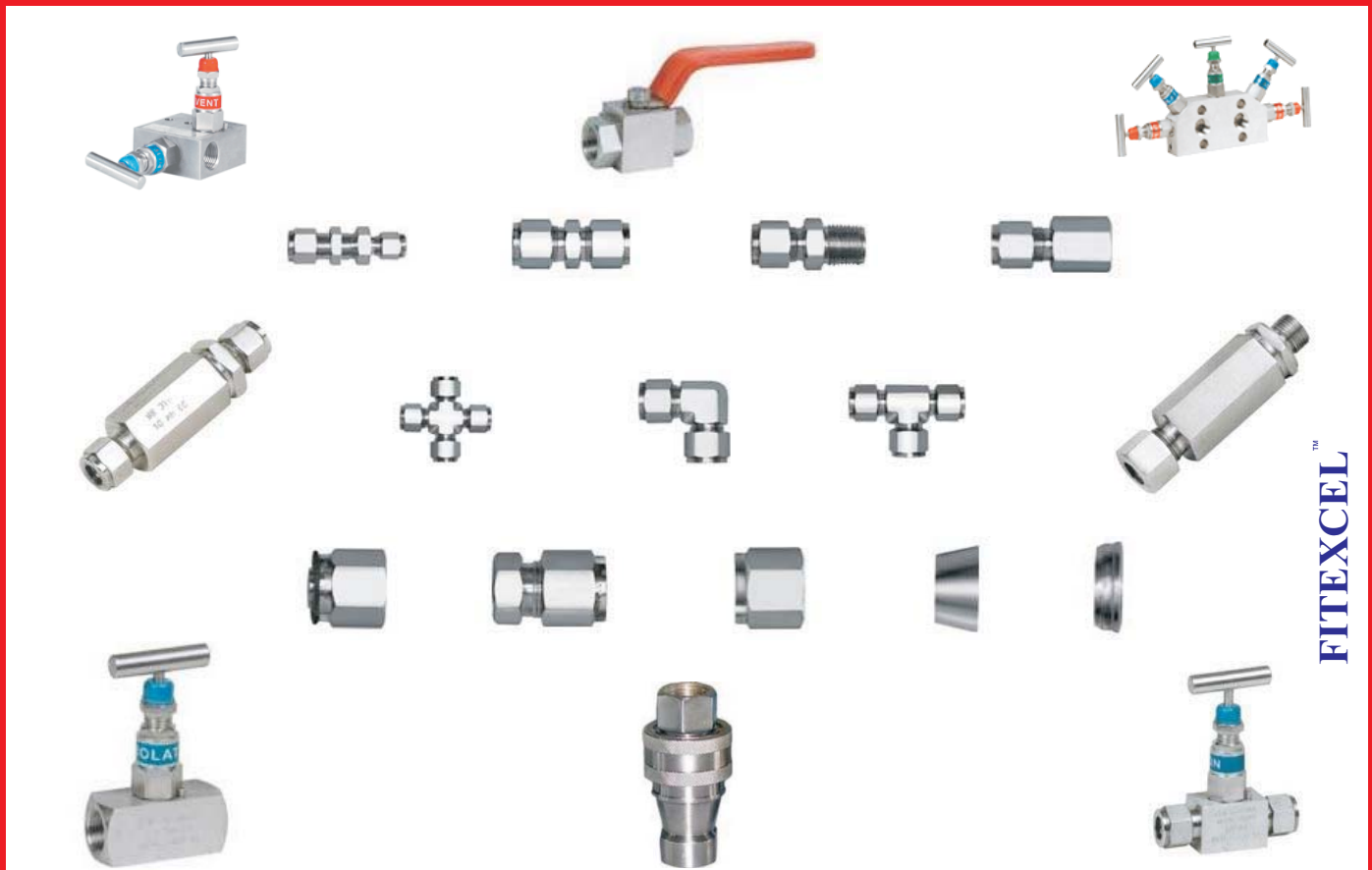


Double Ferrule Fittings / Instrumentation Valves



*...make the leak free connections with
Fitexcel products at economical price...*

Certificate number: 9879

Issue number: 2013-01

Date of initial BM TRADA Certification: 3 September 2013

Certificate start date: 3 September 2013

Certificate expiry date: 2 September 2016



012

REGISTRATION CERTIFICATE



The use of the accreditation mark indicates accreditation in respect of those activities covered by the accreditation certification 012.

BM TRADA

This is to certify that

FITEXCEL INDUSTRIES

B – 16, MADINA MANZIL,
OPP DLH PARK,
S.V.ROAD, GOREGAON (W),
MUMBAI : 400062,
MAHARASHTRA, INDIA.

has been audited and found to meet the requirements of standard
ISO 9001:2008 Quality Management System

Scope of certification

DESIGN, DEVELOPMENT, MANUFACTURE, MARKETING AND
SUPPLY OF TUBE FITTING AND VALVES, PRECISION PIPE
FITTINGS, INSTRUMENTATION VALVE, BALL VALVE, NEEDLE
VALVE, QUICK RELEASE COUPLING, NON RETURN VALVE,
MANIFOLD VALVE, HYDRAULIC AND PNEUMATIC
APPLICATIONS.



Signed on behalf of BM TRADA
Tom Johnston Chief Operating Officer
Central Certification Services

BM TRADA Certification Ltd, Chiltem House, Stocking Lane, High Wycombe, Buckinghamshire, HP14 4ND, UK

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Multisite clients - the scope of certification shown above includes the participating sites shown in Appendix A.

About the Company

FITEXCEL INDUSTRIES

Since the inception in 2008, FITEXCEL has been developing quality products and customized solutions for customers in diverse industry sectors. Intimate knowledge of materials used in our products, continuous update and modernization of machines and keeping abreast with the latest design trends have enabled us to cover a wide range of products and a prestigious client list. FITEXCEL Industries is ISO 9001:2008 accredited companies for Quality Management System. Our Sales and Service team backed up by the Design and Manufacturing personnel, is in constant touch with the customers, endeavoring to provide total customer satisfaction.

FITEXCEL Industries is a fast growing manufacturing company of repute having more than 2 decades of experience and expertise in manufacturing and marketing high quality Fittings and Valves suitable for Instrumentation, Hydraulic and Pneumatic applications, for Industries like Automobile, Chemical, Petrochemical, Oil & Gas, Nuclear, Power Plant, Pharmaceutical, Marine, Packing, Printing Industries etc.

Manufacturing

FITEXCEL prides itself of its in-house modern machinery and infrastructure under one roof Commencing with Computer Aided Designs, a wide variety of modern machines like CNC machines, Traubs, Automats. Milling, Band Saw Cutting, Finishing, Pressure testing, Precision Measurement and Quality Control Instruments – Hardness Tester, Profile Projector', turning centers, deburring & ultrasonic cleaning, etc are available.

Product Range

Tube Fittings, Pipe Fittings, Instrumentation Valve, Manifolds, product portfolio, we have Double Ferrule, single ferrule, as per the standards of leading players like Swagelok, Parker, and Ermeto etc respectively

Product Warranty

All the FITEXCEL Products come with a warranty of 12 months from the date of shipment against any defect in material or workmanship. The warranty stands for replacement of determined defective parts only.

Quality

FITEXCEL has total quality management culture from the incoming high quality heat code traceable raw material to finish products ensuring our commitment to efficient and high quality products compatible with ISO 9001:2008, this is achieved by continuous improving the products, process and systems. At every stage, we have controlled quality checks so that all our supplies reaches to our customers with zero defect.

Vision

Our company's vision is to understand our customers requirements and meet them fully to their entire satisfaction by way of high quality, competitive price and prompt service.

Mission

Our mission is to improve our products, processes and systems regularly to upgrade our quality by optimum utilization of internal human resources and available facilities.

GENERAL INFORMATION :

FITEXCEL Tube fittings have been carefully designed and manufactured with continuous research and development backing to very stringent tolerances under rigid Quality Control procedures approved to ISO 9001-2008 quality management systems to provide zero leak, Torque free seal in instrumentation and process tubing.

FITEXCEL Tube fittings ensure maximum safety and reliability due to Tests carried out such As High pressure, impulse, vibration, vacuum, temperature, and pulls out and burst pressure.

MATERIAL

FITEXCEL Tube fittings are available as standard stainless steel 316. The raw materials used confirm to chemical requirements listed in specification below,

BAR STOCK	FORGING
ASME - SA -479,	ASME-SA-182 316
TYPE 316 - SS	BS970 316-S31
BS970 316 - S31	DIN 4401
DIN 4401	
ASTMA276, TYPE 316	

HEAT TRACEABILITY

Stainless steel 316 Tube fittings are heat code traceable back to the original mill heat from which it was made.

PRESSURE RATING

FITEXCEL Tube fitting are rated for working pressure higher than the tubing recommended in tubing data table as shown below. However, tubing should not be used above its maximum allowed working pressure.

TUBING SELECTIONS

Stainless steel 304 and 316 fully annealed seamless tubing according to standard ASTM A213 or ASTM A269 or equivalent, are suitable for use with FITEXCEL tube fittings.

The tubing should be compatible with the process fluid, pressure and temperature.

For good performance of FITEXCEL tube fittings, the tubing should be reasonably round, free from nicks, scratches, the surface finish should be good and tube ends are squarely cut and must be free from burrs. The hardness of tubing as desired is 80Rb; the maximum allowed by ASTM is 90Rb.

Table 1 : TUBING DATA TABLES FOR FRACTIONAL SIZE

ALLOWABLE WORKING PRESSURE (PSI)								
Tubing O.D.	WALL THICKNESS IN INCH							
	.028	.035	.049	.065	.083	.095	.109	.120
1/8	8600	10900						
3/16	5500	7000	10300					
1/4	4000	5100	7500	10300				
5/16		4100	5900	8100				
3/8		3300	4800	6600				
1/2		2600	3700	5100	6700			
5/8			3000	4000	5200	6100		
3/4			2400	3300	4300	5000	5800	
7/8			2100	2800	3600	4200	4900	
1				2400	3200	3700	4200	4700

Table 2: TUBING DATA TABLES FOR METRIC SIZE.

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

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

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

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

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

GAS SERVICE

Extra care must be taken while selecting tubing for gas application, In order to achieve a gas-tight seal, ferrules in instruments fittings must seal any minor surface imperfections.

The thick walled tubing helps the ferrules to overcome minor surface imperfections.

FITEXCEL recommends the following minimum wall thickness of tubing for gas application.

TABLE 4 : GAS APPLICATION TUBING

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

PIPE END NPT AND ISO PRESSURE RATINGS

Fitting that has both tube and pipe thread ends can have different pressure ratings. The pipe end pressure ratings chart given below for SS316 shows the pressure ratings for male and female pipe thread ends.

Working pressure is calculated on ANSI code for pressure piping B31.3 basis.

TABLE 5 :

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

SAE/MS Pressure Ratings for SS316

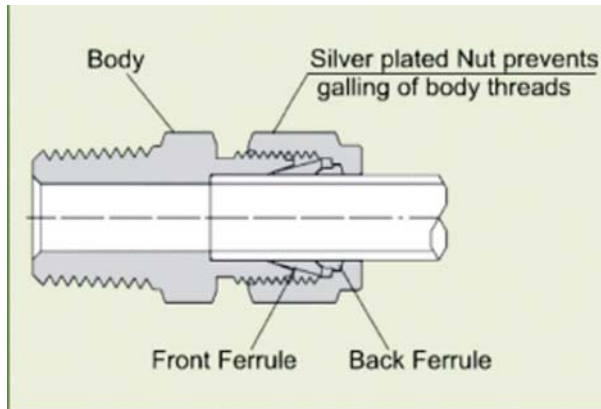
TABLE 6 : Pressure ratings are from SAE J1926/3

SAE/MS THREAD SIZE	Non Positionable	Positionable
	PSIG	PSIG
5/16-24	4568	4568
7/16-20	4568	4568
1/2-20	4568	4568
9/16-18	4568	3626
3/4-16	4568	3626
7/8-14	3626	2900
1 ¹ / ₁₆ -12	3626	2900
1 ³ / ₁₆ -12	2900	2320
1 ⁵ / ₁₆ -12	2900	2320

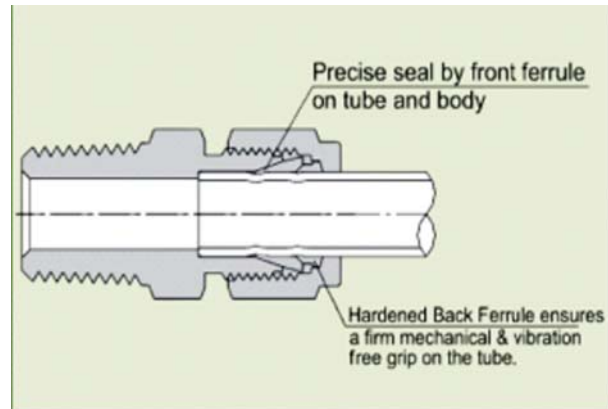
CONSTRUCTION OF FITEXCEL Tube Fittings

FITEXCEL Tube Fittings consist of four precision components such as Nut, Back Ferrule, Front Ferrule and Body.

Fractional FITEXCEL Tube Fittings

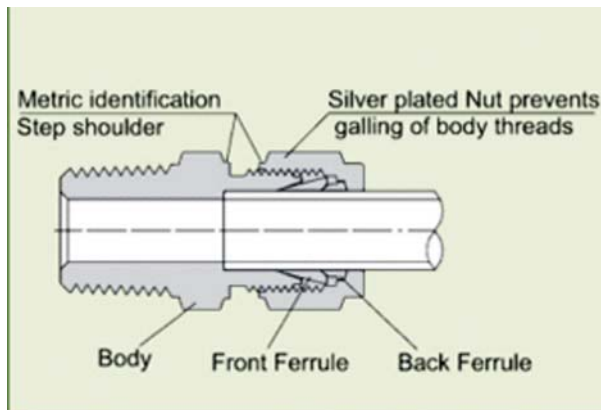


Finger tight FITEXCEL Fractional Tube Fittings.

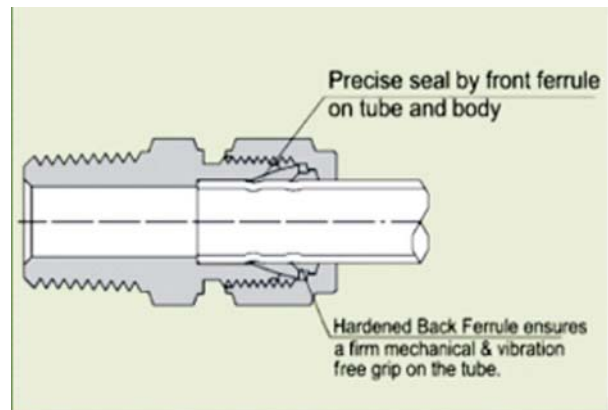


Assembled FITEXCEL™ Fractional Tube Fittings after tightening the Nut 1 ¼ turn from the finger tight position.

Metric FITEXCEL Tube Fittings



Finger tight FITEXCEL Metric Tube Fittings.

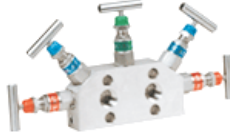


Assembled FITEXCEL Metric Tube Fittings after tightening the Nut 1 ¼ turn from the finger tight position.

Gaugeability:

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

MALE CONNECTOR Fractional & Metric Tube to NPT thread & ISO tapered pipe thread Page - 11, 12, 13 	MALE CONNECTOR Fractional & Metric Tube to ISO Parallel Threads - RP Page - 15 	MALE CONNECTOR Fractional & Metric Tube to ISO Parallel Threads - RS Page - 14 	O SEAL MALE CONNECTOR Fractional & Metric Tube to ISO Parallel Thread & Straight Thread - UNF Page - 16 
BULK HEAD MALE CONNECTOR Fractional & Metric Tube & NPT Thread Page - 17 	MALE ELBOW Fractional & Metric Tube to ISO Parallel Thread SAE / MS Straight Thread Page - 18 	MALE BRANCH TEE Fractional & Metric Tube to NPT Thread Page - 19 	MALE RUN TEE Fractional & Metric Tube to NPT Thread Page - 20 
FEMALE CONNECTOR Fractional & Metric Tube to NPT Thread & ISO Tapered Pipe Thread Page - 21 	BULK HEAD FEMALE CONNECTOR Fractional & Metric Tube & NPT Thread Page - 17 	FEMALE ELBOW Fractional & Metric Tube to NPT Thread Page - 22 	FEMALE BRANCH TEE Fractional & Metric Tube to NPT Thread Page - 23 
FEMALE RUN TEE Fractional & Metric Tube to NPT Thread Page - 23 	UNION Fractional & Metric Tube Page - 24 	REDUCING UNION Fractional & Metric Tube Page - 25 	BULKHEAD UNION Fractional & Metric Tube Page - 26 
BULKHEAD REDUCING UNION Fractional Tube Page - 22 	UNION ELBOW Fractional & Metric Tube Page - 27 	UNION TEE Fractional & Metric Tube Page - 28 	REDUCING UNION TEE Fractional Tube Page - 26 
UNION CROSS Fractional & Metric Tube Page - 24 	POSITIONABLE MALE ELBOW Fractional & Metric Tube to ISO Parallel Thread SAE / MS Straight Thread Page - 29 	POSITIONABLE MALE BRANCH TEE Fractional & Metric Tube to ISO Parallel Thread SAE / MS Straight Thread Page - 28 	BULKHEAD REDUCER Fractional Tube Page - 27 

POSITIONABLE MALE RUN TEE Fractional & Metric Tube to ISO Parallel Thread SAE / MS Straight Thread Page - 30 	BUTT WELD PIPE CONNECTOR Fractional & Metric Tube to Pipe Page - 31 	SOCKET WELD TUBE ELBOW Fractional Tube to Tube Page - 32 	BUTT WELD PIPE ELBOW Fractional Tube to Pipe Page - 31 
REDUCER Fractional & Metric Tube Page - 33 	TUBE END CLOSURE Fractional & Metric Tube Page - 32 	FITTING END CLOSURE Fractional & Metric Tube Page - 34 	COUPLING CAP Fractional & Metric Tube Page - 34 
FRONT FERRULE Fractional & Metric Tube Page - 35 	BACK FERRULE Fractional & Metric Tube Page - 35 	MANIFOLD VALVE Page - 40, 41 	NEEDLE VALVE Page - 39 
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ORDERING CODES

INCH SIZE TUBING

Tube O.D. in multiples of 1/16"
 Pipe thread size in multiples of 1/16"
 Reduced tube O.D. in multiples of 1/16"

Code for Double Ferrule Fittings D
 (No Symbol for conversion fittings)

Fitting Type Designator
 Pipe thread specification

NPT Threads to ANSI B 1.20.1 - 1983 N
 ISO Parallel Threads to ISO : 228/1 R
 ISO Taper Threads to ISO : 7/1 RT
 UNF threads to ANSI B 1.1 - 1964 U

Material Designator

304 or 304L Stainless Steel S/SL
 316 or 316L Stainless Steel SS/SSL

METRIC SIZE TUBING

Code for Double Ferrule Fittings
 (No Symbol for conversion fittings)
 Fitting Type Designator
 Tube O.D. in mm
 Pipe thread size in multiples of 1/16"
 Pipe thread specification
 NPT Threads to ANSI B 1.20.1 - 1983 N
 ISO Parallel Threads to ISO : 228/1 R
 ISO Taper Threads to ISO : 7/1 RT
 UNF threads to ANSI B 1.1 - 1964 U

Material Designator

304 or 304L Stainless Steel S/SL
 316 or 316L Stainless Steel SS/SSL

FITTING TYPE

ITEM	TYPE
Front Ferrule	ff
Back Ferrule	bf
Coupling Cap	n
Tube End Closer	TEC
Fitting End Closer	FEC
Union	U
Reducing Union	RU
Bulkhead Union	BU
Bulkhead Reducing Union	BRU
Union Elbow	UE
Union Tee	UT
Reducing Union Tee	RUT
Union Cross	UC
Bulkhead Reducer	BR
Male Connector	MC
Female Elbow	FE
Bulkhead Male Connector	BMC
O - Seal Male Connector	OSMC
Male Elbow	ME
Positionable Male Elbow	PME
Male Run Tee	MRT
Male Branch Tee	MBT
Female Run Tee	FRT
Female Branch Tee	FBT
Positionable Male Run Tee	PMRT
Positionable Male Branch Tee	PMBT
Reducer	R
Socket Weld Tube Elbow	SWTE
Butt Weld Pipe Connector	BWPC
Butt Weld Pipe Elbow	BWPE
Female Connector	FC
Bulkhead Female Connector	BFC

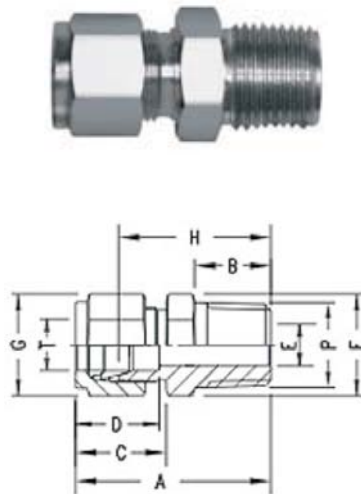
NOTE:

- The bodies of fittings for metric tubes are provided with collar on the tube end side. This is only for identification purpose to
- Differentiate from inch tube fittings. Dimensions 'C' (In some cases 'Cx') are measured the collar in the case of metric tube fittings.

