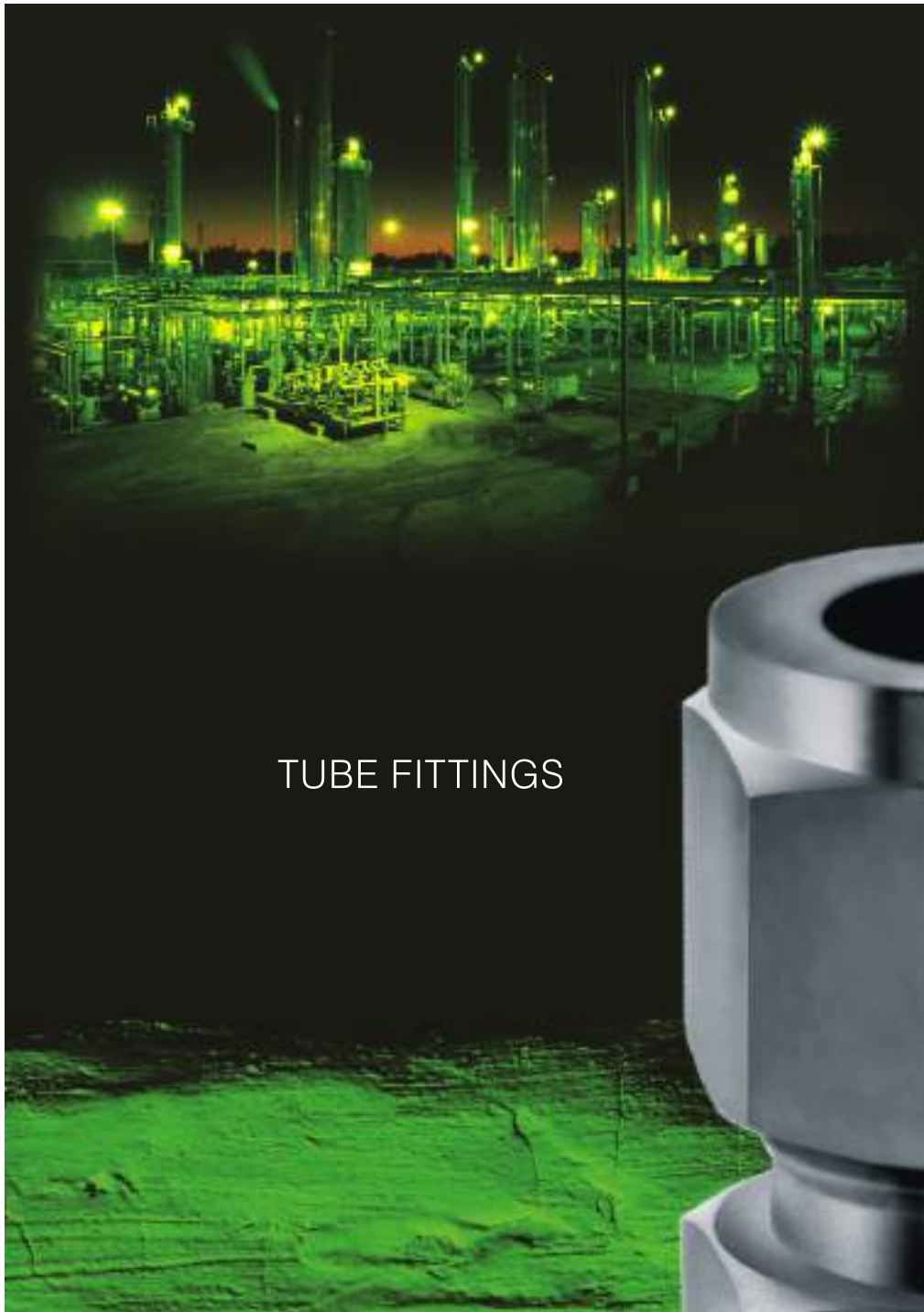


FIT&FORGET™



TUBE FITTINGS

the story of the 'FIT & FORGET' Fittings.....

Founded by Late Mr. Avtar Singh Kohli in the year 1965, 'ASTEC' rolled the first batch of quality fittings & valves from a small engineering workshop with limited resources in Mumbai, India. We were the first Indian company to have developed the Compression Tube Fittings and Valves range for the Nuclear Power Plants in India. ASTEC's key asset has been its people, which comprise of qualified & experienced team that has been trained regularly to support most major oil and gas, power, other operating companies around the world.

India's no. 1

	2004 'RASHTRIYA EKTA AWARD' (National Unity Award, Rajiv Gandhi Award for services to the nations Oil, Gas & Alternate Fuel Industry)
2003 'RASHTRIYA UDYOG AWARD' (National Industry Award)	
	Certified to ISO9001: 2000 PED 97/23/EC - European Union, AD 2000 MERKBLATT - Germany, CE 0038, Type Tested by Det Norske Veritas, others.
Since 1965. 400% Growth since we went Global. Over a MILLION fluid components installations in over 30 countries.	
	Completely AIR-CONDITIONED, Dust Free factory environment with CNC machining capability.

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Design & Features

- 1) ASTEC[®] Double Ferrule Tube Fittings consists of 4 precision machined components for a Reliable LEAK PROOF joint.
- 2) Back Ferrules provide a excellent Mechanical and Anti vibration hold on the Tube (available in SS 316 / 316L).
- 3) The Front Ferrule provides a Pressure Seal between the Tube and the Body.
- 4) The Nut is Silver plated to ensure No Galling on Body threads.
- 5) Design to compensate variation in Tubing materials, hardness and wall thickness.
- 6) ASTEC[®] Tube Fittings are Gaugeable for sufficient pull-up and allows repeated remakeability.
- 7) Available for inches and millimeter Tubes with the choice of Pipe threads, i.e NPT, BSP / BSPT, SAE/MS.

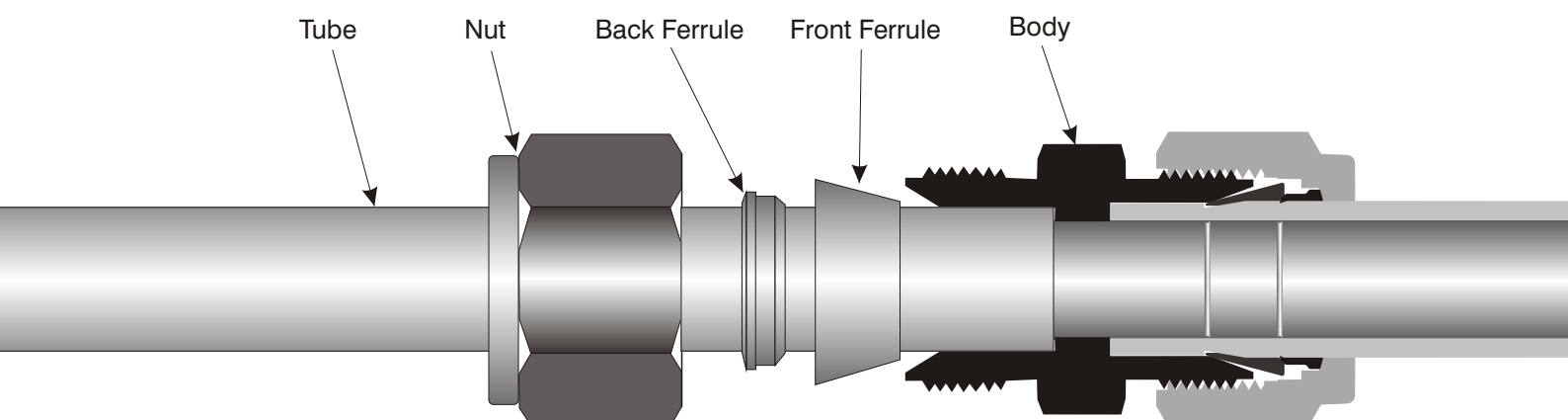
Function

To provide a reliable, leak-proof connection in instrumentation and process tubing systems ASTEC[®] Tube Fitting are available assembled and ready to use with variety of Tubing Materials. All you need is the right selection of tubing and a simple vice and standard spanners to assemble these joints. Just insert the tube and tighten the nut as per assembly instructions provided (1.1/4 turn from finger-tight) and the joint is ready for low to high pressures applications.

The front ferrule, as it is urged forward against the tapered area of the body is forced inward gripping and subsequently sealing the leading edge tightly onto tubing. Simultaneously the back ferrule, dove tailed directly behind the front ferrule, swages beneath its trailing edge affording the desired "coining" action and mechanical connection of tubing and fitting. It is this interaction of ferrules that allows Astec tubelok to achieve its excellent sealing capabilities under a wide variety of application variables.

Interchangeability

ASTEC[®] Tube Fittings are designed manufactured and Quality controlled to be totally "interchangeable" with leading International brands. The exceptional quality standards of our products assures complete reliability of service whenever intermixed with these brands.



Material Standard / Designator

ASTEC® Tube Fittings are available as standard in Stainless Steel 316 / 316L, Brass and Monel. Straight Fittings are machined from Finished bar stock and shaped bodies from forgings. Specifications for Fitting materials and tubings are listed in table as below.

Material	Bar Stock	Forgings	Designator
SS 316/316L	ASTM A 276 ASME SA 479	ASTM A182 ASME SA182	S6
Brass	ASTM B 16 ASTM B 453	ASTM B 283	B
Carbon Steel	ASTM A 108	--	CS
Alluminum	ASTM B 211	ASTM B 247	AL
Alloy 400 / R-405	ASTM B 164 ASME SB 164	ASTM B 564 ASME SB 564	M
Alloy 600	ASTM B 166 ASME SB 166	ASTM B564 ASME SB564	A6
Alloy 20	ASTM B 473	ASTM B 462	A20
Alloy C276	ASTM B 574	ASTM B 564	H
Titanium	ASTM B 348	ASTM B 381	TI
PTFE	ASTM D 1710	--	T
Nylon	ASTM D 4066	--	N
SAF 2507 TM	ASTM A 479	ASTM A 182	SAF

Ordering Information for Double Compression Tube Fittings

For Ordering ASTEC® Tube Fitting, just insert the Material Code as shown in the Table above before the basic Part Number, given in this Catalogue.

Example:

S6 - 8 - MC - 8N

Material Code
(as shown in table)

Basic Part Number

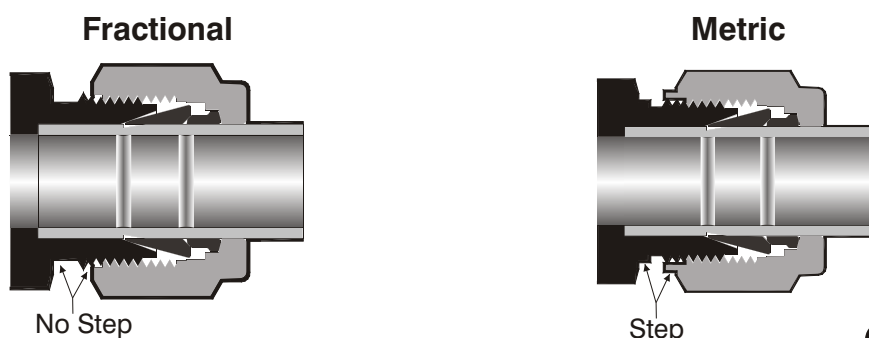
Ordering for single Compression Tube Fittings

In case you required single compression Tube Fittings kindly add 'S' to Basic Part No. As under

8 - SMC - 8N

Identification of ASTEC® Fractional & Metric Tube Fitting

ASTEC® Tubelok Metric Tube Fittings are identified by Stepped shoulder on the Body and Nut, as illustrated in the figure.



TUBE TO MALE PIPE THREAD

Male Connector-MC



Fractional Tube X NPT (M)
Metric Tube X NPT (M)
Fractional Tube X ISOT (M)
Metric Tube X ISOT (M)

Page 7,8,9

Male Connector-MC



Fractional Tube X SAE/MS
Straight (M)

Page 10

Male Connector-MC



Fractional Tube X
O Seal Straight (M)

Page 10

Male Connector-MC



Fractional Tube X
O Seal NPT (M)

Page 11

Male Connector-MC



Fractional Tube X O Seal ISOP
Metric Tube X O Seal ISOP
Page 11,12

Male Connector - RP Type-MC



Fractional Tube X ISOP (M)
Metric Tube X ISOP (M)
Page 12,13

Male Connector - RS Type-MC



Fractional Tube X ISOP (M)
Metric Tube X ISOP (M)
Page 13,14

Long Male Connector-LMC



Fractional Tube X
SAE/MS Straight (M)
Page 14

Bulk Head Male Connector-BMC



Fractional Tube X NPT (M)
Metric Tube X NPT (M)

Page 15

Bulk Head Male Connector-BMC



Fractional Tube X
SAE/MS Straight (M)

Page 15

Male Elbow-ME



Fractional Tube X NPT (M)
Metric Tube X NPT (M)
Fractional Tube X ISOT (M)
Metric Tube X ISOT (M)
Page 16,17,18

45° Male Elbow-45ME



Fractional Tube X NPT (M)

Page 18

45° Pos. Male Elbow-45ME



Fractional Tube X
SAE/MS Straight (M)
Page 19

Pos. Male Elbow-PME



Fractional Tube X ISOP (M)
Metric Tube X ISOP (M)
Page 19

Pos. Male Elbow-PME



Fractional Tube X SAE/MS ST (M)
Page 20

Male Branch Tee-MBT



Fractional Tube X NPT (M)
Metric Tube X NPT (M)
Page 20,21

Pos. Male Branch Tee-PMT



Fractional Tube X ISOP (M)
Metric tube X ISOP (M)
Page 21,22

Pos. Male Branch Tee-PMBT



Fractional Tube X
SAE/MS Straight (M)
Page 22

Male Run Tee-MRT



Fractional Tube X NPT (M)
Metric Tube X NPT (M)
Page 23

Pos. Male Run Tee-PMRT



Fractional Tube X ISOP (M)
Metric Tube X ISOP (M)
Page 24

Pos. Male Run Tee-PMRT



Fractional Tube X
SAE/MS Straight (M)
Page 24

TUBE TO FEMALE PIPE THREAD

Female Connector-FC



Fractional Tube X NPT (F)
Metric Tube X NPT (F)
Page 25

Female Connector-FC



Fractional Tube X ISOT (F)
Metric Tube X ISOT (F)
Page 26

Female Connector-FC



Fractional Tube X ISOP (F) (Gauge)
Metric Tube X ISOP (F) (Gauge)
Page 26,27

Bulk Head Female Connector-BFC



Fractional Tube X NPT (F)
Metric Tube X NPT (F)
Page 27

Female Elbow-FE



Fractional Tube X NPT (F)
Metric Tube X NPT (F)
Page 28

Female Run Tee-FRT



Fractional Tube X NPT (F)
Metric Tube X NPT (F)
Page 29

Female Branch Tee-FBT



Fractional Tube X NPT (F)
Metric Tube X NPT (F)
Page 30

TUBE TO TUBE

Union-U



Fractional Tube X Fractional Tube
Metric Tube X Metric Tube
Metric Tube X Fractional Tube
Page 31

Reducer Union-RU



Fractional Tube X Fractional Tube
Metric Tube X Metric Tube
Page 32

Bulk Head Union-BU



Fractional Tube X Fractional Tube
Metric Tube X Metric Tube
Page 33

Bulk Head Reducer Union-BRU



Fractional Tube X Fractional Tube
Page 33

Union Elbow-UE



Fractional Tube X Fractional Tube
Metric Tube X Metric Tube
Page 33,34

Reducer Union Elbow-RUE



Fractional Tube X Fractional Tube
Page 34

Union Tee-UT



Fractional Tube X Fractional Tube
Metric Tube X Metric Tube
Page 34,35

Reducer Union Tee 2- Sim To a Different Branch



Fractional Tube X Fractional Tube
Page 35

Reducer Union Tee 2- Sim To a Different Run A-RUT



Fractional Tube X Fractional Tube
Page 35

Reducer Union Tee 2- Sim To a Different Run B-RUT



Fractional Tube X Fractional Tube
Page 36

Reducer Union Tee - All 3 different sizes-C-RUT



Fractional Tube X Fractional Tube
Page 36

Union Cross-UC



Fractional Tube X Fractional Tube
Metric Tube X Metric Tube
Page 37

PORT CONNECTOR

Reducer-R



Fractional Tube X Fractional Stub
Metric Tube X Fractional Stub
Metric Tube X Metric Stub

Page 38,39

Long Reducer-LR



Fractional Tube
X Fractional Long Stub

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Bulk Head Reducer-BR



Fractional Tube X Fractional Long Stub

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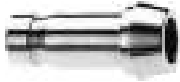
Port Connector-PC



Two Fractional Stub
Two Metric Stub

Page 40

Reducer Port Connector-RPC



Two Fractional Stub
Two Metric Stub

Page 40,41

Male Adapter-MA



Fractional Stub X ISOT (M)
Metric Stub X ISOT (M)

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Male Adapter-MA



Fractional Stub X NPT (M)
Metric Stub X NPT (M)

Page 42

Male Adapter S Type



Fractional Stub X ISOP (M) (RS)
Metric Stub X ISOP (M) (RS)

Page 43

Male Adapter-MA



Fractional Stub
X SAE/MS Straight (M)

Page 43

Male Adapter-MA



Fractional Stub
X O' Seal Straight (M)

Page 43

Male Adapter-MA



Fractional Stub X O'Seal ISOP (M)
Metric Stub X O'Seal ISOP (M)

Page 44

Male Adapter-MA



Fractional Stub X O'Seal NPT (M)

Page 44

Female Adapter-FA



Fractional Stub X NPT (F)
Metric Stub X NPT (F)

Page 45

Female Adapter-FA



Fractional Stub X ISOT (F)
Metric Stub X ISOT (F)

Page 46

Female Adapter-FA



Fractional Stub X ISOP (F)
Metric Stub X ISOP (F)

Page 46

Female Adapter-FA



Fractional Stub X ISOP (F) (Gauge)
Metric Stub X ISOP (F) (Gauge)

Page 47

Weld Adater-WA



Fractional Stub X Pipe BW

Page 47

VCO Adapter-VCOA



Fractional Stub
X O'Ring Face Seal

Page 47

VCR Gland-VCRA



Fractional Stub
X O'Metal Gasket Face Seal

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AN Adapter-ANA



Fractional Stub
X Male AN Flare Tube

Page 48

AN Adapter-AN



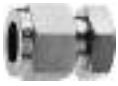
Fractional Tube X Female AN

Page 48

TUBE ENDS

TUBE TO AN FLARE 37

Cap-TC



Fractional Tube
Metric Tube
Page 49

Plug - Astec Port Ends-TP



Fractional Tube
Metric Tube
Page 49

An Union-ANU



Fractional Tube X An Flare (M)
Page 50

An Bulk Head Union-ANBU



Fractional Tube X An Flare (M)
Page 50

WELD FITTINGS

Tube Socket Weld Union-TSWU



FT X SW Tube
Page 51

Male Pipe Weld Connector-MPWC



Fractional Tube X Pipe Butt Weld
Metric Tube X Pipe Butt Weld
Page 51

Tube Socket Weld Elbow-TSWE



FT X SW Tube
Page 51

Male Pipe Weld Elbow-MPWE



Fractional Tube X Pipe BW
Page 52

SPECIAL FITTING

Sanitary Flange-SF



Fractional Tube X Flange
Page 53

Lap Joint Flange Connector-LJFC



Fractional Tube
X Flange
Page 53

Vent Protector-VP



NPT (M)
Page 53

Integral Flange Connector ANSI
Flange-IFC



Fractional Tube X Metric Tube
FT OR MT X 150#, 300#
Page 54

SPARE COMPONENTS

Front Ferrule-FF



Fractional Tube
Metric Tube
Page 54

Back Ferrule-BF



Fractional Tube
Metric Tube
Page 54

Ferrule Pack(Set Of 10)-FP



Fractional Tube
Metric Tube
Page 55

Nut-N



Fractional Tube
Metric Tube
Page 55

Knurled Nut-For Soft Tube-KN



Fractional Tube
Metric Tube
Page 56

Male Nut -For - Female
Astec Port-MN



Fractional Tube
Metric Tube
Page 56

Insert-II



Fractional Tube
Metric Tube
Page 57

BLN-Bulkhead Locknut-BLN



Fractional Tube
Page 57

SLN-Bulkhead Locknut-SLN



Fractional Tube
Page 57

RS Fitting Gasket-RSG



Fractional Tube
Metric Tube
Page 58

RP Fitting Gasket-RPG



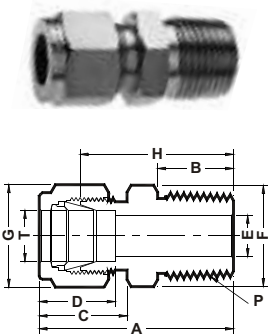
Fractional Tube
Metric Tube
Page 58

RG Fitting Gasket-RGG



Fractional Tube
Metric Tube
Page 58,59

**NPT Male Connector
For Fractional Tube**



ASTEC Part No.	Tube OD (T)	NPT Thread (P)	A	B	C	D	E	F (Hex)	G	H
1-MC-1N	1/16	1/16	0.94	0.38	0.43	0.34	0.05	7/16	7/16	0.79
1-MC-2N	1/16	1/8	1.03	0.38	0.43	0.34	0.05	7/16	7/16	0.88
1-MC-4N	1/16	1/4	1.22	0.56	0.43	0.34	0.05	9/16	7/16	1.07
2-MC-1N	1/8	1/16	1.17	0.38	0.60	0.05	0.09	7/16	7/16	0.91
2-MC-2N	1/8	1/8	1.20	0.38	0.60	0.05	0.09	7/16	7/16	0.94
2-MC-4N	1/8	1/4	1.40	0.56	0.60	0.05	0.09	9/16	7/16	1.14
2-MC-6N	1/8	3/8	1.41	0.56	0.60	0.05	0.09	11/16	7/16	1.15
2-MC-8N	1/8	1/2	1.66	0.75	0.60	0.05	0.09	7/8	7/16	1.40
3-MC-1N	3/16	1/16	1.23	0.38	0.64	0.05	0.12	7/16	7/16	0.97
3-MC-2N	3/16	1/8	1.23	0.38	0.63	0.54	0.12	9/16	7/16	0.97
3-MC-4N	3/16	1/4	1.43	0.56	0.63	0.54	0.12	9/16	9/16	1.17
4-MC-1N	1/4	1/16	1.29	0.38	0.70	0.60	0.12	9/16	9/16	1.00
4-MC-2N	1/4	1/8	1.29	0.38	0.70	0.60	0.19	9/16	9/16	1.00
4-MC-4N	1/4	1/4	1.49	0.56	0.70	0.60	0.19	9/16	9/16	1.20
4-MC-6N	1/4	3/8	1.51	0.56	0.70	0.60	0.19	11/16	9/16	1.22
4-MC-8N	1/4	1/2	1.76	0.75	0.70	0.60	0.19	7/8	9/16	1.47
4-MC-12N	1/4	3/4	1.82	0.75	0.70	0.60	0.19	1-1/16	9/16	1.53
5-MC-2N	5/16	1/8	1.34	0.38	0.73	0.64	0.19	9/16	5/8	1.05
5-MC-4N	5/16	1/4	1.52	0.56	0.73	0.64	0.25	9/16	5/8	1.23
5-MC-6N	5/16	3/8	1.54	0.56	0.73	0.64	0.25	11/16	5/8	1.50
5-MC-8N	5/16	1/2	1.79	0.75	0.73	0.60	0.25	7/8	5/8	1.25
6-MC-2N	3/8	1/8	1.39	0.38	0.76	0.66	0.19	5/8	11/16	1.10
6-MC-4N	3/8	1/4	1.57	0.56	0.76	0.66	0.28	5/8	11/16	1.28
6-MC-6N	3/8	3/8	1.57	0.56	0.76	0.66	0.28	11/16	11/16	1.28
6-MC-8N	3/8	1/2	1.82	0.75	0.76	0.66	0.28	7/8	11/16	1.53
6-MC-12N	3/8	3/4	1.88	0.75	0.76	0.66	0.28	1-1/16	11/16	1.59
8-MC-2N	1/2	1/8	1.53	0.38	0.86	0.90	0.19	7/8	7/8	1.13
8-MC-4N	1/2	1/4	1.71	0.56	0.86	0.90	0.28	7/8	7/8	1.31
8-MC-6N	1/2	3/8	1.71	0.56	0.86	0.90	0.38	7/8	7/8	1.31
8-MC-8N	1/2	1/2	1.93	0.75	0.86	0.90	0.41	7/8	7/8	1.53
8-MC-12N	1/2	3/4	1.99	0.75	0.86	0.90	0.41	1-1/16	7/8	1.59
8-MC-16N	1/2	1	2.25	0.94	0.86	0.90	0.41	1-3/8	7/8	1.85
10-MC-6N	5/8	3/8	1.74	0.56	0.86	0.96	0.38	1-1/16	1	1.34
10-MC-8N	5/8	1/2	1.93	0.75	0.86	0.96	0.47	1-1/16	1	1.53
10-MC-12N	5/8	3/4	1.99	0.75	0.86	0.96	0.50	1-1/16	1	1.59
12-MC-8N	3/4	1/2	1.99	0.75	0.86	0.96	0.47	1-1/16	1-1/8	1.59
12-MC-12N	3/4	3/4	1.99	0.75	0.86	0.96	0.62	1-1/16	1-1/8	1.59
12-MC-16N	3/4	1	2.25	0.94	0.86	0.96	0.62	1-3/8	1-1/8	1.85
14-MC-12N	7/8	3/4	1.99	0.75	0.86	1.02	0.62	1-3/16	1-1/4	1.59
14-MC-16N	7/8	1	2.25	0.94	0.86	1.02	0.72	1-3/8	1-1/4	1.85
16-MC-8N	1	1/2	2.26	0.75	1.04	1.23	0.47	1-3/8	1-1/2	1.78
16-MC-12N	1	3/4	2.26	0.75	1.04	1.23	0.62	1-3/8	1-1/2	1.78
16-MC-16N	1	1	2.45	0.94	1.04	1.23	0.88	1-3/8	1-1/2	1.97

Color Coding

For easy reference, tables heads are color indicated

Fractional

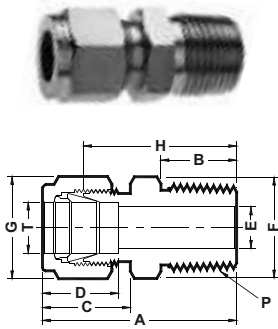
Metric

Note :- All Dimensions are for reference only and are subject to change.



NPT Male Connector

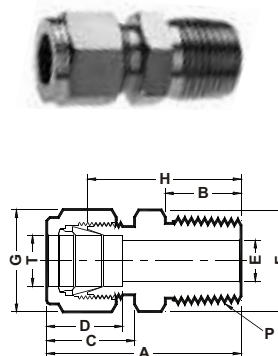
For Metric Tube



ASTEC Part No.	Tube OD (T)	NPT Thread (P)	A	B	C	D	E	F (Hex)	G	H
2M-MC-2N	2	1/8	30.5	09.7	15.3	12.9	01.7	11	11	23.9
3M-MC-2N	3	1/8	30.5	09.7	15.3	12.9	02.4	11	11	23.9
3M-MC-4N	3	1/4	35.6	14.2	15.3	12.9	02.4	14	11	29.0
4M-MC-2N	4	1/8	31.2	09.7	16.1	13.7	02.4	11	11	24.6
4M-MC-4N	4	1/4	36.3	14.2	16.1	13.7	02.4	14	11	29.7
6M-MC-2N	6	1/8	32.8	09.7	17.7	15.3	04.8	14	14	25.4
6M-MC-4N	6	1/4	37.9	14.2	17.7	15.3	04.8	14	14	30.5
6M-MC-6N	6	3/8	38.4	14.2	17.7	15.3	04.8	18	14	31.0
6M-MC-8N	6	1/2	44.7	19.0	17.7	15.3	04.8	22	14	37.3
8M-MC-2N	8	1/8	34.2	09.7	18.6	16.2	04.8	16	16	26.7
8M-MC-4N	8	1/4	38.7	14.2	18.6	16.2	06.4	16	16	31.2
8M-MC-6N	8	3/8	39.3	14.2	18.6	16.2	06.4	19	16	31.8
8M-MC-8N	8	1/2	45.6	19.0	18.6	16.2	06.4	22	16	38.1
10M-MC-2N	10	1/8	36.3	09.7	19.5	17.2	04.8	19	19	28.7
10M-MC-4N	10	1/4	40.9	14.2	19.5	17.2	07.9	19	19	33.3
10M-MC-6N	10	3/8	40.9	14.2	19.5	17.2	07.9	19	19	33.3
10M-MC-8N	10	1/2	46.5	19.0	19.5	17.2	07.9	22	19	38.9
10M-MC-12N	10	3/4	48.0	19.0	19.5	17.2	07.9	27	19	40.4
10M-MC-16N	10	1	55.0	23.8	19.5	17.2	07.9	35	19	47.5
12M-MC-2N	12	1/8	38.8	09.7	22.0	22.8	04.8	22	22	28.7
12M-MC-4N	12	1/4	43.4	14.2	22.0	22.8	07.1	22	22	33.3
12M-MC-6N	12	3/8	43.4	14.2	22.0	22.8	09.5	22	22	33.3
12M-MC-8N	12	1/2	49.0	19.0	22.0	22.8	09.5	22	22	38.9
12M-MC-12N	12	3/4	50.5	19.0	22.0	22.8	09.5	27	22	40.4
14M-MC-4N	14	1/4	44.1	14.2	22.0	24.4	07.1	25	25	34.0
14M-MC-6N	14	3/8	44.1	14.2	22.0	24.4	09.5	25	25	34.0
14M-MC-8N	14	1/2	49.0	19.0	22.0	24.4	11.1	25	25	38.9
15M-MC-8N	15	1/2	49.0	19.0	22.0	24.4	11.9	25	25	38.9
16M-MC-6N	16	3/8	44.1	14.2	22.0	24.4	09.5	25	25	34.0
16M-MC-8N	16	1/2	49.0	19.0	22.0	24.4	11.9	25	25	38.9
16M-MC-12N	16	3/4	50.5	19.0	22.0	24.4	12.7	27	25	40.4
18M-MC-8N	18	1/2	50.5	19.0	22.0	24.4	11.9	27	30	40.4
18M-MC-12N	18	3/4	50.5	19.0	22.0	24.4	15.1	27	30	40.4
20M-MC-8N	20	1/2	52.3	19.0	22.0	26.0	11.9	30	32	42.2
20M-MC-12N	20	3/4	52.3	19.0	22.0	26.0	15.9	30	32	42.2
22M-MC-12N	22	3/4	52.3	19.0	22.0	26.0	15.9	30	32	42.2
22M-MC-16N	22	1	57.1	23.9	22.0	26.0	18.3	35	32	47.0
25M-MC-8N	25	1/2	57.5	19.0	26.5	31.3	11.9	35	38	45.2
25M-MC-12N	25	3/4	57.5	19.0	26.5	31.3	15.9	35	38	45.2
25M-MC-16N	25	1	62.3	23.9	26.5	31.3	21.8	35	38	50.0

ISOT Male Connector

For Fractional Tube

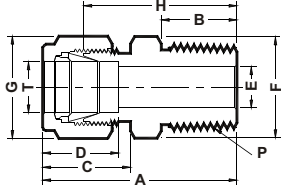


ASTEC Part No.	Tube OD (T)	ISOT Thread (P)	A	B	C	D	E	F (Hex)	G	H
2-MC-2IT	1/8	1/8	1.20	0.38	0.60	0.50	0.09	7/16	7/16	0.94
2-MC-4IT	1/8	1/4	1.40	0.56	0.60	0.50	0.09	9/16	7/16	1.14
4-MC-2IT	1/4	1/8	1.29	0.38	0.70	0.60	0.19	9/16	9/16	1.00
4-MC-4IT	1/4	1/4	1.49	0.56	0.70	0.60	0.19	9/16	9/16	1.20
4-MC-6IT	1/4	3/8	1.51	0.56	0.70	0.60	0.19	11/16	9/16	1.22
4-MC-8IT	1/4	1/2	1.76	0.75	0.70	0.60	0.19	7/8	9/16	1.47
5-MC-2IT	5/16	1/8	1.34	0.38	0.73	0.64	0.19	9/16	5/8	1.05
5-MC-4IT	5/16	1/4	1.52	0.56	0.73	0.64	0.25	9/16	5/8	1.23
6-MC-2IT	3/8	1/8	1.39	0.38	0.76	0.66	0.19	5/8	11/16	1.10
6-MC-4IT	3/8	1/4	1.57	0.56	0.76	0.66	0.28	5/8	11/16	1.28
6-MC-6IT	3/8	3/8	1.57	0.56	0.76	0.66	0.28	11/16	11/16	1.28
6-MC-8IT	3/8	1/2	1.82	0.75	0.76	0.66	0.28	7/8	11/16	1.53
8-MC-4IT	1/2	1/4	1.71	0.56	0.86	0.90	0.28	7/8	7/8	1.31
8-MC-6IT	1/2	3/8	1.71	0.56	0.86	0.90	0.38	7/8	7/8	1.31
8-MC-8IT	1/2	1/2	1.93	0.75	0.86	0.90	0.41	7/8	7/8	1.53
8-MC-12IT	1/2	3/4	1.99	0.75	0.86	0.90	0.41	1-1/16	7/8	1.59
12-MC-12IT	3/4	3/4	1.99	0.75	0.86	0.96	0.62	1-1/16	1-1/8	1.59
16-MC-16IT	1	1	2.45	0.94	1.04	1.23	0.88	1-3/8	1-1/2	1.97

Note :- All Dimensions are for reference only and are subject to change.



**ISOT Male Connector
For Metric Tube**

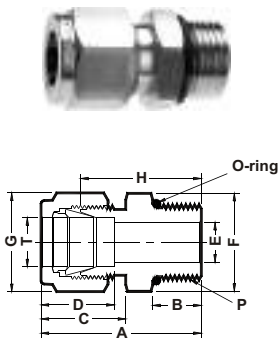


ASTEC Part No.	Tube OD (T)	ISOT Thread (P)	A	B	C	D	E	F (Hex)	G	H
2M-MC-2IT	2	1/8	30.5	09.7	15.3	12.9	01.7	11	11	23.9
3M-MC-2IT	3	1/8	30.5	09.7	15.3	12.9	02.4	11	11	23.9
3M-MC-4IT	3	1/4	35.6	14.2	15.3	12.9	02.4	14	11	29.0
4M-MC-2IT	4	1/8	31.2	09.7	16.1	13.7	02.4	11	11	24.6
4M-MC-4IT	4	1/4	36.3	14.2	16.1	13.7	02.4	14	11	29.7
6M-MC-2IT	6	1/8	32.8	09.7	17.7	15.3	04.8	14	14	25.4
6M-MC-4IT	6	1/4	37.9	14.2	17.7	15.3	04.8	14	14	30.5
6M-MC-6IT	6	3/8	38.4	14.2	17.7	15.3	04.8	18	14	31.0
6M-MC-8IT	6	1/2	44.7	19.0	17.7	15.3	04.8	22	14	37.3
8M-MC-2IT	8	1/8	34.2	09.7	18.6	16.2	04.8	14	16	26.7
8M-MC-4IT	8	1/4	38.7	14.2	18.6	16.2	06.4	14	16	31.2
8M-MC-6IT	8	3/8	39.2	14.2	18.6	16.2	06.4	18	16	31.8
8M-MC-8IT	8	1/2	45.6	19.0	18.6	16.2	06.4	22	16	38.1
10M-MC-2IT	10	1/8	36.3	09.7	19.5	17.2	04.8	18	19	28.7
10M-MC-4IT	10	1/4	40.9	14.2	19.5	17.2	07.9	18	19	33.3
10M-MC-6IT	10	3/8	40.9	14.2	19.5	17.2	07.9	18	19	33.3
10M-MC-8IT	10	1/2	46.5	19.0	19.5	17.2	07.9	22	19	38.9
12M-MC-4IT	12	1/4	43.4	14.2	22.0	22.8	07.1	22	22	33.3
12M-MC-6IT	12	3/8	43.4	14.2	22.0	22.8	09.5	22	22	33.3
12M-MC-8IT	12	1/2	49.0	19.0	22.0	22.8	09.5	22	22	38.9
12M-MC-12IT	12	3/4	50.5	19.0	22.0	22.8	09.5	27	22	40.4
15M-MC-8IT	15	1/2	49.0	19.0	22.0	24.4	11.9	25	25	38.9
16M-MC-4IT	16	1/4	44.1	14.2	22.0	24.4	07.1	25	25	34.0
16M-MC-6IT	16	3/8	44.1	14.2	22.0	24.4	09.5	25	25	34.0
16M-MC-8IT	16	1/2	49.0	19.0	22.0	24.4	11.9	25	25	38.9
16M-MC-12IT	16	3/4	50.5	19.0	22.0	24.4	11.9	27	25	40.4
18M-MC-8IT	18	1/2	50.5	19.0	22.0	24.4	11.9	27	30	40.4
18M-MC-12IT	18	3/4	50.5	19.0	22.0	24.4	15.1	27	30	40.4
20M-MC-8IT	20	1/2	52.3	19.0	22.0	26.0	11.9	30	32	42.2
20M-MC-12IT	20	3/4	52.3	19.0	22.0	26.0	15.9	30	32	42.2
22M-MC-12IT	22	3/4	52.3	19.0	22.0	26.0	15.9	30	32	42.2
22M-MC-16IT	22	1	57.1	23.9	22.0	26.0	18.3	35	32	47.0
25M-MC-12IT	25	3/4	57.5	19.0	26.5	31.3	15.9	35	38	45.2
25M-MC-16IT	25	1	62.3	23.9	26.5	31.3	21.8	35	38	50.0

Note :- All Dimensions are for reference only and are subject to change.



