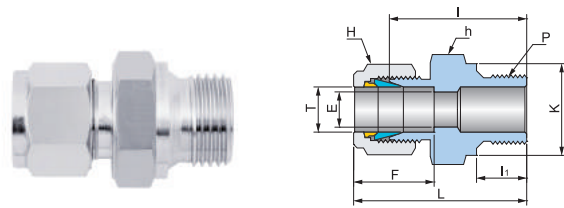
Connects Metric Tube to Female ISO Tapered Thread

Part No.	Tube OD	P ISO7/1	Dimensions (mm)					
	T		E Min.	h	H	F	I	L
	mm			mm	mm			
MC-M0202R	2	1/8	1.7	11.11	11.11	12.9	23.9	30.5
MC-M0302R	3	1/8	2.4	11.11	11.11	12.9	23.9	30.5
MC-M0304R	3	1/4	2.4	14.28	11.11	12.9	29.0	35.6
MC-M0402R	4	1/8	2.4	11.11	12.70	13.7	24.6	31.2
MC-M0404R	4	1/4	2.4	14.28	12.70	13.7	29.7	36.3
MC-M0602R	6	1/8	4.8	12.70	14.28	15.3	25.4	32.8
MC-M0604R	6	1/4	4.8	14.28	14.28	15.3	30.5	37.9
MC-M0606R	6	3/8	4.8	17.46	14.28	15.3	31.0	38.4
MC-M0608R	6	1/2	4.8	22.22	14.28	15.3	37.3	44.7
MC-M0802R	8	1/8	4.8	14.28	15.87	16.2	26.7	34.2
MC-M0804R	8	1/4	6.4	14.28	15.87	16.2	31.2	38.7
MC-M0806R	8	3/8	6.4	17.46	15.87	16.2	31.8	39.3
MC-M0808R	8	1/2	6.4	22.22	15.87	16.2	38.1	45.6
MC-M1002R	10	1/8	4.8	17.46	19.05	17.2	28.7	36.3
MC-M1004R	10	1/4	7.1	17.46	19.05	17.2	33.3	40.9
MC-M1006R	10	3/8	7.9	17.46	19.05	17.2	33.3	40.9
MC-M1008R	10	1/2	7.9	22.22	19.05	17.2	38.9	46.5
MC-M1202R	12	1/8	4.8	20.63	22.22	22.8	28.7	38.8
MC-M1204R	12	1/4	7.1	20.63	22.22	22.8	33.3	43.4
MC-M1206R	12	3/8	9.5	20.63	22.22	22.8	33.3	43.4
MC-M1208R	12	1/2	9.5	22.22	22.22	22.8	38.9	49.0
MC-M1212R	12	3/4	9.5	26.98	22.22	22.8	40.4	50.5
MC-M1404R	14	1/4	7.1	22.22	25.40	24.4	34.0	44.1
MC-M1406R	14	3/8	9.5	22.22	25.40	24.4	34.0	44.1
MC-M1408R	14	1/2	11.1	23.81	25.40	24.4	38.9	49.0
MC-M1508R	15	1/2	11.9	23.81	25.40	24.4	38.9	49.0
MC-M1606R	16	3/8	9.5	23.81	25.40	24.4	34.0	44.1
MC-M1608R	16	1/2	11.9	23.81	25.40	24.4	38.9	49.0
MC-M1612R	16	3/4	12.7	26.98	25.40	24.4	40.4	50.5
MC-M1808R	18	1/2	11.9	26.98	30.16	24.4	40.4	50.5
MC-M1812R	18	3/4	15.1	26.98	30.16	24.4	40.4	50.5
MC-M2008R	20	1/2	11.9	30.16	31.75	26.0	42.2	52.3
MC-M2012R	20	3/4	15.9	30.16	31.75	26.0	42.2	52.3
MC-M2208R	22	1/2	11.9	30.16	31.75	26.0	42.2	52.3
MC-M2212R	22	3/4	15.9	30.16	31.75	26.0	42.2	52.3
MC-M2508R	25	1/2	11.9	34.92	38.10	31.3	45.2	57.5
MC-M2512R	25	3/4	15.9	34.92	38.10	31.3	45.2	57.5
MC-M2516R	25	1	21.8	34.92	38.10	31.3	50.0	62.3
MC-M2816R	28	1	21.8	44.45	47.63	36.6	51.6	72.4
MC-M2820R	28	1-1/4	21.8	47.63	47.63	36.6	52.3	73.1
MC-M3020R	30	1-1/4	26.2	47.63	50.80	39.6	55.6	77.2
MC-M3220R	32	1-1/4	28.6	47.63	50.80	42.0	56.6	79.6
MC-M3824R	38	1-1/2	33.7	55.56	57.15	49.4	64.0	92.6

All metric MCs can be equipped with NPT standard thread. To order, please add "N" at the end instead of "R"

This size is for reference only, subject to possible changes in the actual product (without notice).
E refers to the smallest opening. F and L are the standard hand-tightened dimensions.

MC-G
Male Connector for Bonded Seal

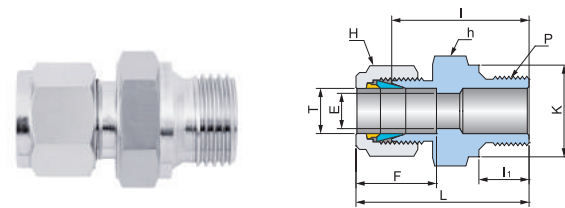


Connects Fractional(Inch) Tube to Female ISO Parallel Thread

Part No.	Tube OD T		P ISO 228/1	Dimensions (mm)									
				E Min.	h		H		F	I	I ₁	L	K
	inch	mm			inch	mm	inch	mm					
MC-0202G	1/8	3.17	1/8	2.3	9/16	14.28	7/16	11.11	12.7	23.4	7.1	30.0	13.8
MC-0204G	1/8	3.17	1/4	2.3	3/4	19.05	7/16	11.11	12.7	28.7	11.2	35.3	18.0
MC-0206G	1/8	3.17	3/8	2.3	7/8	22.22	7/16	11.11	12.7	29.7	11.2	36.3	21.8
MC-0402G	1/4	6.35	1/8	4.1	9/16	14.28	9/16	14.28	15.2	24.9	7.1	32.3	13.8
MC-0404G	1/4	6.35	1/4	4.8	3/4	19.05	9/16	14.28	15.2	30.2	11.2	37.6	18.0
MC-0406G	1/4	6.35	3/8	4.8	7/8	22.22	9/16	14.28	15.2	31.5	11.2	38.9	21.8
MC-0408G	1/4	6.35	1/2	4.8	1-1/16	26.98	9/16	14.28	15.2	37.3	14.2	44.7	26.0
MC-0604G	3/8	9.52	1/4	5.8	3/4	19.05	11/16	17.46	16.8	31.8	11.2	39.1	18.0
MC-0606G	3/8	9.52	3/8	7.1	7/8	22.22	11/16	17.46	16.8	33.0	11.2	40.4	21.8
MC-0608G	3/8	9.52	1/2	7.1	1-1/16	26.98	11/16	17.46	16.8	38.9	14.2	46.2	26.0
MC-0802G	1/2	12.70	1/8	4.8	7/8	22.22	7/8	22.22	22.9	28.5	7.1	38.7	13.8
MC-0804G	1/2	12.70	1/4	5.8	13/16	20.63	7/8	22.22	22.9	32.5	11.2	42.7	18.0
MC-0806G	1/2	12.70	3/8	7.9	7/8	22.22	7/8	22.22	22.9	33.0	11.2	43.2	21.8
MC-0808G	1/2	12.70	1/2	10.4	1-1/16	26.98	7/8	22.22	22.9	38.9	14.2	49.0	26.0
MC-1208G	3/4	19.05	1/2	11.9	1-1/16	26.98	1-1/8	28.57	24.4	38.9	14.2	49.0	26.0
MC-1212G	3/4	19.05	3/4	15.7	1-3/8	34.92	1-1/8	28.57	24.4	42.7	15.7	52.8	32.0
MC-1612G	1	25.40	3/4	16.0	1-3/8	34.92	1-1/2	38.10	31.2	45.2	15.7	57.4	32.0
MC-1616G	1	25.40	1	19.8	1-5/8	41.27	1-1/2	38.10	31.2	47.8	18.3	59.9	39.0

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MC-G
Male Connector for Bonded Seal

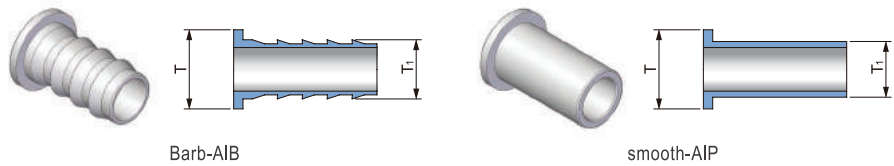


Connects Metric Tube to Female ISO Parallel Thread

Part No.	Tube OD T	P ISO 228/1	Dimensions (mm)									
			E Min.	h mm	H mm	F	I	I ₁	L	K		
	mm											
MC-M0202G	2	1/8	1.7	14.28	12.70	12.9	23.4	7.1	30.0	13.8		
MC-M0302G	3	1/8	2.4	14.28	11.11	12.9	23.4	7.1	30.0	13.8		
MC-M0304G	3	1/4	2.4	19.05	11.11	12.9	28.7	11.2	35.3	18.0		
MC-M0402G	4	1/8	2.4	14.28	12.70	13.7	24.1	7.1	30.7	13.8		
MC-M0404G	4	1/4	2.4	19.05	12.70	13.7	29.4	11.2	36.0	18.0		
MC-M0602G	6	1/8	4.0	14.28	14.28	15.3	24.9	7.1	32.3	13.8		
MC-M0604G	6	1/4	4.8	19.05	14.28	15.3	30.2	11.2	37.6	18.0		
MC-M0606G	6	3/8	4.8	22.22	14.28	15.3	31.5	11.2	38.9	21.8		
MC-M0608G	6	1/2	4.8	26.98	14.28	15.3	37.3	14.2	44.7	26.0		
MC-M0802G	8	1/8	4.0	15.87	15.87	16.2	25.7	7.1	33.2	13.8		
MC-M0804G	8	1/4	6.4	19.05	15.87	16.2	31.0	11.2	38.5	18.0		
MC-M0806G	8	3/8	6.4	22.22	15.87	16.2	32.3	11.2	39.8	21.8		
MC-M0808G	8	1/2	6.4	26.98	15.87	16.2	38.1	14.2	45.6	26.0		
MC-M1004G	10	1/4	5.9	19.05	19.05	17.2	31.8	11.2	39.4	18.0		
MC-M1006G	10	3/8	7.9	22.22	19.05	17.2	33.0	11.2	40.6	21.8		
MC-M1008G	10	1/2	7.9	26.98	19.05	17.2	38.9	14.2	46.5	26.0		
MC-M1204G	12	1/4	5.9	22.22	22.22	22.8	32.5	11.2	42.6	18.0		
MC-M1206G	12	3/8	7.9	22.22	22.22	22.8	33.0	11.2	43.1	21.8		
MC-M1208G	12	1/2	9.5	26.98	22.22	22.8	38.9	14.2	49.0	26.0		
MC-M1212G	12	3/4	9.5	34.92	22.22	22.8	42.7	15.7	52.8	32.0		
MC-M1508G	15	1/2	11.9	26.98	25.40	24.4	38.9	14.2	49.0	26.0		
MC-M1606G	16	3/8	7.9	23.81	25.40	24.4	33.8	11.2	43.9	21.8		
MC-M1608G	16	1/2	11.9	26.98	25.40	24.4	38.9	14.2	49.0	26.0		
MC-M1808G	18	1/2	11.9	26.98	30.16	24.4	38.9	14.2	49.0	26.0		
MC-M1812G	18	3/4	15.1	34.92	30.16	24.4	42.7	15.7	52.8	32.0		
MC-M2008G	20	1/2	11.9	30.16	31.75	26.0	40.4	14.2	50.5	26.0		
MC-M2012G	20	3/4	15.9	34.92	31.75	26.0	42.7	15.7	52.8	32.0		
MC-M2208G	22	1/2	11.9	30.16	31.75	26.0	40.4	14.2	50.5	26.0		
MC-M2212G	22	3/4	15.1	34.92	31.75	26.0	42.7	15.7	52.8	32.0		
MC-M2512G	25	3/4	15.9	34.92	38.10	31.3	45.2	15.7	57.5	32.0		
MC-M2516G	25	1	19.8	41.27	38.10	31.3	47.8	18.3	60.1	39.0		
MC-M2816G	28	1	19.8	44.45	47.63	36.6	49.3	18.3	70.1	39.0		
MC-M2820G	28	1-1/4	21.8	50.80	47.63	36.6	53.1	19.8	73.9	49.0		
MC-M3220G	32	1-1/4	28.6	50.80	50.80	42.0	55.9	19.8	78.9	49.0		
MC-M3824G	38	1-1/2	31.8	55.56	57.15	49.4	63.2	22.1	90.8	54.7		

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Tube Inset



Connects Fractional Tube

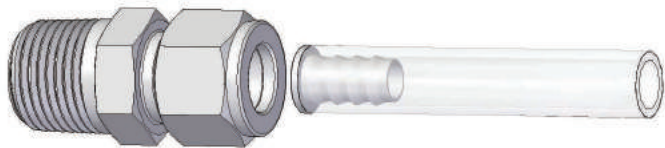
Part No.	Tube OD T		Tube ID T ₁	
	inch	mm	inch	mm
I-0302	3/16	4.76	1/8	3.17
I-0402	1/4	6.35	1/8	3.17
I-0403	1/4	6.35	3/16	4.76
I-0502	5/16	7.93	1/8	3.17
I-0503	5/16	7.93	3/16	4.76
I-0504	5/16	7.93	1/4	6.35
I-0603	3/8	9.52	3/16	4.76
I-0604	3/8	9.52	1/4	6.35
I-0804	1/2	12.70	1/4	6.35
I-0806	1/2	12.70	3/8	9.52
I-1006	5/8	15.87	3/8	9.52
I-1008	5/8	15.87	1/2	12.70
I-1208	3/4	19.05	1/2	12.70
I-1210	3/4	19.05	5/8	15.87
I-1612	1	25.40	3/4	19.05

Connects Fractional Tube

Part No.	Tube OD T	Tube ID T ₁
	mm	mm
I-M06M04	6	4
I-M08M06	8	6
I-M10M08	10	8
I-M12M08	12	8
I-M12M10	12	10

Installation Notes

As shown in the figure below, AFK pipe plugs are used for nylon and soft plastic pipes. The pipe plug supports the hose from the inside and installs it at the AFK port without collapsing.



1. Fully insert the hose into the AFK pipe plug.
2. Plug it into the AFK port.
3. Tighten the nut by hand.
4. Use top drive back pliers or vice to fix, and use a wrench to turn the nut 1-1/4 turn to tighten.

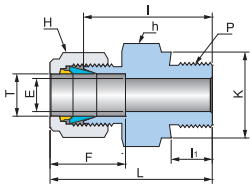
NOTE
The 3/16 inch AFK heat transfer tube fittings need to be turned 3/4 turn to tighten.

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MC-GM

Male Connector for Metal Gasket

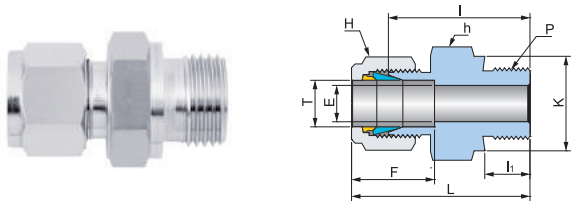


Connects Fractional(Inch) Tube to Female ISO Parallel Thread

Part No.	Tube OD T		P ISO 228/1	Dimensions (mm)									
				E Min.	h		H		F	I	I ₁	L	K
	inch	mm			inch	mm	inch	mm					
MC-0202GM	1/8	3.17	1/8	2.3	9/16	14.28	7/16	11.11	12.7	23.4	7.1	30.0	13.8
MC-0204GM	1/8	3.17	1/4	2.3	3/4	19.05	7/16	11.11	12.7	28.7	11.2	35.3	18.0
MC-0206GM	1/8	3.17	3/8	2.3	7/8	22.22	7/16	11.11	12.7	29.7	11.2	36.2	21.8
MC-0402GM	1/4	6.35	1/8	4.1	9/16	14.28	9/16	14.28	15.2	24.9	7.1	32.3	13.8
MC-0404GM	1/4	6.35	1/4	4.8	3/4	19.05	9/16	14.28	15.2	30.2	11.2	37.6	18.0
MC-0406GM	1/4	6.35	3/8	4.8	7/8	22.22	9/16	14.28	15.2	31.5	11.2	38.9	21.8
MC-0408GM	1/4	6.35	1/2	4.8	1-1/16	26.98	9/16	14.28	15.2	37.3	14.2	44.7	26.0
MC-0604GM	3/8	9.52	1/4	5.8	3/4	19.05	11/16	17.46	16.8	31.8	11.2	39.1	18.0
MC-0606GM	3/8	9.52	3/8	7.1	7/8	22.22	11/16	17.46	16.8	33.0	11.2	40.4	21.8
MC-0608GM	3/8	9.52	1/2	7.1	1-1/16	26.98	11/16	17.46	16.8	38.9	14.2	46.2	26.0
MC-0804GM	1/2	12.70	1/4	5.8	13/16	20.63	7/8	22.22	22.9	32.5	11.2	42.7	18.0
MC-0806GM	1/2	12.70	3/8	7.9	7/8	22.22	7/8	22.22	22.9	33.0	11.2	43.2	21.8
MC-0808GM	1/2	12.70	1/2	10.4	1-1/16	26.98	7/8	22.22	22.9	38.9	14.2	49.0	26.0
MC-1208GM	3/4	19.05	1/2	11.9	1-1/16	26.98	1-1/8	28.57	24.4	38.9	14.2	49.0	26.0
MC-1212GM	3/4	19.05	3/4	15.7	1-5/16	33.33	1-1/8	28.57	24.4	42.7	15.7	52.8	32.0
MC-1612GM	1	25.40	3/4	16.0	1-3/8	34.92	1-1/2	38.10	31.2	45.2	15.7	57.4	32.0
MC-1616GM	1	25.40	1	19.8	1-5/8	41.27	1-1/2	38.10	31.2	47.8	18.3	59.9	39.0

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MC-GM
Male Connector for Metal Gasket

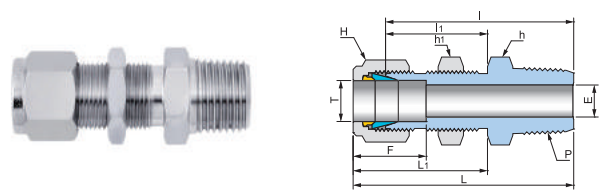


Connects Metric Tube to Female ISO Parallel Thread

Part No.	Tube OD T	P ISO 228/1	Dimensions (mm)							
	mm		E Min.	h mm	H mm	F	I	I ₁	L	K
MC-M0302GM	3	1/8	2.4	14.28	11.11	12.7	23.4	7.1	30.0	13.8
MC-M0304GM	3	1/4	2.4	19.05	11.11	12.7	28.7	11.2	35.3	18.0
MC-M0402GM	4	1/8	2.4	14.28	12.70	13.7	24.1	7.1	30.7	13.8
MC-M0404GM	4	1/4	2.4	19.05	12.70	13.7	29.4	11.2	36.0	18.0
MC-M0602GM	6	1/8	4.0	14.28	14.28	15.3	24.9	7.1	32.3	13.8
MC-M0604GM	6	1/4	4.8	19.05	14.28	15.3	30.2	11.2	37.6	18.0
MC-M0606GM	6	3/8	4.8	22.22	14.28	15.3	31.5	11.2	38.9	21.8
MC-M0608GM	6	1/2	4.8	26.98	14.28	15.3	37.3	14.2	44.7	26.0
MC-M0802GM	8	1/8	4.0	15.87	15.87	16.3	25.7	7.1	33.2	13.8
MC-M0804GM	8	1/4	6.4	19.05	15.87	16.3	31.0	11.2	38.5	18.0
MC-M0806GM	8	3/8	6.4	22.22	15.87	16.3	32.3	11.2	39.8	21.8
MC-M0808GM	8	1/2	6.4	26.98	15.87	16.3	38.1	14.2	45.6	26.0
MC-M1004GM	10	1/4	5.9	19.05	19.05	17.3	31.8	11.2	39.4	18.0
MC-M1006GM	10	3/8	7.9	22.22	19.05	17.3	33.0	11.2	40.6	21.8
MC-M1008GM	10	1/2	7.9	26.98	19.05	17.3	38.9	14.2	46.5	26.0
MC-M1204GM	12	1/4	5.9	22.22	22.22	22.8	32.5	11.2	42.6	18.0
MC-M1206GM	12	3/8	7.9	22.22	22.22	22.8	33.0	11.2	43.1	21.8
MC-M1208GM	12	1/2	9.5	26.98	22.22	22.8	38.9	14.2	49.0	26.0
MC-M1212GM	12	3/4	9.5	34.92	22.22	22.8	42.7	15.7	52.8	32.0
MC-M1508GM	15	1/2	11.9	26.98	25.40	24.4	38.9	14.2	49.0	26.0
MC-M1606GM	16	3/8	7.9	23.81	25.40	24.5	33.8	11.2	43.9	21.8
MC-M1608GM	16	1/2	11.9	26.98	25.40	24.5	38.9	14.2	49.0	26.0
MC-M1808GM	18	1/2	11.9	26.98	30.16	24.5	38.9	14.2	49.0	26.0
MC-M1812GM	18	3/4	15.1	34.92	30.16	24.5	42.7	15.7	52.8	32.0
MC-M2008GM	20	1/2	11.9	30.16	31.75	26.2	40.4	14.2	50.5	26.0
MC-M2012GM	20	3/4	15.9	34.92	31.75	26.2	42.7	15.7	52.8	32.0
MC-M2212GM	22	3/4	15.9	34.92	31.75	26.2	42.7	15.7	52.8	32.0
MC-M2512GM	25	3/4	15.9	34.92	38.10	31.1	45.2	15.7	57.5	32.0
MC-M2516GM	25	1	19.8	41.27	38.10	31.1	47.8	18.3	60.1	39.0
MC-M2816GM	28	1	19.8	41.27	47.63	41.1	49.3	18.3	70.1	39.0
MC-M2820GM	28	1-1/4	21.8	50.80	47.63	41.1	53.1	19.8	73.9	49.0
MC-M3220GM	32	1-1/4	28.6	50.80	50.80	40.9	55.9	19.8	78.9	49.0
MC-M3824GM	38	1-1/2	31.8	55.56	57.15	49.9	61.7	20.6	89.3	54.7

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E refers to the smallest opening. F and L are the standard hand-tightened dimensions.