MALE CONNECTOR

(Tapered Thread)

INCH OD Tubes X Male NPT Threads



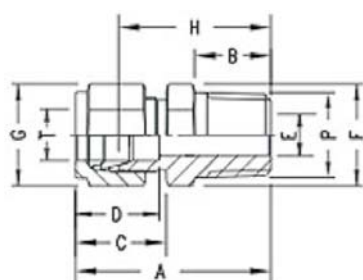
T Tube OD	P NPT Male	A	B	C	D	E min.	F A/F	G A/F	H	FITEXCEL PART NO.
1/16	1/16	23.9	9.6	11.0	8.6	1.3	8	8	20.0	FMC-15-001-N
1/16	1/8	26.2	9.6	11.0	8.6	1.3	14	8	22.4	FMC-15-002-N
1/8	1/8	30.5	9.6	15.3	12.7	2.4	11	11	23.9	FMC-15-003-N
1/8	1/4	35.6	14.3	15.3	12.7	2.4	14	11	29.0	FMC-15-004-N
1/4	1/8	32.8	9.6	17.8	15.3	4.8	14	14	25.4	FMC-15-005-N
1/4	1/4	37.8	14.3	17.8	15.3	4.8	14	14	30.5	FMC-15-006-N
1/4	3/8	38.4	14.3	17.8	15.3	4.8	19	14	31.0	FMC-15-007-N
1/4	1/2	44.7	19.1	17.8	15.3	4.8	22	14	37.4	FMC-15-008-N
5/16	1/4	38.6	14.3	18.5	16.3	6.3	14	16	31.2	FMC-15-009-N
3/8	1/8	35.3	9.6	19.3	16.8	4.8	16	17	27.9	FMC-15-010-N
3/8	1/4	39.8	14.3	19.3	16.8	7.1	16	17	32.5	FMC-15-011-N
3/8	3/8	39.8	14.3	19.3	16.8	7.1	19	17	32.5	FMC-15-012-N
3/8	1/2	41.2	19.1	19.3	16.8	7.1	22	17	38.9	FMC-15-013-N
1/2	1/4	43.4	14.3	21.8	22.9	7.1	22	22	33.3	FMC-15-014-N
1/2	3/8	43.4	14.3	21.8	22.9	9.6	22	22	33.3	FMC-15-015-N
1/2	1/2	49.0	19.1	21.8	22.9	10.4	22	22	38.9	FMC-15-016-N
1/2	3/4	50.5	19.1	21.8	22.9	10.4	27	22	40.4	FMC-15-017-N
1/2	1	57.1	23.8	21.8	22.9	10.4	35	22	47.0	FMC-15-018-N
5/8	3/8	44.2	14.3	21.8	24.4	9.6	24	25	34.0	FMC-15-019-N
5/8	1/2	49.0	19.1	21.8	24.4	10.4	24	25	38.9	FMC-15-020-N
3/4	1/2	50.5	19.1	21.8	24.4	10.4	27	28.5	40.4	FMC-15-021-N
3/4	3/4	50.5	19.1	21.8	24.4	15.8	27	28.5	40.4	FMC-15-022-N
3/4	1	57.1	23.8	21.8	24.4	15.8	35	28.5	47.0	FMC-15-023-N
7/8	3/4	50.5	19.1	21.8	26.0	15.8	30	32	40.4	FMC-15-024-N
1	1/2	57.4	19.1	26.4	31.2	10.4	35	38	45.2	FMC-15-025-N
1	3/4	57.4	19.1	26.4	31.2	15.8	35	38	45.2	FMC-15-026-N
1	1	62.2	23.8	26.4	31.2	22.3	35	38	50.0	FMC-15-027-N

INCH OD Tubes x Male ISO* Tapered Pipe Threads

T Tube OD	P ISO Male	A	B	C	D	E min.	F A/F	G A/F	H	FITEXCEL PART NO.
1/8	1/8	30.5	9.6	15.3	12.7	2.4	11	11	23.9	FMC-15-063-RT
1/8	1/4	35.6	14.3	15.3	12.7	2.4	14	11	29.0	FMC-15-064-RT
1/4	1/8	32.8	9.6	17.8	15.3	4.8	14	14	25.4	FMC-15-065-RT
1/4	1/4	37.8	14.3	17.8	15.3	4.8	14	14	30.1	FMC-15-066-RT
1/4	3/8	38.4	14.3	17.8	15.3	4.8	19	14	31.0	FMC-15-067-RT
1/4	1/2	44.7	19.1	17.8	15.3	4.8	22	14	37.4	FMC-15-068-RT
3/8	1/8	35.3	9.6	19.3	16.8	4.8	16	17	27.9	FMC-15-069-RT
3/8	1/4	39.8	14.3	19.3	16.8	7.1	16	17	32.5	FMC-15-070-RT
3/8	3/8	39.8	14.3	19.3	16.8	7.1	19	17	32.5	FMC-15-071-RT
3/8	1/2	41.2	19.1	19.3	16.8	7.1	22	17	38.9	FMC-15-072-RT
1/2	1/4	43.4	14.3	21.8	22.9	7.1	22	22	33.3	FMC-15-073-RT
1/2	3/8	43.4	14.3	21.8	22.9	9.6	22	22	33.3	FMC-15-074-RT
1/2	1/2	49.0	19.1	21.8	22.9	10.4	22	22	38.9	FMC-15-075-RT
3/4	3/4	50.5	19.1	21.8	24.4	15.8	27	28.5	40.4	FMC-15-076-RT
1	1	62.2	23.8	26.4	31.2	22.3	35	38	50.0	FMC 15 077-RT

MALE CONNECTOR

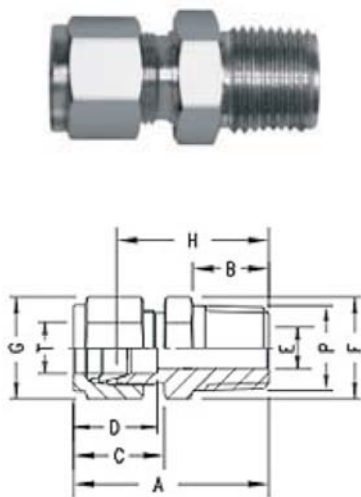
METRIC OD Tubes x Male NPT Threads



T Tube OD	P NPT Male	A	B	C	D	E min.	F A/F	G A/F	H	FITEXCEL PART NO
3	1/8	30.5	9.6	15.3	12.9	2.4	11	11	23.9	FMC-15-028-N
3	1/4	35.6	14.3	15.3	12.9	2.4	14	11	29.0	FMC-15-029-N
6	1/8	32.8	9.6	17.7	15.3	4.8	14	14	25.4	FMC-15-030-N
6	1/4	37.9	14.3	17.7	15.3	4.8	14	14	30.5	FMC-15-031-N
6	3/8	38.4	14.3	17.7	15.3	4.8	19	14	31.0	FMC-15-032-N
6	1/2	44.7	19.1	17.7	15.3	4.8	22	14	37.3	FMC-15-033-N
8	1/8	34.2	9.6	18.6	16.2	4.8	14	16	26.7	FMC-15-034-N
8	1/4	38.7	14.3	18.6	16.2	6.3	14	16	31.2	FMC-15-035-N
8	3/8	39.3	14.3	18.6	16.2	6.3	19	16	31.8	FMC-15-036-N
8	1/2	45.6	19.1	18.6	16.2	6.3	22	16	38.1	FMC-15-037-N
10	1/8	36.3	9.6	19.5	17.2	4.8	17	19	28.7	FMC-15-038-N
10	1/4	40.9	14.3	19.5	17.2	7.9	19	19	33.3	FMC-15-039-N
10	3/8	40.9	14.3	19.5	17.2	7.9	19	19	33.3	FMC-15-040-N
-10	1/2	46.5	19.1	19.5	17.2	7.9	22	19	38.9	FMC-15-041-N
12	1/4	43.4	14.3	22.0	22.8	7.1	22	22	33.3	FMC-15-042-N
12	3/8	43.4	14.3	22.0	22.8	9.5	22	22	33.3	FMC-15-043-N
12	1/2	49.0	19.1	22.0	22.8	9.5	22	22	38.9	FMC-15-044-N
12	3/4	50.5	19.1	22.0	22.8	9.5	27	22	40.4	FMC-15-045-N
12	1	57.1	23.8	22.0	22.8	9.5	35	22	47.0	FMC-15-046-N
14	1/4	44.1	14.3	22.0	24.4	7.1	24	25	34.0	FMC-15-047-N
14	3/8	44.1	14.3	22.0	24.4	9.5	24	25	34.0	FMC-15-048-N
14	1/2	49.0	19.1	22.0	24.4	11.1	24	25	38.9	FMC-15-049-N
15	1/2	49.0	19.1	22.0	24.4	11.9	24	25	38.9	FMC-15-050-N
16	3/8	44.1	14.3	22.0	24.4	9.5	24	25	34.0	FMC-15-051-N
16	1/2	49.0	14.3	22.0	24.4	11.9	24	25	38.9	FMC-15-052-N
16	3/4	50.5	19.1	22.0	24.4	12.7	27	25	40.4	FMC-15-053-N
18	1/2	50.5	19.1	22.0	24.4	11.9	27	30	40.4	FMC-15-054-N
18	3/4	50.5	19.1	22.0	24.4	15.1	27	30	40.4	FMC-15-055-N
20	1/2	52.3	19.1	22.0	26.0	11.9	30	32	42.2	FMC-15-056-N
20	3/4	52.3	19.1	22.0	26.0	15.9	30	32	42.2	FMC-15-057-N
22	3/4	52.3	19.1	22.0	26.0	15.9	30	32	42.2	FMC-15-058-N
22	1	57.1	23.8	22.0	26.0	18.3	35	32	47.0	FMC-15-059-N
25	1/2	57.5	19.1	26.5	31.3	11.9	35	38	45.2	FMC-15-060-N
25	3/4	57.5	19.1	26.5	31.3	15.8	35	38	45.2	FMC-15-061-N

MALE CONNECTOR

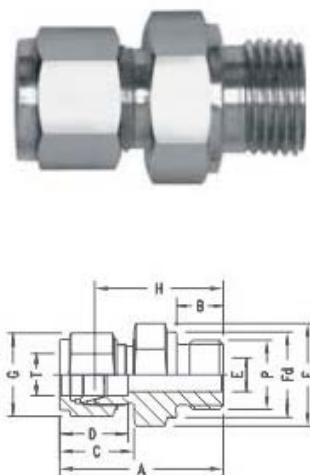
METRIC OD Tubes x Male ISO* Tapered Pipe Threads



T Tube OD	P ISO Male	A	B	C	D	E min.	F A/F	G A/F	H	FITEXCEL PART NO.
3	1/8	30.5	9.6	15.3	12.9	2.4	11	11	23.9	FMC-15-078-RT
3	1/4	35.6	14.3	15.3	12.9	2.4	14	11	29.0	FMC-15-079-RT
6	1/8	32.8	9.6	17.7	15.3	4.8	14	14	25.4	FMC-15-080-RT
6	1/4	37.9	14.3	17.7	15.3	4.8	14	14	30.5	FMC-15-081-RT
6	3/8	38.4	14.3	17.7	15.3	4.8	19	14	31.0	FMC-15-082-RT
6	1/2	44.7	19.1	17.7	15.3	4.8	22	14	37.3	FMC-15-083-RT
8	1/8	34.2	9.6	18.6	16.2	4.8	14	16	26.7	FMC-15-084-RT
8	1/4	38.7	14.3	18.6	16.2	6.3	14	16	31.2	FMC-15-085-RT
8	3/8	39.3	14.3	18.6	16.2	6.3	19	16	31.8	FMC-15-086-RT
8	1/2	45.6	19.1	18.6	16.2	6.3	22	16	38.1	FMC-15-087-RT
10	1/8	36.3	9.6	19.5	17.2	4.8	17	19	28.7	FMC-15-088-RT
10	1/4	40.9	14.3	19.5	17.2	7.9	19	19	33.3	FMC-15-089-RT
10	3/8	40.9	14.3	19.5	17.2	7.9	19	19	33.3	FMC-15-090-RT
10	1/2	46.5	19.1	19.5	17.2	7.9	22	19	38.9	FMC-15-091-RT
12	1/4	43.4	14.3	22.0	22.8	7.1	22	22	33.3	FMC-15-092-RT
12	3/8	43.4	14.3	22.0	22.8	9.5	22	22	33.3	FMC-15-093-RT
12	1/2	49.0	19.1	22.0	22.8	9.5	22	22	38.9	FMC-15-094-RT
12	3/4	50.5	19.1	22.0	22.8	9.5	27	22	40.4	FMC-15-095-RT
12	1	57.1	23.8	22.0	22.8	9.5	35	22	47.0	FMC-15-096-RT
14	1/4	44.1	14.3	22.0	24.4	7.1	24	25	34.0	FMC-15-097-RT
14	3/8	44.1	14.3	22.0	24.4	9.5	24	25	34.0	FMC-15-098-RT
14	1/2	49.0	19.1	22.0	24.4	11.1	24	25	38.9	FMC-15-099-RT
15	1/2	49.0	19.1	22.0	24.4	11.9	24	25	38.9	FMC-15-100-RT
16	3/8	44.1	14.3	22.0	24.4	9.5	24	25	34.0	FMC-15-101-RT
16	1/2	49.0	14.3	22.0	24.4	11.9	24	25	38.9	FMC-15-102-RT
16	3/4	50.5	19.1	22.0	24.4	12.7	27	25	40.4	FMC-15-103-RT
18	1/2	50.5	19.1	22.0	24.4	11.9	27	30	40.4	FMC-15-104-RT
18	3/4	50.5	19.1	22.0	24.4	15.1	27	30	40.4	FMC-15-105-RT
20	1/2	52.3	19.1	22.0	26.0	11.9	30	32	42.2	FMC-15-106-RT
20	3/4	52.3	19.1	22.0	26.0	15.9	30	32	42.2	FMC-15-107-RT
22	3/4	52.3	19.1	22.0	26.0	15.9	30	32	42.2	FMC-15-108-RT
22	1	57.1	23.8	22.0	26.0	18.3	35	32	47.0	FMC-15-109-RT
25	1/2	57.5	19.1	26.5	31.3	11.9	35	38	45.2	FMC-15-110-RT
25	3/4	57.5	19.1	26.5	31.3	15.8	35	38	45.2	FMC-15-111-RT

MALE CONNECTOR

INCH OD Tubes x Male ISO* Parallel Threads - RS



T Tube OD	P ISO Male	A	B	C	D	E min.	F A/F	Fd	G A/F	H	FITEXCEL PART NO.
1/8	1/8	30.0	7.1	15.3	12.7	2.4	14	13.7	11	23.4	FMC-15-151-RS
1/8	1/4	35.3	11.2	15.3	12.7	2.4	19	18.0	11	28.7	FMC-15-151-RS
1/4	1/8	32.3	7.1	17.8	15.3	4.8	14	13.7	14	24.9	FMC-15-152-RS
1/4	1/4	37.6	11.2	17.8	15.3	4.8	19	18.0	14	30.2	FMC-15-153-RS
1/4	3/8	38.9	11.2	17.8	15.3	4.8	22	21.8	14	31.5	FMC-15-154-RS
1/4	1/2	44.7	14.2	17.8	15.3	4.8	27	26.0	14	37.4	FMC-15-155-RS
3/8	1/4	39.2	11.2	19.3	16.8	5.8	19	18.0	17	31.8	FMC-15-156-RS
3/8	3/8	40.4	11.2	19.3	16.8	7.1	22	21.8	17	33.0	FMC-15-157-RS
3/8	1/2	46.3	14.2	19.3	16.8	7.1	27	26.0	17	38.9	FMC-15-158-RS
1/2	1/4	42.7	11.2	21.8	22.9	5.8	22	18.0	22	32.5	FMC-15-159-RS
1/2	3/8	43.2	11.2	21.8	22.9	7.9	22	21.8	22	33.0	FMC-15-160-RS
1/2	1/2	49.0	14.2	21.8	22.9	10.4	27	26.0	22	38.9	FMC-15-161-RS
1/2	3/4	52.8	15.7	21.8	22.9	10.4	35	32.0	22	42.7	FMC-15-162-RS
3/4	1/2	49.0	14.2	21.8	24.4	11.9	27	26.0	28.5	38.9	FMC-15-163-RS
3/4	3/4	52.8	15.7	21.8	24.4	15.8	35	32.0	28.5	42.7	FMC-15-164-RS
3/4	1	55.4	18.3	21.8	24.4	15.8	41	39.0	28.5	45.6	FMC-15-165-RS
1	1/2	55.9	14.2	26.4	31.2	11.9	35	26.0	38	43.7	FMC-15-166-RS
1	3/4	57.5	15.7	26.4	31.2	15.8	35	32.0	38	45.2	FMC-15-167-RS
1	1	60.0	18.3	26.4	31.2	19.8	41	39.0	38	47.8	FMC-15-168-RS

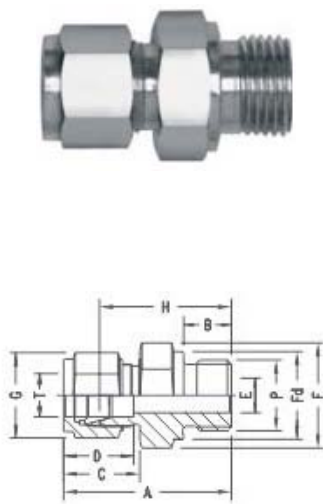
METRIC OD Tubes x Male ISO* Parallel Threads - RS

