



METFLOW ENGINEERS
THE COMPLETE SOLUTION

Performance

Under Pressure



Instrumentation Valves, Fittings & Accessories

Needle Valves

ANV 1

These needle valves are an ideal option for isolating or throttling applications. The self centering, non rotating stem ensures perfect seating. The rigid design gives repetitive bubble tight shut off, easy maintenance & long trouble free life. maintenance & long trouble free life.

Standard Specifications :

End connection : NPT / BSPP / BSPT

Maximum working pressure : 413 bar / 6000 PSI at 100° C

(see pressure temperature chart on Page No. 4 for higher temperature applications)

Material : 316 SS / 316L SS / 304 SS / Carbon steel

MOC in accordance with NACE MR0175 is available on request.

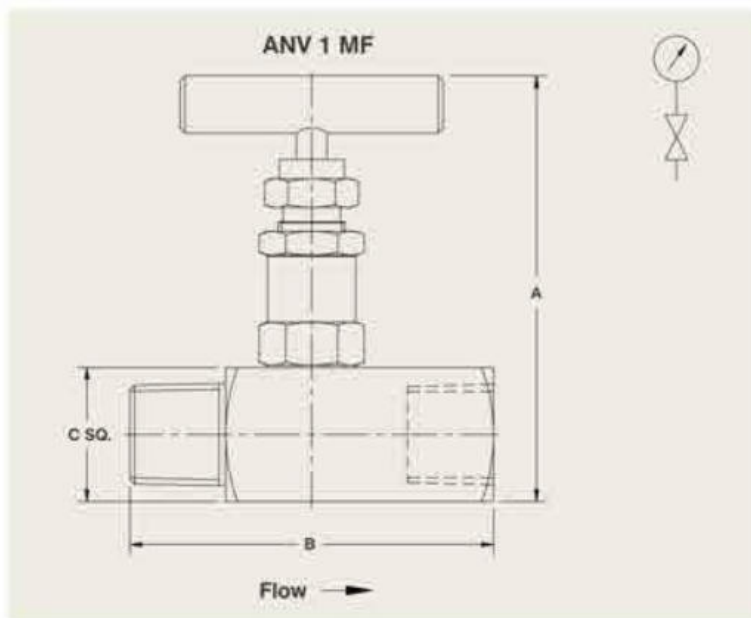
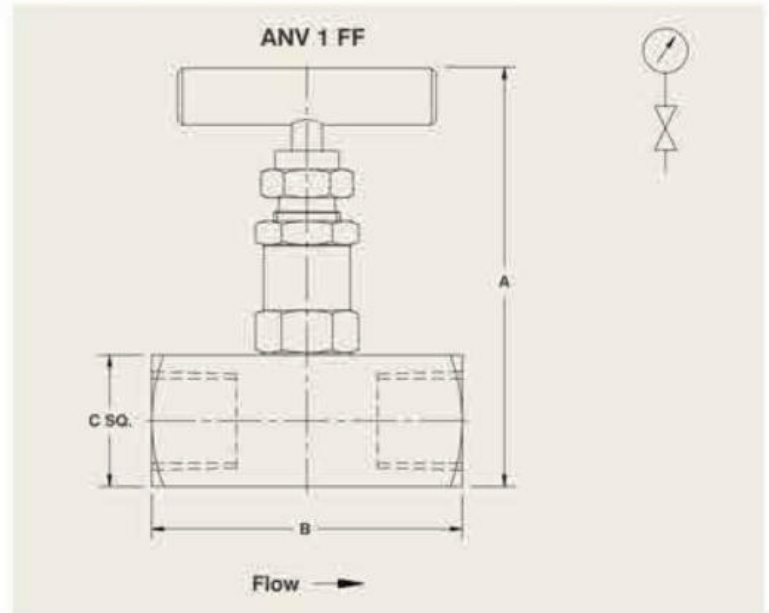
Monel, Inconel, Hastelloy, Duplex steel are also available on request.

Gland packing : PTFE / Graphite

(ANV 1 FF)



SIZE	A	B	CSQ	WEIGHT (kg)
1/4"	93	55	25	0.36
3/8"	93	55	25	0.37
1/2"	95	66	28	0.46
3/4"	109	70	38	0.8
1"	117	80	45	1.3



(ANV 1 MF)

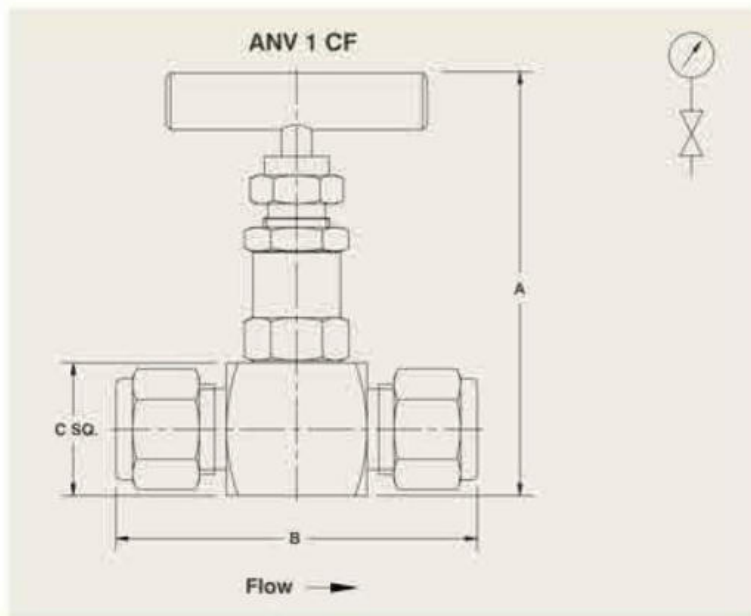
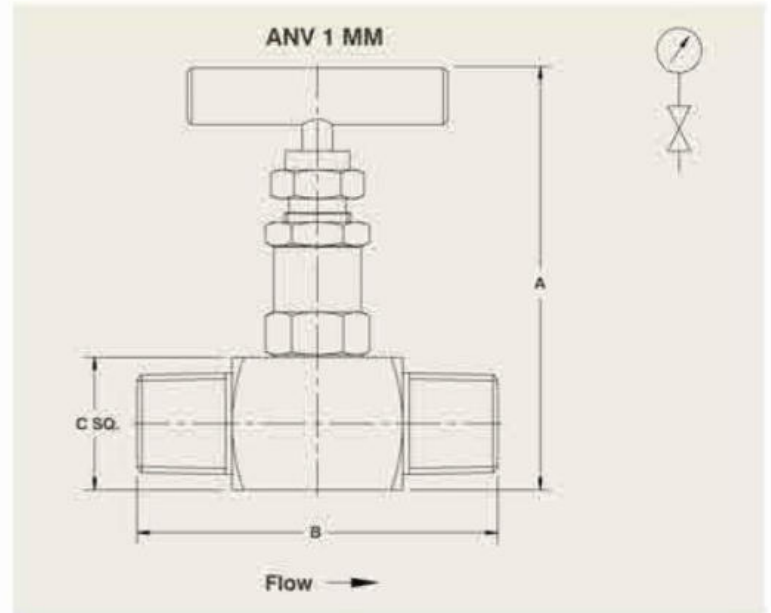


SIZE	A	B	CSQ	WEIGHT (kg)
1/4"	93	65	25	0.45
3/8"	93	65	25	0.45
1/2"	95	76	28	0.56
3/4"	109	80	38	0.9
1"	117	95	45	1.4

(ANV 1 MM)



SIZE	A	B	CSQ	WEIGHT (kg)
1/4"	93	65	25	0.4
3/8"	93	65	25	0.4
1/2"	95	76	28	0.5
3/4"	109	80	38	0.8
1"	117	95	45	1.3



(ANV 1 CF)

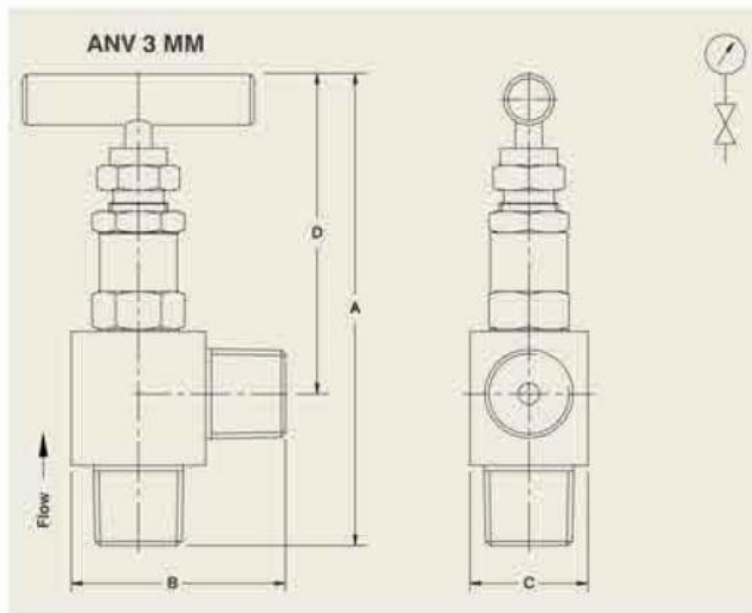
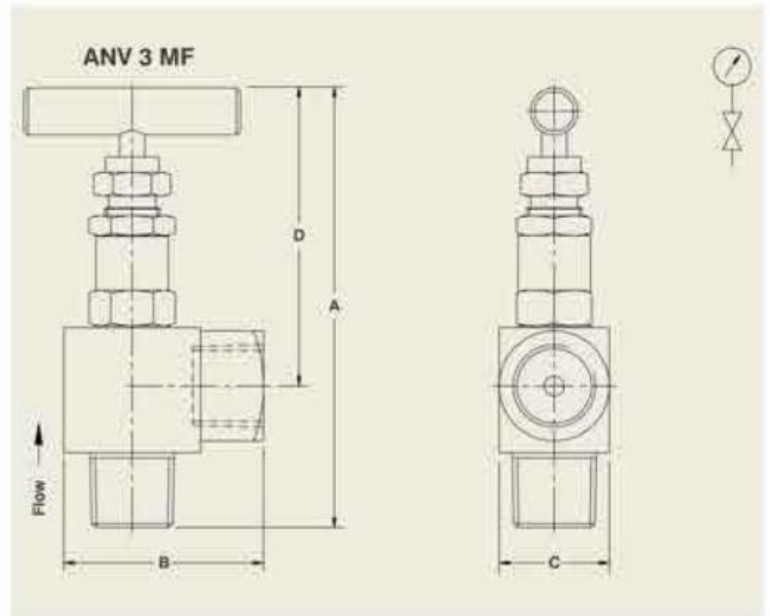


SIZE	A	B	CSQ	WEIGHT (kg)
1/4"	93	70	25	0.3
3/8"	93	72	25	0.32
1/2"	95	76	28	0.4
6mm	93	70	25	0.3
10mm	93	72	25	0.4
12mm	95	76	28	0.4

(ANV 3 MF)



SIZE	A	B	C	D	WEIGHT (kg)
1/4"	101	38	25	76	0.45
3/8	101	38	25	76	0.45
1/2"	115	50	28	76	0.575



(ANV 3 MM)



SIZE	A	B	C	D	WEIGHT (kg)
1/4"	101	38	25	76	0.45
3/8	101	38	25	76	0.45
1/2"	115	50	28	76	0.575

(ANV 4 FF)



SIZE	A	B	C(Sq)	WEIGHT (kg)
1/4"	93	55	28	0.44
3/8"	93	55	28	0.44
1/2"	111	67	38	0.85

ANV 4

These valves are designed for high pressure applications.
These valves are also used in high pressure testing equipments.
Other design features are similar to ANV 1

Standard Specifications :

End connection : NPT / BSPP / BSPT

Maximum working pressure : 690 bar / 10,000 PSI at 100° C

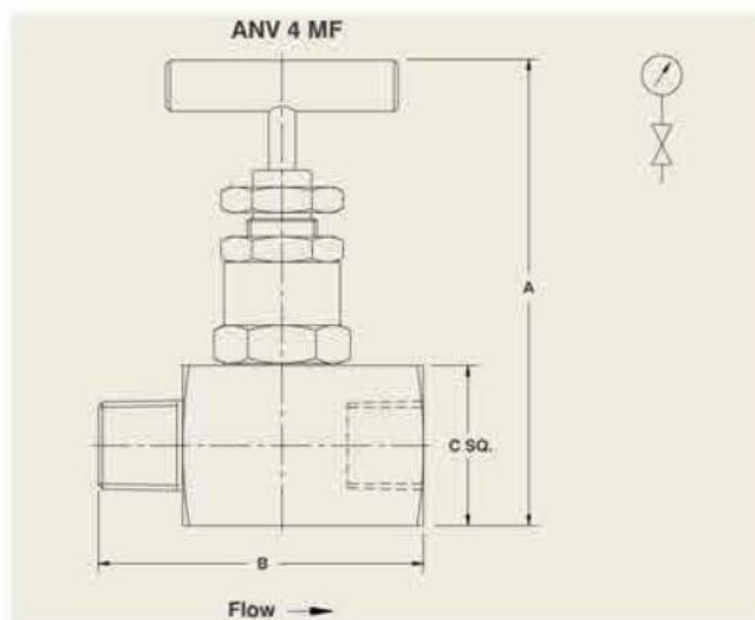
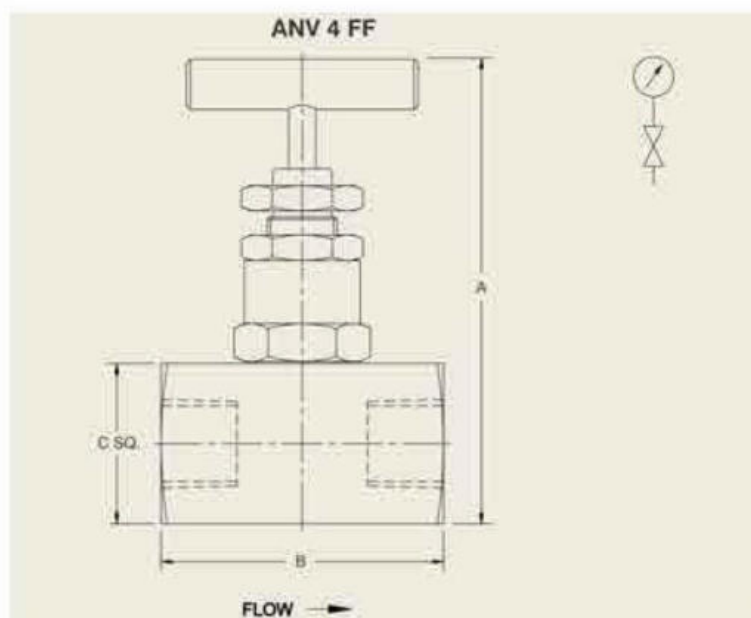
(see pressure temperature chart on Page No. 4 for higher temperature applications)

Material : 316 SS / 316L SS / 304 SS / Carbon steel

MOC in accordance with NACE MR0175 is available on request

Monel, Inconel, Hastelloy, Duplex steel are also available on request.

Gland packing : PTFE / Graphite



(ANV 4 MF)



SIZE	A	B	C(Sq)	WEIGHT (kg)
1/4"	93	65	28	0.45
3/8"	93	65	28	0.45
1/2"	111	76	38	0.88

Gauge Valves

These valves are designed for safe installations of Pressure gauges. The suitable model can be selected for isolation, calibration or drain purpose. The bleed screw, vent plug & multiport options are to choose from.

AGV 1 Gauge Bleed Valve

Standard Specifications :

Maximum working pressure : 413 bar / 6000 PSI at 100° C
(see pressure temperature chart on Page No. 4 for higher temperature applications)

Material : 316 SS / 316L SS / 304 SS / Carbon steel

MOC in accordance with NACE MR0175 is available on request.

Monel, Inconel, Hastelloy, Duplex steel are also available on request.