BMC
Bulkhead Male Connector



Connects Fractional(inch) Tube to Female NPT Thread

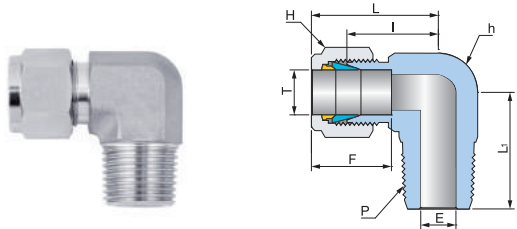
Part No.	Tube OD T		P NPT	Dimensions (mm)													
	inch	mm		E Min.	h inch	mm	h ₁ inch	mm	H inch	mm	F	I	I ₁	L	L ₁	Panel Hole Size	Max Panel Thickness
BMC-0202N	1/8	3.17	1/8	2.3	1/2	12.70	1/2	12.70	7/16	11.11	12.7	39.9	24.6	46.5	31.2	8.3	12.7
BMC-0402N	1/4	6.35	1/8	4.8	5/8	15.87	5/8	15.87	9/16	14.28	15.2	42.2	26.2	49.5	33.5	11.5	10.2
BMC-0404N	1/4	6.35	1/4	4.8	5/8	15.87	5/8	15.87	9/16	14.28	15.2	46.0	26.2	53.3	33.5	11.5	10.2
BMC-0604N	3/8	9.52	1/4	7.1	3/4	19.05	3/4	19.05	11/16	17.46	16.8	50.0	29.5	57.4	36.8	14.7	11.2
BMC-0606N	3/8	9.52	3/8	7.1	3/4	19.05	3/4	19.05	11/16	17.46	16.8	50.0	29.5	57.4	36.8	14.7	11.2
BMC-0608N	3/8	9.52	1/2	7.1	15/16	23.81	15/16	23.81	11/16	17.46	16.8	56.4	29.5	63.8	36.8	14.7	11.2
BMC-0806N	1/2	12.70	3/8	9.7	15/16	23.81	15/16	23.81	7/8	22.22	22.9	53.1	31.8	63.2	41.9	19.5	12.7
BMC-0808N	1/2	12.70	1/2	10.4	15/16	23.81	15/16	23.81	7/8	22.22	22.9	58.7	31.8	68.8	41.9	19.5	12.7
BMC-1212N	3/4	19.05	3/4	15.7	1-3/16	30.16	1-3/16	30.16	1-1/8	28.57	24.4	66.0	37.3	76.2	47.5	25.8	16.8
BMC-1616N	1	25.40	1	22.4	1-5/8	41.27	1-5/8	41.27	1-1/2	38.10	31.2	81.0	45.2	93.2	57.4	33.7	19.1

Connects Metric Tube to Female ISO Tapered Thread

Part No.	Tube OD T	P ISO7/1	Dimensions (mm)										
	mm		E Min.	h mm	h ₁ mm	H mm	F	I	I ₁	L	L ₁	Panel Hole Size	Max Panel Thickness
BMC-M0302R	3	1/8	2.4	14.28	14.28	11.11	12.9	39.8	24.6	46.5	31.2	8.3	12.7
BMC-M0602R	6	1/8	4.8	15.87	15.87	14.28	15.3	42.2	26.2	49.6	33.6	11.5	10.2
BMC-M0604R	6	1/4	4.8	15.87	15.87	14.28	15.3	46.2	26.2	53.6	33.6	11.5	10.2
BMC-M0804R	8	1/4	6.4	17.46	17.46	15.87	16.2	49.0	28.6	56.5	36.1	13.1	11.2
BMC-M1004R	10	1/4	7.1	22.22	22.22	19.05	17.2	52.0	29.5	59.7	37.0	16.2	11.2
BMC-M1206R	12	3/8	9.5	23.81	23.81	22.22	22.8	53.1	31.8	63.2	41.9	19.5	12.7
BMC-M1208R	12	1/2	9.5	23.81	23.81	22.22	22.8	58.7	31.8	68.8	41.9	19.5	12.7

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ME
Male Elbow

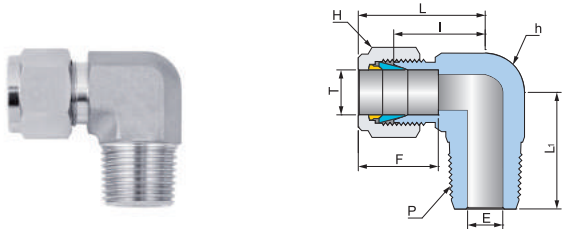


Connects Fractional(Inch) Tube to Female NPT Thread

Part No.	Tube OD T		P NPT	Dimensions (mm)								
	inch	mm		E Min.	h		H		F	I	L	L ₁
					inch	mm	inch	mm				
ME-0101N	1/16	1.68	1/16	1.3	1/2	12.70	5/16	7.93	8.6	15.2	19.1	17.8
ME-0102N	1/16	1.68	1/8	1.3	1/2	12.70	5/16	7.93	8.6	15.2	19.1	17.8
ME-0202N	1/8	3.17	1/8	2.3	1/2	12.70	7/16	11.11	12.7	17.0	23.6	17.8
ME-0204N	1/8	3.17	1/4	2.3	1/2	12.70	7/16	11.11	12.7	18.0	24.6	23.4
ME-0206N	1/8	3.17	3/8	2.3	11/16	17.46	7/16	11.11	12.7	22.2	28.8	26.1
ME-0208N	1/8	3.17	1/2	2.3	13/16	20.63	7/16	11.11	12.7	22.9	29.5	33.0
ME-0302N	3/16	4.76	1/8	3.0	1/2	12.70	1/2	12.70	13.7	18.8	25.4	18.8
ME-0304N	3/16	4.76	1/4	3.0	1/2	12.70	1/2	12.70	13.7	18.8	25.4	23.4
ME-0401N	1/4	6.35	1/16	3.0	1/2	12.70	9/16	14.28	15.2	19.6	26.9	18.8
ME-0402N	1/4	6.35	1/8	4.8	1/2	12.70	9/16	14.28	15.2	19.6	26.9	18.8
ME-0404N	1/4	6.35	1/4	4.8	1/2	12.70	9/16	14.28	15.2	19.6	26.9	23.4
ME-0406N	1/4	6.35	3/8	4.8	11/16	17.46	9/16	14.28	15.2	22.4	29.7	26.2
ME-0408N	1/4	6.35	1/2	4.8	13/16	20.63	9/16	14.28	15.2	24.4	31.7	33.0
ME-0412N	1/4	6.35	3/4	4.8	1-1/16	26.98	9/16	14.28	15.2	28.3	35.6	36.8
ME-0502N	5/16	7.93	1/8	4.8	9/16	14.28	5/8	15.87	16.3	21.3	28.7	19.8
ME-0504N	5/16	7.93	1/4	6.4	9/16	14.28	5/8	15.87	16.3	21.3	28.7	24.4
ME-0506N	5/16	7.93	1/2	6.4	11/16	17.46	5/8	15.87	16.3	23.1	30.5	26.2
ME-0602N	3/8	9.52	1/8	4.8	5/8	15.87	11/16	17.46	16.8	23.1	30.5	20.8
ME-0604N	3/8	9.52	1/4	7.1	5/8	15.87	11/16	17.46	16.8	23.1	30.5	25.4
ME-0606N	3/8	9.52	3/8	7.1	11/16	17.46	11/16	17.46	16.8	23.9	31.2	26.2
ME-0608N	3/8	9.52	1/2	7.1	13/16	20.63	11/16	17.46	16.8	25.9	33.3	33.0
ME-0612N	3/8	9.52	3/4	7.1	1-1/16	26.98	11/16	17.46	16.8	29.7	37.1	36.8
ME-0802N	1/2	12.70	1/8	4.8	13/16	20.63	7/8	22.22	22.9	25.9	36.1	23.3
ME-0804N	1/2	12.70	1/4	7.1	13/16	20.63	7/8	22.22	22.9	25.9	36.1	28.3
ME-0806N	1/2	12.70	3/8	9.7	13/16	20.63	7/8	22.22	22.9	25.9	36.1	28.3
ME-0808N	1/2	12.70	1/2	10.4	13/16	20.63	7/8	22.22	22.9	25.9	36.1	33.0
ME-0812N	1/2	12.70	3/4	10.4	1-1/16	26.98	7/8	22.22	22.9	29.7	39.9	36.8
ME-0816N	1/2	12.70	1	10.4	1-3/8	34.92	7/8	22.22	22.9	34.6	44.8	46.5
ME-1006N	5/8	15.87	3/8	9.7	15/16	23.81	1	25.40	24.4	27.9	38.1	30.2
ME-1008N	5/8	15.87	1/2	11.9	15/16	23.81	1	25.40	24.4	27.9	38.1	35.1
ME-1012N	5/8	15.87	3/4	12.7	1-1/16	26.98	1	25.40	24.4	29.7	39.9	36.8
ME-1206N	3/4	19.05	3/8	9.7	1-1/16	26.98	1-1/8	28.57	24.4	29.7	39.9	31.9
ME-1208N	3/4	19.05	1/2	11.9	1-1/16	26.98	1-1/8	28.57	24.4	29.7	39.9	36.8
ME-1212N	3/4	19.05	3/4	15.7	1-1/16	26.98	1-1/8	28.57	24.4	29.7	39.9	36.8
ME-1216N	3/4	19.05	1	15.7	1-3/8	34.92	1-1/8	28.57	24.4	34.5	44.7	46.5
ME-1412N	7/8	22.22	3/4	15.7	1-3/8	30.16	1-1/4	31.75	25.9	34.5	44.7	41.7
ME-1608N	1	25.40	1/2	11.9	1-3/8	34.92	1-1/2	38.10	31.2	36.5	48.7	41.9
ME-1612N	1	25.40	3/4	15.7	1-3/8	34.92	1-1/2	38.10	31.2	36.8	49.0	41.7
ME-1616N	1	25.40	1	22.4	1-3/8	34.92	1-1/2	38.10	31.2	36.8	49.0	46.5
ME-2016N	1-1/4	31.75	1	27.7	1-11/16	42.86	1-7/8	47.63	41.1	44.0	66.0	51.3
ME-2020N	1-1/4	31.75	1-1/4	27.7	1-11/16	42.86	1-7/8	47.63	41.1	44.0	66.0	51.1
ME-2424N	1-1/2	38.10	1-1/2	34.0	2	50.80	2-1/4	57.15	50.0	50.8	78.0	60.5
ME-3232N	2	50.80	2	46.0	2-3/4	69.85	3	76.20	67.6	69.8	107.2	70.6

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ME
Male Elbow



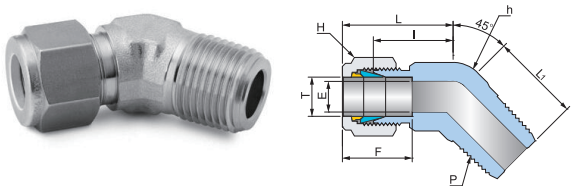
Connects Metric Tube to Female ISO Tapered Thread

Part No.	Tube OD T	P ISO7/1	Dimensions (mm)						
			E Min.	h mm	H mm	F	I	L	L ₁
	mm								
ME-M0302R	3	1/8	2.4	12.70	11.11	12.9	17.0	23.6	17.8
ME-M0304R	3	1/4	2.4	12.70	11.11	12.9	18.0	24.6	23.4
ME-M0402R	4	1/8	2.4	12.70	12.70	13.7	18.8	25.4	18.8
ME-M0404R	4	1/4	2.4	12.70	12.70	13.7	18.8	25.4	23.4
ME-M0602R	6	1/8	4.8	12.70	14.28	15.3	19.6	27.0	18.8
ME-M0604R	6	1/4	4.8	12.70	14.28	15.3	19.6	27.0	23.4
ME-M0606R	6	3/8	4.8	17.46	14.28	15.3	22.4	29.8	26.2
ME-M0608R	6	1/2	4.8	20.63	14.28	15.3	24.4	31.8	33.0
ME-M0802R	8	1/8	4.8	14.28	15.87	16.2	21.3	28.8	19.8
ME-M0804R	8	1/4	6.4	14.28	15.87	16.2	21.3	28.8	24.4
ME-M0806R	8	3/8	6.4	17.46	15.87	16.2	23.1	30.6	26.2
ME-M0808R	8	1/2	6.4	20.63	15.87	16.2	25.1	32.6	33.0
ME-M1002R	10	1/8	4.8	17.46	19.05	17.2	23.9	31.5	21.6
ME-M1004R	10	1/4	7.1	17.46	19.05	17.2	23.9	31.5	26.2
ME-M1006R	10	3/8	7.9	17.46	19.05	17.2	23.9	31.5	26.2
ME-M1008R	10	1/2	7.9	20.63	19.05	17.2	25.9	33.5	33.0
ME-M1202R	12	1/8	4.8	20.63	22.22	22.8	25.9	36.0	23.6
ME-M1204R	12	1/4	7.1	20.63	22.22	22.8	25.9	36.0	28.2
ME-M1206R	12	3/8	9.5	20.63	22.22	22.8	25.9	36.0	28.2
ME-M1208R	12	1/2	9.5	20.63	22.22	22.8	25.9	36.0	33.0
ME-M1212R	12	3/4	9.5	26.98	22.22	22.8	29.7	39.8	36.8
ME-M1408R	14	1/2	11.9	23.81	25.40	24.4	27.9	38.0	35.1
ME-M1508R	15	1/2	11.9	23.81	25.40	24.4	27.9	38.0	35.1
ME-M1606R	16	3/8	9.5	23.81	25.40	24.4	27.9	38.0	30.2
ME-M1608R	16	1/2	11.9	23.81	25.40	24.4	27.9	38.0	35.1
ME-M1612R	16	3/4	12.7	26.98	25.40	24.4	29.7	39.8	36.8
ME-M1808R	18	1/2	11.9	26.98	30.16	24.4	29.7	39.8	36.8
ME-M1812R	18	3/4	15.1	26.98	30.16	24.4	29.7	39.8	36.8
ME-M2008R	20	1/2	11.9	34.92	31.75	26.0	34.5	44.6	41.7
ME-M2012R	20	3/4	15.9	34.92	31.75	26.0	34.5	44.6	41.7
ME-M2212R	22	3/4	15.9	34.92	31.75	26.0	34.5	44.6	41.7
ME-M2512R	25	3/4	15.9	34.92	38.10	31.3	36.8	49.1	41.7
ME-M2516R	25	1	21.8	34.92	38.10	31.3	36.8	49.1	46.5
ME-M3020R	30	1-1/4	26.2	46.04	50.80	39.6	48.3	69.9	53.1
ME-M3220R	32	1-1/4	27.8	46.04	50.80	42.0	49.3	72.3	53.1
ME-M3832R	38	1-1/2	33.7	55.56	57.15	49.4	56.4	84.0	60.4

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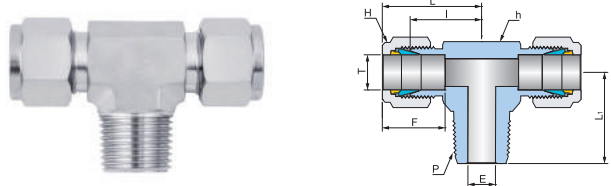
MVE
45° Male Elbow



Connects Fractional(Inch) Tube to Female NPT Thread

Part No.	Tube OD T		P NPT	Dimensions (mm)								
	inch	mm		E Min.	h		H		F	I	L	L ₁
					inch	mm	inch	mm				
MVE-0402N	1/4	6.35	1/8	4.8	1/2	12.70	9/16	14.28	15.2	17.3	24.6	16.5
MVE-0404N	1/4	6.35	1/4	4.8	1/2	12.70	9/16	14.28	15.2	17.3	24.6	21.1
MVE-0602N	3/8	9.52	1/8	4.8	5/8	15.87	11/16	17.46	16.8	20.6	27.9	18.3
MVE-0604N	3/8	9.52	1/4	7.1	5/8	15.87	11/16	17.46	16.8	20.6	27.9	22.9
MVE-0606N	3/8	9.52	3/8	7.1	13/16	20.63	11/16	17.46	16.8	21.8	29.2	24.1
MVE-0806N	1/2	12.70	3/8	9.7	13/16	20.63	7/8	22.22	22.9	21.8	32.0	24.1
MVE-0808N	1/2	12.70	1/2	10.4	13/16	20.63	7/8	22.22	22.9	21.8	32.0	29.0
MVE-1212N	3/4	19.05	3/4	15.7	1-1/8	28.57	1-1/8	28.57	24.4	23.9	34.0	31.0
MVE-1616N	1	25.40	1	22.4	1-3/8	34.92	1-1/2	38.10	31.2	28.2	40.3	37.8

MBT
Male Branch Tee



Connects Fractional(Inch) Tube to Female NPT Thread

Part No.	Tube OD T		P NPT	Dimensions (mm)								
	inch	mm		E Min.	h		H		F	I	L	L ₁
					inch	mm	inch	mm				
MBT-0202N	1/8	3.17	1/8	2.3	1/2	12.70	7/16	11.11	12.7	17.0	23.6	17.8
MBT-0204N	1/8	3.17	1/4	2.3	1/2	12.70	7/16	11.11	12.7	18.0	24.6	23.4
MBT-0302N	3/16	4.76	1/8	3.0	1/2	12.70	1/2	12.70	13.7	17.8	24.4	17.8
MBT-0402N	1/4	6.35	1/8	4.8	1/2	12.70	9/16	14.28	15.2	19.6	26.9	18.8
MBT-0404N	1/4	6.35	1/4	4.8	1/2	12.70	9/16	14.28	15.2	19.6	26.9	23.4
MBT-0502N	5/16	7.93	1/8	4.8	9/16	14.28	5/8	15.87	16.3	22.4	29.7	20.8
MBT-0604N	3/8	9.52	1/4	7.1	5/8	15.87	11/16	17.46	16.8	23.1	30.5	25.4
MBT-0606N	3/8	9.52	3/8	7.1	11/16	17.46	11/16	17.46	16.8	23.9	31.2	28.2
MBT-0806N	1/2	12.70	3/8	9.7	13/16	20.63	7/8	22.22	22.9	25.9	36.1	28.2
MBT-0808N	1/2	12.70	1/2	10.4	13/16	20.63	7/8	22.22	22.9	25.9	36.1	33.0
MBT-1008N	5/8	15.87	1/2	11.9	1	25.40	1	25.40	24.4	28.7	38.9	35.8
MBT-1212N	3/4	19.05	3/4	15.7	1-1/16	26.98	1-1/8	28.57	24.4	29.7	39.9	36.8

Connects Metric Tube to Female ISO Tapered Thread

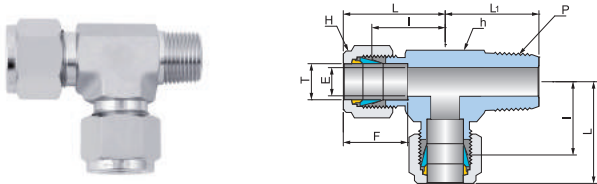
Part No.	Tube OD T	P ISO7/1	Dimensions (mm)						
	E Min.		h	H	F	I	L	L ₁	
			mm	mm					mm
MBT-M0302R	3	1/8	2.4	12.70	11.11	12.9	17.0	23.6	17.8
MBT-M0304R	3	1/4	2.4	12.70	11.11	12.9	18.0	24.6	23.4
MBT-M0402R	4	1/8	2.4	12.70	12.70	13.7	18.8	25.4	18.8
MBT-M0602R	6	1/8	4.8	12.70	14.28	15.3	19.6	27.0	18.8
MBT-M0604R	6	1/4	4.8	12.70	14.28	15.3	19.6	27.0	23.4
MBT-M0802R	8	1/8	4.8	14.28	15.87	16.2	21.3	28.8	19.8
MBT-M0804R	8	1/4	6.4	14.28	15.87	16.2	21.3	28.8	24.4
MBT-M1004R	10	1/4	7.1	17.46	19.05	17.2	23.9	31.5	28.2
MBT-M1006R	10	3/8	7.9	17.46	19.05	17.2	23.9	31.5	28.2
MBT-M1204R	12	1/4	7.1	20.63	22.22	22.8	25.9	36.0	28.2
MBT-M1206R	12	3/8	9.5	20.63	22.22	22.8	25.9	36.0	28.2
MBT-M1208R	12	1/2	9.5	20.63	22.22	22.8	25.9	36.0	33.0
MBT-M1606R	16	3/8	9.5	25.40	25.40	24.4	28.7	38.8	30.9
MBT-M1608R	16	1/2	11.9	25.40	25.40	24.4	28.7	38.8	35.8
MBT-M2012R	20	3/4	15.9	34.92	31.75	26.0	36.8	47.1	43.5

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MRT
Male Run Tee



Connects Fractional Tube to Female NPT Thread

Part No.	Tube OD T		P NPT	Dimensions (mm)								
	inch	mm		E Min.	h		H		F	I	L	L ₁
					inch	mm	inch	mm				
MRT-0202N	1/8	3.17	1/8	2.3	1/2	12.70	7/16	11.11	12.7	17.0	23.6	17.8
MRT-0204N	1/8	3.17	1/4	2.3	1/2	12.70	7/16	11.11	12.7	18.0	24.6	23.4
MRT-0302N	3/16	4.76	1/8	3.0	7/16	11.11	1/2	12.70	13.7	17.8	24.4	17.8
MRT-0402N	1/4	6.35	1/4	4.8	1/2	12.70	9/16	14.28	15.2	19.6	26.9	18.8
MRT-0404N	1/4	6.35	1/8	4.8	1/2	12.70	9/16	14.28	15.2	19.6	26.9	23.4
MRT-0502N	5/16	7.94	1/8	4.8	9/16	14.28	5/8	15.87	16.3	22.4	29.7	20.8
MRT-0604N	3/8	9.52	1/4	7.1	5/8	15.87	11/16	17.46	16.8	23.1	30.5	25.4
MRT-0606N	3/8	9.52	3/8	7.1	11/16	17.46	11/16	17.46	16.8	23.9	31.2	28.2
MRT-0806N	1/2	12.70	3/8	9.7	13/16	20.63	7/8	22.22	22.9	25.9	36.1	28.2
MRT-0808N	1/2	12.70	1/2	10.4	13/16	20.63	7/8	22.22	22.9	25.9	36.1	33.0
MRT-1008N	5/8	15.87	1/2	11.9	1	25.40	1	25.40	24.4	27.9	38.1	35.1
MRT-1212N	3/4	19.05	3/4	15.7	1-1/16	26.98	1-1/8	28.57	24.4	29.7	39.9	36.8

All MRT fractions are available with ISO tapered pipe threads. To order, add an "R" instead of an "N" at the end.