T Tube OD	P ISO Male	A	B	C	D	E min.	F A/F	Fd	G A/F	H	FITEXCEL PART NO.
3	1/8	30.0	7.1	15.3	12.9	2.4	14	13.8	11	23.4	FMC-15-169-RS
3	1/4	35.3	11.2	15.3	12.9	2.4	19	18.0	11	28.7	FMC-15-170-RS
6	1/8	32.3	7.1	17.7	15.3	4.8	14	13.8	14	24.9	FMC-15-171-RS
6	1/4	37.6	11.2	17.7	15.3	4.8	19	18.0	14	30.2	FMC-15-172-RS
6	3/8	38.9	11.2	17.7	15.3	4.8	22	21.8	14	31.5	FMC-15-173-RS
6	1/2	44.7	14.2	17.7	15.3	4.8	27	26.0	14	37.3	FMC-15-174-RS
8	1/8	33.2	7.1	18.6	16.2	4.0	14	13.8	16	25.7	FMC-15-175-RS
8	1/4	38.5	11.2	18.6	16.2	6.4	19	18.0	16	31.0	FMC-15-176-RS
8	3/8	39.8	11.2	18.6	16.2	6.4	22	21.8	16	32.3	FMC-15-177-RS
8	1/2	45.6	14.2	18.6	16.2	6.4	27	26.0	16	38.1	FMC-15-178-RS
10	1/4	39.4	11.2	19.5	17.2	5.9	19	18.0	19	31.8	FMC-15-179-RS
10	3/8	40.6	11.2	19.5	17.2	7.6	22	21.8	19	33.0	FMC-15-180-RS
10	1/2	46.5	14.2	19.5	17.2	7.9	27	26.0	19	38.9	FMC-15-181-RS
12	1/4	42.6	11.2	22.0	22.8	5.9	22	18.0	22	32.5	FMC-15-182-RS
12	3/8	43.1	11.2	22.0	22.8	7.9	22	21.8	22	33.0	FMC-15-183-RS
12	1/2	49.0	14.2	22.0	22.8	9.5	27	26.0	22	38.9	FMC-15-184-RS
12	3/4	52.8	15.7	22.0	22.8	9.5	35	32.0	22	42.7	FMC-15-185-RS
16	3/8	43.9	11.2	22.0	24.4	7.9	24	21.8	25	33.8	FMC-15-186-RS
16	1/2	49.0	14.2	22.0	24.4	11.9	27	26.0	25	38.9	FMC-15-187-RS
20	1/2	50.5	14.2	22.0	26.0	11.9	30	26.0	28.5	40.4	FMC-15-188-RS
20	3/4	52.3	15.7	22.0	26.0	15.9	35	32.0	28.5	42.7	FMC-15-189-RS
22	3/4	52.3	15.7	22.0	26.0	15.9	35	32.0	32	42.7	FMC-15-190-RS
22	1	55.3	18.3	22.0	26.0	18.3	41	39.0	32	45.2	FMC-15-191-RS
25	3/4	57.5	15.7	26.5	31.3	15.9	35	32.0	38	45.2	FMC-15-192-RS
25	1	60.1	18.3	26.5	31.3	19.8	41	39.0	38	47.8	FMC-15-193-RS

Sealing Gasket having bonded elastomer seal are used with RS Parallel thread

MALE CONNECTOR

INCH OD Tubes x Male ISO* Parallel Threads - RP



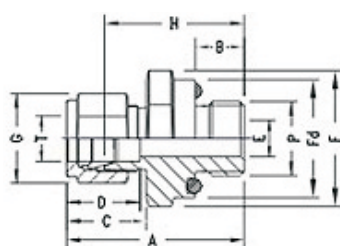
T Tube OD	P ISO Male	A	B	C	D	E min.	F A/F	Fd	G A/F	H	FITEXCEL PART NO.
1/8	1/8	30.0	7.1	15.3	12.7	2.4	14	13.7	11	23.4	FMC-15-113-RP
1/8	1/4	35.3	11.2	15.3	12.7	2.4	19	18.0	11	28.7	FMC-15-114-RP
1/4	1/8	32.3	7.1	17.8	15.3	4.8	14	13.7	14	24.9	FMC-15-115-RP
1/4	1/4	37.6	11.2	17.8	15.3	4.8	19	18.0	14	30.2	FMC-15-116-RP
1/4	3/8	38.9	11.2	17.8	15.3	4.8	22	21.8	14	31.5	FMC-15-117-RP
1/4	1/2	44.7	14.2	17.8	15.3	4.8	27	26.0	14	37.4	FMC-15-118-RP
3/8	1/4	39.2	11.2	19.3	16.8	5.8	19	18.0	17	31.8	FMC-15-119-RP
3/8	3/8	40.4	11.2	19.3	16.8	7.1	22	21.8	17	33.0	FMC-15-120-RP
3/8	1/2	46.3	14.2	19.3	16.8	7.1	27	26.0	17	38.9	FMC-15-121-RP
1/2	1/4	42.7	11.2	21.8	22.9	5.8	22	18.0	22	32.5	FMC-15-122-RP
1/2	3/8	43.2	11.2	21.8	22.9	7.9	22	21.8	22	33.0	FMC-15-123-RP
1/2	1/2	49.0	14.2	21.8	22.9	10.4	27	26.0	22	38.9	FMC-15-124-RP

METRIC OD Tubes x Male ISO* Parallel Threads - RP

T Tube OD	P ISO Male	A	B	C	D	E min.	F A/F	Fd A/F	G	H	FITEXCEL Part No.
3	1/8	30.0	7.1	15.3	12.9	2.4	14	13.8	11	23.4	FMC-15-125-RP
3	1/4	35.3	11.2	15.3	12.9	2.4	19	18.0	11	28.7	FMC-15-126-RP
6	1/8	32.3	7.1	17.7	15.3	4.8	14	13.8	14	24.9	FMC-15-127-RP
6	1/4	37.6	11.2	17.7	15.3	4.8	19	18.0	14	30.2	FMC-15-128-RP
6	3/8	38.9	11.2	17.7	15.3	4.8	22	21.8	14	31.5	FMC-15-129-RP
6	1/2	44.7	14.2	17.7	15.3	4.8	27	26.0	14	37.3	FMC-15-130-RP
8	1/8	33.2	7.1	18.6	16.2	4.0	14	13.8	16	25.7	FMC-15-131-RP
8	1/4	38.5	11.2	18.6	16.2	6.4	19	18.0	16	31.0	FMC-15-132-RP
8	3/8	39.8	11.2	18.6	16.2	6.4	22	21.8	16	32.3	FMC-15-133-RP
8	1/2	45.6	14.2	18.6	16.2	6.4	27	26.0	16	38.1	FMC-15-134-RP
10	1/4	39.4	11.2	19.5	17.2	5.9	19	18.0	19	31.8	FMC-15-135-RP
10	3/8	40.6	11.2	19.5	17.2	7.6	22	21.8	19	33.0	FMC-15-136-RP
10	1/2	46.5	14.2	19.5	17.2	7.9	27	26.0	19	38.9	FMC-15-137-RP
12	1/4	42.6	11.2	22.0	22.8	5.9	22	18.0	22	32.5	FMC-15-138-RP
12	3/8	43.1	11.2	22.0	22.8	7.9	22	21.8	22	33.0	FMC-15-139-RP
12	1/2	49.0	14.2	22.0	22.8	9.5	27	26.0	22	38.9	FMC-15-140-RP
12	3/4	52.8	15.7	22.0	22.8	9.5	35	32.0	22	42.7	FMC-15-141-RP
16	3/8	43.9	11.2	22.0	24.4	7.9	24	21.8	25	33.8	FMC-15-142-RP
16	1/2	49.0	14.2	22.0	24.4	11.9	27	26.0	25	38.9	FMC-15-143-RP
20	1/2	50.5	14.2	22.0	26.0	11.9	30	26.0	28.5	40.4	FMC-15-144-RP
20	3/4	52.3	15.7	22.0	26.0	15.9	35	32.0	28.5	42.7	FMC-15-145-RP
22	3/4	52.3	15.7	22.0	26.0	15.9	35	32.0	32	42.7	FMC-15-146-RP
22	1	55.3	18.3	22.0	26.0	18.3	41	39.0	32	45.2	FMC-15-147-RP
25	3/4	57.5	15.7	26.5	31.3	15.9	35	32.0	38	45.2	FMC-15-148-RP
25	1	60.1	18.3	26.5	31.3	19.8	41	39.0	38	47.8	FMC-15-149-RP

Sealing Flat gasket are used with RP Parallel thread

O SEAL MALE CONNECTOR



INCH OD Tubes X Male ISO* Parallel Threads

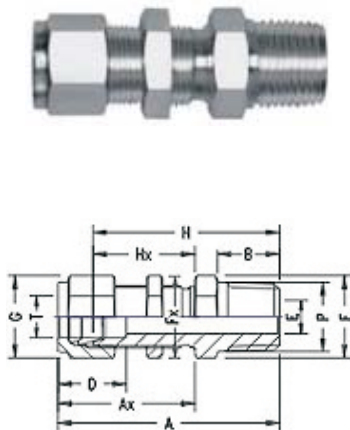
T Tube OD	P ISO Male	A	B	C	D	E min.	F A/F	Fd	G A/F	H	O Ring Part No.	FITEXCEL PART NO.
1/8	1/8	32.8	7.1	15.3	12.7	2.4	19	18.8	11	26.2	2 OPN	OSMC-595-R
1/4	1/8	35.0	7.1	17.8	15.3	4.8	19	18.8	14	27.7	2 OPN	OSMC-596-R
1/4	1/4	40.0	11.2	17.8	15.3	7.1	24	23.6	14	32.6	4OPN	OSMC-597-R
3/8	1/4	41.5	11.2	19.3	16.8	7.1	24	23.6	17	34.1	4 OPN	OSMC-599-R
3/8	3/8	42.2	11.2	19.3	16.8	7.1	30	29.8	17	34.8	6 OPN	OSMC-600-R
3/8	1/2	47.7	14.2	19.3	16.8	9.6	32	31.8	17	40.3	8 OPN	OSMC-601-R
1/2	3/8	44.5	10.4	21.8	22.9	10.4	30	29.8	22	34.4	6 OPN	OSMC-602-R
1/2	1/2	50.4	14.2	21.8	22.9	11.9	32	31.8	22	40.3	8 OPN	OSMC-603-R
5/8	1/2	50.4	14.2	21.8	24.4	11.9	32	31.8	22	40.3	8 OPN	OSMC-604-R
3/4	1/2	50.4	14.2	21.8	24.4	15.8	32	31.8	28.5	40.3	8 OPN	OSMC-605-R
3/4	3/4	53.5	15.7	21.8	24.4	15.8	38	37.8	28.5	43.4	12 OPN	OSMC-606-R
1	3/4	58.2	15.7	26.4	31.2	22.3	38	37.8	38	46.0	12OPN	OSMC-607-R
1	1	62.2	18.3	26.4	31.2	27.6	45	44.0	38	50.0	16 OPN	OSMC-608-R

METRIC OD Tubes X Male ISO*Parallel Threads

T Tube OD	P ISO Male	A	B	C	D	E min.	F A/F	Fd	G A/F	H	O Ring Part No.	FITEXCEL PART NO.
3	1/8	32.8	7.1	15.3	12.9	2.4	19	18.8	11	26.2	2 OPN	OSMC-609-R
3	1/4	37.6	11.2	15.3	12.9	2.4	24	23.8	11	31.0	4 OPN	OSMC-610-R
6	1/4	40.1	11.2	17.7	15.3	4.8	24	23.8	14	32.7	4 OPN	OSMC-611-R
6	3/8	40.8	11.2	17.7	15.3	4.8	30	29.8	14	33.4	6 OPN	OSMC-612-R
8	1/4	40.9	11.2	18.6	16.2	6.3	24	23.8	16	33.4	4 OPN	OSMC-613-R
10	1/4	41.0	11.2	19.5	17.2	7.1	24	23.8	17	33.4	4 OPN	OSMC-614-R
10	3/8	42.6	11.2	19.5	17.2	7.1	30	29.8	17	35.0	6 OPN	OSMC-615-R
10	1/2	48.0	14.2	19.5	17.2	7.9	32	31.8	17	40.4	8 OPN	OSMC-616-R
12	1/4	44.3	11.2	22.0	22.8	7.1	24	21.8	22	34.2	4 OPN	OSMC-617-R
12	3/8	45.1	11.2	22.0	22.8	7.9	30	29.8	22	34.0	6 OPN	OSMC-618-R
12	1/2	50.5	14.3	22.0	22.8	9.5	32	31.8	22	40.4	8 OPN	OSMC-619-R
16	1/2	50.5	14.3	22.0	24.4	11.9	32	31.8	25	40.4	8 OPN	OSMC-620-R
20	3/4	55.1	15.7	22.0	26.0	15.8	38	37.0	32	45.0	12 OPN	OSMC-621-R
25	3/4	58.1	15.7	26.5	31.3	15.8	38	38	38	45.8	12 OPN	OSMC-622-R
25	1	62.3	18.3	26.5	31.3	19.8	45	44.0	38	50.0	16 OPN	OSMC-623-R

BULKHEAD MALE CONNECTOR

INCH OD Tubes X Male NPT Threads



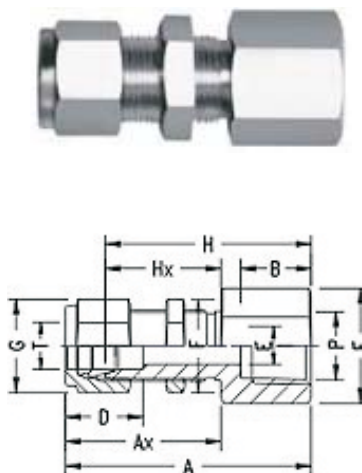
T Tube OD	P NPT Male	A	Ax	B	D	E min.	F A/F	G A/F	H	Hx	Panel Hole Drill Size	Max. Panel Thickness	FITRXCCEL PART NO.
1/8	1/8	46.4	31.2	9.6	12.7	2.4	14	11	39.8	24.6	8.3	12.7	FBMC-194-N
1/4	1/8	49.5	33.5	9.6	15.3	4.8	16	14	42.2	26.2	11.5	10.2	FBMC-195-N
1/4	1/4	54.1	33.5	14.3	15.3	4.8	16	14	46.7	26.2	11.5	10.2	FBMC-196-N
3/8	1/4	57.4	36.8	14.3	16.8	7.1	19	17	50.0	29.5	14.7	11.2	FBMC-197-N
3/8	3/8	57.4	36.8	14.3	16.8	7.1	19	17	50.0	29.5	14.7	11.2	FBMC-198-N
3/8	1/2	63.7	36.8	19.1	16.8	7.1	22	17	56.5	29.5	14.7	11.2	FBMC-199-N
1/2	3/8	63.3	41.9	14.3	22.9	9.6	24	22	53.0	31.8	19.5	12.7	FBMC-200-N
1/2	1/2	68.8	41.9	19.1	22.9	10.4	24	22	58.8	31.8	19.5	12.7	FBMC-201-N
3/4	3/4	76.2	47.5	19.1	24.4	15.8	30	28.5	66.9	37.4	25.8	16.8	FBMC-202-N
1	1	93.2	57.4	23.9	31.2	22.3	41	38	81.0	45.2	33.7	19.0	FBMC-203-N

METRIC OD Tubes X Male NPT Threads

T Tube OD	P NPT Male	A	Ax	B	D	E min.	F A/F	G A/F	H	Hx	Panel Hole Drill Size	Max. Panel Thickness	FITRXCCEL PART NO.
3	1/8	46.4	31.2	9.6	12.9	2.4	11	11	39.8	24.6	8.3	12.7	FBMC-203-N
6	1/8	49.5	33.5	9.6	15.3	4.8	16	14	42.2	26.2	11.5	10.2	FBMC-204-N
10	1/4	57.4	36.8	14.3	17.2	7.1	19	17	50.0	29.5	14.7	11.2	FBMC-205-N
10	3/8	57.4	36.8	14.3	17.2	7.1	19	17	50.0	29.5	14.7	11.2	FBMC-206-N
12	3/8	63.3	41.9	14.3	22.0	9.6	24	22	53.0	31.8	19.5	12.7	FBMC-207-N
12	1/2	68.8	41.9	19.1	22.0	10.4	24	22	58.8	31.8	19.5	12.7	FBMC-208-N

BULK HEAD FEMALE CONNECTOR

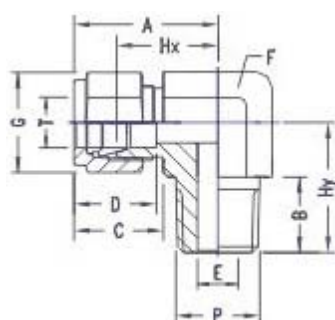
INCH OD Tubes x Female NPT Threads



T Tube OD	P NPT Male	A	Ax	B	D	E min.	F A/F	G A/F	H	Hx	Panel Hole Drill Size	Max. Panel Thickness	FITRXCCEL PART NO.
1/8	1/8	44.7	31.2	10.4	12.7	2.4	14	11	38.1	24.6	8.3	12.7	BFC-365-N
1/4	1/4	47.0	33.5	10.4	15.3	4.8	16	14	39.7	26.2	11.5	10.2	BFC-366-N
1/8	1/4	51.5	33.5	15.0	15.3	4.8	19	14	44.2	26.2	11.5	10.2	BFC-367-N
3/8	1/4	54.8	36.8	15.0	16.8	7.1	19	17	47.5	29.5	14.7	11.2	BFC-368-N
1/2	3/8	61.7	41.9	15.0	22.9	10.4	22	22	51.6	31.0	19.5	12.7	BFC-369-N
1/2	1/2	66.7	41.9	19.8	22.9	10.4	27	22	56.6	31.0	19.5	12.7	BFC-370-N
5/8	1/2	67.6	42.7	19.8	22.9	12.7	27	25	57.4	32.5	22.6	12.7	BFC-371-N
3/4	1/2	72.4	47.5	19.8	24.4	16.0	35	28.5	62.3	37.4	25.8	16.8	BFC-372-N
3/4	3/4	74.7	47.5	20.6	24.4	16.0	35	28.5	64.3	37.4	25.8	16.8	BFC-373-N
1	3/4	84.3	57.4	20.6	31.2	16.0	35	38	72.1	45.2	33.7	19.0	BFC-374-N
1	1	93.2	57.4	25.4	31.2	22.2	35	38	81.0	45.2	33.7	19.0	BFC-375-N