SAE/MS Straight Male Connector For Fractional Tube



ASTEC Part No.	Tube OD (T)	Straight Thread (P)	A	B	C	D	E	F (Hex)	G	H	ST-ORING
1-MC-5SM	1/16	5/16-24	0.92	0.30	0.43	0.50	0.09	7/16	7/16	0.92	-902
2-MC-5SM	1/8	5/16-24	1.18	0.30	0.60	0.50	0.09	7/16	7/16	0.92	-902
2-MC-7SM	1/8	7/16-20	1.24	0.36	0.60	0.50	0.09	9/16	7/16	0.98	-904
2-MC-9SM	1/8	9/16-18	1.31	0.39	0.60	0.50	0.09	11/16	7/16	1.05	-906
3-MC-6SM	3/16	3/8-24	1.20	0.30	0.64	0.50	0.09	7/16	9/16	1.05	-903
4-MC-7SM	1/4	7/16-20	1.34	0.36	0.7	0.60	0.19	9/16	9/16	1.05	-904
4-MC-9SM	1/4	9/16-18	1.40	0.39	0.7	0.60	0.19	11/16	9/16	1.11	-906
4-MC-12SM	1/4	3/4-16	1.48	0.44	0.7	0.60	0.19	7/8	9/16	1.19	-908
4-MC-14SM	1/4	7/8-14	1.60	0.50	0.7	0.60	0.19	1	9/16	1.31	-910
5-MC-8SM	5/16	1/2-20	1.37	0.36	0.73	0.64	0.25	5/8	5/8	1.08	-905
6-MC-7SM	3/8	7/16-20	1.40	0.36	0.76	0.66	0.20	5/8	11/16	1.11	-904
6-MC-9SM	3/8	9/16-20	1.46	0.39	0.76	0.66	0.28	11/16	11/16	1.17	-906
6-MC-12SM	3/8	3/4-16	1.54	0.44	0.76	0.66	0.28	7/8	11/16	1.25	-908
6-MC-14SM	3/8	7/8-14	1.66	0.50	0.76	0.66	0.28	1	11/16	1.37	-910
8-MC-9SM	1/2	9/16-18	1.54	0.39	0.86	0.90	0.28	7/8	7/8	1.14	-906
8-MC-12SM	1/2	3/4-16	1.65	0.44	0.86	0.90	0.41	7/8	7/8	1.25	-908
8-MC-14SM	1/2	7/8-14	1.77	0.50	0.86	0.90	0.41	1.00	7/8	1.37	-910
8-MC-17SM	1/2	1-1/16-12	1.93	0.59	0.86	0.90	0.41	1-1/4	7/8	1.35	-912
10-MC-12SM	5/8	3/4-16	1.65	0.44	0.86	0.96	0.42	1	1	1.25	-908
10-MC-14SM	5/8	7/8-14	1.78	0.50	0.86	0.96	0.50	1.00	1.00	1.38	-910
12-MC-14SM	3/4	7/8-14	1.68	0.50	0.87	0.96	0.50	1-1/8	1-1/8	1.41	-910
12-MC-12SM	3/4	3/4-16	1.81	0.44	0.86	0.96	0.42	1-1/16	1-1/8	1.41	-908
12-MC-17SM	3/4	1-1/16-12	1.93	0.59	0.86	0.96	0.62	1-1/4	1-1/8	1.53	-910
14-MC-19SM	7/8	1-3/16-12	1.93	0.59	0.86	1.02	0.72	1-3/8	1-1/2	1.62	-914
16-MC-17SM	1	1-1/16-12	2.10	0.59	1.04	1.23	0.66	1-3/8	1-1/2	1.62	-912
16-MC-21SM	1	1-5/16-12	2.14	0.59	1.04	1.23	0.88	1-1/2	1-1/2	1.66	-916

O Seal Straight Male Connector For Fractional Tube

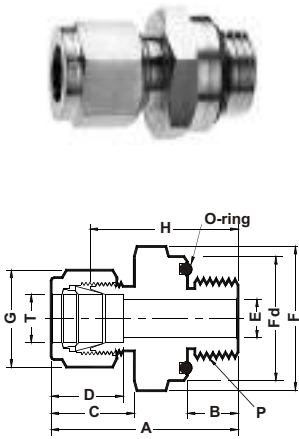


ASTEC Part No.	Tube OD (T)	Straight Thread (P)	A	B	C	D	E	F (Hex)	Fd	G	H	ST-ORING
1-MC-5OSU	1/16	5/16-24	1.05	0.34	0.43	0.34	0.05	9/16	0.55	5/16	0.9	-11
2-MC-5OSU	1/8	5/16-24	1.29	0.34	0.60	0.50	0.09	9/16	0.55	7/16	1.03	-11
3-MC-6OSU	3/16	3/8-24	1.35	0.38	0.63	0.54	0.12	5/8	0.62	1/2	1.09	-12
4-MC-7OSU	1/4	7/16-20	1.51	0.41	0.70	0.60	0.9	3/4	0.74	9/16	1.22	-13
5-MC-8OSU	5/16	1/2-20	1.60	0.44	0.73	0.64	0.25	7/8	0.86	5/8	1.31	-112
6-MC-9OSU	3/8	9/16-18	1.67	0.47	0.76	0.66	0.28	1	0.93	11/16	1.38	-113
8-MC-12OSU	1/2	3/4-16	1.81	0.47	0.86	0.90	0.41	1-1/8	1.12	7/8	1.41	-116
10-MC-14OSU	5/8	7/8-14	1.90	0.47	0.87	0.96	0.41	1-3/8	1.3	1.00	1.5	-212
12-MC-17OSU	3/4	1-1/16-12	2.06	0.56	0.86	0.96	0.62	1-1/2	1.49	1-1/8	1.66	-121
16-MC-21OSU	1	1-5/16-12	2.29	0.56	1.04	1.23	0.88	1-3/4	1.74	1-1/2	1.81	-125

Note :- All Dimensions are for reference only and are subject to change.

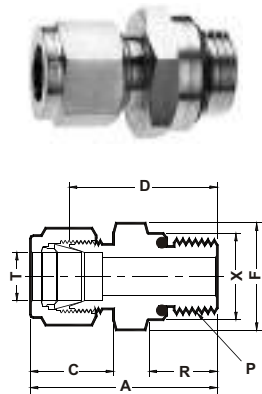


**O Seal NPT
Male Connector
For Fractional Tube**



ASTEC Part No.	Tube OD (T)	NPT Thread (P)	A	B	C	D	E	F (Hex)	Fd	G	H	ST-ORING
1-MC-2OSN	1/16	1/8	1.12	0.28	0.43	0.50	0.09	3/4	0.74	7/16	0.97	-11
2-MC-2OSN	1/8	1/8	1.29	0.28	0.60	0.50	0.09	3/4	0.74	7/16	1.03	-11
2-MC-4OSN	1/8	1/4	1.43	0.38	0.60	0.60	0.19	1	0.93	7/16	1.17	-113
3-MC-2OSN	3/16	1/8	1.32	0.28	0.64	0.50	0.19	3/4	0.74	1/2	1.06	-11
3-MC-4OSN	3/16	1/4	1.46	0.38	0.64	0.60	0.19	1	0.93	1/2	1.20	-113
4-MC-2OSN	1/4	1/8	1.38	0.28	0.70	0.60	0.19	3/4	0.74	9/16	1.09	-11
4-MC-4OSN	1/4	1/4	1.51	0.38	0.70	0.60	0.19	1	0.93	9/16	1.22	-113
4-MC-6OSN	1/4	3/8	1.57	0.41	0.70	0.66	0.28	3/4	1.12	9/16	1.28	-116
5-MC-2OSN	5/16	1/8	1.43	0.28	0.73	0.66	0.19	3/4	0.74	5/8	1.13	-11
5-MC-4OSN	5/16	1/4	1.46	0.38	0.73	0.66	0.28	1	0.93	5/8	1.25	-113
6-MC-2OSN	3/8	1/8	1.45	0.28	0.76	0.66	0.19	3/4	0.74	11/16	1.16	-11
6-MC-4OSN	3/8	1/4	1.57	0.38	0.76	0.66	0.28	1	0.93	11/16	1.28	-113
6-MC-6OSN	3/8	3/8	1.63	0.41	0.76	0.66	0.28	1-1/8	1.12	11/16	1.34	-116
6-MC-8OSN	3/8	1/2	1.85	0.53	0.76	0.66	0.28	1-5/16	1.3	11/16	1.56	-212
8-MC-4OSN	1/2	1/4	1.68	0.38	0.87	0.70	0.28	1	0.93	7/8	1.28	-113
8-MC-6OSN	1/2	3/8	1.76	0.41	0.87	0.70	0.28	1-1/8	1.12	7/8	1.36	-116
8-MC-8OSN	1/2	1/2	1.96	0.53	0.86	0.90	0.41	1-15/16	1.3	7/8	1.58	-212
10-MC-8OSN	5/8	1/2	1.96	0.53	0.87	0.90	0.28	1-3/8	1.3	1	1.56	-212
10-MC-12OSN	5/8	3/4	2.06	0.56	0.87	0.90	0.32	1-1/2	1.49	1	1.58	-215
12-MC-8OSN	3/4	1/2	1.98	0.56	0.87	0.90	0.28	1-3/8	1.3	1-1/8	1.66	-212
12-MC-12OSN	3/4	3/4	2.06	0.56	0.87	0.90	0.65	1-1/2	1.49	1-1/8	1.66	-215
16-MC-12OSN	1	3/4	2.24	0.56	1.05	1.75	0.65	1-3/4	1.49	1-1/2	1.75	-215
16-MC-16OSN	1	1	2.4	0.66	1.05	1.91	0.70	1-7/8	1.74	1-1/2	1.91	-219

**O Seal ISOP
Male Connector
For Fractional Tube**

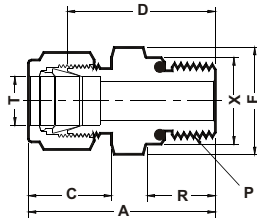


ASTEC Part No.	Tube OD (T)	ISOP Thread (P)	A	C	D	F (Hex)	R	X
4-MC-4OSIP	1/4	1/4	1.48	0.70	1.19	3/4	0.47	0.74
4-MC-8OSIP	1/4	1/2	1.76	0.70	1.38	1-1/16	0.55	1.04
6-MC-6OSIP	3/8	3/8	1.60	0.76	1.31	7/8	0.47	0.86
8-MC-4OSIP	1/2	1/4	1.69	0.86	1.31	7/8	0.47	0.74
8-MC-6OSIP	1/2	3/8	1.69	0.86	1.31	7/8	0.47	0.86
8-MC-8OSIP	1/2	1/2	1.85	0.86	1.47	1-1/16	0.55	1.04
12-MC-12OSIP	3/4	3/4	1.98	0.86	1.59	1-3/8	0.63	1.25

Note :- All Dimensions are for reference only and are subject to change.

O Seal ISOP Male Connector

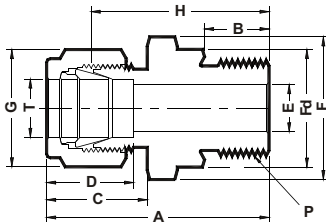
For Metric Tube



ASTECC Part No.	Tube OD (T)	ISOP Thread (P)	A	C	D	F (Hex)	R	X
6M-MC-2OSIP	6	1/8	32.5	17.7	25.0	14	7.9	13.7
6M-MC-4OSIP	6	1/4	38.2	17.7	30.7	19	11.9	18.8
6M-MC-6OSIP	6	3/8	39.5	17.7	32.0	22	11.9	21.8
6M-MC-8OSIP	6	1/2	44.5	17.7	37.0	27	14.0	26.4
10M-MC-4OSIP	10	1/4	40.0	19.5	32.3	19	11.9	18.8
10M-MC-6OSIP	10	3/8	41.1	19.5	38.1	22	11.9	21.8
10M-MC-8OSIP	10	1/2	46.0	19.5	38.4	27	14.0	26.4
12M-MC-4OSIP	12	1/4	43.1	22.0	33.0	22	11.9	18.8
12M-MC-6OSIP	12	3/8	43.6	22.0	33.5	22	11.9	21.8
12M-MC-8OSIP	12	1/2	48.5	22.0	38.4	27	14.0	26.4

ISOP - RP Type Male Connector

For Fractional Tube

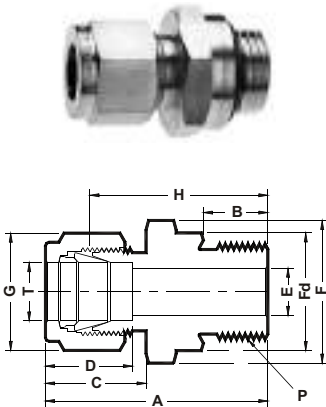


ASTECC Part No.	Tube OD (T)	ISOP Thread (P)	A	B	C	D	E	F (Hex)	Fd	G	H
2-MC-2IPP	1/8	1/8	1.18	0.28	0.60	0.50	0.09	9/16	0.54	7/16	0.92
2-MC-4IPP	1/8	1/4	1.39	0.44	0.60	0.50	0.09	3/4	0.71	7/16	1.13
4-MC-2IPP	1/4	1/8	1.27	0.28	0.70	0.60	0.19	9/16	0.54	9/16	0.98
4-MC-4IPP	1/4	1/4	1.48	0.44	0.70	0.60	0.19	3/4	0.71	9/16	1.19
8-MC-8IPP	1/2	1/2	1.93	0.56	0.86	0.90	0.41	1-1/16	1.02	7/8	1.53

RP parallel threads ends are commonly used with a flat gasket to seal. See page no.62,63 For additional information.

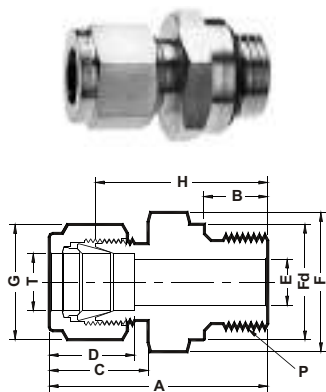
Note :- All Dimensions are for reference only and are subject to change.

**ISOP - RP Type
Male Connector
For Metric Tube**



ASTEC Part No.	Tube OD (T)	ISOP Thread (P)	A	B	C	D	E	F (Hex)	Fd	G	H
3M-MC-2IPP	3	1/8	30.0	7.1	15.3	12.9	2.4	14	13.8	11	23.4
3M-MC-4IPP	3	1/4	35.3	11.2	15.3	12.9	2.4	19	18.0	11	28.7
4M-MC-2IPP	4	1/8	30.7	7.1	16.1	13.7	2.4	14	13.8	11	24.1
6M-MC-2IPP	6	1/8	32.3	7.1	17.7	15.3	4.0	14	13.8	14	24.9
6M-MC-4IPP	6	1/4	37.6	11.2	17.7	15.3	4.8	19	18.0	14	30.2
6M-MC-6IPP	6	3/8	38.9	11.2	17.7	15.3	4.8	22	21.8	14	31.5
6M-MC-8IPP	6	1/2	44.7	14.2	17.7	15.3	4.8	27	26.0	14	37.3
8M-MC-2IPP	8	1/8	33.2	7.1	18.6	16.2	4.0	16	13.8	16	25.7
8M-MC-4IPP	8	1/4	38.5	11.2	18.6	16.2	6.4	19	18.0	16	31
8M-MC-6IPP	8	3/8	39.8	11.2	18.6	16.2	6.4	22	21.8	16	32.3
8M-MC-8IPP	8	1/2	45.6	14.2	18.6	16.2	6.4	27	26.0	16	38.1
10M-MC-4IPP	10	1/4	39.4	11.2	19.5	17.2	5.9	19	18.0	19	31.8
10M-MC-6IPP	10	3/8	40.6	11.2	19.5	17.2	7.9	22	21.8	19	33
10M-MC-8IPP	10	1/2	46.5	14.2	19.5	17.2	7.9	27	26.0	19	38.9
12M-MC-4IPP	12	1/4	42.6	11.2	22.0	22.8	5.9	22	18.0	22	32.50
12M-MC-6IPP	12	3/8	43.1	11.2	22.0	22.8	7.9	22	21.8	22	33
12M-MC-8IPP	12	1/2	49.0	14.2	22.0	22.8	9.5	27	26.0	22	38.9
12M-MC-12IPP	12	3/4	52.8	15.7	22.0	22.8	9.5	35	32.0	22	42.7
15M-MC-8IPP	15	1/2	49.0	14.2	22.0	24.4	11.9	27	32.0	25	38.9
16M-MC-6IPP	16	3/8	43.9	11.2	22.0	24.4	7.9	25	21.8	25	33.8
16M-MC-8IPP	16	1/2	49.0	14.2	22.0	24.4	11.9	27	26.0	25	38.9
18M-MC-8IPP	18	1/2	49.0	14.2	22.0	24.4	11.9	27	26.0	30	38.9
18M-MC-12IPP	18	3/4	52.8	15.7	22.0	24.4	15.1	35	32.0	30	42.7
20M-MC-8IPP	20	1/2	50.5	14.2	22.0	26.0	11.9	30	32.0	32	40
20M-MC-12IPP	20	3/4	52.8	15.7	22.0	26.0	15.9	35	32.0	32	42.7
22M-MC-12IPP	22	3/4	52.8	15.7	22.0	26.0	15.9	35	32.0	32	42.7
22M-MC-16IPP	22	1	55.3	18.3	22.0	26.0	18.3	41	39.0	32	45.2
25M-MC-12IPP	25	3/4	57.5	15.7	26.5	31.3	15.9	35	32.0	38	45.2
25M-MC-16IPP	25	1	60.1	18.3	26.5	31.3	19.8	41	39.0	38	47.8

**ISOP - RS Type
Male Connector
For Fractional Tube**



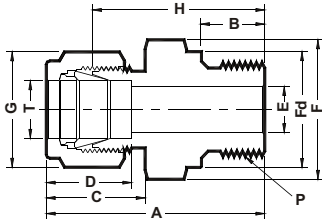
ASTEC Part No.	Tube OD (T)	ISOP Thread (P)	A	B	C	D	E	F (Hex)	Fd	G	H
2-MC-2IPS	1/8	1/8	1.18	0.28	0.60	0.50	0.09	9/16	0.54	7/16	0.92
2-MC-4IPS	1/8	1/4	1.39	0.44	0.60	0.50	0.09	3/4	0.71	7/16	1.13
2-MC-6IPS	1/8	3/8	1.43	0.44	0.60	0.50	0.09	7/8	0.86	7/16	1.17
4-MC-2IPS	1/4	1/8	1.27	0.28	0.70	0.60	0.16	9/16	0.54	9/16	0.98
4-MC-4IPS	1/4	1/4	1.48	0.44	0.70	0.60	0.19	1-3/16	0.79	9/16	1.28
4-MC-6IPS	1/4	3/8	1.53	0.44	0.70	0.60	0.19	7/8	0.86	9/16	1.24
4-MC-8IPS	1/4	1/2	1.76	0.56	0.70	0.60	0.19	1-1/16	1.02	9/16	1.47
6-MC-4IPS	3/8	1/4	1.54	0.44	0.76	0.66	0.23	3/4	0.71	11/16	1.25
6-MC-6IPS	3/8	3/8	1.59	0.44	0.76	0.66	0.28	7/8	0.86	11/16	1.3
6-MC-8IPS	3/8	1/2	1.82	0.56	0.70	0.66	0.28	1-1/16	1.02	11/16	1.53
8-MC-4IPS	1/2	1/4	1.68	0.44	0.86	0.90	0.23	7/8	0.71	7/8	1.28
8-MC-6IPS	1/2	3/8	1.70	0.44	0.86	0.90	0.31	7/8	0.86	7/8	1.3
8-MC-8IPS	1/2	1/2	1.93	0.56	0.86	0.90	0.41	1-1/16	1.02	7/8	1.53
12-MC-8IPS	3/4	1/2	1.93	0.56	0.86	0.96	0.47	1-1/16	1.02	1-1/8	1.53
12-MC-12IPS	3/4	3/4	2.08	0.62	0.86	0.96	0.62	1-3/8	1.26	1-1/8	1.68
16-MC-8IPS	1	1/2	2.20	0.56	1.04	1.23	0.47	1-3/8	1.02	1-1/2	1.72
16-MC-16IPS	1	1	2.36	0.72	1.04	1.23	0.78	1-5/8	1.54	1-1/2	1.88

RS parallel threads ends are commonly used with a gasket having a bonded Elastomer Seal. RP type Gasket may also be used. See page. 62,63 for additional information.

Note :- All Dimensions are for reference only and are subject to change.

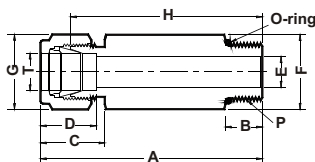


ISOP - RS Type Male Connector For Metric Tube



ASTEC Part No.	Tube OD (T)	ISOP Thread (P)	A	B	C	D	E	F (Hex)	Fd	G	H
2M-MC-2IPS	2	1/8	30.0	7.1	15.3	12.9	1.7	14	13.8	11	23.4
3M-MC-2IPS	3	1/8	30.0	7.1	15.3	12.9	2.4	14	13.8	11	23.4
3M-MC-4IPS	3	1/4	35.3	11.2	15.3	12.9	2.4	19	18	11	28.7
4M-MC-2IPS	4	1/8	30.7	7.1	16.1	13.7	2.4	14	13.8	11	24.1
6M-MC-2IPS	6	1/8	32.3	7.1	17.7	15.3	4.0	14	13.8	14	24.9
6M-MC-4IPS	6	1/4	37.6	11.2	17.7	15.3	4.8	19	18	14	30.2
6M-MC-6IPS	6	3/8	38.9	11.2	17.7	15.3	4.8	22	21.8	14	31.5
6M-MC-8IPS	6	1/2	44.7	14.2	17.7	15.3	4.8	27	26	14	37.3
8M-MC-2IPS	8	1/8	33.2	7.1	18.6	16.2	4.0	16	13.8	16	25.7
8M-MC-4IPS	8	1/4	38.5	11.2	18.6	16.2	6.4	19	18	16	31
8M-MC-6IPS	8	3/8	39.8	11.2	18.6	16.2	6.4	22	21.8	16	32.3
8M-MC-8IPS	8	3/8	45.6	14.2	18.6	16.2	6.4	27	26.0	16	38.1
10M-MC-4IPS	10	1/4	39.4	11.2	19.5	17.2	5.9	19	18	19	31.8
10M-MC-6IPS	10	3/8	40.6	11.2	19.5	17.2	7.9	22	21.8	19	33
10M-MC-8IPS	10	1/2	46.5	14.2	19.5	17.2	7.9	27	26.0	19	38.9
12M-MC-4IPS	12	1/4	42.6	11.2	22.0	22.8	5.9	22	18.0	22	32.5
12M-MC-6IPS	12	3/8	43.1	11.2	22.0	22.8	7.9	22	21.8	22	33
12M-MC-8IPS	12	1/2	49.0	14.2	22.0	22.8	9.5	27	26.0	22	38.9
12M-MC-12IPS	12	3/4	52.8	15.7	22.0	22.8	9.5	35	32.0	22	42.7
16M-MC-6IPS	16	3/8	43.9	11.2	22.0	24.4	7.9	25	21.8	25	33.8
16M-MC-8IPS	16	1/2	49.0	14.2	22.0	24.4	11.9	27	26.0	25	38.9
18M-MC-8IPS	18	1/2	49.0	14.2	22.0	24.4	11.9	27	26.0	30	38.9
18M-MC-12IPS	18	3/4	52.8	15.7	22.0	24.4	15.1	35	32.0	30	42.7
20M-MC-8IPS	20	1/2	50.5	14.2	22.0	26.0	11.9	30	26.0	30	40.4
20M-MC-12IPS	20	3/4	52.8	15.7	22.0	26.0	15.9	35	32.0	32	42.7
22M-MC-12IPS	22	3/4	52.8	15.7	22.0	26.0	15.9	35	32.0	32	42.7
22M-MC-16IPS	22	1	55.3	18.3	22.0	26.0	18.3	41	39.0	38	47.8
25M-MC-12IPS	25	3/4	57.5	15.7	26.5	31.3	15.9	35	32.0	38	45.2
25M-MC-16IPS	25	1	60.1	18.3	26.5	31.3	19.8	41	39.0	38	47.8

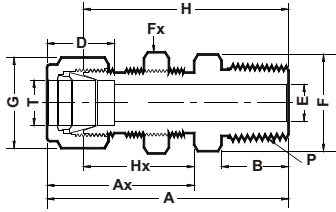
SAE/MS Straight Long Male Connector For Fractional Tube



ASTEC Part No.	Tube OD (T)	Straight Thread (P)	A	B	C	D	E	F (Hex)	G	H
4-LMC-7SM	1/4	7/16-20	2.26	0.36	0.70	0.60	0.19	9/16	9/16	1.97
5-LMC-8SM	5/16	1/2-20	2.32	0.36	0.73	0.64	0.25	5/8	5/8	2.03
6-LMC-9SM	3/8	9/16-18	2.48	0.39	0.76	0.66	0.28	7/16	7/16	2.19
8-LMC-12SM	1/2	3/4-16	3.01	0.44	0.86	0.90	0.41	7/8	7/8	2.58
10-LMC-14SM	5/8	7/8-14	3.34	0.50	0.86	0.96	0.50	1	1	2.94
12-LMC-17SM	3/4	1-1/16-12	3.88	0.59	0.86	0.96	0.62	1-1/4	1-1/8	3.48
14-LMC-19SM	7/8	1-3/16-12	4.07	0.59	0.86	1.02	0.72	1-3/8	1-1/4	3.67
16-LMC-21SM	1	1-5/16-12	4.34	0.59	1.04	1.23	0.88	1-1/2	1-1/2	3.86

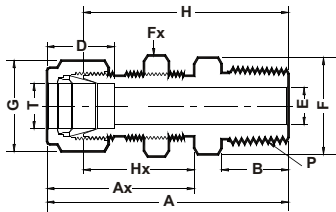
Note :- All Dimensions are for reference only and are subject to change.

NPT Bulk Head Male Connector
For Fractional Tube



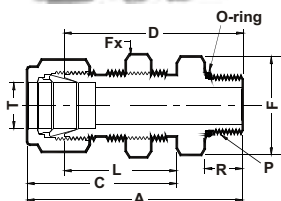
ASTEC Part No.	Tube OD (T)	NPT Thread (P)	A	Ax	B	D	E	F (Hex)	Fx	G	H	Hx
1-BMC-1N	1/16	1/16	1.19	0.68	0.38	0.34	0.09	7/16	7/16	7/16	1.11	0.53
1-BMC-2N	1/16	1/8	1.27	0.68	0.38	0.34	0.09	7/16	7/16	7/16	1.57	0.97
2-BMC-2N	1/8	1/8	1.83	1.23	0.38	0.50	0.09	7/16	7/16	7/16	1.57	0.97
3-BMC-2N	3/16	1/8	1.89	1.26	0.38	0.54	0.19	9/16	9/16	7/16	1.66	1.00
4-BMC-2N	1/4	1/8	1.95	1.32	0.38	0.60	0.19	5/8	5/8	9/16	1.66	1.03
4-BMC-4N	1/4	1/4	2.13	1.32	0.56	0.60	0.19	5/8	5/8	9/16	1.84	1.03
4-BMC-6N	1/4	3/8	2.16	1.31	0.56	0.60	0.19	11/16	11/16	9/16	2.08	1.02
4-BMC-8N	1/4	1/2	2.37	1.31	0.75	0.60	0.19	7/8	7/8	9/16	1.77	1.02
5-BMC-2N	5/16	1/8	2.08	1.42	0.38	0.64	0.19	11/16	11/16	5/8	1.96	1.12
5-BMC-4N	5/16	1/4	2.27	1.42	0.56	0.64	0.25	11/16	11/16	5/8	1.78	1.12
6-BMC-2N	3/8	1/8	2.08	1.44	0.38	0.66	0.19	3/4	3/4	11/16	1.97	1.50
6-BMC-4N	3/8	1/4	2.26	1.15	0.56	0.66	0.28	3/4	3/4	11/16	1.97	1.16
6-BMC-6N	3/8	3/8	2.26	1.45	0.56	0.66	0.28	3/4	3/4	11/16	1.97	1.16
6-BMC-8N	3/8	1/2	2.51	1.45	0.75	0.66	0.28	7/8	7/8	11/16	2.22	1.16
8-BMC-4N	1/2	1/4	2.49	1.65	0.56	0.90	0.28	7/8	7/8	7/8	2.09	1.25
8-BMC-6N	1/2	3/8	2.49	1.65	0.56	0.90	0.38	7/8	7/8	7/8	2.09	1.25
8-BMC-8N	1/2	1/2	2.71	1.65	0.75	0.90	0.41	7/8	7/8	7/8	2.31	1.25
8-BMC-12N	1/2	3/4	2.72	1.65	0.75	0.90	0.41	1-1/8	1-1/8	7/8	2.22	1.25
10-BMC-6N	5/8	3/8	2.62	1.68	0.56	0.96	0.38	1-1/16	1-1/16	1	2.41	1.28
10-BMC-8N	5/8	1/2	2.81	1.68	0.75	0.96	0.47	1-1/16	1-1/16	1	2.6	1.28
12-BMC-8N	3/4	1/2	3	1.87	0.75	0.96	0.47	1-3/16	1-3/16	1-1/8	2.6	1.47
12-BMC-12N	3/4	3/4	3	1.87	0.75	0.96	0.62	1-3/16	1-3/16	1-1/8	2.60	1.47
14-BMC-12N	7/8	3/4	3.31	2.09	0.75	1.02	0.62	1-3/8	1-3/8	1-1/4	3	1.69
16-BMC-12N	1	3/4	3.54	2.27	0.75	1.23	0.62	1-5/8	1-5/8	1-1/2	3.19	1.78
16-BMC-16N	1	1	3.67	2.26	0.94	1.23	0.88	1-5/8	1-5/8	1-1/2	3.19	1.78

NPT Bulk Head Male Connector
For Metric Tube



ASTEC Part No.	Tube OD (T)	NPT Thread (P)	A	Ax	B	D	E	F (Hex)	Fx	G	H	Hx
6M-BMC-2N	6	1/8	49.6	33.7	9.50	15.30	4.80	14	14	14	46.2	26.2
6M-BMC-4N	6	1/4	53.6	33.6	14.2	15.30	4.80	16	16	14	44.8	28.5
8M-BMC-2N	8	1/8	52.3	36	14.3	16.20	4.80	16	16	16	50	28.5
8M-BMC-4N	8	1/4	57.5	36	14.3	16.20	6.40	16	16	16	50.80	29.4
10M-BMC-4N	10	1/4	58.4	37	14.3	17.20	7.90	19	19	19	50.80	29.4
10M-BMC-6N	10	3/8	58.4	37	14.3	17.20	7.90	19	19	19	50.80	29.4
10M-BMC-8N	10	1/2	63.1	37	19	17.20	7.90	22	22	19	53.2	31.8
12M-BMC-4N	12	1/4	63.3	41.9	14.3	22.80	7.10	25	25	22	54.4	31.8
12M-BMC-6N	12	3/8	64.5	41.9	14.3	22.80	9.50	25	25	22	57.4	31.8
12M-BMC-8N	12	1/2	68.8	41.9	19	22.80	9.50	25	25	22	57.4	31.8

SAE/MS Straight Bulk Head Male Connector
For Fractional Tube

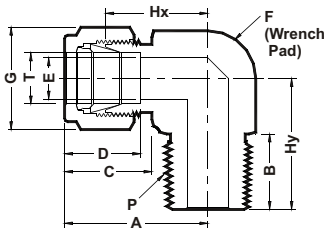


ASTEC Part No.	Tube OD (T)	Straight Thread (P)	A	C	D	F (Hex)	FX	L	R	H
4-BMC-9SM	1/4	9/16-18	1.74	1.17	1.45	3/4	3/4	0.88	0.39	53.2
6-BMC-9SM	3/8	9/16-18	1.81	1.24	1.52	3/4	3/4	0.94	0.39	54.4

Note :- All Dimensions are for reference only and are subject to change.



NPT Male Elbow For Fractional Tube

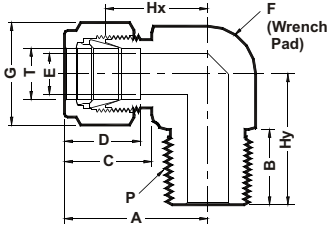


ASTECC Part No.	Tube OD (T)	NPT Thread (P)	A	B	C	D	E	F	G (Hex)	HX	HY
1-ME-1N	1/16	1/16	0.75	0.38	0.43	0.34	0.05	7/16	7/16	0.60	0.70
1-ME-2N	1/16	1/8	0.75	0.38	0.43	0.34	0.05	7/16	7/16	0.60	0.70
2-ME-1N	1/8	1/16	0.93	0.38	0.60	0.50	0.09	7/16	7/16	0.67	0.70
2-ME-2N	1/8	1/8	0.93	0.38	0.60	0.50	0.09	7/16	7/16	0.67	0.70
2-ME-4N	1/8	1/4	0.97	0.56	0.60	0.50	0.09	9/16	7/16	0.71	0.92
3-ME-2N	3/16	1/8	1.00	0.38	0.63	0.54	0.12	9/16	7/16	0.74	0.74
3-ME-4N	3/16	1/4	1.00	0.56	0.63	0.54	0.12	9/16	7/16	0.74	0.92
4-ME-1N	1/4	1/16	1.06	0.38	0.70	0.60	0.12	9/16	9/16	0.77	0.74
4-ME-2N	1/4	1/8	1.06	0.38	0.70	0.60	0.19	9/16	9/16	0.77	0.74
4-ME-4N	1/4	1/4	1.06	0.56	0.70	0.60	0.19	9/16	9/16	0.77	0.92
4-ME-6N	1/4	3/8	1.17	0.56	0.70	0.60	0.19	13/16	9/16	0.88	1.03
4-ME-8N	1/4	1/2	1.25	0.75	0.70	0.60	0.19	13/16	9/16	0.96	1.30
5-ME-2N	5/16	1/8	1.13	0.38	0.73	0.64	0.19	9/16	5/8	0.84	0.78
5-ME-4N	5/16	1/4	1.13	0.56	0.73	0.64	0.25	9/16	5/8	0.84	0.96
5-ME-6N	5/16	3/8	1.20	0.56	0.73	0.64	0.25	13/16	5/8	0.91	1.03
6-ME-2N	3/8	1/8	1.20	0.38	0.76	0.66	0.19	13/16	11/16	0.91	0.82
6-ME-4N	3/8	1/4	1.20	0.56	0.76	0.66	0.28	13/16	11/16	0.91	1.00
6-ME-6N	3/8	3/8	1.23	0.56	0.76	0.66	0.28	13/16	11/16	0.94	1.03
6-ME-8N	3/8	1/2	1.31	0.75	0.76	0.66	0.28	7/8	11/16	1.02	1.30
6-ME-12N	3/8	3/4	1.46	0.75	0.76	0.66	0.28	1-1/16	11/16	1.17	1.45
8-ME-4N	1/2	1/4	1.42	0.56	0.86	0.90	0.28	7/8	7/8	1.02	1.11
8-ME-6N	1/2	3/8	1.42	0.56	0.86	0.90	0.38	7/8	7/8	1.02	1.11
8-ME-8N	1/2	1/2	1.42	0.75	0.86	0.90	0.41	7/8	7/8	1.02	1.30
8-ME-12N	1/2	3/4	1.57	0.75	0.86	0.90	0.41	1-1/16	7/8	1.17	1.45
10-ME-6N	5/8	3/8	1.50	0.56	0.86	0.96	0.38	1-1/16	1	1.10	1.19
10-ME-8N	5/8	1/2	1.50	0.75	0.86	0.96	0.47	1-1/16	1	1.10	1.19
10-ME-12N	5/8	3/4	1.57	0.75	0.86	0.96	0.50	1-1/16	1	1.17	1.45
12-ME-8N	3/4	1/2	1.57	0.75	0.86	0.96	0.47	1-1/16	1-1/8	1.17	1.45
12-ME-12N	3/4	3/4	1.57	0.75	0.86	0.96	0.62	1-1/16	1-1/8	1.17	1.45
14-ME-12N	7/8	3/4	1.76	0.75	0.86	1.02	0.62	1-1/4	1-1/4	1.36	1.64
16-ME-12N	1	3/4	1.93	0.75	1.04	1.23	0.62	1-3/8	1-1/2	1.45	1.64
16-ME-16N	1	1	1.93	0.75	1.04	1.23	0.62	1-3/8	1-1/2	1.45	1.83

Note :- All Dimensions are for reference only and are subject to change.