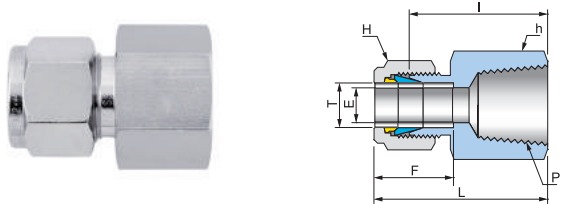
Connects Metric Tube to Female ISO Tapered Thread

Part No.	Tube OD T	P ISO7/1	Dimensions (mm)						
	E Min.		h	H	F	I	L	L ₁	
			inch	mm					
MRT-M0302R	3	1/8	2.4	12.70	11.11	12.9	17.0	23.6	17.8
MRT-M0304R	3	1/4	2.4	12.70	11.11	12.9	18.0	24.6	23.4
MRT-M0402R	4	1/8	2.4	12.70	12.70	13.7	18.8	25.4	18.8
MRT-M0602R	6	1/8	4.8	12.70	14.28	15.3	19.6	27.0	18.8
MRT-M0604R	6	1/4	4.8	12.70	14.28	15.3	19.6	27.0	23.4
MRT-M0802R	8	1/8	4.8	14.28	15.87	16.2	21.3	28.8	19.8
MRT-M0804R	8	1/4	6.4	14.28	15.87	16.2	21.3	28.8	24.4
MRT-M1004R	10	1/4	7.1	17.46	19.05	17.2	23.9	31.5	28.2
MRT-M1006R	10	3/8	7.9	17.46	19.05	17.2	23.9	31.5	28.2
MRT-M1204R	12	1/4	7.1	20.63	22.22	22.8	25.9	36.0	28.2
MRT-M1206R	12	3/8	9.5	20.63	22.22	22.8	25.9	36.0	28.2
MRT-M1208R	12	1/2	9.5	20.63	22.22	22.8	25.9	36.0	33.0
MRT-M1606R	16	3/8	9.5	25.40	25.40	24.4	27.9	38.0	30.2
MRT-M1608R	16	1/2	11.9	25.40	25.40	24.4	27.9	38.0	35.1
MRT-M2012R	20	3/4	15.9	34.92	31.75	26.0	34.5	44.6	41.7

All metric MRTs are available with NPT standard threads. To order, add an "N" instead of an "R" at the end.

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FC
Female Connector



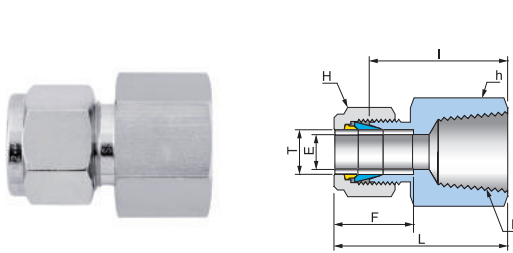
Connects Fractional Tube to Male NPT Thread

Part No.	Tube OD T		P NPT	Dimensions (mm)							
	inch	mm		E Min.	h		H		F	I	L
					inch	mm	inch	mm			
FC-0202N	1/8	3.17	1/8	2.3	9/16	14.28	7/16	11.11	12.7	22.1	28.7
FC-0204N	1/8	3.17	1/4	2.3	3/4	19.05	7/16	11.11	12.7	26.9	33.5
FC-0302N	3/16	4.76	1/8	3.0	9/16	14.28	1/2	12.70	13.7	23.1	29.7
FC-0402N	1/4	6.35	1/8	4.8	9/16	14.28	9/16	14.28	15.2	23.9	31.2
FC-0404N	1/4	6.35	1/4	4.8	3/4	19.05	9/16	14.28	15.2	28.4	35.8
C-0406N	1/4	6.35	3/8	4.8	7/8	22.22	9/16	14.28	15.2	30.2	37.6
FC-0408N	1/4	6.35	1/2	4.8	1-1/16	26.98	9/16	14.28	15.2	35.1	42.4
FC-0502N	5/16	7.93	1/8	6.4	9/16	14.28	5/8	15.87	16.3	24.6	32.0
FC-0504N	5/16	7.93	1/4	6.4	3/4	19.05	5/8	15.87	16.3	29.5	36.8
FC-0602N	3/8	9.52	1/8	7.1	5/8	15.87	11/16	17.46	16.8	25.4	32.8
FC-0604N	3/8	9.52	1/4	7.1	3/4	19.05	11/16	17.46	16.8	30.2	37.6
FC-0606N	3/8	9.52	3/8	7.1	7/8	22.22	11/16	17.46	16.8	31.8	39.1
FC-0608N	3/8	9.52	1/2	7.1	1-1/16	26.98	11/16	17.46	16.8	36.6	43.9
FC-0612N	3/8	9.52	3/4	7.1	1-5/16	33.33	11/16	17.46	16.8	40.4	47.8
FC-0804N	1/2	12.70	1/4	10.4	13/16	20.63	7/8	22.22	22.9	30.2	40.4
FC-0806N	1/2	12.70	3/8	10.4	7/8	22.22	7/8	22.22	22.9	31.8	41.9
FC-0808N	1/2	12.70	1/2	10.4	1-1/16	26.98	7/8	22.22	22.9	36.6	46.7
FC-0812N	1/2	12.70	3/4	10.4	1-5/16	33.33	7/8	22.22	22.9	38.1	48.3
FC-1006N	5/8	15.87	3/8	12.7	15/16	23.81	1	25.40	24.4	31.8	41.9
FC-1008N	5/8	15.87	1/2	12.7	1-1/16	26.98	1	25.40	24.4	36.6	46.7
FC-1208N	3/4	19.05	1/2	15.7	1-1/16	26.98	1-1/8	28.57	24.4	36.6	46.7
FC-1212N	3/4	19.05	3/4	15.7	1-5/16	33.33	1-1/8	28.57	24.4	38.1	48.3
FC-1412N	7/8	22.22	3/4	18.3	1-5/16	33.33	1-1/4	31.75	25.9	39.6	49.8
FC-1612N	1	25.40	3/4	22.4	1-3/8	34.92	1-1/2	38.10	31.2	41.1	53.3
FC-1616N	1	25.40	1	22.4	1/5-8	41.27	1-1/2	38.10	31.2	50.0	62.2
FC-2020N	1-1/4	31.75	1-1/4	27.7	2-1/8	53.98	1-7/8	47.63	41.1	52.6	74.7
FC-2424N	1-1/2	38.10	1-1/2	34.0	2-3/8	60.33	2-1/4	57.15	50.0	56.1	83.3
FC-3232N	2	50.80	2	46.0	2-7/8	73.03	3	76.20	67.6	64.3	101.6

All FC fractions are available with ISO tapered pipe threads. To order, add an "R" instead of an "N" at the end.

This size is for reference only, subject to possible changes in the actual product (without notice).
E refers to the smallest opening. F and L are the standard hand-tightened dimensions.

FC
Female Connector

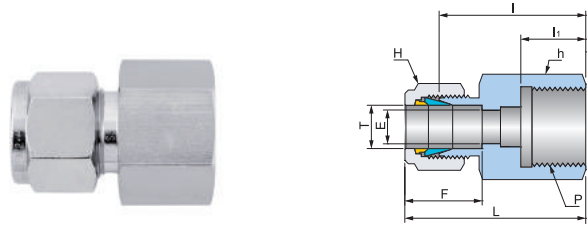


Connects Metric Tube to Male ISO Tapered Thread

Part No.	Tube OD T	P ISO7/1	Dimensions (mm)					
	mm		E Min.	h mm	H mm	F	I	L
FC-M0302R	3	1/8	2.4	14.28	11.11	12.7	22.1	28.7
FC-M0304R	3	1/4	2.4	19.05	11.11	12.9	26.9	33.5
FC-M0402R	4	1/8	2.4	14.28	11.11	12.9	23.1	29.7
FC-M0602R	6	1/8	4.8	14.28	12.70	13.7	23.9	31.3
FC-M0604R	6	1/4	4.8	19.05	14.28	15.3	28.4	35.8
FC-M0606R	6	3/8	4.8	22.22	14.28	15.3	29.5	36.9
FC-M0608R	6	1/2	4.8	26.98	14.28	15.3	35.1	42.5
FC-M0802R	8	1/8	6.4	14.28	14.28	15.3	24.6	32.1
FC-M0804R	8	1/4	6.4	19.05	15.87	16.2	29.5	37.0
FC-M0806R	8	3/8	6.4	22.22	15.87	16.2	30.2	37.7
FC-M0808R	8	1/2	6.4	26.98	15.87	16.2	35.8	43.3
FC-M1002R	10	1/8	7.9	17.46	15.87	16.2	25.4	33.0
FC-M1004R	10	1/4	7.9	19.05	19.05	17.2	30.2	37.8
FC-M1006R	10	3/8	7.9	22.22	19.05	17.2	31.0	38.6
FC-M1008R	10	1/2	7.9	26.98	19.05	17.2	36.6	44.2
FC-M1202R	12	1/8	8.3	22.22	19.05	17.2	28.4	38.5
FC-M1204R	12	1/4	9.5	22.22	22.22	22.8	30.2	40.3
FC-M1206R	12	3/8	9.5	22.22	22.22	22.8	31.0	41.1
FC-M1208R	12	1/2	9.5	26.98	22.22	22.8	36.6	46.7
FC-M1212R	12	3/4	9.5	33.33	22.22	22.8	38.9	49.0
FC-M1508R	15	1/2	11.9	26.98	22.22	22.8	36.6	46.7
FC-M1608R	16	1/2	12.7	26.98	25.40	24.4	36.8	46.9
FC-M2008R	20	1/2	15.9	30.16	25.40	24.4	37.8	47.9
FC-M2012R	20	3/4	15.9	33.33	31.75	26.0	39.6	49.7
FC-M2212R	22	3/4	18.3	34.92	31.75	26.0	39.6	49.7
FC-M2216R	22	1	18.3	41.27	31.75	26.0	47.8	57.9
FC-M2512R	25	3/4	21.8	34.92	31.75	26.0	41.1	53.4
FC-M2516R	25	1	21.8	41.27	38.10	31.3	50.0	62.3

This size is for reference only, subject to possible changes in the actual product (without notice).
E refers to the smallest opening. F and L are the standard hand-tightened dimensions.

GC
Gauge Connector



Connects Fractional Tube to ISO Parallel Thread (Gauge)

Part No.	Tube OD T		P ISO 228/1	Dimensions (mm)								
	inch	mm		E Min.	h		H		F	I	I ₁	L ₁
GC-0402GG	1/4	6.35	1/8	4.8	9/16	14.28	9/16	14.28	15.2	26.3	12.0	33.6
GC-0404GG	1/4	6.35	1/4	4.8	3/4	19.05	9/16	14.28	15.2	30.2	13.0	37.6
GC-0406GG	1/4	6.35	3/8	4.8	15/16	23.81	9/16	14.28	15.2	30.2	14.2	37.6
GC-0408GG	1/4	6.35	1/2	4.8	1-1/16	26.98	9/16	14.28	15.2	36.1	18.8	43.4
GC-0504GG	5/16	7.93	1/4	5.6	3/4	19.05	5/8	15.87	16.3	31.0	13.0	38.4
GC-0508GG	5/16	7.93	1/2	7.1	1-1/16	26.98	5/8	15.87	16.3	33.5	18.8	40.9
GC-0604GG	3/8	9.52	1/4	5.6	3/4	19.05	11/16	17.46	16.8	31.8	13.0	39.1
GC-0606GG	3/8	9.52	3/8	6.6	15/16	23.81	11/16	17.46	16.8	31.2	14.2	38.6
GC-0608GG	3/8	9.52	1/2	7.1	1-1/16	26.98	11/16	17.46	16.8	34.5	19.0	41.9
GC-0804GG	1/2	12.70	1/4	5.6	7/8	22.22	7/8	22.22	22.9	31.8	13.0	42.0
GC-0806GG	1/2	12.70	3/8	6.6	15/16	23.81	7/8	22.22	22.9	34.3	14.2	44.5
GC-0808GG	1/2	12.70	1/2	7.1	1-1/16	26.98	7/8	22.22	22.9	38.1	19.0	48.3

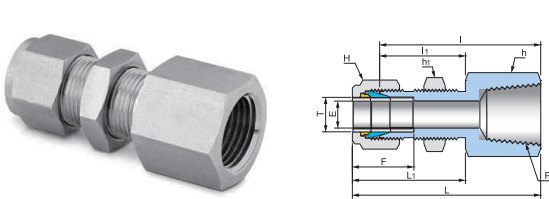
Connects Metric Tube to ISO Parallel Thread (Gauge)

Part No.	Tube OD T	P ISO 228/1	Dimensions (mm)						
	mm		E Min.	h mm	H mm	F	I	I ₁	L
GC-M0304GG	3	1/4	2.4	19.05	11.11	12.9	28.7	13.0	35.3
GC-M0604GG	6	1/4	4.8	19.05	14.28	15.3	30.2	13.0	37.6
GC-M0606GG	6	3/8	4.8	23.81	14.28	15.3	30.2	14.2	37.6
GC-M0608GG	6	1/2	4.8	26.98	14.28	15.3	36.3	19.0	43.7
GC-M0804GG	8	1/4	5.5	19.05	15.87	16.2	31.0	13.0	38.5
GC-M0806GG	8	3/8	6.5	23.81	15.87	16.2	28.7	14.0	36.2
GC-M0808GG	8	1/2	7.0	26.98	15.87	16.2	33.0	19.0	40.5
G.C-M1004GG	10	1/4	5.5	19.05	19.05	17.2	31.8	13.0	39.4
GC-M1006GG	10	3/8	6.5	23.81	19.05	17.2	31.2	14.2	38.8
GC-M1008GG	10	1/2	7.0	26.98	19.05	17.2	34.5	19.0	42.1
GC-M1204GG	12	1/4	5.5	22.22	22.22	22.8	31.8	13.0	41.9
GC-M1206GG	12	3/8	6.5	23.81	22.22	22.8	34.3	14.0	44.4
GC-M1208GG	12	1/2	7.0	26.98	22.22	22.8	38.1	19.0	48.2
GC-M2008GG	20	1/2	7.0	30.16	31.75	26.0	44.2	19.0	54.3
GC-M2208GG	22	1/2	7.0	30.16	31.75	26.0	44.2	19.0	54.3

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E refers to the smallest opening. F and L are the standard hand-tightened dimensions.

BFC

Bulkhead Female Connector



Connects Fractional(Inch) Tube to Male NPT Thread

Part No.	Tube OD T		P NPT	Dimensions (mm)													
	inch	mm		E Min.	h		h ₁		H		F	I	I ₁	L	L ₁	Panel Hole Size	Max Panel Thickness
					inch	mm	inch	mm	inch	mm							
BFC-0202N	1/8	3.17	1/8	2.3	9/16	14.28	1/2	12.70	7/16	11.11	12.7	38.1	24.6	44.7	31.2	8.3	12.7
BFC-0402N	1/4	6.35	1/8	4.8	5/8	15.87	5/8	15.87	9/16	14.28	15.2	39.6	26.2	47.0	33.5	11.5	10.2
BFC-0404N	1/4	6.35	1/4	4.8	3/4	19.05	5/8	15.87	9/16	14.28	15.2	44.5	26.2	51.8	33.5	11.5	10.2
BFC-0604N	3/8	9.52	1/4	7.1	3/4	19.05	3/4	19.05	11/16	17.46	16.8	47.8	29.5	55.1	36.8	14.7	11.2
BFC-0806N	1/2	12.70	3/8	10.4	15/16	23.81	15/16	23.81	7/8	22.22	22.9	51.6	31.8	61.7	41.9	19.4	12.7
BFC-0808N	1/2	12.70	1/2	10.4	1-1/16	26.98	15/16	23.81	7/8	22.22	22.9	56.4	31.8	66.5	41.9	19.4	12.7
BFC-1212N	3/4	19.05	3/4	15.7	1-5/16	33.33	1-3/16	30.16	1-1/8	28.57	24.4	63.6	37.3	73.7	47.4	25.8	16.8

All metric BFCs are available with NPT standard threads. To order, add an "N" instead of an "R" at the end.

Connects Metric Tube to Male ISO Tapered Thread

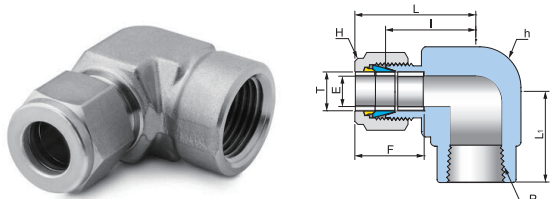
Part No.	Tube OD T	P ISO7/1	Dimensions (mm)										
	E Min.		h	h ₁	H	F	I	I ₁	L	L ₁	Panel Hole Size	Max Panel Thickness	
			mm	mm	mm								mm
BFC-M0602R	6	1/8	4.8	15.87	15.87	14.28	15.3	39.6	26.2	47.0	33.6	11.5	10.2
BFC-M0604R	6	1/4	4.8	19.05	15.87	14.28	15.3	44.4	26.2	51.8	33.6	11.5	10.2
BFC-M0804R	8	1/4	6.4	19.05	17.46	15.87	16.2	46.7	28.6	54.2	36.1	13.1	11.2
BFC-M1208R	12	1/2	9.5	26.98	23.81	22.22	22.8	56.4	31.8	66.5	41.9	19.5	12.7

All metric BFCs are available with NPT standard threads. To order, add an "N" instead of an "R" at the end.

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FE

Female Elbow



Connects Fractional(Inch) Tube to Male NPT Thread

Part No.	Tube OD T		P NPT	Dimensions (mm)								
	inch	mm		E Min.	h		H		F	I	I ₁	L ₁
					inch	mm	inch	mm				
FE-0202N	1/8	3.17	1/8	2.3	1/2	12.70	7/16	11.11	12.7	18.0	24.6	19.1
FE-0204N	1/8	3.17	1/4	2.3	11/16	17.46	7/16	11.11	12.7	20.8	27.4	22.4
FE-0302N	3/16	4.76	1/8	3.0	1/2	12.70	1/2	12.70	13.7	18.8	25.4	19.1
FE-0402N	1/4	6.35	1/8	4.8	1/2	12.70	9/16	14.28	15.2	19.6	26.9	19.1
FE-0404N	1/4	6.35	1/4	4.8	11/16	17.46	9/16	14.28	15.2	22.4	29.7	22.4
FE-0406N	1/4	6.35	3/8	4.8	13/16	20.63	9/16	14.28	15.2	24.4	31.8	22.4
FE-0408N	1/4	6.35	1/2	4.8	1	25.40	9/16	14.28	15.2	27.2	34.5	28.4
FE-0502N	5/16	7.93	1/8	6.4	9/16	14.28	5/8	15.87	16.3	21.3	28.7	19.1
FE-0504N	5/16	7.93	1/4	6.4	11/16	17.46	5/8	15.87	16.3	23.1	30.5	22.4
FE-0602N	3/8	9.52	1/8	7.1	5/8	15.87	11/16	17.46	16.8	23.1	30.5	19.1
FE-0604N	3/8	9.52	1/4	7.1	11/16	17.46	11/16	17.46	16.8	23.9	31.2	22.4
FE-0606N	3/8	9.52	3/8	7.1	13/16	20.63	11/16	17.46	16.8	25.9	33.3	22.4
FE-0608N	3/8	9.52	1/2	7.1	1	25.40	11/16	17.46	16.8	28.7	36.1	28.4
FE-0804N	1/2	12.70	1/4	10.4	13/16	20.63	7/8	22.22	22.9	25.9	36.1	22.4
FE-0806N	1/2	12.70	3/8	10.4	13/16	20.63	7/8	22.22	22.9	25.9	36.1	22.4
FE-0808N	1/2	12.70	1/2	10.4	1	25.40	7/8	22.22	22.9	28.7	38.9	28.4
FE-1006N	5/8	15.87	3/8	12.7	15/16	23.81	1	25.40	24.4	27.9	38.1	22.4
FE-1008N	5/8	15.87	1/2	12.7	1-1/16	26.98	1	25.40	24.4	29.7	39.9	28.4
FE-1208N	3/4	19.05	1/2	15.7	1-1/16	26.98	1-1/8	28.57	24.4	29.7	39.9	28.4
FE-1212N	3/4	19.05	3/4	15.7	1-3/8	34.92	1-1/8	28.57	24.4	34.5	44.7	31.8
FE-1412N	7/8	22.22	3/4	18.3	1-3/8	34.92	1-1/4	31.75	25.9	34.5	44.7	31.8
FE-1612N	1	25.40	3/4	22.4	1-3/8	34.92	1-1/2	38.10	31.2	36.8	49.0	31.8
FE-1616N	1	25.40	1	22.4	1-11/16	42.86	1-1/2	38.10	31.2	41.4	53.6	38.1

All FE fractions are available with ISO tapered pipe threads. To order, add an "R" instead of an "N" at the end.