MALE ELBOW

INCH OD Tubes x Male NPT Threads

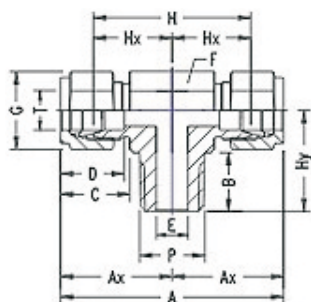


T Tube OD	P ISO Male	A	B	C	D	E min.	F A/F	Fd	G A/F	H	FITEXCEL PART NO.
1/8	1/8	23.6	9.6	15.3	12.7	2.4	11	11	17.0	17.8	FME-209-N
1/8	1/4	24.6	14.3	15.3	12.7	2.4	14	11	18.0	23.4	FME-210-N
1/4	1/8	26.9	9.6	17.8	5.3	4.8	14	14	19.6	18.8	FME-211-N
1/4	1/4	26.9	14.3	17.8	15.3	4.8	14	14	19.6	23.4	FME-212-N
1/4	3/8	29.7	14.3	17.8	15.3	4.8	19	14	22.4	26.2	FME-213-N
1/4	1/2	31.8	19.1	17.8	15.3	4.8	22	14	24.4	33.0	FME-214-N
3/8	1/8	30.5	9.6	19.3	16.8	4.8	14	17	23.1	20.9	FME-215-N
3/8	1/4	30.5	14.3	19.3	16.8	7.1	17	17	23.1	25.4	FME-216-N
3/8	3/8	31.2	14.3	19.3	16.8	7.1	19	17	23.9	26.2	FME-217-N
3/8	1/2	33.3	19.1	19.3	16.8	7.1	22	17	25.9	33.0	FME-218-N
1/2	1/4	36.0	14.3	21.8	22.9	4.8	22	22	25.9	28.2	FME-219-N
1/2	3/8	36.0	14.3	21.8	22.9	9.6	22	22	25.9	28.2	FME-220-N
1/2	1/2	36.0	19.1	21.8	22.9	10.4	22	22	25.9	33.0	FME-221-N
1/2	3/4	39.9	19.1	21.8	22.9	10.4	27	22	29.7	36.8	FME-222-N
3/4	1/2	39.9	19.1	21.8	24.4	11.9	27	28.5	29.7	36.8	FME-223-N
3/4	3/4	39.9	19.1	21.8	24.4	15.8	27	28.5	29.7	36.8	FME-224-N
1	3/4	49.0	19.1	26.4	31.2	15.8	35	38	36.8	41.6	FME-225-N
1	1	49.0	23.8	26.4	31.2	22.3	35	38	36.8	46.5	FME-226-N

METRIC OD Tubes x Male ISO* Tapered Pipe Threads

T TUBE OD	P NPT Female	A	B	C	D	E min	F A/F	G A/F	Hz	Hy	FITEXCEL PARTNO.
3	1/8	23.6	9.6	15.3	12.9	2.4	11	11	17.0	17.8	FME-227-RT
3	1/4	24.6	14.3	15.3	12.9	2.4	14	11	18.0	23.4	FME-228-RT
6	1/8	27.0	9.6	17.7	15.3	4.8	14	14	19.6	18.8	FME-229-RT
6	1/4	27.0	14.3	17.7	15.3	4.8	14	14	19.6	23.4	FME-230-RT
6	3/8	29.8	14.3	17.7	15.3	4.8	19	14	22.4	26.2	FME-231-RT
6	1/2	31.8	19.1	17.7	15.3	4.8	22	14	24.4	33.0	FME-232-RT
8	1/4	28.8	14.3	18.6	16.2	6.3	14	16	21.3	24.4	FME-233-RT
8	3/8	30.6	14.3	18.6	16.2	6.3	19	16	23.1	26.2	FME-234-RT
8	1/2	32.6	19.1	18.6	16.2	6.3	22	16	25.1	33.0	FME-235-RT
10	1/4	31.5	14.3	19.5	17.2	7.1	17	19	23.9	26.2	FME-236-RT
10	3/8	31.5	14.3	19.5	17.2	7.9	19	19	23.9	26.2	FME-237-RT
10	1/2	33	19.1	19.5	17.2	7.9	22	19	25.9	33.0	FME-238-RT
12	1/4	36.0	19.1	22.0	22.8	7.1	22	22	25.9	26.2	FME-239-RT
12	3/8	36.0	19.1	22.0	22.8	9.5	22	22	25.9	38.2	FME-240-RT
12	1/2	36.0	19.1	22.0	22.8	9.5	22	22	25.9	33.0	FME-241-RT
15	1/2	38.0	19.1	22.0	24.4	11.9	24	25	27.9	35.1	FME-242-RT
16	1/2	38.0	19.1	22.0	24.4	11.9	24	25	27.9	35.1	FME-243-RT
16	3/4	39.8	19.1	22.0	24.4	27.7	27	25	29.7	36.8	FME-244-RT
22	3/4	44.6	19.1	22.0	26.0	15.9	35	32	34.5	41.7	FME-245-RT
22	1	44.6	23.9	22.0	26.0	18.3	35	32	34.5	46.5	FME-246-RT
25	3/4	49.1	19.1	26.5	31.3	59.9	35	38	36.8	41.7	FME-247-RT
25	1	41.1	23.9	26.5	31.3	21.8	35	38	36.8	46.5	FME-248-RT

MALE BRANCH TEE INCH OD Tubes X Male NPT Threads



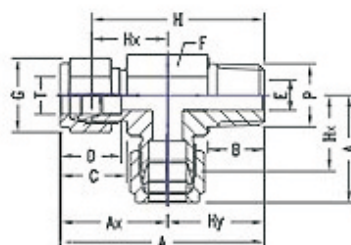
T Tube OD	P NPT Male	A	Ax	B	C	D	E min	F	G A/F	H A/F	Hx	Hy	FITEXCEL PART NO.
1/8	1/8	41.4	23.6	9.6	15.3	12.7	2.4	11	11	34.8	17.0	17.8	FMBT-249-N
1/8	1/4	48.0	24.6	14.3	15.3	12.7	2.4	14	11	41.4	18.0	23.4	FMBT-250-N
1/4	1/8	45.7	26.9	9.6	17.8	15.3	4.8	14	14	38.4	19.6	18.8	FMBT-251-N
1/4	1/4	50.3	26.9	14.3	17.8	15.3	4.8	14	14	43	19.6	23.4	FMBT-252-N
1/4	3/8	55.9	29.7	14.3	17.8	15.3	4.8	19	14	48.8	22.4	26.2	FMBT-253-N
1/4	1/2	64.8	31.8	19.1	17.8	15.3	4.8	22	14	57.4	24.4	33.0	FMBT-254-N
3/8	1/4	55.9	30.5	14.3	19.3	16.8	7.1	17	17	48.5	23.1	25.4	FMBT-255-N
3/8	3/8	57.4	31.2	14.3	19.3	16.8	7.1	19	17	50.1	23.9	26.2	FMBT-256-N
3/8	1/2	66.0	33.0	19.1	19.3	16.8	7.1	22	17	58.9	25.9	33.0	FMBT-257-N
1/2	1/4	64.2	36.0	14.3	21.8	22.9	4.8	22	22	54.1	25.9	28.2	FMBT-258-N
1/2	3/8	64.2	36.0	14.3	21.8	22.9	9.6	22	22	54.1	25.9	28.2	FMBT-259-N
1/2	1/2	69.0	36.0	19.1	21.8	22.9	10.4	22	22	58.9	25.9	33.0	FMBT-260-N
5/8	1/2	73.1	38.1	19.1	21.8	24.4	11.9	22	25	62.9	27.9	35.0	FMBT-261-N
3/4	1/2	76.7	39.9	19.1	21.8	24.4	11.9	27	29	66.5	29.7	36.8	FMBT-262-N
3/4	3/4	76.7	39.9	19.1	21.8	24.4	15.8	27	29	66.5	29.7	36.8	FMBT-263-N
-N1	3/4	90.6	49.0	19.1	26.4	31.2	15.8	35	38	78.4	36.8	41.6	FMBT-264-N
1	1	95.5	49.0	23.8	26.4	31.2	22.3	35	38	83.3	36.8	46.5	FMBT-265-N
1.1/4	1.1/4	114.1	66.5	23.8	38.8	41.1	27.6	46	50	92.1	44.5	47.6	FMBT-266-N
1.1/2	1.1/2	138.4	78.0	26.2	45.2	50.0	34.0	55	57	111.2	50.8	60.4	FMBT-267-N

METRIC OD Tubes X Male NPT Threads

T Tube OD	P NPT Male	A	Ax	B	C	D	E min	F	G A/F	H A/F	Hx	Hy	FITEXCEL PART NO.
3	1/8	41.4	23.6	9.6	15.3	12.9	2.4	11	11	34.8	17.0	17.8	FMBT-268-N
3	1/4	48.0	24.6	14.3	15.3	12.9	2.4	14	11	41.4	18.0	23.4	FMBT-269-N
6	1/8	45.8	27.0	9.6	17.7	15.3	4.8	14	14	38.9	19.6	18.8	FMBT-270-N
6	1/4	50.4	27.0	14.3	17.7	15.3	4.8	14	14	43.0	19.6	23.4	FMBT-271-N
6	3/8	56.0	29.8	14.3	17.7	15.3	4.8	19	14	48.6	22.4	26.2	FMBT-272-N
8	1/4	53.2	28.8	14.3	18.6	16.2	6.3	14	16	45.7	21.3	24.4	FMBT-273-N
8	3/8	56.8	30.6	14.3	18.6	16.2	6.3	19	16	49.3	23.1	26.2	FMBT-274-N
8	1/2	65.6	32.6	19.1	18.6	16.2	6.3	22	16	58.1	25.1	33.0	FMBT-275-N
10	1/4	57.7	31.5	14.3	19.5	17.2	7.1	17	19	50.1	23.9	26.2	FMBT-276-N
10	3/8	57.7	31.5	14.3	19.5	17.2	7.9	19	19	50.1	23.9	26.2	FMBT-277-N
10	1/2	66.5	33.5	19.1	19.5	17.2	7.9	22	19	58.9	25.9	33.0	FMBT-278-N
12	1/4	62.2	36.0	14.3	22.0	22.8	7.1	22	22	52.1	25.9	26.2	FMBT-279-N
12	3/8	62.2	36.0	14.3	22.0	22.8	9.5	22	22	52.1	25.9	28.2	FMBT-280-N
12	1/2	69.0	36.0	19.1	22.0	22.8	9.5	22	22	58.9	25.9	33.0	FMBT-281-N
16	1/2	73.1	38.0	19.1	22.0	24	11.9	24	25	64.0	27.9	35.1	FMBT-282-N
25	3/4	90.8	49.1	19.1	26.5	31.3	15.8	35	38	78.5	36.8	41.7	FMBT-283-N
25	1	95.6	49.1	23.8	26.5	31.3	21.8	35	38	83.3	36.8	46.5	FMBT-284-N
30	1.1/4	120.0	66.9	23.8	39.2	39.6	26.2	45	50	101.4	48.3	53.1	FMBT-285-N
32	1.1/4	125.4	72.3	23.8	41.6	42.0	27.6	45	50	102.4	49.3	53.1	FMBT-286-N
38	1.1/2	144.4	84.0	26.2	47.9	50.0	33.7	55	57	116.8	56.4	60.4	FMBT-287-N

MALE RUN TEE

INCH OD Tubes x Male NPT Threads

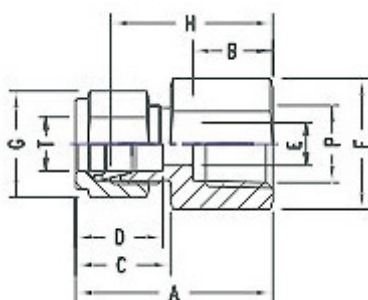


T Tube OD	P NPT Male	A	Ax	B	C	D	E min	F	G A/F	H A/F	Hx	Hy	FITEXCEL PART NO.
1/8	1/8	41.4	23.6	9.6	15.3	12.7	2.4	11	11	34.8	17.0	17.8	FMRT-288-N
1/8	1/4	48.0	24.6	14.3	15.3	12.7	2.4	14	11	41.4	18.0	23.4	FMRT-289-N
1/4	1/8	45.7	26.9	9.6	17.8	15.3	4.8	14	14	38.4	19.6	18.8	FMRT-290-N
1/4	1/4	50.3	26.9	14.3	17.8	15.3	4.8	14	14	43	19.6	23.4	FMRT-291-N
1/4	3/8	55.9	29.7	14.3	17.8	15.3	4.8	19	14	48.8	22.4	26.2	FMRT-292-N
1/4	1/2	64.8	31.8	19.1	17.8	15.3	4.8	22	14	57.4	24.4	33.0	FMRT-293-N
3/8	1/4	55.9	30.5	14.3	19.3	16.8	7.1	17	17	48.5	23.1	25.4	FMRT-294-N
3/8	3/8	57.4	31.2	14.3	19.3	16.8	7.1	19	17	50.1	23.9	26.2	FMRT-295-N
3/8	1/2	66.0	33.0	19.1	19.3	16.8	7.1	22	17	58.9	25.9	33.0	FMRT-296-N
1/2	1/4	64.2	36.0	14.3	21.8	22.9	4.8	22	22	54.1	25.9	28.2	FMRT-297-N
1/2	3/8	64.2	36.0	14.3	21.8	22.9	9.6	22	22	54.1	25.9	28.2	FMRT-298-N
1/2	1/2	69.0	36.0	19.1	21.8	22.9	10.4	22	22	58.9	25.9	33.0	FMRT-299-N
5/8	1/2	73.1	38.1	19.1	21.8	24.4	11.9	22	25	62.9	27.9	35.0	FMRT-300-N
3/4	1/2	76.7	39.9	19.1	21.8	24.4	11.9	27	29	66.5	29.7	36.8	FMRT-301-N
3/4	3/4	76.7	39.9	19.1	21.8	24.4	15.8	27	29	66.5	29.7	36.8	FMRT-302-N

METRIC OD Tubes x Male NPT Threads

T Tube OD	PNPT Male	A	Ax	B	C	D	E min.	F	G A/F	H A/F	Hx	Hy	FITEXCEL PART NO
3	1/8	41.4	23.6	9.6	15.3	12.9	2.4	11	11	34.8	17.0	17.8	FMRT-303-N
3	1/4	48.0	24.6	14.3	15.3	12.9	2.4	14	11	41.4	18.0	23.4	FMRT-304-N
6	1/8	45.8	27.0	9.6	17.7	15.3	4.8	14	14	38.9	19.6	18.8	FMRT-305-N
6	1/4	50.4	27.0	14.3	17.7	15.3	4.8	14	14	43.0	19.6	23.4	FMRT-306-N
6	3/8	56.0	29.8	14.3	17.7	15.3	4.8	19	14	48.6	22.4	26.2	FMRT-307-N
8	1/4	53.2	28.8	14.3	18.6	16.2	6.3	14	16	45.7	21.3	24.4	FMRT-308-N
8	3/8	56.8	30.6	14.3	18.6	16.2	6.3	19	16	49.3	23.1	26.2	FMRT-309-N
8	1/2	65.6	32.6	19.1	18.6	16.2	6.3	22	16	58.1	25.1	33.0	FMRT-310-N
10	1/4	57.7	31.5	14.3	19.5	17.2	7.1	17	19	50.1	23.9	26.2	FMRT-311-N
10	3/8	57.7	31.5	14.3	19.5	17.2	7.9	19	19	50.1	23.9	26.2	FMRT-312-N
10	1/2	66.5	33.5	19.1	19.5	17.2	7.9	22	19	58.9	25.9	33.0	FMRT-313-N
12	1/4	62.2	36.0	14.3	22.0	22.8	7.1	22	22	52.1	25.9	26.2	FMRT-314-N
12	3/8	62.2	36.0	14.3	22.0	22.8	9.5	22	22	52.1	25.9	28.2	FMRT-315-N
12	1/2	69.0	36.0	19.1	22.0	22.8	9.5	22	22	58.9	25.9	33.0	FMRT-316-N
16	1/2	73.1	38.0	19.1	22.0	24	11.9	24	25	64.0	27.9	35.1	FMRT-317-N

FEMALE CONNECTOR



INCH OD Tubes X Female NPT Threads

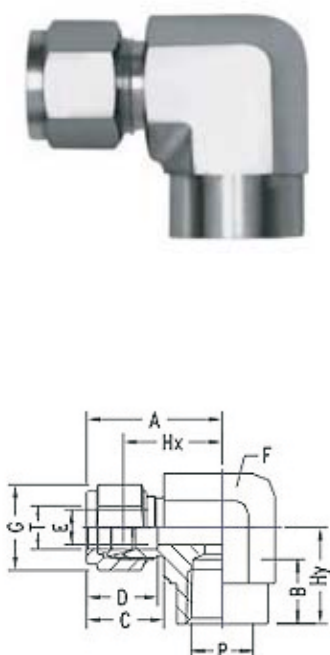
T Tube OD	P ISO Female	A	B	C	D	E min	F A/F	G A/F	H	FITEXCEL PART NO.
1/16	1/16	23.6	9.9	11.0	8.6	1.3	11	8	19.8	FFC-318-N
1/8	1/8	28.7	10.4	15.3	12.7	2.4	14	11	22.1	FFC-319-N
1/8	1/4	33.6	15.0	15.3	12.7	2.4	19	11	26.9	FFC-320-N
1/4	1/8	31.2	9.9	17.8	15.3	4.8	14	14	23.9	FFC-321-N
1/4	1/4	35.8	15.0	17.8	15.3	4.8	19	14	28.5	FFC-322-N
1/4	3/8	37.6	15.0	17.8	15.3	4.8	22	14	30.2	FFC-323-N
1/4	1/2	42.4	19.8	17.8	15.3	4.8	27	14	35.0	FFC-324-N
5/16	1/8	32.0	10.4	18.5	16.3	6.3	14	16	24.6	FFC-325-N
5/16	1/4	36.8	15.0	18.5	16.3	6.3	19	16	29.5	FFC-326-N
3/8	1/4	32.8	10.4	19.3	16.8	7.1	16	17	25.4	FFC-327-N
3/8	3/8	37.6	15.0	19.3	16.8	7.1	19	17	30.2	FFC-328-N
3/8	1/2	39.1	15.0	19.3	16.8	7.1	22	17	31.8	FFC-329-N
3/8	1/2	43.9	19.8	19.3	16.8	7.1	27	17	36.6	FFC-330-N
1/2	1/4	40.4	15.0	21.8	22.9	10.4	22	22	30.2	FFC-331-N
1/2	3/8	41.9	15.0	21.8	22.9	10.4	22	22	30.2	FFC-332-N
1/2	1/2	46.7	19.8	21.8	22.9	10.4	27	22	36.6	FFC-333-N
1/2	3/4	48.3	20.6	21.8	22.9	10.4	32	22	38.1	FFC-334-N
5/8	3/8	41.9	15.0	21.8	24.4	12.7	24	25	31.8	FFC-335-N
5/8	1/2	46.7	19.8	21.8	24.4	12.7	27	25	36.6	FFC-336-N
3/4	1/2	46.7	19.8	21.8	24.4	15.8	27	28.5	36.6	FFC-337-N
3/4	3/4	48.3	20.6	21.8	24.4	15.8	35	28.5	38.1	FFC-338-N
1	3/4	53.4	20.6	26.4	31.2	22.3	35	38	41.2	FFC-339-N
1	1	62.3	25.4	26.4	31.2	22.3	41	38	50.0	FFC-340-N