Gland packing : PTFE / Graphite

End connections : 1/2" NPT / G 1/2 / 1/2" BSPT

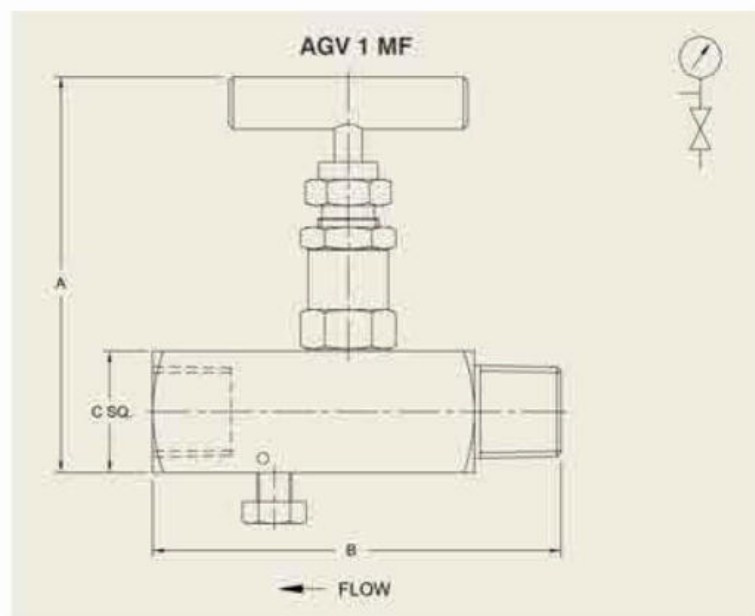
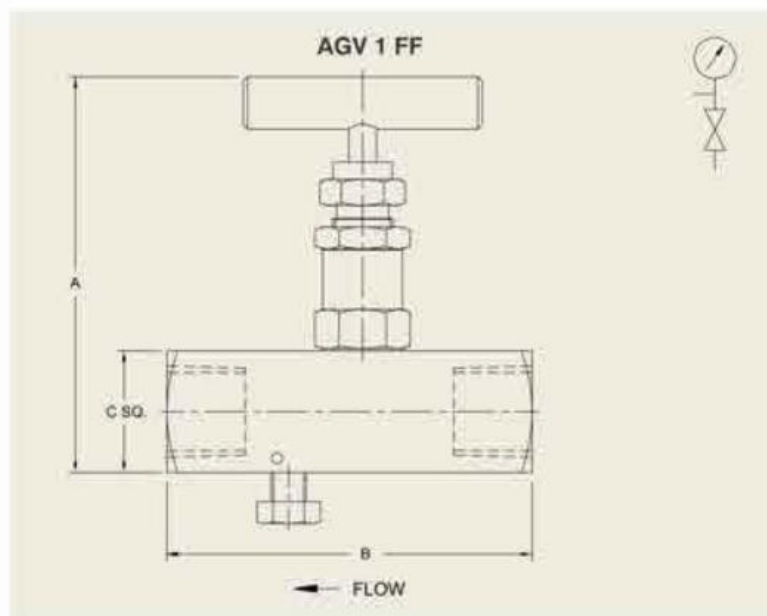
Valves for 10000 PSI working pressure are also available

Weight : 0.530 kg

(AGV 1 FF)



SIZE	A	B	B SQ.	WEIGHT
1/4"	93	70	25	0.43
3/8"	93	70	25	0.43
1/2"	93	80	28	0.53



Weight : 0.60 kg

(AGV 1 MF)



SIZE	A	B	B SQ.	WEIGHT
1/4"	93	75	25	0.50
3/8"	93	75	25	0.50
1/2"	93	94	28	0.60

AGV 2 Gauge Vent Valve

Standard Specifications :

Maximum working pressure : 413 bar / 6000 PSI at 100° C
(see pressure temperature chart on Page No. 4 for higher temperature applications)

Material : 316 SS / 316L SS / 304 SS / Carbon steel

MOC in accordance with NACE MR0175 is available on request

Monel, Inconel, Hastelloy, Duplex steel are also available on request.

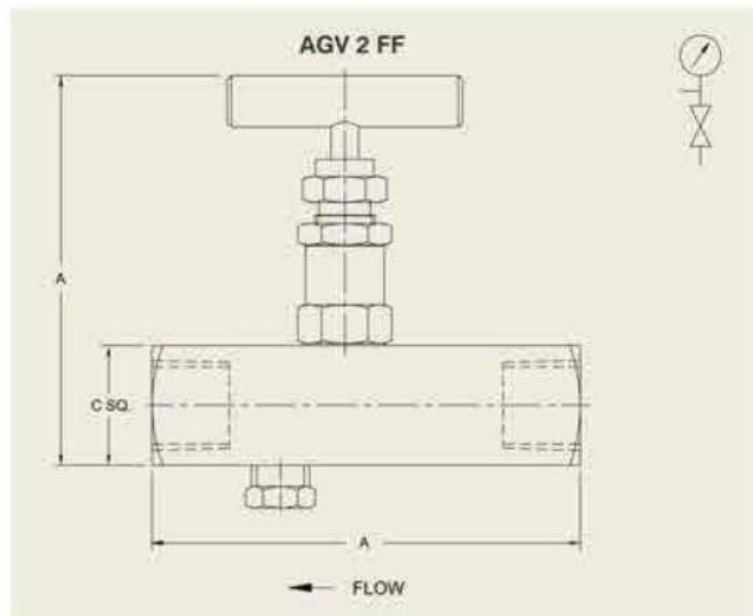
Gland packing : PTFE / Graphite

End connections : 1/2" NPT / G 1/2" / 1/2" BSPT

Valves for 10000 PSI working pressure are also available

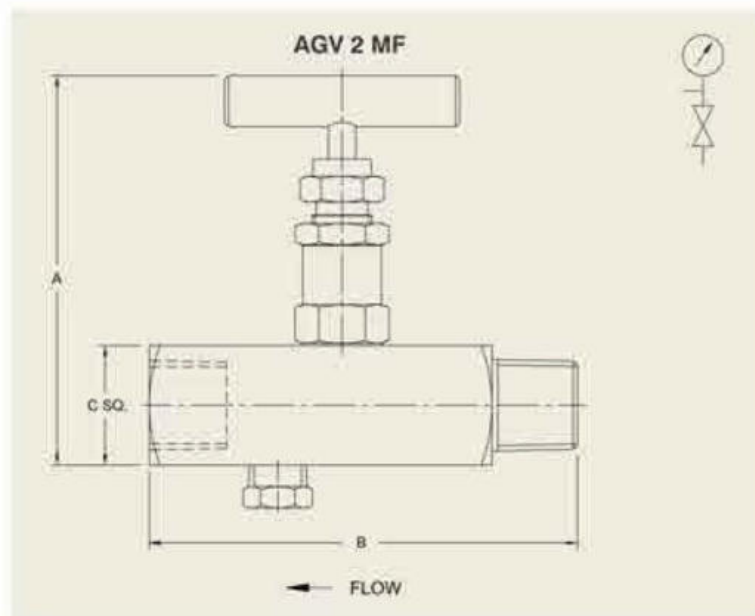
Weight : 0.55 kg

(AGV 2 FF)



SIZE	A	B	B SQ.	WEIGHT
1/4"	93	80	25	0.45
3/8"	93	80	25	0.45
1/2"	95	90	28	0.55

(AGV 2 MF)



Weight : 0.60 kg



SIZE	A	B	B SQ.	WEIGHT
1/4"	93	80	25	0.50
3/8"	93	80	25	0.50
1/2"	95	100	28	0.60

AGV 3 Multiport Gauge Valves

Multiport or gauge root valves facilitate different positioning of Pressure gauge or Pressure switch without disturbing the main line. The blind plug & the vent plug are supplied with the valve.

Standard Specifications :

Maximum working pressure : 413 bar/6000 PSI at 100° C

(see pressure temperature chart on Page No. 4 for higher temperature applications)

Material : 316 SS / 316L SS / 304 SS / Carbon steel

MOC in accordance with NACE MR0175 is available on request.

Monel, Inconel, Hastelloy, Duplex steel are also available on request.

Gland packing : PTFE / Graphite

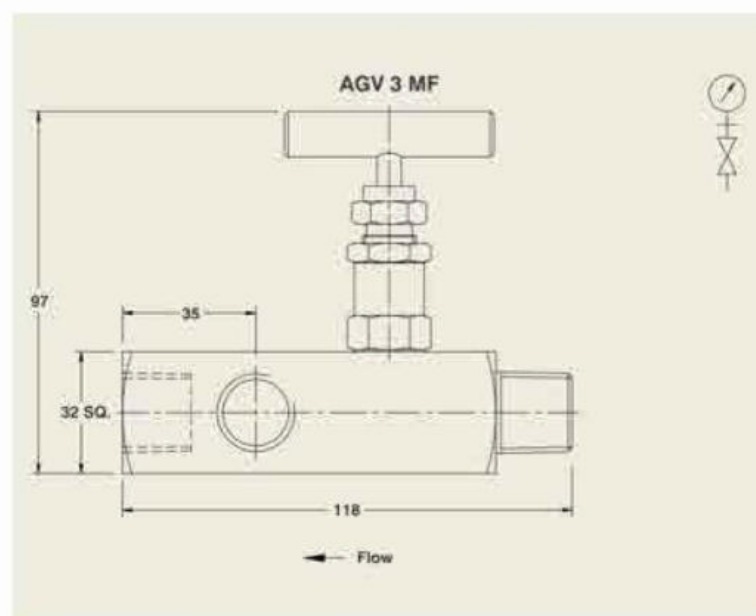
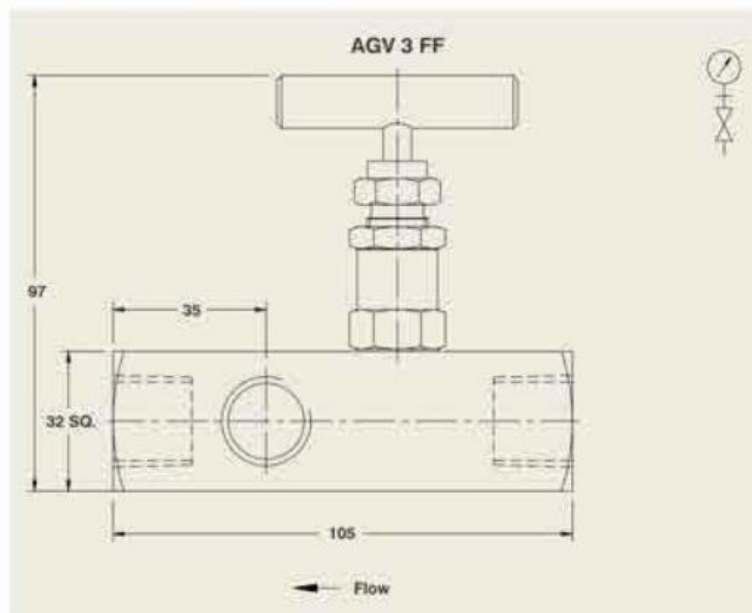
Inlet : 1/2" or 3/4" NPT male or 1/2" NPT Female

Outlet : 1/2" NPT F x 3

Valves for 10000 PSI working pressure are also available

Weight : 0.95 kg

(AGV 3 FF)



Weight : 1.00 kg

(AGV 3 MF)



AGV 4 Forged Body Gauge Valve

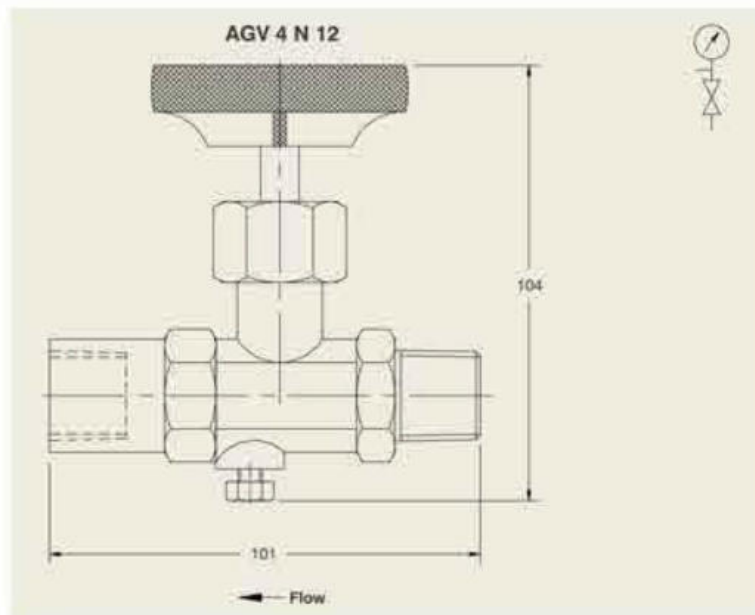
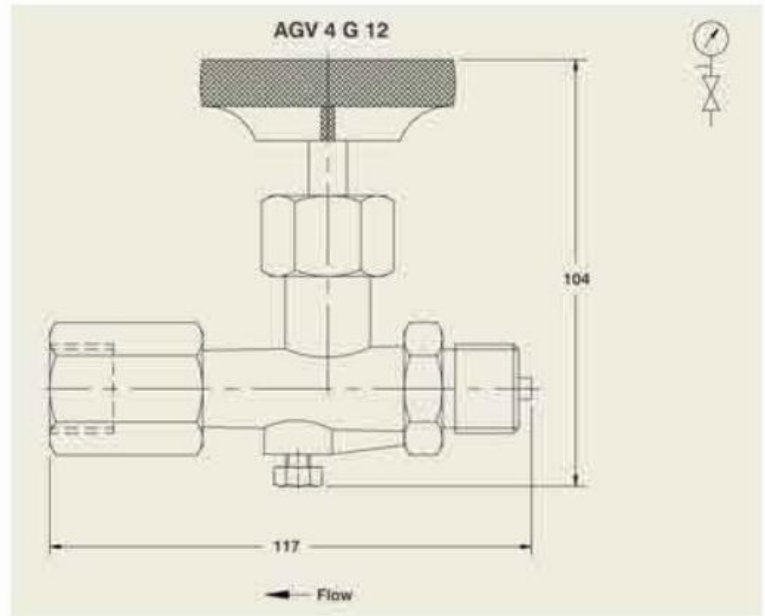
These valves are specially designed in accordance with DIN 16270.
The body is forged in union bonnet pattern. The G 1/2 connection provides swivel female outlet for suitable positioning of Pressure gauge. Bleed screw is provided for Vent.

Standard Specifications :

Maximum working pressure : 413 bar / 6000 PSI at 100° C
(see pressure temperature chart on Page No. 4 for higher temperature applications)
Material : 316 SS / 316L SS / 304 SS / Carbon steel / Brass
Gland packing : PTFE / Graphite.

Weight : 0.50 kg

(AGV 4 G 12)



Weight : 0.50 kg

(AGV 4 N 12)

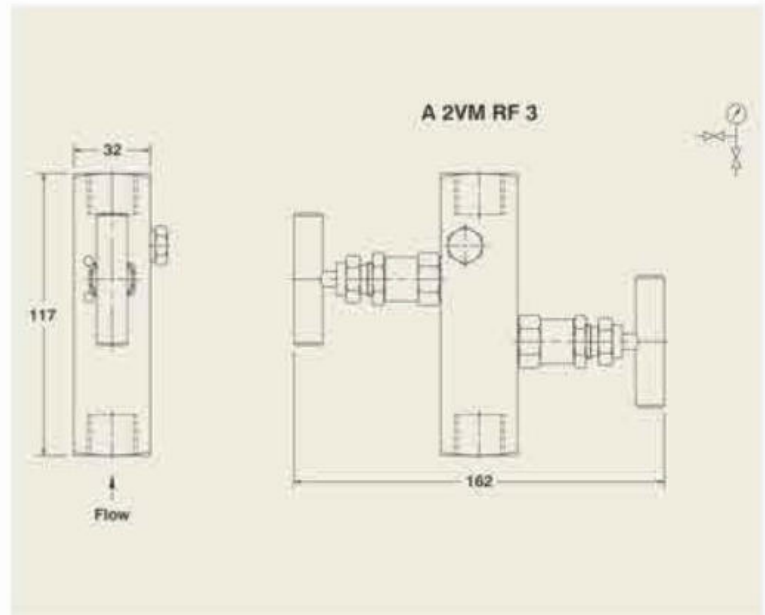


(A 2VM RF 3)

Standard Specifications :

Maximum working pressure : 413 bar / 6000 PSI at 100° C
(see pressure temperature chart on Page No. 4 for higher temperature applications)
Material : 316 SS / 316L SS / 304 SS / Carbon steel
MOC in accordance with NACE MR0175 is available on request.
Gland packing : PTFE / Graphite
Standard process connection : ½" NPT F
Standard instruments connection : ½" NPT F
Drain : ¼" NPT F (supplied with ¼" NPT blind plug)
Valves for 10000 PSI working pressure are also available

Weight : 1.10 kg

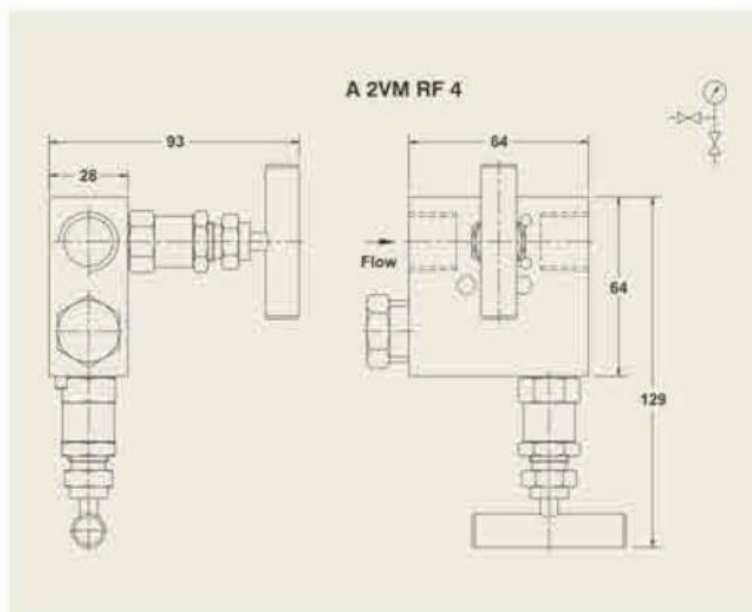


(A 2VM RF 4)

Standard Specifications :

Maximum working pressure : 413 bar / 6000 PSI at 100° C
(see pressure temperature chart on Page No. 4 for higher temperature applications)
Material : 316 SS / 316L SS / 304 SS / Carbon steel
MOC in accordance with NACE MR0175 is available on request
Monel, Inconel, Hastelloy, Duplex steel are also available on request.
Gland packing : PTFE / Graphite
Standard process connection : ½" NPT F
Standard instruments connection : ½" NPT F
Drain : ½" NPT F (supplied with ½" NPT blind plug)
Valves for 10000 PSI working pressure are also available