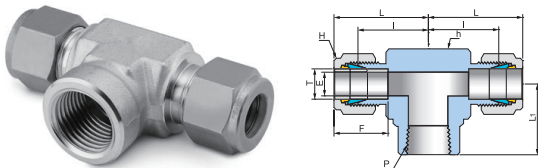
Connects Metric Tube to Male ISO Tapered Thread

Part No.	Tube OD T	P ISO7/1	Dimensions (mm)						
	E Min.		h	H	F	I	I _l	L	
			mm	mm					mm
FE-M0602R	6	1/8	4.8	12.70	14.28	15.3	19.6	27.0	19.0
FE-M0604R	6	1/4	4.8	17.46	14.28	15.3	22.4	29.8	22.4
FE-M0606R	6	3/8	4.8	20.63	14.28	15.3	24.4	31.8	22.4
FE-M0608R	6	1/2	4.8	25.40	14.28	15.3	27.2	34.6	28.4
FE-M0804R	8	1/4	6.4	17.46	15.87	16.2	23.1	30.6	22.4
FE-M0808R	8	1/2	6.4	25.40	15.87	16.2	28.0	35.5	28.4
FE-M1002R	10	1/8	7.9	17.46	19.05	17.2	23.9	31.5	19.0
FE-M1004R	10	1/4	7.9	20.63	19.05	17.2	25.9	33.5	22.4
FE-M1006R	10	3/8	7.9	20.63	19.05	17.2	25.9	33.5	22.4
FE-M1008R	10	1/2	7.9	25.40	19.05	17.2	28.7	36.3	28.4
FE-M1204R	12	1/4	9.5	20.63	22.22	22.8	25.9	36.0	22.4
FE-M1206R	12	3/8	9.5	20.63	22.22	22.8	25.9	36.0	22.4
FE-M1208R	12	1/2	9.5	25.40	22.22	22.8	28.7	38.8	28.4
FE-M1608R	20	1/2	12.7	26.98	25.40	24.4	29.7	39.8	28.4

All metric FEs are available with NPT standard threads. To order, add an "N" instead of an "R" at the end.

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E refers to the smallest opening. F and L are the standard hand-tightened dimensions.

FBT
Female Branch Tee



Connects Fractional(Inch) Tube to Male NPT Thread

Part No.	Tube OD T		P NPT	Dimensions (mm)								
	inch	mm		E Min.	h		H		F	I	I ₁	L
					inch	mm	inch	mm				
FBT-0202N	1/8	3.17	1/8	4.8	1/2	12.70	7/16	11.11	12.7	18.0	24.6	19.1
FBT-0402N	1/4	6.35	1/8	4.8	11/16	17.46	9/16	14.28	15.2	19.6	26.9	19.1
FBT-0404N	1/4	6.35	1/4	7.1	11/16	17.46	9/16	14.28	15.2	22.4	29.7	22.4
FBT-0604N	3/8	9.52	1/4	10.4	13/16	20.63	11/16	17.46	16.8	23.9	31.2	22.4
FBT-0804N	1/2	12.70	1/4	10.4	13/16	20.63	7/8	22.22	22.9	25.9	36.1	22.4
FBT-0806N	1/2	12.70	3/8	10.4	1-1/16	26.98	7/8	22.22	22.9	25.9	36.1	22.4
FBT-0808N	1/2	12.70	1/2	12.7	1-1/16	26.98	7/8	22.22	22.9	28.7	38.9	28.4
FBT-1008N	5/8	15.87	1/2	15.7	1-3/8	34.92	1	25.40	24.4	28.7	38.9	28.4
FBT-1212N	3/4	19.05	3/4	22.4	1-3/8	34.92	1-1/8	28.57	24.4	34.5	44.7	31.8
FBT-1612N	1	25.40	3/4	22.4	1-11/16	42.86	1-1/2	38.10	31.2	36.8	49.0	31.8
FBT-1616N	1	15.40	1	22.4	1-11/16	42.86	1-1/2	38.10	31.2	41.4	53.6	38.1

All FBT fractions are available with ISO tapered pipe threads. To order, add an "R" instead of an "N" at the end.

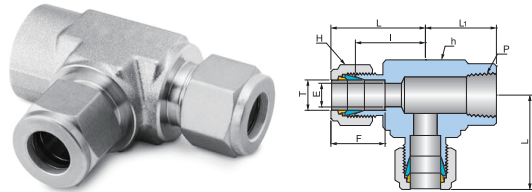
Connects Metric Tube to Male ISO Tapered Thread

Part No.	Tube OD T	P ISO7/1	Dimensions (mm)						
	mm		E Min.	h mm	H mm	F	I	L	I ₁
FBT-M0602R	6	1/8	4.8	12.70	14.28	15.3	19.6	27.0	19.0
FBT-M0604R	6	1/4	4.8	17.46	14.28	15.3	22.4	29.8	22.4
FBT-M0606R	6	3/8	4.8	20.63	14.28	15.3	24.4	31.8	22.4
FBT-M0608R	6	1/2	4.8	25.40	14.28	15.3	27.2	34.6	28.4
FBT-M0802R	8	1/8	6.4	15.87	15.87	16.2	22.4	29.9	19.0
FBT-M0804R	8	1/4	6.4	17.46	15.87	16.2	23.1	30.6	22.4
FBT-M0806R	8	3/8	6.4	20.63	15.87	16.2	25.2	32.7	22.4
FBT-M0808R	8	1/2	6.4	26.98	15.87	16.2	28.0	35.5	28.4
FBT-M1004R	10	1/4	7.9	20.63	19.05	17.2	25.9	33.5	22.4
FBT-M1006R	10	3/8	7.9	20.63	19.05	17.2	25.9	33.5	22.4
FBT-M1008R	10	1/2	7.9	26.98	19.05	17.2	28.7	36.3	28.4
FBT-M1204R	12	1/4	9.5	20.63	22.22	22.8	25.9	36.0	22.4
FBT-M1206R	12	3/8	9.5	20.63	22.22	22.8	25.9	36.0	22.4
FBT-M1208R	12	1/2	9.5	26.98	22.22	22.8	28.7	38.8	28.4
FBT-M1608R	16	1/2	12.7	26.98	25.40	24.4	28.7	38.8	28.4

All metric FBTs are available with NPT standard threads. To order, add an "N" instead of an "R" at the end.

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E refers to the smallest opening. F and L are the standard hand-tightened dimensions.

FRT
Female Run Tee



Connects Fractional(Inch) Tube to Male NPT Thread

Part No.	Tube OD T		P NPT	Dimensions (mm)								
	inch	mm		E Min.	h		H		F	I	L	L ₁
					inch	mm	inch	mm				
FRT-0202N	1/8	3.17	1/8	2.3	1/2	12.70	7/16	11.11	12.7	18.0	24.6	19.1
FRT-0402N	1/4	6.35	1/8	4.8	9/16	14.28	9/16	14.28	15.2	19.6	26.9	19.1
FRT-0404N	1/4	6.35	1/4	4.8	11/16	17.46	9/16	14.28	15.2	22.4	29.7	22.4
FRT-0604N	3/8	9.52	1/4	7.1	11/16	17.46	11/16	17.46	16.8	23.9	31.2	22.4
FRT-0806N	1/2	12.70	3/8	10.4	13/16	20.63	7/8	22.22	22.9	25.9	36.1	22.4
FRT-0808N	1/2	12.70	1/2	10.4	1-1/16	26.98	7/8	22.22	22.9	28.7	38.9	28.4
FRT-1212N	3/4	19.05	3/4	15.7	1-3/8	34.92	1-1/8	28.57	24.4	34.5	44.7	31.8
FRT-1612N	1	25.40	3/4	22.4	1-3/8	34.92	1-1/2	38.10	31.2	36.8	49.0	31.8
FRT-1616N	1	25.40	1	22.4	1-11/16	42.86	1-1/2	38.10	31.2	41.4	53.6	38.1

All FRT fractions are available with ISO tapered pipe threads. To order, add an "R" instead of an "N" at the end.

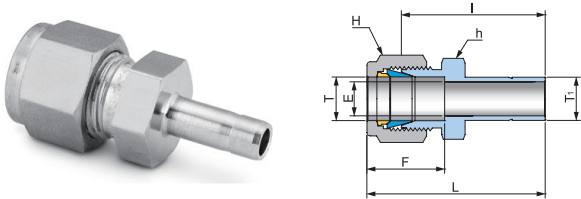
Connects Metric Tube to Male ISO Tapered Thread

Part No.	Tube OD T	P ISO7/1	Dimensions (mm)						
	E Min.		h	H	F	I	I ₁	L	
			mm	mm					mm
FRT-M0602R	6	1/8	4.8	12.70	14.28	15.3	19.6	27.0	19.0
FRT-M0604R	6	1/4	4.8	17.46	14.28	15.3	22.4	29.8	22.4
FRT-M0608R	6	1/2	4.8	26.98	14.28	15.3	27.2	34.6	28.4
FRT-M0802R	8	1/8	6.4	15.87	15.87	16.2	22.4	29.9	19.0
FRT-M0804R	8	1/4	6.4	17.46	15.87	16.2	23.1	30.6	22.4
FRT-M0806R	8	3/8	6.4	20.63	15.87	16.2	25.2	32.7	22.4
FRT-M0808R	8	1/2	6.4	26.98	25.40	16.2	28.0	35.5	28.4
FRT-M1004R	10	1/4	7.9	20.63	19.05	17.2	25.9	33.5	22.4
FRT-M1204R	12	1/4	9.5	20.63	22.22	22.8	25.9	36.0	22.4
FRT-M1206R	12	3/8	9.5	20.63	22.22	22.8	25.9	36.0	22.4
FRT-M1208R	12	1/2	9.5	26.98	22.22	22.8	29.7	39.8	28.4
FRT-M1608R	16	1/2	12.7	26.98	25.40	24.4	29.7	39.8	28.4

All metric FRTs are available with NPT standard threads. To order, add an "N" instead of an "R" at the end.

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R
Reducer

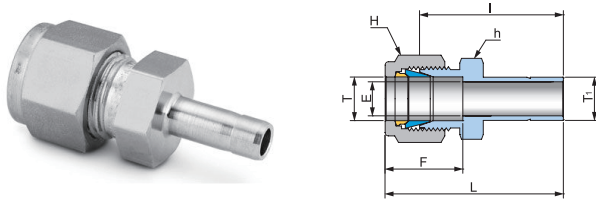


Connects Fractional(Inch) Tube to Fractional AFK Port

Part No.	Tube OD T		Tube OD T ₁		Dimensions (mm)							
	inch	mm	inch	mm	E Min.	h		H		F	I	L
						inch	mm	inch	mm			
R-0202T	1/8	3.17	1/8	3.17	2.0	7/16	11.11	7/16	11.11	12.7	26.9	33.5
R-0203T	1/8	3.17	3/16	4.76	2.3	7/16	11.11	7/16	11.11	12.7	27.7	34.3
R-0204T	1/8	3.17	1/4	6.35	2.3	7/16	11.11	7/16	11.11	12.7	29.5	36.1
R-0206T	1/8	3.17	3/8	9.52	2.3	7/16	11.11	7/16	11.11	12.7	31.0	37.6
R-0208T	1/8	3.17	1/2	12.70	2.3	9/16	14.28	7/16	11.11	12.7	37.6	44.2
R-0302T	3/16	4.76	1/8	3.17	2.0	7/16	11.11	1/2	12.70	13.7	28.2	34.8
R-0304T	3/16	4.76	1/4	6.35	3.0	7/16	11.11	1/2	12.70	13.7	30.5	37.1
R-0402T	1/4	6.35	1/8	3.17	2.0	1/2	12.70	9/16	14.28	15.2	29.5	36.8
R-0403T	1/4	6.35	3/16	4.76	3.0	1/2	12.70	9/16	14.28	15.2	30.2	37.6
R-0404T	1/4	6.35	1/4	6.35	4.3	1/2	12.70	9/16	14.28	15.2	31.8	39.1
R-0405T	1/4	6.35	5/16	7.93	4.8	1/2	12.70	9/16	14.28	15.2	32.5	39.9
R-0406T	1/4	6.35	3/8	9.52	4.8	1/2	12.70	9/16	14.28	15.2	33.3	40.6
R-0408T	1/4	6.35	1/2	12.70	4.8	9/16	14.28	9/16	14.28	15.2	38.9	46.2
R-0410T	1/4	6.35	5/8	15.87	4.8	11/16	17.46	9/16	14.28	15.2	40.6	48.0
R-0412T	1/4	6.35	3/4	19.05	4.8	13/16	20.63	9/16	14.28	15.2	40.4	47.8
R-0506T	5/16	7.93	3/8	9.52	6.4	9/16	14.28	5/8	15.87	16.3	34.5	41.9
R-0508T	5/16	7.93	1/2	12.70	6.4	9/16	14.28	5/8	15.87	16.3	40.1	47.5
R-0604T	3/8	9.52	1/4	6.35	4.3	5/8	15.87	11/16	17.46	16.8	34.0	41.4
R-0606T	3/8	9.52	3/8	9.52	6.9	5/8	15.87	11/16	17.46	16.8	35.8	43.2
R-0608T	3/8	9.52	1/2	12.70	7.1	5/8	15.87	11/16	17.46	16.8	41.1	48.5
R-0610T	3/8	9.52	5/8	15.87	7.1	11/16	17.46	11/16	17.46	16.8	42.9	50.3
R-0612T	3/8	9.52	3/4	19.05	7.1	13/16	20.63	11/16	17.46	16.8	42.9	50.3
R-0804T	1/2	12.70	1/4	6.35	4.3	13/16	20.63	7/8	22.22	22.9	34.8	45.0
R-0806T	1/2	12.70	3/8	9.52	6.9	13/16	20.63	7/8	22.22	22.9	36.6	46.7
R-0808T	1/2	12.70	1/2	12.70	9.4	13/16	20.63	7/8	22.22	22.9	42.2	52.3
R-0810T	1/2	12.70	5/8	15.87	10.4	13/16	20.63	7/8	22.22	22.9	43.7	53.8
R-0812T	1/2	12.70	3/4	19.05	10.4	13/16	20.63	7/8	22.22	22.9	43.7	53.8
R-0816T	1/2	12.70	1	25.40	10.4	1-1/16	26.98	7/8	22.22	22.9	50.0	60.2
R-1012T	5/8	15.87	3/4	19.05	12.7	15/16	23.81	1	25.40	24.4	44.5	54.6
R-1014T	5/8	15.87	7/8	22.22	12.7	15/16	23.81	1	25.40	24.4	46.0	56.1
R-1016T	5/8	15.87	1	25.40	12.7	1-1/16	26.98	1	25.40	24.4	50.8	61.0
R-1208T	3/4	19.05	1/2	12.70	9.4	1-1/16	26.98	1-1/8	28.57	24.4	44.5	54.6
R-1216T	3/4	19.05	1	25.40	15.7	1-1/16	26.98	1-1/8	28.57	24.4	52.3	62.5
R-1620T	1	25.40	1-1/4	31.75	22.4	1-3/8	34.92	1-1/2	38.10	31.2	68.3	80.5
R-1624T	1	25.40	1-1/2	38.10	22.4	1-5/8	41.27	1-1/2	38.10	31.2	77.0	89.2
R-2024T	1-1/4	31.75	1-1/2	38.10	27.7	1-7/8	47.63	1-7/8	47.63	41.1	82.0	104.1
R-2032T	1-1/4	31.75	2	50.80	27.7	1-7/8	47.63	1-7/8	47.63	41.1	103.1	125.2
R-2432T	1-1/2	38.10	2	50.80	34.0	2-1/4	57.15	2-1/4	57.15	50.0	104.1	131.3

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R
Reducer



Connects Metric Tube to Metric AFK Port

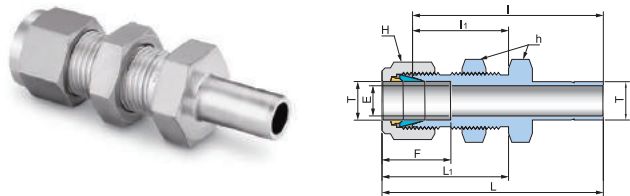
Part No.	Tube OD T		Tube OD T ₁		Dimensions (mm)							
	inch	mm	inch	mm	E Min.	h		F	I	L		
						mm	mm					
R-M03M04T	3	4			2.4	11.11	11.11	12.9	28.4	35.0		
R-M03M06T	3	6			2.4	11.11	11.11	12.9	29.5	36.1		
R-M06M08T	6	8			4.8	14.28	14.28	15.3	32.5	39.9		
R-M06M10T	6	10			4.8	14.28	14.28	15.3	33.3	40.7		
R-M06M12T	6	12			4.8	14.28	14.28	15.3	38.9	46.3		
R-M08M06T	8	6			4.1	15.87	15.87	16.2	32.8	40.3		
R-M08M10T	8	10			6.4	14.28	15.87	16.2	34.5	42.0		
R-M08M12T	8	12			6.4	15.87	15.87	16.2	40.1	47.6		
R-M10M06T	10	6			4.1	17.46	19.05	17.2	34.8	42.4		
R-M10M12T	10	12			7.9	17.46	19.05	17.2	42.2	49.8		
R-M12M06T	12	6			4.1	22.22	22.22	22.8	34.8	44.9		
R-M12M10T	12	10			7.1	22.22	22.22	22.8	36.6	46.7		
R-M12M16T	12	16			9.5	22.22	22.22	22.8	43.7	53.8		
R-M12M18T	12	18			9.5	22.22	22.22	22.8	43.7	53.8		
R-M16M12T	16	12			8.8	23.81	25.40	24.4	42.9	53.0		
R-M18M12T	18	12			8.8	26.98	30.16	24.4	44.5	54.6		
R-M18M16T	18	16			12.0	26.98	30.16	24.4	46.0	56.1		
R-M20M16T	20	16			12.0	30.16	31.75	26.0	47.8	57.9		
R-M20M18T	20	18			13.9	30.16	31.75	26.0	47.8	57.9		
R-M22M20T	22	20			15.5	30.16	31.75	26.0	49.3	59.4		
R-M22M25T	22	25			18.3	30.16	31.75	26.0	54.1	64.2		
R-M25M18T	25	18			13.9	34.92	38.10	31.3	50.8	63.1		
R-M25M20T	25	20			15.5	34.92	38.10	31.3	52.3	64.6		

Connects Metric Tube to Fractional(Inch) AFK Port

Part No.	Tube OD T		Tube OD T ₁		Dimensions (mm)							
	mm	inch	mm	inch	E Min.	h mm	H		F	I	I _i	
							inch	mm				
R-M0302T	3	1/8	3.17		2.0	12.70	1/2	12.70	12.9	26.9	33.5	
R-M0304T	3	1/4	6.35		2.4	12.70	1/2	12.70	12.9	29.5	36.1	
R-M0604T	6	1/4	6.35		4.3	12.70	9/16	14.28	15.3	31.8	39.2	
R-M0605T	6	5/16	7.93		4.8	14.28	9/16	14.28	15.3	32.5	39.9	
R-M0606T	6	3/8	9.52		4.8	14.28	9/16	14.28	15.3	33.3	40.7	
R-M0608T	6	1/2	12.70		4.8	14.28	9/16	14.28	15.3	38.9	46.3	
R-M0806T	8	3/8	9.52		6.4	14.28	5/8	15.87	16.2	34.5	42.0	
R-M0808T	8	1/2	12.70		6.4	15.87	5/8	15.87	16.2	40.1	47.6	
R-M1006T	10	3/8	9.52		6.9	17.46	3/4	19.05	17.2	36.6	44.2	
R-M1008T	10	1/2	12.70		7.9	17.46	3/4	19.05	17.2	42.2	49.8	
R-M1208T	12	1/2	12.70		9.4	20.63	7/8	22.22	22.8	42.2	52.3	
R-M1212T	12	3/4	19.05		9.5	20.63	7/8	22.22	22.8	43.7	53.8	
R-M1812T	18	3/4	19.05		14.7	26.98	1-3/16	30.16	24.4	46.0	56.1	
R-M1816T	18	1	25.40		15.1	26.98	1-3/16	30.16	24.4	52.3	62.4	

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BR
Bulkhead Reducer

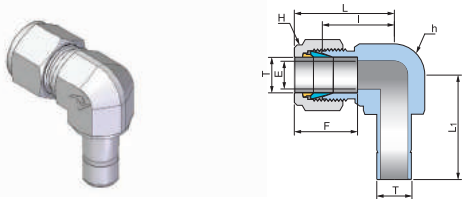


Connects Fractional(Inch) Tube to Fractional AFK Port

Part No.	Tube OD T		Dimensions (mm)											
			E Min.	h		H		F	I	I ₁	L	L ₁	Panel Hole Size	Max Panel Thickness
	inch	mm		inch	mm									
BR-0202T	1/8	3.17	2.0	1/2	12.70	7/16	11.11	12.7	42.9	24.6	49.5	31.2	8.3	12.7
BR-0404T	1/4	6.35	4.3	5/8	15.87	9/16	14.28	15.2	48.5	26.2	55.9	33.5	11.5	10.2
BR-0606T	3/8	9.52	6.9	3/4	19.05	11/16	17.46	16.8	53.8	29.5	61.2	36.8	14.7	11.2
BR-0808T	1/2	12.70	9.4	15/16	23.81	7/8	22.22	22.9	62.7	31.8	72.9	41.9	19.4	12.7

Connects- Metric Tube to Metric AFK Port

Part No.	Tube OD T	Dimensions (mm)									
		E Min.	h mm	H mm	F	I	I ₁	L	L ₁	Panel Hole Size	Max Panel Thickness
	mm										
BR-M03M03T	3	1.9	12.70	11.11	12.9	43.0	24.6	49.6	31.2	8.3	12.7
BR-M06M06T	6	4.1	15.87	14.28	15.3	48.5	26.2	55.9	33.6	11.5	10.2
BR-M08M08T	8	5.6	17.46	15.87	16.2	53.1	28.6	60.6	36.1	13.1	11.2
BR-M12M12T	12	8.8	23.81	22.22	22.8	62.7	31.8	72.8	41.9	19.5	12.7