METRIC OD Tubes x Female NPT Threads

T Tube OD	P ISO Female	A	B	C	D	E min	F A/F	G A/F	H	FITEXCEL PART NO.
3	1/8	28.7	10.4	15.3	12.9	2.4	14	11	22.1	FFC-341-N
3	1/4	33.5	15.0	15.3	12.9	2.4	19	11	26.9	FFC-342-N
6	1/8	31.3	10.4	17.7	15.3	4.8	14	14	23.9	FFC-343-N
6	1/4	35.8	15.0	17.7	15.3	4.8	19	14	28.4	FFC-344-N
6	3/8	37.6	15.0	17.7	15.3	4.8	22	14	30.2	FFC-345-N
6	1/2	42.5	19.8	17.7	15.3	4.8	27	14	35.1	FFC-346-N
8	1/8	32.1	10.4	18.6	16.2	6.3	14	16	24.6	FFC-347-N
8	1/4	37.0	15.0	18.6	16.2	6.3	19	16	29.5	FFC-348-N
8	3/8	38.5	15.0	18.6	16.2	6.3	22	16	31.0	FFC-349-N
8	1/2	43.3	19.8	18.6	16.2	6.3	27	16	35.8	FFC-350-N
10	1/4	37.8	15.0	19.5	17.2	7.9	19	19	30.2	FFC-351-N
10	3/8	39.4	15.0	19.5	17.2	7.9	22	19	31.8	FFC-352-N
10	1/2	44.2	19.8	19.5	17.2	7.9	27	19	36.6	FFC-353-N
12	1/4	40.3	15.0	22.0	22.8	9.5	22	22	30.2	FFC-354-N
12	3/8	41.9	15.0	22.0	22.8	9.5	22	22	31.8	FFC-355-N
12	1/2	46.7	19.8	22.0	22.8	9.5	27	22	36.6	FFC-356-N
15	1/2	46.7	19.8	22.0	24.4	11.9	27	25	36.6	FFC-357-N
16	1/2	46.9	19.8	22.0	24.4	12.7	27	25	36.8	FFC-358-N
20	1/2	47.9	19.8	22.0	26.0	15.9	30	32	37.8	FFC-359-N
20	3/4	49.7	20.6	22.0	26.0	15.9	35	32	39.6	FFC-360-N
22	3/4	49.7	20.6	22.0	26.0	18.3	35	32	39.6	FFC-361-N
22	1	57.9	25.4	22.0	26.0	18.3	41	32	47.8	FFC-362-N
25	3/4	53.4	20.6	26.5	31.3	21.8	35	38	41.1	FFC-363-N
25	1	62.3	25.4	26.5	31.3	21.8	41	38	50.0	FFC-364-N

FEMALE ELBOW

INCH OD Tubes x Female NPT Threads

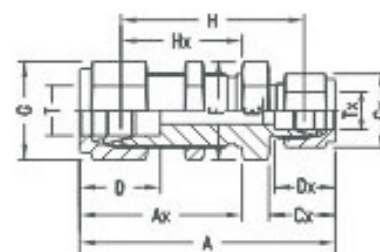


T Tube OD	P NPT Female	A	B	C	D	E min.	F A/F	G A/F	H	Hy	FITEXCEL PART NO.
1/8	1/8	24.6	10.4	15.3	12.7	2.4	14	11	18.0	19.0	FFE-381-N
1/8	1/4	27.4	15.0	15.3	12.7	2.4	19	11	20.8	22.4	FFE-382-N
1/4	1/8	26.9	10.4	17.8	15.3	4.8	14	14	19.6	19.0	FFE-383-N
1/4	1/4	29.7	15.0	17.8	15.3	4.8	19	14	22.4	22.4	FFE-384-N
1/4	3/8	31.8	15.0	17.8	15.3	4.8	22	14	24.4	22.4	FFE-385-N
1/4	1/2	34.6	19.8	17.8	15.3	4.8	27	14	27.2	28.5	FFE-386-N
5/16	1/8	28.7	10.4	17.8	15.3	6.3	19	14	21.4	19.1	FFE-387-N
5/16	1/4	30.5	15.0	18.5	16.3	6.3	22	16	23.2	22.4	FFE-388-N
3/8	1/8	30.5	10.4	19.3	16.8	7.1	17	17	23.2	19.1	FFE-389-N
3/8	1/4	31.2	15.0	19.3	16.8	7.1	19	17	23.9	22.4	FFE-390-N
3/8	3/8	33.3	15.0	19.3	16.8	7.1	22	17	25.9	22.4	FFE-391-N
3/8	1/2	36.0	19.8	19.3	16.8	7.1	27	17	28.7	28.5	FFE-392-N
1/2	1/4	36.0	15.0	21.8	22.9	7.1	22	22	25.9	22.4	FFE-393-N
1/2	3/8	36.0	15.0	21.8	22.9	10.4	22	22	25.9	22.4	FFE-394-N
1/2	1/2	38.9	19.8	21.8	22.9	10.4	27	22	28.7	28.5	FFE-395-N
5/8	3/8	38.1	15.0	21.8	22.9	12.7	24	22	28.0	22.4	FFE-396-N
5/8	1/2	39.9	19.8	21.8	24.4	12.7	27	25	29.7	28.5	FFE-397-N
3/4	1/2	39.9	19.8	21.8	24.4	15.8	27	28.5	29.7	28.5	FFE-398-N
3/4	3/4	44.7	20.6	21.8	24.4	15.8	35	28.5	34.6	31.8	FFE-399-N
7/8	3/4	44.7	20.6	21.8	25.9	18.2	35	32	34.6	31.8	FFE-400-N
1	3/4	49.0	20.6	26.4	31.2	22.3	35	38	36.8	31.8	FFE-401-N
1	1	53.6	25.4	26.4	31.2	22.3	41	38	41.4	38.1	FFE-402-N

METRIC OD Tubes x Female NPT Threads

T Tube OD	P NPT Female	A	B	C	D	E min	F A/F	G A/F	Hx	Hy	FITEXCEL PART NO.
3	1/8	24.6	10.4	15.3	12.9	2.4	14	11	18.0	19.0	FFE-403-N
3	1/4	27.4	15.0	15.3	12.9	2.4	19	11	20.8	22.4	FFE-404-N
6	1/8	27.0	10.4	17.7	15.3	4.8	14	14	19.6	19.0	FFE-405-N
6	1/4	29.8	15.0	17.7	15.3	4.8	19	14	22.4	22.4	FFE-406-N
6	1/2	34.6	19.8	17.7	15.3	4.8	27	14	7.2	28.5	FFE-408-N
8	1/4	30.6	15.0	18.6	16.2	6.3	19	16	23.1	22.4	FFE-409-N
8	3/8	32.6	15.0	18.6	16.2	6.3	22	16	25.1	22.4	FFE-410-N
10	1/4	33.5	15.0	19.5	17.2	7.9	19	19	25.9	22.4	FFE-411-N
10	3/8	33.5	15.0	19.5	17.2	7.9	22	19	25.9	22.4	FFE-412-N
12	1/4	36.0	15.0	22.0	22.8	9.5	22	22	25.9	22.4	FFE-413-N
12	3/8	36.0	15.0	22.0	22.8	9.5	22	22	25.9	22.4	FFE-414-N
12	1/2	38.8	19.8	22.0	22.8	9.5	27	22	28.7	28.5	FFE-415-N
16	1/2	39.5	19.8	22.0	24.4	12.7	27	25	29.7	28.5	FFE-416-N

BULKHEAD REDUCING UNION



INCH OD Tubes

T Tube OD	T Tube OD	A	Ax	Cx	D	Dx	E min.	F A/F	G A/F	Gx A/F	H	Hx	Panel Hole Drill Size	Max Panel Thickness	FITEXCEL PART NO.
1/4	1/8	55.2	33.5	15.3	15.3	12.7	2.4	16	14	11	41.2	26.2	11.5	10.2	RBU-525
3/8	1/4	60.7	36.6	17.8	16.8	15.3	4.8	22	17	14	46.0	29.5	14.6	11.2	RBU-526
1/2	1/4	66.8	41.9	17.8	22.4	15.3	4.8	24	22	14	49.2	31.8	19.5	12.7	RBU-527
1/2	3/8	66.8	41.9	17.8	22.4	16.8	7.1	24	22	17	49.2	31.8	19.5	12.7	RBU-528

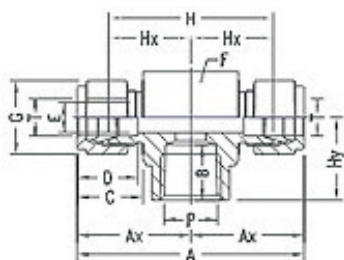
FEMALE BRANCH TEE



INCH OD Tubes x Female NPT Threads

T Tube OD	P NPT Female	A	Ax	B	C	D	E min.	F A/F	G A/F	H	Hx	Hy	FITEXCEL PART NO.
1/8	1/8	49.2	24.6	10.4	15.3	12.7	2.4	14	11	36.0	18.0	19.0	FFBT-417-N
1/4	1/8	53.8	26.9	10.4	17.8	15.3	4.8	14	14	39.2	19.6	19.0	FFBT-418-N
1/4	1/4	59.4	27.9	15.0	17.8	15.3	4.8	19	14	44.8	22.4	22.4	FFBT-419-N
3/8	1/4	62.4	31.2	15.0	19.3	16.8	7.1	16	16	47.8	23.9	22.4	FFBT-420-N
3/8	3/8	66.6	33.3	15.0	19.3	16.8	7.1	19	16	51.8	25.9	22.4	FFBT-421-N
1/2	3/8	72.0	36.0	15.0	21.8	22.9	10.4	19	19	51.8	25.9	22.4	FFBT-422-N
1/2	1/2	77.8	38.9	19.8	21.8	22.9	10.4	22	22	57.4	28.7	28.5	FFBT-423-N
3/4	3/4	89.4	44.7	20.6	21.8	24.4	15.8	35	22	69.2	34.6	31.8	FFBT-424-N
1	3/4	98.0	49.0	20.6	26.4	31.2	22.3	35	25	73.6	36.8	31.8	FFBT-425-N
1	1	107.2	53.6	25.4	26.4	31.2	22.3	41	38	82.8	41.4	38.1	FFBT-426-N

METRIC OD Tubes x Female NPT Threads



T Tube OD	P NPT Female	A	Ax	B	C	D	E min.	F A/F	G A/F	H	Hx	Hy	FITEXCEL PART NO.
3	1/8	49.2	24.6	10.4	15.3	12.9	2.4	14	11	36.0	18.0	19.0	FFBT-427-N
6	1/8	54.0	27.0	10.4	17.7	15.3	4.8	14	14	39.2	19.6	19.0	FFBT-428-N
6	1/4	59.6	29.8	15.0	17.7	15.3	4.8	19	14	44.8	22.4	22.4	FFBT-429-N
8	1/8	59.8	29.9	10.4	18.6	16.2	6.3	16	16	44.8	22.4	19.0	FFBT-430-N
8	1/4	61.2	30.6	15.0	18.6	16.2	6.3	19	16	46.2	23.1	22.4	FFBT-431-N
10	1/4	67.0	33.5	15.0	19.5	17.2	7.9	19	19	51.8	25.9	22.4	FFBT-432-N
12	3/8	72.0	36.0	15.0	22.0	22.8	9.5	22	22	51.8	25.9	22.4	FFBT-433-N
12	1/2	77.6	38.8	19.8	22.0	22.8	9.5	27	22	57.4	28.7	28.5	FFBT-434-N
16	1/2	79.0	39.5	19.8	22.0	24.4	12.7	27	25	59.4	29.7	28.5	FFBT-435-N

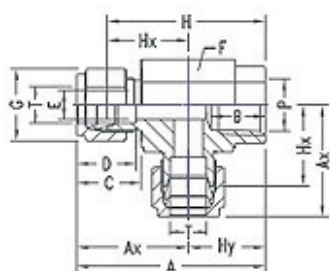
FEMALE RUN TEE



INCH OD Tubes x Female NPT Threads

T Tube OD	P NPT Female	A	Ax	B	C	D	E	F A/F	G A/F	H	Hx	Hy	FITEXCEL PART NO.
1/8	1/8	43.6	24.6	10.4	15.3	12.7	2.4	14	11	37.0	18.0	19.0	FRT-436-N
1/4	1/8	45.9	26.9	10.4	17.8	15.3	4.8	14	14	38.6	19.6	19.0	FRT-437-N
1/4	1/4	52.1	29.7	15.0	17.8	15.3	4.8	19	14	44.8	22.4	22.4	FRT-438-N
3/8	1/4	53.6	31.2	15.0	19.3	16.8	7.1	19	17	46.3	23.9	22.4	FRT-439-N
3/8	3/8	55.7	33.3	15.0	19.3	16.8	7.1	22	17	48.3	25.9	22.4	FRT-440-N
1/2	3/8	58.4	36.0	15.0	21.8	22.9	10.4	22	22	48.3	25.9	22.4	FRT-441-N
1/2	1/2	67.4	38.9	19.8	21.8	22.9	10.4	27	22	57.2	28.7	28.5	FRT-442-N
3/4	3/4	76.5	44.7	20.6	21.8	24.4	15.8	35	29	66.4	34.6	31.8	FRT-443-N
1	3/4	80.8	49.0	20.6	26.4	31	22.3	35	38	68.6	36.8	31.8	FRT-444-N
1	1	91.7	53.6	25.4	26.4	31	22.3	41	38	79.5	41.4	38.1	FRT-445-N

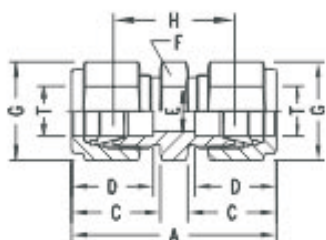
METRIC OD Tubes x Female NPT Threads



T Tube OD	P NPT Female	A	Ax	B	C	D	E min.	F A/F	G A/F	H	Hx	Hy	FITEXCEL PART NO.
3	1/8	43.6	24.6	10.4	15.3	12.9	2.4	14	11	37.0	18.0	19.0	FRT-446-N
6	1/8	46.0	27.0	10.4	17.7	15.3	4.8	14	14	38.6	19.6	19.0	FRT-447-N
6	1/4	52.2	29.8	15.0	17.7	15.3	4.8	19	14	44.8	22.4	22.4	FRT-448-N
8	1/8	48.9	29.9	10.4	18.6	16.2	6.3	16	16	41.4	22.4	19.0	FRT-449-N
8	1/4	53.0	30.6	15.0	18.6	16.2	6.3	19	16	45.5	23.1	22.4	FRT-450-N
10	1/4	55.9	33.5	15.0	19.5	17.2	7.9	19	19	48.3	25.9	22.4	FRT-451-N
12	3/8	58.4	36.0	15.0	22.0	22.8	9.5	22	22	48.3	25.9	22.4	FRT-452-N
12	1/2	67.3	38.8	19.8	22.0	22.8	9.5	27	22	57.2	28.7	28.5	FRT-453-N
16	1/2	68.0	39.5	19.8	22.0	24	12.7	27	25	58.2	29.7	28.5	FRT-454-N

UNION

INCH OD Tubes

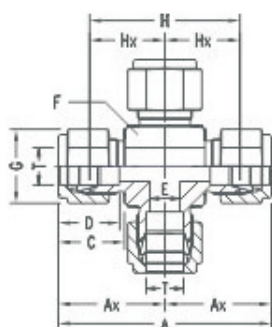


T Tube OD	A	C	D	E min.	F A/F	G A/F	H	FITEXCEL PART NO.
1/16	25.1	11.0	8.6	1.3	8	8	17.5	FU-455
1/8	35.6	15.3	12.7	2.4	11	11	22.4	FU-456
1/4	40.9	17.8	15.3	4.8	14	14	26.2	FU-457
5/16	42.9	18.5	16.3	6.3	14	16	28.2	FU-458
3/8	45.0	19.3	16.8	7.1	16	17	30.2	FU-459
1/2	51.3	21.8	22.9	10.4	22	22	31.0	FU-460
5/8	52.0	21.8	24.4	12.7	24	25	31.8	FU-461
3/4	53.6	21.8	24.4	15.8	27	28.5	33.3	FU-462
7/8	55.2	21.8	25.9	18.2	30	32	34.8	FU-463
1	64.8	26.4	31.2	22.3	35	38	40.4	FU-464

METRIC OD Tubes

T Tube OD	A	C	D	E min.	F A/F	G A/F	H	FITEXCEL PART NO.
3	35.3	15.3	12.9	2.4	11	11	22.1	FU-465
6	41.0	17.7	15.3	4.8	14	14	26.2	FU-466
8	43.2	18.6	16.2	6.3	16	16	28.2	FU-467
10	46.2	19.5	17.2	7.9	17	19	31.0	FU-468
12	51.2	22.0	22.8	9.5	22	22	31.0	FU-469
14	52.0	22.0	24.4	11.1	24	25	31.0	FU-470
15	52.0	22.0	24.4	11.9	24	25	31.8	FU-471
16	52.0	22.0	24.4	12.7	24	25	31.8	FU-472
18	53.5	22.0	24.4	15.1	27	30	33.3	FU-473
20	55.0	22.0	26.0	15.9	30	32	34.8	FU-474
22	55.0	22.0	26.0	18.3	30	32	34.8	FU-475
25	65.0	26.5	31.3	21.8	35	38	40.4	FU-476

UNION CROSS



INCH OD Tubes

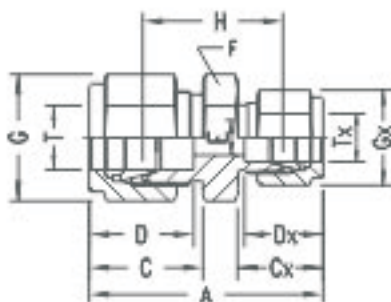
T Tube OD	A	Ax	C	D	E min.	F A/F	G A/F	H	Hx	FITEXCEL PART NO.
1/8	44.8	22.4	15.3	12.7	2.4	11	11	31.6	15.8	FUC-581
1/4	53.8	26.9	17.8	15.3	4.8	14	14	39.2	19.6	FUC-582
3/8	61.0	30.5	19.3	16.8	7.1	17	17	46.4	23.2	FUC-583
1/2	72.0	36.0	21.8	22.9	10.4	22	22	51.8	25.9	FUC-584
3/4	79.8	39.9	21.8	24.4	15.8	27	28.5	59.4	29.7	FUC-585
1	98.0	49.0	26.4	31.2	22.3	35	38	73.6	36.8	FUC-586

METRIC OD Tubes

T Tube OD	A	Ax	C	D	E min.	F A/F	G A/F	H	Hx	FITEXCEL PART NO.
3	44.6	22.3	15.3	12.9	2.4	11	11	31.4	15.7	FUC-587
6	54.0	27.0	17.7	15.3	4.8	14	14	39.2	19.6	FUC-588
8	57.6	28.8	18.6	16.2	6.3	16	16	42.6	21.3	FUC-589
10	63.0	31.5	19.5	17.2	7.9	17	19	47.8	23.9	FUC-590
12	72.0	36.0	22.0	22.8	9.5	22	22	51.8	25.9	FUC-591
16	76.0	38.0	22.0	24.4	12.7	24	25	55.8	27.9	FUC-592
22	89.2	44.6	22.0	26.0	18.3	32	32	69.0	34.5	FUC-593
25	98.2	49.1	26.5	31.3	21.8	35	38	73.6	36.8	FUC-594