NPT Male Elbow

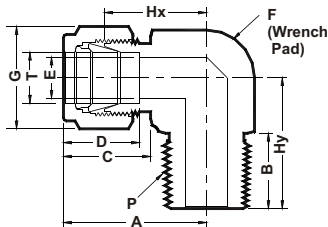
For Metric Tube



ASTECC Part No.	Tube OD (T)	NPT Thread (P)	A	B	C	D	E	F	G Hex	HX	HY
3M-ME-2N	3	1/8	23.6	9.7	15.3	12.9	2.4	7/16	11	17.0	17.8
3M-ME-4N	3	1/4	24.6	14.2	15.3	12.9	2.4	9/16	11	18.0	23.4
4M-ME-2N	4	1/8	25.4	9.7	16.1	13.7	2.4	9/16	11	18.8	18.8
4M-ME-4N	4	1/4	25.4	14.2	16.1	13.7	2.4	9/16	11	18.8	23.4
6M-ME-2N	6	1/8	27.0	9.7	17.7	15.3	4.8	9/16	14	19.6	18.8
6M-ME-4N	6	1/4	27.0	14.2	17.7	15.3	4.8	9/16	14	19.6	23.4
6M-ME-6N	6	3/8	29.8	14.2	17.7	15.3	4.8	5/8	14	22.4	26.2
6M-ME-8N	6	1/2	31.8	19.0	17.7	15.3	4.8	7/8	14	24.4	33.0
8M-ME-2N	8	1/8	28.8	9.7	18.6	16.2	4.8	9/16	16	21.3	19.8
8M-ME-4N	8	1/4	28.8	14.2	18.6	16.2	6.4	9/16	16	21.3	24.4
8M-ME-6N	8	3/8	30.6	14.2	18.6	16.2	6.4	13/16	16	23.1	26.2
8M-ME-8N	8	1/2	32.6	19.0	18.6	16.2	6.4	7/8	16	25.1	33.0
10M-ME-2N	10	1/8	31.5	9.7	19.5	17.2	4.8	13/16	19	23.9	21.6
10M-ME-4N	10	1/4	31.5	14.2	19.5	17.2	7.1	13/16	19	23.9	26.2
10M-ME-6N	10	3/8	31.5	14.2	19.5	17.2	7.9	13/16	19	23.9	26.2
10M-ME-8N	10	1/2	33.5	19.0	19.5	17.2	7.9	7/8	19	25.9	33.0
12M-ME-4N	12	1/4	36.0	14.2	22.0	22.8	7.1	13/16	22	25.9	28.2
12M-ME-6N	12	3/8	36.0	14.2	22.0	22.8	9.5	13/16	22	25.9	28.2
12M-ME-8N	12	1/2	36.0	19.0	22.0	22.8	9.5	7/8	22	25.9	33.0
12M-ME-12N	12	3/4	39.8	19.0	22.0	22.8	9.5	1-1/16	22	29.7	36.8
15M-ME-8N	15	1/2	38.0	19.0	22.0	24.4	11.9	1-1/16	25	27.9	35.1
16M-ME-6N	16	3/8	38.0	14.2	22.0	24.4	9.5	1-1/16	25	27.9	30.2
16M-ME-8N	16	1/2	38.0	19.0	22.0	24.4	11.9	1-1/16	25	27.9	35.1
16M-ME-12N	16	3/4	39.8	19.0	22.0	24.4	15.1	1-1/16	25	29.7	36.8
18M-ME-8N	18	1/2	39.8	19.0	22.0	24.4	11.9	1-1/16	30	29.7	36.8
18M-ME-12N	18	3/4	39.8	19.0	22.0	24.4	15.1	1-1/16	30	29.7	36.8
20M-ME-8N	20	1/2	44.6	19.0	22.0	26	11.9	1-3/8	32	34.5	41.7
20M-ME-12N	20	3/4	44.6	19.0	22.0	26	15.9	1-3/8	32	34.5	41.7
22M-ME-12N	22	3/4	44.6	19.0	22.0	26	15.9	1-3/8	32	34.5	41.7
22M-ME-16N	22	1	44.6	23.9	22.0	26	18.3	1-3/8	32	34.5	46.5
25M-ME-12N	25	3/4	49.1	19.0	26.5	31.3	15.9	1-3/8	38	36.8	41.7
25M-ME-16N	25	1	49.1	23.9	26.5	31.3	21.8	1-3/8	38	36.8	46.5

ISOT Male Elbow

For Fractional Tube

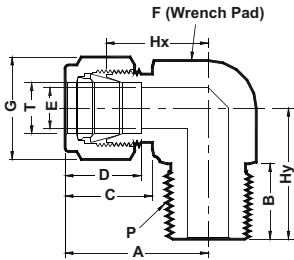


ASTECC Part No.	Tube OD (T)	ISOT Thread (P)	A	B	C	D	E	F	G Hex	HX	HY
4-ME-2IT	1/4	1/8	1.06	0.38	0.70	0.60	0.19	9/16	9/16	0.77	0.74
4-ME-4IT	1/4	1/4	1.06	0.56	0.70	0.60	0.19	9/16	9/16	0.77	0.92
4-ME-6IT	1/4	3/8	1.17	0.56	0.70	0.60	0.19	11/16	9/16	0.88	1.03
4-ME-8IT	1/4	1/2	1.25	0.75	0.70	0.60	0.19	13/16	9/16	0.96	1.30
5-ME-4IT	5/16	1/4	1.13	0.56	0.73	0.64	0.25	9/16	5/8	0.84	0.96
6-ME-4IT	3/8	1/4	1.20	0.56	0.76	0.66	0.28	13/16	11/16	0.91	1.00
6-ME-6IT	3/8	3/8	1.23	0.56	0.76	0.66	0.28	13/16	11/16	0.94	1.03

Note :- All Dimensions are for reference only and are subject to change.

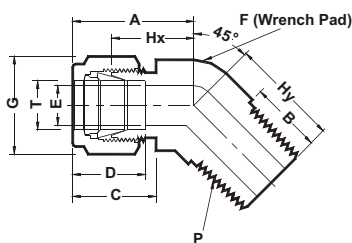


**ISOT Male Elbow
For Metric Tube**



ASTECC Part No.	Tube OD (T)	ISOT Thread (P)	A	B	C	D	E	F	G (Hex)	HX	HY
3M-ME-2IT	3	1/8	23.6	9.7	15.3	12.9	2.4	1/2	11	17.0	17.8
3M-ME-4IT	3	1/4	24.6	14.2	15.3	12.9	2.4	1/2	11	18.0	23.4
4M-ME-2IT	4	1/8	25.4	9.7	16.1	13.7	2.4	1/2	11	18.8	18.8
4M-ME-4IT	4	1/4	25.4	14.2	16.1	13.7	2.4	1/2	11	18.8	23.4
6M-ME-2IT	6	1/8	27.0	9.7	17.7	15.3	4.8	9/16	14	19.6	18.8
6M-ME-4IT	6	1/4	27.0	14.2	17.7	15.3	4.8	9/16	14	19.6	23.4
6M-ME-6IT	6	3/8	29.8	14.2	17.7	15.3	4.8	11/16	14	22.4	26.2
6M-ME-8IT	6	1/2	31.8	19.0	17.7	15.3	4.8	7/8	14	24.4	33.0
8M-ME-2IT	8	1/8	28.8	9.7	18.6	16.2	6.4	9/16	16	21.3	19.8
8M-ME-4IT	8	1/4	28.8	14.2	18.6	16.2	6.4	9/16	16	21.3	24.4
8M-ME-6IT	8	3/8	30.6	14.2	18.6	16.2	6.4	13/16	16	23.1	26.2
8M-ME-8IT	8	1/2	32.6	19.0	18.6	16.2	6.4	7/8	16	25.1	33.0
10M-ME-2IT	10	1/8	31.5	14.2	19.5	17.2	7.1	13/16	19	23.9	21.6
10M-ME-4IT	10	1/4	31.5	14.2	19.5	17.2	7.1	13/16	19	23.9	26.2
10M-ME-6IT	10	3/8	31.5	14.2	19.5	17.2	7.9	13/16	19	23.9	26.2
10M-ME-8IT	10	1/2	33.5	19.0	19.5	17.2	7.9	7/8	19	25.9	33.0
12M-ME-2IT	12	3/4	36.0	9.7	22.0	22.8	4.8	1-1/16	22	25.9	23.6
12M-ME-4IT	12	1/4	36.0	14.2	22.0	22.8	7.1	13/16	22	25.9	28.2
12M-ME-6IT	12	3/8	36.0	14.2	22.0	22.8	9.5	13/16	22	25.9	28.2
12M-ME-8IT	12	1/2	36.0	19.0	22.0	22.8	9.5	1-1/16	22	25.9	33.0
12M-ME-12IT	12	3/4	39.8	19.0	22.0	22.8	9.5	1-1/16	22	29.7	36.8
16M-ME-6IT	16	3/8	38.0	14.2	22.0	24.4	9.5	1-1/16	25	27.9	30.0
16M-ME-8IT	16	1/2	38.0	19.0	22.0	24.4	11.90	1-1/16	25	29.7	36.8
18M-ME-8IT	18	1/2	39.8	19.0	22.0	24.4	11.9	1-1/16	30	29.7	36.8
18M-ME-12IT	18	3/4	39.8	19.0	22.0	24.4	15.1	1-3/8	30	29.7	36.8
20M-ME-8IT	20	1/2	44.6	19.0	22.0	26.0	11.9	1-3/8	32	34.5	41.7
20M-ME-12IT	20	3/4	44.6	19.0	22.0	26.0	15.9	1-3/8	32	34.5	41.7
22M-ME-12IT	22	3/4	44.6	19.0	22.0	26.0	15.9	1-3/8	32	34.5	41.7
22M-ME-16IT	22	1	44.6	23.9	22.0	26.0	18.3	1-3/8	32	34.5	46.5
25M-ME-12IT	25	3/4	49.1	19.0	26.5	31.3	15.9	1-3/8	38	36.8	41.7
25M-ME-16IT	25	1	49.1	23.9	26.5	31.3	21.8	1-3/8	38	36.8	46.5

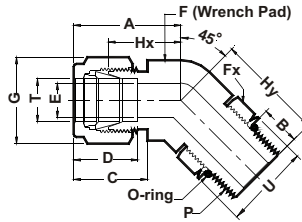
**NPT 45° Male Elbow
For Fractional Tube**



ASTECC Part No.	Tube OD (T)	NPT Thread (P)	A	B	C	D	E	F	G (Hex)	HX	HY
1-45ME-1N	1/16	1/16	0.97	0.38	0.43	0.50	0.19	7/16	7/16	0.46	0.56
2-45ME-2N	1/8	1/8	0.97	0.38	0.60	0.60	0.19	7/16	7/16	0.59	0.66
3-45ME-2N	3/16	1/8	0.97	0.38	0.66	0.60	0.19	7/16	7/16	0.56	0.58
4-45ME-2N	1/4	1/8	0.97	0.38	0.70	0.60	0.19	9/16	9/16	0.68	0.65
4-45ME-4N	1/4	1/4	0.97	0.56	0.70	0.60	0.19	9/16	9/16	0.68	0.83
5-45ME-2N	5/16	1/8	0.97	0.38	0.70	0.66	0.19	9/16	5/8	0.66	0.66
6-45ME-2N	3/8	1/8	1.10	0.38	0.76	0.66	0.19	13/16	11/16	0.81	0.72
6-45ME-4N	3/8	1/4	1.10	0.56	0.76	0.66	0.28	13/16	11/16	0.81	0.90
6-45ME-6N	3/8	3/8	1.15	0.56	0.76	0.66	0.28	13/16	11/16	0.86	0.95
8-45ME-6N	1/2	3/8	1.26	0.56	0.86	0.90	0.38	13/16	7/8	0.86	0.95
8-45ME-8N	1/2	1/2	1.26	0.75	0.86	0.90	0.41	7/8	7/8	0.86	1.14
10-45ME-8N	5/8	1/2	1.34	0.75	0.80	0.90	0.41	1	1	0.81	1.17
12-45ME-12N	3/4	3/4	1.34	0.75	0.86	0.96	0.62	1-1/8	1-1/8	0.94	1.22
14-45ME-12N	7/8	3/4	1.59	0.75	0.90	0.96	0.62	1-5/16	1-1/4	1.36	1.27
16-45ME-16N	1	1	1.59	0.94	1.04	1.23	0.88	1-3/8	1-1/2	1.11	1.49

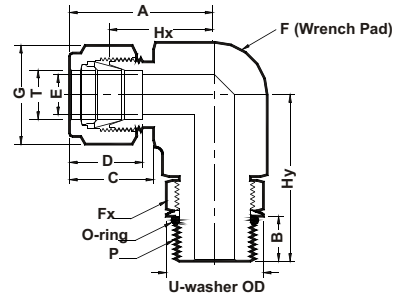
Note :- All Dimensions are for reference only and are subject to change.

**SAE/MS Straight
45° Pos. Male Elbow**
For Fractional Tube



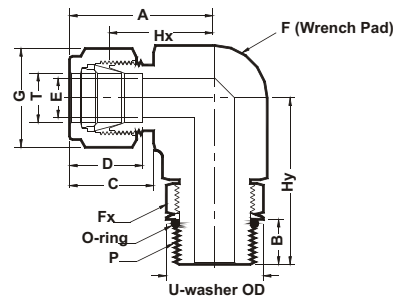
ASTEC Part No.	Tube OD(T)	Straight Thread (P)	A	B	C	D	E	F	FX	G (Hex)	HX	HY	ST-ORING	U
4-45PME-7SM	1/4	7/16-20	1.01	0.39	0.70	0.6	0.19	9/16	9/16	9/16	0.72	1.01	-904	0.65
6-45PME-9SM	3/8	9/16-18	1.10	0.44	0.76	0.66	0.28	13/16	11/16	11/16	0.81	1.11	-906	0.79
8-45PME-12SM	1/2	3/4-16	1.26	0.50	0.86	0.9	0.41	13/16	7/8	7/8	0.86	1.27	-908	1.01
12-45PME-17SM	3/4	1-1/16-12	1.57	0.66	0.86	0.96	0.62	1-1/8	1-1/4	1-1/8	1.17	1.86	-912	1.44
16-45PME-21SM	1	1-5/16-12	1.87	0.66	1.04	1.23	0.88	1-3/8	1-1/2	1-1/2	1.39	1.99	-916	1.73

ISOP Pos. Male Elbow
For Fractional Tube



ASTEC Part No.	Tube OD (T)	ISOP Thread	A	B	C	D	E	F	FX	G (Hex)	HX	HY	ST-ORING	U
4-PME-2IP	1/4	1/8	1.06	0.32	0.70	0.60	0.16	9/16	9/16	9/16	0.77	1.04	-502	0.68
4-PME-4IP	1/4	1/4	1.14	0.36	0.70	0.60	0.16	13/16	3/4	9/16	0.85	1.27	-111	0.90
6-PME-4IP	3/8	1/4	1.20	0.36	0.76	0.66	0.23	13/16	3/4	11/16	0.91	1.27	-111	0.90
6-PME-6IP	3/8	3/8	1.31	0.37	0.76	0.66	0.28	13/16	7/8	11/16	1.02	1.46	-113	1.04
8-PME-4IP	1/2	1/4	1.42	0.36	0.86	0.90	0.23	13/16	3/4	7/8	1.02	1.38	-111	0.90
8-PME-6IP	1/2	3/8	1.42	0.37	0.86	0.90	0.31	13/16	7/8	7/8	1.02	1.46	-113	1.04
8-PME-8IP	1/2	1/2	1.50	0.51	0.86	0.90	0.41	15/16	1-1/16	7/8	1.10	1.71	-508	1.26
10-PME-8IP	5/8	1/2	1.50	0.51	0.86	0.96	0.47	1	1-1/16	1	1.10	1.71	-508	1.26
12-PME-8IP	3/4	1/2	1.57	0.51	0.86	0.96	0.47	1-1/16	1-1/16	1-1/8	1.17	1.78	-508	1.26
12-PME-12IP	3/4	3/4	1.57	0.51	0.86	0.96	0.62	1-1/8	1-3/8	1-1/8	1.17	1.92	-119	1.62
16-PME-12IP	1	3/4	1.93	0.51	1.04	1.23	0.62	1-3/8	1-3/8	1-1/2	1.45	2.10	-119	1.62
16-PME-16IP	1	1	1.93	0.55	1.04	1.23	0.78	1-3/8	1-5/8	1-1/2	1.45	2.11	-217	1.91

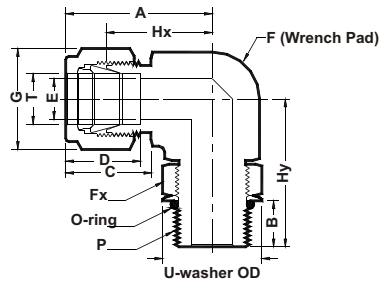
ISOP Pos. Male Elbow
For Metric Tube



ASTEC Part No.	Tube OD (T)	ISOP Thread	A	B	C	D	E	F	FX	G (Hex)	HX	HY	ST-ORING	U
6M-PME-2IP	6	1/8	27.0	8.1	17.7	15.3	4.0	9/16	9/16	14	19.6	26.4	-502	17.3
6M-PME-4IP	6	1/4	29.0	9.1	17.7	15.3	4.8	5/8	3/4	14	21.6	32.3	-111	22.9
8M-PME-2IP	8	1/8	28.8	8.1	18.6	16.2	4.0	9/16	9/16	16	21.3	27.4	-502	17.3
8M-PME-4IP	8	1/4	29.9	9.1	18.6	16.2	5.9	5/8	3/4	16	22.4	32.2	-111	22.9
10M-PME-4IP	10	1/4	33.5	9.1	19.5	17.2	5.9	15/16	3/4	19	25.9	35.0	-111	22.9
10M-PME-6IP	10	3/8	33.50	9.4	19.5	17.2	7.9	15/16	7/8	19	25.9	37.1	-113	26.4
12M-PME-4IP	12	1/4	36.00	9.1	22.0	22.8	5.9	13/16	3/4	22	25.9	35.0	-111	22.9
12M-PME-6IP	12	3/8	36.00	9.4	22.0	22.8	7.9	13/16	7/8	22	25.9	37.1	-113	26.4
12M-PME-8IP	12	1/2	38.00	13.0	22.0	22.8	9.5	15/16	1-1/16	22	27.9	43.4	-508	32.0
12M-PME-12IP	12	3/4	39.80	13.0	22.0	22.8	9.5	1-1/16	1-3/8	22	29.7	48.8	-119	41.1

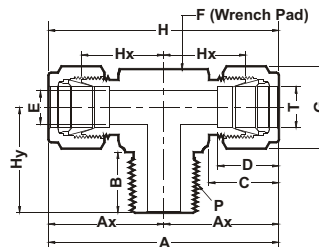
Note :- All Dimensions are for reference only and are subject to change.

**SAE/MS Straight
Pos. Male Elbow
For Fractional Tube**



ASTEC Part No.	Tube OD (T)	Straight Thrad (P)	A	B	C	D	E	F	FX	G (Hex)	HX	HY	ST-ORING	U
4-PME-7SM	1/4	7/16-20	1.12	0.39	0.70	0.60	0.19	9/16	9/16	9/16	0.83	1.12	-904	0.65
4-PME-9SM	1/4	9/16-18	1.20	0.44	0.70	0.60	0.19	5/8	11/16	9/16	0.91	1.27	-906	0.79
5-PME-8SM	5/16	1/2-20	1.19	0.39	0.73	0.64	0.23	9/16	5/8	5/8	0.90	1.16	-905	0.72
6-PME-9SM	3/8	9/16-18	1.26	0.44	0.76	0.66	0.28	13/16	11/16	11/16	0.97	1.27	-906	0.79
6-PME-12SM	3/8	3/4-16	1.37	0.50	0.76	0.66	0.28	13/16	7/8	11/16	1.08	1.49	-908	1.01
8-PME-12SM	1/2	3/4-16	1.48	0.50	0.86	0.90	0.41	13/16	7/8	7/8	1.08	1.49	-908	1.01
10-PME-14SM	5/8	7/8-14	1.56	0.56	0.86	0.96	0.50	15/16	1	1	1.16	1.71	-910	1.16
12-PME-17SM	3/4	1-1/16-12	1.63	0.66	0.86	0.96	0.62	1-1/16	1-1/4	1-1/8	1.23	1.92	-912	1.44
14-PME-3SM	7/8	3/16-12	1.70	0.66	0.86	1.02	0.72	1-3/16	1-3/8	1-1/4	1.30	1.99	-914	1.59
16-PME-21SM	1	1-5/16-12	1.99	0.66	1.04	1.23	0.88	1-3/8	1-1/2	1-1/2	1.51	2.11	-916	1.73

**NPT Male Branch Tee
For Fractional Tube**

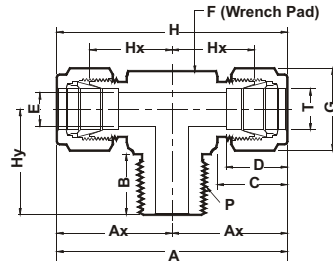


ASTEC Part No.	Tube OD (T)	NPT Thread (P)	A	AX	B	C	D	E	F	G (Hex)	H	HX	HY
2-MBT-2N	1/8	1/8	1.86	0.93	0.38	0.60	0.50	0.09	9/16	7/16	1.34	0.67	0.70
2-MBT-4N	1/8	1/4	1.94	0.97	0.56	0.60	0.50	0.09	9/16	7/16	1.42	0.71	0.92
3-MBT-2N	3/16	1/8	1.92	0.96	0.38	0.63	0.54	0.12	9/16	7/16	1.40	0.70	0.70
4-MBT-2N	1/4	1/8	2.12	1.06	0.38	0.70	0.60	0.19	9/16	9/16	1.54	0.77	0.74
4-MBT-4N	1/4	1/4	2.12	1.06	0.56	0.70	0.60	0.19	9/16	9/16	1.54	0.77	0.92
5-MBT-2N	5/16	1/8	2.34	1.17	0.38	0.73	0.64	0.19	9/16	5/8	1.76	0.88	0.82
5-MBT-4N	5/16	1/4	2.34	1.17	0.56	0.73	0.64	0.19	9/16	5/8	1.76	0.88	1.01
6-MBT-4N	3/8	1/4	2.40	1.20	0.56	0.86	0.66	0.28	13/16	11/16	1.82	0.91	1.00
6-MBT-6N	3/8	3/8	2.62	1.31	0.56	0.76	0.66	0.28	13/16	11/16	2.04	1.02	1.11
8-MBT-6N	1/2	3/8	2.84	1.42	0.56	0.86	0.90	0.38	13/16	7/8	2.04	1.02	1.11
8-MBT-8N	1/2	1/2	2.84	1.42	0.75	0.86	0.90	0.41	13/16	7/8	2.04	1.02	1.30
10-MBT-8N	5/8	1/2	3.06	1.53	0.75	0.86	0.96	0.47	1	1	2.26	1.13	1.41
12-MBT-12N	3/4	3/4	3.14	1.57	0.75	0.86	0.96	0.62	1-1/16	1-1/8	2.34	1.17	1.45
14-MBT-12N	7/8	3/4	3.52	1.76	0.75	0.86	1.02	0.62	1-3/8	1-1/4	2.72	1.36	1.50
16-MBT-12N	1	3/4	3.88	1.94	0.75	1.04	1.23	0.62	1-3/8	1-1/2	2.90	1.45	1.66
16-MBT-16N	1	1	3.88	1.94	0.94	1.04	1.23	0.88	1-3/8	1-1/2	2.90	1.45	1.84

Note :- All Dimensions are for reference only and are subject to change.

NPT Male Branch Tee

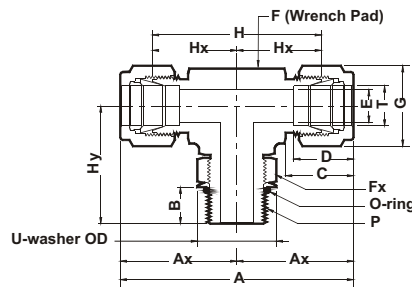
For Metric Tube



ASTECC Part No.	Tube OD (T)	NPT Thread (P)	A	AX	B	C	D	E	F	G (Hex)	H	HX	HY
6M-MBT-2N	6	1/8	53.9	27.0	9.7	17.7	15.3	4.8	9/16	14	39.10	19.6	18.8
6M-MBT-4N	6	1/4	53.9	27.0	14.2	17.7	15.3	4.8	9/16	14	39.10	19.6	23.4
8M-MBT-2N	8	1/8	59.7	29.9	9.7	18.6	16.2	4.8	5/8	16	44.70	22.4	20.8
8M-MBT-4N	8	1/4	59.7	29.9	14.2	18.6	16.2	6.4	5/8	16	44.70	22.4	25.4
10M-MBT-4N	10	1/4	67.0	33.5	14.2	19.5	17.2	7.1	15/16	19	51.80	25.9	28.2
10M-MBT-6N	10	3/8	67.0	33.5	14.2	19.5	17.2	9.5	15/16	19	51.80	25.9	28.2
12M-MBT-4N	12	1/4	72.0	36.0	14.2	22.0	22.8	7.1	13/16	22	51.80	25.9	28.2
12M-MBT-6N	12	3/8	72.0	36.0	14.2	22.0	22.8	9.5	13/16	22	51.80	25.9	28.2
12M-MBT-8N	12	1/2	72.0	36.0	19.0	22.0	22.8	9.5	7/8	22	51.80	25.9	33.0
16M-MBT-8N	16	1/2	77.6	38.8	19.0	22.0	24.4	11.9	1	25	57.40	28.7	35.8

ISOP Pos. Male Branch Tee

For Fractional Tube

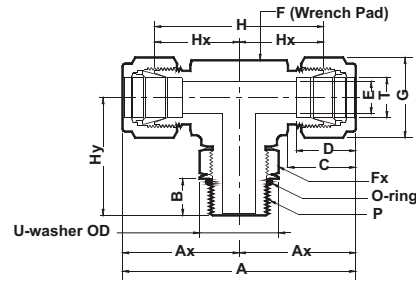


ASTECC Part No.	Tube OD(T)	ISOP Thread (P)	A	AX	B	C	D	E	F	FX	G (Hex)	H	HX	HY	ST-ORING	U
4-PMBT-2IP	1/4	1/8	2.12	1.06	0.32	0.70	0.60	0.16	9/16	9/16	9/16	1.54	0.77	1.04	-502	0.68
4-PMBT-4IP	1/4	1/4	2.28	1.14	0.36	0.70	0.60	0.19	5/8	3/4	9/16	1.70	0.85	1.27	-111	0.90
6-PMBT-4IP	3/8	1/4	2.40	1.20	0.36	0.76	0.60	0.2	5/8	3/4	11/16	1.82	0.91	1.27	-111	0.90
8-PMBT-6IP	1/2	3/8	2.84	1.42	0.37	0.86	0.90	0.31	13/16	7/8	7/8	2.04	1.02	1.46	-113	1.04
8-PMBT-8IP	1/2	1/2	3.00	1.50	0.51	0.86	0.90	0.41	15/16	1-1/16	7/8	2.20	1.10	1.71	-508	1.26
10-PMBT-8IP	5/8	1/2	3.00	1.50	0.51	0.86	0.96	0.47	15/16	1-1/16	1	2.20	1.10	1.71	-508	1.26
12-PMBT-12IP	3/4	3/4	3.14	1.57	0.51	0.86	0.96	0.62	1-1/16	1-3/8	1-1/8	2.34	1.17	1.92	-119	1.62
12-PMBT-8IP	3/4	1/2	3.14	1.57	0.51	0.86	0.96	0.47	1-1/16	1-1/16	1-1/8	2.34	1.17	1.78	-508	1.26
16-PMBT-16IP	1	1	3.86	1.93	0.55	1.04	1.23	0.78	1-3/8	1-5/8	1-1/2	2.90	1.45	2.11	-217	1.91

Note :- All Dimensions are for reference only and are subject to change.

ISOP Pos. Male Branch Tee

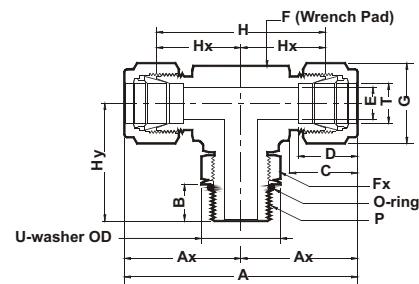
For Metric Tube



ASTECC Part No.	Tube OD (T)	ISOP Thread (P)	A	AX	B	C	D	E	F	FX	G (Hex)	H	HX	HY	ST-ORING	U
6M-PMBT-2IP	6	1/8	53.9	27.0	8.1	17.7	15.3	4.0	9/16	9/16	14	39.10	19.6	26.4	-502	17.3
6M-PMBT-4IP	6	1/4	58.0	29.0	9.1	17.7	15.3	4.8	5/8	3/4	14	43.20	21.6	32.2	-111	22.9
8M-PMBT-2IP	8	1/8	57.7	28.8	8.1	18.6	16.2	4.0	9/16	9/16	16	42.70	21.3	27.4	-502	17.3
8M-PMBT-4IP	8	1/4	59.7	29.9	9.1	18.6	16.2	5.9	5/8	3/4	16	44.70	22.4	32.2	-111	22.9
10M-PMBT-4IP	10	1/4	67.0	33.5	9.1	19.5	17.2	5.9	13/16	3/4	19	51.80	25.9	35.0	-111	22.9
12M-PMBT-6IP	12	3/8	72.0	36.0	9.4	22.0	22.8	7.9	13/16	7/8	22	51.80	25.9	37.1	-113	26.4
12M-PMBT-8IP	12	1/2	76.10	38.0	13.0	22.0	22.8	9.5	15/16	1-1/16	22	55.90	27.9	43.4	-508	32.0

SAE/MS Straight Pos. Male Branch Tee

For Fractional Tube

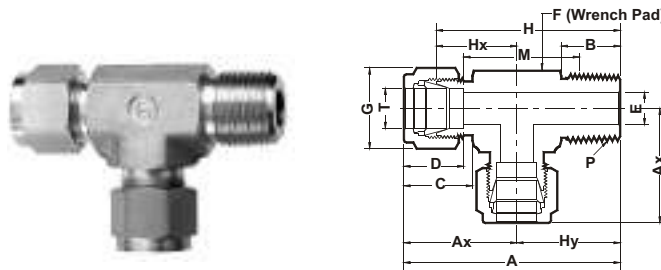


ASTECC Part No.	Tube OD (T)	Straight Thread (P)	A	AX	B	C	D	E	F	FX	G (Hex)	H	HX	HY	ST-ORING	U
4-PMBT-7SM	1/4	7/16-20	2.24	1.12	0.39	0.70	0.60	0.19	9/16	9/16	9/16	1.66	0.83	1.12	-904	0.65
6-PMBT-9SM	3/8	9/16-18	2.52	1.26	0.44	0.76	0.66	0.28	5/8	11/16	11/16	1.94	0.97	1.27	-906	0.79
8-PMBT-12SM	1/2	3/4-16	2.96	1.48	0.50	0.86	0.90	0.41	13/16	7/8	7/8	2.16	1.08	1.49	-908	1.01
12-PMBT-17SM	3/4	1-1/16-12	3.26	1.63	0.66	0.86	0.96	0.62	1-1/16	1-1/4	1-1/8	2.46	1.23	1.92	-912	1.44
16-PMBT-21SM	1	1-5/16-12	3.98	1.99	0.66	1.04	1.23	0.88	1-3/8	1-1/2	1-1/2	3.02	1.51	2.11	-916	1.73

Note :- All Dimensions are for reference only and are subject to change.

NPT Male Run Tee

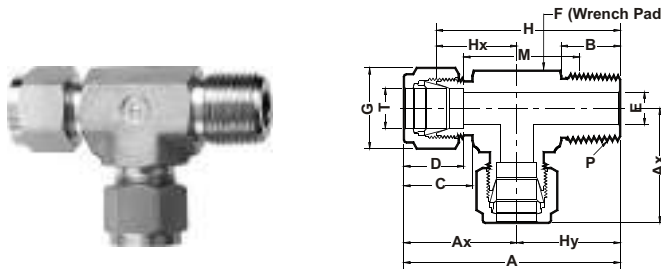
For Fractional Tube



ASTECC Part No.	Tube OD (T)	NPT Thread (P)	A	AX	B	C	D	E	F	G (Hex)	H	HX	HY	M
2-MRT-2N	1/8	1/8	1.63	0.93	0.38	0.60	0.50	0.09	9/16	7/16	1.37	0.67	0.70	0.89
2-MRT-4N	1/8	1/4	1.89	0.97	0.56	0.60	0.50	0.09	9/16	7/16	1.63	0.71	0.92	1.05
3-MRT-2N	3/16	1/8	1.66	0.96	0.38	0.63	0.54	0.12	9/16	7/16	1.40	0.70	0.70	0.88
4-MRT-2N	1/4	1/8	1.80	1.06	0.38	0.70	0.60	0.19	9/16	9/16	1.51	0.77	0.74	0.96
4-MRT-4N	1/4	1/4	1.98	1.06	0.56	0.70	0.60	0.19	9/16	9/16	1.69	0.77	0.92	1.04
5-MRT-2N	5/16	1/8	1.99	1.17	0.38	0.73	0.64	0.19	5/8	5/8	1.70	0.88	0.82	1.11
5-MRT-4N	5/16	1/4	2.18	1.17	0.56	0.73	0.64	0.25	5/8	5/8	1.76	0.88	1.01	1.28
6-MRT-4N	3/8	1/4	2.20	1.20	0.56	0.76	0.66	0.28	5/8	11/16	1.91	0.91	1.00	1.20
6-MRT-6N	3/8	3/8	2.42	1.31	0.56	0.76	0.66	0.28	13/16	11/16	2.13	1.02	1.11	1.41
8-MRT-6N	1/2	3/8	2.53	1.42	0.56	0.86	0.90	0.38	13/16	7/8	2.13	1.02	1.11	1.28
8-MRT-8N	1/2	1/2	2.72	1.42	0.75	0.86	0.90	0.41	7/8	7/8	2.32	1.02	1.30	1.36
10-MRT-8N	5/8	1/2	2.88	1.5	0.75	0.86	0.96	0.47	15/16	1	2.48	1.10	1.38	1.46
12-MRT-12N	3/4	3/4	3.02	1.57	0.75	0.86	0.96	0.62	1-1/16	1-1/8	2.62	1.17	1.45	1.46
14-MRT-12N	7/8	3/4	3.26	1.76	0.75	0.86	1.02	0.62	1-3/8	1-1/4	2.72	1.36	1.50	1.46
16-MRT-12N	1	3/4	3.60	1.94	0.75	1.04	1.23	0.62	1-3/8	1-1/2	2.90	1.45	1.66	1.46
16-MRT-16N	1	1	3.78	1.94	0.94	1.04	1.23	0.88	1-3/8	1-1/2	2.90	1.45	1.84	1.46

NPT Male Run Tee

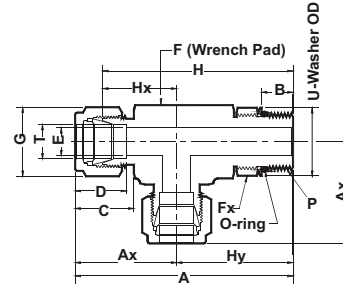
For Metric Tube



ASTECC Part No.	Tube OD (T)	NPT Thread (P)	A	AX	B	C	D	E	F	G (Hex)	H	HX	HY	M
6M-MRT-2N	6	1/8	45.8	27.0	9.7	17.7	15.3	4.8	9/16	14	38.40	19.6	18.0	24.4
6M-MRT-4N	6	1/4	50.3	27.0	14.2	17.7	15.3	4.8	9/16	14	42.90	19.6	23.4	26.4
8M-MRT-2N	8	1/8	50.7	29.9	9.7	18.6	16.2	6.40	5/8	16	47.80	22.4	20.8	30.5
8M-MRT-4N	8	1/4	55.3	29.9	14.2	18.6	16.2	6.4	5/8	16	47.80	22.4	25.4	30.5
10M-MRT-4N	10	1/4	45.8	27.0	9.7	19.5	17.2	7.10	13/16	19	47.80	19.6	18.0	32.8
10M-MRT-8N	10	1/2	66.5	33.5	19.0	19.5	17.2	7.90	15/16	19	58.90	25.9	33.0	32.8
12M-MRT-4N	12	1/4	64.2	36.0	14.2	22.0	22.8	7.1	13/16	22	54.10	25.9	28.2	32.8
12M-MRT-6N	12	3/8	64.2	36.0	14.2	22.0	22.8	7.10	13/16	22	54.10	25.9	28.2	34.5
12M-MRT-8N	12	1/2	69.0	36.0	19.0	22.0	22.8	9.5	15/16	22	58.90	25.9	33.0	34.5
16M-MRT-8N	16	1/2	73.1	38.0	19.0	22.0	24.4	11.9	1-1/8	25	63.00	27.9	35.0	37.0

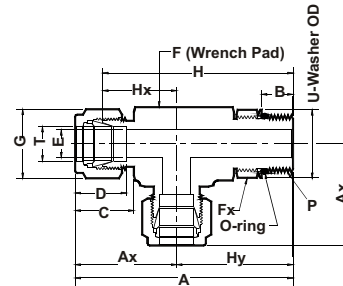
Note :- All Dimensions are for reference only and are subject to change.