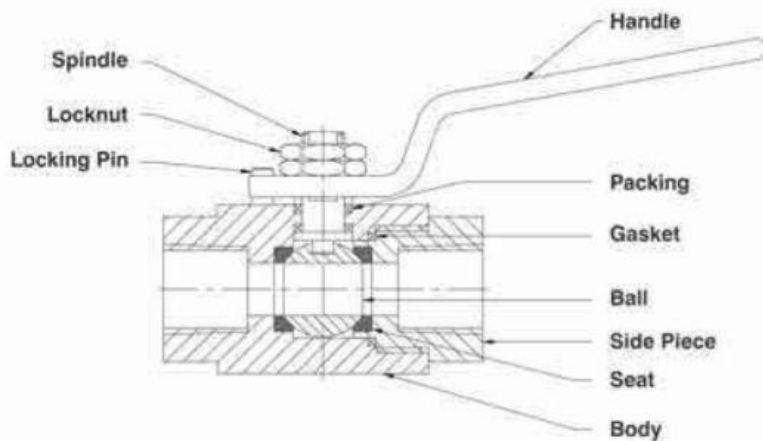
Weight : 1.10 kg



Instrumentation Ball Valves

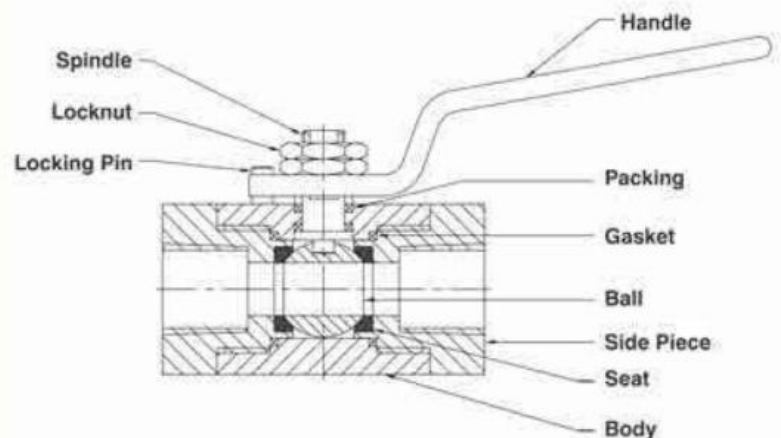
Low Pressure Ball Valve

(ABV 1)

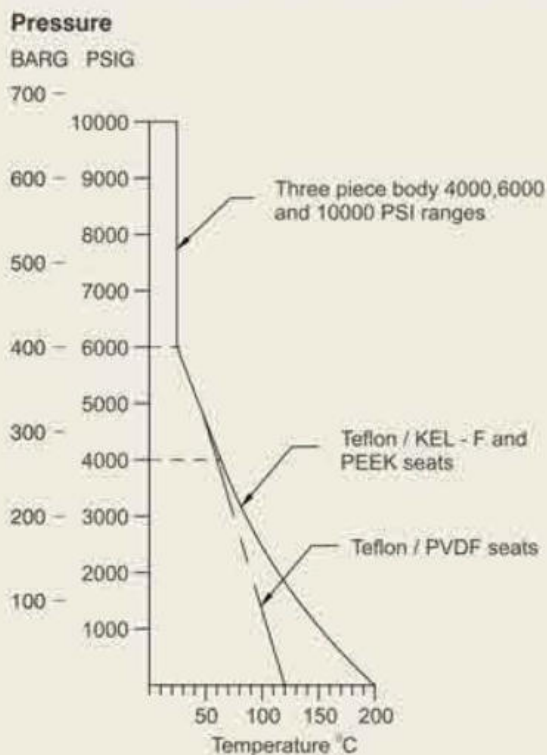


High Pressure Ball Valve

(ABV 2)



Pressure VS Temperature Graph for Ball Valves



Low Pressure Ball Valve

This valves are safe, reliable & economical option for low pressure application

(ABV 1)

Standard Specifications :

Size : 1/4" to 1"

End connections : Screwed (NPT / BSPP / BSPT), Socket weld,

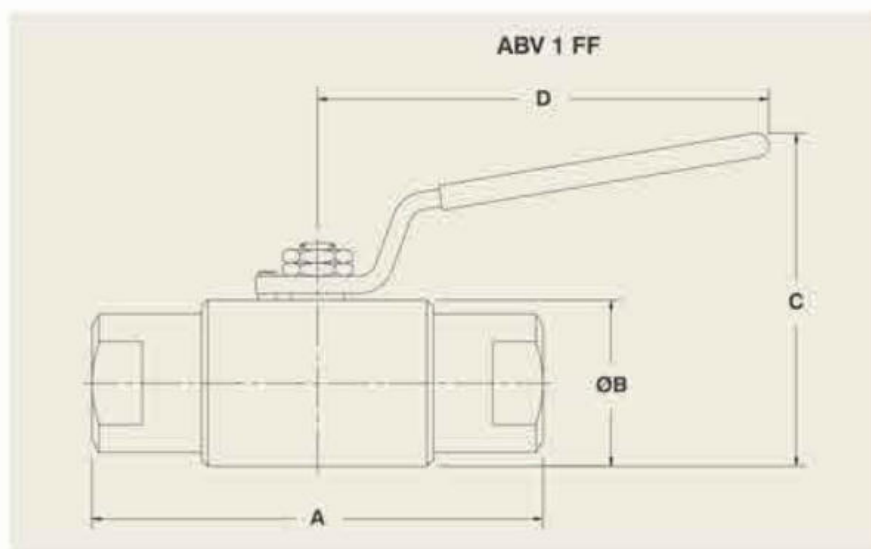
Compression tube fitting ends

Material : CS, 316 SS, 304 SS, 316 L SS

Special materials are also available on request

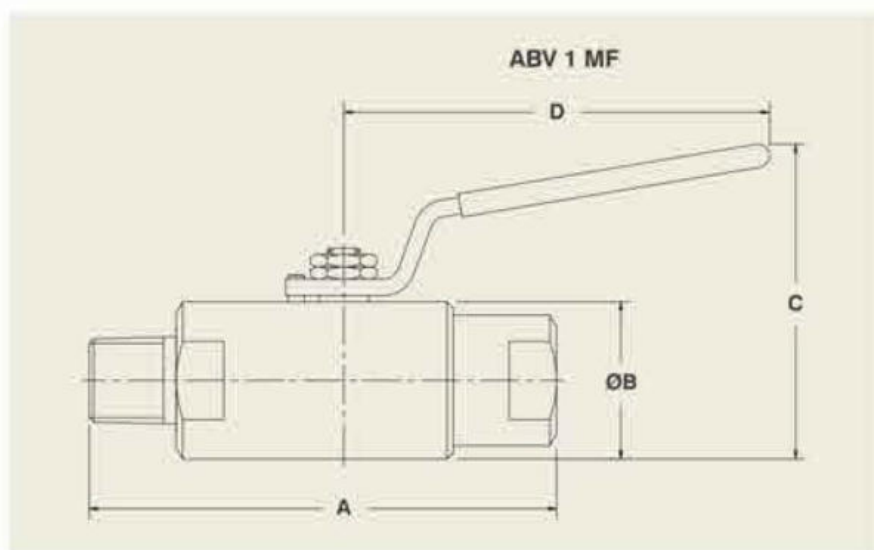
Maximum working pressure : 2000 PSI at 100° C

See pressure temperature chart for high temperature applications



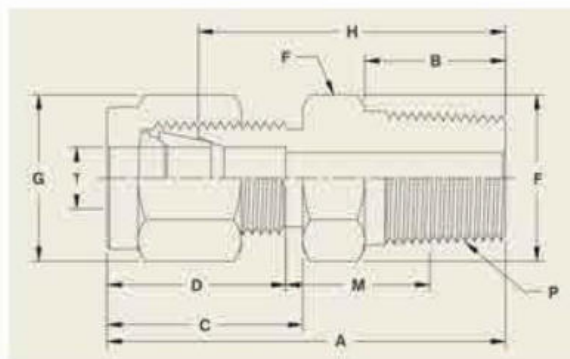
(ABV 1 FF)

SIZE	A	BB	C	D(kg.)	WEIGHT
1/4"	60	28	45	85	0.30
3/8"	65	32	50	85	0.40
1/2"	75	38	65	120	0.50
3/4"	85	42	75	135	0.75
1"	95	50	85	135	0.90



(ABV 1 MF)

SIZE	A	BB	C	D(kg.)	WEIGHT
1/4"	70	28	45	85	0.30
3/8"	75	32	50	85	0.40
1/2"	85	38	65	120	0.50
3/4"	95	42	75	135	0.75
1"	105	50	85	135	0.90



Imperial Range

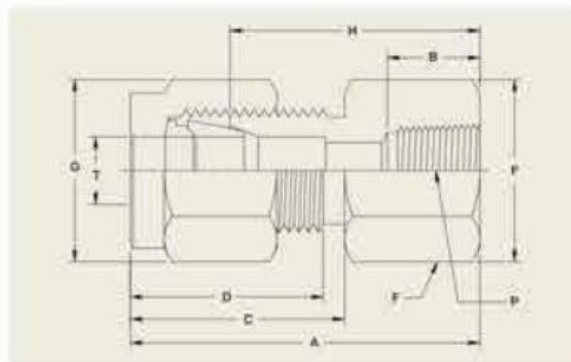
Dimensions in Inches

PART NO.	T O/D	P	A LENGTH	B	C	D	F BODY	G NUT	H BODY	M
MCI-1616	1/16	1/16	0.94	0.38	0.44	0.34	5/16	5/16	0.78	0.34
MCI-1618	1/16	1/8	1.00	0.38	0.44	0.34	1/2	5/16	0.84	0.41
MCI-1816	1/8	1/16	1.19	0.38	0.63	0.53	1/2	7/16	0.91	0.41
MCI-1818	1/8	1/8	1.19	0.38	0.63	0.53	1/2	7/16	0.91	0.41
MCI-1814	1/8	1/4	1.41	0.56	0.63	0.53	9/16	7/16	1.13	0.50
MCI-3618	3/16	1/8	1.21	0.38	0.63	0.54	7/16	1/2	0.95	0.43
MCI-3614	3/16	1/4	1.42	0.56	0.63	0.54	9/16	1/2	1.16	0.54
MCI-1416	1/4	1/16	1.29	0.38	0.70	0.60	1/2	9/16	1.00	0.46
MCI-1418	1/4	1/8	1.29	0.38	0.70	0.60	1/2	9/16	1.00	0.45
MCI-1414	1/4	1/4	1.50	0.56	0.72	0.63	9/16	9/16	1.19	0.50
MCI-1438	1/4	3/8	1.51	0.56	0.70	0.60	11/16	9/16	1.19	0.56
MCI-1412	1/4	1/2	1.73	0.75	0.70	0.60	7/8	9/16	1.44	0.67
MCI-5618	5/16	1/8	1.34	0.38	0.73	0.64	9/16	5/8	1.05	0.46
MCI-5614	5/16	1/4	1.52	0.56	0.73	0.64	9/16	5/8	1.23	0.54
MCI-3818	3/8	1/8	1.38	0.38	0.76	0.66	5/8	11/16	1.09	0.48
MCI-3514	3/8	1/4	1.57	0.56	0.76	0.66	5/8	11/16	1.28	0.57
MCI-3838	3/8	3/8	1.57	0.56	0.76	0.66	11/16	11/16	1.28	0.56
MCI-3812	3/8	1/2	1.79	0.75	0.76	0.66	7/8	11/16	1.50	0.67
MCI-3834	3/8	3/4	1.82	0.75	0.76	0.66	1-1/16	11/16	1.53	0.68
MCI-1214	1/2	1/4	1.71	0.56	0.86	0.90	13/16	7/8	1.31	0.47
MCI-1238	1/2	3/8	1.71	0.56	0.86	0.90	13/16	7/8	1.31	0.46
MCI-1212	1/2	1/2	1.90	0.75	0.86	0.90	7/8	7/8	1.50	0.54
MCI-1234	1/2	3/4	1.93	0.75	0.86	0.90	1-1/16	7/8	1.53	0.55
MCI-5838	5/8	3/8	1.74	0.56	0.86	0.96	15/16	1	1.34	0.43
MCI-5812	5/8	1/2	1.93	0.75	0.86	0.96	15/16	1	1.53	0.51
MCI-5834	5/8	3/4	1.93	0.75	0.86	0.96	1-1/16	1	1.53	0.49
MCI-3412	3/4	1/2	1.99	0.75	0.86	0.96	1-1/16	1-1/8	1.59	0.57
MCI-3434	3/4	3/4	1.99	0.75	0.86	0.96	1-1/16	1-1/8	1.59	0.55
MCI-3401	3/4	1	2.21	0.94	0.86	0.96	1-3/16	1-1/8	1.81	0.68
MCI-0134	1	3/4	2.26	0.75	1.04	1.23	1-3/8	1-1/2	1.78	0.55
MCI-0101	1	1	2.45	0.94	1.04	1.23	1-3/8	1-1/2	1.97	0.65

Matric Range

Dimensions in mm

PART NO.	T O/D	P	A LENGTH	B	C	D	F BODY	G NUT	H BODY	M
MCM-0418	4	1/8"	31.35	9.53	16.67	14.29	12	12	24.21	10.72
MCM-0414	4	1/4"	35.72	14.29	16.67	14.29	14	12	29.37	15.88
MCM-0618	6	1/8"	33.34	9.53	18.26	15.88	14	14	25.40	11.11
MCM-0614	6	1/4"	33.34	14.29	18.26	15.88	14	14	30.16	12.70
MCM-0638	6	3/8"	38.89	14.29	18.26	15.88	19	14	30.96	13.49
MCM-0612	6	1/2"	44.45	19.05	18.26	15.88	22	14	36.51	15.88
MCM-0818	8	1/8"	34.53	9.53	19.05	16.67	14	17	26.59	11.51
MCM-0814	8	1/4"	39.29	14.29	19.05	16.67	14	17	31.35	13.10
MCM-1018	10	1/8"	35.72	9.53	19.84	17.46	17	19	27.78	11.91
MCM-1014	10	1/4"	40.48	14.29	19.84	17.46	17	19	32.54	13.49
MCM-1038	10	3/8"	40.48	14.29	19.84	17.46	19	19	32.54	13.49
MCM-1012	10	1/2"	46.04	19.05	19.84	17.46	22	19	38.10	15.88
MCM-1034	10	3/4"	46.83	19.05	19.84	17.46	27	19	38.89	15.08
MCM-1214	12	1/4"	43.66	14.29	22.23	23.02	22	22	33.34	11.11
MCM-1238	12	3/8"	43.66	14.29	22.23	23.02	22	22	33.34	11.11
MCM-1212	12	1/2"	48.42	19.05	22.23	23.02	22	22	38.10	12.70
MCM-1234	12	3/4"	49.21	19.05	22.23	23.02	27	22	38.89	11.91
MCM-1638	16	3/8"	44.45	14.29	22.23	24.61	24	27	34.13	10.32
MCM-1612	16	1/2"	49.21	19.05	22.23	24.61	24	27	38.89	11.91
MCM-1634	16	3/4"	49.21	19.05	22.23	24.61	27	27	38.89	10.32
MCM-1812	18	1/2"	50.80	19.05	22.23	24.61	27	30	40.48	13.49
MCM-1834	18	3/4"	50.80	19.05	22.23	24.61	27	30	40.48	10.32
MCM-1801	18	1"	56.36	23.81	22.23	24.61	36	30	46.40	14.29
MCM-2012	20	1/2"	50.80	19.05	22.23	24.61	27	30	40.48	13.49
MCM-2034	20	3/4"	50.80	19.05	22.23	24.61	27	30	40.48	10.32
MCM-2001	20	1"	56.36	23.81	22.23	24.61	36	30	46.04	14.39
MCM-2534	25	3/4"	57.15	19.05	26.19	30.96	36	41	45.24	11.91
MCM-2501	25	1"	61.91	23.81	26.19	30.96	36	41	50.01	13.49



Imperial Range

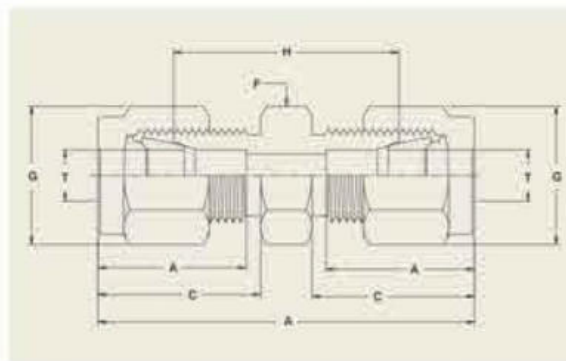
Dimensions in Inches

PART. NO.	T O/D	P	A LENGTH	B	C	D	F BODY	G NUT	H BODY
FCI-1616	1/16	1/16	0.94	0.36	0.44	0.34	1/2	5/16	0.78
FCI-1618	1/8	1/8	1.16	0.39	0.63	0.53	9/16	7/16	0.88
FCI-1814	1/8	1/4	1.34	0.59	0.63	0.53	3/4	7/16	1.06
FCI-3618	3/16	1/8	1.17	0.39	0.63	0.54	9/16	9/16	0.91
FCI-1418	1/4	1/8	1.23	0.39	0.70	0.60	9/16	9/16	0.94
FCI-1414	1/4	1/4	1.41	0.59	0.70	0.60	3/4	9/16	1.12
FCI-1438	1/4	3/8	1.48	0.59	0.70	0.60	7/8	9/16	1.19
FCI-1412	1/4	1/2	1.7	0.78	0.70	0.60	1-1/16	9/16	1.41
FCI-5618	5/16	1/8	1.26	0.39	0.73	0.64	3/4	5/8	0.97
FCI-5614	5/16	1/4	1.45	0.59	0.73	0.64	3/4	5/8	1.18
FCI-3818	3/8	1/8	1.29	0.39	0.76	0.66	5/8	11/16	1.00
FCI-3814	3/8	1/4	1.48	0.59	0.76	0.66	3/4	11/16	1.19
FCI-3838	3/8	3/8	1.54	0.59	0.76	0.66	7/8	11/16	1.25
FCI-3812	3/8	1/2	1.73	0.78	0.76	0.66	1-1/16	11/16	1.44
FCI-1214	1/2	1/4	1.65	0.59	0.86	0.90	13/16	7/8	1.25
FCI-1238	1/2	3/8	1.65	0.59	0.86	0.90	7/8	7/8	1.25
FCI-1212	1/2	1/2	1.84	0.78	0.86	0.90	1-1/16	7/8	1.44
FCI-5838	5/8	3/8	1.65	0.59	0.86	0.96	15/16	1	1.25
FCI-5812	5/8	1/2	1.84	0.78	0.86	0.96	1-1/16	1	1.44
FCI-3412	3/4	1/2	1.84	0.78	0.86	0.96	1-1/16	1-1/8	1.44
FCI-3434	3/4	3/4	1.9	0.81	0.86	0.96	1-5/16	1-1/8	1.50
FCI-0134	1	3/4	2.1	0.81	1.04	1.23	1-3/8	1-1/2	1.62
FCI-0101	1	1	2.45	1.00	1.04	1.23	1-5/8	1-1/2	1.97