REDUCING UNION

INCH OD Tubes



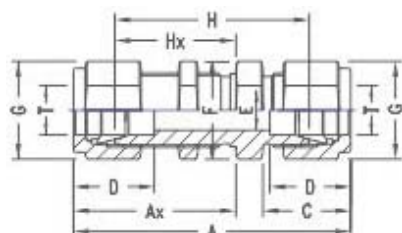
T Tube OD	Tx Tube OD	A	C	Cx	D	Dx	E min.	F A/F	G A/F	Gx A/F	H	FITEXCEL PART NO.
1/4	1/8	38.6	17.8	15.3	15.3	12.7	2.4	14	14	11	24.6	FRU - 477
5/16	1/8	39.6	18.6	15.3	16.3	12.7	2.4	14	16	11	25.7	FRU - 478
5/16	1/4	42.2	18.6	17.8	16.3	15.3	4.8	14	16	14	27.5	FRU - 479
3/8	1/8	40.9	19.3	15.3	16.8	12.7	2.4	16	17	11	26.9	FRU - 480
3/8	1/4	43.2	19.3	17.8	16.8	15.3	4.8	16	17	14	28.5	FRU - 481
1/2	1/8	45.2	21.8	15.3	22.9	12.7	2.4	22	22	11	28.5	FRU - 482
1/2	1/4	47.0	21.8	17.8	22.9	15.3	4.8	22	22	14	29.5	FRU - 483
1/2	3/8	48.5	21.8	19.3	22.9	16.8	7.1	22	22	17	31.0	FRU - 484
5/8	3/8	49.3	21.8	19.3	24.4	16.8	7.1	24	25	17	31.8	FRU - 485
5/8	1/2	52.0	21.8	21.8	24.4	22.9	10.4	24	25	22	31.8	FRU - 486
3/4	1/4	49.3	21.8	17.8	24.4	15.3	4.8	27	28.5	14	31.8	FRU - 487
3/4	3/8	50.8	21.8	19.3	24.4	16.8	7.1	27	28.5	17	33.3	FRU - 488
3/4	1/2	53.6	21.8	21.8	24.4	22.9	10.4	27	28.5	22	33.3	FRU - 489
1	1/2	60.5	26.5	21.8	31.2	22.9	10.4	35	38	22	38.1	FRU - 490
1	3/4	60.5	26.5	21.8	31.2	24.4	15.8	35	38	28.5	38.1	FRU - 491

METRIC OD Tubes

T Tube OD	Tx Tube OD	A	C	Cx	D	Dx	E min.	F A/F	G A/F	Gx A/F	H	FITEXCEL PART NO.
6	3	38.6	17.7	15.3	15.3	12.9	2.4	14	14	11	24.6	FRU-492
8	6	42.3	18.6	17.7	16.2	15.3	4.8	14	16	14	27.4	FRU-493
10	6	44.5	19.5	17.7	17.2	15.3	4.8	17	19	14	29.5	FRU-494
10	8	45.1	19.5	18.6	17.2	16.2	6.3	17	19	16	30.0	FRU-495
12	6	47.0	22.0	17.7	22.8	15.3	4.8	22	22	14	29.5	FRU-496
12	8	47.8	22.0	18.6	22.8	16.2	6.4	22	22	16	30.2	FRU-497
12	10	48.7	22.0	19.5	22.8	17.2	7.9	22	22	19	31.0	FRU-498
16	10	49.5	22.0	19.5	24.4	17.2	7.9	24	25	19	31.8	FRU-499
16	12	52.0	22.0	22.0	24.4	22.8	9.5	24	25	22	31.8	FRU-500
22	18	55.0	22.0	22.0	26.0	24.4	15.1	30	32	30	34.8	FRU-501
22	20	55.0	22.0	22.0	26.0	26.6	15.9	30	32	32	34.8	FRU-502
25	12	65.0	26.5	22.0	31.3	22.8	9.5	35	38	22	40.4	FRU-503
25	20	65.0	26.5	22.0	31.3	26.0	15.9	35	38	32	40.4	FRU-504

BULKHEAD UNION

INCH OD Tubes

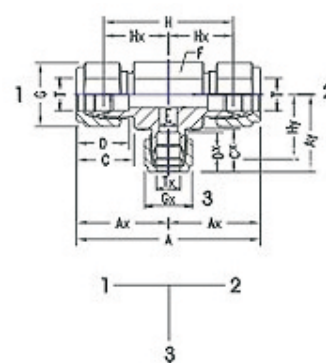


T Tube OD	A	Ax	C	D	E min.	F A/F	G A/F	H	Hx	Panel Hole Drill Size	Max Panel Thickness	FITEXCEL PART NO.
1/16	31.5	17.3	11.0	8.6	1.3	11	8	23.8	13.5	5.2	3.0	FBU-505
1/8	51.3	31.2	15.3	12.7	2.4	11	11	38.1	24.6	8.3	12.7	FBU-506
1/4	57.6	33.6	17.8	15.3	4.8	16	14	43.0	26.2	11.5	10.1	FBU-507
5/16	60.7	35.8	18.5	16.3	6.3	17	16	46.0	28.5	13.0	11.1	FBU-508
3/8	62.2	36.8	19.3	7.1	7.1	22	17	47.5	29.5	14.6	11.1	FBU-509
1/2	71.1	41.9	21.8	22.9	10.4	24	22	50.8	31.8	19.5	12.7	FBU-510
5/8	72.6	42.7	21.8	24.4	12.7	27	25	52.3	32.5	22.6	12.7	FBU-511
3/4	79.0	47.5	21.8	24.4	16.0	30	28.5	58.6	37.4	25.8	16.8	FBU-512
1	95.6	57.4	26.4	31.2	22.3	35	38	71.3	45.2	33.7	19.0	FBU-513

METRIC OD Tubes

T Tube OD	A	Ax	C	D	E min.	F A/F	G A/F	H	Hx	Panel Hole Drill Size	Max Panel Thickness	FITEXCEL PART NO.
3	51.3	31.2	15.3	12.9	2.4	14	11	38.1	24.6	8.3	12.7	FBU-514
6	57.7	33.6	17.7	15.3	4.8	16	14	42.9	26.2	11.5	10.2	FBU-515
8	61.0	36.1	18.6	16.2	6.3	17	16	46.0	28.6	13.1	11.2	FBU-516
10	63.7	37.0	19.5	17.2	7.9	22	19	48.5	29.4	16.3	11.2	FBU-517
12	71.0	41.9	22.0	22.8	9.5	24	22	50.8	31.8	19.5	12.7	FBU-518
14	72.5	42.6	22.0	24.4	11.1	27	25	52.3	32.5	22.5	12.7	FBU-519
15	72.5	42.6	22.0	24.4	11.9	27	25	52.3	32.5	22.8	12.7	FBU-520
16	72.5	42.6	22.0	24.4	12.7	27	25	52.3	32.5	22.8	12.7	FBU-521
18	78.9	47.4	22.0	24.4	15.1	30	30	58.7	37.3	26.0	16.8	FBU-522
20	84.5	53.0	22.0	26.0	15.8	35	32	64.3	42.9	29.0	19.0	FBU-523
25	95.6	57.4	26.4	31.2	22.3	35	38	71.3	45.2	33.7	19.0	FBU-524

REDUCING UNION TEE



INCH OD Tubes

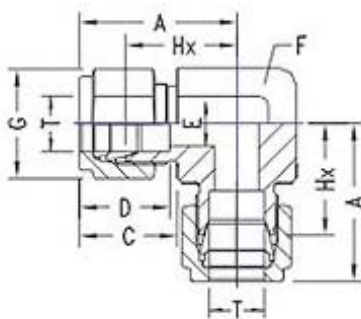
T Tube OD	Tx Tube OD	A	Ax	Ay	C	Cx	D	Dx	E min.	F A/F	G A/F	Gx A/F	H	Hx	Hy	FITEXCEL PART NO.
3/8	1/4	61.0	30.5	29.0	19.3	17.8	16.8	15.3	4.8	16	17	14	46.2	23.1	21.6	FRUT-573
1/2	1/4	72.2	36.0	31.8	21.8	17.8	22.9	15.3	4.8	22	22	14	51.8	25.9	24.4	FRUT-574
1/2	3/8	72.2	36.0	33.3	21.8	19.3	22.9	16.8	7.1	22	22	17	51.8	25.9	25.9	FRUT-575
3/4	3/8	79.8	39.9	37.0	21.8	19.3	24.4	16.8	7.1	27	28.5	17	59.4	29.7	29.7	FRUT-576
3/4	1/2	79.8	39.9	39.9	21.8	21.3	24.4	22.9	10.4	27	28.5	22	59.4	29.7	29.7	FRUT-577
1	3/8	98.0	49.0	41.9	26.4	19.3	31.2	16.8	7.1	35	38	17	73.6	36.8	34.5	FRUT-578
1	1/2	98.0	49.0	44.7	26.4	22.9	31.2	21.8	10.4	35	38	22	73.6	36.8	34.5	FRUT-579
1	3/4	98.0	49.0	44.7	26.4	24.4	31.2	24.4	15.8	35	38	28.5	73.6	36.8	34.5	FRUT-580

UNION ELBOW

INCH OD Tubes



T Tube OD	A	C	D	E min.	F A/F	G	Hx	FITEXCEL PART NO.
1/16	17.8	11.0	8.6	1.3	11	8	14.0	FUE-529
1/8	22.4	15.3	12.7	2.4	11	11	15.8	FUE-530
1/4	26.9	17.8	15.3	4.8	14	14	19.6	FUE-531
5/16	28.7	18.5	16.3	6.3	16	16	21.3	FUE-532
3/8	30.5	19.3	16.8	7.1	17	17	23.2	FUE-533
1/2	36.0	21.8	22.9	10.4	22	22	25.9	FUE-534
5/8	38.1	21.8	24.4	12.7	24	25	27.9	FUE-535
3/4	39.9	21.8	24.4	15.8	27	28.5	29.7	FUE-536
7/8	44.7	21.8	25.9	18.2	35	32	34.6	FUE-537
1	49.0	26.4	31.2	22.3	35	38	36.8	FUE-538

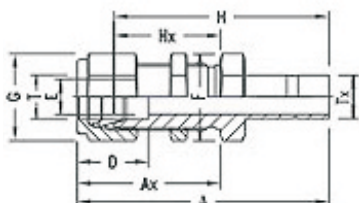


METRIC OD Tubes

T Tube OD	A	C	D	E min.	F A/F	G	Hx	FITEXCEL PART NO.
3	22.3	15.3	12.9	2.4	11	11	15.7	FUE-539
6	27.0	17.7	15.3	4.8	14	14	19.6	FUE-540
8	28.8	18.6	16.2	6.3	16	16	21.3	FUE-541
10	31.5	19.5	17.2	7.9	17	19	23.9	FUE-542
12	36.0	22.0	22.8	9.5	22	22	25.9	FUE-543
14	38.0	22.0	24.4	11.1	24	25	27.9	FUE-544
15	38.0	22.0	24.4	11.9	24	25	27.9	FUE-545
16	38.0	22.0	24.4	12.7	24	25	27.9	FUE-546
18	39.8	22.0	24.4	15.1	27	30	29.7	FUE-547
20	44.6	22.0	26.0	15.9	32	32	34.5	FUE-548
22	44.6	22.0	26.0	18.3	32	32	34.5	FUE-549
25	49.1	26.5	31.3	21.8	35	38	36.8	FUE-550

BULKHEAD REDUCER

INCH OD Tubes



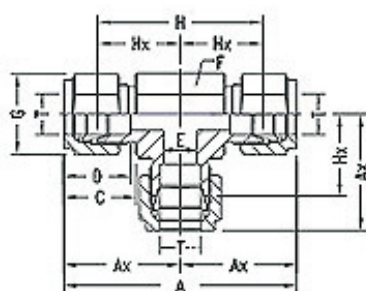
T Tube OD	Tx Tube OD	A	Ax	D	E min.	F A/F	G A/F	H D	Hx	Panel Hole Drill Size	Max. Panel Thickness	FITEXCEL PART NO.
1/8	1/8	49.5	31.3	12.7	2.0	11	11	43.0	24.6	8.3	12.7	BR-767
1/4	1/4	55.9	33.5	15.3	4.8	16	14	48.5	26.2	11.5	10.2	BR-768
3/8	3/8	60.8	36.8	16.8	7.1	19	17	53.8	29.5	14.7	11.2	BR-769
1/2	1/2	72.9	41.9	22.9	9.9	24	22	62.7	31.8	19.5	12.7	BR-770
5/8	5/8	75.2	42.7	23.6	12.7	27	25	65.0	32.5	22.6	12.7	BR-771
1	1	100.4	57.4	31.2	20.3	35	38	88.1	45.2	33.7	19.1	BR-772

UNION TEE

INCH OD Tubes



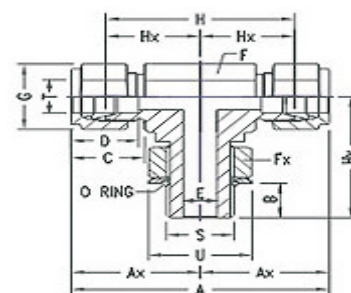
T Tube OD	A	Ax	C	D	E min.	F A/F	G A/F	H	Hx	FITEXCEL PART NO.
1/16	35.6	17.8	11.0	8.6	1.3	11	8	28.0	14.0	FUT-551
1/8	44.8	22.4	15.3	12.7	2.4	11	11	31.6	15.8	FUT-552
1/4	53.8	26.9	17.8	15.3	4.8	14	14	39.2	19.6	FUT-553
5/16	57.4	28.7	18.5	16.3	6.3	16	16	42.6	21.3	FUT-554
3/8	61.0	30.5	19.3	16.8	7.1	17	17	46.4	23.2	FUT-555
1/2	72.0	36.0	21.8	22.9	10.4	22	22	51.8	25.9	FUT-556
5/8	76.2	38.1	21.8	24.4	12.7	24	25	55.8	27.9	FUT-557
3/4	79.8	39.9	21.8	24.4	15.8	27	28.5	59.4	29.7	FUT-558
7/8	89.4	44.7	21.8	25.9	18.2	35	32	69.2	34.6	FUT-559
1	98.0	49.0	26.4	31.2	22.3	35	38	73.6	36.8	FUT-560



METRIC OD Tubes

T Tube OD	A	Ax	C	D	E min.	F A/F	G A/F	H	Hx	FITEXCEL PART NO.
3	44.6	22.3	15.3	12.9	2.4	11	11	31.4	15.7	FUT-561
6	54.0	27.0	17.7	15.3	4.8	14	14	39.2	19.6	FUT-562
8	57.6	28.8	18.6	16.2	6.3	16	16	42.6	21.3	FUT-563
10	63.0	31.5	19.5	17.2	7.9	17	19	47.8	23.9	FUT-564
12	72.0	36.0	22.0	22.8	9.5	22	22	51.8	25.9	FUT-565
14	76.0	38.0	22.0	24.4	11.1	24	25	55.8	27.9	FUT-566
15	76.0	38.0	22.0	24.4	11.9	24	25	55.8	27.9	FUT-567
16	76.0	38.0	22.0	24.4	12.7	24	25	55.8	27.9	FUT-568
18	79.6	39.8	22.0	24.4	15.1	27	30	59.4	29.7	FUT-569
20	89.2	44.6	22.0	26.0	15.9	32	32	69.0	34.5	FUT-570
22	89.2	44.6	22.0	26.0	18.3	32	32	69.0	34.5	FUT-571
25	98.2	49.1	26.5	31.3	21.8	35	38	73.6	36.8	FUT-572

POSITIONABLE MALE BRANCH TEE



INCH OD Tubes x SAE/MS *Straight threads

T Tube OD	S SAE/MS Male	A	Ax	B	C	D	E min.	F A/F	Fx A/F	G A/F	H	Hx	Hy	U	O Ring Part No.	FITEXCEL PART NO.
1/4	7/16-20	57.0	28.5	9.9	17.8	15.3	4.8	14	14	14	42.0	21.0	28.5	16.5	4 OPU	PMBT-654-R
3/8	9/16-18	64.3	32.0	11.2	19.3	16.8	7.1	16	17	17	49.2	24.6	32.3	20.0	6 OPU	PMBT-655-R
1/2	3/4-16	75.4	37.6	12.7	21.8	22.9	10.4	22	22	22	54.8	27.4	37.8	25.6	8 OPU	PMBT-656-R
3/4	11/16-12	90.2	41.4	16.8	21.8	24.4	15.8	27	32	28.5	62.4	31.2	48.8	36.6	12 OPU	PMBT-657-R
1	15/16-12	104.1	50.5	16.8	26.4	31.2	22.3	35	35	38	76.8	38.4	53.6	44.0	16 OPU	PMBT-658-R

METRIC OD Tubes x SAE/MS *Straight threads

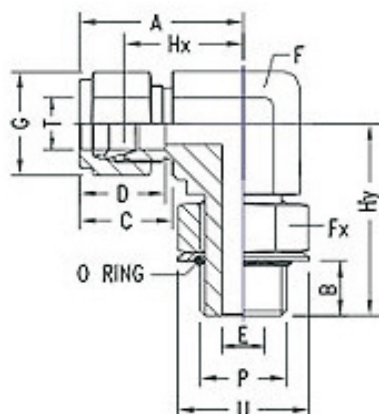
T Tube OD	S SAE/MS Male	A	Ax	B	C	D	E min.	F A/F	Fx A/F	G A/F	H	Hx	Hy	U	O Ring Part No.	FITEXCEL PART NO.
6	7/16-20	57.0	28.5	9.9	17.7	15.3	4.8	14	14	14	42.0	21.0	28.5	16.5	4 OPU	PMBT-659-R
10	9/16-18	64.3	32.0	11.2	19.5	17.2	7.1	16	17	17	49.2	24.6	32.3	20.0	6 OPU	PMBT-660-R
12	3/4-16	75.4	37.6	12.7	22.0	22.8	10.4	22	22	22	54.8	27.4	37.8	25.6	8 OPU	PMBT-661-R

POSITIONABLE MALE ELBOW

INCH OD Tubes x Male ISO* parallel Threads

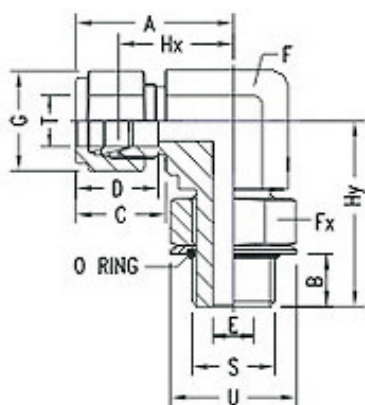


T Tube OD	P ISO Male	Ax	B	C	D	E min.	F	Fx A/F	G A/F	Hx A/F	Hy	U	O Ring Part No.	FITEXCEL PART NO.	
1/4	1/8	27.0	8.2	17.8	15.3	4.0	14	14	14	19.6	26.4	17.3	2 Opn	FPME-624-R	
1/4	1/4	29.0	9.2	17.8	15.3	4.8	16	19	14	21.6	32.3	22.9	4 Opn	FPME-625-R	
3/8	1/4	30.5	9.2	19.3	16.8	5.8	16	19	17	23.2	32.3	22.9	4 Opn	FPME-626-R	
3/8	3/8	33.0	9.2	19.3	16.8	7.1	22	22	17	25.9	37.0	26.4	6 Opn	FPME-627-R	
1/2	1/4	36.0	9.2	21.8	22.9	5.8	22	19	22	25.9	35.0	22.9	4 Opn	FPME-628-R	
1/2	3/8	36.0	9.4	21.8	22.9	7.8	22	22	22	25.9	37.0	26.4	6 Opn	FPME-629-R	
1/2	1/2	38.1	13.0	21.8	24.4	10.4	24	27	22	27.9	43.4	32.0	8 Opn	FPME-630-R	
5/8	1/2	38.1	13.0	21.8	24.4	10.4	24	27	25	27.9	43.4	32.0	8 Opn	FPME-631-R	
3/4	3/4	1/2	39.9	13.0	21.8	24.4	10.4	27	27	28.5	29.7	45.2	32.0	8 Opn	FPME-632-R
	3/4	39.9	13.0	21.8	24.4	15.8	27	35	28.5	29.7	48.8	41.2	12Opn	FPME-633-R	
1	3/4	49.0	13.0	26.4	31.2	15.8	35	35	38	36.8	53.3	41.2	12Opn	FPME-634-R	
1	1	49.0	14.0	26.4	31.2	19.8	35	41	38	36.8	53.6	48.5	16Opn	FPME-635-R	