ER
Elbow Reducer

Connects Fractional(Inch) Tube to Fractional AFK Port

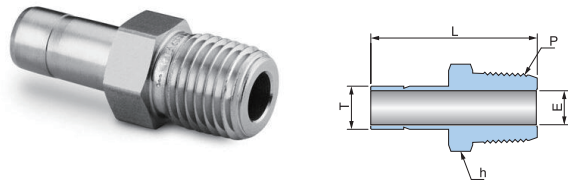
Part No.	Tube OD T		Dimensions (mm)								
	inch	mm	E Min.	h		H		F	I	L	L ₁
				inch	mm	inch	mm				
ER-0202T	1/8	3.17	2.0	3/8	9.52	7/16	11.11	12.7	15.7	22.3	20.6
ER-0404T	1/4	6.35	4.3	1/2	12.70	9/16	14.28	15.2	19.6	27.0	25.0
ER-0606T	3/8	9.52	6.9	5/8	15.87	11/16	17.46	16.8	23.1	30.5	29.3
ER-0808T	1/2	12.70	9.4	13/16	20.63	7/8	22.22	22.9	25.9	36.0	37.1

Connects Fractional(Inch) Tube to Fractional AFK Port

Part No.	Tube OD T	Dimensions (mm)						
		E Min.	h	H	F	I	L	L ₁
	mm		mm	mm				
ER-M03M03T	3	1.9	9.52	12.70	12.9	15.7	22.3	20.5
ER-M06M06T	6	4.1	12.70	14.28	15.3	19.6	27.0	25.6
ER-M08M08T	8	5.6	15.87	15.87	16.2	22.4	29.9	28.6
ER-M10M10T	10	7.1	20.63	19.05	17.2	25.9	33.5	32.3
ER-M12M12T	12	8.8	20.63	22.22	22.8	25.9	36.0	37.3



MA
Male Adapter



Connects Fractional(Inch) AFK Port to Female NPT Thread

Part No.	Tube OD T		P NPT	Dimensions (mm)			
	inch	mm		E Min.	h		L
					inch	mm	
MA-02T02N	1/8	3.17	1/8	2.0	7/16	11.11	29.5
MA-03T02N	3/16	4.76	1/8	3.0	7/16	11.11	30.2
MA-04T02N	1/4	6.35	1/8	4.3	7/16	11.11	31.8
MA-04T04N	1/4	6.35	1/4	4.3	9/16	14.28	37.1
MA-05T02N	5/16	7.93	1/8	4.8	7/16	11.11	32.8
MA-05T04N	5/16	7.93	1/4	5.6	9/16	14.28	38.1
MA-06T04N	3/8	9.52	1/4	6.9	9/16	14.28	38.9
MA-06T06N	3/8	9.52	3/8	6.9	11/16	17.46	39.6
MA-06T08N	3/8	9.52	1/2	6.9	7/8	22.22	45.2
MA-08T04N	1/2	12.70	1/4	7.1	9/16	14.28	44.5
MA-08T06N	1/2	12.70	3/8	9.4	11/16	17.46	45.2
MA-08T08N	1/2	12.70	1/2	9.4	7/8	22.22	50.5
MA-10T08N	5/8	15.87	1/2	11.9	7/8	22.22	52.3
MA-12T12N	3/4	19.05	3/4	14.7	1-1/16	26.98	52.3
MA-14T12N	7/8	22.22	3/4	15.7	1-1/16	26.98	54.3
MA-16T16N	1	25.40	1	20.3	1-3/8	34.92	66.0
MA-20T20N	1-1/4	31.75	1-1/4	25.9	1-3/4	44.45	80.3
MA-24T24N	1-1/2	38.10	1-1/2	31.8	2-1/8	53.98	94.5
MA-32T32N	2	50.80	2	43.7	2-3/4	69.85	119.4

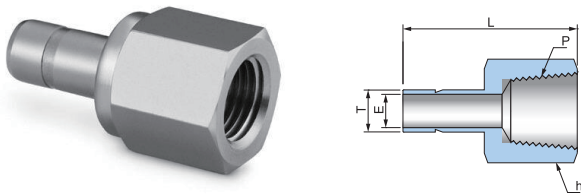
All MA fractions are available with ISO tapered pipe threads. To order, add an "R" instead of an "N" at the end.

Connects Metric AFK Port to Female ISO Tapered Thread

Part No.	Tube OD T	P ISO7/1	Dimensions (mm)		
			E Min.	h mm	L
	mm				
MA-M03T02R	3	1/8	1.9	12.70	29.4
MA-M06T02R	6	1/8	4.1	11.11	32.8
MA-M06T04R	6	1/4	4.1	14.28	38.1
MA-M08T04R	8	1/4	5.6	14.28	39.1
MA-M10T04R	10	1/4	7.1	14.28	39.9
MA-M10T06R	10	3/8	7.1	17.46	40.6
MA-M10T08R	10	1/2	7.1	22.22	45.2
MA-M12T04R	12	1/4	7.1	14.28	46.5
MA-M12T06R	12	3/8	8.8	17.46	46.2
MA-M12T08R	12	1/2	8.8	22.22	52.0
MA-M18T08R	18	1/2	11.9	22.22	53.2
MA-M18T12R	18	3/4	13.9	26.98	53.2
MA-M20T12R	20	3/4	15.5	26.98	58.0
MA-M25T16R	25	1	19.5	34.92	70.7
MA-M28T16R	28	1	22.2	34.92	74.7
MA-M28T20R	28	1-1/4	22.5	46.04	76.2
MA-M30T20R	30	1-1/4	24.3	46.04	80.0
MA-M32T20R	32	1-1/4	26.5	46.04	81.0
MA-M38T24R	38	1-1/2	31.6	55.56	92.2

All metric MAs are available with NPT standard threads. To order, add an "N" instead of an "R" at the end.

FA
Female Adapter



Connects Fractional AFK Port to Male NPT Thread

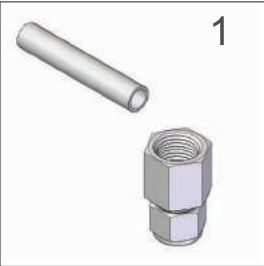
Part No.	Tube OD T		P NPT	Dimensions (mm)		
	inch	mm		E Min.	h inch mm	L
FA-02T02N	1/8	3.17	1/8	2.0	9/16 14.28	31.5
FA-02T04N	1/8	3.17	1/4	2.0	3/4 19.05	35.3
FA-03T02N	3/16	4.76	1/8	3.0	9/16 14.28	32.0
FA-03T04N	3/16	4.76	1/4	3.0	3/4 19.05	35.8
FA-04T02N	1/4	6.35	1/8	4.3	9/16 14.28	33.0
FA-04T04N	1/4	6.35	1/4	4.3	3/4 19.05	37.1
FA-04T06N	1/4	6.35	3/8	4.3	7/8 22.22	39.4
FA-04T08N	1/4	6.35	1/2	4.3	1-1/16 26.98	45.5
FA-05T02N	5/16	7.93	1/8	5.6	9/16 14.28	34.3
FA-05T04N	5/16	7.93	1/4	5.6	3/4 19.05	37.6
FA-06T02N	3/8	9.52	1/8	6.9	9/16 14.28	34.3
FA-06T04N	3/8	9.52	1/4	6.9	3/4 19.05	38.1
FA-06T06N	3/8	9.52	3/8	6.9	7/8 22.22	40.4
FA-06T08N	3/8	9.52	1/2	6.9	1-1/16 26.98	46.7
FA-08T04N	1/2	12.70	1/4	9.4	3/4 19.05	43.4
FA-08T06N	1/2	12.70	3/8	9.4	7/8 22.22	45.5
FA-08T08N	1/2	12.70	1/2	9.4	1-1/16 26.98	51.8
FA-10T06N	5/8	15.87	3/8	11.9	7/8 22.22	48.3
FA-10T08N	5/8	15.87	1/2	11.9	1-1/16 26.98	53.1
FA-10T12N	5/8	15.87	3/4	11.9	1-1/4 31.75	55.4
FA-12T08N	3/4	19.05	1/2	14.7	1-1/16 26.98	52.8
FA-12T12N	3/4	19.05	3/4	14.7	1-1/4 31.75	54.9
FA-12T16N	3/4	19.05	1	14.7	1-5/8 41.27	58.4
FA-14T12N	7/8	22.22	3/4	15.7	1-1/4 31.75	57.2
FA-16T12N	1	25.40	3/4	20.3	1-1/4 31.75	60.7
FA-16T16N	1	25.40	1	20.3	1-5/8 41.27	64.3
FA-20T20N	1-1/4	31.75	1-1/4	25.9	2-1/8 53.98	77.7
FA-24T24N	1-1/2	38.10	1-1/2	31.8	2-3/8 60.33	88.9
FA-32T32N	2	50.80	2	43.7	2-7/8 73.03	107.4

Connects Metric AFK Port to Male ISO Tapered Thread

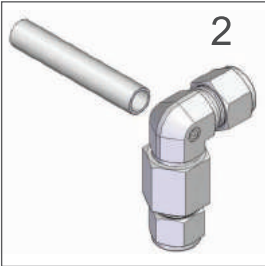
Part No.	Tube OD T	P ISO7/1	Dimensions (mm)		
	mm		E Min.	h mm	L
FA-M03T02R	3	1/8	1.9	14.28	31.2
FA-M06T02R	6	1/8	4.1	14.28	32.5
FA-M06T04R	6	1/4	4.1	19.05	37.1
FA-M08T04R	8	1/4	5.6	19.05	37.6
FA-M10T04R	10	1/4	7.1	19.05	38.1
FA-M10T06R	10	3/8	7.1	22.22	40.1
FA-M10T08R	10	1/2	7.1	26.98	46.5
FA-M12T04R	12	1/4	8.8	19.05	43.7
FA-M12T06R	12	3/8	8.8	22.22	46.0
FA-M12T08R	12	1/2	8.8	26.98	52.3
FA-M18T12R	18	3/4	13.9	34.92	54.8

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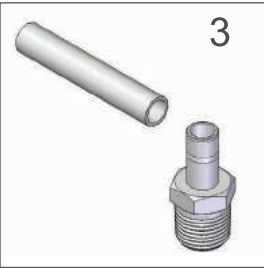
How to eliminate alignment problems



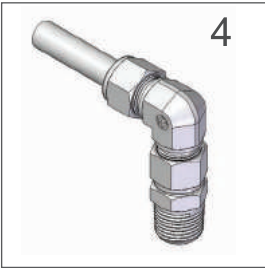
When it is required to install the pipeline to the internally threaded port in the desired direction (as shown).



The male thread elbow (ME) cannot be positioned in the predetermined direction.

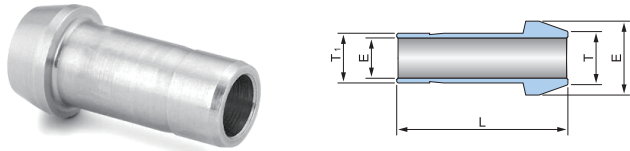


To correct the direction, first install an externally threaded reducer (MA) at the internally threaded port.



Insert the AFK port of the elbow fitting (EU) into the pipe end flange of the male thread reducer (MA). Adjust the direction and install the elbow joint (EU) according to AFK's assembly instructions.

PC
Port Connector



Connects Fractional AFK Port

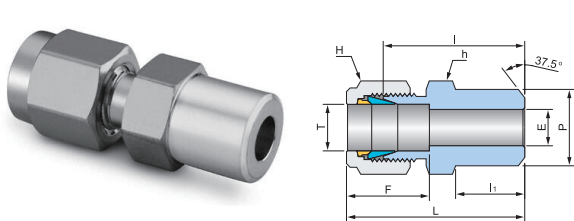
Part No.	Tube OD T		Tube OD T ₁		Dimensions (mm)	
	inch	mm	inch	mm	E Min.	L
PC-0202T	1/8	3.17	1/8	3.17	2.0	22.4
PC-0402T	1/4	6.35	1/8	3.17	2.0	22.9
PC-0404T	1/4	6.35	1/4	6.35	4.3	24.9
PC-0505T	5/16	7.93	5/16	7.93	5.6	25.9
PC-0602T	3/8	9.52	1/8	3.17	2.0	23.4
PC-0604T	3/8	9.52	1/4	6.35	4.3	25.4
PC-0606T	3/8	9.52	3/8	9.52	6.9	26.7
PC-0804T	1/2	12.70	1/4	6.35	4.3	29.7
PC-0806T	1/2	12.70	3/8	9.52	6.9	30.7
PC-0808T	1/2	12.70	1/2	12.70	9.4	36.3
PC-1208T	3/4	19.05	1/2	12.70	9.4	37.8
PC-1212T	3/4	19.05	3/4	19.05	14.7	37.8
PC-1616T	1	25.40	1	25.40	20.3	49.3

Connects Metric AFK Port

Part No.	Tube OD T	Tube OD T ₁	Dimensions (mm)	
	mm	mm	E Min.	L
PC-M03M03T	3	3	1.9	22.2
PC-M06M03T	6	3	1.9	22.9
PC-M06M06T	6	6	4.1	25.0
PC-M08M06T	8	6	4.1	25.4
PC-M08M08T	8	8	5.6	26.0
PC-M10M06T	10	6	4.1	25.8
PC-M10M10T	10	10	7.1	27.1
PC-M12M06T	12	6	4.1	29.6
PC-M12M10T	12	10	7.1	30.6
PC-M12M12T	12	12	8.8	36.2
PC-M16M12T	16	12	8.8	37.5
PC-M16M16T	16	16	12.0	37.8

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WBC
Pipe Butt Weld Connector



Connects Fractional Tube to Pipe Butt Welded System

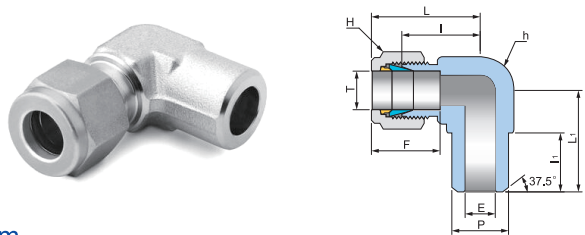
Part No.	Tube OD T		P (BW)		Dimensions (mm)								
	inch	mm	Nom	O.D.	E Min.	h		H		F	I	I ₁	L
						inch	mm	inch	mm				
WBC-0202P	1/8	3.17	1/8	10.30	2.3	7/16	11.11	7/16	11.11	12.7	23.9	9.7	30.5
WBC-0302P	3/16	4.76	1/8	10.30	3.0	7/16	11.11	1/2	12.70	13.7	24.6	9.7	31.2
WBC-0402P	1/4	6.35	1/8	10.30	4.8	1/2	12.70	9/16	14.28	15.2	25.4	9.7	32.8
WBC-0404P	1/4	6.35	1/4	13.70	4.8	9/16	14.28	9/16	14.28	15.2	30.5	14.2	37.8
WBC-0502P	5/16	7.93	1/8	10.30	5.3	9/16	14.28	5/8	15.87	16.3	26.7	9.7	34.0
WBC-0504P	5/16	7.93	1/4	13.70	6.4	9/16	14.28	5/8	15.87	16.3	31.2	14.2	38.6
WBC-0604P	3/8	9.52	1/4	13.70	7.1	5/8	15.87	11/16	17.46	16.8	32.5	14.2	39.9
WBC-0606P	3/8	9.52	3/8	17.10	7.1	11/16	17.46	11/16	17.46	16.8	32.5	14.2	39.9
WBC-0608P	3/8	9.52	1/2	21.30	7.1	7/8	22.22	11/16	17.46	16.8	38.9	19.1	46.2
WBC-0806P	1/2	12.70	3/8	17.10	10.4	13/16	20.63	7/8	22.22	22.9	33.3	14.2	43.4
WBC-0808P	1/2	12.70	1/2	21.30	10.4	7/8	22.22	7/8	22.22	22.9	38.9	19.1	49.0
WBC-0812P	1/2	12.70	3/4	26.67	10.4	1-1/16	26.98	7/8	22.22	22.9	40.4	19.1	50.5
WBC-1008P	5/8	15.87	1/2	21.30	12.7	15/16	23.81	1	25.40	24.4	38.9	19.1	49.0
WBC-1212P	3/4	19.05	3/4	26.67	15.7	1-1/16	26.98	1-1/8	28.57	24.4	40.4	19.1	50.5
WBC-1616P	1	25.40	1	33.40	22.4	1-3/8	34.92	1-1/2	38.10	31.2	50.0	23.9	62.2

Connects Metric Tube to Pipe Butt Welded System

Part No.	Tube OD T	P (BW)		Dimensions (mm)							
		Nom	O.D.	E Min.	h	H	F	I	I ₁	L	
	mm				mm	mm					
WBC-M0302P	3	1/8	10.3	2.4	11.11	11.11	12.9	23.1	9.7	29.7	
WBC-M0402P	4	1/8	10.3	2.4	11.11	12.70	13.7	24.1	9.7	30.7	
WBC-M0602P	6	1/8	10.3	4.8	12.70	14.28	15.3	25.4	9.7	32.8	
WBC-M0604P	6	1/4	13.7	4.8	14.28	14.28	15.3	30.5	14.2	37.9	
WBC-M0802P	8	1/8	10.3	5.4	14.28	15.87	16.2	26.7	9.7	34.2	
WBC-M0804P	8	1/4	13.7	6.4	14.28	15.87	16.2	31.2	14.2	38.7	
WBC-M0808P	8	1/2	21.3	6.4	22.22	15.87	16.2	37.3	19.0	44.8	
WBC-M1004P	10	1/4	13.7	7.5	17.46	19.05	17.2	33.3	14.2	40.9	
WBC-M1006P	10	3/8	17.1	7.9	17.46	19.05	17.2	33.3	14.2	40.9	
WBC-M1008P	10	1/2	21.3	7.9	22.22	19.05	17.2	38.1	19.0	45.7	
WBC-M1204P	12	1/4	13.7	7.5	20.63	22.22	22.8	33.3	14.2	43.4	
WBC-M1206P	12	3/8	17.1	9.5	20.63	22.22	22.8	33.3	14.2	43.4	
WBC-M1208P	12	1/2	21.3	9.5	22.22	22.22	22.8	38.9	19.0	49.0	
WBC-M1508P	15	1/2	21.3	11.9	23.81	25.40	24.4	38.9	19.0	49.0	
WBC-M1608P	16	1/2	21.3	12.7	23.81	25.40	24.4	38.9	19.0	49.0	
WBC-M1808P	18	1/2	21.3	13.9	26.98	30.16	24.4	40.4	19.0	50.5	

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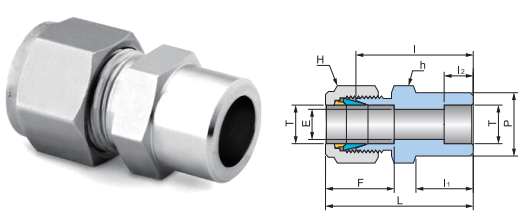
WBE
Pipe Butt Weld Elbow



Connects Fractional Tube to Pipe Butt Welded System

Part No.	Tube OD T		P (BW)		Dimensions (mm)									
	inch	mm	Nom	O.D.	E Min.	h		H		F	I	I ₁	L	L ₁
						inch	mm	inch	mm					
WBE-0202P	1/8	3.17	1/8	10.30	2.3	1/2	12.70	7/16	11.11	12.7	18.3	9.7	24.9	18.8
WBE-0404P	1/4	6.35	1/4	13.70	4.8	1/2	12.70	9/16	14.28	15.2	19.6	13.8	26.9	23.4
WBE-0604P	3/8	9.52	1/4	13.70	7.1	5/8	15.87	11/16	17.46	16.8	23.1	14.0	30.5	25.4
WBE-0808P	1/2	12.70	1/2	21.30	10.4	13/16	20.63	7/8	22.22	22.9	25.9	19.0	36.1	33.0
WBE-1212P	3/4	19.05	3/4	26.67	15.7	1-1/16	26.98	1-1/8	28.57	24.4	29.7	19.0	39.9	36.8

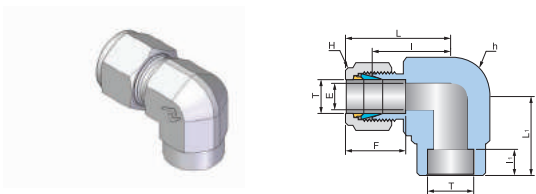
WSC
Tube Socket Weld Connector



Connects Fractional Tube to Tube Socket Welded System

Part No.	Tube OD T		Dimensions (mm)										
	inch	mm	E Min.	P	h		H		F	I	I ₁	I ₂	L ₁
					inch	mm	inch	mm					
WSC-0202T	1/8	3.17	2.3	7.9	7/16	11.11	7/16	11.11	12.7	22.4	8.6	6.4	29.0
WSC-0404T	1/4	6.35	4.8	11.2	1/2	12.70	9/16	14.28	15.2	26.2	10.4	7.9	33.5
WSC-0606T	3/8	9.52	7.1	15.7	5/8	15.87	11/16	17.46	16.8	30.2	11.9	9.7	37.6
WSC-0808T	1/2	12.70	10.4	19.1	13/16	20.63	7/8	22.22	22.9	31.0	11.9	12.7	41.1
WSC-1212T	3/4	19.05	15.7	26.7	1-1/16	26.98	1-1/8	28.57	24.4	33.3	11.9	14.2	43.4
WSC-1616T	1	25.40	22.4	34.5	1-3/8	34.92	1-1/2	38.10	31.2	40.4	14.2	19.1	52.6

WSE
Tube Socket Weld Elbow



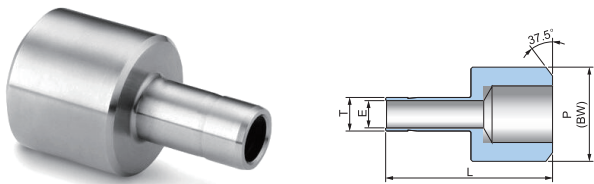
Connects Fractional Tube to Tube Socket Welded System