**ISOP Pos.
Male Run Tee**
For Fractional Tube



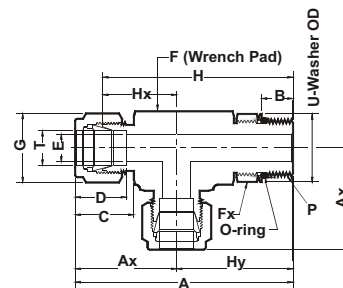
ASTEC Part No.	Tube OD (T)	ISOP Thread (P)	A	AX	B	C	D	E	F	FX	G (Hex)	H	HX	HY	ST-ORING	U
4-PMRT-2IP	1/4	1/8	2.10	1.06	0.32	0.70	0.60	0.16	9/16	9/16	9/16	1.81	0.77	1.02	-502	0.68
4-PMRT-4IP	1/4	1/4	2.41	1.14	0.36	0.70	0.60	0.19	13/16	3/4	9/16	2.12	0.85	1.27	-111	0.90
6-PMRT-4IP	3/8	1/4	2.47	1.20	0.36	0.76	0.66	0.23	13/16	3/4	11/16	2.18	0.91	1.27	-111	0.90
8-PMRT-6IP	1/2	3/8	2.88	1.42	0.37	0.86	0.90	0.31	13/16	7/8	7/8	2.48	1.02	1.46	-113	1.04
8-PMRT-8IP	1/2	1/2	3.21	1.50	0.51	0.86	0.90	0.41	15/16	1-1/16	7/8	2.81	1.10	1.71	-508	1.26
10-PMRT-8IP	5/8	1/2	3.21	1.50	0.51	0.86	0.96	0.47	15/16	1-1/16	1	2.81	1.10	1.71	-508	1.26
12-PMRT-12IP	3/4	3/4	3.49	1.57	0.51	0.86	0.96	0.62	1-1/16	1-3/8	1-1/8	3.09	1.17	1.92	-119	1.62
12-PMRT-8IP	3/4	1/2	3.35	1.57	0.51	0.86	0.96	0.47	1-1/16	1-1/16	1-1/8	2.95	1.17	1.78	-508	1.26
16-PMRT-16IP	1	1	4.04	1.93	0.55	1.04	1.23	0.78	1-3/8	1-5/8	1-1/2	3.56	1.45	2.11	-217	1.91

**ISOP Pos.
Male Run Tee**
For Metric Tube



ASTEC Part No.	Tube OD (T)	ISOP Thread (P)	A	AX	B	C	D	E	F	FX	G (Hex)	H	HX	HY	ST-ORING	U
6M-PMRT-2IP	6	1/8	53.4	27.0	8.1	17.7	15.3	4.0	9/16	9/16	14	46.00	19.6	26.4	-502	17.3
6M-PMRT-4IP	6	1/4	61.2	29.0	9.1	17.1	15.3	4.8	5/8	3/4	14	53.80	21.6	32.2	-111	22.9
8M-PMRT-2IP	8	1/8	56.3	28.8	8.1	18.6	16.2	4.0	9/16	9/16	16	48.80	21.3	27.4	-502	17.3
8M-PMRT-4IP	8	1/4	62.1	29.9	9.1	18.6	16.2	6.4	5/8	3/4	16	54.60	22.4	32.2	-111	22.9
10M-PMRT-2IP	10	1/8	68.6	33.5	9.1	19.5	17.2	5.9	13/16	3/4	19	61.00	25.9	35.0	-111	22.9
12M-PMRT-2IP	12	1/8	73.1	36.0	9.4	22.0	22.8	7.9	15/16	7/8	22	63.00	25.9	37.1	-113	26.4
12M-PMRT-8IP	12	1/2	81.5	38.0	13.4	22.0	22.8	9.5	15/16	1-1/16	22	71.40	27.9	43.4	-508	32.0

**SAE/MS Straight
Male Run Tee**
For Fractional Tube

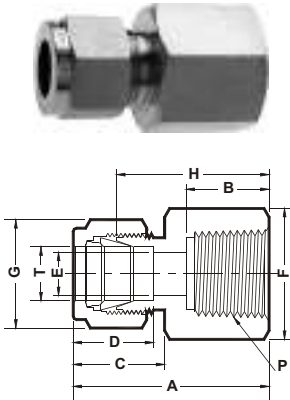


ASTEC Part No.	Tube OD (T)	Straight Thread (P)	A	AX	B	C	D	E	F	FX	G (Hex)	H	HX	HY	ST-ORING	U
4-PMRT-7SM	1/4	7/16-20	2.24	1.12	0.39	0.70	0.60	0.19	9/16	9/16	9/16	1.95	0.83	1.12	-904	0.65
6-PMRT-9SM	3/8	9/16-18	2.53	1.26	0.44	0.76	0.66	0.28	5/8	11/16	11/16	2.24	0.97	1.27	-906	0.79
8-PMRT-12SM	1/2	3/4-16	2.97	1.48	0.50	0.86	0.90	0.41	15/16	7/8	7/8	2.57	1.08	1.49	-908	1.01
12-PMRT-17SM	3/4	1-1/16-12	3.55	1.63	0.66	0.86	0.96	0.62	1-1/16	1-1/4	1-1/8	3.15	1.23	1.92	-912	1.44
16-PMRT-21SM	1	1-5/16-12	4.10	1.99	0.66	1.04	1.23	0.88	1-3/8	1-1/2	1-1/2	3.62	1.51	2.11	-916	1.73

Note :- All Dimensions are for reference only and are subject to change.

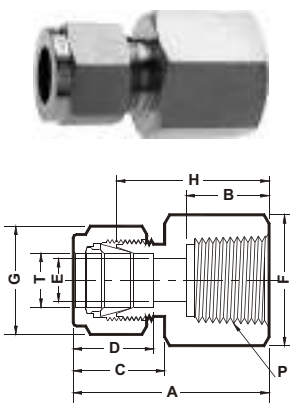


NPT Female Connector
For Fractional Tube



ASTEC Part No.	Tube OD (T)	NPT Thread (P)	A	B	C	D	E	F (Hex)	G	H
1-FC-1N	1/16	1/16	0.93	0.39	0.43	0.34	0.05	7/16	7/16	0.78
1-FC-2N	1/16	1/8	0.96	0.41	0.43	0.34	0.05	9/16	7/16	0.81
2-FC-2N	1/8	1/8	1.13	0.41	0.60	0.50	0.09	9/16	7/16	0.87
2-FC-4N	1/8	1/4	1.32	0.59	0.60	0.50	0.09	3/4	7/16	1.06
3-FC-2N	3/16	1/8	1.17	0.39	0.63	0.54	0.12	9/16	7/16	0.91
3-FC-4N	3/16	1/4	1.35	0.59	0.64	0.54	0.12	3/4	7/16	1.09
4-FC-2N	1/4	1/8	1.23	0.39	0.70	0.60	0.19	9/16	9/16	0.94
4-FC-4N	1/4	1/4	1.41	0.59	0.70	0.60	0.19	3/4	9/16	1.12
4-FC-6N	1/4	3/8	1.48	0.59	0.70	0.60	0.19	7/8	9/16	1.19
4-FC-8N	1/4	1/2	1.67	0.78	0.70	0.60	0.19	1-1/16	9/16	1.38
5-FC-2N	5/16	1/8	1.26	0.41	0.73	0.64	0.25	9/16	5/8	0.97
5-FC-4N	5/16	1/4	1.45	0.59	0.73	0.64	0.25	3/4	5/8	1.16
5-FC-6N	5/16	3/8	1.45	0.59	0.73	0.64	0.25	7/8	5/8	1.00
6-FC-2N	3/8	1/8	1.29	0.41	0.76	0.66	0.28	5/8	11/16	1
6-FC-4N	3/8	1/4	1.48	0.59	0.76	0.66	0.28	3/4	11/16	1.19
6-FC-6N	3/8	3/8	1.54	0.59	0.76	0.66	0.28	7/8	11/16	1.25
6-FC-8N	3/8	1/2	1.73	0.78	0.76	0.66	0.28	1-1/16	11/16	1.44
6-FC-12N	3/8	3/4	1.88	0.81	0.76	0.66	0.28	1-5/16	11/16	1.59
8-FC-4N	1/2	1/4	1.59	0.59	0.86	0.90	0.41	13/16	7/8	1.19
8-FC-6N	1/2	3/8	1.65	0.59	0.86	0.90	0.41	7/8	7/8	1.25
8-FC-8N	1/2	1/2	1.84	0.78	0.86	0.90	0.41	1-1/16	7/8	1.44
8-FC-12N	1/2	3/4	1.90	0.81	0.86	0.90	0.41	1-5/16	7/8	1.5
10-FC-6N	5/8	3/8	1.65	0.59	0.86	0.96	0.50	15/16	1	1.25
10-FC-8N	5/8	1/2	1.84	0.78	0.86	0.96	0.50	1-1/16	1	1.44
10-FC-12N	5/8	3/4	1.90	0.81	0.86	0.96	0.50	1-5/16	1	1.5
12-FC-8N	3/4	1/2	1.84	0.78	0.86	0.96	0.62	1-1/16	1-1/8	1.44
12-FC-12N	3/4	3/4	1.90	0.81	0.86	0.96	0.62	1-5/16	1-1/8	1.5
14-FC-12N	7/8	3/4	1.96	0.81	0.86	1.02	0.72	1-5/16	1-1/4	1.56
16-FC-12N	1	3/4	2.10	0.81	1.04	1.23	0.88	1-3/8	1-1/2	1.62
16-FC-16N	1	1	2.45	1.00	1.04	1.23	0.88	1-5/8	1-1/2	1.97

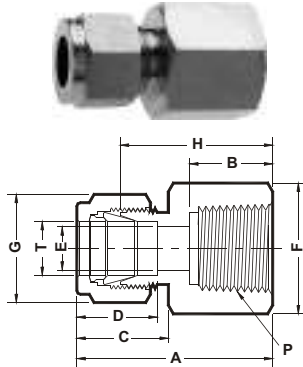
NPT Female Connector
For Metric Tube



ASTEC Part No.	Tube OD (T)	NPT Thread (P)	A	B	C	D	E	F (Hex)	G	H
3M-FC-2N	3	1/8	28.7	10.4	15.3	12.9	2.4	14	11	22.2
3M-FC-4N	3	1/4	33.5	15	15.3	12.9	2.4	19	11	27
4M-FC-2N	4	1/8	29.7	10.4	16.1	13.7	2.4	14	11	23.1
6M-FC-2N	6	1/8	31.3	10.4	17.7	15.3	4.8	14	14	23.9
6M-FC-4N	6	1/4	35.8	15.0	17.7	15.3	4.8	19	14	28.4
6M-FC-6N	6	3/8	37.6	15.0	17.7	15.3	4.8	22	14	30.2
6M-FC-8N	6	1/2	42.5	19.8	17.7	15.3	4.8	27	14	35.1
8M-FC-2N	8	1/8	32.1	10.4	18.6	16.2	6.4	15	16	24.6
8M-FC-4N	8	1/4	37.0	15.0	18.6	16.2	6.4	19	16	29.5
8M-FC-6N	8	3/8	38.5	15.0	18.6	16.2	6.4	22	16	31
8M-FC-8N	8	1/2	43.3	19.8	18.6	16.2	6.4	27	16	35.8
10M-FC-4N	10	1/4	37.8	15.0	19.5	17.2	7.9	22	19	30.2
10M-FC-6N	10	3/8	39.4	15.0	19.5	17.2	7.9	22	19	31.8
10M-FC-8N	10	1/2	44.2	19.8	19.5	17.2	7.9	27	19	36.6
12M-FC-4N	12	1/4	40.3	15.0	22.0	22.8	9.5	22	22	30.2
12M-FC-6N	12	3/8	41.9	15.0	22.0	22.8	9.5	22	22	31.8
12M-FC-8N	12	1/2	46.7	19.8	22.0	22.8	9.5	27	22	36.6
15M-FC-8N	15	1/2	46.7	19.8	22.0	24.4	11.9	27	25	36.6
16M-FC-6N	16	3/8	41.9	15.0	22.0	24.40	9.50	16	25	31.8
16M-FC-8N	16	1/2	46.9	19.8	22.0	24.4	12.7	27	25	36.8
20M-FC-8N	20	1/2	47.9	19.8	22.0	26.0	15.9	30	32	37.8
20M-FC-12N	20	3/4	49.7	20.6	22.0	26.0	15.9	35	32	39.6
22M-FC-12N	22	3/4	49.7	20.6	22.0	26.0	18.3	35	32	39.6
22M-FC-16N	22	1	57.9	25.4	22.0	26.0	18.3	41	32	47.8
25M-FC-12N	25	3/4	53.4	20.6	26.5	31.3	21.8	35	38	41.1
25M-FC-16N	25	1	62.3	25.4	26.5	31.3	21.8	41	38	50

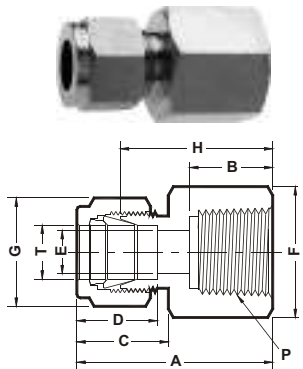
Note :- All Dimensions are for reference only and are subject to change.

ISOT Female Connector For Fractional Tube



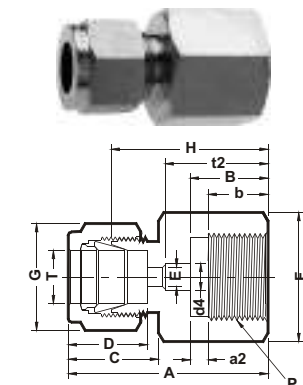
ASTEC Part No.	Tube OD (T)	ISOT Thread (P)	A	B	C	D	E	F (Hex)	G	H
4-FC-2IT	1/4	1/8	1.23	0.41	0.70	0.60	0.19	9/16	9/16	0.94
4-FC-4IT	1/4	1/4	1.41	0.59	0.70	0.60	0.19	3/4	9/16	1.13
4-FC-6IT	1/4	3/8	1.48	0.59	0.70	0.60	0.19	7/8	9/16	1.19
4-FC-8IT	1/4	1/2	1.67	0.78	0.70	0.60	0.19	1-1/16	9/16	1.38
6-FC-4IT	3/8	1/4	1.48	0.59	0.76	0.66	0.28	3/4	11/16	1.19
6-FC-6IT	3/8	3/8	1.54	0.59	0.76	0.66	0.28	7/8	11/16	1.25
6-FC-8IT	3/8	1/2	1.73	0.78	0.76	0.66	0.28	1-1/16	11/16	1.44
8-FC-4IT	1/2	1/4	1.59	0.59	0.86	0.90	0.41	7/8	7/8	1.19
8-FC-6IT	1/2	3/8	1.65	0.59	0.86	0.90	0.41	7/8	7/8	1.25
8-FC-8IT	1/2	1/2	1.84	0.78	0.86	0.90	0.41	1-1/16	7/8	1.44

ISOT Female Connector For Metric Tube



ASTEC Part No.	Tube OD (T)	ISOT Thread (P)	A	B	C	D	E	F (Hex)	G	H
3M-FC-2IT	3	1/8	28.7	10.4	15.3	12.9	2.4	14	11	22.1
6M-FC-2IT	6	1/8	31.3	10.4	17.7	15.3	4.8	14	14	23.9
6M-FC-4IT	6	1/4	35.8	15.0	17.7	15.3	4.8	19	14	28.4
6M-FC-6IT	6	3/8	37.6	15.0	17.7	15.3	4.8	22	14	30.2
6M-FC-8IT	6	1/2	42.5	19.8	17.7	15.3	4.8	27	14	35.1
8M-FC-2IT	8	1/8	32.1	10.4	18.6	16.2	6.4	16	16	24.6
8M-FC-4IT	8	1/4	37.0	15.0	18.6	16.2	6.4	19	16	29.5
8M-FC-6IT	8	3/8	38.5	15.0	18.6	16.2	6.4	22	16	31
8M-FC-8IT	8	1/2	43.3	19.8	18.6	16.2	6.4	27	16	31.0
10M-FC-2IT	10	1/8	33.0	10.4	19.5	17.2	7.9	19	19	25.4
10M-FC-4IT	10	1/4	37.8	15.0	19.5	17.2	7.9	19	19	30.2
10M-FC-6IT	10	3/8	39.4	19.5	19.5	17.2	7.9	22	19	31.8
10M-FC-8IT	10	1/2	44.2	19.8	19.5	17.2	7.9	27	19	36.6
12M-FC-2IT	12	1/8	35.5	10.4	22.0	22.8	8.3	22	22	25.4
12M-FC-4IT	12	1/4	40.3	15.0	22.0	22.8	9.5	22	22	30.2
12M-FC-6IT	12	3/8	41.9	15.0	22.0	22.8	9.5	22	22	31.8
12M-FC-8IT	12	1/2	46.7	19.8	22.0	22.8	9.5	27	22	36.6
12M-FC-12IT	12	3/4	49.0	20.6	22.0	22.8	9.5	35	22	38.9
15M-FC-6IT	15	3/8	41.9	15.0	22.0	24.4	11.9	25	25	31.8
15M-FC-8IT	15	1/2	46.7	19.8	22.0	24.4	11.9	27	25	36.6
16M-FC-8IT	16	1/2	48.4	19.8	22.0	24.4	11.90	27	25	38.3
20M-FC-8IT	20	1/2	47.9	19.8	22.0	26.0	15.9	30	32	37.8
20M-FC-12IT	20	3/4	49.7	20.6	22.0	26.0	15.9	35	32	39.6
22M-FC-12IT	22	3/4	49.7	20.6	22.0	26.0	18.3	35	32	39.6
22M-FC-16IT	22	1	57.9	25.4	22.0	26.0	18.3	41	32	47.8
25M-FC-12IT	25	3/4	53.4	20.6	26.5	31.3	21.8	35	38	41.1
25M-FC-16IT	25	1	62.3	25.4	26.5	31.3	21.8	41	38	50

ISOP (Gauge) Female Connector For Fractional Tube

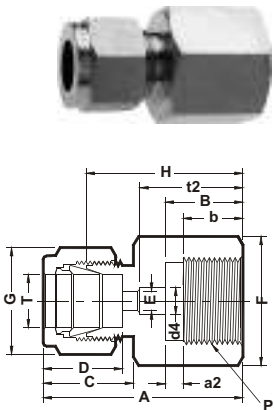


ASTEC Part No.	Tube OD (T)	ISOP Thread (P)	A	B	C	D	E	F (Hex)	G	H	a2Min	bMin	d4	t2
4-FC-4IPG	1/4	1/4	1.48	0.51	0.70	0.60	0.19	3/4	9/16	1.19	0.06	0.37	0.22	0.67
4-FC-6IPG	1/4	3/8	1.48	0.56	0.70	0.60	0.19	15/16	9/16	1.19	0.06	0.39	0.26	0.80
4-FC-8IPG	1/4	1/2	1.71	0.74	0.70	0.60	0.19	1-1/16	9/16	1.42	0.06	0.57	0.26	0.98
5-FC-4IPG	5/16	1/4	1.51	0.51	0.73	0.64	0.22	3/4	5/8	1.22	0.06	0.37	-	-
5-FC-8IPG	5/16	1/2	1.61	0.74	0.73	0.64	0.28	1-1/16	5/8	1.32	0.06	0.57	-	-
6-FC-4IPG	3/8	1/4	1.54	0.51	0.76	0.66	0.22	3/4	11/16	1.25	0.06	0.37	-	-
6-FC-6IPG	3/8	3/8	1.52	0.56	0.76	0.66	0.26	15/16	11/16	1.23	0.06	0.39	-	-
6-FC-8IPG	3/8	1/2	1.65	0.74	0.76	0.66	0.28	1-1/16	11/16	1.36	0.06	0.57	-	-
8-FC-6IPG	1/2	3/8	1.75	0.56	0.86	0.90	0.26	15/16	7/8	1.35	0.06	0.39	-	-
8-FC-8IPG	1/2	1/2	1.90	0.74	0.86	0.90	0.28	1-1/16	7/8	1.5	0.06	0.57	-	-

Note :- All Dimensions are for reference only and are subject to change.

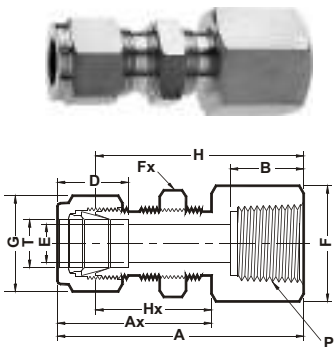


**ISOP (Gauge)
Female Connector
For Metric Tube**



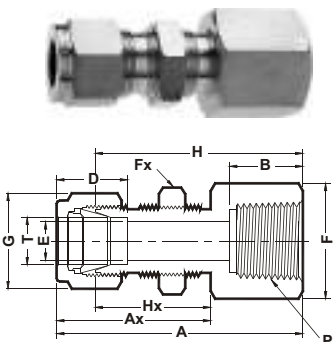
ASTEC Part No.	Tube OD (T)	ISOP Thread (P)	A	B	C	D	E	F (Hex)	G	H	a2Min	bMin	d4	t2
3M-FC-4IPG	3	1/4	35.3	12.9	15.3	12.9	2.4	19	11	28.7	1.6	9.5	5.5	17.0
6M-FC-4IPG	6	1/4	37.6	12.9	17.7	15.3	4.8	19	14	30.2	1.6	9.5	5.5	17.0
6M-FC-6IPG	6	3/8	37.6	14.1	17.7	15.3	4.8	25	14	30.2	1.6	10.0	6.5	20.3
6M-FC-8IPG	6	1/2	43.5	18.9	17.7	15.3	4.8	27	14	36.1	1.6	14.5	7.0	24.9
8M-FC-4IPG	8	1/4	38.5	12.9	18.6	16.2	5.5	19	16	31	1.6	9.5	5.5	-
8M-FC-6IPG	8	3/8	36.2	14.1	18.6	16.2	6.5	25	16	28.7	1.6	10.0	6.5	-
8M-FC-8IPG	8	1/2	41.0	18.9	18.6	16.2	7.0	27	16	33.5	1.6	14.5	7.0	-
10M-FC-4IPG	10	1/4	39.4	12.9	19.5	17.2	5.5	19	19	31.8	1.6	9.5	5.5	-
10M-FC-6IPG	10	3/8	38.8	14.1	19.5	17.2	6.5	25	19	31.2	1.6	10.0	6.5	-
10M-FC-8IPG	10	1/2	42.1	18.9	19.5	17.2	7.0	27	19	34.5	1.6	14.5	7.0	-
12M-FC-4IPG	12	1/4	41.9	12.9	22.0	22.8	5.5	22	22	31.8	1.6	9.5	5.5	-
12M-FC-6IPG	12	3/8	44.4	14.1	22.0	22.8	6.5	25	22	34.3	1.6	10.0	6.5	-
12M-FC-8IPG	12	1/2	48.2	18.9	22.0	22.8	7.0	27	22	38.1	1.6	14.5	7.0	-
20M-FC-8IPG	20	1/2	54.3	18.9	22.0	26.0	7.0	30	32	44.2	1.6	14.5	7.0	-
22M-FC-8IPG	22	1/2	54.3	18.9	22.0	26.0	7.0	30	32	44.2	1.6	14.5	7.0	-

**NPT Bulk Head
Female Connector
For Fractional Tube**



ASTEC Part No.	Tube OD (T)	NPT Thread (P)	A	AX	B	D	E	F (Hex)	FX	G	H	HX
2-BFC-2N	1/8	1/8	1.76	1.23	0.41	0.50	0.09	9/16	9/16	7/16	1.5	0.97
3-BFC-2N	3/16	1/8	1.79	1.26	0.41	0.54	0.09	9/16	9/16	7/16	1.53	1.00
4-BFC-2N	1/4	1/8	1.85	1.32	0.41	0.60	0.19	5/8	5/8	9/16	1.56	1.03
4-BFC-4N	1/4	1/4	2.04	1.32	0.59	0.60	0.19	3/4	3/4	9/16	1.75	1.03
5-BFC-2N	5/16	1/8	1.96	1.42	0.41	0.64	0.25	1-1/16	1-1/16	5/8	1.66	1.12
5-BFC-8N	5/16	1/2	2.38	1.42	0.78	0.64	0.25	1-1/16	1-1/16	5/8	2.08	1.12
6-BFC-4N	3/8	1/4	2.17	1.45	0.59	0.66	0.28	3/4	3/4	11/16	1.88	1.16
8-BFC-6N	1/2	3/8	2.43	1.65	0.59	0.90	0.41	15/16	15/16	7/8	2.03	1.25
8-BFC-8N	1/2	1/2	2.62	1.65	0.78	0.90	0.41	1-1/16	1-1/16	7/8	2.22	1.25
10-BFC-8N	5/8	1/2	2.65	1.68	0.78	0.96	0.50	1-1/16	1-1/16	1.00	2.25	1.28
12-BFC-12N	3/4	3/4	2.9	1.87	0.81	0.96	0.62	1-3/8	1-1/8	1-1/8	2.5	1.47
14-BFC-12N	7/8	3/4	3.18	2.09	0.81	1.02	0.72	1-3/8	1-1/8	1-1/8	2.78	1.69
16-BFC-16N	1	1	3.68	2.27	1.00	1.23	0.88	1-5/8	1-1/2	1-1/2	3.19	1.78

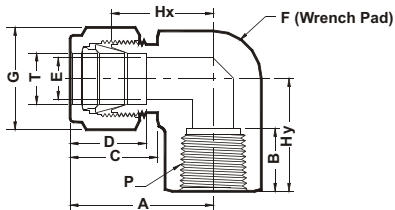
**NPT Bulk Head
Female Connector
For Metric Tube**



ASTEC Part No.	Tube OD (T)	NPT Thread (P)	A	AX	B	D	E	F (Hex)	FX	G	H	HX	BHEAD HOLE DRILL	MAXB HEAD THICK
6M-BFC-2N	6	1/8	47.2	33.7	10.40	15.30	4.80	16	16	14	47.20	26.2	11.5	10.2
6M-BFC-4N	6	1/4	51.8	33.6	15.0	15.3	4.8	19	16	14	44.5	26.2	11.5	10.2
8M-BFC-2N	8	1/8	49.60	36.1	10.40	16.20	6.40	18	18	16	42.1	28.5	13.1	11.2
10M-BFC-4N	10	1/4	55.2	37.0	15.00	17.20	7.90	19	19	19	47.6	29.4	19.5	11.2
10M-BFC-6N	12	3/8	60.9	41.9	15.00	22.80	9.50	25	25	22	50.8	31.8	19.5	12.7
12M-BFC-8N	12	1/2	66.5	41.9	19.8	22.8	9.5	27	27	22	56.3	31.8	19.5	12.7

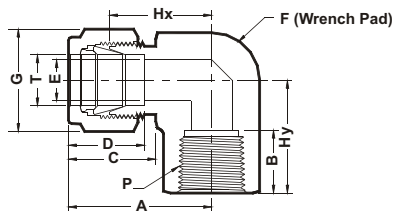
Note :- All Dimensions are for reference only and are subject to change.

NPT Female Elbow
For Fractional Tube



ASTEC Part No.	Tube OD (T)	NPT Thread (P)	A	B	C	D	E	F	G (Hex)	HX	HY
1-FE-1N	1/16	1/16	0.71	0.41	0.60	0.50	0.05	9/16	9/16	0.56	0.56
1-FE-2N	1/16	1/8	0.81	0.41	0.60	0.50	0.05	9/16	9/16	0.75	0.66
2-FE-2N	1/8	1/8	0.97	0.41	0.60	0.50	0.09	9/16	7/16	0.71	0.75
2-FE-4N	1/8	1/4	1.08	0.59	0.60	0.50	0.09	11/16	7/16	0.82	0.88
3-FE-2N	3/16	1/8	1.00	0.41	0.63	0.54	0.12	9/16	9/16	0.74	0.75
4-FE-2N	1/4	1/8	1.06	0.41	0.70	0.60	0.19	9/16	9/16	0.77	0.75
4-FE-4N	1/4	1/4	1.17	0.59	0.70	0.60	0.19	7/8	9/16	0.88	0.88
4-FE-6N	1/4	3/8	1.25	0.59	0.70	0.60	0.19	7/8	9/16	0.96	0.88
4-FE-8N	1/4	1/2	1.36	0.78	0.70	0.60	0.19	1-1/16	9/16	1.07	1.12
5-FE-2N	5/16	1/8	1.13	0.41	0.73	0.64	0.25	9/16	5/8	0.84	0.75
5-FE-4N	5/16	1/4	1.20	0.59	0.73	0.64	0.25	13/16	5/8	0.91	0.88
6-FE-2N	3/8	1/8	1.20	0.41	0.76	0.66	0.28	7/8	11/16	0.91	0.75
6-FE-4N	3/8	1/4	1.23	0.59	0.76	0.66	0.28	7/8	11/16	0.94	0.88
6-FE-6N	3/8	3/8	1.31	0.59	0.76	0.66	0.28	7/8	11/16	1.02	0.88
6-FE-8N	3/8	1/2	1.42	0.78	0.76	0.66	0.28	1-1/16	11/16	1.13	1.12
8-FE-4N	1/2	1/4	1.42	0.59	0.86	0.90	0.41	13/16	7/8	1.02	0.88
8-FE-6N	1/2	3/8	1.42	0.59	0.86	0.90	0.41	13/16	7/8	1.02	0.88
8-FE-8N	1/2	1/2	1.53	0.78	0.86	0.90	0.41	1-1/16	7/8	1.13	1.12
10-FE-6N	5/8	3/8	1.50	0.59	0.86	0.96	0.50	15/16	1	1.10	0.88
10-FE-8N	5/8	1/2	1.57	0.78	0.86	0.96	0.50	1-1/16	1	1.17	1.12
12-FE-8N	3/4	1/2	1.57	0.78	0.86	0.96	0.62	1-1/16	1-1/8	1.17	1.12
12-FE-12N	3/4	3/4	1.76	0.81	0.86	0.96	0.62	1-3/8	1-1/8	1.36	1.25
14-FE-12N	7/8	3/4	1.76	0.81	0	1.02	0.72	1-3/8	1-1/4	1.36	1.25
16-FE-12N	1	3/4	1.93	0.81	1.04	1.23	0.88	1-3/8	1-1/2	1.45	1.25
16-FE-16N	1	1	2.11	1.00	1.04	1.23	0.88	1-11/16	1-1/2	1.63	1.50

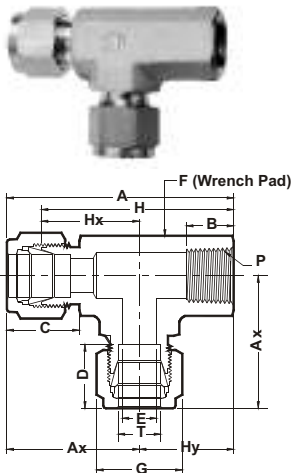
NPT Female Elbow
For Metric Tube



ASTEC Part No.	Tube OD (T)	NPT Thread (P)	A	B	C	D	E	F	G (Hex)	HX	HY
6M-FE-2N	6	1/8	27.0	10.4	17.7	15.3	4.8	9/16	14	19.6	19.0
6M-FE-4N	6	1/4	29.8	15.0	17.7	15.3	4.8	13/16	14	22.4	22.4
6M-FE-8N	6	1/2	34.6	19.8	17.7	15.3	4.8	1-1/16	14	27.2	28.4
8M-FE-2N	8	1/8	28.8	10.40	18.60	16.20	4.80	11/16	16	19.6	19.0
8M-FE-4N	8	1/4	30.6	15.0	18.6	16.2	6.4	7/8	16	23.1	22.4
10M-FE-2N	10	1/8	31.5	10.4	19.5	17.2	7.9	11/16	19	23.9	19.0
10M-FE-4N	10	1/4	33.5	15.0	19.5	17.2	7.9	7/8	19	25.9	22.4
10M-FE-6N	10	3/8	33.5	15.00	22.00	17.20	7.90	7/8	19	25.9	22.4
10M-FE-8N	10	1/2	36.3	19.80	22.00	22.80	7.90	1-1/16	19	28.7	28.5
12M-FE-4N	12	1/4	36.0	15.0	22.0	22.8	9.5	7/8	22	25.9	22.4
12M-FE-6N	12	3/8	33.5	15.00	22.00	22.80	7.90	7/8	22	25.9	22.4
12M-FE-8N	12	1/2	38.8	19.8	22.0	22.8	9.5	1-1/16	22	28.7	28.4
16M-FE-6N	16	3/8	39.5	15.00	22.00	24.40	7.90	1-1/16	25	29.7	23.6
16M-FE-8N	16	1/2	39.5	19.8	22.0	24.4	12.7	1-1/16	25	29.7	28.4

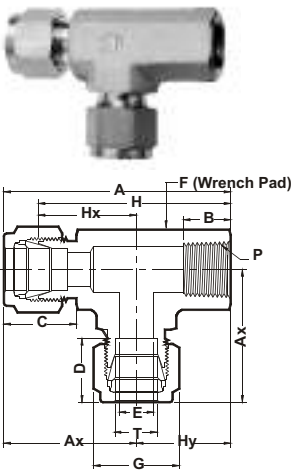
Note :- All Dimensions are for reference only and are subject to change.

**NPT Female
Run Tee
For Fractional Tube**



ASTECC Part No.	Tube OD (T)	NPT Thread (P)	A	AX	B	C	D	E	F	G (Hex)	H	HX	HY
2-FRT-2N	1/8	1/8	1.72	0.97	0.41	0.60	0.50	0.09	9/16	7/16	1.46	0.71	0.75
3-FRT-2N	3/16	1/8	1.76	1.01	0.41	0.60	0.50	0.09	9/16	7/16	1.50	0.75	0.75
4-FRT-2N	1/4	1/8	1.81	1.06	0.41	0.70	0.60	0.19	9/16	9/16	1.52	0.77	0.75
4-FRT-4N	1/4	1/4	2.05	1.17	0.59	0.70	0.60	0.19	11/16	9/16	1.76	0.88	0.88
5-FRT-2N	5/16	1/8	1.92	1.17	0.41	0.60	0.60	0.19	5/8	5/8	1.63	0.88	0.75
6-FRT-4N	3/8	1/4	2.11	1.23	0.59	0.76	0.66	0.28	13/16	13/16	1.82	0.94	0.88
8-FRT-4N	1/2	1/4	2.56	1.43	0.59	0.70	0.60	0.19	7/8	7/8	2.26	1.13	1.13
8-FRT-6N	1/2	3/8	2.30	1.42	0.59	0.86	0.90	0.41	7/8	7/8	1.90	1.02	0.88
8-FRT-8N	1/2	1/2	2.69	1.57	0.78	0.86	0.90	0.41	1-1/16	7/8	2.29	1.17	1.12
10-FRT-8N	5/8	1/2	2.66	1.53	0.78	0.86	0.90	0.41	1-1/16	1.00	2.26	1.13	1.13
12-FRT-12N	3/4	3/4	3.01	1.76	0.81	0.86	0.96	0.62	1-3/8	1-1/8	2.61	1.36	1.25
14-FRT-8N	7/8	1/2	3.01	1.76	0.78	0.86	0.90	0.41	1-3/8	1-1/4	2.61	1.36	1.25
14-FRT-12N	7/8	3/4	3.01	1.76	0.81	0.86	0.96	0.62	1-3/8	1-1/4	2.61	1.36	1.25
16-FRT-12N	1	3/4	3.18	1.93	0.81	1.04	1.23	0.88	1-3/8	1-1/2	2.70	1.45	1.25
16-FRT-16N	1	1	3.61	2.11	1.00	1.04	1.23	0.88	1-11/16	1-1/2	3.13	1.63	1.50

**NPT Female
Run Tee
For Metric Tube**

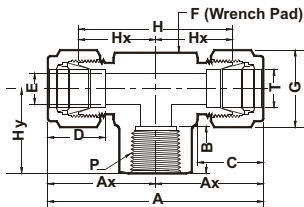


ASTECC Part No.	Tube OD (T)	NPT Thread (P)	A	AX	B	C	D	E	F	G (Hex)	H	HX	HY
6M-FRT-2N	6	1/8	46.0	27.0	10.4	17.7	15.3	4.8	9/16	14	38.60	19.6	19.0
6M-FRT-4N	6	1/4	52.1	29.8	15.0	17.7	15.3	4.8	11/16	14	44.70	22.4	22.4
8M-FRT-2N	8	1/8	48.9	29.9	10.4	18.6	16.2	6.4	5/8	16	41.40	22.4	19.0
8M-FRT-4N	8	1/4	53.0	30.6	15	18.6	16.20	6.4	13/16	16	45.50	25.9	22.4
10M-FRT-4N	10	1/4	55.9	33.5	15.0	19.5	17.2	7.9	13/16	19	48.30	25.9	22.4
12M-FRT-4N	12	1/4	58.4	36.0	15.0	22.0	22.8	9.5	7/8	22	48.30	25.9	22.4
12M-FRT-6N	12	3/8	58.4	36.0	15.0	22.0	22.8	10.3	7/8	22	48.30	25.9	22.4
12M-FRT-4N	12	1/2	67.3	38.8	19.80	22.00	22.80	10.3	1-1/16	22	57.20	28.7	28.5
16M-FRT-8N	16	1/2	68.2	39.8	19.8	22.0	24.4	12.7	1-1/16	25	58.10	29.7	28.4

Note :- All Dimensions are for reference only and are subject to change.