METRIC OD Tubes x Male ISO* Parallel Threads

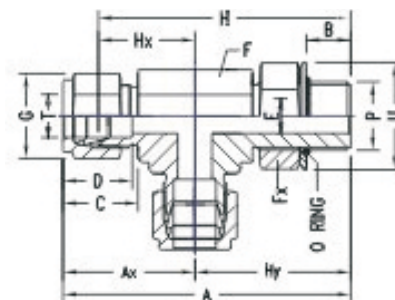
T Tube OD	P ISO Male	Ax	B	C	D	E min.	F	Fx A/F	G A/F	Hx A/F	Hy	U	O Ring Part No.	FITEXCEL PART NO.
6	1/8	27.0	8.1	17.7	15.3	4.0	14	14	14	19.6	26.4	17.3	2 Opn	FPME-636-R
6	1/4	29.0	9.1	17.7	15.3	4.8	16	19	14	21.6	32.3	22.9	4 Opn	FPME-637-R
8	1/8	28.8	8.1	18.6	16.2	4.0	14	14	16	21.3	27.4	17.3	2 Opn	FPME-638-R
8	1/4	29.9	9.1	18.6	16.2	5.9	16	19	16	22.4	32.2	22.9	4 Opn	FPME-639-R
10	1/4	33.5	9.1	19.5	17.2	5.9	19	19	19	25.9	35.0	22.9	4 Opn	FPME-640-R
10	3/8	33.5	9.4	19.5	17.2	7.9	19	22	19	25.9	37.1	26.4	6 Opn	FPME-641-R
12	3/8	36.0	9.4	22.0	22.8	7.9	22	22	22	25.9	37.1	26.4	6 Opn	FPME-642-R
12	1/2	38.0	13.0	22.0	22.8	9.5	24	27	22	27.9	43.4	32.0	8 Opn	FPME-643-R
12	3/4	39.8	13.0	22.0	22.8	9.5	27	35	22	29.7	48.8	41.1	12 Opn	FPME-644-R



INCH OD Tube x SAE/MS Straight Thread

T Tube OD	P ISO Male	Ax	B	C	D	E	F	Fx	G A/F	Hx	Hy	U	O Ring Part No.	FITEXCEL PART NO.
1/4	7/16-20	28.5	9.9	17.8	15.3	4.8	14	14	14	21.0	28.5	16.5	4 OPU	FPME-645-U
1/4	9/16-18	30.5	11.2	17.8	15.3	4.8	16	17	14	23.1	32.3	20.0	6 OPU	FPME-646-U
3/8	9/16-18	32.0	11.2	19.3	16.8	7.1	16	17	17	24.6	32.3	20.0	6 OPU	FPME-647-U
3/8	3/4-6	34.8	12.7	19.3	16.8	7.1	22	22	17	27.4	37.8	25.6	8 OPU	FPME-648-U
1/2	3/4-16	37.6	12.7	21.8	22.9	10.4	22	22	22	27.4	37.8	25.6	8 OPU	FPME-649-U
5/8	7/16-14	39.6	14.3	21.8	24.4	12.7	24	25	25	29.5	43.4	29.5	10OPU	FPME-650-U
3/4	11/16-12	41.4	16.8	21.8	24.4	15.8	27	32	28.5	31.2	48.8	36.6	12OPU	FPME-651-U
7/8	11/16-12	43.2	16.8	21.8	25.9	18.3	30	32	32	33	50.5	40.4	14OPU	FPME-652-U
1	15/16-12	50.5	16.8	26.4	31.2	22.3	35	35	38	38.4	53.6	44.0	16OPU	FPME-653-U

POSITIONABLE MALE RUN TEE

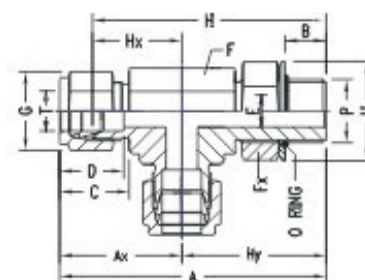


INCH OD Tubes x Male ISO* Parallel Threads

T Tube OD	S SAE/MS Male	A	Ax	B	C	D	E min.	F A/F	Fx A/F	G A/F	H	Hx	Hy	U	O Ring Part No.	FITEXCEL PART NO.
1/4	1/8	53.4	27.0	8.2	17.8	15.3	4.0	14	14	14	46.0	19.6	26.4	17.3	2 OPN	PMRT-662-R
1/4	1/4	61.3	29.0	9.2	17.8	15.3	4.8	16	19	14	53.9	21.6	32.3	22.9	4 OPN	PMRT-663-R
3/8	1/4	62.8	30.5	9.2	19.3	16.8	5.8	16	19	17	55.5	23.2	32.3	22.9	4 OPN	PMRT-664-R
1/2	3/8	73.0	36.0	9.4	21.8	22.9	7.8	22	22	22	62.9	25.9	37.0	26.4	6 OPN	PMRT-665-R
1/2	1/2	81.5	38.1	13.0	21.8	24.4	10.4	24	27	22	71.3	27.9	43.4	32.0	8 OPN	PMRT-666-R
5/8	1/2	81.5	38.1	13.0	21.8	24.4	10.4	24	27	25	71.3	27.9	43.4	32.0	8 OPN	PMRT-667-R
3/4	1/2	85.1	39.9	13.0	21.8	24.4	10.4	27	27	28.5	74.9	29.7	45.2	32.0	8 OPN	PMRT-668-R
3/4	3/4	88.7	39.9	13.0	21.8	24.4	15.8	27	35	28.5	78.5	29.7	48.8	41.2	12 OPN	PMRT-669-R
1	1	102.6	49.0	14.0	26.4	31.2	19.8	35	41	38	90.4	36.8	53.6	48.5	16 OPN	PMRT-670-R

METRIC OD Tubes x Male ISO* Parallel Threads

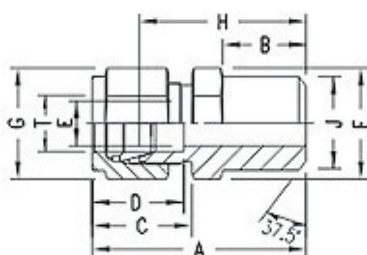
T Tube OD	S SAE/MS Male	A	Ax	B	C	D	E min.	F A/F	Fx A/F	G A/F	H	Hx	Hy	U	O Ring Part No.	FITEXCEL PART NO.
6	1/8	53.4	27.0	8.1	17.7	15.3	4.0	14	14	14	46.0	19.6	26.4	17.3	2 OPN	PMRT-671-R
6	1/4	61.3	29.0	9.1	17.7	15.3	4.8	16	19	14	53.9	21.6	32.3	22.9	4 OPN	PMRT-672-R
8	1/8	56.2	28.8	8.1	18.6	16.2	4.0	14	14	16	48.7	21.3	27.4	17.3	2 OPN	PMRT-673-R
8	1/4	62.1	29.9	9.1	18.6	16.2	5.9	16	19	16	54.6	22.4	32.2	22.9	4 OPN	PMRT-674-R
10	1/4	68.5	33.5	9.1	19.5	17.2	5.9	19	19	19	61.9	25.9	35.0	22.9	4 OPN	PMRT-675-R
12	3/8	73.1	36.0	9.4	22.0	22.8	7.9	22	22	22	63.0	25.9	37.1	26.4	6 OPN	PMRT-676-R
12	1/2	81.4	38.0	13.0	22.0	23	9.5	24	27	22	71.3	27.9	43.4	32.0	8 OPN	PMRT-677-R



INCH OD Tubes x SAE/MS *Straight Threads

T Tube OD	S SAE/MS Male	A	Ax	B	C	D	E min.	F A/F	Fx A/F	G A/F	H	Hx	Hy	U	O Ring Part No.	FITEXCEL PART NO.
1/4	7/16-20	57.0	28.5	9.9	17.8	15.3	4.8	14	14	14	49.5	21.0	28.5	16.5	4 OPU	PMRT-678-R
3/8	9/16-18	64.3	32.0	11.2	19.3	16.8	7.1	16	17	17	56.9	24.6	32.3	20.0	6 OPU	PMRT-679-R
1/2	3/4-16	75.4	37.6	12.7	21.8	22.9	10.4	22	22	22	65.2	27.4	37.8	25.6	8 OPU	PMRT-680-R
3/4	11/16-12	90.2	41.4	16.8	21.8	24.4	15.8	27	32	28.5	80.0	31.2	48.8	36.6	12 OPU	PMRT-681-R
1	15/16-12	104.1	50.5	16.8	26.4	31.2	22.3	35	35	38	92.0	38.4	53.6	44.0	16 OPU	PMRT-682-R

BUTT WELD PIPE CONNECTOR



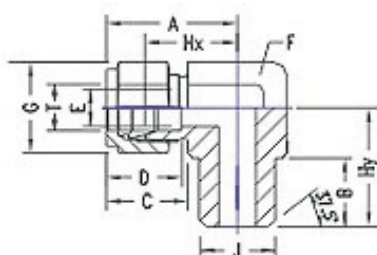
INCH OD Tubes to Pipe*

T Tube OD	Pipe Weld Male	A	B	C	D	E min.	F A/F	G A/F	H	J	FITEXCEL PART NO.
1/8	1/8	30.5	9.6	15.3	12.7	2.4	11	11	23.9	10.3	BWPC-683
1/4	1/8	32.8	9.6	17.8	15.3	4.8	14	14	25.4	10.3	BWPC-684
1/4	1/4	37.8	14.3	17.8	15.3	4.8	14	14	30.5	13.7	BWPC-685
5/16	1/8	34.0	9.6	18.5	16.3	5.1	14	16	26.7	10.3	BWPC-686
5/16	1/4	38.6	14.3	18.5	16.3	6.3	16	16	31.2	13.7	BWPC-687
3/8	1/4	39.9	14.3	19.3	16.8	7.1	16	17	32.5	13.7	BWPC-688
3/8	3/8	39.9	14.3	19.3	16.8	7.1	17	17	32.5	17.2	BWPC-689
3/8	1/2	46.3	19.1	19.3	16.8	7.1	22	17	38.9	21.3	BWPC-690
1/2	3/8	43.4	14.3	21.8	22.9	10.4	22	22	33.3	17.2	BWPC-691
1/2	1/2	49.0	19.1	21.8	22.9	10.4	22	22	38.9	21.3	BWPC-692
1/2	3/4	50.5	19.1	21.8	22.9	10.4	27	22	40.4	26.7	BWPC-693
5/8	1/2	49.0	19.1	21.8	24.4	12.7	24	25	38.9	21.3	BWPC-694
3/4	3/4	50.5	19.1	21.8	24.4	15.8	27	29	40.4	26.7	BWPC-695
1	1	62.2	23.8	26.4	31.2	22.3	35	38	50.0	33.4	BWPC-696

METRIC OD Tube to Pipe*

T Tube OD	Pipe Weld Male	A	B	C	D	E min.	F A/F	G A/F	H	J	FITEXCEL PART NO.
3	1/8	30.5	9.6	15.3	12.9	2.4	11	11	23.9	10.3	BWPC-697
6	1/8	32.8	9.6	17.8	15.3	4.8	14	14	25.4	10.3	BWPC-698
6	1/4	37.9	14.3	17.8	15.3	4.8	14	14	30.5	13.7	BWPC-699
8	1/8	34.2	9.6	18.5	16.3	5.1	16	16	26.7	10.3	BWPC-700
8	1/4	38.7	14.3	18.5	16.3	6.3	16	16	31.2	13.7	BWPC-701
8	1/2	45.6	19.1	18.5	16.3	6.3	22	16	38.1	21.3	BWPC-701
10	1/4	40.9	14.3	19.5	17.2	7.1	19	19	33.3	13.7	BWPC-702
10	3/8	40.9	14.3	19.5	17.2	7.9	19	19	33.3	17.2	BWPC-703
10	1/2	46.5	19.1	19.5	17.2	7.9	22	19	38.9	21.3	BWPC-704
12	1/4	43.4	14.3	22.0	22.9	7.1	22	22	33.3	13.7	BWPC-705
12	3/8	43.4	14.3	22.0	22.9	9.5	22	22	33.3	17.2	BWPC-706
12	1/2	49.0	19.1	22.0	22.9	9.5	22	22	38.9	21.3	BWPC-707
16	1/2	49.0	19.1	22.0	24.4	12.7	24	25	38.9	21.3	BWPC-708

BUTT WELD PIPE ELBOW



INCH OD Tubes to Pipe*

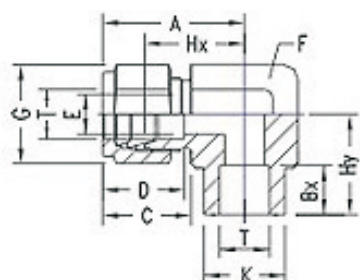
T Tube OD	PipeWeld Male	A	B	C	D	E min.	F A/F	G A/F	Hx	Hy	J	FITEXCEL PART NO.
1/4	1/8	27.0	9.6	17.8	15.3	4.8	14	14	19.6	18.8	10.3	FBWPE-714
1/4	1/4	27.0	14.3	17.8	15.3	4.8	14	14	19.6	23.4	13.7	FBWPE-715
3/8	1/4	30.5	14.3	19.3	16.8	7.1	16	17	23.1	25.9	13.7	FBWPE-716
1/2	1/2	36.0	19.1	21.8	22.9	10.4	22	22	25.9	33.0	21.3	FBWPE-717
3/4	3/4	39.9	19.1	21.8	24.4	15.8	27	29	29.7	36.8	26.7	FBWPE-718

SOCKET WELD TUBE ELBOW

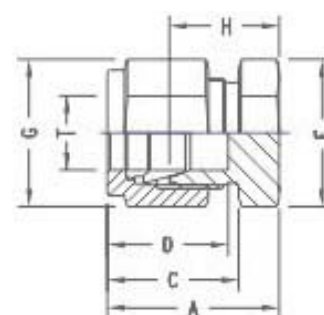


INCH OD Tubes

T Tube OD	A	Bx	C	D	E min.	F A/F	G A/F	Hx	Hy	K	FITEXCEL PART NO.
1/4	27.0	7.9	17.8	15.3	4.8	14	14	19.6	19.6	12.7	SWTE-709
3/8	30.5	9.6	19.3	16.8	7.1	16	17	23.1	23.1	15.8	SWTE-710
1/2	36.0	12.7	21.8	22.9	10.4	22	22	25.9	25.9	20.6	SWTE-711
3/4	39.9	14.3	21.8	24.4	15.8	27	28.5	29.7	29.7	27.0	SWTE-712
1	49.0	19.1	26.4	31.2	22.3	35	38	36.8	36.8	35.0	SWTE-713



TUBE END CLOSURE



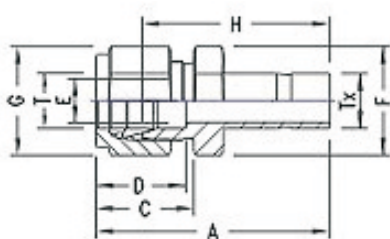
INCH OD Tubes

METRIC OD Tubes

T Tube OD	A	C	D	F A/F	G A/F	H	FITEXCEL PART NO.	T Tube OD	A	C	D	F A/F	G A/F	H	FITEXCEL PART NO.
1/16	13.0	11.0	8.6	11	8	11.2	TEC-773	3	20.1	15.3	12.9	11	11	13.5	TEC-783
1/8	20.0	15.3	12.7	11	11	13.5	TEC-774	6	23.1	17.7	15.3	14	14	15.7	TEC-784
1/4	23.4	17.8	15.3	14	14	16.0	TEC-775	8	24.5	18.6	16.2	16	16	17.0	TEC-785
5/16	24.4	18.5	16.3	16	16	17.0	TEC-776	10	26.6	19.5	17.2	17	19	19.0	TEC-786
3/8	25.7	19.3	16.8	17	17	18.3	TEC-777	12	29.1	22.0	22.8	22	22	19.0	TEC-787
1/2	29.2	21.8	22.9	22	22	19.0	TEC-778	14	29.9	22.0	24.4	24	25	19.8	TEC-788
5/8	30.0	21.8	24.4	24	25	19.8	TEC-779	15	29.9	22.0	24.4	24	25	19.8	TEC-789
3/4	31.5	21.8	24.4	27	28.5	21.4	TEC-780	16	29.9	22.0	24.4	24	25	19.8	TEC-790
7/8	34	21.8	25.9	35	32	23.9	TEC-781	18	31.4	22.0	24.4	27	30	21.3	TEC-791
1	38.4	26.4	31.2	35	38	26.2	TEC-782	20	34.0	22.0	26.0	32	32	23.9	TEC-792
								22	34.0	22.0	26.0	32	32	23.9	TEC-793
								25	38.5	26.5	31.3	35	38	26.2	TEC-794

REDUCER

INCH OD Tubes to INCH OD Ports

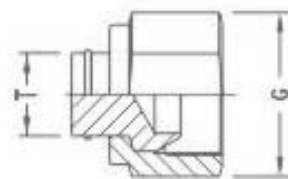


T Tube OD	Tx Tube OD	A	C	D	E min.	F A/F	G A/F	H	FITEXCEL PART NO.
1/8	1/8	33.5	15.3	12.7	2.0	11	11	26.9	R-719
1/8	1/4	36.0	15.3	12.7	4.8	11	11	29.5	R-720
1/4	1/8	36.8	17.8	15.3	2.0	14	14	29.5	R-721
1/4	1/4	39.1	17.8	15.3	4.8	14	14	31.8	R-722
1/4	3/8	40.6	17.8	15.3	4.8	14	14	33.3	R-723
1/4	1/2	46.3	17.8	15.3	4.8	14	14	38.9	R-724
5/16	3/8	41.9	18.6	16.3	6.3	14	16	34.6	R-725
5/16	1/2	46.5	18.6	16.3	6.3	14	16	40.2	R-726
3/8	1/4	41.4	19.3	16.8	7.1	16	17	34.0	R-727
3/8	3/8	43.2	19.3	16.8	7.1	16	17	35.8	R-728
3/8	1/2	48.5	19.3	16.8	7.1	16	17	41.2	R-729
1/2	1/4	45.0	21.8	22.9	4.8	22	22	34.8	R-730
1/2	3/8	46.7	21.8	22.9	7.1	22	22	36.6	R-731
1/2	1/2	52.3	21.8	22.9	9.9	22	22	42.2	R-732
1/2	3/4	53.8	21.8	22.9	10.4	22	22	43.7	R-733
1/2	1	60.2	21.8	22.9	10.4	22	22	50.0	R-734
5/8	3/4	54.6	21.8	24.4	12.7	24	25	44.5	R-735
5/8	7/8	56.2	21.8	24.4	12.7	24	25	46.0	R-736
3/4	1/2	54.6	21.8	24.4	9.9	27	28.5	44.5	R-737
3/4	1	62.5	21.8	24.4	15.8	27	28.5	52.3	R-738