Part No.	Tube OD T		Dimensions (mm)										
	inch	mm	E Min.	h		H		F	I	I ₁	L	L ₁	
				inch	mm	inch	mm						
WSE-0404T	1/4	6.35	4.8	1/2	12.70	9/16	14.28	15.2	19.6	7.9	26.9	19.6	
WSE-0606T	3/8	9.52	7.1	5/8	15.87	11/16	17.46	16.8	23.1	9.7	30.5	23.1	
WSE-0808T	1/2	12.70	10.4	13/16	20.63	7/8	22.22	22.9	25.9	12.7	36.1	25.9	

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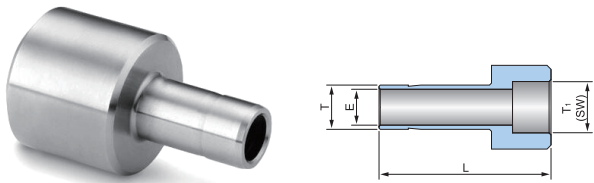
WBA
Pipe Butt Weld Adapter



Connects Fractional AFK Port to Pipe Butt Welded System

Part No.	Tube OD T		P (BW)		Dimensions (mm)	
	inch	mm	Nom	O.D.	E Min.	L
WBA-04T04P	1/4	6.35	1/4	13.70	4.3	29.0
WBA-06T08P	3/8	9.52	1/2	21.30	6.9	37.1
WBA-08T08P	1/2	12.70	1/2	21.30	9.4	42.2
WBA-08T12P	1/2	12.70	3/4	26.67	9.4	42.7
WBA-12T12P	3/4	19.05	3/4	26.67	14.7	47.5

WSA
Tube Socket Weld Adapter

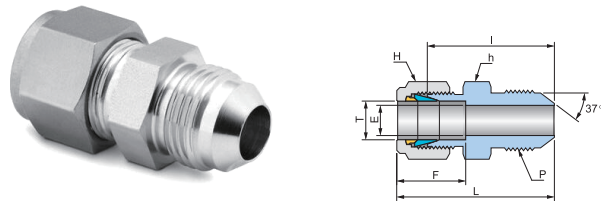


Connects Fractional AFK Port to Tube Socket Welded System

Part No.	Tube OD T		T ₁ (BW)		Dimensions (mm)	
	inch	mm	Nom	O.D.	E Min.	L
WSA-04T04T	1/4	6.35	1/4	6.35	4.3	29.0
WSA-06T06T	3/8	9.52	3/8	9.52	6.9	37.1
WSA-08T08T	1/2	12.70	1/2	12.70	9.4	42.2
WSA-12T12T	3/4	19.05	3/4	19.05	14.7	47.5

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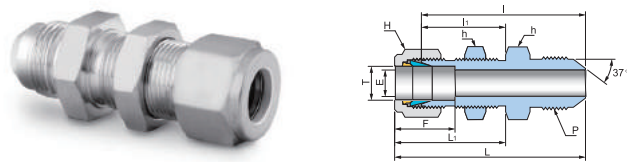
UA
AN Union



Connects Fractional Tube to An Flared Tube

Part No.	Tube OD T		AN Tube Flare Size		Straight Thread P(U)	Dimensions (mm)							
	inch	mm	inch	mm		E Min.	h		H		F	I	L
UA-0202S	1/8	3.17	1/8	3.17	5/16-24	1.5	7/16	11.11	7/16	11.11	12.7	24.9	31.5
UA-0204S	1/8	3.17	1/4	6.35	7/16-20	2.3	1/2	12.70	7/16	11.11	12.7	28.4	35.1
UA-0404S	1/4	6.35	1/4	6.35	7/16-20	4.3	1/2	12.70	9/16	14.28	15.2	30.2	37.6
UA-0505S	5/16	7.93	5/16	7.93	1/2-20	5.8	9/16	14.28	5/8	15.87	16.3	31.0	38.4
UA-0604S	3/8	9.52	1/4	6.35	7/16-20	4.3	5/8	15.87	11/16	17.46	16.8	32.3	39.6
UA-0606S	3/8	9.52	3/8	9.52	9/16-18	7.1	5/8	15.87	11/16	17.46	16.8	32.3	39.6
UA-0808S	1/2	12.70	1/2	12.70	3/4-16	9.9	13/16	20.63	7/8	22.22	22.9	35.8	46.0
UA-1212S	3/4	19.05	3/4	19.05	1-1/16-12	15.5	1-1/8	28.57	1-1/8	28.57	24.4	43.2	53.3
UA-1616S	1	25.40	1	25.40	1-5/16-12	21.3	1-3/8	34.92	1-1/2	38.10	31.2	49.3	61.5

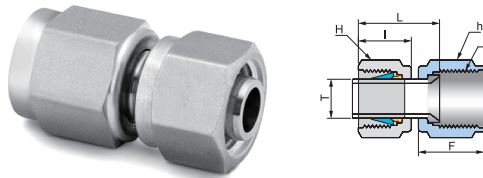
BUA
AN Bulkhead Union



Connects Fractional Tube to An Flared Tube

Part No.	Tube OD T		AN Tube Flare Size		Straight Thread P(U)	Dimensions (mm)											
	inch	mm	inch	mm		E Min.	h		H		F	I	I ₁	L	L ₁	Panel Hole Drill Size	Max Panel Thickness
BUA-0404S	1/4	6.35	1/4	6.35	7/16-20	4.3	5/8	15.87	9/16	14.28	15.2	46.5	26.2	53.8	33.5	11.5	10.2
BUA-0606S	3/8	9.52	3/8	9.52	9/16-18	7.1	3/4	19.05	11/16	17.46	16.8	49.8	29.5	57.2	36.8	14.7	11.2
BUA-0808S	1/2	12.70	1/2	12.70	3/4-16	9.9	15/16	23.81	7/8	22.22	22.9	55.6	31.8	65.8	41.9	19.4	12.7
BUA-1212S	3/4	19.05	3/4	19.05	1-1/16-12	15.5	1-3/16	30.16	1-1/8	28.57	24.4	68.8	37.3	79.0	47.5	25.8	16.8
BUA-1616S	1	25.40	1	25.40	1-5/16-12	21.3	1-5/8	41.27	1-1/2	38.10	31.2	80.3	45.2	92.5	57.4	33.7	19.1

AA
AN Adapter

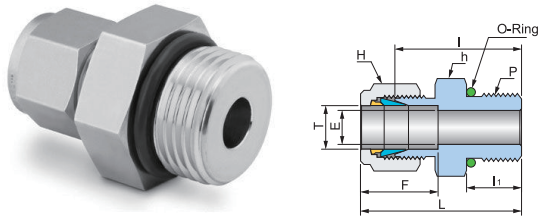


Connects Fractional Tube to An Flared Tube

Part No.	Tube OD T		AN Tube Flare Size		Straight Thread P(U)	Dimensions (mm)						
	inch	mm	inch	mm		h		H		F	I	L
AA-0201S	1/8	3.17	1/8	3.17	5/16-24	3/8	9.52	7/16	11.11	13.7	13.5	18.5
AA-0204S	1/8	3.17	1/4	6.35	7/16-20	9/16	14.28	7/16	11.11	15.7	13.5	19.1
AA-0404S	1/4	6.35	1/4	6.35	7/16-20	9/16	14.28	9/16	14.28	15.7	15.7	21.3
AA-0606S	3/8	9.52	3/8	9.52	9/16-18	11/16	17.46	11/16	17.46	18.3	17.5	24.9
AA-0808S	1/2	12.70	1/2	12.70	3/4-16	7/8	22.22	7/8	22.22	21.6	23.1	31.8

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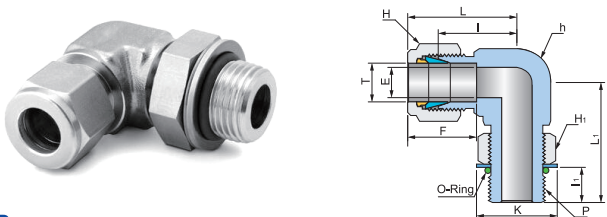
MCS
SAE/MS Male Connector



Connects Fractional Tube to SAE/MS Straight Thread Boss

Part No.	Tube OD T		Straight Thread P(U)	Dimensions (mm)								
	inch	mm		E Min.	h		H		F	I	I ₁	L
					inch	mm	inch	mm				
MCS-0202U	1/8	3.17	5/16-24	2.3	7/16	11.11	7/16	11.11	12.7	23.3	7.6	30.0
MCS-0404U	1/4	6.35	7/16-20	4.8	9/16	14.28	9/16	14.28	15.2	26.7	9.1	34.0
MCS-0406U	1/4	6.35	9/16-18	4.8	11/16	17.46	9/16	14.28	15.2	28.2	9.9	35.6
MCS-0408U	1/4	6.35	3/4-16	4.8	7/8	22.22	9/16	14.28	15.2	30.2	11.2	37.6
MCS-0410U	1/4	6.35	7/8-14	4.8	1	25.40	9/16	14.28	15.2	33.3	12.7	40.6
MCS-0505U	5/16	7.93	1/2-20	6.4	5/8	15.87	5/8	15.87	16.3	27.4	9.1	34.8
MCS-0604U	3/8	9.52	7/16-20	4.6	5/8	15.87	11/16	17.46	16.8	28.2	9.1	35.6
MCS-0606U	3/8	9.52	9/16-18	7.1	11/16	17.46	11/16	17.46	16.8	29.7	9.9	37.1
MCS-0608U	3/8	9.52	3/4-16	7.1	7/8	22.22	11/16	17.46	16.8	31.8	11.2	39.1
MCS-0610U	3/8	9.52	7/8-14	7.1	1	25.40	11/16	17.46	16.8	34.8	12.7	42.2
MCS-0806U	1/2	12.70	9/16-18	7.1	13/16	20.63	7/8	22.22	22.9	29.0	9.9	39.1
MCS-0808U	1/2	12.70	3/4-16	10.4	7/8	22.22	7/8	22.22	22.9	31.8	11.2	41.9
MCS-0810U	1/2	12.70	7/8-14	10.4	1	25.40	7/8	22.22	22.9	34.8	12.7	45.0
MCS-0812U	1/2	12.70	1-1/16-12	10.4	1-1/4	31.75	7/8	22.22	22.9	38.9	15.0	49.0
MCS-1008U	5/8	15.87	3/4-16	10.7	15/16	23.81	1	25.40	24.4	31.8	11.2	41.9
MCS-1010U	5/8	15.87	7/8-14	12.7	1	25.40	1	25.40	24.4	35.1	12.7	45.2
MCS-1208U	3/4	19.05	3/4-16	10.7	1-1/16	26.98	1-1/8	28.57	24.4	35.8	11.2	46.0
MCS-1212U	3/4	19.05	1-1/16-12	15.7	1-1/4	31.75	1-1/8	28.57	24.4	38.9	15.0	49.0
MCS-1612U	1	25.40	1-1/16-12	16.8	1-3/8	34.92	1-1/2	38.10	31.2	41.1	15.0	53.3
MCS-1616U	1	25.40	1-5/16-12	22.4	1-1/2	38.10	1-1/2	38.10	31.2	42.2	15.0	54.4

MES
SAE/MS Male Elbow Positionable

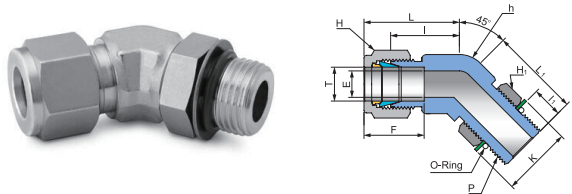


Connects Fractional Tube to SAE Straight Thread Boss

Part No.	Tube OD T		Straight Thread P(U)	Dimensions (mm)												
				E Min.	h		H		H ₁		F	I	I ₁	L	L ₁	K
	inch	mm			inch	mm	inch	mm								
MES-0404U	1/4	6.35	7/16-20	4.8	1/2	12.70	9/16	14.28	9/16	14.28	15.2	21.1	9.9	28.4	28.4	16.5
MES-0505U	5/16	7.93	1/2-20	5.8	9/16	14.28	5/8	15.87	5/8	15.87	16.3	22.9	9.9	30.2	39.5	18.3
MES-0606U	3/8	9.52	9/16-18	7.1	5/8	15.87	11/16	17.46	11/16	17.46	16.8	24.6	11.2	32.0	32.3	20.1
MES-0608U	3/8	9.52	3/4-16	7.1	13/16	20.63	11/16	17.46	7/8	22.22	16.8	27.4	12.7	34.8	37.8	25.7
MES-0808U	1/2	12.70	3/4-16	10.4	13/16	20.63	7/8	22.22	7/8	22.22	22.9	27.4	12.7	37.6	37.8	25.7
MES-1010U	5/8	15.87	7/8-14	12.7	1	25.40	1	25.40	1	25.40	24.4	29.5	14.2	39.6	43.4	29.5
MES-1212U	3/4	19.05	1-1/16-12	15.7	1-1/16	26.98	1-1/8	28.57	1-1/4	31.75	24.4	31.2	16.8	41.4	48.8	36.6
MES-1616U	1	25.40	1-5/16-12	22.4	1-3/8	34.92	1-1/2	38.10	1-1/2	38.10	31.2	38.4	16.8	50.5	53.6	43.9

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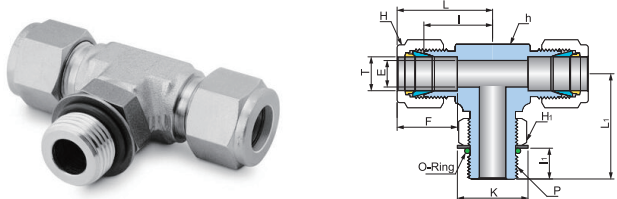
MVES
SAE/MS 45° Male Elbow Positionable



Connects Fractional Tube to SAE/MS Straight Thread Boss

Part No.	Tube OD T		Straight Thread P(U)	Dimensions (mm)												
	inch	mm		E Min.	h		H		H _i		F	I	I _i	L	L _i	K
					inch	mm	inch	mm	inch	mm						
MVES-0404U	1/4	6.35	7/16-20	4.8	1/2	12.70	9/16	14.28	9/16	14.28	15.2	18.3	9.9	25.7	25.7	16.5
MVES-0606U	3/8	9.52	9/16-18	7.1	5/8	15.87	11/16	17.46	11/16	17.46	16.8	20.6	11.2	27.9	28.2	20.1
MVES-0808U	1/2	12.70	3/4-16	10.4	13/16	20.63	7/8	22.22	7/8	22.22	22.9	21.8	12.7	32.0	32.3	25.7
MVES-1212U	3/4	19.05	1-1/16-12	15.7	1-1/16	26.98	1-1/8	28.57	1-1/4	31.75	24.4	29.7	16.8	39.9	47.2	36.6
MVES-1616U	1	25.40	1-5/16-12	22.4	1-3/8	34.92	1-1/2	38.10	1-1/2	38.10	31.2	35.3	16.8	47.5	50.5	43.9

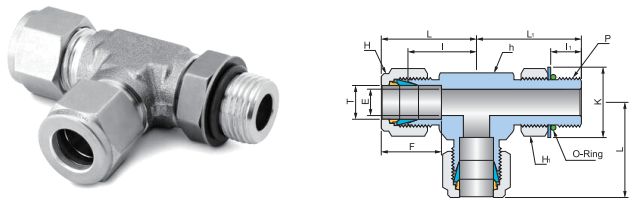
MBTS
SAE/MS Male Branch Tee Positionable



Connects Fractional Tube to SAE/MS Straight Thread Boss

Part No.	Tube OD T		Straight Thread P(U)	Dimensions (mm)												
				E Min.	h		H		H _i		F	I	I _i	L	L _i	K
	inch	mm			inch	mm	inch	mm	inch	mm						
MBTS-0404U	1/4	6.35	7/16-20	4.8	1/2	12.70	9/16	14.28	9/16	14.28	15.2	21.1	9.9	28.4	28.4	16.5
MBTS-0606U	3/8	9.52	9/16-18	7.1	5/8	15.87	11/16	17.46	11/16	17.46	16.8	24.6	11.2	32.0	32.3	20.1
MBTS-0808U	1/2	12.70	3/4-16	10.4	13/16	20.63	7/8	22.22	7/8	22.22	22.9	27.4	12.7	37.6	37.8	25.7
MBTS-1212U	3/4	19.05	1-1/16-12	15.7	1-1/16	26.98	1-1/8	28.57	1-1/4	31.75	24.4	31.2	16.8	41.4	48.8	36.6
MBTS-1616U	1	25.40	1-5/16-12	22.4	1-3/8	34.92	1-1/2	38.10	1-1/2	38.10	31.2	38.4	16.8	50.5	53.6	43.9

MRTS
SAE/MS Male Run Tee Positionable

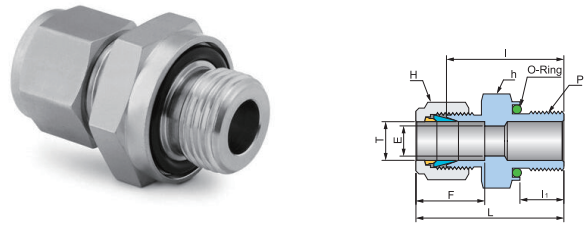


Connects Fractional Tube to SAE/MS Straight Thread Boss

Part No.	Tube OD T		Straight Thread P(U)	Dimensions (mm)												
	inch	mm		E Min.	h		H		H _i		F	I	I _i	L	L _i	K
					inch	mm	inch	mm	inch	mm						
MRTS-0404U	1/4	6.35	7/16-20	4.8	1/2	12.70	9/16	14.28	9/16	14.28	15.2	21.1	9.9	28.4	28.4	16.5
MRTS-0606U	3/8	9.52	9/16-18	7.1	5/8	15.87	11/16	17.46	11/16	17.46	16.8	24.6	11.2	32.0	32.3	20.1
MRTS-0808U	1/2	12.70	3/4-16	10.4	13/16	20.63	7/8	22.22	7/8	22.22	22.9	27.4	12.7	37.6	37.8	25.7
MRTS-1212U	3/4	19.05	1-1/16-12	15.7	1-1/16	26.98	1-1/8	28.57	1-1/4	31.75	24.4	31.2	16.8	41.4	48.8	36.6
MRTS-1616U	1	25.40	1-5/16-12	22.4	1-3/8	34.92	1-1/2	38.10	1-1/2	38.10	31.2	38.4	16.8	50.5	53.6	43.9

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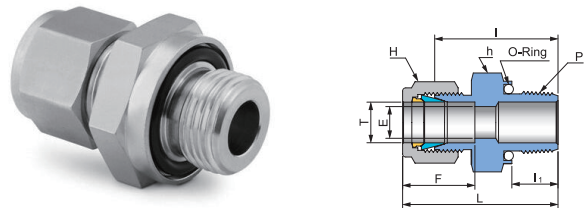
MOS
O-Seal Straight Thread Connector



Connects Fractional Tube to Female Straight Thread

Part No.	Tube OD T		Straight Thread P (U)	Dimensions (mm)								
	inch	mm		E Min.	h		H		F	I	I _i	L
					inch	mm	inch	mm				
MOS-0202U	1/8	3.17	5/16-24	2.3	9/16	14.28	7/16	11.11	12.7	26.2	8.6	32.8
MOS-0303U	3/16	4.76	3/8-24	3.0	5/8	15.87	1/2	12.70	13.7	27.7	9.7	34.3
MOS-0404U	1/4	6.35	7/16-20	4.8	3/4	19.05	9/16	14.28	15.2	31.0	10.4	38.4
MOS-0505U	5/16	7.93	1/2-20	6.4	7/8	22.22	5/8	15.87	16.3	33.3	11.2	40.6
MOS-0606U	3/8	9.52	9/16-18	7.1	15/16	23.81	11/16	17.46	16.8	35.1	11.9	42.4
MOS-0808U	1/2	12.70	3/4-16	10.4	1-1/8	28.57	7/8	22.22	22.9	35.8	11.9	46.0
MOS-1212U	3/4	19.05	1-1/16-12	15.7	1-1/2	38.10	1-1/8	28.57	24.4	42.2	14.2	52.3
MOS-1616U	1	25.40	1-5/16-12	22.4	1-3/4	44.45	1-1/2	38.10	31.2	46.0	14.2	58.2

MOP
O-Seal Pipe Thread Connector



Connects Fractional Tube to Female NPT Thread

Part No.	Tube OD T		P (NPT)	Dimensions (mm)								
	inch	mm		E Min.	h		H		F	I	I ₁	L
					inch	mm	inch	mm				
MOS-0202N	1/8	3.17	1/8	2.3	3/4	19.05	7/16	11.11	12.7	26.2	7.1	32.8
MOS-0402N	1/4	6.35	1/8	4.8	3/4	19.05	9/16	14.28	15.2	27.7	7.1	35.1
MOS-0404N	1/4	6.35	1/4	4.8	15/16	23.81	9/16	14.28	15.2	31.0	9.7	38.4
MOS-0604N	3/8	9.52	1/4	7.1	15/16	23.81	11/16	17.46	16.8	32.5	9.7	39.9
MOS-0606N	3/8	9.52	3/8	7.1	1-1/8	28.57	11/16	17.46	16.8	34.0	10.4	41.4
MOS-0608N	3/8	9.52	1/2	7.1	1-5/16	33.33	11/16	17.46	16.8	39.6	13.5	47.0
MOS-0808N	1/2	12.70	1/2	10.4	1-5/16	33.33	7/8	22.22	22.9	39.6	13.5	49.8

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O-ring accessories information

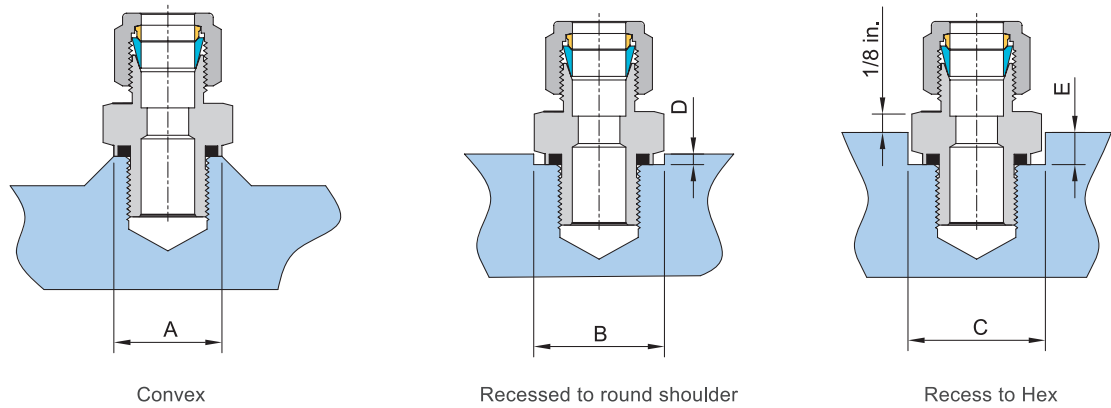
application

AFKLOK O-rings can be installed directly on existing pipe thread or straight thread ports. Due to its short thread length, thread interference will not occur, but tapered threads usually occur, and O-rings can additionally prevent leakage. The standard butyl rubber-N O-ring seal has a precision groove, which can prevent the O-ring seal from being squeezed under the high temperature and controlled extrusion of vacuum sealing. In order to achieve leak-free installation, the flat surface perpendicular to the threaded shaft needs to be smooth.