Matric Range

Dimensions in mm

PART. NO.	T O/D	P	A LENGTH	B	C	D	F BODY	G NUT	H BODY
FCM-0418	4	1/8"	30.16	10	16.67	14.29	14	12	23.02
FCM-0618	6	1/8"	31.75	10	18.26	15.88	14	14	23.81
FCM-0614	6	1/4"	36.51	14	18.26	15.88	19	14	28.58
FCM-0638	6	3/8"	38.07	14	18.26	15.88	22	14	30.16
FCM-0612	6	1/2"	43.66	19	18.26	15.88	27	14	35.72
FCM-0818	8	1/8"	32.54	10	19.05	16.67	14	17	24.61
FCM-0814	8	1/4"	37.31	14	19.05	16.67	19	17	29.37
FCM-0118	10	1/8"	33.34	10	19.84	17.46	17	19	25.40
FCM-0114	10	1/4"	38.10	14	19.84	17.46	19	19	30.16
FCM-0138	10	3/8"	39.69	14	19.84	17.46	22	19	31.75
FCM-0112	10	1/2"	44.45	19	19.84	17.46	27	19	36.51
FCM-1214	12	1/4"	42.07	14	22.23	23.02	22	22	31.75
FCM-1238	12	3/8"	42.07	14	22.23	23.02	22	22	31.75
FCM-1212	12	1/2"	46.83	19	22.23	23.02	27	22	36.51
FCM-1612	16	1/2"	46.83	19	22.23	24.61	27	27	36.51
FCM-1812	18	1/2"	46.83	19	22.23	24.61	27	30	36.51
FCM-1834	18	3/4"	48.42	19	22.23	24.61	32	30	38.10
FCM-2012	20	1/2"	46.83	19	22.23	24.61	27	30	36.51
FCM-2034	20	3/4"	48.42	19	22.23	24.61	32	30	38.10
FCM-2534	25	3/4"	53.18	19	26.19	31.75	36	41	41.28
FCM-2501	25	1"	61.91	24	26.19	30.96	41	41	50.01



Imperial Range

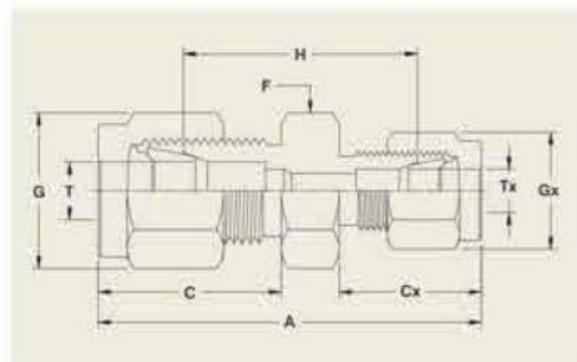
Dimensions in Inches

PART NO.	T O/D	A LENGTH	C	D	F BODY	G NUT	H BODY
EUI-16	1/16	1.00	0.44	0.34	5/16	5/16	0.689
EUI-18	1/8	1.44	0.63	0.53	1/2	7/16	0.881
EUI-36	3/16	1.47	0.63	0.54	7/16	1/2	0.945
EUI-14	1/4	1.61	0.70	0.60	0.551	9/16	1.043
EUI-56	5/16	1.68	0.73	0.64	0.551	5/8	1.102
EUI-38	3/8	1.77	0.76	0.66	5/8	11/16	1.189
EUI-12	1/2	2.02	0.86	0.90	7/8	7/8	1.220
EUI-58	5/8	2.05	0.86	0.96	0.945	1	1.26
EUI-34	3/4	2.11	0.86	0.96	1.102	1-1/8	1.319
EUI-01	1	2.55	1.04	1.23	1.417	1-1/2	1.594

Metric Range

Dimensions in mm

PART NO.	T O/D	A LENGTH	C	D	F BODY	G NUT	H BODY
EUM-04	4	38.50	16.67	14.29	12	12	24.21
EUM-06	6	42.07	18.26	15.88	14	14	26.19
EUM-08	8	44.04	19.05	16.67	14	17	28.18
EUM-10	10	46.04	19.84	17.46	17	19	31
EUM-12	12	51.59	22.23	23.01	22	22	31
EUM-16	16	52.39	22.23	24.61	24	25	32
EUM-18	18	53.98	22.23	24.61	27	30	33.34
EUM-20	20	55	22.23	24.61	27	32	34
EUM-25	25	64.29	26.19	30.96	36	38	40.48



Unequal Union



Imperial Range

Dimensions in Inches

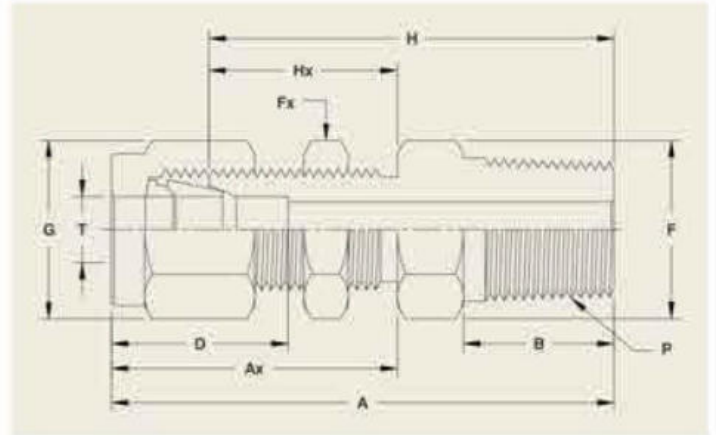
PART NO.	T O/D	TX O/D	A LENGTH	C	CX	F BODY	G NUT	GX NUT	H BODY
UUI-1816	1/8	1/16	1.25	0.63	0.44	1/2	7/16	5/16	0.81
UUI-3618	3/16	1/8	1.48	0.66	0.63	1/2	1/2	7/16	0.92
UUI-1416	1/4	1/16	1.37	0.72	0.44	1/2	9/16	5/16	0.91
UUI-1418	1/4	1/8	1.56	0.72	0.63	1/2	9/16	7/16	0.97
UUI-1436	1/4	3/16	1.55	0.70	0.63	1/2	9/16	1/2	1.00
UUI-5614	5/16	1/4	1.66	0.73	0.70	9/16	5/8	9/16	1.08
UUI-3614	3/8	1/4	1.70	0.76	0.70	5/8	11/16	9/16	1.12
UUI-3856	3/8	5/16	1.74	0.76	0.73	5/8	11/16	5/8	1.16
UUI-1214	1/2	1/4	1.85	0.86	0.70	3/16	7/8	9/16	1.16
UUI-1238	1/2	3/8	1.91	0.86	0.76	13/16	7/8	11/16	1.22
UUI-5638	5/8	3/8	1.94	0.86	0.76	15/16	1	11/16	1.25
UUI-5812	5/8	1/2	2.05	0.86	0.86	15/16	1	7/8	1.25
UUI-3412	3/4	1/2	2.11	0.86	0.86	1-1/16	1-1/8	7/8	1.31
UUI-3458	3/4	5/8	2.11	0.86	0.86	1-1/16	1-1/8	1	1.31
UUI-0134	1	3/4	2.47	1.04	0.86	1-3/8	1-1/2	1-1/8	1.59

Metric Range

Dimensions in mm

PART NO.	T O/D	TX O/D	A LENGTH	C	CX	F BODY	G NUT	GX NUT	H BODY
UUM-0604	6	4	40.48	19.97	19.05	14	14	12	25.40
UUM-0804	8	6	43.26	19.05	19.97	14	17	14	27.38
UUM-1006	10	6	44.45	19.84	19.97	17	19	14	28.58
UUM-1008	10	8	45.24	19.84	19.05	17	19	17	29.37
UUM-1206	12	6	47.63	22.23	19.97	22	22	14	29.37
UUM-1210	12	10	49.21	22.23	19.84	22	22	19	30.96
UUM-1610	16	10	50.01	22.23	19.84	24	27	19	31.75
UUM-1612	16	12	52.39	22.23	22.23	24	27	22	31.75
UUM-2012	20	12	53.98	22.23	22.23	27	30	22	33.34
UUM-2016	20	16	53.98	22.23	22.23	27	30	27	33.34
UUM-2520	25	20	60.32	26.19	22.23	36	41	30	38.10

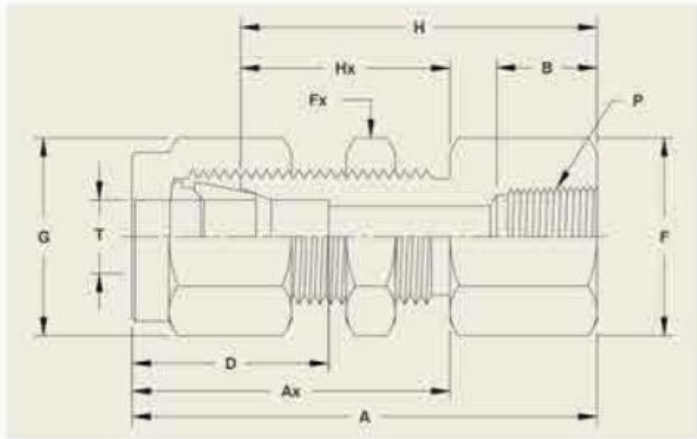
Bulkhead Male Connector



Imperial Range

Dimensions in Inches

PART NO.	T O/D	P	B	D	F BODY	G NUT	FX	H	AX	HX	A	PANEL HOLE	MAX PANEL
BMCI-1418	1/4	1/8	0.38	0.60	5/8	9/16	5/8	1.66	1.32	1.03	1.95	29/64	0.40
BMCI-1414	1/4	1/4	0.56	0.60	5/8	9/16	5/8	1.81	1.32	1.03	2.10	29/64	0.40
BMCI-3814	3/8	1/4	0.56	0.66	3/4	11/16	3/4	1.97	1.45	1.16	2.26	37/64	0.44
BMCI-1212	1/2	1/2	0.75	0.90	15/16	7/8	15/16	2.28	1.65	1.25	2.68	49/64	0.50



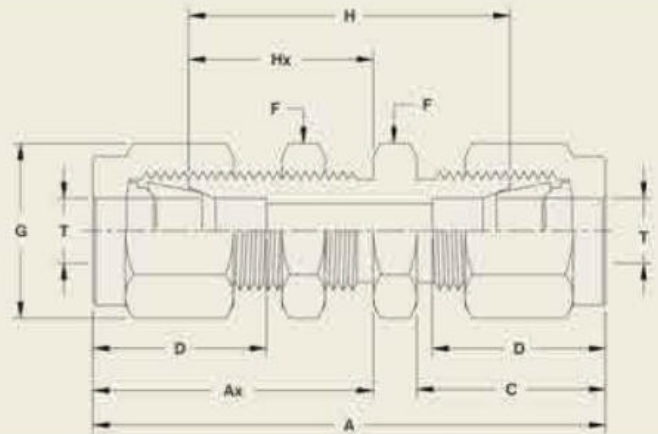
Bulkhead Female Connector



Imperial Range

Dimensions in Inches

PART NO.	T O/D	P	B	D	F BODY	G NUT	FX	H	AX	HX	A	PANEL HOLE	MAX PANEL
BFCL-1418	1/4	1/8	0.39	0.60	5/8	9/16	5/8	1.56	1.32	1.32	1.85	0.453	0.40
BFCL-1414	1/4	1/4	0.59	0.60	3/4	9/16	5/8	1.75	1.32	1.32	2.04	0.453	0.40
BFCL-3814	3/8	1/4	0.59	0.66	3/4	11/16	3/4	1.88	1.45	1.45	2.17	0.579	0.44
BFCL-1238	1/2	3/8	0.59	0.90	0.945	7/8	0.945	2.03	1.65	1.65	2.43	0.768	0.50
BFCL-1212	1/2	1/2	0.78	0.90	1.063	7/8	0.945	2.22	1.65	1.65	2.62	0.768	0.50



Imperial Range

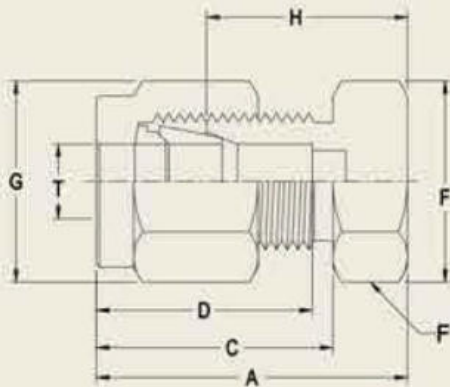
Dimensions in Inches

PART NO.	T O/D	A LENGTH	C	D	F BODY	G NUT	H
BUI-16	1/16	1.24	0.43	0.34	5/16	5/16	0.94
BUI-18	1/8	2.02	0.60	0.50	1/2	7/16	1.50
BUI-36	3/16	2.11	0.63	0.54	9/16	1/2	1.59
BUI-14	1/4	2.27	0.70	0.60	5/8	9/16	1.69
BUI-56	5/16	2.39	0.73	0.64	11/16	5/8	1.81
BUI-38	3/8	2.45	0.76	0.66	3/4	11/16	1.87
BUI-12	1/2	2.80	0.86	0.90	7/8	7/8	2.00
BUI-58	5/8	2.86	0.86	0.96	1-1/16	1	2.06
BUI-34	3/4	3.11	0.86	0.96	1-3/16	1-1/8	2.31
BUI-01	1	3.77	1.04	1.23	1-5/8	1-1/2	2.81

Metric Range

Dimensions in mm

PART NO.	T O/D	A LENGTH	C	D	F BODY	G NUT	H BODY	AX	HX
BUM-03	3	51.3	15.3	12.9	14	12	38.1	31.0	24.6
BUM-04	4	53.6	16.1	13.7	14	12	40.4	32.0	25.4
BUM-06	6	57.7	17.7	15.3	16	14	42.9	33.6	26.2
BUM-08	8	61.0	18.6	16.2	18	16	46.0	36.1	28.6
BUM-10	10	63.7	19.5	17.2	22	19	48.5	37.0	29.4
BUM-12	12	71.0	22.0	22.8	24	22	50.8	41.9	31.8
BUM-16	16	72.5	22.0	24.0	27	25	52.3	42.6	32.5
BUM-20	20	84.5	22.0	26.0	35	32	64.3	53.0	42.9



Imperial Range

Dimensions in Inches

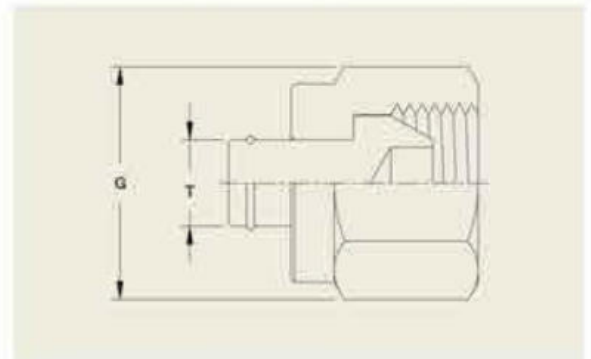
PART NO.	T O/D	A LENGTH	C	D	F BODY	G NUT	H BODY
CI-36	3/16	0.84	0.63	0.54	7/16	1/2	0.58
CI-14	1/4	0.92	0.70	0.60	1/2	9/16	0.63
CI-56	5/16	0.96	0.73	0.64	9/16	5/8	0.67
CI-38	3/8	1.01	0.76	0.66	5/8	1/16	0.72
CI-12	1/2	1.15	0.86	0.90	7/8	7/8	0.75
CI-58	5/8	1.18	0.86	0.96	15/16	1	0.78
CI-34	3/4	1.24	0.86	0.96	1-1/16	1-1/8	0.84
CI-01	1	1.51	1.04	1.23	1-3/8	1-1/2	1.03