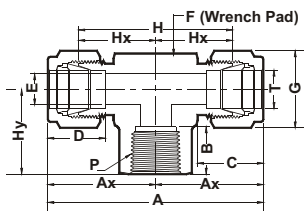


NPT Female Branch Tee
For Fractional Tube



ASTEC Part No.	Tube OD (T)	NPT Thread (P)	A	AX	B	C	D	E	F	G (Hex)	H	HX	HY
2-FBT-2N	1/8	1/8	1.94	0.97	0.41	0.60	0.50	0.09	9/16	7/16	1.42	0.71	0.75
3-FBT-2N	3/16	1/8	2.02	1.01	0.41	0.60	0.50	0.09	9/16	7/16	1.50	0.75	0.75
4-FBT-2N	1/4	1/8	2.12	1.06	0.41	0.70	0.60	0.19	9/16	9/16	1.54	0.77	0.75
4-FBT-4N	1/4	1/4	2.34	1.17	0.59	0.70	0.60	0.19	11/16	9/16	1.76	0.88	0.88
5-FBT-2N	5/16	1/8	2.34	1.17	0.41	0.76	0.64	0.25	5/8	5/8	1.76	0.88	0.75
6-FBT-4N	3/8	1/4	2.46	1.23	0.59	0.76	0.66	0.28	13/16	11/16	1.88	0.94	0.88
6-FBT-6N	3/8	3/8	2.62	1.31	0.59	0.76	0.66	0.28	13/16	11/16	2.04	1.02	0.88
6-FBT-8N	3/8	1/2	2.84	1.42	0.78	0.76	0.66	0.28	1-1/16	11/16	2.26	1.13	1.12
8-FBT-4N	1/2	1/4	2.84	1.42	0.59	0.86	0.90	0.41	13/16	7/8	2.04	1.02	0.88
8-FBT-6N	1/2	3/8	2.84	1.42	0.59	0.86	0.90	0.41	13/16	7/8	2.04	1.02	0.88
8-FBT-8N	1/2	1/2	3.06	1.53	0.78	0.86	0.90	0.41	1-1/16	7/8	2.26	1.13	1.12
10-FBT-8N	5/8	1/2	3.06	1.53	0.78	0.86	0.96	0.50	1-1/16	1	2.26	1.13	1.12
12-FBT-12N	3/4	3/4	3.52	1.76	0.81	0.86	0.96	0.62	1-3/8	1-1/8	2.72	1.36	1.25
14-FBT-12N	7/8	3/4	3.52	1.76	0.81	0.86	1.02	0.72	1-3/8	1-1/4	2.72	1.36	1.25
16-FBT-12N	1	3/4	3.86	1.93	0.81	1.04	1.23	0.88	1-3/8	1-1/2	2.90	1.45	1.25
16-FBT-16N	1	1	4.22	2.11	1.00	1.04	1.23	0.88	1-11/16	1-1/2	3.26	1.63	1.50

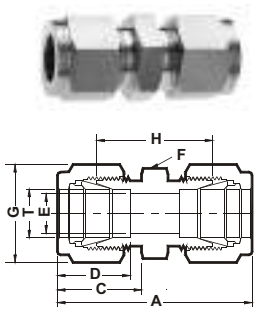
NPT Female Branch Tee
For Metric Tube



ASTEC Part No.	Tube OD (T)	NPT Thread (P)	A	AX	B	C	D	E	F	G (Hex)	H	HX	HY
6M-FBT-2N	6	1/8	53.9	27.0	10.4	17.7	15.3	4.8	9/16	14	39.10	19.6	19.0
6M-FBT-4N	6	1/4	59.5	29.8	15.0	17.7	15.3	4.8	13/16	14	47.70	22.4	22.4
8M-FBT-2N	8	1/8	59.7	29.9	10.4	18.6	16.2	6.4	13/16	16	47.70	22.40	19.0
8M-FBT-4N	8	1/4	61.2	30.6	15.0	18.6	16.2	6.4	13/16	16	46.20	23.1	22.4
10M-FBT-4N	10	1/4	67.0	33.5	15.0	19.5	17.2	7.9	13/16	19	51.80	25.9	22.4
12M-FBT-2N	12	1/8	72.0	36.0	15.0	22.0	22.8	9.5	13/16	22	51.80	25.9	22.7
12M-FBT-4N	12	1/4	72.0	36.0	15.0	22.0	22.8	9.5	13/16	22	51.80	25.9	22.4
12M-FBT-6N	12	3/8	72.0	36.0	15.00	22.00	22.8	9.50	13/16	22	51.80	25.9	22.4
12M-FBT-8N	12	1/2	77.6	38.8	19.80	22.00	22.8	9.50	1-1/16	22	57.40	28.7	28.5
16M-FBT-8N	16	1/2	77.6	38.8	19.8	22	24.4	12.7	1-1/16	25	57.40	28.7	28.4

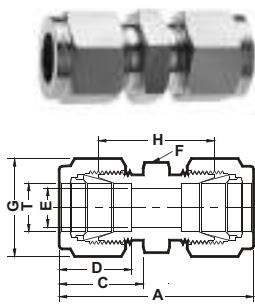
Note :- All Dimensions are for reference only and are subject to change.

Union
Fractional Tube X
Fractional Tube



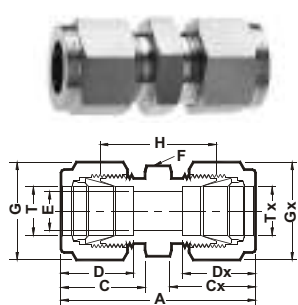
ASTEC Part No.	Tube OD (T)	A	C	D	E	F (Hex)	G	H
1-U	1/16	0.99	0.43	0.34	0.05	7/16	7/16	0.69
2-U	1/8	1.40	0.60	0.50	0.09	7/16	7/16	0.88
3-U	3/16	1.47	0.63	0.54	0.12	7/16	7/16	0.95
4-U	1/4	1.61	0.70	0.60	0.19	7/16	9/16	1.03
5-U	5/16	1.69	0.73	0.64	0.25	5/8	5/8	1.11
6-U	3/8	1.77	0.76	0.66	0.28	11/16	11/16	1.19
8-U	1/2	2.02	0.86	0.90	0.41	7/8	7/8	1.22
10-U	5/8	2.05	0.86	0.96	0.50	1	1	1.25
12-U	3/4	2.11	0.86	0.96	0.62	1-1/8	1-1/8	1.31
14-U	7/8	2.17	0.86	1.02	0.72	1-1/4	1-1/4	1.37
16-U	1	2.55	1.04	1.23	0.88	1-1/2	1-1/2	1.59

Union
Metric Tube X
Metric Tube



ASTEC Part No.	Tube OD (T)	A	C	D	E	F (Hex)	G	H
2M-U	2	35.6	15.3	12.9	1.7	11	11	22.4
3M-U	3	35.3	15.3	12.9	2.4	11	11	22.1
4M-U	4	37.3	16.1	13.7	2.4	11	11	24.1
6M-U	6	41.0	17.7	15.3	4.8	14	14	26.2
8M-U	8	43.2	18.6	16.2	6.4	16	16	28.2
10M-U	10	46.2	19.5	17.2	7.9	19	19	31
12M-U	12	51.2	22.0	22.8	9.5	22	22	31
14M-U	14	52.0	22.0	24.4	11.1	25	25	31.8
15M-U	15	52.0	22.0	24.4	11.9	25	25	31.8
16M-U	16	52.0	22.0	24.4	12.7	25	25	31.8
18M-U	18	53.5	22.0	24.4	15.1	27	30	33.3
20M-U	20	55.0	22.0	26.0	15.9	32	32	34.8
22M-U	22	55.0	22.0	26.0	18.3	32	32	34.8
25M-U	25	65.0	26.5	31.3	21.8	35	38	40.5

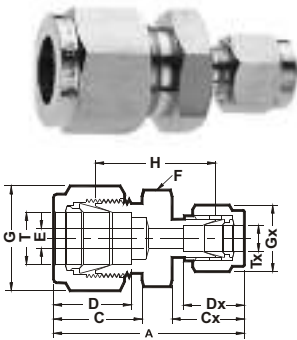
Union
Metric Tube X
Fractional Tube



ASTEC Part No.	Tube OD (T)	Tube OD (Tx)	A	C	CX	D	Dx	E	F (Hex)	G	Gx	H
2M-U-2	2	1/8	35.2	15.3	15.2	12.9	12.8	1.7	11	11	7/16	22.1
2M-U-4	2	1/4	38.6	15.3	17.7	12.9	15.3	1.7	11	11	9/16	24.6
3M-U-2	3	1/8	35.2	15.3	15.2	12.9	12.8	2.4	14	11	7/16	22.1
4M-U-2	4	1/8	36.5	16.1	15.2	13.7	12.8	2.4	11	11	7/16	23.4
4M-U-4	4	1/4	39.4	16.1	17.7	13.7	15.3	2.4	14	11	9/16	25.4
6M-U-2	6	1/8	38.5	17.7	15.2	15.3	12.8	2.4	14	14	7/16	24.6
6M-U-4	6	1/4	41.0	17.7	17.7	15.3	15.3	4.8	14	14	9/16	26.2
6M-U-5	6	5/16	42.3	17.7	18.6	15.3	16.2	4.8	14	14	5/8	27.4
8M-U-4	8	1/4	42.3	18.6	17.7	16.2	15.3	4.8	16	16	9/16	37.4
8M-U-6	8	3/8	44.3	18.6	19.2	16.2	16.9	6.4	16	16	11/16	29.5
10M-U-2	10	1/8	41.8	19.5	15.2	17.2	12.8	2.4	19	19	7/16	27.7
10M-U-4	10	1/4	44.5	19.5	17.7	17.2	15.3	4.8	19	19	9/16	29.5
10M-U-5	10	5/16	45.1	19.5	18.6	17.2	16.2	6.4	19	19	5/8	30
10M-U-6	10	3/8	45.9	19.5	19.2	17.2	16.9	7.1	19	19	11/16	31
12M-U-5	12	5/16	47.8	22.0	18.6	22.8	16.2	6.4	22	22	5/8	30.2
12M-U-6	12	3/8	48.4	22.0	19.2	22.8	16.9	7.1	22	22	11/16	31
12M-U-8	12	1/2	51.4	22.0	22.0	22.8	22.8	9.5	22	22	7/8	31
15M-U-8	15	1/2	52.4	22.0	22.0	24.4	22.8	10.3	25	25	7/8	31.8
16M-U-10	16	5/8	52.4	22.0	22.0	24.4	24.4	12.7	25	25	1	31.8
18M-U-12	18	3/4	53.5	22.0	22.0	24.4	24.4	15.1	27	30	1-1/8	33.3
20M-U-8	20	1/2	55.0	22.0	22.0	26.0	22.8	10.3	30	32	7/8	34.8
20M-U-16	20	1	62.8	22.0	26.5	26.0	31.3	15.9	35	32	1-1/2	40.4
25M-U-16	25	1	65.0	26.5	26.5	31.3	31.3	21.8	35	38	1-1/2	40.4

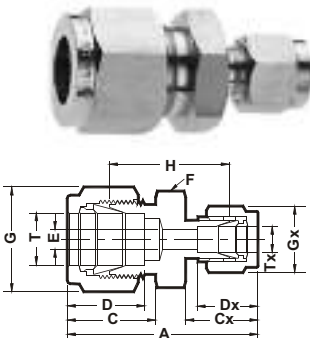
Note :- All Dimensions are for reference only and are subject to change.

Reducer Union
Fractional Tube X
Fractional Tube



ASTEC Part No.	Tube OD (T)	Tube OD (Tx)	A	C	CX	D	DX	E	F (Hex)	G	GX	H
2-RU-1	1/8	1/16	1.22	0.60	0.43	0.50	0.34	0.05	7/16	7/16	5/16	0.81
3-RU-1	3/16	1/16	1.27	0.63	0.43	0.54	0.34	0.05	7/16	7/16	5/16	0.86
3-RU-2	3/16	1/8	1.44	0.63	0.60	0.54	0.50	0.09	7/16	7/16	7/16	0.92
4-RU-1	1/4	1/16	1.35	0.70	0.43	0.60	0.34	0.05	7/16	9/16	5/16	0.91
4-RU-2	1/4	1/8	1.52	0.70	0.60	0.60	0.50	0.09	7/16	9/16	7/16	0.97
4-RU-3	1/4	3/16	1.55	0.70	0.63	0.60	0.54	0.12	7/16	9/16	1/2	1
5-RU-2	5/16	1/8	1.56	0.73	0.60	0.64	0.50	0.09	9/16	5/8	7/16	1.01
5-RU-4	5/16	1/4	1.66	0.73	0.70	0.64	0.60	0.19	9/16	5/8	9/16	1.08
6-RU-1	3/8	1/16	1.44	0.76	0.43	0.66	0.34	0.05	5/8	11/16	5/16	1
6-RU-2	3/8	1/8	1.61	0.76	0.60	0.66	0.50	0.09	5/8	11/16	7/16	1.06
6-RU-4	3/8	1/4	1.70	0.76	0.70	0.66	0.60	0.19	5/8	11/16	9/16	1.12
6-RU-5	3/8	5/16	1.74	0.76	0.73	0.66	0.64	0.25	5/8	11/16	5/8	1.16
8-RU-2	1/2	1/8	1.78	0.86	0.60	0.90	0.50	0.09	7/8	7/8	7/16	1.12
8-RU-4	1/2	1/4	1.85	0.86	0.70	0.90	0.60	0.19	7/8	7/8	9/16	1.16
8-RU-6	1/2	3/8	1.91	0.86	0.76	0.90	0.66	0.28	7/8	7/8	11/16	1.22
10-RU-6	5/8	3/8	1.94	0.86	0.76	0.96	0.66	0.28	1	1	11/16	1.25
10-RU-8	5/8	1/2	2.05	0.86	0.86	0.96	0.90	0.41	1	1	7/8	1.25
12-RU-4	3/4	1/4	1.94	0.86	0.70	0.96	0.60	0.19	1-1/8	1-1/8	9/16	1.25
12-RU-6	3/4	3/8	2.00	0.86	0.76	0.96	0.66	0.28	1-1/8	1-1/8	11/16	1.31
12-RU-8	3/4	1/2	2.11	0.86	0.86	0.96	0.90	0.41	1-1/8	1-1/8	7/8	1.31
12-RU-10	3/4	5/8	2.11	0.86	0.86	0.96	0.96	0.50	1-1/8	1-1/8	1	1.31
16-RU-8	1	1/2	2.38	1.04	0.86	1.23	0.90	0.41	1-1/2	1-1/2	7/8	1.5
16-RU-12	1	3/4	2.38	1.04	0.86	1.23	0.96	0.62	1-1/2	1-1/2	1-1/8	1.5

Reducer Union
Metric Tube X
Metric Tube

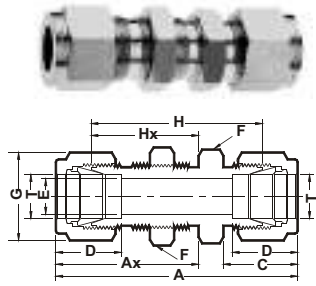


ASTEC Part No.	Tube OD (T)	Tube OD (Tx)	A	C	CX	D	DX	E	F (Hex)	G	GX	H
3M-RU-2M	3	2	35.3	15.3	15.3	12.9	12.9	1.7	11	11	11	22.1
6M-RU-2M	6	2	38.6	17.7	15.3	15.3	12.9	1.7	14	14	11	24.6
6M-RU-3M	6	3	38.6	17.7	15.3	15.3	12.9	2.4	14	14	11	24.6
6M-RU-4M	6	4	39.4	17.7	16.1	15.3	13.7	2.4	14	14	11	25.4
8M-RU-6M	8	6	42.3	18.6	17.7	16.2	15.3	4.8	16	16	14	27.4
10M-RU-6M	10	6	44.5	19.5	17.7	17.2	15.3	4.8	19	19	14	29.5
10M-RU-8M	10	8	45.1	19.5	18.6	17.2	16.2	6.4	19	19	16	30
12M-RU-6M	12	6	47.0	22.0	17.7	22.8	15.3	4.8	22	22	14	29.5
12M-RU-8M	12	8	47.8	22.0	18.6	22.8	16.2	6.4	22	22	16	30.2
12M-RU-10M	12	10	48.7	22.0	19.5	22.8	17.2	7.9	22	22	19	31
16M-RU-10M	16	10	49.5	22.0	19.5	24.4	17.2	7.9	25	25	19	31.8
16M-RU-12M	16	12	52.0	22.0	22.0	24.4	22.8	9.5	25	25	22	31.8
18M-RU-12M	18	12	53.5	22.0	22.0	24.4	22.8	9.5	27	30	22	33.3
25M-RU-18M	25	18	61.0	26.5	22.0	31.3	24.4	15.1	35	38	30	38.6
25M-RU-20M	25	20	62.3	26.5	22.0	31.3	26.0	15.9	35	38	32	39.9

Note :- All Dimensions are for reference only and are subject to change.

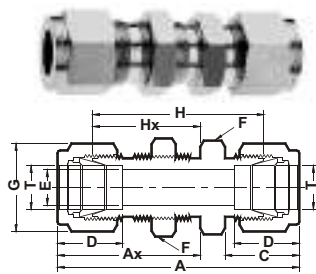


Bulk Head Union
Fractional Tube X
Fractinal Tube



ASTEC Part No.	Tube OD (T)	A	AX	C	D	E	F (Hex)	G	H	HX	BHEAD HOLE DRILL	MAX BHEAD THICK
1-BU	1/16	1.24	0.68	0.43	0.34	0.05	7/16	5/16	0.94	0.53	13/64	0.12
2-BU	1/8	2.02	1.23	0.60	0.50	0.09	7/16	7/16	1.5	0.97	21/64	0.50
3-BU	3/16	2.11	1.26	0.63	0.54	0.12	9/16	7/16	1.59	1	25/64	0.50
4-BU	1/4	2.27	1.32	0.70	0.60	0.19	5/8	9/16	1.03	1.03	29/64	0.40
5-BU	5/16	2.39	1.41	0.73	0.64	0.25	11/16	5/8	1.81	1.12	33/64	0.44
6-BU	3/8	2.45	1.45	0.76	0.66	0.28	3/4	11/16	1.87	1.16	37/64	0.44
8-BU	1/2	2.80	1.65	0.86	0.90	0.41	7/8	7/8	2	1.25	49/64	0.50
10-BU	5/8	2.86	1.68	0.86	0.96	0.50	1-1/16	1	2.06	1.28	57/64	0.50
12-BU	3/4	3.11	1.87	0.86	0.96	0.63	1-3/16	1-1/8	2.31	1.47	1-1/64	0.66
14-BU	7/8	3.33	2.09	0.86	1.02	0.72	1-3/8	1-1/4	2.53	1.69	1-9/64	0.66

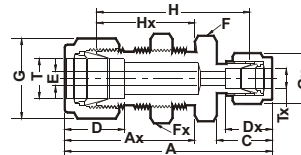
Bulk Head Union
Metric Tube X
Metric Tube



ASTEC Part No.	Tube OD (T)	A	AX	C	D	E	F (Hex)	G	H	HX	BHEAD HOLE DRILL	MAX BHEAD THICK
3M-BU	3	51.3	31.2	15.3	12.9	2.4	14	11	38.1	24.6	8.3	12.7
4M-BU	4	53.6	32.0	16.10	13.7	2.4	14	11	40.4	25.40	9.9	12.7
6M-BU	6	57.7	33.6	17.7	15.3	4.8	16	14	42.9	26.2	11.5	10.2
8M-BU	8	61.0	36.1	18.6	16.2	6.4	18	16	46	28.6	13.1	11.2
10M-BU	10	63.7	37.0	19.5	17.2	7.9	22	19	48.5	29.4	16.3	11.2
12M-BU	12	71.0	41.9	22.0	22.8	9.5	25	22	50.8	31.8	19.5	12.7
14M-BU	14	72.5	42.6	22.0	24.4	11.1	27	25	52.3	32.5	22.5	12.7
15M-BU	15	72.5	42.6	22.0	24.4	11.9	27	25	52.3	32.5	22.8	12.7
16M-BU	16	72.5	42.6	22.0	24.4	12.7	27	25	52.3	32.5	22.8	12.7
18M-BU	18	78.9	47.4	22.0	24.4	15.1	30	30	58.7	37.3	26.0	16.8
20M-BU	20	84.5	53.0	22.0	26.0	15.9	35	32	64.3	42.9	29.0	19.0

Bulk Head Reducer Union

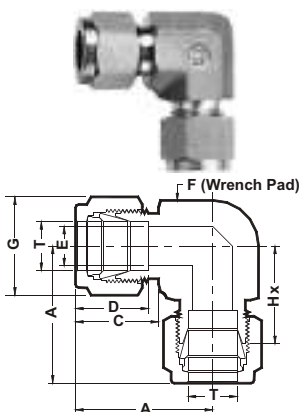
Fractional Tube X
Fractional Tube



ASTEC Part No.	Tube OD (T)	Tube OD (Tx)	A	AX	C	D	DX	E	F (Hex)	FX	G	GX	H	HX	BHEAD HOLE DRILL	MAX BHEAD THICK
4-BRU-2	1/4	1/8	2.17	1.32	0.60	0.60	0.50	0.09	5/8	5/8	9/16	7/16	1.62	1.03	29/64	0.40
6-BRU-4	3/8	1/4	2.39	1.44	0.70	0.66	0.60	0.19	3/4	3/4	11/16	9/16	1.81	1.16	37/64	0.44
8-BRU-4	1/2	1/4	2.63	1.65	0.70	0.90	0.60	0.19	7/8	7/8	7/8	9/16	1.94	1.25	49/64	0.50

Union Elbow

Fractional Tube X
Fractional Tube



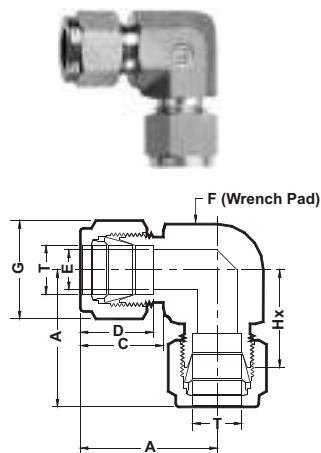
ASTEC Part No.	Tube OD (T)	A	C	D	E	F	G (Hex)	HX
1-UE	1/16	0.70	0.43	0.34	0.05	3/8	7/16	0.55
2-UE	1/8	0.88	0.60	0.50	0.09	3/8	7/16	0.62
3-UE	3/16	1.00	0.63	0.54	0.12	7/16	7/16	0.74
4-UE	1/4	1.06	0.70	0.60	0.19	7/16	9/16	0.77
5-UE	5/16	1.13	0.73	0.64	0.25	9/16	5/8	0.84
6-UE	3/8	1.20	0.76	0.66	0.28	5/8	11/16	0.91
8-UE	1/2	1.42	0.86	0.90	0.41	13/16	7/8	1.02
10-UE	5/8	1.50	0.86	0.96	0.50	15/16	1	1.10
12-UE	3/4	1.57	0.86	0.96	0.62	1-1/16	1-1/8	1.17
14-UE	7/8	1.76	0.86	1.02	0.72	1-3/8	1-1/4	1.36
16-UE	1	1.93	1.04	1.23	0.88	1-3/8	1-1/2	1.45

Note :- All Dimensions are for reference only and are subject to change.

Union Elbow

Metric Tube X

Metric Tube

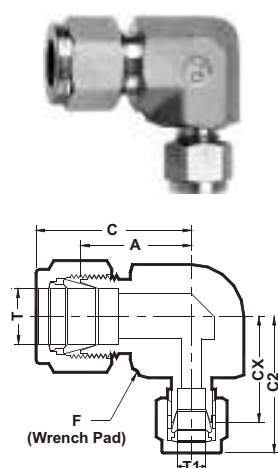


ASTEC Part No.	Tube OD (T)	A	C	D	E	F	G (Hex)	HX
3M-UE	3	22.3	15.3	12.9	2.4	9/16	11	15.7
4M-UE	4	25.4	16.1	13.7	2.4	9/16	11	18.8
6M-UE	6	27.0	17.7	15.3	4.8	9/16	14	19.6
8M-UE	8	28.8	18.8	16.2	6.4	9/16	16	21.3
10M-UE	10	31.5	19.5	17.2	7.9	13/16	19	23.9
12M-UE	12	36.0	22.0	22.8	9.5	13/16	22	25.9
14M-UE	14	38.0	22.0	24.4	11.1	15/16	25	27.9
15M-UE	15	38.8	22.0	24.4	11.9	15/16	25	27.9
16M-UE	16	38.0	22.0	24.4	12.7	15/16	25	27.9
18M-UE	18	39.8	22.0	24.4	15.1	1-1/16	30	29.7
20M-UE	20	44.6	22.0	26.0	15.9	1-3/8	32	34.5
22M-UE	22	44.6	22.0	26.0	18.3	1-3/8	32	34.5
25M-UE	25	49.1	26.5	31.3	21.8	1-3/8	38	36.8

Reducer Union Elbow

Fractional Tube X

Fractional Tube

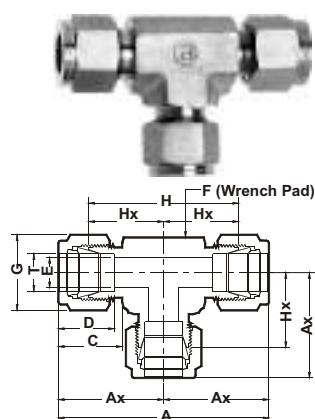


ASTEC Part No.	Tube OD (T)	Tube OD (T1)	A	C	CX	C2	F
3-RUE-2	3/16	1/8	0.69	0.96	0.62	0.92	7/16
4-RUE-2	1/4	1/8	0.77	1.06	0.70	0.96	9/16
5-RUE-2	5/16	1/8	0.88	1.17	0.78	1.04	5/8
5-RUE-4	5/16	1/4	0.88	1.17	0.85	1.14	5/8
6-RUE-2	3/8	1/8	0.91	1.20	0.78	1.04	13/16
6-RUE-4	3/8	1/4	0.91	1.20	0.85	1.09	13/16
6-RUE-5	3/8	5/16	0.91	1.20	0.88	1.17	13/16
8-RUE-4	1/2	1/4	1.02	1.42	0.96	1.25	13/16
8-RUE-5	1/2	5/16	1.02	1.42	0.99	1.28	13/16
8-RUE6	1/2	3/8	1.02	1.42	1.02	1.31	13/16
10-RUE-6	5/8	3/8	1.03	1.43	1.03	1.32	1
10RUE-8	5/8	1/2	1.03	1.43	1.03	1.43	1
12-RUE-4	3/4	1/4	1.16	1.56	1.09	1.38	1-1/16
12-RUE-6	3/4	3/8	1.16	1.56	1.16	1.45	1-1/16
12-RUE-8	3/4	1/2	1.16	1.56	1.16	1.56	1-1/16
14-RUE-4	7/8	1/4	1.36	1.76	1.22	1.51	1-3/8
16-RUE-8	1	1/2	1.45	1.94	1.22	1.62	1-5/16
16-RUE12	1	3/4	1.45	1.94	1.36	1.76	1-3/8

Union Tee

Fractional Tube X

Fractional Tube

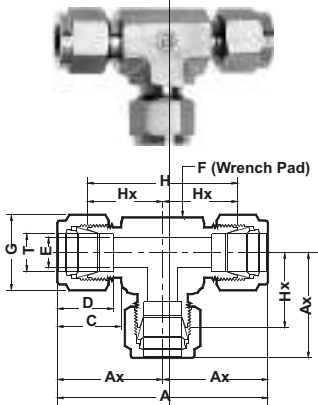


ASTEC Part No.	Tube OD (T)	A	AX	C	D	E	F	G (Hex)	H	HX
1-UT	1/16	1.40	0.70	0.43	0.34	0.05	3/8	7/16	1.10	0.55
2-UT	1/8	1.76	0.88	0.60	0.50	0.09	3/8	7/16	1.24	0.62
3-UT	3/16	1.92	0.96	0.63	0.54	0.12	7/16	7/16	1.40	0.70
4-UT	1/4	2.12	1.06	0.70	0.60	0.19	9/16	9/16	1.54	0.77
5-UT	5/16	2.34	1.17	0.73	0.64	0.25	5/8	5/8	1.76	0.88
6-UT	3/8	2.40	1.20	0.76	0.66	0.28	5/8	13/16	1.82	0.91
8-UT	1/2	2.84	1.42	0.86	0.90	0.41	13/16	7/8	2.04	1.02
10-UT	5/8	3.06	1.53	0.86	0.96	0.50	1	1	2.26	1.13
12-UT	3/4	3.14	1.57	0.86	0.96	0.62	1-1/16	1-1/8	2.34	1.17
14-UT	7/8	3.52	1.76	0.86	1.02	0.72	1-3/8	1-1/4	2.72	1.36
16-UT	1	3.86	1.93	1.04	1.23	0.88	1-3/8	1-1/2	2.90	1.45

Note :- All Dimensions are for reference only and are subject to change.

Union Tee

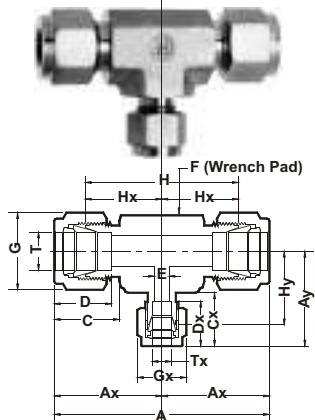
Metric Tube X
Metric Tube



ASTECC Part No.	Tube OD (T)	A	AX	C	D	E	F	G (Hex)	H	HX
2M-UT	2	44.7	22.3	15.3	12.9	1.7	9/16	11	31.50	15.7
3M-UT	3	44.7	22.3	15.3	12.9	2.4	9/16	11	31.50	15.7
4M-UT	4	50.8	25.4	16.1	13.7	2.4	9/16	11	37.60	18.8
6M-UT	6	53.9	27.0	17.7	15.3	4.8	9/16	14	39.10	19.6
8M-UT	8	59.7	29.9	18.6	16.2	6.4	5/8	16	44.70	22.4
10M-UT	10	63.0	31.5	19.5	17.2	7.9	13/16	19	47.80	23.9
12M-UT	12	72.0	36.0	22.0	22.8	9.5	13/16	22	51.80	25.9
14M-UT	14	77.6	38.8	22.0	24.4	11.1	1	25	57.40	28.7
15M-UT	15	77.6	38.8	22.0	24.4	11.9	1	25	57.40	28.7
16M-UT	16	77.6	38.8	22.0	24.4	12.7	1	25	57.40	28.7
18M-UT	18	79.5	38.8	22.0	24.4	15.1	1-1/16	30	59.40	29.7
20M-UT	20	89.3	44.6	22.0	26.0	15.9	1-3/8	32	69.10	34.5
22M-UT	22	89.3	44.6	22.0	26.0	18.3	1-3/8	32	69.10	34.5
25M-UT	25	98.3	49.1	26.5	31.3	21.8	1-3/8	38	73.70	36.8

Reducing Union Tee-2 sim to a Diff Branch

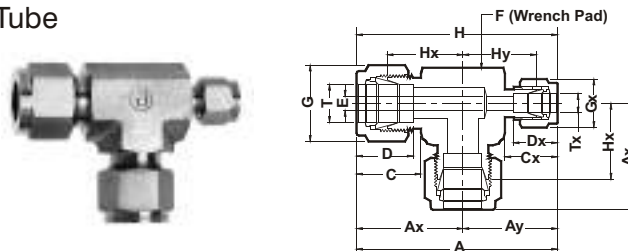
Fractional Tube X
Fractional Tube



ASTECC Part No.	Tube OD (T)	Tube OD (Tx)	A	AX	AY	C	CX	D	DX	E	F	G (Hex)	GX	H	HX	HY
RUTSDB-4-2	1/4	1/8	2.10	1.05	0.96	0.70	0.60	0.60	0.50	0.09	9/16	9/16	7/16	1.52	0.76	0.70
RUTSDB-6-4	3/8	1/4	2.40	1.20	1.14	0.76	0.70	0.66	0.60	0.19	13/16	11/16	9/16	1.82	0.91	0.85
RUTSDB-8-4	1/2	1/4	2.84	1.42	1.25	0.86	0.70	0.90	0.60	0.19	13/16	7/8	9/16	2.04	1.02	0.96
RUTSDB-8-6	1/2	3/8	2.84	1.42	1.31	0.86	0.76	0.90	0.66	0.28	13/16	7/8	11/16	2.04	1.02	1.02
RUTSDB-10-6	5/8	3/8	3.06	1.53	1.42	0.86	0.76	0.96	0.66	0.28	1	1	11/16	2.26	1.13	1.13
RUTSDB-10-8	5/8	1/2	2.86	1.43	1.43	0.86	0.86	0.96	0.90	0.41	1	1	7/8	2.06	1.03	1.03
RUTSDB-12-4	3/4	1/4	3.12	1.56	1.38	0.86	0.70	0.96	0.60	0.19	1-1/16	1-1/8	9/16	2.32	1.16	1.09
RUTSDB-12-6	3/4	3/8	3.14	1.57	1.46	0.86	0.76	0.96	0.66	0.28	1-1/16	1-1/8	11/16	2.34	1.17	1.17
RUTSDB-12-8	3/4	1/2	3.14	1.57	1.57	0.86	0.86	0.96	0.90	0.41	1-1/16	1-1/8	7/8	2.34	1.17	1.17
RUTSDB-12-10	3/4	5/8	3.12	1.56	1.56	0.86	0.86	0.96	0.96	0.50	1-1/16	1-1/8	1	2.32	1.16	1.16
RUTSDB-14-4	7/8	1/4	3.52	1.76	1.59	0.86	0.70	1.02	0.60	0.19	1-3/8	1-1/4	9/16	2.72	1.36	1.30
RUTSDB-14-6	7/8	3/8	3.52	1.76	1.65	0.86	0.76	1.02	0.66	0.28	1-3/8	1-1/2	11/16	2.72	1.36	1.36
RUTSDB-16-4	1	1	3.88	1.94	1.59	1.04	1.04	1.23	1.23	0.88	1-3/8	1-1/2	1-1/2	2.9	1.45	1.30
RUTSDB-16-6	1	3/8	3.86	1.93	1.65	1.04	0.76	1.23	0.66	0.28	1-3/8	1-1/2	1-1/16	2.9	1.45	1.36
RUTSDB-16-8	1	1/2	3.86	1.93	1.76	1.04	0.90	1.23	0.86	0.41	1-3/8	1-1/2	7/8	2.9	1.45	1.36
RUTSDB-16-10	1	1/4	3.88	1.94	1.76	1.04	0.70	1.23	0.60	0.19	1-3/8	1-1/2	9/16	2.9	1.45	1.36
RUTSDB-16-12	1	3/4	3.86	1.93	1.76	1.04	0.86	1.23	0.96	0.62	1-3/8	1-1/2	1-1/8	2.9	1.45	1.36

Reducing Union Tee-2 sim to a Diff Run A

Fractional Tube X Fractional Tube

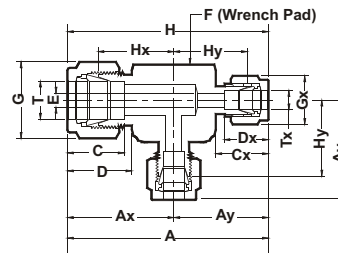


ASTECC Part No.	Tube OD (T)	Tube OD (Tx)	A	AX	AY	C	CX	D	DX	E	F	G (Hex)	GX	H	HX	HY
RUT1SDR-6-4	3/8	1/4	2.34	1.2	1.14	0.76	0.70	0.66	0.60	0.19	13/16	11/16	9/16	1.76	0.91	0.85
RUT1SDR-8-4	1/2	1/4	2.67	1.42	1.25	0.86	0.70	0.90	0.60	0.19	13/16	7/8	9/16	1.98	1.02	0.96
RUT1SDR-8-6	1/2	3/8	2.73	1.42	1.31	0.86	0.76	0.90	0.66	0.28	13/16	7/8	11/16	1.98	1.02	0.96
RUT1SDR-16-8	1	1/2	3.70	1.94	1.76	1.04	0.86	1.23	0.90	0.41	1-3/8	1-1/2	7/8	2.81	1.45	1.36
RUT1SDR-16-12	1	3/4	3.70	1.94	1.76	1.04	0.86	1.23	0.96	0.62	1-3/8	1-1/2	1-1/8	2.81	1.45	1.36

Note :- All Dimensions are for reference only and are subject to change.