Installation Notes

1. Tighten UNILOK's O-ring fittings toward the port by hand until the O-ring is tight against the port.
 2. Tighten the fitting slightly with a wrench until the fitting comes into contact with the port surface.
- Note: When installing or removing the pipe to or from the AFKLOK end, use the top drive back pliers to fix the fitting body

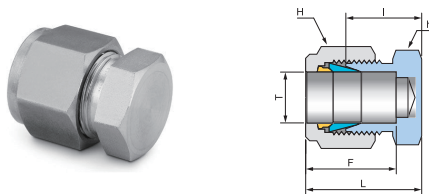
Installation dimension of O-ring seal accessories



Part No.	Straight Thread (U)	Pipe Thread (NPT)	Dimensions (mm)				
			A (Min)	B (Min)	C (Min)	D (Max)	E (Max)
MOS-0202U	5/16-24	-	12.7	15.0	16.8	2.3	5.6
MOP-0202N	-	1/8	17.5	19.8	22.4	4.1	7.1
MOS-0303U	3/8-24	-	14.2	16.8	19.1	2.3	5.6
MOS-0404U	7/16-20	-	17.5	19.8	22.4	4.1	7.1
MOP-0402N	-	1/8					
MOP-0404N	-	1/4	22.1	24.6	27.7		7.9
MOS-0505U	1/2-20	-	19.1	23.1	26.2		
MOS-0606U	9/16-18	-	20.6	24.6	27.7		8.6
MOP-0606N	-	3/8	25.4	29.5	33.3		
MOP-0608N	-	1/2	31.0	34.0	38.9	5.6	11.2
MOS-0808U	3/4-16	-	25.4	29.5	33.3	4.1	8.6
MOP-0808N	-	1/2	31.0	34.0	38.9	5.6	11.2
MOS-1212U	1-1/16-12	-	35.8	38.9	44.5		12.7
MOS-1616U	1-5/16-12	-	42.9	45.2	51.6		14.2

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C
Tube Cap



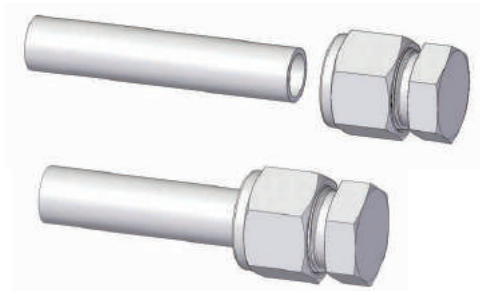
Connects Fractional Tube

Part No.	Tube OD T		Dimensions (mm)						
			h		H		F	I	L
	inch	mm	inch	mm	inch	mm			
C-02	1/8	3.17	7/16	11.11	7/16	11.11	12.7	13.5	20.1
C-03	3/16	4.76	7/16	11.11	1/2	12.70	13.7	14.7	21.3
C-04	1/4	6.35	1/2	12.70	9/16	14.28	15.2	16.0	23.3
C-05	5/16	7.93	9/16	14.28	5/8	15.87	16.3	17.0	24.4
C-06	3/8	9.52	5/8	15.87	11/16	17.46	16.8	18.3	25.7
C-08	1/2	12.70	13/16	20.63	7/8	22.22	22.9	19.1	29.2
C-10	5/8	15.87	15/16	23.81	1	25.40	24.4	19.8	30.0
C-12	3/4	19.05	1-1/16	26.98	1-1/8	28.57	24.4	21.3	31.5
C-14	7/8	22.22	1-3/16	30.16	1-1/4	31.75	25.9	23.9	34.0
C-16	1	25.40	1-3/8	34.92	1-1/2	38.10	31.2	26.2	38.4
C-20	1-1/4	31.75	1-3/4	44.45	1-7/8	47.62	41.1	31.2	53.3
C-24	1-1/2	38.10	2-1/8	53.97	2-1/4	57.15	50.0	37.3	64.5
C-32	2	50.80	2-3/4	69.85	3	76.20	67.6	49.3	86.6

Connects Metric Tube

Part No.	Tube OD T	Dimensions (mm)				
		h	H	F	I	L
	mm	inch	mm			
C-M03	3	11.11	11.11	12.9	13.5	20.1
C-M04	4	11.11	12.70	13.7	14.7	21.3
C-M06	6	14.28	14.28	15.3	15.7	23.1
C-M08	8	15.87	15.87	16.2	17.0	24.5
C-M10	10	17.46	19.05	17.2	19.0	26.6
C-M12	12	22.22	22.22	22.8	19.0	29.1
C-M15	15	23.81	25.40	24.4	19.8	29.9
C-M16	16	23.81	25.40	24.4	19.8	29.9
C-M18	18	26.98	30.16	24.4	21.3	31.4
C-M20	20	30.16	31.75	26.0	23.9	34.0
C-M22	22	30.16	31.75	26.0	23.9	34.0
C-M25	25	34.92	38.10	31.3	26.2	38.5
C-M28	28	41.27	47.63	36.6	27.7	48.5
C-M30	30	47.63	50.80	39.6	31.8	53.4
C-M32	32	47.63	50.80	42.0	32.8	55.8
C-M38	38	55.56	57.15	49.4	37.8	65.4

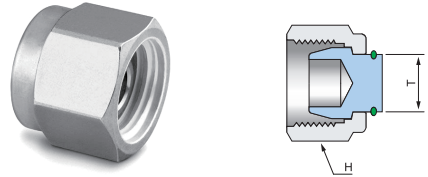
Installation Notes



1. Insert the tube end into the cap to the shoulder of the cap.
2. Tighten the nuts by hand.
3. Fix with top drive back pliers or vice and turn the nut 1-1/4 turn with a wrench to tighten.

NOTE
Turn 3/4 turn to tighten (2, 3 and 4 mm size caps are 1/16 inch, 1/8 inch and 3/16 inch respectively).

P
Tube Plug



Connects Fractional Tube

Part No.	Tube OD T		H	
	inch	mm	inch	mm
P-02	1/8	3.17	7/16	11.11
P-03	3/16	4.76	1/2	12.70
P-04	1/4	6.35	9/16	14.28
P-05	5/16	7.93	5/8	15.87
P-06	3/8	9.52	11/16	17.46
P-08	1/2	12.70	7/8	22.22
P-10	5/8	15.87	1	25.40
P-12	3/4	19.05	1-1/8	28.57
P-14	7/8	22.22	1-1/4	31.75
P-16	1	25.40	1-1/2	38.10
P-20	1-1/4	31.75	1-7/8	47.62
P-24	1-1/2	38.10	2-1/4	57.15
P-32	2	50.80	3	76.20

Connects Metric Tube

Part No.	Tube OD T	H
	mm	mm
P-M03	3	11.11
P-M04	4	12.70
P-M06	6	14.28
P-M08	8	15.87
P-M10	10	19.05
P-M12	12	22.22
P-M15	15	25.40
P-M16	16	25.40
P-M18	18	30.16
P-M20	20	31.75
P-M22	22	31.75
P-M25	25	38.10
P-M28	28	47.63
P-M30	30	50.80
P-M32	32	50.80
P-M38	38	57.15

Installation Notes



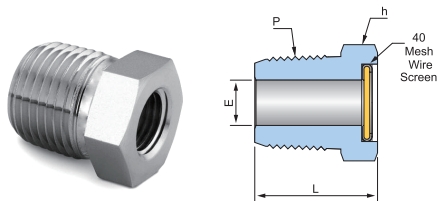
1. Remove nuts and ferrules from AFK heat transfer tube fittings.
2. Tighten the pipe plug by hand.
3. Use top drive back pliers or vice to fix, then turn the pipe plug away from the hand tightening position 1/4 turn.

NOTE
Do not turn 1-1/4 turn, because the machined ferrule is not a standard ferrule.
Turn 1/8 turn to tighten (2, 3 and 4 mm size pipe plugs are 1/16 inch, 1/8 inch and 3/16 inch respectively, 1 inch and 25 mm size pipe plugs are 1/2 turn).

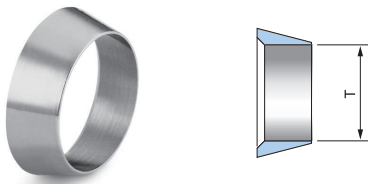
VP
Vent Protector

Connects Fractional NPT Thread

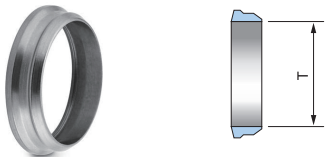
Part No.	Dimensions (mm)			
	E Min.	H		L
		mm	inch	
VP-04N	7.0	9/16	14.28	19.8
VP-06N	10.0	11/16	17.46	20.5
VP-08N	12.0	7/8	22.22	26.2
VP-12N	16.0	1-1/16	26.98	27.0



FF
Front Ferrule



BF
Back Ferrule



FS
Ferrule Set



Fractional Tube

Part No.	Tube OD T	
	inch	mm
FF-02	1/8	3.17
FF-03	3/16	4.76
FF-04	1/4	6.35
FF-05	5/16	7.93
FF-06	3/8	9.52
FF-08	1/2	12.70
FF-10	5/8	15.87
FF-12	3/4	19.05
FF-14	7/8	22.22
FF-16	1	25.40
FF-20	1-1/4	31.75
FF-24	1-1/2	38.10
FF-32	2	50.80

Metric Tube

Part No.	Tube OD T
	mm
FF-M03	3
FF-M04	4
FF-M06	6
FF-M08	8
FF-M10	10
FF-M12	12
FF-M15	15
FF-M16	16
FF-M18	18
FF-M20	20
FF-M22	22
FF-M25	25
FF-M28	28
FF-M30	30
FF-M32	32
FF-M38	38

Fractional Tube

Part No.	Tube OD T	
	inch	mm
BF-02	1/8	3.17
BF-03	3/16	4.76
BF-04	1/4	6.35
BF-05	5/16	7.93
BF-06	3/8	9.52
BF-08	1/2	12.70
BF-10	5/8	15.87
BF-12	3/4	19.05
BF-14	7/8	22.22
BF-16	1	25.40
BF-20	1-1/4	31.75
BF-24	1-1/2	38.10
BF-32	2	50.80

Metric Tube

Part No.	Tube OD T
	mm
BF-M03	3
BF-M04	4
BF-M06	6
BF-M08	8
BF-M10	10
BF-M12	12
BF-M15	15
BF-M16	16
BF-M18	18
BF-M20	20
BF-M22	22
BF-M25	25
BF-M28	28
BF-M30	30
BF-M32	32
BF-M38	38

Fractional Tube

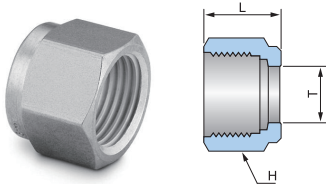
Part No.	Tube OD T	
	inch	mm
FS-02	1/8	3.17
FS-04	1/4	6.35
FS-06	3/8	9.52
FS-08	1/2	12.70

Metric Tube

Part No.	Tube OD T
	mm
FS-M04	4
FS-M06	6
FS-M08	8
FS-M10	10
FS-M12	12

The card sleeve can be ordered with the shaft. Each arbor is equipped with 10 sets of card sets.

N
Nut



Fractional Tube

Part No.	Tube OD T		H		L
	inch	mm	inch	mm	mm
N-02	1/8	3.17	7/16	11.11	11.9
N-03	3/16	4.76	1/2	12.70	11.9
N-04	1/4	6.35	9/16	14.28	12.7
N-05	5/16	7.93	5/8	15.87	13.5
N-06	3/8	9.52	11/16	17.46	14.2
N-08	1/2	12.70	7/8	22.22	17.5
N-10	5/8	15.87	1	25.40	17.5
N-12	3/4	19.05	1-1/8	28.57	17.5
N-14	7/8	22.22	1-1/4	31.75	17.5
N-16	1	25.40	1-1/2	38.10	20.6
N-20	1-1/4	31.75	1-7/8	47.63	31.7
N-24	1-1/2	38.10	2-1/4	57.15	38.1
N-32	2	50.80	3	76.20	52.3

Metric Tube

Part No.	Tube OD T	H	L
	mm	mm	mm
N-M03	3	11.11	11.9
N-M04	4	12.70	11.9
N-M06	6	14.28	12.7
N-M08	8	15.87	13.5
N-M10	10	19.05	15.1
N-M12	12	22.22	17.5
N-M15	15	25.40	17.5
N-M16	16	25.40	17.5
N-M18	18	30.16	17.5
N-M20	20	31.75	17.5
N-M22	22	31.75	17.5
N-M25	25	38.10	20.6
N-M28	28	47.63	30.6
N-M30	30	50.80	32.7
N-M32	32	50.80	34.4
N-M38	38	57.15	40.6

FNS
Ferrule & Nut Set



Fractional Tube

Part No.	Tube OD T	
	inch	mm
FNS-02	1/8	3.17
FNS-04	1/4	6.35
FNS-06	3/8	9.52
FNS-08	1/2	12.70

Metric Tube

Part No.	Tube OD T
	mm
AFNS-M04	4
AFNS-M06	6
AFNS-M08	8
AFNS-M10	10
AFNS-M12	12

Card sleeves and nuts can be ordered together with the arbor. Each handle shaft has 5 sets of ferrules and screws Parent group.

This size is for reference only, subject to possible changes in the actual product (without notice).

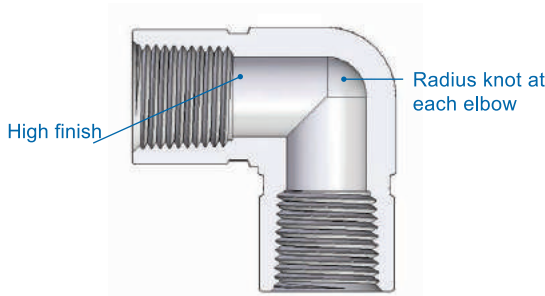
PIPE Fittings

CONTENTS

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Features

High smoothness ensures smooth circulation. Each elbow has a radius junction in order to remove the entrapment area and achieve smooth flow in all elbows including fluid pipe fittings. The fine thread meets the ASME/ANSI B1.20.1 standard requirements to ensure maximum thread engagement. The working pressure is higher than the traditional pipeline grade, 3000 fluid pipe fittings meet ASME B16.11 standard.



Material

AFK fluid pipe fittings are available in the following materials. Straight accessories use bar stock Manufacture, special-shaped parts are manufactured for forging. For more details or special applications, Please contact your local dealer.

Materials	Bar Stock	Forgings
316 SS or 316L SS	ASTM A479 ASME SA479	ASTM A182 ASME SA182
Brass	ASTM B16 ASTM B453	ASTM B283

Installation Notes

It is recommended to use pipe thread sealant when the seal is leaking. PTFE tape is usually only used for the installation of fluid pipe fittings with external threads.

Ensure that the external and internal threads are clean. Turn the Teflon tape clockwise from the first thread. It is recommended to wind twice. Do not leave excess tape at the first thread, as it may enter the system. Cut off the excess tape.

Use in acid environment

AFK fluid pipe fittings comply with NACE (American Society of Corrosion Engineers) MR-0175/ISO 15156 acid oil field application standards or NACE MR-0103 petroleum refining operation standards. To order, please add -N at the end of the product number.

Cleaning

AFK fluid pipe fittings are inorganic oil, free abrasive particles and grease during the entire closed cleaning process.

Male Pipe to Male Pipe



CN 59
Close Nipple



RA 62
Reducing Adapter



RC 63
Reducing Coupling



HN 59
Hex Nipple



RB 62
Reducing Bushing



FE 64
Female Elbow



HLN 60
Hex Long Nipple



SE 62
Street Elbow



FT 64
Female Tee



HRN 60
Reducing Hex Nipple



RSE 62
Reducing Street Elbow

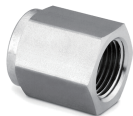
Components



ME 60
Male Elbow



ST 63
Street Tee



CP 64
Pipe Cap



MT 61
Male Tee



BT 63
Branch Tee



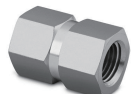
PG 64
Pipe Plug

Female Pipe to Male Pipe



A 61
Adapter

Female Pipe to Female Pipe



C 63
Coupling

Pipe end thread information

The end connection at low pressure levels is the decisive factor for the pressure level of the AFK pipe end and pipe threaded end fittings.

Pipe end thread pressure rating

Tapered Pipe Threads - NPT or ISO 7/1(BSPT)
Permissible pressure ratings for external and internal threads are based on ASME (American Society of Mechanical Engineers) B31.3 room temperature standards.

Pipe Size	316SS				Brass			AFK Desig- nator
	Male		Female		Male	Female		
	inch	bar	psig	bar	psig	psig	bar	
1/16	760	11000	460	6700	5500	230	3300	-01N/R
1/8	690	10000	440	6500	5000	220	3200	-02N/R
1/4	550	8000	450	6600	4000	220	3300	-04N/R
3/8	540	7800	360	5300	3900	180	2600	-06N/R
1/2	530	7700	330	4900	3800	160	2400	-08N/R
3/4	500	7300	320	4600	3600	160	2300	-12N/R
1	370	5300	300	4400	2600	150	2200	-16N/R
1-1/4	410	6000	350	5000	3000	170	2500	-20N/R
1-1/2	340	5000	310	4600	2500	150	2300	-24N/R
2	270	3900	270	3900	1900	130	1900	-32N/R

The NPT standard pipe thread is identified as N, and ISO1/7 is identified as R.

ISO 228/1 Parallel Thread (BSPP)

The pressure level is the pressure level at room temperature

Male Pipe Size	316SS		AFK Designator
	bar	psig	
1/8	315	4568	-02G
1/4	315	4568	-04G
3/8	315	4568	-06G
1/2	160	2320	-08G

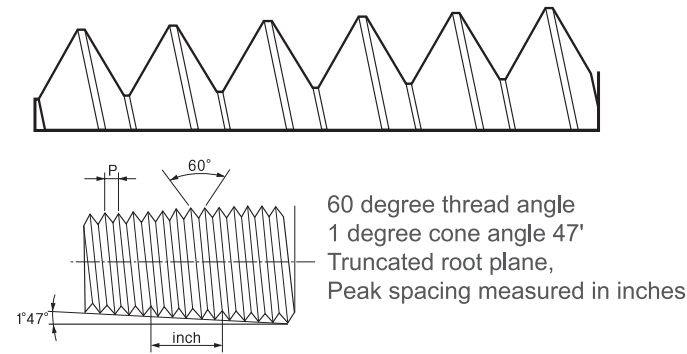
O-Seal Fittings

The pressure rating of 316 stainless steel 1 inch and 25 mm accessories is 206 bar (3000 psi (gauge pressure)).

Pipe end thread type

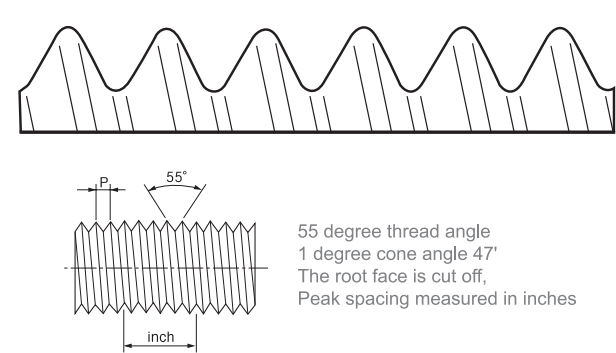
NPT Pipe Thread

NPT (American Standard Tapered Pipe Thread Gauge) is based on ANSI (American National Standards Institute) B1.20.1.



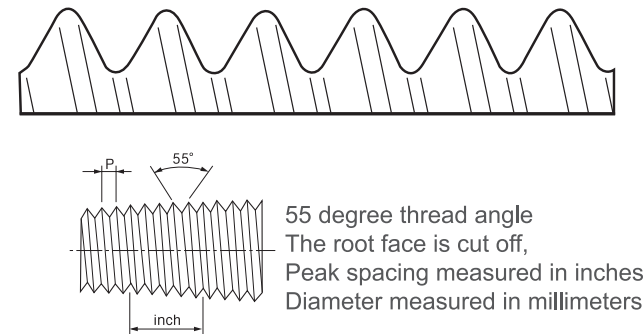
ISO 7/1 Tapered Pipe Thread

International Standard Organization (ISO7/1) conical tube
Equivalent to BSPT (British Standard Tapered Pipe Thread Gauge), DIN (German Standardization Organization) 2999, JIS (Japanese Industrial Standard) B0203



ISO 228/1 Parallel Pipe Thread

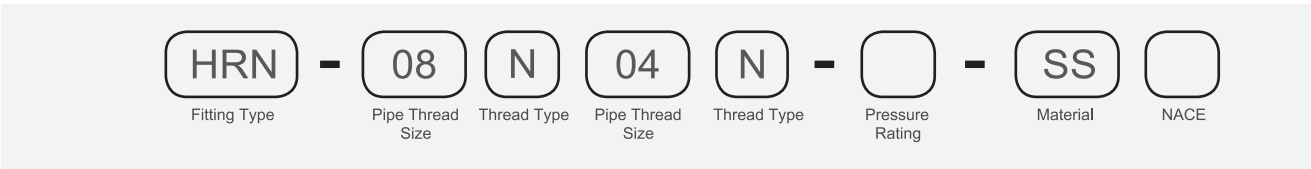
International Standards Organization (ISO228/1) parallel tube
Equivalent to BSPP (British Standard Parallel Pipe Thread Gauge), DIN (German Standardization Organization) ISO228/1, JIS (Japanese Industrial Standard) B0202
Gaskets or O-rings are usually used to seal into parallel internally threaded components.