Matric Range

Dimensions in mm

PART NO.	T O/D	A LENGTH	C	D	F BODY	G NUT	H BODY
CM-04	4	21.3	16.1	13.70	12	12	14.70
CM-06	6	23.1	17.7	15.30	14	14	15.70
CM-08	8	24.5	18.6	16.20	15	16	17.00
CM-10	10	26.6	19.5	17.20	18	19	19.00
CM-12	12	29.1	22.0	22.00	22	22	19.00
CM-16	16	29.9	22.0	22.00	24	25	19.80
CM-18	18	31.4	22.0	22.00	27	30	21.30
CM-20	20	34.0	22.0	22.00	30	32	23.90
CM-25	25	38.5	26.5	26.50	35	38	26.20





Imperial Range

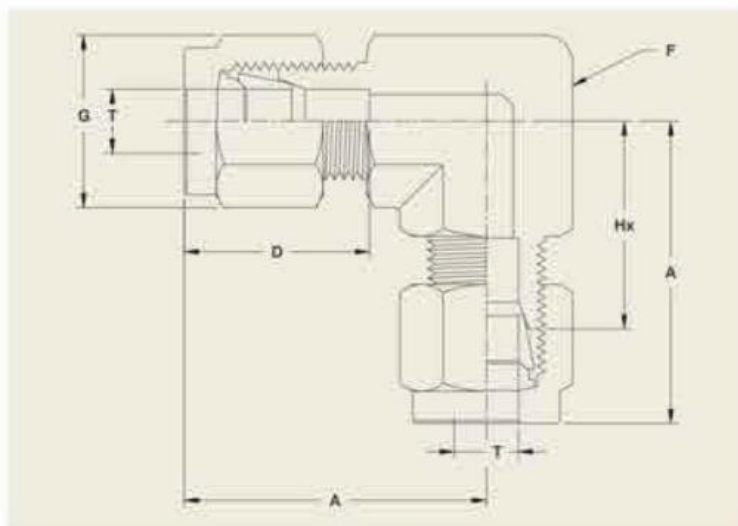
Dimensions in Inches

PART NO.	T O/D	G NUT
PI-16	1/16	5/16
PI-18	1/8	7/16
PI-36	3/16	1/2
PI-14	1/4	9/16
PI-56	5/16	5/8
PI-38	3/8	11/16
PI-12	1/2	7/8
PI-58	5/8	1
PI-34	3/4	1-1/8
PI-01	1	1-1/2

Matric Range

Dimensions in mm

PART NO.	T O/D	G NUT
PM-04	4	12
PM-06	6	14
PM-08	8	17
PM-10	10	19
PM-12	12	22
PM-16	16	27
PM-18	18	30
PM-20	20	30
PM-25	25	41



Union Elbow



Imperial Range

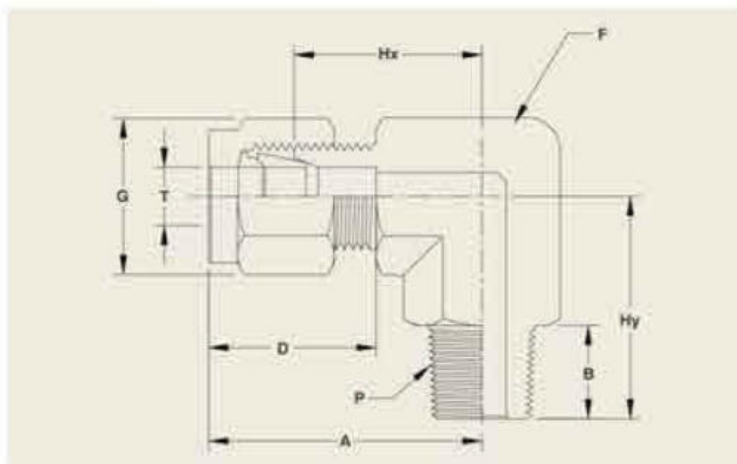
Dimensions in Inches

PART NO.	T O/D	A LENGTH	D	F BODY	G NUT	HX BODY
UEI-16	1/16	17.8	0.34	0.433	5/16	0.56
UEI-18	1/8	22.4	0.53	1/2	7/16	0.72
UEI-36	3/16	26	0.54	1/2	1/2	0.75
UEI-14	1/4	27	0.60	0.55	9/16	0.78
UEI-56	5/16	29	0.64	10.630	5/8	0.88
UEI-38	3/8	31	0.66	0.630	1/16	0.91
UEI-12	1/2	36	0.90	7/8	7/8	0.98
UEI-58	5/8	38	0.96	0.945	1	1.06
UEI-34	3/4	40	0.96	1.0630	1-1/8	1.11
UEI-01	1	49	1.23	1.380	1-1/2	1.31

Matric Range

Dimensions in mm

PART NO.	T O/D	A LENGTH	D	F BODY	G NUT	HX BODY
UEM-04	4	24.61	14.29	12	12	19.05
UEM-06	6	27	15.88	12	14	19.81
UEM-08	8	29	16.67	16	17	22.23
UEM-10	10	31	17.46	16	19	23.11
UEM-12	12	36	23.02	22	22	24.89
UEM-16	16	38	24.61	24	27	26.19
UEM-18	18	40	24.61	27	30	29.37
UEM-20	20	44	24.61	27	30	29.37
UEM-25	25	50	30.96	32	41	33.34



Imperial Range

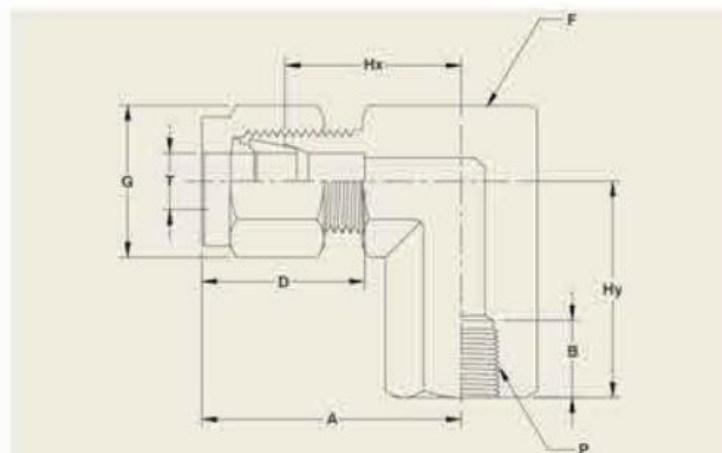
Dimensions in Inches

PART. NO	T O/D	P	A LENGTH	B	HY	D	F BODY	G NUT	HX BODY
MEI-1616	1/16	1/16	3/4	0.38	0.690	0.34	0.47	5/16	5/8
MEI-1618	1/16	1/8	3/4	0.38	0.708	0.34	0.47	5/16	5/8
MEI-1816	1/8	1/16	1	0.38	0.748	0.51	0.47	7/16	0.708
MEI-1818	1/8	1/8	0.945	0.38	0.748	0.53	0.47	7/16	0.708
MEI-1814	1/8	1/4	0.945	0.56	0.945	0.53	0.47	7/16	0.945
MEI-3618	3/16	1/8	1	0.38	0.768	0.54	0.47	1/2	3/4
MEI-1418	1/4	1/8	1.063	0.38	0.768	0.60	0.47	9/16	0.787
MEI-1414	1/4	1/4	1.063	0.56	0.945	0.60	0.47	9/16	0.945
MEI-1438	1/4	3/8	1.181	0.56	1.024	0.60	0.55	9/16	0.866
MEI-1412	1/4	1/2	1.260	0.75	1.299	0.60	0.75	9/16	0.945
MEI-5618	5/16	1/8	1.181	0.38	0.787	0.64	0.55	5/8	0.866
MEI-5614	5/16	1/4	1.181	0.56	1	0.64	0.55	5/8	0.866
MEI-3818	3/8	1/8	1.220	0.38	0.787	0.66	0.55	1/2	0.945
MEI-3814	3/8	1/4	1.220	0.56	1	0.66	0.55	11/16	0.945
MEI-3838	3/8	3/8	1.240	0.56	1.024	0.66	0.55	11/16	0.945
MEI-3812	3/8	1/2	1.338	0.75	1.299	0.66	0.75	11/16	1
MEI-1214	1/2	1/4	1.417	0.56	1.102	0.91	0.75	7/8	1
MEI-1238	1/2	3/8	1.417	0.56	1.102	0.91	0.75	7/8	1
MEI-1212	1/2	1/2	1.456	0.75	1.299	0.91	0.75	7/8	1
MEI-5838	5/8	3/8	1.496	0.56	1.181	0.96	0.94	1	1.063
MEI-5812	5/8	1/2	1.496	0.75	1.338	0.96	0.94	1	1.063
MEI-3412	3/4	1/2	1.535	0.75	1.417	0.96	1.06	1-1/8	1.141
MEI-3434	3/4	3/4	1.535	0.75	1.417	0.96	1.06	1-1/8	1.141
MEI-0134	1	3/4	1.929	0.94	1.654	1.23	1.25	1-1/2	1.338
MEI-0101	1	1	1.929	0.94	1.850	1.23	1.25	1-1/2	1.338

Metric Range

Dimensions in mm

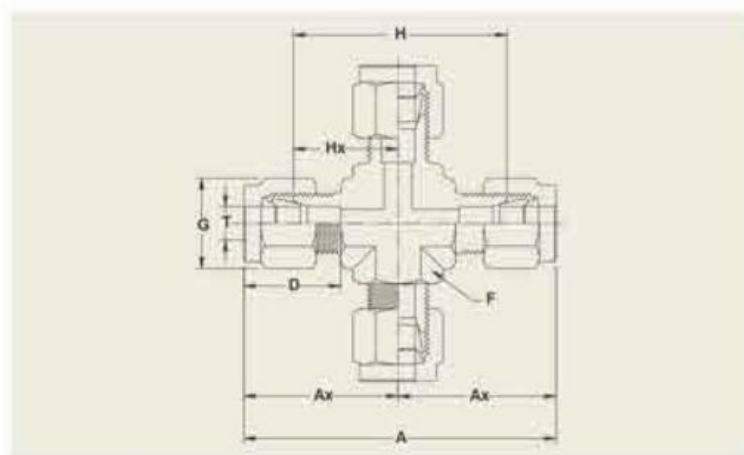
PART. NO	T O/D	P	A LENGTH	B	HY	D	F BODY	G NUT	HX BODY
MEM-0418	4	1/8"	24.61	19.53	19.30	14.29	12	12	19.05
MEM-0618	6	1/8"	26.19	9.53	19.84	15.88	12	14	19.80
MEM-0614	6	1/4"	26.19	14.29	23.81	15.88	14	14	19.80
MEM-0638	6	3/8"	27.60	14.29	23.58	15.88	19	14	21.33
MEM-0612	6	1/2"	29.40	19.05	33.24	15.88	22	14	23.11
MEM-0818	8	1/8"	28.58	9.53	20.64	16.67	17	17	22.22
MEM-0814	8	1/4"	28.58	14.29	25.40	16.67	14	17	22.22
MEM-0838	8	3/8"	28.58	14.24	25.40	16.67	19	17	22.22
MEM-0812	8	1/2"	31.75	19.05	32.00	16.67	22	17	24.00
MEM-1018	10	1/8"	28.90	9.53	22.23	17.46	19	19	23.11
MEM-1014	10	1/4"	28.90	14.29	25.40	17.46	19	19	23.11
MEM-1038	10	3/8"	28.90	14.29	28.58	17.46	19	19	23.11
MEM-1012	10	1/2"	30.60	19.05	31.75	17.46	22	19	24.89
MEM-1214	12	1/4"	35.80	14.29	28.58	23.02	22	22	24.89
MEM-1238	12	3/8"	35.80	14.29	28.58	23.02	22	22	24.89
MEM-1212	12	1/2"	35.80	19.05	33.34	23.02	22	22	24.89
MEM-1638	16	3/8"	36.51	14.29	31.75	24.61	19	27	26.19
MEM-1612	16	1/2"	36.51	19.05	34.93	24.61	19	27	26.19
MEM-1812	18	1/2"	39.69	19.05	38.10	24.61	27	30	29.37
MEM-1834	18	3/4"	39.69	19.05	38.10	24.61	27	30	29.37
MEM-2012	20	1/2"	39.69	19.05	38.10	24.61	27	30	29.37
MEM-2034	20	3/4"	39.69	19.05	38.10	24.61	27	30	29.37
MEM-2534	25	3/4"	45.24	19.05	38.10	26.19	32	41	33.34
MEM-2501	25	1"	45.24	23.81	46.83	30.96	32	41	33.34



Imperial Range

Dimensions in Inches

PART. NO	T O/D	F	A LENGTH	B	HY	D	F BODY	G NUT	HX BODY
FEI-1818	1/8	1/8	0.95	0.39	0.15	0.50	0.551	7/16	0.708
FEI-1814	1/8	1/4	1.07	0.59	0.88	0.50	0.748	7/16	0.825
FEI-3618	3/16	1/8	0.98	0.39	0.75	0.54	0.551	1/2	0.703
FEI-1418	1/4	1/8	1.04	0.39	0.75	0.60	0.551	9/16	0.749
FEI-1414	1/4	1/4	1.17	0.59	0.88	0.60	0.630	9/16	0.896
FEI-5618	5/16	1/8	1.17	0.39	0.75	0.64	0.551	5/8	0.866
FEI-5614	5/16	1/4	1.20	0.59	0.88	0.64	0.748	5/8	0.905
FEI-3818	3/8	1/8	1.20	0.39	0.75	0.66	0.748	11/16	0.905
FEI-3814	3/8	1/4	1.23	0.59	0.88	0.66	0.748	11/16	0.945
FEI-3838	3/8	3/8	1.32	0.59	0.88	0.66	0.748	11/16	1.027
FEI-3812	3/8	1/2	1.41	0.78	1.12	0.66	1.102	11/16	1.102
FEI-1214	1/2	1/4	1.38	0.59	0.88	0.90	0.748	7/8	1.000
FEI-1238	1/2	3/8	1.43	0.59	0.88	0.90	0.748	7/8	1.023
FEI-1212	1/2	1/2	1.52	0.78	1.12	0.90	1.102	7/8	1.142
FEI-5838	5/8	3/8	1.46	0.59	0.88	0.96	0.748	1	1.102
FEI-5812	5/8	1/2	1.52	0.78	1.12	0.96	1.102	1	1.142
FEI-3412	3/4	1/2	1.51	0.78	1.12	0.96	1.102	1-1/8	1.102
FEI-3434	3/4	3/4	1.65	0.81	1.25	0.96	1.102	1-1/8	1.260



Equal Union Cross



Imperial Range

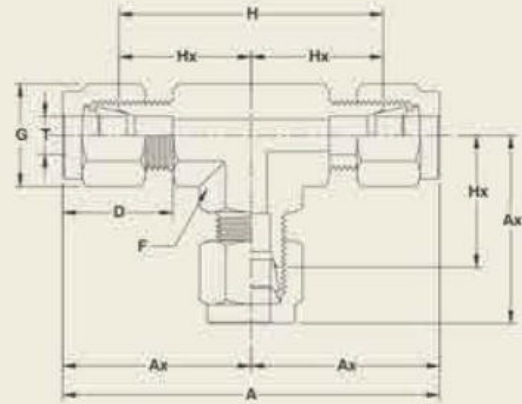
Dimensions in Inches

PART. NO	T O/D	AX LENGTH	D	F BODY	G NUT	HX BODY	H	A
UCI-18	1/8	0.99	0.53	1/2	7/16	0.72	1.44	1.98
UCI-36	3/16	1.01	0.54	1/2	1/2	0.75	1.50	2.02
UCI-14	1/4	1.07	0.60	9/16	9/16	0.78	1.56	2.14
UCI-56	5/16	1.17	0.64	5/8	5/8	0.88	1.76	2.34
UCI-38	3/8	1.2	0.66	5/8	11/16	0.91	1.82	2.40
UCI-12	1/2	1.38	0.90	7/8	7/8	0.98	1.96	2.76
UCI-58	5/8	1.46	0.96	0.81	1	1.06	2.12	2.92

Metric Range

Dimensions in mm

PART. NO	T O/D	Ax Length	D	F Body	G NUT	Hx Body	H	A
UCM-04	4	26.15	14.29	12	12	19.00	38.00	52.30
UCM-06	6	27.20	15.88	14	14	19.80	39.60	54.40
UCM-08	8	29.70	16.67	16	17	22.20	44.40	59.40
UCM-10	10	30.80	17.46	16	19	23.10	46.20	61.60
UCM-12	12	35.00	23.02	22	22	24.90	49.80	70.00
UCM-16	16	36.39	24.61	24	27	26.19	52.39	72.78


Imperial Range
Dimensions in Inches

PART. NO	T O/D	AX LENGTH	D	F BODY	G NUT	HX BODY	H	A
UTI-16	1/16	0.72	0.34	0.47	5/16	0.56	1.12	1.44
UTI-18	1/8	0.99	0.50	0.47	7/16	0.72	1.44	1.98
UTI-36	3/16	1.01	0.54	0.47	1/2	0.75	1.50	2.02
UTI-14	1/4	1.07	0.60	0.47	9/16	0.78	1.56	2.25
UTI-56	5/16	1.17	0.64	0.55	5/8	0.88	1.76	2.34
UTI-38	3/8	1.20	0.66	0.55	11/16	0.91	1.82	2.40
UTI-12	1/2	1.30	0.90	0.75	7/8	0.98	1.96	2.76
UTI-58	5/8	1.46	0.96	0.94	1	1.06	2.12	2.92
UTI-34	3/4	1.51	0.96	1.06	1-1/8	1.11	2.22	3.02
UTI-01	1	1.79	1.23	1.25	1-1/2	1.31	2.62	3.58