Reducing Union Tee-2 sim to a Diff Run B

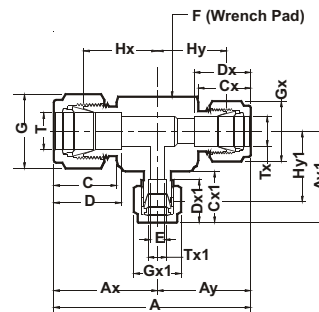
Fractional Tube X Fractional Tube



ASTEC Part No.	Tube OD (T)	Tube OD (Tx)	A	AX	AY	C	CX	D	DX	E	F	G (Hex)	GX	H	HX	HY
RUT2SDR-6-4	3/8	1/4	2.34	1.20	1.14	0.76	0.70	0.66	0.60	0.19	13/16	11/16	9/16	1.76	0.91	0.85
RUT2SDR-8-4	1/2	1/4	2.67	1.42	1.25	0.86	0.70	0.90	0.60	0.19	13/16	7/8	9/16	1.98	1.02	0.96
RUT2SDR-8-6	1/2	3/8	2.73	1.42	1.31	0.86	0.76	0.90	0.66	0.28	13/16	7/8	11/16	2.04	1.02	1.02
RUT2SDR-10-6	5/8	3/8	2.95	1.53	1.42	0.86	0.76	0.96	0.66	0.28	1	1	11/16	2.26	1.13	1.13
RUT2SDR-10-8	5/8	1/2	2.86	1.43	1.43	0.86	0.86	0.96	0.90	0.41	1	1	7/8	2.06	1.03	1.03
RUT2SDR-12-6	3/4	3/8	3.03	1.57	1.46	0.86	0.76	0.96	0.66	0.28	1-1/16	1-1/8	11/16	2.23	1.17	1.17
RUT2SDR-14-12	7/8	3/4	3.52	1.76	1.76	0.86	0.86	1.02	0.96	0.62	1-3/8	1-1/4	1-1/8	2.72	1.36	1.36
RUT2SDR-16-6	1	3/8	3.59	1.94	1.65	1.04	0.76	1.23	0.66	0.28	1-3/8	1-1/2	11/16	2.81	1.45	1.36
RUT2SDR-16-8	1	1/2	3.70	1.94	1.76	1.04	0.86	1.23	0.90	0.41	1-3/8	1-1/2	7/8	2.81	1.45	1.36

Reducing Union Tee All 3 different C

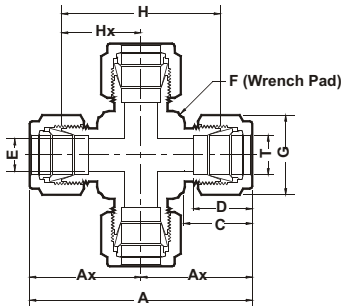
Fractional Tube X Fractional Tube



ASTEC Part No.	Tube OD (T)	Tube OD (Tx)	Tube OD (Tx1)	A	AX	AY	AY1	C	CX	CX1	D	DX	DX1	E	F	G (Hex)	GX	GX1	HX	HY, HY1
RUTAD 10-8-6	5/8	1/2	3/8	3.06	1.53	1.53	1.42	0.86	0.86	0.76	0.96	0.90	0.66	0.28	1	1	7/8	11/16	1.13	1.13
RUTAD 10-6-8	5/8	3/8	1/2	2.75	1.43	1.32	1.43	0.86	0.76	0.86	0.96	0.66	0.90	0.28	1	1	11/16	7/8	1.03	1.03
RUTAD 12-8-6	3/4	1/2	3/8	3.14	1.57	1.57	1.46	0.86	0.86	0.76	0.96	0.90	0.66	0.28	1-1/16	1-1/8	7/8	11/16	1.17	1.17
RUTAD 12-10-6	3/4	5/8	3/8	3.12	1.56	1.56	1.45	0.86	0.86	0.76	0.96	0.96	0.66	0.28	1-1/16	1-1/8	1	11/16	1.16	1.16
RUTAD 12-10-8	3/4	5/8	1/2	3.12	1.56	1.56	1.56	0.86	0.86	0.86	0.96	0.96	0.90	0.41	1-1/16	1-1/8	1	7/8	1.16	1.16
RUTAD 14-8-12	7/8	1/2	3/4	3.52	1.76	1.76	1.76	0.86	0.86	0.86	1.02	0.90	0.96	0.41	1-3/8	1-1/4	7/8	1-1/8	1.36	1.36
RUTAD 14-10-6	7/8	5/8	3/8	3.52	1.76	1.76	1.65	0.86	0.86	0.76	1.02	0.66	0.66	0.28	1-3/8	1-1/4	1	11/16	1.36	1.36
RUTAD 14-12-6	7/8	3/4	3/8	3.52	1.76	1.76	1.65	0.86	0.86	0.76	1.02	0.96	0.66	0.28	1-3/8	1-1/4	1-1/8	11/16	1.36	1.36
RUTAD 14-12-8	7/8	3/4	1/2	3.52	1.76	1.76	1.76	0.86	0.86	0.86	1.02	0.96	0.90	0.41	1-3/8	1-1/4	1-1/8	7/8	1.36	1.36
RUTAD 16-8-4	1	1/2	1/4	3.70	1.94	1.76	1.59	1.04	0.86	0.76	1.23	0.90	0.60	0.19	1-3/8	1-1/2	7/8	9/16	1.45	1.36
RUTAD 16-8-6	1	1/2	3/8	3.70	1.94	1.76	1.65	1.04	0.86	0.76	1.23	0.90	0.66	0.28	1-3/8	1-1/2	7/8	11/16	1.45	1.36
RUTAD 16-10-6	1	5/8	3/8	3.70	1.94	1.76	1.65	1.04	0.86	0.76	1.23	0.96	0.66	0.28	1-3/8	1-1/2	1	11/16	1.45	1.36
RUTAD 16-12-6	1	3/4	3/8	3.69	1.93	1.76	1.65	1.04	0.86	0.76	1.23	0.96	0.66	0.28	1-3/8	1-1/2	1-1/8	11/16	1.41	1.36
RUTAD 16-12-8	1	3/4	1/2	3.70	1.94	1.76	1.76	1.04	0.86	0.86	1.23	0.96	0.90	0.41	1-3/8	1-1/2	1-1/8	7/8	1.45	1.36
RUTAD 16-12-10	1	3/4	5/8	3.70	1.94	1.76	1.76	1.04	0.86	0.86	1.23	0.96	0.96	0.50	1-3/8	1-1/2	1-1/8	1	1.45	1.36
RUTAD 16-14-4	1	7/8	1/4	3.70	1.94	1.76	1.59	1.04	0.86	0.76	1.23	1.02	0.60	0.19	1-3/8	1-1/2	1-1/4	9/16	1.45	1.36
RUTAD 16-14-6	1	7/8	3/8	3.70	1.94	1.76	1.65	1.04	0.86	0.76	1.23	1.02	0.66	0.28	1-3/8	1-1/2	1-1/4	11/16	1.45	1.36
RUTAD 16-14-8	1	7/8	1/2	3.70	1.94	1.76	1.76	1.04	0.86	0.86	1.23	1.02	0.90	0.41	1-3/8	1-1/2	1-1/4	7/8	1.45	1.36
RUTAD 16-14-12	1	7/8	3/4	3.70	1.94	1.76	1.76	1.04	0.86	0.86	1.23	1.02	0.96	0.62	1-3/8	1-1/2	1-1/4	1-1/8	1.45	1.36

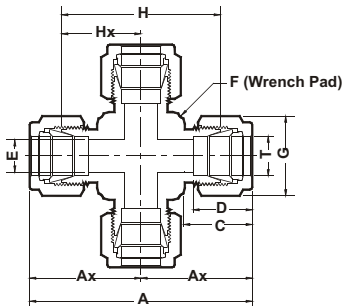
Note :- All Dimensions are for reference only and are subject to change.

Union Cross
Fractional Tube X
Fractional Tube



ASTECC Part No.	Tube OD (T)	A	AX	C	D	E	F	G (Hex)	H	HX
2-UC	1/8	1.76	0.88	0.60	0.50	0.09	7/16	7/16	1.24	0.62
3-UC	3/16	1.92	0.95	0.86	0.54	0.12	7/16	7/16	1.38	0.66
4-UC	1/4	2.12	1.06	0.70	0.60	0.19	9/16	9/16	1.54	0.77
5-UC	5/16	2.34	1.17	0.73	0.64	0.25	5/8	5/8	1.76	0.88
6-UC	3/8	2.40	1.20	0.76	0.66	0.28	13/16	11/16	1.82	0.91
8-UC	1/2	2.84	1.42	0.86	0.90	0.41	13/16	7/8	2.04	1.02
10-UC	5/8	2.86	1.43	0.86	0.96	0.50	1.00	1.00	2.06	1.03
12-UC	3/4	3.14	1.57	0.86	0.96	0.62	1-1/16	1-1/8	2.34	1.17
14-UC	7/8	3.52	1.76	0.86	1.02	0.72	1-3/8	1-1/4	2.72	1.36
16-UC	1	3.86	1.93	1.04	1.23	0.88	1-3/8	1-1/2	2.90	1.45

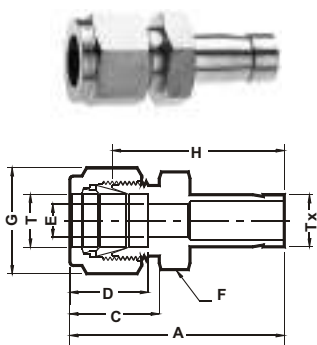
Union Cross
Metric Tube X
Metric Tube



ASTECC Part No.	Tube OD (T)	A	AX	C	D	E	F	G (Hex)	H	HX
3M-UC	3	44.7	22.3	15.3	12.9	2.4	7/16	11	31.50	15.7
4M-UC	4	50.8	25.4	16.10	13.70	2.40	7/16	11	37.60	18.8
6M-UC	6	53.9	27.0	17.7	15.3	4.8	9/16	14	39.10	19.6
8M-UC	8	59.7	29.9	18.6	16.2	6.4	5/8	16	44.70	22.4
10M-UC	10	67.0	33.5	19.5	17.2	7.9	13/16	19	51.80	25.9
12M-UC	12	72.0	36.0	22.0	22.8	9.5	13/16	22	51.80	25.9
16M-UC	16	74.0	37.0	22.0	24.4	12.7	1	25	53.80	26.9
18M-UC	18	76.6	38.3	22.0	24.4	15.1	1-1/16	30	56.40	28.2
20M-UC	20	89.3	44.6	22.0	26.0	15.9	1-3/8	32	69.10	34.5
25M-UC	25	98.3	49.1	26.5	31.3	21.8	1-3/8	38	73.70	36.8

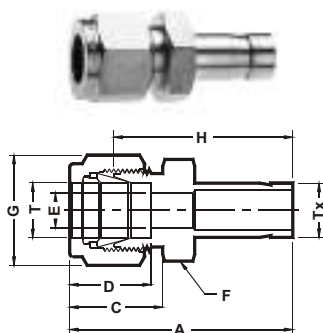
Note :- All Dimensions are for reference only and are subject to change.

Reducer
Fractional Tube X
Fractional Stub



ASTEC Part No.	Tube OD (T)	Tube OD (Tx)	A	C	D	E	F (Hex)	G	H
1-R-2	1/16	1/8	1.15	0.43	0.34	0.05	7/16	7/16	1.00
1-R-4	1/16	1/4	1.24	0.43	0.34	0.05	7/16	7/16	1.09
2-R-1	1/8	1/16	1.14	0.60	0.50	0.03	7/16	7/16	0.88
2-R-2	1/8	1/8	1.32	0.60	0.50	0.08	7/16	7/16	1.06
2-R-3	1/8	3/16	1.35	0.60	0.50	0.09	7/16	7/16	1.09
2-R-4	1/8	1/4	1.42	0.60	0.50	0.09	7/16	7/16	1.16
2-R-6	1/8	3/8	1.48	0.60	0.50	0.09	7/16	7/16	1.22
2-R-8	1/8	1/2	1.74	0.60	0.50	0.09	9/16	7/16	1.48
3-R-2	3/16	1/8	1.37	0.63	0.54	0.08	7/16	7/16	1.11
3-R-4	3/16	1/4	1.46	0.63	0.54	0.12	7/16	7/16	1.2
4-R-2	1/4	1/8	1.45	0.70	0.60	0.08	7/16	9/16	1.16
4-R-3	1/4	3/16	1.48	0.70	0.60	0.12	7/16	9/16	1.19
4-R-4	1/4	1/4	1.54	0.70	0.60	0.19	7/16	9/16	1.25
4-R-5	1/4	5/16	1.57	0.70	0.60	0.19	7/16	9/16	1.28
4-R-6	1/4	3/8	1.60	0.70	0.60	0.19	7/16	9/16	1.31
4-R-8	1/4	1/2	1.82	0.70	0.60	0.19	9/16	9/16	1.53
4-R-10	1/4	5/8	1.89	0.70	0.60	0.19	11/16	9/16	1.6
4-R-12	1/4	3/4	1.88	0.70	0.60	0.19	13/16	9/16	1.59
5-R-6	5/16	3/8	1.65	0.73	0.64	0.25	9/16	5/8	1.36
5-R-8	5/16	1/2	1.87	0.73	0.64	0.25	9/16	5/8	1.58
6-R-4	3/8	1/4	1.63	0.76	0.66	0.19	11/16	11/16	1.34
6-R-6	3/8	3/8	1.70	0.76	0.66	0.28	11/16	11/16	1.41
6-R-8	3/8	1/2	1.91	0.76	0.66	0.28	11/16	11/16	1.62
6-R-10	3/8	5/8	1.98	0.76	0.66	0.28	11/16	11/16	1.69
6-R-12	3/8	3/4	1.98	0.76	0.66	0.28	7/8	11/16	1.69
8-R-4	1/2	1/4	1.77	0.86	0.90	0.19	7/8	7/8	1.37
8-R-6	1/2	3/8	1.84	0.86	0.90	0.28	7/8	7/8	1.44
8-R-8	1/2	1/2	2.06	0.86	0.90	0.39	7/8	7/8	1.66
8-R-10	1/2	5/8	2.12	0.86	0.90	0.41	7/8	7/8	1.72
8-R-12	1/2	3/4	2.12	0.86	0.90	0.41	7/8	7/8	1.72
8-R-16	1/2	1	2.37	0.86	0.90	0.41	1-1/16	7/8	1.97
10-R-12	5/8	3/4	2.15	0.86	0.96	0.50	1	1	1.75
10-R-14	5/8	7/8	2.21	0.86	0.96	0.50	1	1	1.81
10-R-16	5/8	1	2.40	0.86	0.96	0.50	1-1/16	1	2.00
12-R-8	3/4	1/2	2.15	0.86	0.96	0.39	1-1/16	1-1/8	1.75
12-R-16	3/4	1	2.46	0.86	0.96	0.62	1-1/16	1-1/8	2.06
16-R-20	1	1-1/4	3.17	1.04	1.23	0.88	1-3/8	1-1/2	2.69
16-R-24	1	1-1/2	3.51	1.04	1.23	0.88	1-5/8	1-1/2	3.03
16-R-32	1	2	4.43	1.04	1.23	0.88	2-1/8	1-1/2	3.95

Reducer
Metric Tube X
Fractional Stub

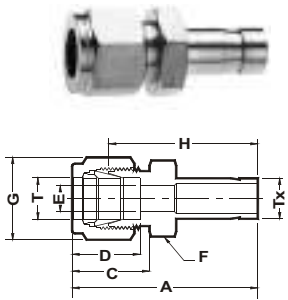


ASTEC Part No.	Tube OD (T)	Tube OD (Tx)	A	C	D	E	F (Hex)	G	H
2M-R-2	2	1/8	33.5	15.3	12.9	1.7	11	11	26.9
3M-R-2	3	1/8	33.5	15.3	12.9	2.0	11	11	26.9
3M-R-4	3	1/4	36.1	15.3	12.9	2.4	11	11	29.5
4M-R-4	4	1/4	37.1	16.1	13.7	2.4	11	11	30.5
6M-R-2	6	1/8	36.9	17.7	15.3	2.0	14	14	29.5
6M-R-4	6	1/4	39.2	17.7	15.3	4.9	14	14	31.8
6M-R-5	6	5/16	39.9	17.7	15.3	4.8	14	14	32.5
6M-R-6	6	3/8	40.7	17.7	15.3	4.8	14	14	33.3
6M-R-8	6	1/2	46.3	17.7	15.3	4.8	14	14	38.9
8M-R-6	8	3/8	42.0	18.6	16.2	6.4	16	16	34.5
8M-R-8	8	1/2	47.6	18.6	16.2	6.4	16	16	40.1
10M-R-6	10	3/8	44.2	19.5	17.2	7.1	19	19	36.6
10M-R-8	10	1/2	49.8	19.5	17.2	7.9	19	19	42.2
12M-R-8	12	1/2	52.3	22.0	22.8	9.5	22	22	42.2
12M-R-12	12	3/4	53.8	22.0	22.8	9.5	22	22	43.7
18M-R-12	18	3/4	56.1	22.0	24.4	15.1	27	30	46
18M-R-16	18	1	62.4	22.0	24.4	15.1	27	30	52.3
25M-R-16	25	1	69.5	26.5	31.3	20.2	35	38	57.2

Note :- All Dimensions are for reference only and are subject to change.

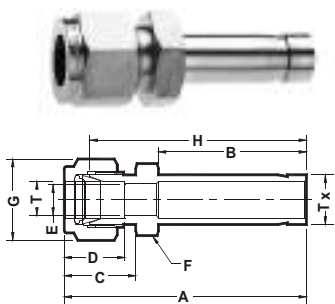


Reducer
Metric Tube X
Metric Stub



ASTEC Part No.	Tube OD (T)	TX	A	C	D	E	F (Hex)	G	H
2M-R-3M	2	3	33.5	15.3	12.9	1.7	11	12	26.9
3M-R-4M	3	4	35.0	15.3	12.9	2.4	11	12	28.4
3M-R-10M	3	6	36.1	15.3	12.9	2.4	11	12	29.5
3M-R-10M	3	10	38.4	15.3	12.9	2.4	14	12	31.80
4M-R-6M	4	6	37.1	16.1	13.7	2.4	11	12	30.50
6M-R-3M	6	3	36.9	17.7	15.3	1.8	14	14	29.5
6M-R-8M	6	8	39.9	17.7	15.3	4.8	14	14	32.8
6M-R-10M	6	10	40.7	17.7	15.3	4.8	14	14	33.30
6M-R-12M	6	12	46.3	17.7	15.3	4.8	14	14	38.90
6M-R-18M	6	18	49.6	17.7	15.3	4.8	22	14	42.2
8M-R-6M	8	6	40.3	18.6	16.2	4.6	16	16	32.5
8M-R-10M	8	10	42.0	18.6	16.2	6.4	16	16	34.50
8M-R-12M	8	12	47.6	18.6	16.2	6.4	16	16	40.10
10M-R-6M	10	6	42.4	19.5	17.2	4.6	19	19	34.80
10M-R-8M	10	8	43.4	19.5	17.2	6.4	19	19	35.80
10M-R-12M	10	12	49.8	19.5	17.2	7.9	19	19	42.20
10M-R-15M	10	15	51.3	19.5	17.2	7.9	19	19	43.7
10M-R-18M	10	18	51.3	19.5	17.2	7.9	22	19	43.7
12M-R-6M	12	6	44.9	22.0	22.8	4.6	22	22	34.80
12M-R-8M	12	8	45.9	22.0	22.8	6.4	22	22	35.8
12M-R-10M	12	10	46.7	22.0	22.8	7.7	22	22	36.60
12M-R-16M	12	16	53.8	22.0	22.8	9.5	22	22	43.70
12M-R-18M	12	18	53.8	22.0	22.8	9.5	22	22	43.70
12M-R-20M	12	20	56.1	22.0	22.8	9.5	22	22	46
12M-R-22M	12	22	56.1	22.0	22.8	9.5	25	22	46
12M-R-25M	12	25	62.4	22.0	22.8	9.5	27	22	52.3
16M-R-12M	16	12	53.0	22.0	24.4	9.1	25	25	42.90
16M-R-18M	16	18	54.7	22.0	24.4	9.1	27	25	46
16M-R-20M	16	20	57.6	22.0	24.4	9.1	27	25	47.8
16M-R-25M	16	25	63.2	22.0	24.4	9.1	27	25	51.8
18M-R-12M	18	12	54.6	22.0	24.4	9.1	27	30	44.50
18M-R-16M	18	16	56.1	22.0	24.4	12.7	27	30	46
18M-R-20M	18	20	57.6	22.0	24.4	15.1	27	30	47.8
18M-R-22M	18	22	57.6	22.0	24.4	15.1	27	30	47.8
18M-R-25M	18	25	62.4	22.0	24.4	15.1	27	30	52.30
20M-R-16M	20	16	57.9	22.0	26.0	12.7	30	32	47.8
20M-R-18M	20	18	57.9	22.0	26.0	13.9	30	32	47.8
20M-R-22M	20	22	59.4	22.0	26.0	15.8	30	32	49.3
20M-R-25M	20	25	64.2	22.0	26.0	15.8	30	32	54.10
22M-R-18M	22	18	57.9	22.0	26.0	13.9	30	32	47.8
22M-R-20M	22	20	59.4	22.0	26.0	15.1	30	32	49.3
22M-R-25M	22	25	64.2	22.0	26.0	18.3	30	32	54.1
25M-R-16M	25	16	63.2	26.5	31.3	15.8	30	32	51
25M-R-18M	25	18	63.1	26.5	31.3	13.9	35	38	50.80
25M-R-20M	25	20	64.6	26.5	31.3	15.1	35	38	52.30

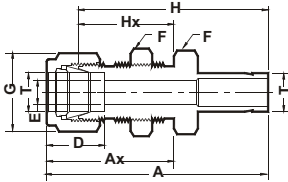
Long Reducer
Fractional Tube X
Fractional Long Stub



ASTEC Part No.	Tube OD (T)	Tube OD (Tx)	A	B	C	D	E	F (Hex)	G	H
6-LR-8	3/8	1/2	2.57	1.57	0.76	0.66	0.25	11/16	11/16	2.28

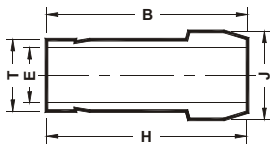
Note :- All Dimensions are for reference only and are subject to change.

Bulk Head Reducer
Fractional Tube X
Fractional Long Stub



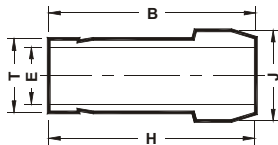
ASTEC Part No.	Tube OD (T)	A	AX	D	E	F (Hex)	G	H	HX	PANEL HOLE DRILL SIZE/HEAD	PANEL THICKNESS
2-BR	1/8	1.95	1.23	0.50	0.08	7/16	7/16	1.69	0.97	21/64	0.50
4-BR	1/4	2.20	1.32	0.60	0.19	9/16	9/16	1.91	1.03	29/64	0.40
6-BR	3/8	2.41	1.45	0.66	0.28	11/16	11/16	2.12	1.16	37/64	0.44
8-BR	1/2	2.87	1.65	0.90	0.39	7/8	7/8	2.47	1.25	49/64	0.50
10-BR	5/8	2.96	1.68	0.96	0.50	1	1	2.56	1.28	57/64	0.50
16-BR	1	3.95	2.26	1.23	0.80	1-1/2	1-1/2	3.47	1.78	1-21/64	0.75

Port Connector
Connects Two Fractional Stub



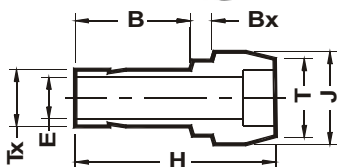
ASTEC Part No.	Tube OD (T)	B	E	H	J
1-PC-1	1/16	0.42	0.03	0.54	0.13
2-PC-2	1/8	0.62	0.09	0.58	0.24
3-PC-3	3/16	0.67	0.16	0.98	0.30
4-PC-4	1/4	0.74	0.19	0.97	0.37
5-PC-5	5/16	0.79	0.25	1.02	0.43
6-PC-6	3/8	0.80	0.30	1.03	0.50
8-PC-8	1/2	1.02	0.39	1.41	0.62
12-PC-12	3/4	1.09	0.59	1.47	0.87
16-PC-16	1	1.36	0.80	1.89	1.12

Port Connector
Connects Two Metric Stub



ASTEC Part No.	Tube OD (T)	B	E	H	J
3M-PC	3	15.7	2.1	22.2	6.0
6M-PC	6	18.7	4.4	24.6	9.0
8M-PC	8	20.0	6.2	25.9	11.0
10M-PC	10	20.2	8.2	26.1	13.1
12M-PC	12	26.0	9.1	35.8	15.0
15M-PC	15	27.6	12.7	37.4	19.0
16M-PC	16	27.6	12.7	37.4	19.0
18M-PC	18	27.6	13.9	37.4	21.0
20M-PC	20	29.2	15.1	38.9	23.0
25M-PC	25	34.5	19.8	48.0	28.0

Reducer Port Connector
Connects Two Fractional Stub



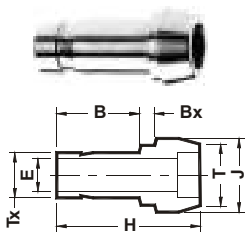
ASTEC Part No.	Tube OD (T)	Tube OD (Tx)	B	BX	E	H	J
2-RPC-1	1/8	1/16	0.34	0.08	0.03	0.68	0.24
4-RPC-1	1/4	1/16	0.34	0.14	0.03	0.71	0.37
4-RPC-2	1/4	1/8	0.53	0.13	0.09	0.89	0.37
6-RPC-2	3/8	1/8	0.53	0.15	0.09	0.98	0.50
6-RPC-4	3/8	1/4	0.62	0.13	0.19	0.98	0.50
8-RPC-4	1/2	1/4	0.62	0.15	0.19	1.15	0.60
8-RPC-6	1/2	3/8	0.69	0.13	0.28	1.2	0.62
12-RPC-8	3/4	1/2	0.96	0.15	0.39	1.49	0.87
16-RPC-8	1	1/2	0.96	0.19	0.39	1.68	1.12
16-RPC-12	1	3/4	1.02	0.16	0.59	1.71	1.12

Note :- All Dimensions are for reference only and are subject to change.



Reducer Port Connector

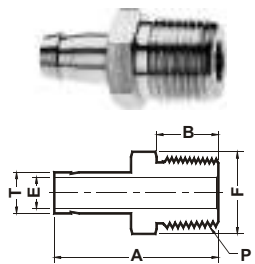
Connects Two Metric Stub



ASTEC Part No.	Tube OD (T)	Tube OD (Tx)	B	BX	E	H	J
6M-RPC-3M	6	3	13.5	3.2	2.2	22.6	9.0
8M-RPC-6M	8	6	15.7	3.1	4.6	24.7	11.0
10M-RPC-6M	10	6	15.7	3.4	4.6	25	13.1
10M-RPC-8M	10	8	17.0	3.1	6.4	26	13.1
12M-RPC-6M	12	6	15.7	3.6	4.6	29.1	15.0
12M-RPC-8M	12	8	16.8	3.4	6.4	29.8	15.0
12M-RPC-10M	12	10	17.5	3.1	7.7	30.4	15.0
16M-RPC-12M	16	12	23.1	3.4	9.1	36.2	19.0

ISOT Male Adapter

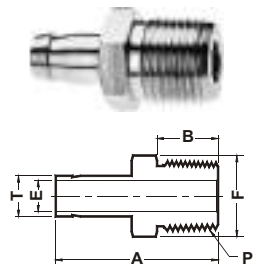
Fractional Stub
X ISOT (M)



ASTEC Part No.	Tube OD (T)	ISOT Thread (P)	A	B	E	F (Hex)
2-MA-2IT	1/8	1/8	1.16	0.38	0.09	7/16
2-MA-4IT	1/8	1/4	1.37	0.56	0.09	9/16
4-MA-2IT	1/4	1/8	1.25	0.38	0.19	7/16
4-MA-4IT	1/4	1/4	1.46	0.56	0.19	9/16
4-MA-8IT	1/4	1/2	1.66	0.75	0.21	7/8
5-MA-2IT	5/16	1/8	1.29	0.38	0.21	7/16
5-MA-4IT	5/16	1/4	1.50	0.56	0.21	9/16
6-MA-4IT	3/8	1/4	1.53	0.56	0.28	9/16
6-MA-6IT	3/8	3/8	1.56	0.56	0.28	11/16
6-MA-8IT	3/8	1/2	1.78	0.75	0.28	7/8
8-MA-4IT	1/2	1/4	1.75	0.56	0.28	9/16
8-MA-6IT	1/2	3/8	1.78	0.56	0.38	11/16
8-MA-8IT	1/2	1/2	2.00	0.75	0.39	7/8
10-MA-8IT	5/8	1/2	2.00	0.75	0.46	7/8
12-MA-12IT	3/4	3/4	2.06	0.75	0.59	1-1/16
16-MA-16IT	1	1	2.60	0.94	0.80	1-3/8

ISOT Male Adapter

Metric Stub
X ISOT (M)

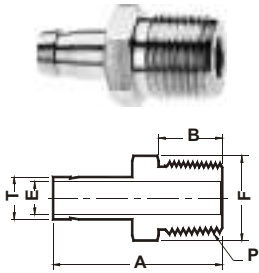


ASTEC Part No.	Tube OD (T)	ISOT Thread (P)	A	B	E	F (Hex)
3M-MA-2IT	3	1/8	29.4	9.7	1.8	11
4M-MA-2IT	4	1/8	29.4	9.7	2.0	11
6M-MA-2IT	6	1/8	32.8	9.7	4.6	11
6M-MA-4IT	6	1/4	38.1	14.2	4.6	14
8M-MA-4IT	8	1/4	39.1	14.2	6.2	14
8M-MA-6IT	8	3/8	39.9	14.2	5.0	14
10M-MA-4IT	10	1/4	39.9	14.2	7.1	14
10M-MA-6IT	10	3/8	40.6	14.2	7.5	18
10M-MA-8IT	10	1/2	46.2	19.1	7.5	18
12M-MA-4IT	12	1/4	46.5	14.2	7.1	16
12M-MA-6IT	12	3/8	46.2	14.2	9.1	18
12M-MA-8IT	12	1/2	51.8	19.1	9.1	22
16M-MA-8IT	16	1/2	50.8	19.1	9.1	18
18M-MA-12IT	18	3/4	51.6	19.1	14.0	27
20M-MA-12IT	20	3/4	52.4	19.1	15.1	27
25M-MA-16IT	25	1	65.9	23.9	19.8	35

Note :- All Dimensions are for reference only and are subject to change.

NPT Male Adapter

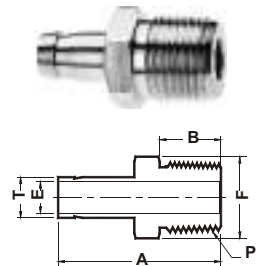
Fractional Stub
X NPT (M)



ASTECC Part No.	Tube OD (T)	NPT Thread (P)	A	B	E	F (Hex)
1-MA-2N	1/16	1/8	1.00	0.38	0.03	7/16
2-MA-2N	1/8	1/8	1.16	0.38	0.09	7/16
2-MA-4N	1/8	1/4	1.37	0.56	0.09	9/16
3-MA-2N	3/16	1/8	1.20	0.38	0.12	7/16
3-MA-4N	3/16	1/4	1.42	0.56	0.12	9/16
4-MA-2N	1/4	1/8	1.25	0.38	0.19	7/16
4-MA-4N	1/4	1/4	1.42	0.56	0.19	9/16
4-MA-6N	1/4	3/8	1.49	0.56	0.19	11/16
4-MA-8N	1/4	1/2	1.71	0.75	0.19	7/8
5-MA-2N	5/16	1/8	1.29	0.38	0.19	7/16
5-MA-4N	5/16	1/4	1.50	0.56	0.25	9/16
5-MA-6N	5/16	3/8	1.53	0.56	0.21	11/16
5-MA-8N	5/16	1/2	1.74	0.75	0.21	7/8
6-MA-2N	3/8	1/8	1.32	0.38	0.19	7/16
6-MA-4N	3/8	1/4	1.53	0.56	0.28	9/16
6-MA-6N	3/8	3/8	1.56	0.56	0.28	11/16
6-MA-8N	3/8	1/2	1.78	0.75	0.28	7/8
8-MA-4N	1/2	1/4	1.75	0.56	0.28	9/16
8-MA-6N	1/2	3/8	1.78	0.56	0.39	11/16
8-MA-8N	1/2	1/2	2.00	0.75	0.39	7/8
10-MA-8N	5/8	1/2	2.06	0.75	0.47	7/8
12-MA-8N	3/4	1/2	2.06	0.75	0.47	7/8
12-MA-12N	3/4	3/4	2.06	0.75	0.59	1-1/16
12-MA-16N	3/4	1	2.41	0.94	0.81	1-3/8
16-MA-12N	1	3/4	2.31	0.75	0.62	1-1/16
16-MA-16N	1	1	2.60	0.94	0.81	1-3/8

NPT Male Adapter

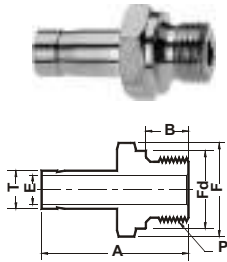
Metric Stub
X NPT (M)



ASTECC Part No.	Tube OD (T)	NPT Thread (P)	A	B	E	F (Hex)
3M-MA-2N	3	1/8	29.4	9.7	1.8	11
4M-MA-2N	4	1/8	29.4	9.7	2.0	11
6M-MA-2N	6	1/8	32.8	9.7	4.6	11
6M-MA-4N	6	1/4	38.1	14.2	4.6	14
6M-MA-6N	6	3/8	36.5	14.2	3.0	18
6M-MA-8N	6	1/2	42.1	19.1	3.0	22
8M-MA-4N	8	1/4	39.1	14.2	6.2	14
8M-MA-6N	8	3/8	38.1	14.2	6.4	18
10M-MA-4N	10	1/4	39.9	14.2	7.1	14
10M-MA-6N	10	3/8	40.6	14.2	7.7	18
10M-MA-8N	10	1/2	46.2	19.2	7.7	22
12M-MA-4N	12	1/4	46.5	14.2	7.1	16
12M-MA-6N	12	3/8	44.5	14.2	6.1	18
12M-MA-8N	12	1/2	52.0	19.1	9.1	22
16M-MA-8N	16	1/2	50.8	19.1	12.7	22
16M-MA-12N	16	3/4	51.6	19.1	12.7	27
18M-MA-8N	18	1/2	50.8	19.1	12.7	22
18M-MA-12N	18	3/4	51.6	19.1	14.0	27
20M-MA-8N	20	1/2	51.8	19.1	15.0	22
20M-MA-12N	20	3/4	52.4	19.1	15.1	27
25M-MA-16N	25	1	65.9	23.9	19.8	35

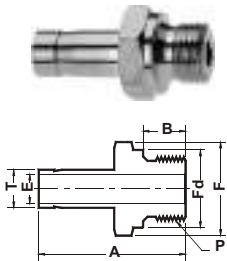
Note :- All Dimensions are for reference only and are subject to change.