METRIC OD Tubes to METRIC OD Ports

T Tube OD	Tx Tube OD	A	C	D	E min.	F A/F	G A/F	H	FITEXCEL PART NO.
3	6	36.1	15.3	12.9	2.4	11	11	29.5	R-739
3	10	38.4	15.3	12.9	2.4	14	11	31.8	R-740
6	3	36.9	17.8	15.3	1.8	14	14	29.5	R-741
6	8	39.9	17.8	15.3	4.8	14	14	32.5	R-742
6	10	40.7	17.8	15.3	4.8	14	14	33.3	R-743
6	12	46.3	17.8	15.3	4.8	14	14	38.9	R-744
8	6	40.3	18.6	16.2	4.6	14	16	32.8	R-745
8	10	42.0	18.6	16.2	6.4	14	16	34.5	R-746
8	12	47.6	18.6	16.2	6.4	14	16	40.1	R-747
10	6	42.4	19.5	17.2	4.6	17	17	34.8	R-748
10	8	43.4	19.5	17.2	6.2	17	17	35.8	R-749
10	12	49.8	19.5	17.2	7.9	17	17	42.2	R-750
12	6	44.9	22.0	22.8	4.6	22	22	34.8	R-751
12	8	45.9	22.0	22.8	6.2	22	22	35.8	R-752
12	10	46.7	22.0	22.8	7.7	22	22	36.6	R-753
12	16	53.8	22.0	22.8	9.5	22	22	43.7	R-754
12	20	56.1	22.0	22.8	9.5	22	22	46.0	R-755
12	22	56.1	22.0	22.8	9.5	24	22	46.0	R-756
12	25	62.4	22.0	22.8	9.5	27	22	53.3	R-757
16	12	53.0	22.0	24.4	9.1	24	25	42.9	R-758
18	12	54.6	22.0	24.4	9.1	27	30	44.5	R-759
18	16	56.1	22.0	24.4	12.7	27	30	46.0	R-760
20	16	57.9	22.0	26.0	12.7	30	32	47.8	R-761
20	25	64.2	22.0	26.0	15.8	30	32	54.1	R-762
22	20	59.4	22.0	26.0	15.1	30	32	49.3	R-763
22	25	64.2	22.0	26.0	18.3	30	32	54.1	R-764
25	18	63.1	26.5	31.3	13.9	35	38	50.8	R-765
25	20	64.6	26.5	31.3	15.1	35	38	52.3	R-766

FITTING END CLOSURE



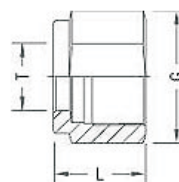
INCH OD Tubes

T Tube OD	G A/F	FITEXCEL PART NO.
1/8	11	FEC-795
1/4	14	FEC-796
5/16	16	FEC-797
3/8	17	FEC-798
1/2	22	FEC-799
5/8	25	FEC-800
3/4	28.5	FEC-801
7/8	32	FEC-802
1	38	FEC-803

METRIC OD Tubes

T Tube OD	G A/F	FITEXCEL PART NO.
3	11	FEC-804
6	14	FEC-805
8	16	FEC-806
10	19	FEC-807
12	22	FEC-808
14	25	FEC-809
15	25	FEC-810
16	25	FEC-811
18	30	FEC-812
20	32	FEC-813
22	32	FEC-814
25	38	FEC-815

COUPLING CAP



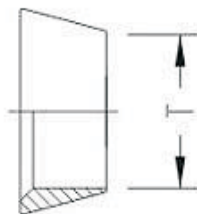
INCH OD Tubes

T Tube OD	L	G A/F	FITEXCEL PART NO.
1/16	8.0	8	CCN-816
1/8	12.0	11	CCN-817
1/4	12.7	14	CCN-818
5/16	14.0	16	CCN-819
3/8	14.5	17	CCN-820
1/2	17.5	22	CCN-821
5/8	17.5	25	CCN-822
3/4	17.5	28.5	CCN-823
7/8	17.5	32	CCN-824
1	20.6	38	CCN-825

METRIC OD Tubes

T Tube OD	L	G A/F	FITEXCEL PART NO.
3	12.0	11	CCN-826
6	12.7	14	CCN-827
8	13.5	16	CCN-828
10	15.1	19	CCN-829
12	17.5	22	CCN-830
14	17.5	25	CCN-831
15	17.5	25	CCN-832
16	17.5	25	CCN-833
18	17.5	30	CCN-834
20	17.5	32	CCN-835
22	17.5	32	CCN-836
25	20.6	38	CCN-837

FRONT FERRULE



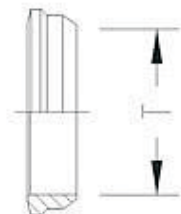
INCH OD Tubes

T Tube OD	FITEXCEL PART NO.
1/16	FF-860
1/8	FF-861
1/4	FF-862
5/16	FF-863
3/8	FF-864
1/2	FF-865
5/8	FF-866
3/4	FF-867
7/8	FF-868
1	FF-869

METRIC OD Tubes

T Tube OD	FITEXCEL PART NO.
3	FF-870
6	FF-871
8	FF-872
10	FF-873
12	FF-874
14	FF-875
15	FF-876
16	FF-877
18	FF-878
20	FF-879
22	FF-880
25	FF-881

BACK FERRULE



INCH OD Tubes

T Tube OD	FITEXCEL PART NO.
1/16	BF-838
1/8	BF-839
1/4	BF-840
5/16	BF-841
3/8	BF-842
1/2	BF-843
5/8	BF-844
3/4	BF-845
7/8	BF-846
1	BF-847

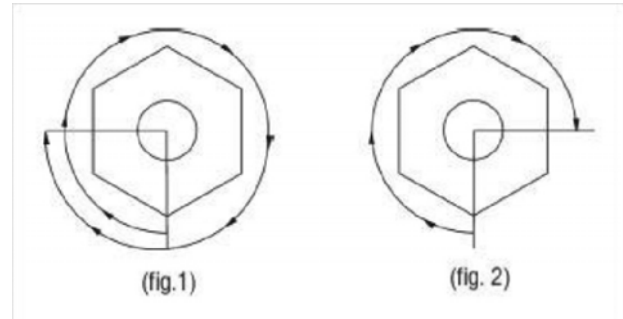
METRIC OD Tubes

T Tube OD	FITEXCEL PART NO.
3	BF-848
6	BF-849
8	BF-850
10	BF-851
12	BF-851
14	BF-853
15	BF-854
16	BF-855
18	BF-856
20	BF-857
22	BF-858
25	BF-859

INSTALLATION INSTRUCTIONS

FITEXCEL Tube Fittings

1. Ensure that, the end of the tube is cut square and free from burrs without causing undue chamfering of the tube end.
2. Loosen the fitting Nut.
3. Insert the tubing into the fitting assembly resting it firmly on the internal shoulder of the fittings.
4. Finger tighten the nut.
5. A) Tighten the nut with a wrench 1 ¼ turns from the finger tight position. For the tube fittings size 6mm / 1/4" and above. (see fig 1)
- B) Tighten the nut with a wrench 3/4" turn from the finger tight position for the tube fittings size 4mm / 3/16" and below. (see fig 2)



FITEXCEL Recommendation

For high pressure application

Due to variation in the tubing diameter FITEXCEL recommends the following instructions for safety and excellent performance of high pressure applications.

1. After insertion of tubing to the fittings assembly, tighten the nut approximately 1/8 turn with a wrench from finger type position or until the tubing does not rotate freely by hand.
2. Further tighten the nut with a wrench 1 ¼ turns to have a firm and safe grip.

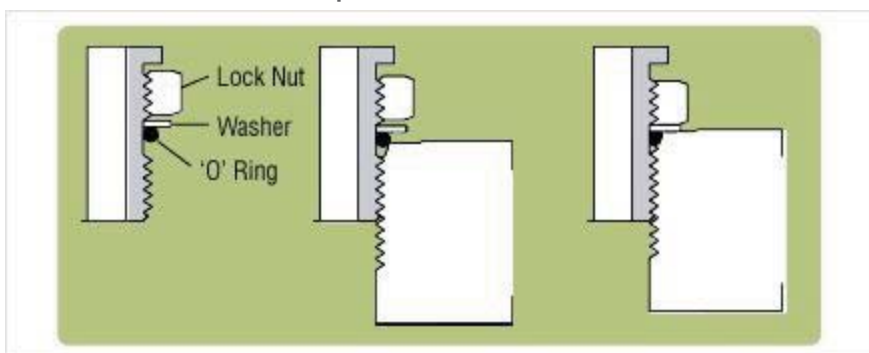
Reassembly Instruction

FITEXCEL Tube fittings may be assembled and disassembled repeatedly. The following instructions should be carried out to reassemble the fittings.

1. Firmly insert the tubing end with the previously set ferrules into the fitting body and tighten the nut to a hand- condition.
2. With a wrench, tighten the nut until a sharp condition rise in torque is felt, then simply snug with wrench.

SAE / MS Straight Thread And ISO Parallel Thread Positionable

Elbows and Tees Installation procedure



1. Lubricate the 'O' -ring with lubricant compatible with the system fluid and 'O' - ring material.
2. Turn the fittings into the straight thread port until the metal back-up washer contacts the face of the port.
3. Position the fittings by backing it out, (not more than one turn).
4. Hold the fittings in position and tighten the lock nut until the washer contacts the face of the port.

Note :

- » SAE/MS positionable elbows and tees are compatible with SAE J1926 ports.
- » ISO parallel thread positionable elbows and tees are compatible with female ports having BS 2779 threads.

Face Seal 'O' Ring Fittings

Installation Procedure

The 'O'-ring requires a smooth, flat seating surface, this surface must be perpendicular to the axis of the threads.

1. Turn the 'O'-ring seal fitting in the port until finger tight.
2. The squeezing effect on the 'O'-ring can be felt during the last 1/4 turn.

SAE Specifications

FITEXCEL SAE Straight thread 'O'-ring fittings are designed and manufactured to meet SAE standard as follows

1. Male or External fittings End (Dimension: SAE J514)
2. Straight thread SAE J475 (Equivalent to ANSI B1.1 or ISO R725)
3. Female or Internal Straight thread (Port : SAE J1926)

FITEXCEL Tube fittings with SAE Ends Straight thread SAE Straight Thread 'O'-Ring seal fittings are designed and manufactured to SAE standards defined below for use in many different application including hydraulics and natural gas vehicles. SAE Straight thread fittings are supplied with viton 'O'-rings.

Fittings Available Includes

Connectors, Positionable SAE Elbows and Tees and SAE reducers.

Thread and 'O'-ring Sizes

Nominal Tube OD.	Thread size	'O'-ring Size no.
1/8	5/16-24	902
1/4	7/16-20	904
3/8	9/16-18	906
1/2	3/4-16	908
5/8	7/8-14	910
3/4	1 1/16-12	912
1	1 5/16-12	916

Port Connector Installation Procedure

1. Remove nut and ferrules from the first of two FITEXCEL ports to be connected.
2. Slip nut only on port connector over machined ferrule.
3. Insert connector into first port and snug up nut by hand. Tighten the nut with wrench 1/4 turn only. For 1/8, 3/16, 3mm and 4mm tube fittings, tighten the nut 1/8 turn from finger tight position, subsequently connections are made snugging the nut by hand.
4. Insert other end of port connector into FITEXCEL port 2, and tighten the nut 1/4. For 1/8, 3/16, 3mm and 4mm tube fittings tighten the nut 3/4 turn from finger tight position.

Plug Installation Procedure

- » For 6mm, 1/4 and above size Tube Fittings, tighten the plug with wrench 1/4 turn from finger tight position.
- » For 1/8, 3/16, 3mm and 4mm tube fittings, tighten the plug with wrench 1/8 turn only.
- » Make subsequent connection by tightening slightly with wrench after snugging the nut by hand.

BALL VALVE



We manufacture a wider range of robust and easy to maintain Ball Valves that are utilized across numerous process industries. These valves are manufactured in variety of dimensions & sizes. We also execute customized product development in bulk. Our range of ball valves is known for its durability & functional stability.

Features

- Pressure rating up to 3000psi (206bar).
- Temperature rating from 100C (500F) to 650C (1500F) with PTFE packing.
- Materials: Standard 316SS and Brass. (Other materials are available on request as factory specials).
- Compact designed one body to reduce space and possible leak point.
- One piece integral ball stem to eliminate backlash and to encapsulate ball seats perfectly.
- Panel mounting for easy installation.
- Wide choices of end connections: FITEXCEL Tube Fittings, Female NPT or PT (ISO 7/1) thread.
- Bi-directional as standard and 3-way available.

Testing

every valve is 100% factory tested. Other optional tests are available upon request.

Valve Selection

when selecting ball valves, the total system design must be considered to ensure safe, trouble-free performance. Valve function, materials compatibility, adequate ratings, proper installation, operation and maintenance are the responsibility of the system designer or user.

Size	Fractional (1/4~2"), Metric (6mm~25mm).
End Connection	Tube Fittings, Female.
Pipe Threads	NPT, BSPT (ISO 7/1).
Pressure Rating	Up to 3000psi (260bar).
Temperature Rating	100C (500F) to 650C (1500F).
Direction	2, 3, 4 and 5 way design available.

NEEDLE VALVE



We manufacture a wide range of Forged / Bar Stock Needle Valves and Forged Body Needle Valves as per the industry standards & specifications. These needle valves are manufactured utilizing advanced manufacturing methods & pass through stringent quality tests at every stage of production.

Features

- Pressure rating up to 5000 psi (340 bar) at 380C (1000F).
- Temperature rating from -530C (-650F) to 2320C (4500F) with standard PTFE packing, up to 3150C (6000F) with Grafoil packing.
- Materials: Standard 316SS and Brass. (Other materials are available on request as factory specials).
- Forged body with straight and angle pattern.
- Panel mounting without packing disruption.
- Wide choice of end connection: FITEXCEL Tube Fittings, Male & Female NPT or PT (ISO 7/1) thread, Socket Weld ANSI/ASME B16.11.
- Standard lubrication: Nickel anti-seize lubricant (Hydrocarbon carrier)
- Standard seat: Metal to metal/body material.
- Optional sea: Metal to metal/satellite, hard coating, soft seat.

Stem

Vee Stem is standard for pressure tightness even at elevated temperatures. Regulating Stem & Soft-seat Stem are optional.

Gas Service

Materials for wetted valve component are selected in accordance with NACE standard MR 0175-2000 for sulfide stress cracking resistant.

Testing

Standard Factory Test: Every needle valve is 100% factory tested with air and nitrogen at 1000psi (69bar) for leakage at the seat and packing. Each test is performed to maximum allowable leak rate of 0.1sec/min.

Optional Hydrostatic Test: This hydrostatic shell test is performed with pure water at 1-1/2 times of the working pressure. Other optional tests are available upon request.

Valve Selection

Size	Fractional (1/8~2"), Metric (6mm~25mm).
End Connection	Tube Fittings, Female, Male, Socket Weld.
Pipe Threads	NPT, BSPT (ISO 7/1).
Pressure Rating	Up to 6000psi (408bar).
Temperature Rating	530C (-650F) to 2320C (4500F).

MANIFOLD VALVE



1-Manifold Valve

We expertise in manufacturing and supplying a wide variety of manifold valves as per the international quality standards. Our range of manifold valves includes 2 way and 3 way manifold valves. Made with stainless steel, carbon steel and duplex stainless steel materials, manifold valves are easy to install and maintain. We offer manifold valves in various dimensions and specifications. These valves find their application in various industries like chemical, petrochemical, oil etc., and can be customized as per the need of the bulk buyers.

2-Valve Manifold

2 -Valve Manifolds offer safety and reliability in a general purpose design. The simple 2- Valve Configuration allows for easy block, bleed and calibration of a static pressure transmitter or gauge. Valves are available with either metal seats or replaceable soft seat inserts. Connections are ½ female NPT on all three ports.

Our 2 Way Manifold Valve Available as Follows:

2 Valve Manifold -H Type	2 Valve Manifold - T Type	2 Valve Manifold - R Type
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Specifications

- Connection: ½" Female NPT to 1/2" Female NPT
- One-piece, high strength body construction for safety no welding used.
- Stems feature an non-rotating top with an easily replaceable soft insert.
- Bonnet lock pin prevents accidental valve disassembly.
- 316 stainless steel constructions for superior corrosion resistance.
- Bonnet-to-body seals are metal-to-metal-no O-Rings used.
- Mounting holes provided for self supporting applications.
- 100% pressure tested for shut-off and at all seals.
- Manifolds feature at 4:1 safety factor.

MANIFOLD VALVE

3-Valve Manifold

The FITEXCEL Pipe to Pipe 3-Valve Manifold is a general purpose design for connection system impulse lines and transmitters. This manifold consists of two block Valves and an equalizer valve. Connection are ½" Female NPT on 2-1/8" (54mm) centers for safety, an bonnet lock pin is standard.

Our 3 Way Manifold Valve Available as Follows:

3 Valve Manifold -H Type	3 Valve Manifold - T Type	3 Valve Manifold - R Type
--------------------------	---------------------------	---------------------------

Specifications

- Connection: ½" Female NPT to 1/2" Female NPT.
- One-piece, high strength body construction for safety no welding used.
- 316 stainless steel construction for superior corrosion resistance.
- Bonnet lock pin prevents accidental valve disassembly.
- 2-1/8" (54mm) Port centerline dimension for proper alignment.
- 100% pressure tested for shut-off and at all seals.
- Manifolds feature at 4:1 safety factor.

4-Valve Manifold

5-Valve Manifold offer two mainline block valves and a double block and bleed valve for the equalizer line. The manifold is primarily intended for gas service and is used to connect differential pressure transmitters to system flow meters. Connections are ½" Female NPT on 2-1/8" (54mm) centers Standard feature include two 1/4" NPT static pressure connections on the instrument side and one 1/4" NPT vent connection from the bleed valve.

Our 3 Way Manifold Valve Available as Follows:

5 Valve Manifold - H Type	5 Valve Manifold - T Type	5 Valve Manifold - R Type
---------------------------	---------------------------	---------------------------

Specifications

- Connection: ½" Female NPT to 1/2" Female NPT.
- One-piece, high strength body construction for safety no welding used.
- Bonnet lock pin prevents accidental valve disassembly.
- 2-1/8" (54mm) Port centerline dimension for proper alignment.
- 100% pressure tested for shut-off and at all seals.
- 316 stainless steel construction for superior corrosion resistance.
- Bonnet-to-body seals are metal-to metal. No O-Rings are used.
- Manifolds feature a 4:1 safety factor.
-

QUICK RELEASE COUPLING



FITEXCEL Industries is recognized as a dependable Manufacturer, Exporter, and Supplier of Quick Release Couplings. Our Quick Release Couplings (QRC) is designed for pneumatic and hydraulic lines for carrying compressed air gases, oil, fluids, chemicals etc. Our Quick Release Couplings are well tested for their construction and strength.

Specifications

- Material : Carbon Steel, Stainless Steel, Brass
- Sizes : 1/8" to 2"
- End Connections : NPT/BSP
- Working Pressure : 10000 psi

NON RETURN VALVE

that we offer are specially designed and are available in varied ranges. We produce superior quality Non Return Valves at reasonable prices as per our clients' requirements. These Non Return Valves are formulated with unique sealing arrangements which efficiently transmit the force directly to the body without putting pressure to the sealing elements. These sealing arrangements produced by us are long lasting, rust free and has less possibility of leakage.

Features

- Leakage proof
- Durable
- Anti-corrosive
- High performance



Used For : Transmitting force

www.fitexcelindia.com



FITEXCEL TM

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