Metric Range
Dimensions in mm

PART. NO	T O/D	AX LENGTH	D	F BODY	G NUT	HX BODY	H	A
UTM-04	4	26.15	14.29	12	12	19.00	38.00	52.30
UTM-06	6	27.20	15.88	12	14	19.80	39.60	54.40
UTM-08	8	29.70	16.67	14	17	22.20	44.40	59.40
UTM-10	10	30.80	17.46	14	19	23.10	46.20	61.60
UTM-12	12	35.00	23.02	19	22	24.90	49.80	70.00
UTM-16	16	36.39	24.61	24	27	26.19	52.39	72.78
UTM-18	18	39.37	24.61	27	30	29.37	58.74	78.74
UTM-20	20	39.37	24.61	27	30	29.37	58.74	78.74
UTM-25	25	45.24	30.96	32	41	33.54	67.08	90.48

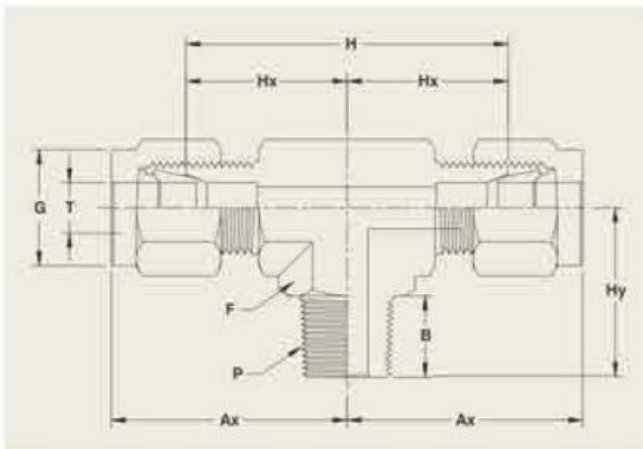
Imperial Range
Dimensions in Inches

PART. NO.	T O/D	P	Ax Length	B	HY	F	G NUT	HX BODY	H	A
BTI-1818	1/8	1/8	0.99	0.38	0.76	1/2	7/16	0.72	1.44	1.98
BTI-1814	1/8	1/4	0.99	0.56	0.94	0.551	7/16	0.72	1.44	1.98
BTI-3618	3/16	1/8	1.01	0.38	0.76	1/2	1/2	0.75	1.50	2.02
BTI-1418	1/4	1/8	1.07	0.38	0.76	1/2	9/16	0.78	1.56	2.14
BTI-1414	1/4	1/4	1.07	0.56	0.94	0.551	9/16	0.78	1.56	2.14
BTI-1438	1/4	3/8	1.13	0.56	1.00	3/4	9/16	0.84	1.68	2.26
BTI-5618	5/16	1/8	1.16	0.38	0.82	3/4	5/8	0.87	1.74	2.32
BTI-3818	3/8	1/8	1.21	0.38	0.82	3/4	1/6	0.91	1.82	2.42
BTI-3814	3/8	1/4	1.21	0.56	1.00	3/4	11/16	0.91	1.82	2.42
BTI-3838	3/8	3/8	1.21	0.56	1.00	3/4	11/16	0.91	1.82	2.42
BTI-3812	3/8	1/2	1.21	0.75	1.26	7/8	11/16	0.91	1.82	2.42
BTI-1214	1/2	1/4	1.38	0.56	1.08	7/8	7/8	0.98	1.96	2.76
BTI-1238	1/2	3/8	1.38	0.56	1.08	7/8	7/8	0.98	1.96	2.76
BTI-1212	1/2	1/2	1.38	0.75	1.26	7/8	7/8	0.98	1.96	2.76
BTI-5812	5/8	1/2	1.46	0.75	1.38	0.945	1	1.06	2.12	2.92

Male Branch Tee

Metric Range
Dimensions in mm

PART. NO.	T O/D	P	AX LENGTH	B	HY	F	G NUT	HX BODY	H	A
BTM-0416	4	1/16	26.15	9.53	19.30	12	12	19.05	38.10	52.30
BTM-0418	4	1/8	26.15	9.53	19.53	12	12	19.05	38.10	52.30
BTM-0414	4	1/4	26.15	14.29	23.90	12	12	19.05	38.10	52.30
BTM-0618	6	1/8	27.21	9.53	19.30	14	14	19.80	39.60	54.42
BTM-0614	6	1/4	27.21	14.29	23.90	14	14	19.80	39.60	54.42
BTM-0638	6	3/8	29.00	14.29	25.40	19	14	21.33	42.66	57.46
BTM-0612	6	1/2	30.51	19.05	32.00	22	14	23.10	46.20	61.00
BTM-0818	8	1/8	29.70	9.53	20.80	19	17	22.22	44.44	59.40
BTM-0814	8	1/4	29.70	14.29	25.40	19	17	22.22	44.44	59.40
BTM-0838	8	3/8	29.70	14.29	25.40	19	17	22.22	44.44	59.40
BTM-0812	8	1/2	31.50	19.05	32.00	22	17	24.00	48.00	63.00
BTM-1018	10	1/8	30.80	9.53	20.80	19	19	23.10	46.20	61.60
BTM-1014	10	1/4	30.80	14.29	25.40	19	19	23.10	46.20	61.60
BTM-1038	10	3/8	30.80	14.29	25.40	19	19	23.10	46.20	61.60
BTM-1012	10	1/2	32.59	19.05	32.00	19	19	24.89	49.78	65.18
BTM-1214	12	1/4	34.99	14.29	27.40	22	22	24.89	49.78	69.98
BTM-1238	12	3/8	32.59	14.29	27.40	22	22	24.89	49.78	65.18
BTM-1212	12	1/2	32.59	19.05	32.00	22	22	24.89	49.78	65.18
BTM-1612	16	1/2	36.39	19.05	34.90	24	27	26.19	52.39	72.78



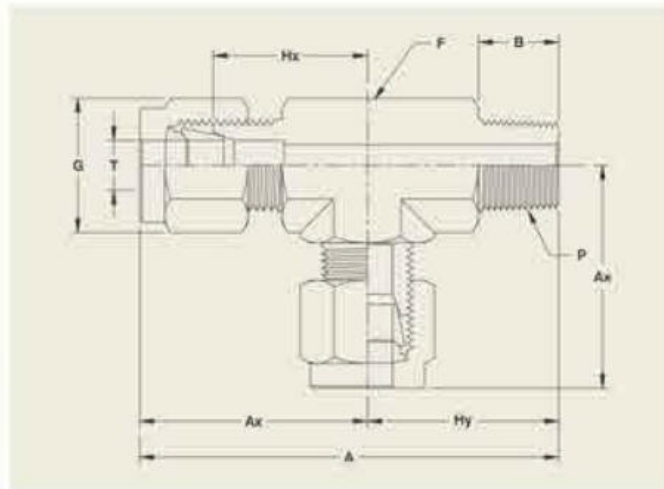
Male Run Tee



Metric Range

Dimensions in mm

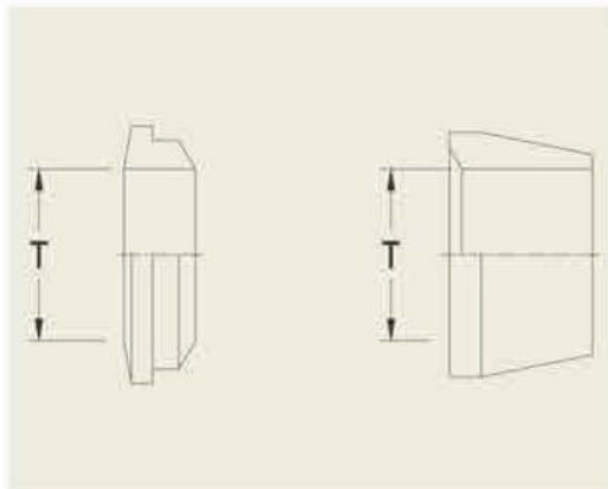
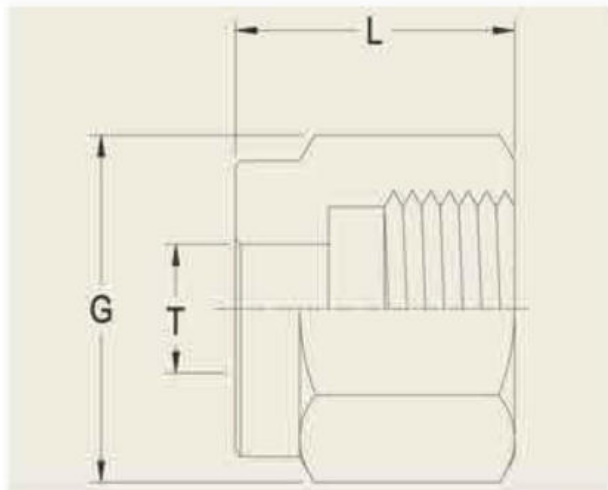
PART. NO.	T O/D	P	AX LENGTH	B	HY	F	G NUT	HX BODY	H	A
RTM-0416	4	1/16	26.15	9.53	19.30	12	12	19.05	38.10	45.45
RTM-0418	4	1/8	26.15	9.53	19.30	12	12	19.05	38.10	45.45
RTM-0414	4	1/4	26.15	14.29	23.88	12	12	19.05	38.10	50.03
RTM-0618	6	1/8	27.21	9.53	19.30	12	14	19.61	39.62	46.51
RTM-0614	6	1/4	27.21	14.29	23.88	14	14	19.61	39.62	51.09
RTM-0638	6	3/8	28.74	14.29	25.40	19	14	21.34	42.68	54.14
RTM-0612	6	1/2	30.51	19.05	32.00	22	14	23.11	43.22	62.51
RTM-0818	8	1/8	29.73	9.53	20.83	19	17	22.23	44.46	50.56
RTM-0814	8	1/4	29.73	14.29	25.40	19	17	22.23	44.46	55.13
RTM-0838	8	3/8	29.73	14.29	25.40	19	17	22.23	44.46	55.13
RTM-0812	8	1/2	31.50	19.05	32.00	22	17	24.00	48.00	63.50
RTM-1018	10	1/8	30.81	9.53	20.83	19	19	23.11	46.22	51.64
RTM-1014	10	1/4	30.81	14.29	25.40	19	19	23.11	46.22	56.21
RTM-1038	10	3/8	30.81	14.29	25.40	19	19	23.11	46.22	56.21
RTM-1012	10	1/2	32.59	19.05	32.00	22	19	24.89	49.78	64.59
RTM-1214	12	1/4	34.99	14.29	27.43	22	22	24.89	49.78	62.42
RTM-1238	12	3/8	34.99	14.29	27.43	22	22	24.89	49.78	62.42
RTM-1212	12	1/2	34.99	19.05	32.00	22	22	24.89	49.78	66.98
RTM-1612	16	1/2	36.39	19.05	34.30	25	27	26.19	52.38	71.32



Imperial Range

Dimensions in Inches

PART. NO.	T O/D	P	AX LENGTH	B	HY	F	G NUT	HX BODY	H	A
RTI-1818	1/8	1/8	1.00	0.38	0.78	0.47	7/16	0.72	1.48	1.76
RTI-1814	1/8	1/4	1.00	0.56	0.94	0.47	7/16	0.72	1.66	1.94
RTI-3618	3/16	1/8	1.00	0.38	0.78	0.47	1/2	0.75	1.51	1.76
RTI-1418	1/4	1/8	1.07	0.38	0.76	0.47	9/16	0.78	1.54	1.83
RTI-1414	1/4	1/4	1.07	0.56	0.94	0.47	9/16	0.78	1.72	2.01
RTI-5618	5/16	1/8	1.16	0.38	0.82	0.55	5/8	0.87	1.70	1.98
RTI-3814	3/8	1/4	1.21	0.56	1.00	0.55	1/16	0.91	1.91	2.21
RTI-1238	1/2	3/8	1.38	0.56	1.08	0.74	7/8	0.98	2.06	2.46
RTI-1212	1/2	1/2	1.38	0.75	1.26	0.74	7/8	0.98	2.24	2.64
RTI-5812	5/8	1/2	1.47	0.75	1.38	0.74	1	1.06	2.40	2.85



Nut & Ferrules



(Nut)

(Ferrules)

Imperial Range Dimensions In Inches

PART NO.	T O/D	G NUT A/F	L
NI-16	1/16	5/16	0.31
NI-18	1/8	7/16	0.47
NI-36	3/16	1/2	0.50
NI-14	1/4	9/16	0.50
NI-56	5/16	5/8	0.53
NI-38	3/8	1/16	0.56
NI-12	1/2	7/8	0.69
NI-58	5/8	1	0.69
NI-34	3/4	1-1/8	0.69
NI-01	1	1-1/2	0.81

Metric Range Dimensions In mm

PART NO.	T O/D	G NUT A/F	L
NM-04	4	12	12.00
NM-06	6	14	12.70
NM-08	8	17	14.00
NM-10	10	17	14.00
NM-12	12	22	17.00
NM-16	16	27	17.46
NM-18	18	30	17.46
NM-20	20	30	17.46
NM-25	25	41	20.64

Imperial Range Metric Range

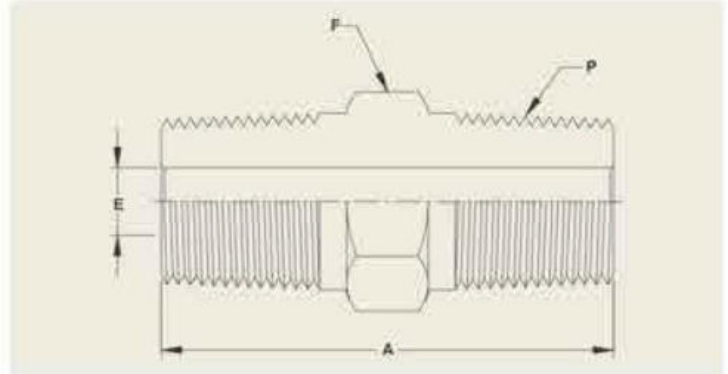
PART NO.	T O/D	T O/D
FI-16	1/16	4
FI-18	1/8	6
FI-36	3/8	8
FI-14	1/4	10
FI-56	5/16	12
FI-38	3/8	16
FI-12	1/2	18
FI-58	5/8	20
FI-34	3/4	25
FI-01	1	

Instrumentation Pipe Fittings

Hex Nipple



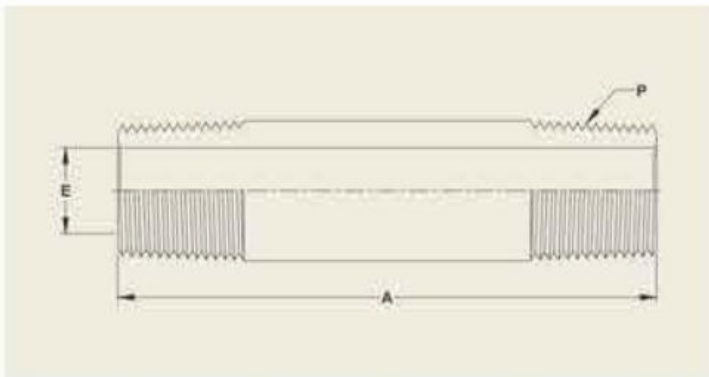
PART NO.	PIPE SIZE	DIMENSIONS			
	P	A	E	F	
HN-16	1/16	25.7	3	10	
HN-18	1/8	25.7	4.8	11	
HN-14	1/4	35.6	7.1	14	
HN-38	3/8	36.3	9.6	17	
HN-12	1/2	46.7	11.9	22	
HN-34	3/4	46.7	15.8	28	
HN-01	1	58.9	22.4	36	



Long Pipe Nipple



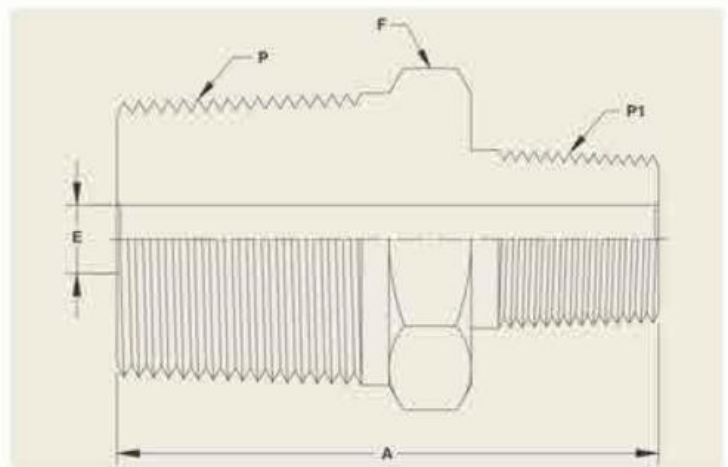
PART NO.	PIPE SIZE	DIMENSIONS						
	P	1.5	2	2.5	3	4	E	
LPN-18	1/8	1.5	2	2.5	3	4	6.80	
LPN-14	1/4	1.5	2	2.5	3	4	9.24	
LPN-38	3/8	1.5	2	2.5	3	4	12.52	
LPN-12	1/2	1.5	2	2.5	3	4	15.80	
LPN-34	3/4	1.5	2	2.5	3	4	20.43	
LPN-01	1	-	2	2.5	3	4	26.65	