**ISOP-RS Type
Male Adapter
Fractional Stub**



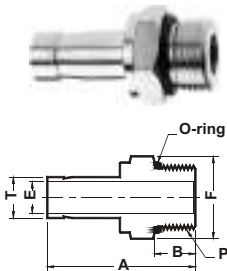
ASTEC Part No.	Tube OD (T)	ISOP Thread (P)	A	B	E	F (Hex)	Fd
2-MA-2IPS	1/8	1/8	1.22	0.28	0.09	9/16	0.54
2-MA-4IPS	1/8	1/4	1.41	0.44	0.09	3/4	0.70
4-MA-2IPS	1/4	1/8	1.31	0.28	0.16	9/16	0.54
4-MA-4IPS	1/4	1/4	1.50	0.44	0.19	3/4	0.70
6-MA-2IPS	3/8	1/8	1.34	0.28	0.05	3/4	0.70
6-MA-4IPS	3/8	1/4	1.57	0.44	0.23	3/4	0.70
6-MA-6IPS	3/8	3/8	1.60	0.44	0.28	7/8	0.85
6-MA-8IPS	3/8	1/2	1.69	0.56	0.28	1-1/16	0.85
8-MA-4IPS	1/2	1/4	1.79	0.44	0.23	3/4	0.70
8-MA-6IPS	1/2	3/8	1.82	0.44	0.31	7/8	0.85
8-MA-8IPS	1/2	1/2	1.94	0.56	0.39	1-1/16	1.02
10-MA-4IPS	5/8	1/2	1.97	0.56	0.47	1-1/16	1.02
12-MA-2IPS	3/4	3/4	2.16	0.62	0.59	1-5/16	1.25
16-MA-6IPS	1	1	2.54	0.72	0.78	1-5/8	1.53

**ISOP-RS Type
Male Adapter
Metric Stub**



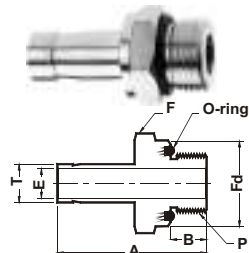
ASTEC Part No.	Tube OD (T)	ISOP Thread (P)	A	B	E	F (Hex)	Fd
3M-MA-2IPS	3	1/8	29.6	7.1	1.8	14	13.7
4M-MA-2IPS	4	1/8	31.8	7.1	2.0	14	13.7
6M-MA-2IPS	6	1/8	34.3	11.2	4.0	14	13.7
6M-MA-4IPS	6	1/4	39.1	11.2	4.6	19	17.9
8M-MA-4IPS	8	1/4	40.1	11.2	5.9	19	17.9
10M-MA-4IPS	10	1/4	40.9	11.2	5.9	22	17.9
10M-MA-6IPS	10	3/8	41.7	11.2	7.7	27	21.7
10M-MA-8IPS	10	1/2	44.7	14.2	7.7	19	25.9
12M-MA-4IPS	12	1/4	46.7	11.2	5.9	22	17.9
12M-MA-6IPS	12	3/8	47.2	11.2	7.9	27	21.7
12M-MA-8IPS	12	1/2	50.5	14.2	9.1	27	25.9
16M-MA-8IPS	16	1/2	50.8	14.2	11.9	27	25.9
18M-MA-12IPS	18	3/4	56.1	15.7	13.9	35	31.9
20M-MA-12IPS	20	3/4	54.0	16.0	15.8	33	31.9

**SAE/MS Straight
Thread Male Adapter
For Fractional Stub**



ASTEC Part No.	Tube OD (T)	Straight Thread (P)	A	B	E	F (Hex)	ST-ORING
2-MA-5SM	1/8	5/16-24	1.20	0.30	0.09	7/16	-902
4-MA-7SM	1/4	7/16-20	1.39	0.36	0.19	9/16	-904
6-MA-7SM	3/8	7/16-20	1.46	0.36	0.19	9/16	-904
6-MA-9SM	3/8	9/16-18	1.52	0.39	0.28	11/16	-906
6-MA-12SM	3/8	3/4-16	1.60	0.44	0.28	7/8	-908
8-MA-9SM	1/2	9/16-18	1.74	0.39	0.39	11/16	-906
8-MA-12SM	1/2	3/4-16	1.82	0.44	0.39	7/8	-908
10-MA-14SM	5/8	7/8-14	1.94	0.50	0.50	1	-910
12-MA-17SM	3/4	1-1/16-12	2.10	0.59	0.59	1-1/4	-912
16-MA-21SM	1	1-5/16-12	2.41	0.59	0.80	1-1/2	-916

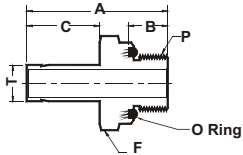
**O Seal Straight
Male Adapter
For Fractional Stub**



ASTEC Part No.	Tube OD (T)	Straight Thread (P)	A	B	E	F (Hex)	Fd	ST-ORING
2-MA-5OSU	1/8	5/16-24	1.28	0.34	0.09	9/16	0.55	-11
3-MA-6OSU	3/16	3/8-24	1.38	0.38	0.12	5/8	0.62	-13
4-MA-7OSU	1/4	7/16-20	1.54	0.41	0.19	3/4	0.74	-13
5-MA-8OSU	5/16	1/2-24	1.64	0.44	0.25	7/8	0.86	-112
6-MA-9OSU	3/8	9/16-24	1.70	0.47	0.28	15/16	0.93	-113
8-MA-12OSU	1/2	3/4-24	1.95	0.47	0.39	1-1/8	1.12	-116

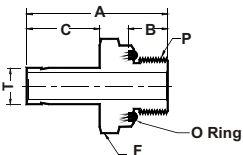
Note :- All Dimensions are for reference only and are subject to change.

**O Seal ISOP
Male Adapter
For Fractional Stub**



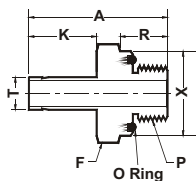
ASTEC Part No.	Tube OD (T)	ISOP Thread (P)	A	B	C	E	F (Hex)
4-MA-4OSIP	1/4	1/4	1.50	0.47	0.63	0.18	3/4
4-MA-6OSIP	1/4	3/8	1.50	0.47	0.63	0.18	3/4
8-MA-4OSIP	1/2	1/4	1.75	0.47	0.91	0.25	3/4
8-MA-6OSIP	1/2	3/8	1.78	0.47	0.91	0.31	7/8
8-MA-8OSIP	1/2	1/2	1.94	0.55	0.91	0.39	1-1/16

**O Seal ISOP
Male Adapter
For Metric Stub**



ASTEC Part No.	Tube OD (T)	ISOP Thread (P)	A	B	C	E	F (Hex)
6M-MA-4OSIP	6	1/4	36.6	7.9	15.9	4.0	19
6M-MA-8OSIP	6	1/2	42.7	14.0	15.9	4.0	27
10M-MA-4OSIP	10	1/4	38.1	11.9	17.5	6.4	19
10M-MA-8OSIP	10	1/2	44.2	14.0	17.5	7.5	27
12M-MA-4OSIP	12	1/4	43.7	11.9	23.0	6.4	19
12M-MA-6OSIP	12	3/8	45.0	11.9	23.0	7.9	22
12M-MA-8OSIP	12	1/2	49.8	14.0	23.0	9.1	27

**O Seal NPT
Male Adapter
For Fractional Stub**

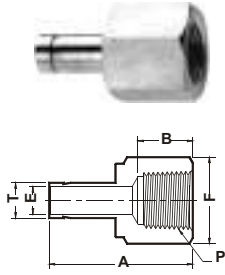


ASTEC Part No.	Tube OD (T)	NPT Thread (P)	A	F (Hex)	R	K	X	ST-ORING
1-MA-2OSN	1/16	1/8	1.03	3/4	0.28	0.34	0.74	2-111
4-MA-2OSN	1/4	1/8	1.31	3/4	0.28	0.63	0.74	2-111
4-MA-4OSN	1/4	1/4	1.44	15/16	0.38	0.63	0.93	2-113
4-MA-6OSN	1/4	3/8	1.50	1-1/8	0.41	0.63	1.12	2-116
5-MA-2OSN	5/16	1/8	1.34	3/4	0.28	0.66	0.74	2-111
5-MA-4OSN	5/16	1/4	1.47	15/16	0.38	0.66	0.93	2-113
6-MA-2OSN	3/8	1/8	1.38	3/4	0.28	0.69	0.74	2-111
6-MA-4OSN	3/8	1/4	1.50	15/16	0.38	0.69	0.93	2-113
6-MA-6OSN	3/8	3/8	1.59	1-1/8	0.41	0.69	1.12	2-116
8-MA-6OSN	1/2	3/8	1.78	1-1/8	0.41	0.91	1.12	2-116
10-MA-8OSN	5/8	1/2	2.14	1-3/8	0.53	0.97	1.3	2-212
12-MA-12OSN	3/4	3/4	2.16	1-1/2	0.56	0.97	1.49	2-215
16-MA-16OSN	1	1	2.56	1-3/4	0.66	1.22	1.65	2-219

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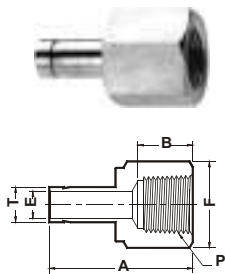


**NPT Female Adapter
For Fractional Stub**



ASTEC Part No.	Tube OD (T)	NPT Thread (P)	A	B	E	F (HEX)
1-FA-2N	1/16	1/8	1.07	0.41	0.031	9/16
2-FA-2N	1/8	1/8	1.24	0.41	0.09	9/16
2-FA-4N	1/8	1/4	1.39	0.59	0.09	3/4
3-FA-2N	3/16	1/8	1.25	0.41	0.116	9/16
3-FA-4N	3/16	1/4	1.41	0.59	0.12	3/4
4-FA-2N	1/4	1/8	1.30	0.41	0.19	9/16
4-FA-4N	1/4	1/4	1.46	0.59	0.19	3/4
4-FA-6N	1/4	3/8	1.55	0.59	0.19	7/8
4-FA-8N	1/4	1/2	1.76	0.78	0.19	1-1/16
5-FA-2N	5/16	1/8	1.34	0.41	0.219	9/16
5-FA-4N	5/16	1/4	1.48	0.59	0.25	3/4
5-FA-6N	5/16	3/8	1.59	0.59	0.281	7/8
6-FA-2N	3/8	1/8	1.35	0.41	0.28	9/16
6-FA-4N	3/8	1/4	1.50	0.59	0.28	3/4
6-FA-6N	3/8	3/8	1.59	0.59	0.28	7/8
6-FA-8N	3/8	1/2	1.84	0.78	0.28	1-1/16
8-FA-4N	1/2	1/4	1.71	0.59	0.39	3/4
8-FA-6N	1/2	3/8	1.79	0.59	0.39	7/8
8-FA-8N	1/2	1/2	2.04	0.78	0.39	1-1/16
10-FA-6N	5/8	3/8	1.86	0.59	0.469	7/8
10-FA-8N	5/8	1/2	2.09	0.78	0.50	1-1/16
12-FA-8N	3/4	1/2	2.08	0.78	0.59	1-1/16
12-FA-12N	3/4	3/4	2.16	0.81	0.59	1-5/16
12-FA-16N	3/4	1	2.30	1.00	0.59	1-5/8
14-FA-12N	7/8	3/4	2.22	0.81	0.57	1-5/16
16-FA-12N	1	3/4	2.39	0.81	0.80	1-5/16
16-FA-16N	1	1	2.53	1.00	0.80	1-5/8

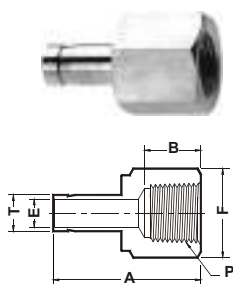
**NPT Female Adapter
For Metric Stub**



ASTEC Part No.	Tube OD (T)	NPT Thread (P)	A	B	E	F (HEX)
3M-FA-2N	3	1/8	31.3	9.90	1.3	14
4M-FA-2N	4	1/8	29.4	9.90	2.0	14
6M-FA-2N	6	1/8	32.5	9.9	4.6	14
6M-FA-4N	6	1/4	37.1	15.0	4.6	19
8M-FA-2N	8	1/8	35.1	9.90	6.4	14
8M-FA-4N	8	1/4	37.6	15.0	6.4	19
8M-FA-6N	8	3/8	36.5	15.0	7.5	22
10M-FA-4N	10	1/4	38.1	15.0	7.7	19
10M-FA-6N	10	3/8	40.1	15.0	7.7	22
10M-FA-8N	10	1/2	46.5	19.8	7.7	27
12M-FA-4N	12	1/4	43.7	15.0	9.1	19
12M-FA-6N	12	3/8	42.9	15.0	12.7	22
12M-FA-8N	12	1/2	52.3	19.8	9.1	27
16M-FA-8N	16	1/2	49.2	19.8	12.7	27
18M-FA-12N	18	3/4	52.4	20.60	14.0	32
20M-FA-8N	20	1/2	50	19.80	15.0	27
20M-FA-12N	20	3/4	53.2	20.60	15.1	32
25M-FA-16N	25	1	66.7	25.40	19.8	41

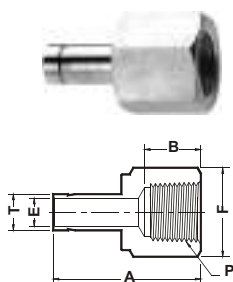
Note :- All Dimensions are for reference only and are subject to change.

ISOT Female Adapter For Fractional Stub



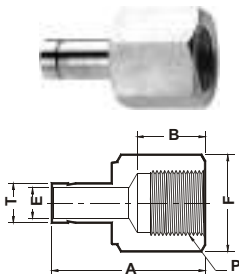
ASTEC Part No.	Tube OD (T)	ISOT Thread (P)	A	B	E	F (Hex)
4-FA-2IT	1/4	1/8	1.30	0.41	0.19	9/16
4-FA-4IT	1/4	1/4	1.45	0.59	0.19	3/4
6-FA-4IT	3/8	1/4	1.50	0.59	0.28	3/4
6-FA-6IT	3/8	3/8	1.59	0.59	0.28	7/8
8-FA-4IT	1/2	1/4	1.71	0.59	0.39	3/4
8-FA-6IT	1/2	3/8	1.80	0.59	0.39	7/8
8-FA-8IT	1/2	1/2	2.05	0.78	0.39	1-1/16

ISOT Female Adapter For Metric Stub



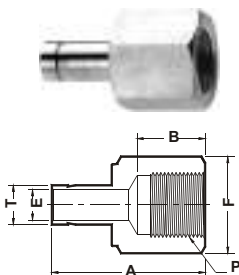
ASTEC Part No.	Tube OD (T)	ISOT Thread (P)	A	B	E	F (Hex)
3M-FA-2IT	3	1/8	27.8	9.90	1.3	14
4M-FA-2IT	4	1/8	28.6	9.90	2	14
6M-FA-2IT	6	1/8	33.0	9.9	4.6	14
8M-FA-4IT	8	1/4	39.1	15.0	6.4	19
10M-FA-4IT	10	1/4	38.1	15.0	7.7	19
10M-FA-6IT	10	3/8	31.8	15.0	7.5	22
10M-FA-8IT	10	1/2	41.3	19.80	7.5	27
12M-FA-4IT	12	1/4	40.5	15.0	9.1	19
12M-FA-6IT	12	3/8	43.7	15.0	9.1	22
12M-FA-8IT	12	1/2	46.8	19.80	9.1	27
16M-FA-8IT	16	1/2	48.4	19.80	12.7	27
18M-FA-12IT	18	3/4	51.6	20.60	14.0	32
20M-FA-12IT	20	3/4	52.4	20.60	15.1	32
25M-FA-16IT	25	1	66.7	25.40	19.8	41

ISOP Female Adapter For Fractional Stub



ASTEC Part No.	Tube OD (T)	ISOP Thread (P)	A	B	E	F (Hex)
2-FA-2IP	1/8	1/8	1.17	0.51	0.09	9/16
4-FA-2IP	1/4	1/8	1.25	0.51	0.19	9/16
4-FA-4IP	1/4	1/4	1.50	0.73	0.19	3/4
6-FA-4IP	3/8	1/4	1.55	0.73	0.28	3/4
6-FA-6IP	3/8	3/8	1.57	0.73	0.28	15/16
8-FA-6IP	1/2	3/8	1.78	0.73	0.39	15/16
8-FA-8IP	1/2	1/2	1.95	0.87	0.39	1-1/16

ISOP Female Adapter For Metric Stub

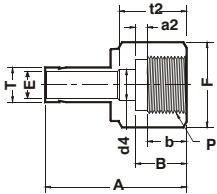


ASTEC Part No.	Tube OD (T)	ISOP Thread (P)	A	B	E	F (Hex)
3M-FA-2IP	3	1/8	28.6	13.5	1.3	14
3M-FA-4IP	3	1/4	28.6	13.7	1.6	19
4M-FA-2IP	4	1/8	29.4	14.3	2.0	14
6M-FA-2IP	6	1/8	32.0	13.0	4.6	14
6M-FA-4IP	6	1/4	37.8	18.5	4.6	19
8M-FA-4IP	8	1/4	38.1	16.7	6.4	19
10M-FA-4IP	10	1/4	38.9	17.5	7.5	19
10M-FA-8IP	10	1/2	43.7	17.5	7.5	27
12M-FA-6IP	12	3/8	44.5	23.0	9.1	22
12M-FA-8IP	12	1/2	48.4	23.0	9.1	27
16M-FA-8IP	16	1/2	50.0	24.6	12.7	27
18M-FA-12IP	18	3/4	53.2	24.6	14.0	32
20M-FA-12IP	20	3/4	54.0	25.4	15.1	32
25M-FA-16IP	25	1	67.5	31.8	19.8	41

Note :- All Dimensions are for reference only and are subject to change.

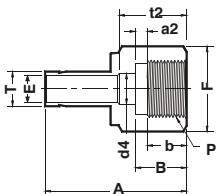


**ISOP (Gauge)
Female Adapter
For Fractional Stub**



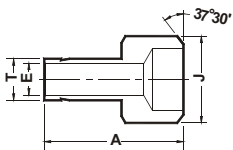
ASTEC Part No.	Tube OD (T)	ISOP Thread (P)	A	B	E	F (Hex)	a2Min	bMin	d4	t2
4-FA-4IPG	1/4	1/4	1.39	0.51	0.19	3/4	0.06	0.37	0.22	0.67
6-FA-6IPG	3/8	3/8	1.55	0.56	0.26	7/8	0.06	0.39	-	-
8-FA-8IPG	1/2	1/2	1.80	0.74	0.28	1-1/16	0.06	0.57	-	-

**ISOP (Gauge)
Female Adapter
For Metric Stub**



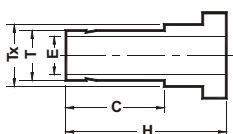
ASTEC Part No.	Tube OD (T)	ISOP Thread (P)	A	B	E	F (Hex)	a2Min	bMin	d4	t2
6M-FA-4IPG	6	1/4	35.3	12.9	4.6	19	1.6	9.5	5.5	17.0
6M-FA-6IPG	6	3/8	38.4	14.1	4.6	25	1.6	10.0	6.5	20.3
6M-FA-8IPG	6	1/2	42.9	18.9	4.6	27	1.6	14.5	7.0	24.9
8M-FA-4IPG	8	1/4	33.0	12.9	5.5	19	1.6	9.5	-	-
8M-FA-8IPG	8	1/2	43.7	18.9	6.2	27	1.6	14.5	7.0	24.9
10M-FA-4IPG	10	1/4	34.5	12.9	5.5	19	1.6	9.5	-	-
10M-FA-8IPG	10	1/2	40.1	18.9	7.0	27	1.6	14.5	-	-
12M-FA-4IPG	12	1/4	40.1	12.9	5.5	19	1.6	9.5	-	-
12M-FA-8IPG	12	1/2	48.8	18.9	7.0	27	1.6	14.5	-	-
16M-FA-8IPG	16	1/2	49.0	18.9	7.0	27	1.6	14.5	-	-
18M-FA-8IPG	18	1/2	49.3	18.9	7.0	27	1.6	14.5	-	-

**Pipe BW Adapter
For Fractional Stub**



ASTEC Part No.	Tube OD (T)	Pipe BW	A	E	J
4-WA-4	1/4	1/4	1.14	0.19	0.540
6-WA-8	3/8	1/2	1.46	0.28	0.840
8-WA-8	1/2	1/2	1.66	0.39	0.840
8-WA-12	1/2	3/4	1.68	0.39	1.050
12-WA-12	3/4	3/4	1.87	0.59	1.050

**O Ring Face Seal
VCO Gland Adaptor
For Fractional Stub**

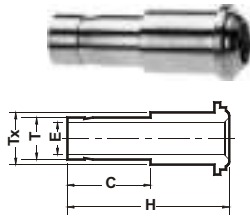


ASTEC Part No.	Tube OD (T)	C	E	H	TX
4-VCOA	1/4	0.64	0.19	1.31	0.38
6-VCOA	3/8	0.70	0.28	1.38	0.60
8-VCOA	1/2	0.96	0.39	1.62	0.60
12-VCOA	3/4	1.02	0.59	1.8	0.92
16-VCOA	1	1.30	0.80	2.05	1.19

Note :- All Dimensions are for reference only and are subject to change.

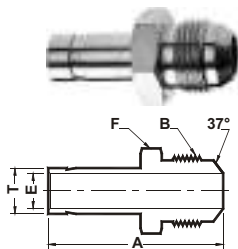
**O Metal Gasket
Face Seal VCR Gland**
For Fractional Stub

ASTECC Part No.	Tube OD (T)	C	E	H	TX
4-VCRA	1/4	0.64	0.19	1.62	0.35
6-VCRA	3/8	0.70	0.28	1.81	0.60
8-VCRA	1/2	0.96	0.39	1.94	0.60



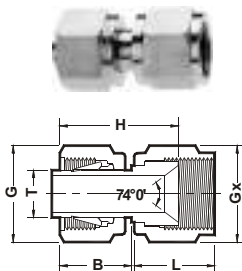
**Male AN Flare
AN Adapter**
For Fractional Stub

ASTECC Part No.	Tube OD (T)	AN TUBE FLARED	A	B	E	F (Hex)
4-ANA-4	1/4	1/4	1.46	7/16-20UNJF-3	0.19	1/2
6-ANA-4	3/8	1/4	1.53	7/16-20UNJF-3	0.28	1/2
6-ANA-6	3/8	3/8	1.56	9/16-18UNJF-3	0.28	5/8
8-ANA-8	1/2	1/2	1.91	3/4-16UNJF-3	0.39	13/16
12-ANA-12	3/4	3/4	2.21	1-1/16-12UNJ-3	0.59	1-1/8
16-ANA-16	1	1	2.58	1-5/16-12UNJ-3	0.80	1-3/8



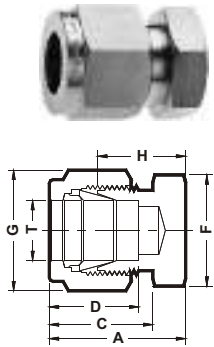
**Female AN
Adapter**
For Fractional Stub

ASTECC Part No.	Tube OD (T)	AN TUBE	B	G (Hex)	GX	H	L
2-ANA-2N	1/8	1/8	0.53	7/16	3/8	0.73	0.54
2-ANA-4N	1/8	1/4	0.53	7/16	9/16	0.75	0.62
4-ANA-4N	1/4	1/4	0.62	9/16	9/16	0.84	0.62
6-ANA-6N	3/8	3/8	0.69	11/16	11/16	0.98	0.72
8-ANA-8N	1/2	1/2	0.91	7/8	7/8	1.25	0.85



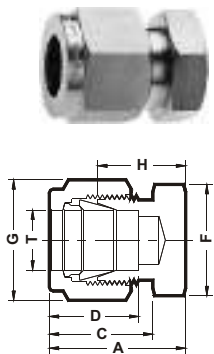
Note :- All Dimensions are for reference only and are subject to change.

Cap
Fractional Tube



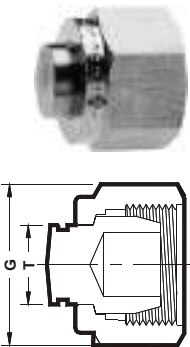
ASTEC Part No.	Tube OD (T)	A	C	D	F (Hex)	G	H
1-C	1/16	0.59	0.43	0.34	7/16	5/16	0.44
2-C	1/8	0.79	0.60	0.50	7/16	7/16	0.53
3-C	3/16	0.84	0.63	0.54	7/16	7/16	0.58
4-C	1/4	0.92	0.70	0.60	9/16	9/16	0.63
5-C	5/16	0.96	0.73	0.64	5/8	5/8	0.67
6-C	3/8	1.01	0.76	0.66	11/16	11/16	0.72
8-C	1/2	1.15	0.86	0.90	7/8	7/8	0.75
10-C	5/8	1.18	0.86	0.96	1	1	0.78
12-C	3/4	1.24	0.86	0.96	1-1/8	1-1/8	0.84
14-C	7/8	1.34	0.86	1.02	1-1/4	1-1/4	0.94
16-C	1	1.51	1.04	1.23	1-1/2	1-1/2	1.03

Cap
Metric Tube



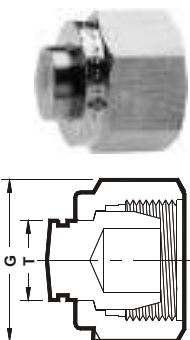
ASTEC Part No.	Tube OD (T)	A	C	D	F (Hex)	G	H
2M-C	2	20.1	15.3	12.9	11	11	13.5
3M-C	3	20.1	15.3	12.9	11	11	13.5
4M-C	4	21.3	16.1	13.7	11	11	14.7
6M-C	6	23.10	17.7	15.3	14	14	15.7
8M-C	8	24.50	18.6	16.2	16	16	17
10M-C	10	26.60	19.5	17.2	19	19	19
12M-C	12	29.10	22.0	22.8	22	22	19
14M-C	14	29.90	22.0	24.4	25	25	19.8
15M-C	15	29.90	22.0	24.4	25	25	19.8
16M-C	16	29.90	22.0	24.4	25	25	19.8
18M-C	18	31.40	22.0	24.4	30	30	21.3
20M-C	20	34.00	22.0	26.0	32	32	23.9
22M-C	22	34.00	22.0	26.0	32	32	23.9
25M-C	25	38.50	26.5	31.3	38	38	26.2

Plug-Astec Port Ends
Fractional Tube



ASTEC Part No.	Tube OD (T)	G (Hex)
1-TP	1/16	7/16
2-TP	1/8	7/16
3-TP	3/16	7/16
4-TP	1/4	9/16
5-TP	5/16	5/8
6-TP	3/8	11/16
8-TP	1/2	7/8
10-TP	5/8	1
12-TP	3/4	1-1/8
14-TP	7/8	1-1/4
16-TP	1	1-1/2

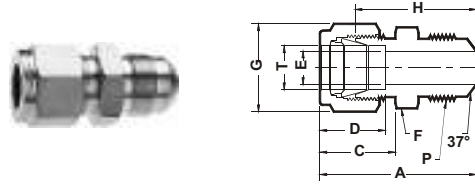
Plug-Astec Port Ends
Metric Tube



ASTEC Part No.	Tube OD (T)	G (Hex)
2M-TP	2	11
3M-TP	3	11
6M-TP	6	11
8M-TP	8	14
10M-TP	10	16
12M-TP	12	19
14M-TP	14	22
15M-TP	15	25
16M-TP	16	25
18M-TP	18	30
20M-TP	20	32
22M-TP	22	32
25M-TP	25	38

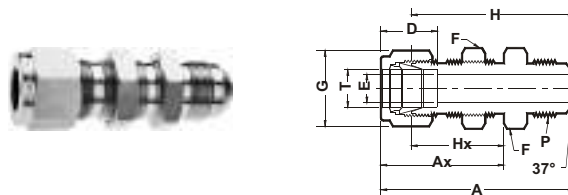
Note :- All Dimensions are for reference only and are subject to change.

An Flare (M) AN Union For Fractional Tube



ASTEC Part No.	Tube OD (T)	AN TUBE	A	C	D	E	F (Hex)	G	H	P
1-ANU-2	1/16	1/8	1.07	0.43	0.34	0.05	7/16	5/16	0.92	5/16-24UNJF-3
2-ANU-2	1/8	1/8	1.27	0.60	0.50	0.06	7/16	7/16	1.01	5/16-24UNJF-3
2-ANU-4	1/8	1/4	1.38	0.60	0.50	0.09	9/16	7/16	1.12	7/16-20UNJF-3
3-ANU-3	3/16	3/16	1.32	0.63	0.54	0.09	7/16	1/2	1.06	7/16-20UNJF-3
4-ANU-4	1/4	1/4	1.48	0.70	0.60	0.17	9/16	9/16	1.19	7/16-20UNJF-3
5-ANU-5	5/16	5/16	1.51	0.73	0.64	0.23	9/16	5/8	1.22	1/2-20UNJF-3
6-ANU-4	3/8	1/4	1.56	0.76	0.66	0.17	5/8	11/16	1.27	7/16-20UNJF-3
6-ANU-6	3/8	3/8	1.56	0.76	0.66	0.28	5/8	11/16	1.27	9/16-18UNJF-3
8-ANU-8	1/2	1/2	1.81	0.86	0.90	0.39	7/8	7/8	1.41	3/4-16UNJF-3
10-ANU-10	5/8	5/8	1.93	0.86	0.54	0.50	15/16	1.00	1.53	1-20UNJF-3
12-ANU-12	3/4	3/4	2.10	0.86	0.96	0.61	1-1/8	1-1/8	1.7	1-1/16-12UNJ-3
16-ANU-16	1	1	2.42	1.04	1.23	0.84	1-3/8	1-1/2	1.94	1-5/16-12UNJ-3

An Flare (M) AN Bulk Head Union For Fractional Tube

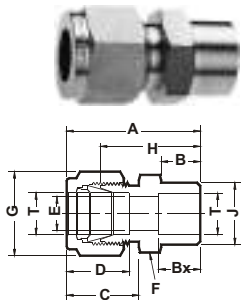


ASTEC Part No.	Tube OD (T)	AN TUBE	A	AX	D	E	F (Hex)	G	H	HX	P	PANEL HOLE DRILL	PANEL THICKNESS
2-ANBU-4	1/8	1/8	1.91	1.23	0.50	0.06	5/8	7/16	1.78	0.97	5/16-24UNJF-3	21/64	0.50
3-ANBU-3	3/16	3/16	1.98	1.26	0.54	0.09	9/16	7/16	1.71	1.00	7/16-20UNJF-3	25/64	0.50
4-ANBU-4	1/4	1/4	2.12	1.32	0.60	0.17	5/8	9/16	1.83	1.03	7/16-20UNJF-3	29/64	0.40
5-ANBU-5	5/16	5/16	2.21	1.41	0.64	0.23	9/16	5/8	1.92	1.12	1/2-20UNJF-3	33/64	0.44
6-ANBU-6	3/8	3/8	2.25	1.45	0.66	0.28	3/4	11/16	1.96	1.16	9/16-18UNJF-3	37/64	0.44
8-ANBU-8	1/2	1/2	2.59	1.65	0.90	0.39	15/16	7/8	2.19	1.25	3/4-16UNJF-3	49/64	0.50
10-ANBU-10	5/8	5/8	2.74	1.68	0.96	0.50	1-1/16	1.00	2.34	1.28	1-20UNJF-3	57/64	0.50
12-ANBU-12	3/4	3/4	3.11	1.87	0.96	0.61	1-3/16	1-1/8	2.71	1.47	1-1/16-12UNJ-3	1-1/64	0.66
16-ANBU-16	1	1	3.64	2.26	1.23	0.84	1-5/8	1-1/2	3.16	1.78	1-5/16-12UNJ-3	1-21/64	0.75

Note :- All Dimensions are for reference only and are subject to change.

Tube Socket Weld Union

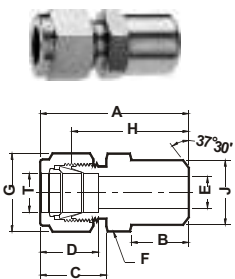
For Fractional Tube



ASTEC Part No.	Tube OD (T)	A	B	BX	C	D	E	F (Hex)	G	H	J
2-TSWU	1/8	1.14	0.34	0.25	0.60	0.50	0.09	7/16	7/16	0.88	0.31
3-TSWU	3/16	1.17	0.34	0.25	0.91	0.54	0.125	7/16	7/16	0.91	0.42
4-TSWU	1/4	1.32	0.41	0.31	0.70	0.60	0.19	9/16	9/16	1.03	0.44
6-TSWU	3/8	1.48	0.47	0.38	0.76	0.66	0.28	5/8	11/16	1.19	0.62
8-TSWU	1/2	1.62	0.47	0.50	0.86	0.90	0.41	13/16	7/8	1.22	0.75
10-TSWU	5/8	1.65	0.47	0.56	0.87	0.96	0.50	1-5/16	1.00	1.25	0.92
12-TSWU	3/4	1.71	0.47	0.56	0.86	0.96	0.62	1-1/16	1-1/8	1.31	1.05
16-TSWU	1	2.07	0.56	0.75	1.04	1.23	0.88	1-3/8	1-1/2	1.59	1.31

Male Pipe Weld Connector

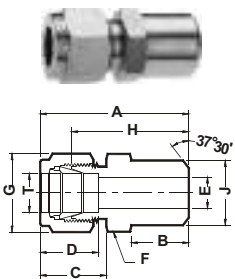
For Fractional Tube



ASTEC Part No.	Tube OD (T)	PIPE BW	A	B	C	D	E	F (Hex)	G	H	J
2-MPWC-2	1/8	1/8	1.20	0.38	0.60	0.50	0.09	7/16	7/16	0.94	0.405
3-MPWC-2	3/16	1/8	1.23	0.38	0.63	0.54	0.12	7/16	7/16	0.97	0.405
4-MPWC-2	1/4	1/8	1.29	0.38	0.70	0.60	0.19	9/16	9/16	1	0.405
4-MPWC-4	1/4	1/4	1.49	0.56	0.70	0.60	0.19	9/16	9/16	1.20	0.540
5-MPWC-2	5/16	1/8	1.34	0.38	0.73	0.64	0.20	9/16	5/8	1.05	0.405
5-MPWC-4	5/16	1/4	1.52	0.56	0.73	0.64	0.25	9/16	5/8	1.23	0.540
6-MPWC-4	3/8	1/4	1.57	0.56	0.76	0.66	0.28	5/8	11/16	1.28	0.540
6-MPWC-6	3/8	3/8	1.57	0.56	0.76	0.66	0.28	11/16	11/16	1.28	0.675
6-MPWC-8	3/8	1/2	1.82	0.75	0.76	0.66	0.28	7/8	11/16	1.53	0.840
6-MPWC-12	3/8	3/4	1.88	0.75	0.76	0.66	0.28	1-1/16	11/16	1.59	1.050
8-MPWC-6	1/2	3/8	1.71	0.56	0.86	0.90	0.41	13/16	7/8	1.31	0.675
8-MPWC-8	1/2	1/2	1.93	0.75	0.86	0.90	0.41	7/8	7/8	1.53	0.840
8-MPWC-12	1/2	3/4	1.99	0.75	0.86	0.90	0.41	1-1/16	7/8	1.59	1.050
10-MPWC-8	5/8	1/2	1.93	0.75	0.86	0.96	0.50	15/16	1	1.53	0.840
12-MPWC-12	3/4	3/4	1.99	0.75	0.86	0.96	0.62	1-1/16	1-1/8	1.59	1.050
16-MPWC-16	1	1	2.45	0.94	1.04	1.23	0.88	1-3/8	1-1/2	1.97	1.315

Male Pipe Weld Connector

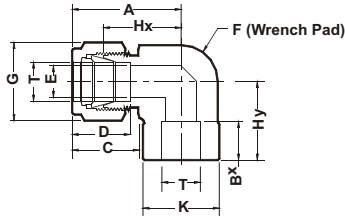
For Metric Tube



ASTEC Part No.	Tube OD (T)	PIPE BW	A	B	C	D	E	F (Hex)	G	H	J
3M-MPWC-2	3	1/8	30.5	9.7	15.3	12.9	2.4	11	12	23.9	10.3
4M-MPWC-2	4	1/8	31.2	9.7	16.1	13.7	2.4	11	12	24.6	10.3
6M-MPWC-2	6	1/8	32.8	9.7	17.7	15.3	4.8	14	14	25.4	10.3
6M-MPWC-4	6	1/4	37.9	14.2	17.7	15.3	4.8	14	14	30.5	13.7
8M-MPWC-2	8	1/8	34.2	9.7	18.6	16.2	5.1	16	16	26.7	10.3
8M-MPWC-4	8	1/4	38.7	14.2	18.6	16.2	6.4	16	16	31.2	13.7
8M-MPWC-8	8	1/2	45.6	19.0	18.6	16.2	6.4	22	16	38.1	21.3
10M-MPWC-4	10	1/4	40.9	14.2	19.5	17.2	7.1	19	19	33.3	13.7
10M-MPWC-6	10	3/8	40.9	14.2	19.5	17.2	7.9	19	19	33.3	17.1
10M-MPWC-8	10	1/2	46.5	19.0	19.5	17.2	7.9	22	19	38.9	21.3
12M-MPWC-4	12	1/4	43.4	14.2	22.0	22.8	7.1	22	22	33.3	13.7
12M-MPWC-6	12	3/8	43.4	14.2	22.0	22.8	9.5	22	22	33.3	17.1
12M-MPWC-8	12	1/2	49.0	19.0	22.0	22.8	9.5	22	22	38.9	21.3
14M-MPWC-6	14	3/8	44.1	14.2	22.0	24.4	10.3	25	25	34	17.1
15M-MPWC-8	15	1/2	49.0	19.0	22.0	24.4	11.9	25	25	38.9	21.3
16M-MPWC-8	16	1/2	49.0	19.0	22.0	24.4	12.7	25	25	38.9	21.3
18M-MPWC-8	18	1/2	50.50	19.0	22.0	24.4	13.5	27	30	40.4	21.3

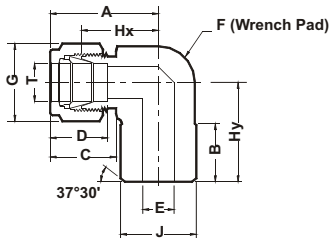
Note :- All Dimensions are for reference only and are subject to change.