How to order

AFK fluid tube fittings are ordered according to the product numbers shown below.

Example: The product number PHRN-08N04N-SS below indicates a hexagon socket with a reduced diameter, 1/2-inch NPT standard external thread x1/4 standard external thread, 316 stainless steel



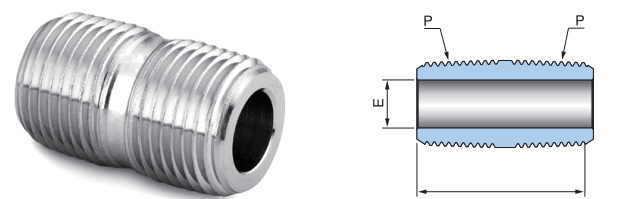
Pipe Thread Size Designation						
Pipe Size	1/8	1/4	3/8	1/2	3/4	1
Designator	02	04	06	08	12	16

Thread Type Designation		
Designator	Thread Type	
N	NPT	National Standard Pipe Thread
R	ISO 7/1	Taper Pipe Thread
G	ISO 228/1	Parallel Pipe Thread
WS-*T		Socket Weld-Tube

Material Designation	
Designator	Material
SS	316SS
BS	Brass

Pressure Rating Designation	
Designator	Pressure Rating
3K	3000 psi
5K	5000 psi

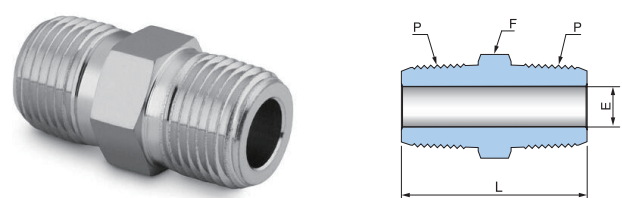
CN
Close Nipple



Male NPT to Male NPT

Part No.	P NPT	Dimensions (mm)	
		L	E
CN-02N	1/8	21.8	4.8
CN-04N	1/4	33.0	7.1
CN-06N	3/8	34.0	9.6
CN-08N	1/2	44.0	11.9
CN-12N	3/4	38.1	15.7
CN-16N	1	58.9	22.4

HN
Hex Nipple



Male NPT to Male NPT

Part No.	P NPT	Dimensions (mm)			
		L	E	F	
				inch	mm
HN-02N	1/8	25.6	4.8	7/16	11.11
HN-04N	1/4	35.6	7.1	9/16	14.28
HN-06N	3/8	36.3	9.6	11/16	17.46
HN-08N	1/2	46.7	11.9	7/8	22.22
HN-12N	3/4	46.7	15.7	1-1/16	26.98
HN-16N	1	58.9	22.4	1-3/8	34.92

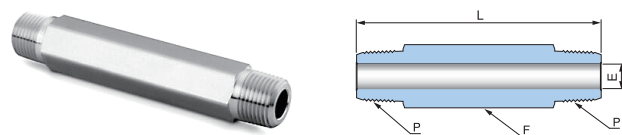
Male NPT to Male ISO Tapered Thread

Part No.	P NPT	P1 ISO7/1	Dimensions (mm)			
			L	E	F	
					inch	mm
HN-02N02R	1/8	1/8	25.6	4.8	7/16	11.11
HN-04N04R	1/4	1/4	35.6	7.1	9/16	14.28
HN-06N06R	3/8	3/8	36.3	9.6	11/16	17.46
HN-08N08R	1/2	1/2	46.7	11.9	7/8	22.22
HN-12N12R	3/4	3/4	46.7	15.7	1-1/16	26.98
HN-16N16R	1	1	58.9	22.4	1-3/8	34.92

Male NPT to Male ISO Parallel Thread

Part No.	P NPT	P1 ISO 228/1	Dimensions (mm)						
			L	B	C	E	F		
							inch	mm	
HN-02N02G	1/8	1/8	27.7	7.1	13.8	4.1	9/16	14.28	
N-04N04G	1/4	1/4	36.8	11.2	18.0	5.8	3/4	19.05	
HN-06N06G	3/8	3/8	37.6	11.2	21.8	7.9	7/8	22.22	
HN-08N08G	1/2	1/2	44.4	14.2	26.0	11.9	1-1/16	26.98	
HN-12N12G	3/4	3/4	49.0	15.7	32.0	15.7	1-5/16	33.33	
HN-16N16G	1	1	56.6	18.3	39.0	19.8	1-5/8	41.27	

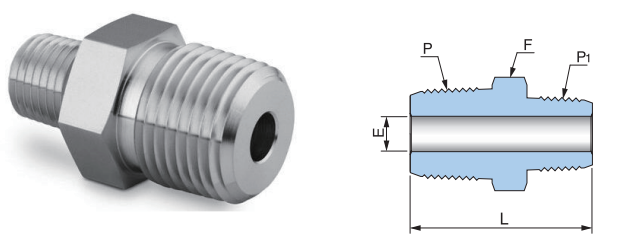
HLN
Hex Long Nipple



Male NPT to Male NPT

Part No.	P NPT	Dimensions (mm)			
		L	E	F	
				inch	mm
HLN-02N-1.5	1/8	40	4.8	7/16	11.11
HLN-02N-2.0		50			
HLN-02N-2.5		65			
HLN-02N-3.0		75			
HLN-02N-4.0		100			
HLN-04N-1.5	1/4	40	7.1	9/16	14.28
HLN-04N-2.0		50			
HLN-04N-2.5		65			
HLN-04N-3.0		75			
HLN-04N-4.0		100			
HLN-04N-6.0		150			
HLN-06N-2.0	3/8	50	9.6	11/16	17.46
HLN-06N-3.0		75			
HLN-06N-4.0		100			
HLN-08N-2.0	1/2	50	11.9	7/8	22.22
HLN-08N-3.0		75			
HLN-08N-4.0		100			
HLN-08N-6.0		150			
HLN-12N-3.0	3/4	75	15.7	1-1/16	26.98
HLN-12N-4.0		100			
HLN-16N-3.0	1	75	22.4	1-3/8	34.92
HLN-16N-4.0		100			

HRN
Reducing Hex Nipple



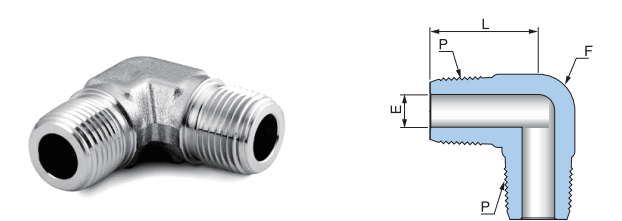
Male NPT to Reduced Male NPT

Part No.	P NPT	P1 NPT	Dimensions (mm)			
			L	E	F	
					inch	mm
HRN-04N02N	1/4	1/8	31.0	4.8	9/16	14.28
HRN-06N04N	3/8	1/4	36.3	7.1	11/16	17.46
HRN-08N04N	1/2	1/4	41.9	7.1	7/8	22.22
HRN-08N06N	1/2	3/8	41.9	9.6	7/8	22.22
HRN-12N04N	3/4	1/4	41.9	7.1	1-1/16	26.98
HRN-12N08N	3/4	1/2	46.7	11.9	1-1/16	26.98
HRN-16N08N	1	1/2	54.1	11.9	1-3/8	34.92
HRN-16N12N	1	3/4	54.1	15.7	1-3/8	34.92

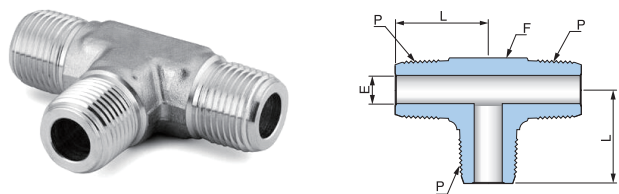
Male NPT to Male NPT

Part No.	P NPT	Dimensions (mm)			
		L	E	F	
				inch	mm
ME-02N	1/8	22.4	4.8	1/2	12.70
ME-04N	1/4	26.7	7.1	1/2	12.70
ME-06N	3/8	29.7	9.6	11/16	17.46
ME-08N	1/2	36.8	11.9	13/16	20.63

ME
Male Elbow



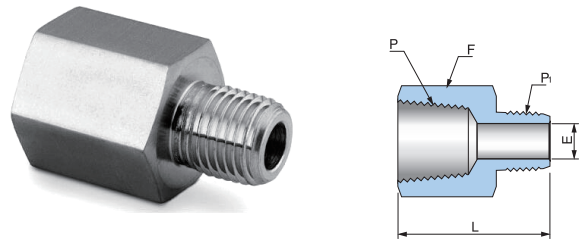
MT
Male Tee



Male NPT to Male NPT

Part No.	P NPT	Dimensions (mm)				
		L	E	F		
				inch	mm	
MT-02N	1/8	22.4	4.8	1/2		12.70
MT-04N	1/4	26.7	7.1	1/2		12.70
MT-06N	3/8	29.7	9.6	11/16		17.46
MT-08N	1/2	36.8	11.9	13/16		20.63

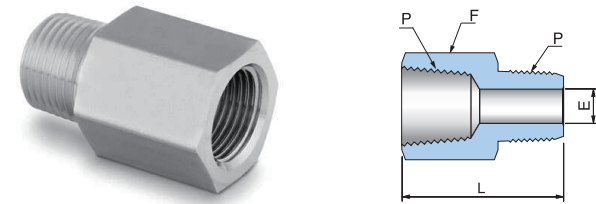
RA
Reducing Adapter



Female NPT to Reduced Male NPT

Part No.	P NPT	P ₁ NPT	Dimensions (mm)			
			L	E	F	
					inch	mm
RA-04N02N	1/4	1/8	32.0	4.8	3/4	19.05
RA-06N04N	3/8	1/4	38.1	7.1	7/8	22.22
RA-08N04N	1/2	1/4	44.7	7.1	1-1/16	26.98
RA-08N06N	1/2	3/8	44.4	9.6	1-1/16	26.98
RA-12N06N	3/4	3/8	46.2	9.6	1-5/16	33.33
RA-12N08N	3/4	1/2	51.3	11.9	1-5/16	33.33
RA-16N08N	1	1/2	54.9	11.9	1-5/8	41.27
RA-16N12N	1	3/4	55.1	15.7	1-5/8	41.27

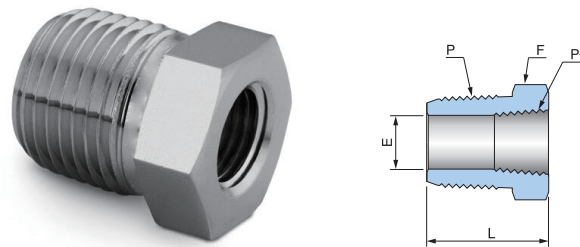
A
Adapter



Female NPT to Male NPT

Part No.	P NPT	Dimensions (mm)				
		L	E	F		
				inch	mm	
A-02N	1/8	27.9	4.8	9/16		14.28
A-04N	1/4	35.6	7.1	3/4		19.05
A-06N	3/8	38.4	9.6	7/8		22.22
A-08N	1/2	49.3	11.9	1-1/16		26.98
A-12N	3/4	51.3	15.7	1-5/16		33.33
A-16N	1	57.9	22.4	1-5/8		41.27

RB
Reducing Bushing



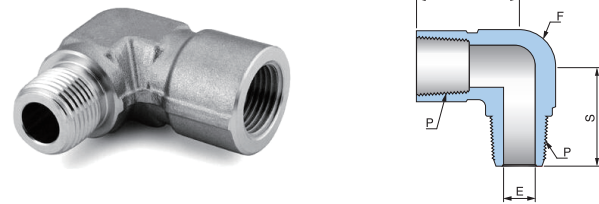
Male NPT to Reduced Female NPT

Part No.	P NPT	P ₁ NPT	Dimensions (mm)			
			L	E	F	
					inch	mm
RB-04N02N	1/4	1/8	26.9	7.1	9/16	14.28
RB-06N04N	3/8	1/4	30.2	9.6	3/4	19.05
RB-08N04N	1/2	1/4	27.4	11.4	7/8	22.22
RB-08N06N	1/2	3/8	35.8	11.9	7/8	22.22
RB-12N04N	3/4	1/4	27.4	11.4	1-1/16	26.98
RB-12N06N	3/4	3/8	27.4	15.0	1-1/16	26.98
RB-12N08N	3/4	1/2	41.4	15.7	1-1/16	26.98
RB-16N08N	1	1/2	34.8	18.5	1-3/8	34.92
RB-16N12N	1	3/4	47.0	22.4	1-3/8	34.92

Female NPT to Male ISO Tapered Thread

Part No.	P NPT	P ₁ ISO 228/1	Dimensions (mm)				
			L	E	F		
					inch	mm	
A-02N02R	1/8	1/8	27.7	4.8	9/16		14.28
A-04N04R	1/4	1/4	36.1	7.1	3/4		19.05
A-06N06R	3/8	3/8	38.1	9.6	7/8		22.22
A-08N08R	1/2	1/2	49.3	11.9	1-1/16		26.98
A-12N12R	3/4	3/4	51.3	15.7	1-5/16		33.33
A-16N16R	1	1	58.4	22.4	1-5/8		41.27

SE
Street Elbow



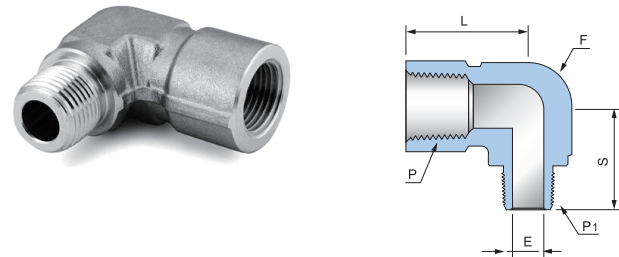
Female NPT to Male NPT

Part No.	P NPT	Dimensions (mm)				
		L	S	E	F	
					inch	mm
SE-02N	1/8	26.4	22.1	4.8	1/2	12.70
SE-04N	1/4	29.7	29.7	7.1	11/16	17.46
SE-06N	3/8	36.1	32.0	9.6	13/16	20.63
SE-08N	1/2	39.6	39.6	11.9	1	25.40

Female NPT to Male ISO Parallel Thread

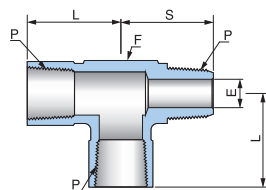
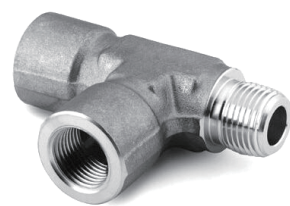
Part No.	P NPT	P ₁ ISO 228/1	Dimensions (mm)						
			L	B	C	E	F		
							inch	mm	
A-02N02G	1/8	1/8	25.1	7.1	13.8	4.1	9/16		14.28
A-04N04G	1/4	1/4	33.5	11.2	18.0	5.8	3/4		19.05
A-06N06G	3/8	3/8	35.8	11.2	21.8	7.9	7/8		22.22
A-08N08G	1/2	1/2	44.2	14.2	26.0	11.9	1-1/16		26.98
A-12N12G	3/4	3/4	48.0	15.7	32.0	15.7	1-5/16		33.33
A-16N16G	1	1	53.3	18.3	39.0	19.8	1-5/8		41.27

RSE
Reducing Street Elbow



Part No.	P NPT	P ₁ NPT	Dimensions (mm)				
			L	S	E	F	
						inch	mm
RSE-04N02N	1/4	1/8	29.7	25.4	4.8	11/16	17.46
RSE-06N04N	3/8	1/4	36.1	32.0	7.1	13/16	20.63
RSE-08N04N	1/2	1/4	39.6	35.1	7.1	1	25.40
RSE-08N06N	1/2	3/8	39.6	35.1	9.6	1	25.40

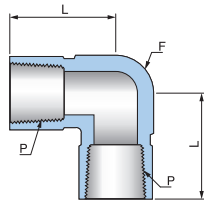
ST
Street Tee



Female NPT to Male NPT

Part No.	P NPT	Dimensions (mm)				
		L	S	E	F	
					inch	mm
ST-02N	1/8	26.4	22.1	4.8	1/2	12.70
ST-04N	1/4	29.7	29.7	7.1	11/16	17.46
ST-06N	3/8	36.1	32.0	9.6	13/16	20.63
ST-08N	1/2	39.6	39.6	11.9	1	25.40

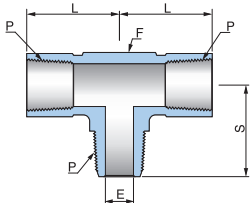
FE
Female Elbow



Female NPT to Female NPT

Part No.	P NPT	Dimensions (mm)		
		L	F	
			inch	mm
FE-02N	1/8	26.4	1/2	12.70
FE-04N	1/4	29.7	11/16	17.46
FE-06N	3/8	36.1	13/16	20.63
FE-08N	1/2	39.6	1	25.40

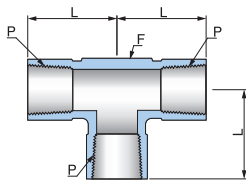
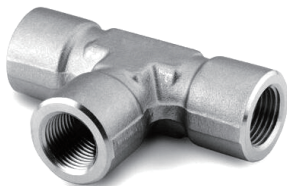
BT
Branch Tee



Female NPT to Male NPT

Part No.	P NPT	Dimensions (mm)				
		L	S	E	F	
					inch	mm
BT-02N	1/8	26.4	22.1	4.8	1/2	12.70
BT-04N	1/4	29.7	29.7	7.1	11/16	17.46
BT-06N	3/8	36.1	32.0	9.6	13/16	20.63
BT-08N	1/2	39.6	39.6	11.9	1	25.40

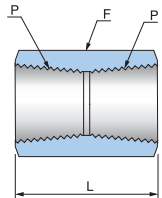
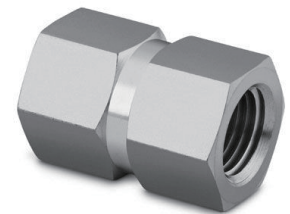
FT
Female Tee



Female NPT to Female NPT

Part No.	P NPT	Dimensions (mm)		
		L	F	
			inch	mm
FT-02N	1/8	26.4	1/2	12.70
FT-04N	1/4	29.7	11/16	17.46
FT-06N	3/8	36.1	13/16	20.63
FT-08N	1/2	39.6	1	25.40

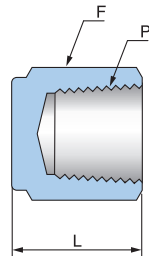
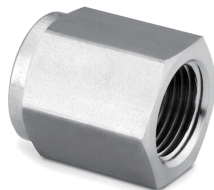
C
Coupling



Female NPT to Female NPT

Part No.	P NPT	Dimensions (mm)		
		L	F	
			inch	mm
C-02N	1/8	20.6	9/16	14.28
C-04N	1/4	30.2	3/4	19.05
C-06N	3/8	33.3	7/8	22.22
C-08N	1/2	39.6	1-1/16	26.98
C-12N	3/4	41.1	1-5/16	33.33
C-16N	1	50.8	1-5/8	41.27

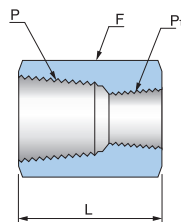
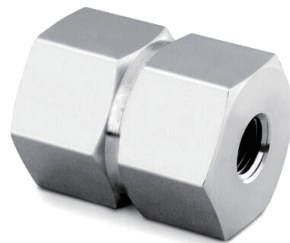
CP
Pipe Cap



Female NPT

Part No.	P NPT	Dimensions (mm)		
		L	F	
			inch	mm
CP-02N	1/8	19.1	9/16	14.28
CP-04N	1/4	23.1	3/4	19.05
CP-06N	3/8	26.2	7/8	22.22
CP-08N	1/2	34.0	1-1/16	26.98
CP-12N	3/4	36.6	1-5/16	33.33
CP-16N	1	41.1	1-5/8	41.27

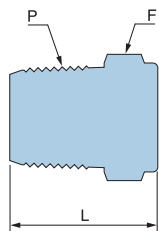
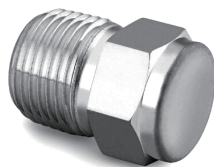
RC
Reducing Coupling



Female NPT to Reduced Female NPT

Part No.	P NPT	P ₁ NPT	Dimensions (mm)		
			L	F	
				inch	mm
RC-04N02N	1/4	1/8	31.0	3/4	19.05
RC-06N04N	3/8	1/4	35.1	7/8	22.22
RC-08N04N	1/2	1/4	44.4	1-1/16	26.98
RC-08N06N	1/2	3/8	45.2	1-1/16	26.98
RC-12N04N	3/4	1/4	46.0	1-5/16	33.33
RC-12N08N	3/4	1/2	52.3	1-5/16	33.33
RC-16N08N	1	1/2	55.6	1-5/8	41.27
RC-16N12N	1	3/4	57.2	1-5/8	41.27

PG
Pipe Plug



Male NPT

Part No.	P NPT	Dimensions (mm)		
		L	F	
			inch	mm
PG-02N	1/8	19.1	7/16	11.11
PG-04N	1/4	24.4	9/16	14.28
PG-06N	3/8	25.1	11/16	17.46
PG-08N	1/2	30.7	7/8	22.22
PG-12N	3/4	30.7	1-1/16	26.98
PG-16N	1	38.1	1-3/8	34.92