Hex Reducing Nipple



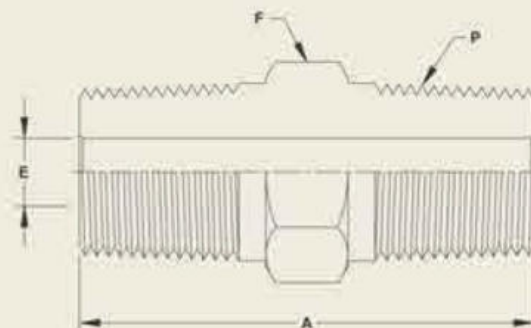
PART NO.	PIPE SIZE		DIMENSIONS			
	P	P1	A	E	F	
HRN-1816	1/8	1/16	25.7	3.0	11	
HRN-1418	1/4	1/8	31.0	4.8	12	
HRN-3818	3/8	1/8	31.8	4.8	17	
HRN-3814	3/8	1/4	36.3	7.1	17	
HRN-1218	1/2	1/8	37.3	4.8	22	
HRN-1214	1/2	1/4	41.9	7.1	22	
HRN-1238	1/2	3/8	41.9	9.6	22	
HRN-3814	3/4	1/4	41.9	7.1	28	
HRN-3412	3/4	1/2	46.7	11.9	28	
HRN-0112	1	1/2	54.1	11.9	36	
HRN-0134	1	3/4	54.1	15.8	36	



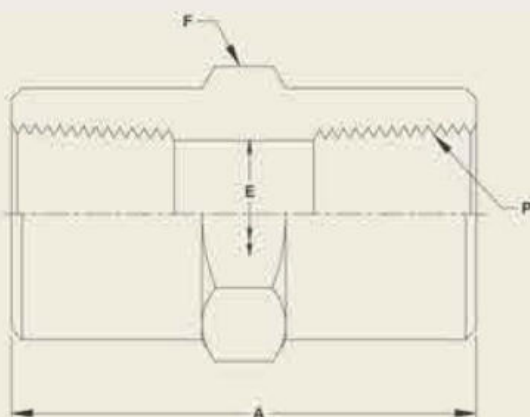
Close Nipple



PART NO.	PIPE SIZE		DIMENSIONS		
	P	A	E	F	
CN-18	1/8	19.00	4.8	11	
CN-14	1/4	28.40	7.1	14	
CN-38	3/8	28.40	9.6	17	
CN-12	1/2	38.10	11.9	22	
CN-34	3/4	38.10	15.8	28	
CN-01	1	47.70	22.4	36	



Coupling

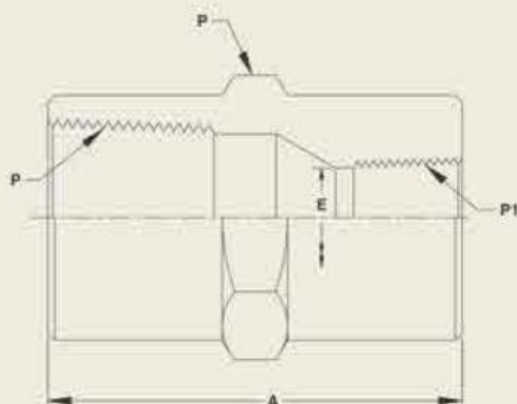


PART NO.	PIPE SIZE		DIMENSIONS		
	P	A	E	F	
CO-18	1/8	20.6	8.6	14	
CO-14	1/4	30.2	11.41	19	
CO-38	3/8	33.3	15.0	22	
CO-12	1/2	39.6	18.5	28	
CO-34	3/4	41.1	23.9	36	
CO-01	1	50.8	29.7	42	

Reducing Coupling



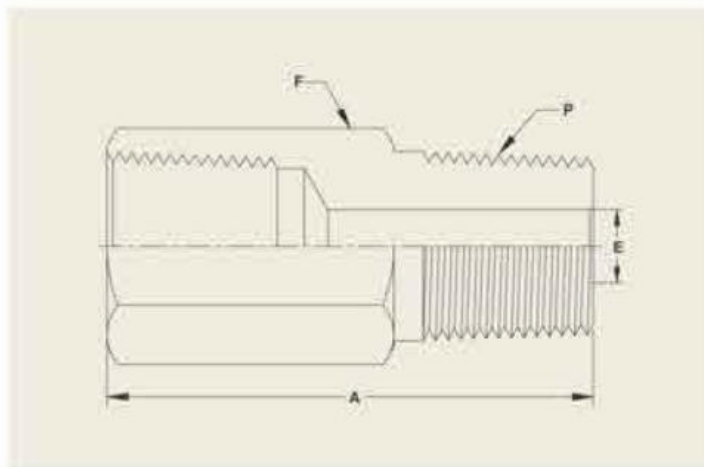
PART NO.	PIPE SIZE		DIMENSIONS		
	P	P1	A	E	F
RCO-1418	1/4	1/8	31.0	8.6	19
RCO-3814	3/8	1/4	35.1	11.4	22
RCO-1218	1/2	1/8	39.6	8.6	28
RCO-1214	1/2	1/4	44.5	11.4	28
RCO-1238	1/2	3/8	45.2	15.0	28
RCO-3414	3/4	1/4	42.9	11.4	36
RCO-3412	3/4	1/2	52.3	18.5	36
RCO-0112	1	1/2	55.6	18.5	42
RCO-0134	1	3/4	57.2	23.9	42



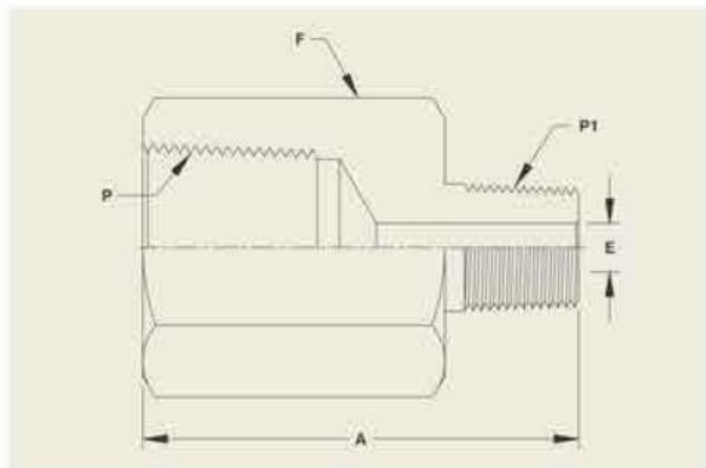
Adapter



PART NO.	PIPE SIZE	DIMENSIONS			
	P	A	E	F	
AD-18	1/8	27.9	4.8	14	
AD-14	1/4	35.6	7.1	19	
AD-38	3/8	38.4	9.6	22	
AD-12	1/2	49.3	11.9	28	
AD-34	3/4	51.3	15.7	36	
AD-01	1	57.9	22.1	42	



Reducing Adapter

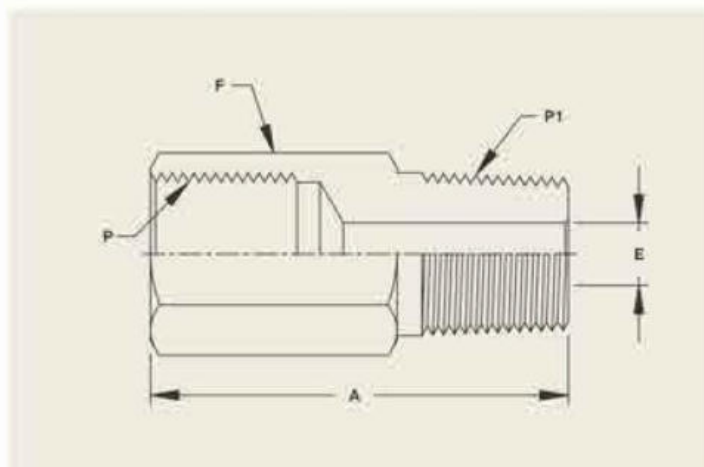


PART NO.	PIPE SIZE		DIMENSIONS		
	P	P1	A	E	F
RAD-1816	1/8	1/16	26.1	3	14
RAD-1418	1/4	1/8	31.0	4.8	19
RAD-3818	3/8	1/8	33.6	4.8	22
RAD-3814	3/8	1/4	38.0	7.1	22
RAD-1218	1/2	1/8	40.1	4.8	28
RAD-1214	1/2	1/4	44.7	7.1	28
RAD-1238	1/2	3/8	44.5	9.5	28
RAD-3414	3/4	1/4	46.2	7.1	36
RAD-3438	3/4	3/8	46.2	9.5	36
RAD-3412	3/4	1/2	51.3	11.9	36
RAD-0114	1	1/4	49.8	7.1	42
RAD-0112	1	1/2	54.9	11.9	42
RAD-0134	1	3/4	55.1	15.7	42

Gauge Adapter



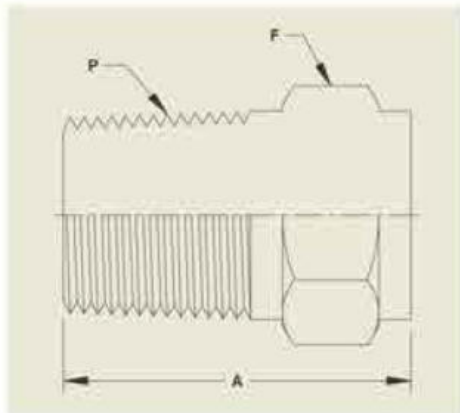
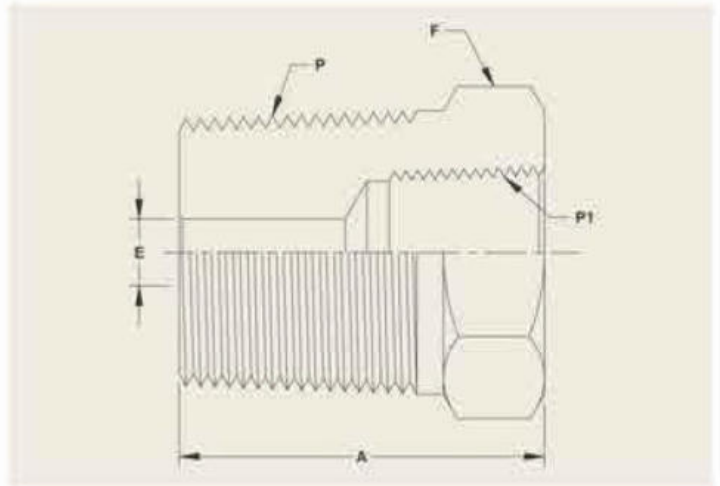
PART NO.	PIPE SIZE		DIMENSIONS			
	P	P1	A	E	F	
GAD-14	1/4-19	1/4	27.7	3.0	19	
GAD-38	3/8-19	3/8	32.0	4.8	22	
GAD-12	1/2-14	1/2	41.9	7.1	28	



Reducing Bushing



PART NO.	PIPE SIZE		DIMENSIONS		
	P	P1	A	E	F
RB-1816	1/8	1/16	26.2	4.8	12
RB-1418	1/4	1/8	26.9	7.1	14
RB-3818	3/8	1/8	21.8	8.6	19
RB-3814	3/8	1/4	30.2	9.5	19
RB-1218	1/2	1/8	27.4	8.6	22
RB-1214	1/2	1/4	27.4	11.4	22
RB-1238	1/2	3/8	35.8	11.9	22
RB-3414	3/4	1/4	27.4	11.4	28
RB-3438	3/4	3/8	27.4	15.0	28
RB-3412	3/4	1/2	41.4	15.7	28
RB-0114	1	1/4	34.8	11.4	36
RB-0138	1	3/8	34.8	15.0	36
RB-0112	1	1/2	34.8	17.45	36
RB-0134	1	3/4	47.0	22.4	36



PART NO.	PIPE SIZE	DIMENSIONS	
	P	A	F
PP-16	1/16	19.0	8
PP-18	1/8	19.0	12
PP-14	1/4	24.5	14
PP-38	3/8	25.0	19
PP-12	1/2	31.0	22
PP-34	3/4	31.0	28
PP-01	1	38.0	36

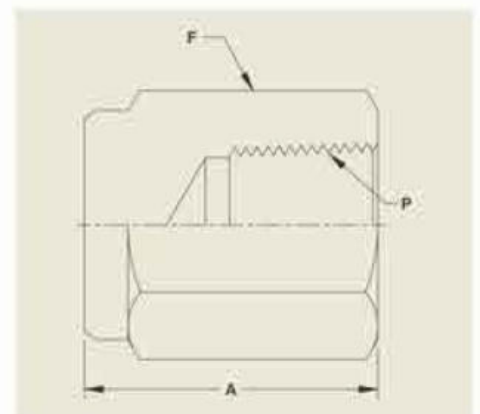
Pipe Plug



Pipe Cap

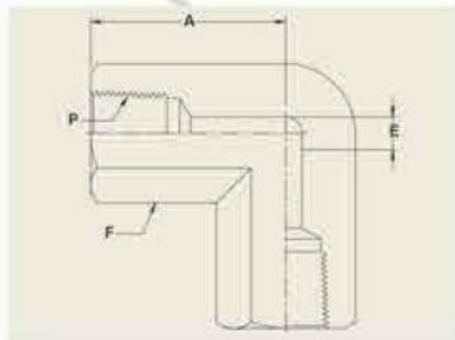
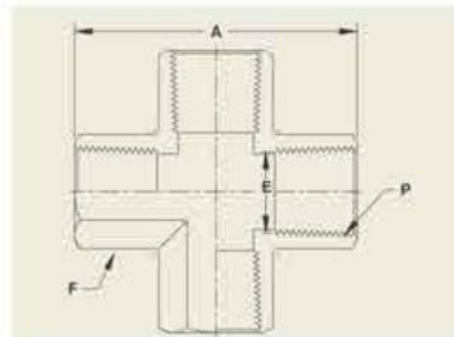


PART NO.	PIPE SIZE	DIMENSIONS	
	P	A	F
PC-18	1/8	19.1	14
PC-14	1/4	23.1	19
PC-38	3/8	26.2	22
PC-12	1/2	34.0	28
PC-34	3/4	36.6	33
PC-01	1	41.1	42



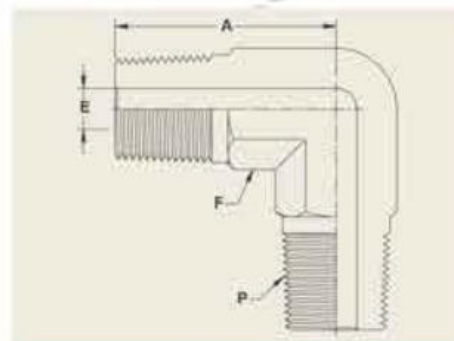


PART NO.	PIPE SIZE	DIMENSIONS			
	P	A	E	F	
CR-18	1/8	52.8	8.6	14	
CR-14	1/4	59.4	11.4	19	
CR-38	3/8	72.2	15.0	22	
CR-12	1/2	79.2	17.45	28	
CR-34	3/4	97.6	22.8	36	
CR-01	1	97.0	29.7	42	



PART NO.	PIPE SIZE	DIMENSIONS			
	P	A	E	F	
FE-18	1/8	26.4	8.6	14	
FE-14	1/4	30.0	11.4	19	
FE-38	3/8	36.0	15.0	22	
FE-12	1/2	39.6	17.45	28	
FE-34	3/4	48.8	22.8	36	
FE-01	1	48.5	29.7	42	

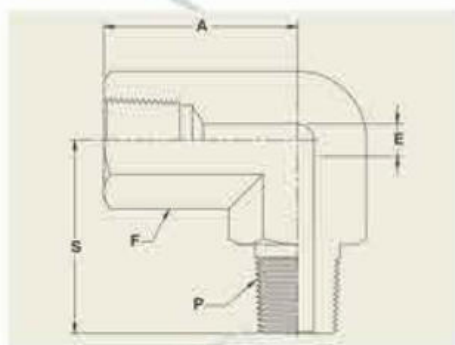
Female Elbow



Male Elbow



PART NO.	PIPE SIZE	DIMENSIONS			
	P	A	E	F	
ME-18	1/8	22.4	4.8	12	
ME-14	1/4	26.6	7.1	14	
ME-38	3/8	29.7	9.6	19	
ME-12	1/2	36.8	11.9	22	



Street Elbow

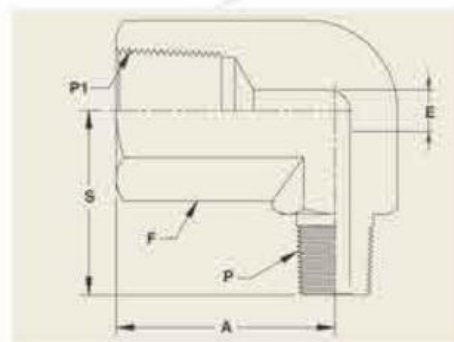


PART NO.	PIPE SIZE	DIMENSIONS				
	P	A	E	F	S	
SE-16	1/16	21.8	3.1	7/16	22.3	
SE-18	1/8	26.4	4.8	14	22	
SE-14	1/4	29.7	7.1	19	29.7	
SE-38	3/8	36.0	9.6	22	32	
SE-12	1/2	39.6	11.9	28	39.6	
SE-34	3/4	48.8	15.8	35	42.4	
SE-01	1	48.5	22.4	42	49.2	