Tube Socket Weld Elbow For Fractional Tube



ASTEC Part No.	Tube OD (T)	A	BX	C	D	E	F	G (Hex)	HX	HY	K
2-TSWE	1/8	0.92	0.16	0.60	0.50	0.09	9/16	7/16	0.66	0.63	0.38
3-TSWE	3/16	0.98	0.20	0.91	0.54	0.125	9/16	7/16	0.72	0.69	0.44
4-TSWE	1/4	1.06	0.31	0.70	0.60	0.19	9/16	9/16	0.77	0.77	0.50
6-TSWE	3/8	1.20	0.38	0.76	0.66	0.28	5/8	11/16	0.91	0.91	0.62
8-TSWE	1/2	1.42	0.50	0.86	0.90	0.41	13/16	7/8	1.02	1.02	0.81
10-TSWE	5/8	1.56	0.56	0.87	0.96	0.50	1-5/16	1.00	1.16	1.16	0.94
12-TSWE	3/4	1.57	0.56	0.86	0.96	0.62	1-1/16	1-1/8	1.17	1.17	1.06
16-TSWE	1	1.93	0.75	1.04	1.23	0.88	1-3/8	1-1/2	1.45	1.45	1.38

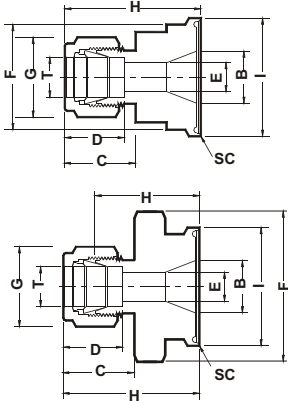
Male Pipe Weld Elbow For Fractional Tube



ASTEC Part No.	Tube OD (T)	PIPE BW	A	B	C	D	E	F	G (Hex)	HX	HY	J
2-MPWE-2	1/8	1/8	0.92	0.34	0.66	0.50	0.09	9/16	7/16	0.66	0.72	0.405
3-MPWE-2	3/16	1/8	1.01	0.38	0.66	0.50	0.09	9/16	7/16	0.74	0.74	0.405
4-MPWE-2	1/4	1/8	1.06	0.38	0.70	0.60	0.19	9/16	9/16	0.77	0.74	0.405
4-MPWE-4	1/4	1/4	1.06	0.56	0.70	0.60	0.19	9/16	9/16	0.77	0.92	0.540
6-MPWE-4	3/8	1/4	1.20	0.56	0.76	0.66	0.28	13/16	11/16	0.91	1.00	0.540
8-MPWE-6	1/2	3/8	1.37	0.56	0.76	0.66	0.22	7/8	7/8	0.97	1.13	0.675
8-MPWE-8	1/2	1/2	1.42	0.56	0.76	0.66	0.41	13/16	7/8	1.02	1.30	0.840
10-MPWE-8	5/8	1/2	1.43	0.75	0.76	0.66	0.41	7/8	1	1.03	1.31	0.840
12-MPWE-12	3/4	3/4	1.57	0.75	0.86	0.96	0.62	1-1/16	1-1/8	1.17	1.45	1.050
16-MPWE-12	1	3/4	1.94	0.75	0.86	0.96	0.62	1-3/8	1-1/2	1.45	1.65	1.050
16-MPWE-16	1	1	1.94	0.94	0.94	1.09	0.70	1-3/8	1-1/2	1.45	1.84	1.315

Note :- All Dimensions are for reference only and are subject to change.

Sanitary Flange Fractional Tube X Flange

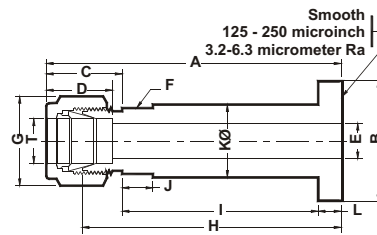
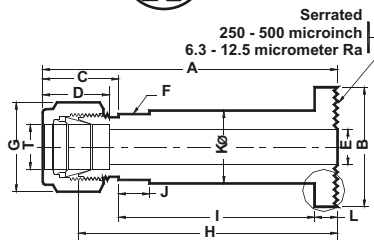


ASTEC Part No.	Tube OD (T)	Flange (SC)	A	B	C	D	E	F (Hex)	G	H	I
4-SF-8	1/4	1/2	1.57	0.37	0.70	0.60	0.19	1	9/16	1.28	0.98
4-SF-12	1/4	3/4	1.57	0.62	0.70	0.60	0.19	1	9/16	1.28	0.98
4-SF-16	1/4	1	1.57	0.87	0.70	0.60	0.19	1-3/8	9/16	3	1.98
4-SF-24	1/4	1-1/2	1.57	1.37	0.70	0.60	0.19	1-3/8	9/16	1.28	1.98
6-SF-8	3/8	1/2	1.63	0.37	0.76	0.66	0.28	1	11/16	1.34	0.98
6-SF-12	3/8	3/4	1.63	0.62	0.76	0.66	0.28	1	11/16	1.34	0.98
6-SF-16	3/8	1	1.63	0.87	0.76	0.66	0.28	1-3/8	11/16	1.34	1.98
6-SF-24	3/8	1-1/2	1.63	1.37	0.76	0.66	0.28	1-3/8	11/16	1.34	1.98
8-SF-8	1/2	1/2	1.74	0.37	0.90	0.86	0.37	1	7/8	1.34	0.98
8-SF-12	1/2	3/4	1.74	0.62	0.90	0.86	0.41	1	7/8	1.34	0.98
8-SF-16	1/2	1	1.74	0.87	0.90	0.86	0.41	1-3/8	7/8	1.34	1.98
8-SF-24	1/2	1-1/2	1.74	1.37	0.90	0.86	0.41	1-3/8	7/8	1.34	1.98
16-SF-16	1	1	1.91	0.87	1.23	1.04	0.87	1-3/8	1-1/2	1.43	1.98
16-SF-32	1	2	2.49	1.87	1.23	1.04	0.88	2-3/4	1-1/2	2.01	2.52

Lap Joint Flange Connector For Fractional Tube X Flange (serrated & smooth)

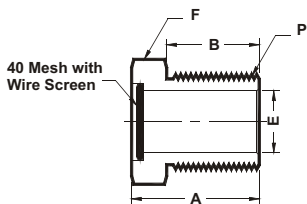


Note:- Groove identifies Serrated Surface Finish



ASTEC Part No.	Tube OD (T)	A	B	C	D	E	F (Hex)	G	H	I	J	K	L
4-LJFC-SM	1/4	3.18	1.36	0.70	0.6	0.19	11/16	9/16	2.95	2.23	0.35	0.83	0.26
6-LJFC-SM	3/8	3.24	1.36	0.76	0.66	0.28	11/16	11/16	2.95	2.23	0.35	0.83	0.26
6-LJFC-SR	3/8	3.24	1.36	0.76	0.66	0.28	11/16	11/16	2.95	2.23	0.35	0.83	0.26
8-LJFC-SM	1/2	3.35	1.36	0.86	0.90	0.31	3/4	7/8	2.95	2.23	0.35	0.83	0.26
10M-LJFC-SM	10	82.6	34.5	19.5	17.2	7.9	19	19	74.9	56.5	8.9	21.1	6.5
10M-LJFC-SR	10	82.6	34.5	19.5	17.2	7.9	19	19	74.9	56.5	8.9	21.1	6.5

Vent Protector NPTM

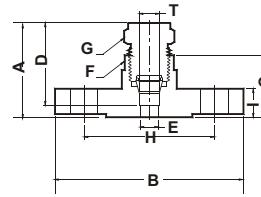


ASTEC Part No.	NPT Thread (P)	A	B	E	F (Hex)
4N-VP	1/4	0.78	0.56	0.28	9/16
6N-VP	3/8	0.81	0.56	0.41	11/16
8N-VP	1/2	1.03	0.75	0.50	7/8
12N-VP	3/4	1.06	0.75	0.72	1-1/16
16N-VP	1	1.31	0.95	0.94	1-3/8

Note :- All Dimensions are for reference only and are subject to change.

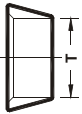
Integral Flange Connector ANSI Flange

For Fractional Tube, Metric Tube X 150#, 300#



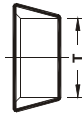
ASTEC Part No.	Tube OD (T)	A	B	C	D	E	F Wrench Flat	G (Hex)	H	I	ANSI	Gap.InspGage
8-IFC	1/2	1.89	3.5	1.31	1.50	0.41	1	25	2.38	0.45	150	MS-IG-1010
8-IFC-3	1/2	1.89	3.8	1.81	1.50	0.41	1	25	2.62	0.57	300	MS-IG-1010
10M-IFC	10	0.48	90	33.3	33.8	7.9	25	22	60.4	11.4	150	MS-IG-810
10M-IFC-3	10	0.48	96	33.3	33.8	7.9	25	22	66.5	14.5	300	MS-IG-810
12M-IFC	12	0.48	90	33.3	38.1	9.5	25	25	60.4	11.4	150	MS-IG-1010
12M-IFC-3	12	0.48	96	33.3	38.1	9.5	25	25	66.5	14.5	300	MS-IG-1010

Front Ferrule Fractional Tube



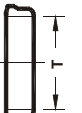
ASTEC Part No.	Tube OD (T)
1-FF	1/16
2-FF	1/8
3-FF	3/16
4-FF	1/4
5-FF	5/16
6-FF	3/8
8-FF	1/2
10-FF	5/8
12-FF	3/4
14-FF	7/8
16-FF	1

Front Ferrule Metric Tube



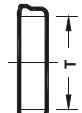
ASTEC Part No.	Tube OD (T)
2M-FF	2
3M-FF	3
4M-FF	4
6M-FF	6
8M-FF	8
10M-FF	10
12M-FF	12
14M-FF	14
15M-FF	15
16M-FF	16
18M-FF	18
20M-FF	20
22M-FF	22
25M-FF	25

Back Ferrule Fractional Tube



ASTEC Part No.	Tube OD (T)
1-BF	1/16
2-BF	1/8
3-BF	3/16
4-BF	1/4
5-BF	5/16
6-BF	3/8
8-BF	1/2
10-BF	5/8
12-BF	3/4
14-BF	7/8
16-BF	1

Back Ferrule Metric Tube

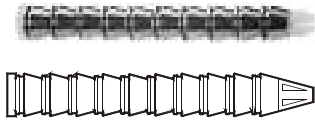


ASTEC Part No.	Tube OD (T)
2M-BF	2
3M-BF	3
4M-BF	4
6M-BF	6
8M-BF	8
10M-BF	10
12M-BF	12
14M-BF	14
15M-BF	15
16M-BF	16
18M-BF	18
20M-BF	20
22M-BF	22
25M-BF	25

Note :- All Dimensions are for reference only and are subject to change.

Ferrule Pack (Set of 10)

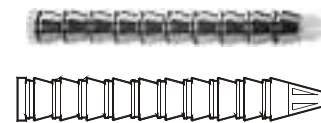
Fractional Tube



ASTEC Part No.	Tube OD (T)
1-FP	1/16
2-FP	1/8
3-FP	3/16
4-FP	1/4
5-FP	5/16
6-FP	3/8
8-FP	1/2

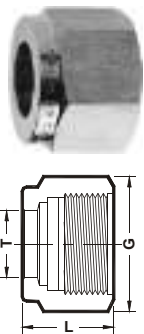
Ferrule Pack (Set of 10)

Metric Tube



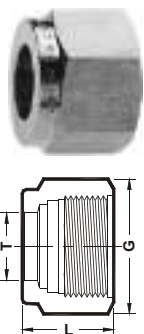
ASTEC Part No.	Tube OD (T)
6M-FP	6
8M-FP	8
10M-FP	10
12M-FP	12

Nut Fractional Tube



ASTEC Part No.	Tube OD (T)	G (Hex)	L
1-N	1/16	7/16	0.31
2-N	1/8	7/16	0.47
3-N	3/16	7/16	0.47
4-N	1/4	9/16	0.50
5-N	5/16	5/8	0.53
6-N	3/8	11/16	0.56
8-N	1/2	7/8	0.69
10-N	5/8	1	0.69
12-N	3/4	1-1/8	0.69
14-N	7/8	1-1/4	0.69
16-N	1	1-1/2	0.81

Nut Metric Tube

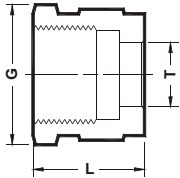


ASTEC Part No.	Tube OD (T)	G (Hex)	L
2M-N	2	11	11.9
3M-N	3	11	11.9
4M-N	4	11	11.9
6M-N	6	14	12.7
8M-N	8	16	13.5
10M-N	10	19	15.1
12M-N	12	22	17.5
14M-N	14	25	17.5
15M-N	15	25	17.5
16M-N	16	25	17.5
18M-N	18	30	17.5
20M-N	20	32	17.5
22M-N	22	32	17.5
25M-N	25	38	20.6

Note :- All Dimensions are for reference only and are subject to change.

Knurled Nut-For Soft Tube

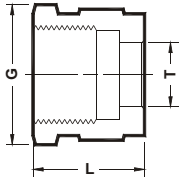
Fractional Tube



ASTECC Part No.	Tube OD (T)	G (Hex)	L
1-KN	1/16	7/16	0.31
2-KN	1/8	7/16	0.47
3-KN	3/16	9/16	0.47
4-KN	1/4	9/16	0.50
5-KN	5/16	5/8	0.53
6-KN	3/8	11/16	0.56
8-KN	1/2	7/8	0.69
10-KN	5/8	1	0.69

Knurled Nut-For Soft Tube

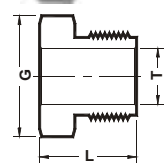
Metric Tube



ASTECC Part No.	Tube OD (T)	G (Hex)	L
2M-KN	2	11	11.9
3M-KN	3	11	11.9
4M-KN	4	11	11.9
6M-KN	6	14	12.7
8M-KN	8	16	13.5
10M-KN	10	19	15.1
12M-KN	12	22	17.4
14M-KN	14	25	17.4
15M-KN	15	25	17.4
16M-KN	16	25	17.4
18M-KN	18	30	17.4
20M-KN	20	32	17.4
22M-KN	22	32	17.4
25M-KN	25	38	20.6

Male Nut-For Female Astec Port

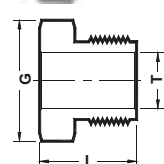
Fractional Tube



ASTECC Part No.	Tube OD (T)	G (Hex)	L
1-MN	1/16	7/16	0.38
2-MN	1/8	7/16	0.53
4-MN	1/4	7/16	0.63
8-MN	1/2	15/16	0.87

Male Nut-For Female Astec Port

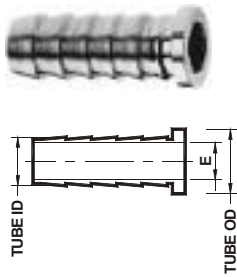
Metric Tube



ASTECC Part No.	Tube OD (T)	G (Hex)	L
10M-MN	10	22	22.1
12M-MN	12	25	22.1

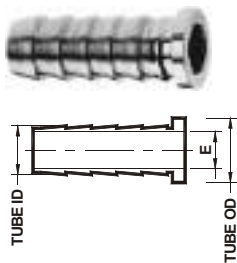
Note :- All Dimensions are for reference only and are subject to change.

Insert
Fractional Tube



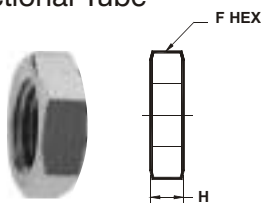
ASTECC Part No.	Tube OD	Tube ID	E
3-I-2	3/16	1/8	0.09
4-I-2	1/4	1/8	0.09
4-I-0.17	1/4	0.17	0.11
4-I-3	1/4	3/16	0.14
5-I-2	5/16	1/8	0.09
5-I-3	5/16	3/16	0.12
5-I-4	5/16	1/4	0.19
6-I-3	3/8	3/16	0.12
6-I-4	3/8	1/4	0.19
8-I-4	1/2	1/4	0.19
8-I-6	1/2	3/8	0.31
10-I-6	5/8	3/8	0.31
10-I-8	5/8	1/2	0.44
12-I-8	3/4	1/2	0.44
12-I-10	3/4	5/8	0.56
16-I-12	1	3/4	0.69

Insert
Metric Tube



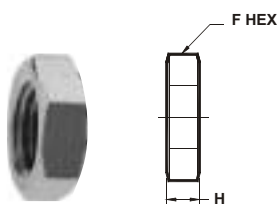
ASTECC Part No.	Tube OD	Tube ID	E
6M-I-4M	6	4	2.8
8M-I-6M	8	6	4.4
10M-I-6M	10	6	5.8
10M-I-8M	10	8	6.4
12M-I-8M	12	8	6.4
12M-I-10M	12	10	8.3
15M-I-10M	15	10	8.3

BLN-Bulkhead
Lock Nut
Fractional Tube



ASTECC Part No.	Tube OD	F (Hex)	H
1-BLN	1/16-(10-32Thrd)	7/16	0.13
2-BLN	1/8-(5/16-20Thrd)	7/16	0.19
3-BLN	3/16-(3/8-20Thrd)	9/16	0.22
4-BLN	1/4-(7/16-20Thrd)	5/8	0.22
5-BLN	5/16-(1/2-20Thrd)	11/16	0.23
6-BLN	3/8-(9/16-20Thrd)	3/4	0.25
8-BLN	1/2-(3/4-20Thrd)	15/16	0.28
10-BLN	5/8-(7/8-20Thrd)	1-1/16	0.31
12-BLN	3/4-(1-20Thrd)	1-3/16	0.34
14-BLN	7/8-(1-1/8-20Thrd)	1-3/8	0.38
16-BLN	1-(1-5/16-20Thrd)	1-5/8	0.38

SLN-Bulkhead
Lock Nut
Fractional Tube

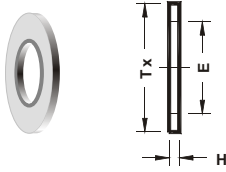


ASTECC Part No.	Tube OD	F (Hex)	H
4-SLN	1/4-(7/16-20Thrd)	11/16	0.28
6-SLN	3/8-(9/16-18Thrd)	13/16	0.27
8-SLN	1/2-(3/4-16Thrd)	1	0.31
12-SLN	3/4-(1-1/16-12Thrd)	1-3/8	0.41
16-SLN	1-(1-5/16-12Thrd)	1-5/8	0.41

Note :- All Dimensions are for reference only and are subject to change.

RS Fitting Gasket (SS Bonded to Viton)

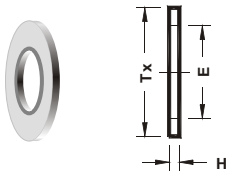
Fractional



ASTEC Part No.	E	H	TX
2-RPG	0.41	0.08	0.63
4-RPG	0.52	0.08	0.81
6-RPG	0.66	0.08	0.94
8-RPG	0.85	0.10	1.12
12-RPG	1.05	0.10	1.38
16-RPG	1.31	0.10	1.69

RS Fitting Gasket (SS Bonded to Viton)

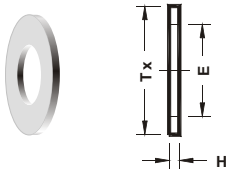
Metric



ASTEC Part No.	E	H	TX
2M-RPG	10.4	2.0	16.0
4M-RPG	13.5	2.0	20.6
6M-RPG	17.0	2.0	23.9
8M-RPG	21.6	2.5	28.7
12M-RPG	26.7	2.5	35.1
16M-RPG	33.8	2.5	42.9

RP Fitting Gasket (In Copper)

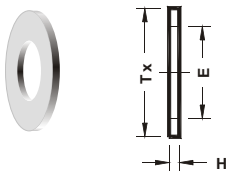
Fractional



ASTEC Part No.	E	H	TX
CU-2-RPG	0.39	0.04	0.59
CU-4-RPG	0.52	0.06	0.75
CU-6-RPG	0.66	0.06	0.91
CU-8-RPG	0.83	0.06	1.06
CU-12-RPG	1.05	0.08	1.30
CU-16-RPG	1.31	0.08	1.58

RP Fitting Gasket (In Copper)

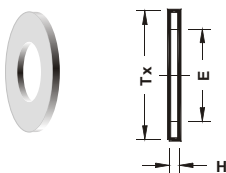
Metric



ASTEC Part No.	E	H	TX
CU-2M-RPG	9.9	1	15.0
CU-4M-RPG	13.5	1.5	18.8
CU-6M-RPG	17.0	1.5	22.9
CU-8M-RPG	21.3	1.5	27.0
CU-12M-RPG	26.7	2.0	33.0
CU-16M-RPG	33.5	2.0	40.6

RG Fitting Gasket (In Copper)

Fractional

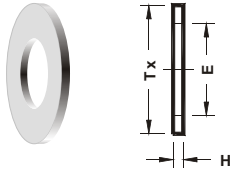


ASTEC Part No.	E	H	TX
4-RGG	0.30	0.07	0.42
6-RGG	0.34	0.09	0.56
8-RGG	0.36	0.10	0.70

Note :- All Dimensions are for reference only and are subject to change.

RG Fitting Gasket (In Copper)

Metric



ASTECC Part No.	E	H	TX
4M-RGG	7.6	1.8	10.7
6M-RGG	8.6	2.3	14.2
8M-RGG	9.1	2.5	17.8

Note :- All Dimensions are for reference only and are subject to change.

Tube Fitting Pressure Rating

ASTEC® Tube Fittings are rated as per the Working Pressure of the Tubing used. Refer the Astec® Tube Data for further information.

Pipe thread Specification

Thread Type Reference specification	NPT	ISOP / BSP	ISOT / BSPT	SAE
	ASME B1.20.1, SAE AS71051	ISO 228, BS 2779, JIS B 0202	ISO 7, BS 21, JIS B 0203	ASME B1.1

CAUTION : While Assembling Tapered threads, a thread sealant / PTFE Tape shall always be used (Refer Astec® Installation Manual for more information).

Pipe End Pressure Rating

A Tube Fitting has both Tube Ends as well as Pipe Ends. The Lowest Pressure Rating of the two will determine the Pressure Rating of the Tube Fitting. The Pipe end Pressure Rating chart is as under.

Pressure Rating Calculations (Ref. ASME B 31.3 - Code for Process Piping)

NPT/ISO Pipe Size in.	SS 316 and Carbon Steel				Brass			
	Male		Female		Male		Female	
	Kpa	bar	Kpa	bar	Kpa	bar	Kpa	bar
1/16	75790	760	46163	460	37895	380	0	230
1/8	68900	690	44785	440	34450	340	0	220
1/4	55120	550	45474	450	27560	270	0	220
3/8	53742	540	36517	360	26871	270	0	180
1/2	53053	530	33761	330	26182	260	0	160
3/4	50297	500	31694	320	24804	250	0	160
1	36517	370	30316	300	17914	180	0	150
1-1/4	41340	410	34450	350	20670	200	0	170
1-1/2	34450	340	31694	310	17225	170	0	150
2	26871	270	26871	270	13091	130	0	130

To determine working Psig, divide Kpa by 6.89
 For SS 316 multiply psi by 0.94
 For Carbon Steel multiply psi by 0.75
 For Brass the ratings remain same.
 To determine Working psi divide kPa by 6.89

SAE/MS Pressure Ratings

Pressure Rating Calculations (Ref. SAE J 1926/3)

SAE/MS Thread Size	SS 316 and Carbon Steel			
	Nonpositionable		Positionable	
	Kpa	bar	Kpa	bar
5/16-24				
7/16-20			31474	315
1/2-20	31474	315		
9/16-18			24983	250
3/4-16				
7/8-14	24983	250	19981	200
1-1/16-12				
1-3/16-12	19981	200	15985	160
1-5/16-12				
1-5/8-12	15985	160	12492	125
1-7/8-12				
2-1/2-12	12492	125	9991	100

To determine working Psig, divide Kpa by 6.89

Materials	Allowable Stress Value		Design Factor	Ultimate Tensile Strength	
	psi	bar		psi	bar
SS 316	20,000	1378	3.75 : 1	75,000	5170
Brass	10,000	689	4:01	40,000	2760
Steel	20,000	1378	3:01	60,000	4140

Stress values (Ref. ASME B 31.3 - Code for Process Piping)

O-Seal Pressure Ratings

O-Seal Fittings are rated for 3000 psi / 206 bars.

Note: Some Fittings with SAE/MS, O-Seal and AN may have lower Pressure Ratings.

For more information contact team ASTEC.



Tube Fittings Installation

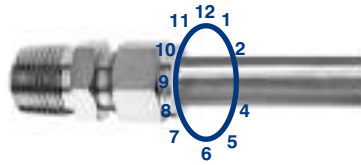
ASTEC® Tube Fittings can be installed in three simple steps as shown below.

STEP 1



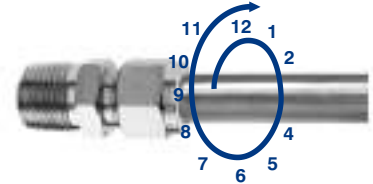
ASTEC® Tube Fittings are supplied in assembled condition and are ready to use. Simply insert the tube into the fitting. Make sure the tube rests firmly on the shoulder of the fitting and the nut is finger-tight.

STEP 2



Scribe the nut and body hex at 9 O'clock position.

STEP 3



Hold the fitting body with a wrench. Start tightening the nut to make a 1.1/4 turn to stop at 12 O'clock position. ASTEC® Gap Gages can now be used to check if there installation has been complete.

Note : Certain low size tubings i.e. 1/16, 1/8, 3/16 inch & 2,3,4 mm needs to be tightened by 3/4 turn from finger-tight
Higher wall thickness, higher hardness and higher Tube diameters are factors leading to higher torque requirement in reassembly.

Preswaging Tube Fittings

Some hard to reach places of installations like cramped locations, sub sea applications, use of ladders, etc., use of ASTEC® preswaging tools is recommended. This tool has to be ordered along with the size of the fitting you are using. Holding this tool on a vice follow the assembly instructions indicated. Now by simply carry the swaged joints to the locations and follow the reassembly instructions.



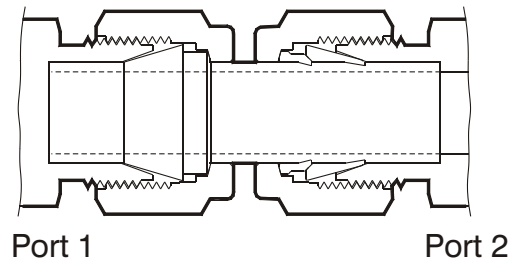
Reassembly of Tube Fittings

Once the installation is carried out as instructed, the Ferrules in the fittings have gripped the tube sufficiently to withstand the Maximum Working Pressure of the Tubes selected. This joint can now be reused on the same body or can be used on any other body of same tube size without disturbing the performance. Just follow these instructions, Insert the preswaged ferrule tube into the same or new body of same size.

Tighten the nut by hand and then rotate use a wrench until you will feel the same resistance. You could take an additional 1/8 turn if required.

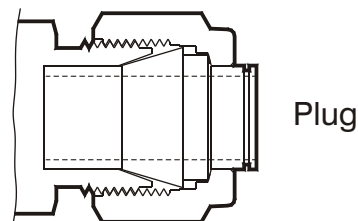
Port Connector Installation

1. Remove Nuts/ Ferrules from Port 1.
2. Insert the port connector in place of the original ferrules as shown and tighten the nut as per reassembly instructions.
3. Insert the tube end of the Port Connector in Port 2 as shown.
4. Tighten the Port 2 connection as per the installation procedures mentioned.



Cap & Plug Installation

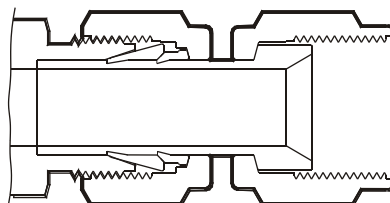
Plugs are used on unused tube ports of Tube Fitting bodies by replacing the Nuts / ferrules with the Plug (with Nut) of same size. Just follow the Reassembly instructions.



Caps are used to blank tube ends for future use. Simply insert the tube into the cap and follow the Installation procedures mentioned.

AN Adaptor Installation

Simply tighten the nut by hand and later by wrench until you feel resistance.



ISO parallel Pipe Thread Installation

Reference Standards : ISO 228/1 and 7/1 (also BS 2779 - BSPP, DIN - ISO 2281, JIS B 0202).



ISOP / RS

Used with Bonded Washer Seals, usually of Metal and Elastomer.



ISOP / RP

Used with Gasket, usually Copper.

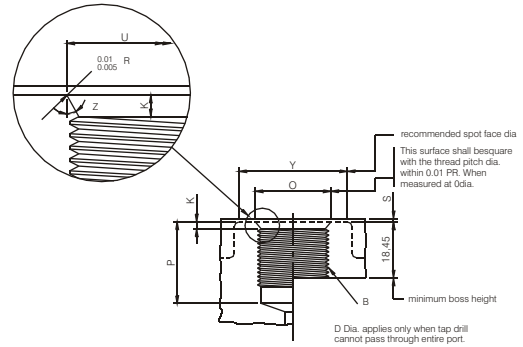


ISOP / RG

Used with Gasket, usually Copper to seal at the bottom of Female Threads of Pressure Gauges.

SAE/MS Straight Thread Fittings Installation

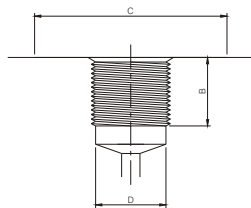
1. Use appropriate lubricant compatible with the system and environment.
2. Install the SAE/MS thread fitting over the boss until the metal washer touches the face of it.
3. Position the fitting as required and backed out of no more than ONE turn counterclockwise.
4. Use proper wrench and tighten the lock nut until the washer touches the face of the boss.
5. SAE/MS fittings are compatible with J1926, MS16142 and JIC female straight thread O-Ring bosses.



Data SAE/MS Straight Threaded Boss (In inches)

B Straight Threads		Pitch Dia		Minor Dia		D Dia	Full Thread Depth	K	O Dia	P	S	U Dia	Y Dia	Z
Nom Tube OD	Thread size	Min	Max	Min	Max	Min	Min	+0.015 -0.000	Min	Min	Max	+0.015 -0.000		+/- 1 Deg
1/8	5/16-24	0.2854	0.2902	0.267	0.277	0.062	0.39	0.074	0.438	0.468	0.062	0.358	0.672	12
3/16	3/8-24	0.3479	0.3528	0.330	0.340	0.125	0.390	0.074	0.5	0.468	0.062	0.421	0.75	12
1/4	7/16-20	0.4050	0.4104	0.383	0.395	0.172	0.454	0.093	0.563	0.547	0.062	0.487	0.828	12
5/16	1/2-20	0.4675	0.4731	0.446	0.457	0.234	0.454	0.093	0.625	0.547	0.062	0.55	0.906	12
3/8	9/16-18	0.5264	0.5323	0.502	0.515	0.297	0.500	0.097	0.688	0.609	0.062	0.616	0.969	12
1/2	3/4-16	0.7094	0.7159	0.682	0.696	0.391	0.562	0.100	0.875	0.688	0.094	0.811	1.188	15
5/8	7/8-14	0.8286	0.8356	0.798	0.814	0.484	0.656	0.100	1	0.781	0.094	0.942	1.344	15
3/4	1-1/16-12	1.0084	1.0158	0.972	0.990	0.609	0.750	0.130	1.25	0.906	0.094	1.148	1.625	15
7/8	1-3/16-12	1.1334	1.1409	1.097	1.115	0.719	0.750	0.130	1.375	0.906	0.094	1.273	1.765	15
1	1-5/16-12	1.2584	1.2659	1.222	1.240	0.844	0.750	0.130	1.5	0.906	0.125	1.398	1.91	15
1-1/4	1-5/8-12	1.5709	1.5785	1.535	1.553	1.078	0.750	0.132	1.875	0.906	0.125	1.713	2.27	15
1-1/2	1-7/8-12	1.8209	1.8287	1.785	1.803	1.312	0.750	0.132	2.125	0.906	0.125	1.962	2.56	15
2	2-1/2-12	2.4459	2.4540	2.410	2.428	1.781	0.750	0.132	2.75	0.906	0.125	2.587	3.48	15

ISO Internal Parallel Thread



ISO Female Parallel Pipe size	B Min. full Thread Depth	D Thread Minor Dia	C Min. Flat Dia for RS, RP	C Min. Flat Dia for PME, PMBT, PMRT
1/8	0.31	0.337/0.348	0.59	0.68
1/4	0.47	0.450/0.468	0.75	0.9
3/8	0.47	0.588/0.606	0.91	1.04
1/2	0.55	0.733/0.755	1.06	1.26
3/4	0.63	0.949/0.971	1.3	1.62
1	0.71	1.193/1.218	1.57	1.91

O-rings for SAE/MS Fitting Boss

Port size (in)	Uniform Size Number	Ordering Number
1/8	902	SM-OR-902
3/16	903	SM-OR-903
1/4	904	SM-OR-904
5/16	905	SM-OR-905
3/8	906	SM-OR-906
1/2	908	SM-OR-908
5/8	910	SM-OR-910
3/4	912	SM-OR-912
7/8	914	SM-OR-914
1	916	SM-OR-916
1-1/4	920	SM-OR-920
1-1/2	924	SM-OR-924
2	932	SM-OR-932

O-rings for ISO Positional Parallel Threads

Port size (in)	Uniform Size Number	Ordering Number
1/8	502	IP-OR-502
1/4	111 ^⑤	IP-OR-111
3/8	113	IP-OR-113
1/2	508	IP-OR-508
3/4	119 ^⑤	IP-OR-119
1	217	IP-OR-217

- ① Diameter U shall be concentric with thread Pitch diameter within 0.005 full indicator reading (FIR) and shall be free from Longitudinal and Spiral Tool marks. Annular Tool marks upto 100 micro Inch max. Shall be permissible.
- ② This is the maximum recommended spotface depth to permit sufficient wrench grip for the proper tightening of the fitting or locknut.
- ③ If face of port is on a machined surface, dimensions Y and S need not apply.
- ④ Tap drill depths given require the use of bottoming taps to produce the specified full thread lengths. Where standard taps are used, the tap drill depths must be increased accordingly.
- ⑤ Not a uniform O-ring size.

Use of Gap Inspection Gauges

The basic function of the ASTEC® Gap Inspection Gauge is to give the Installer or Inspector assurance that the Tube Fitting has been sufficiently pulled up into the Fitting Body on the initial Installation. These Gap Gauges are used where a insufficient pull-up would cause dangerous consequences. It is recommended to use the Gap Inspection Gauge consistently to achieve Reliability of Installed Tube Fitting.

A Gap Gauge will give a Attribute Data of Measurement. It will give a decision of whether the Fitting is sufficiently tightened or additional Tightening is required. This can be understood by the following two condition:

1. If the Gap Gauge does not fit between the Body and the Nut as shown in the diagram above, then it is ensured that Fitting is sufficiently tightened.
2. If the Gap Gauge fits between the Body and the Nut, then additional tightening of the Nut is required Gap Gauges can be accurate only if all The component in a Fitting Assembly are 100% ASTEC® Tubelok.



Safety Precautions

- 1) ASTEC® Tube Fittings are supplied in Assembled condition and ready for use. DO NOT disassemble the Tube Fitting.
- 2) To select the correct tubing, refer to the ASTEC® [Tube Data](#) for Maximum Working Pressure Allowances.
- 3) Use of Fully Annealed Tubing is recommended.
- 4) Always use an Insert with soft Plastic Tubing.
- 5) Smooth surface finish of the Tubing is very important, specially in Gas applications.
- 6) Carefully follow the Assembly Instructions overleaf.
- 7) While assembling always use separate wrenches for holding the body and tightening the Nut. Do not turn the Body, turn the Nut.
- 8) Use only Long Reducers with Female ASTEC® Ports.
- 9) Use a proper thread sealant /PTFE tape while assembling Taper thread.
- 10) While installing fitting near Tube bends, sufficient straight length of Tubing should be kept to allow the Tube to be bottomed in fitting
- 11) While tightening or loosening a fitting always be sure that the system is not pressurized.
- 12) Do not loosen the nut or Pipe threads to Bleed System Lines.



Astec products are in use over 30 countries worldwide.

You can write for catalogues at sales@astectubelok.com
OR download from <http://www.astectubelok.com>





Head Office

Astec Valves & Fittings Pvt. Ltd.
103, Ravi Industrial Estate,
Off. Mahakali Caves Road,
Andheri (East), Mumbai 400 093, India

Tel.: 0091 22 5692 3007/8/9/10
Fax.: 0091 22 2687 3571

www.astectubelok.com
sales@astectubelok.com

Middle East

Astec Middle East Trading LLC, Dubai
mideast@astectubelok.com

South Africa

Astec Valves & Fittings SA Pty. Ltd. Cape Town
astecsa@astectubelok.com