Reducing Street Elbow



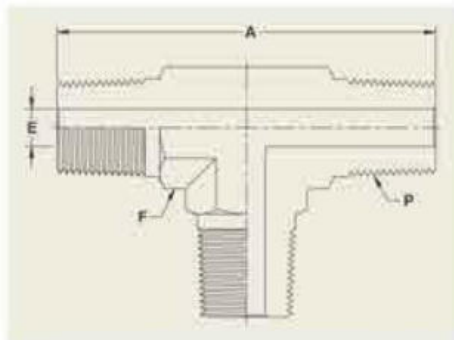
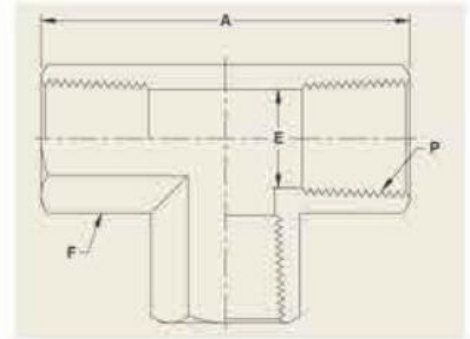
PART NO.	PIPE SIZE	DIMENSIONS					
	P	P1	A	E	F	S	
RSE-1418	1/4	1/8	29.7	4.8	14	25.4	
RSE-3814	3/8	1/4	36.0	7.1	19	32.0	
RSE-1214	1/2	1/4	39.6	7.1	22	35.0	
RSE-1238	1/2	3/8	39.6	9.6	22	35.0	
RSE-3412	3/4	1/2	40.3	11.9	27	42.4	
RSE-0112	1	1/2	48.5	11.9	36	49.2	



Female Tee



PART NO.	PIPE SIZE	DIMENSIONS		
	P	A	E	F
FT-18	1/8	40.5	8.6	15
FT-14	1/4	48.5	11.4	20
FT-38	3/8	53.0	13.8	24
FT-12	1/2	59.5	17.45	28



PART NO.	PIPE SIZE	DIMENSIONS		
	P	A	E	F
MT-18	1/8	40.5	4.8	12
MT-14	1/4	48.5	7.1	14
MT-38	3/8	59.5	9.6	19
MT-12	1/2	66.0	11.6	22

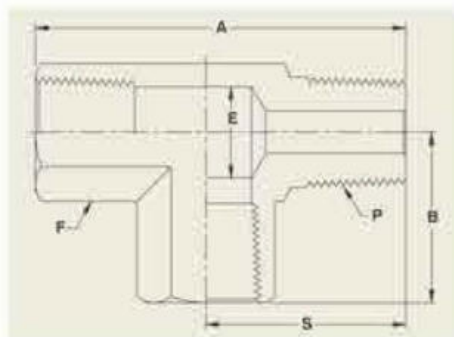
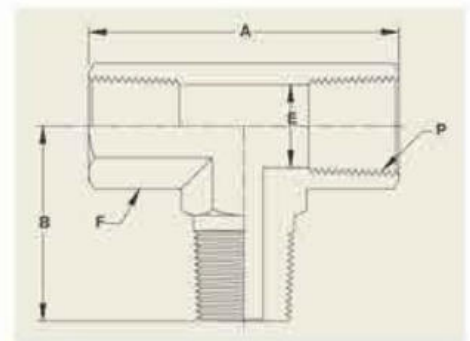
Male Tee



Branch Tee



PART NO.	PIPE SIZE	DIMENSIONS				
	P	A	B	E	F	
ST-18	1/8	40.5	19.8	4.8	14	
ST-14	1/4	44.5	27.5	7.1	19	
ST-38	3/8	52.0	31.0	9.6	22	
ST-12	1/2	62.5	37.4	11.6	28	



PART NO.	PIPE SIZE	DIMENSIONS					
	P	A	B	E	F	S	
ST-18	1/8	39.6	16.8	4.8	14	22.0	
ST-14	1/4	55.4	22.4	7.1	19	29.7	
ST-38	3/8	62.0	25.9	9.6	22	32.0	
ST-12	1/2	74.7	31.2	11.6	28	39.6	

Street Tee



Pressure Gauge Accessories

Gauge Cocks :

This cocks are use with the pressure gauge for isolation and drain purpose.

Standard Specification :

Size : $\frac{1}{4}$ " to $\frac{1}{2}$ "

End Connections : NTP / BSPP / BSPT

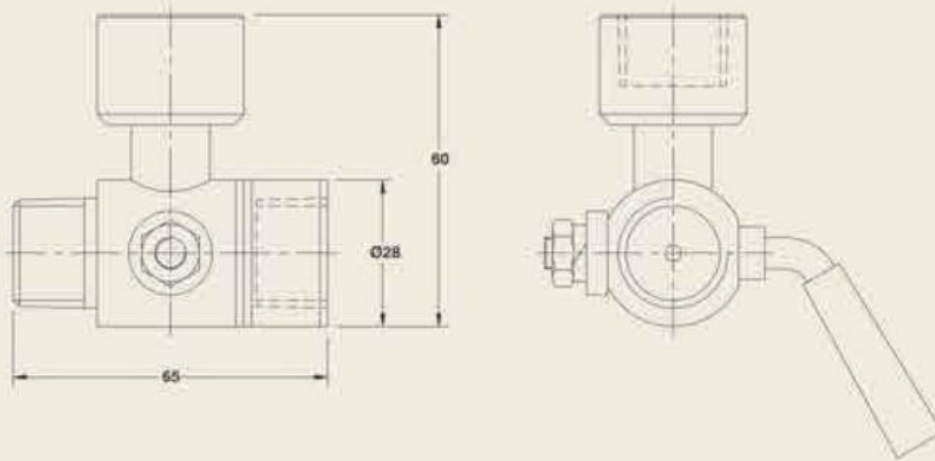
Material : 316 SS / 316L SS / 304 SS / Brass

Seal : PTFE

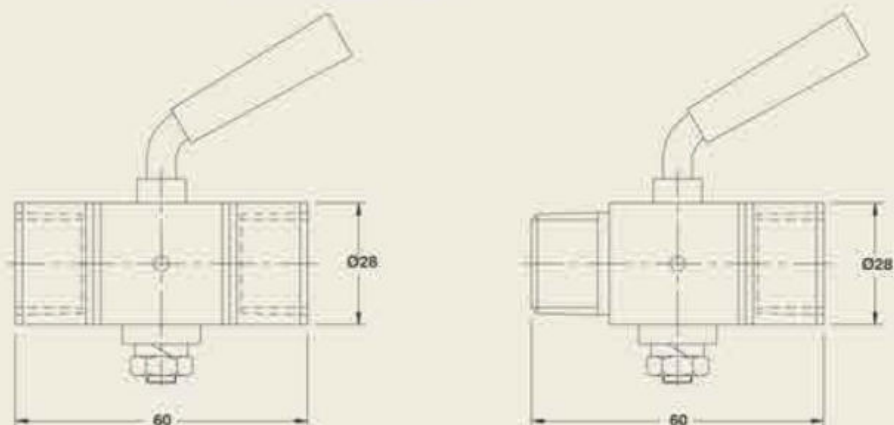
Maximum working pressure : 1500 PSI



Gauge Cock 3 Way



Gauge Cock 2 Way



Over Pressure Protectors

As the name indicates, this device saves instruments from the over pressure. Gauge savers close at a set point protects instruments from over load.

Standard specification :

Model AOPP 1

Size: 1/2" NPT M x F

Material: 316 SS

Seal: Viton

Set pressure: 0.6 bar to 2 bars (in different ranges)

Maximum pressure: 400 BAR

Standard specification :

Model AOPP 2

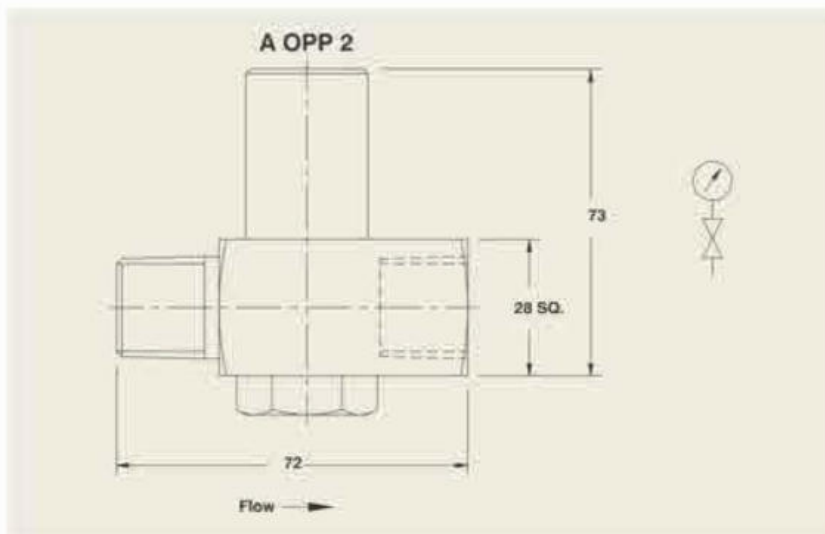
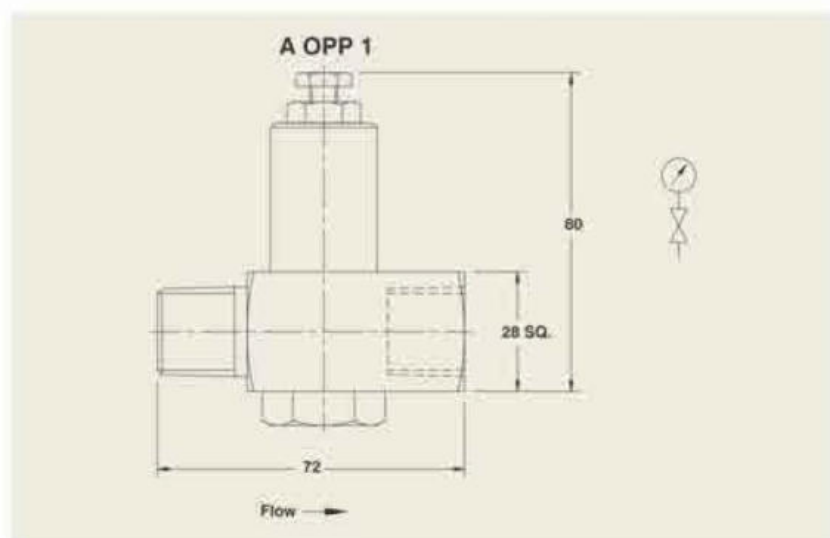
Size: 1/2" NPT M x F

Material: 316 SS

Seal: Viton

Set pressure: 2.5 bar to 300 bars (in different ranges)

Maximum pressure: 400 BAR

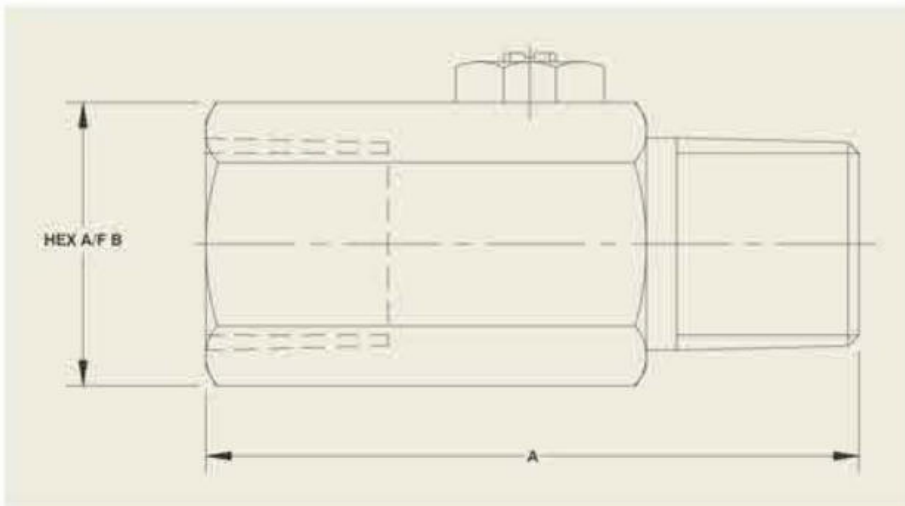


Pressure Gauge Snubbers

With the help of variable orifice, these gauge snubbers protect pressure gauges by reducing fluctuations.

Standard specification :

Size : 1/4" to 1/2" NPT / BSP
End Connections : NTP / BSPP / BSPT
Material : 316 SS / 316L SS / 304 SS/ Brass
Seal : Viton
Max temperature : 120° C
Max pressure : 6000 PSI



Pressure gauge snubbers

SIZE	A	B
1/4" NPT	55	25
3/8" NPT	55	25
1/2" NPT	63	28
G1/2"	63	28

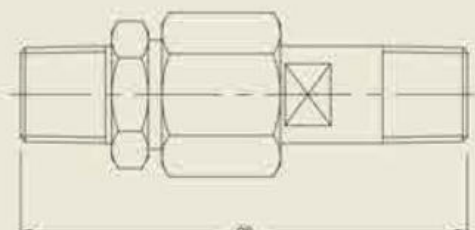
Pressure Gauge Swivel Adapter

Standard specification :

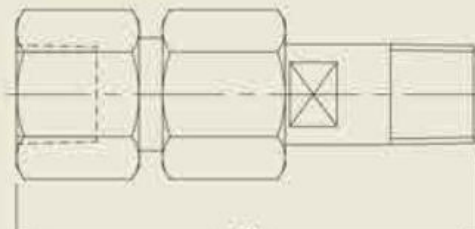
Size : 1/2" NPT / BSPP / BSPT
Material : 316 SS / 316 L SS / 304 SS
Max Working pressure : 6000 PSI



Gauge Adapter M x M



Gauge Adapter M x F



Pressure Gauge Siphon

The siphon is used to protect the pressure gauges from the steam or high temperature fluid. Siphon reduces the temperature of the process fluid by dissipating the heat. It also helps to reduce the line surges fluctuations.

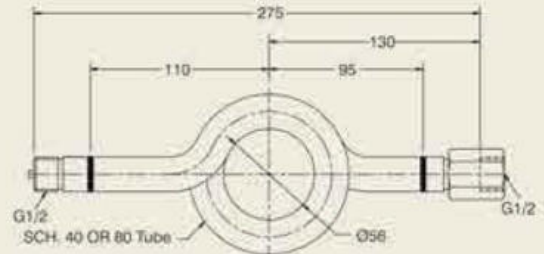
Standard specification :

Size : $\frac{1}{4}$ " , $\frac{3}{8}$ " , $\frac{1}{2}$ "

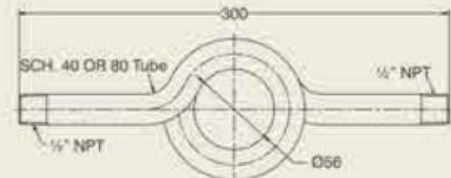
End Connections : NPT / BSPP / BSPT

Material : 316 SS, 304 SS, 316 L SS, CS

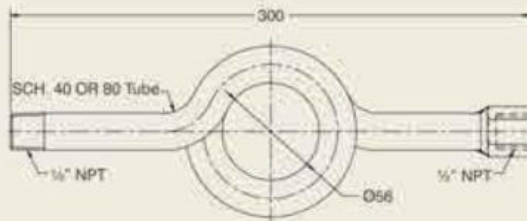
Coil Type Siphon



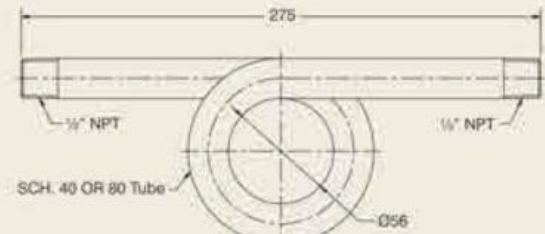
Coil Type Siphon DIN



Coil Type Siphon

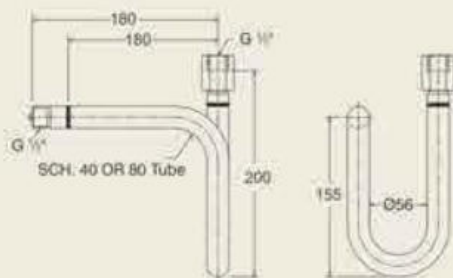


Coil Type Siphon M X F

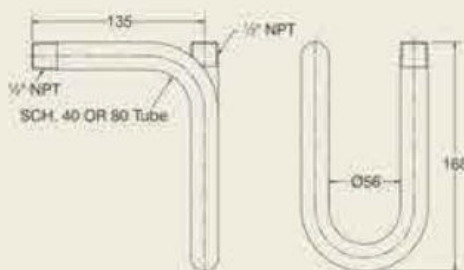


Pigtail Type Siphon

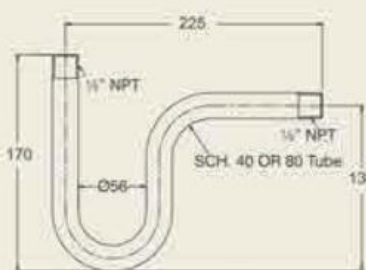
"U" Type Siphon



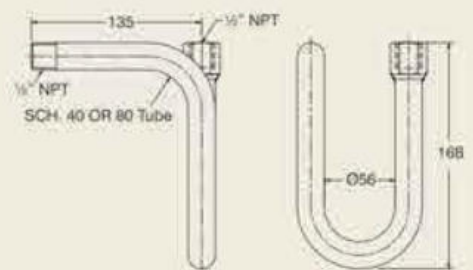
"U" Type Siphon DIN



"U" Type Siphon



Flat "U" Type Siphon



"U" Type Siphon MXF



METFLOW ENGINEERS

THE COMPLETE SOLUTION



Government Of India
Ministry Of Commerce and Industry
Directorate General of Foreign Trade

IMPORT EXPORT CODE

Office Add – 336, Dabaliya Pole, Tower Road, Kalupur, Ahmedabad – Gujarat -380001

Mobile: +91-84879 48488

Email: metflowengineers@gmail.com

Website: www.metflowengineers.com