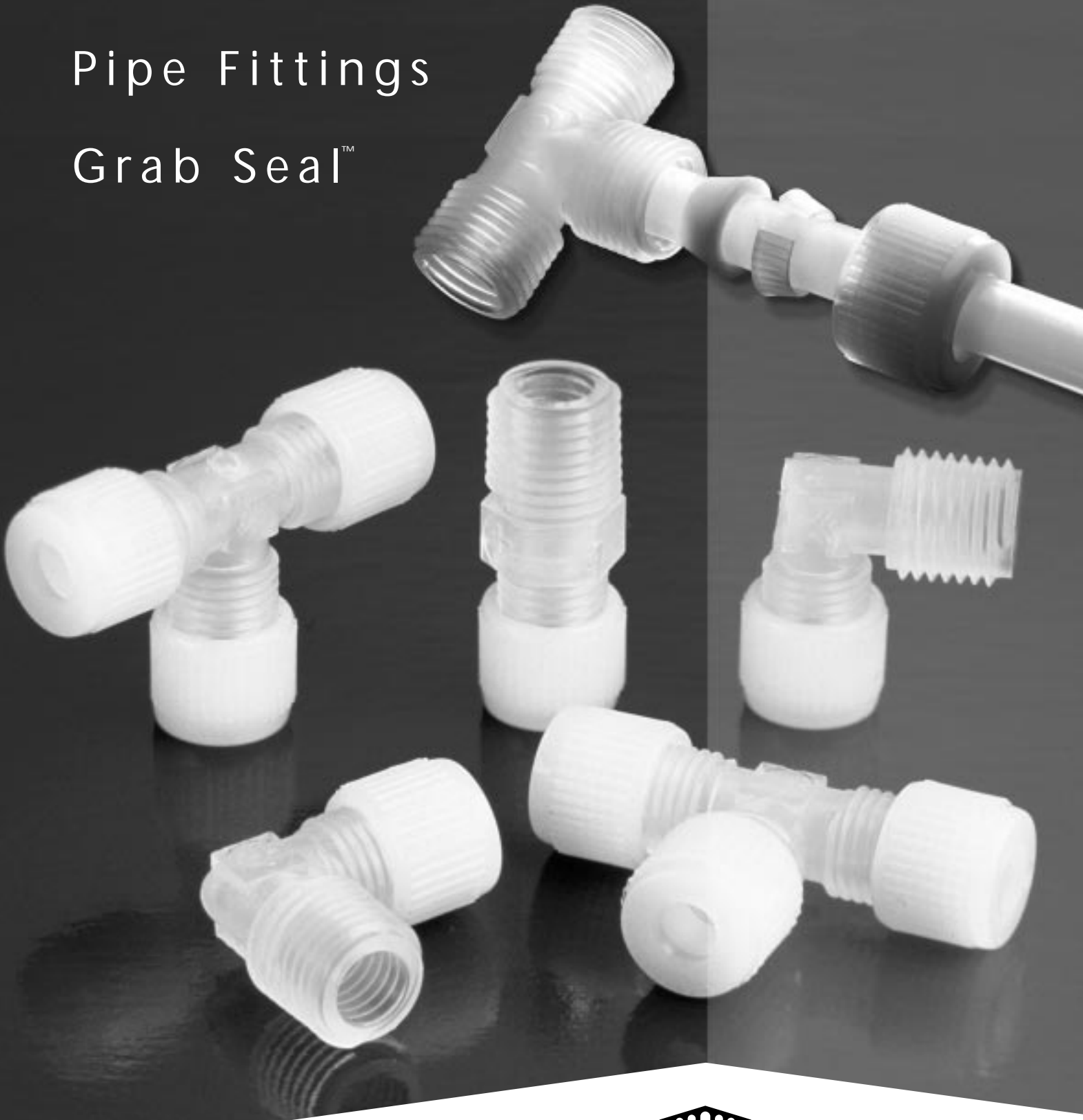
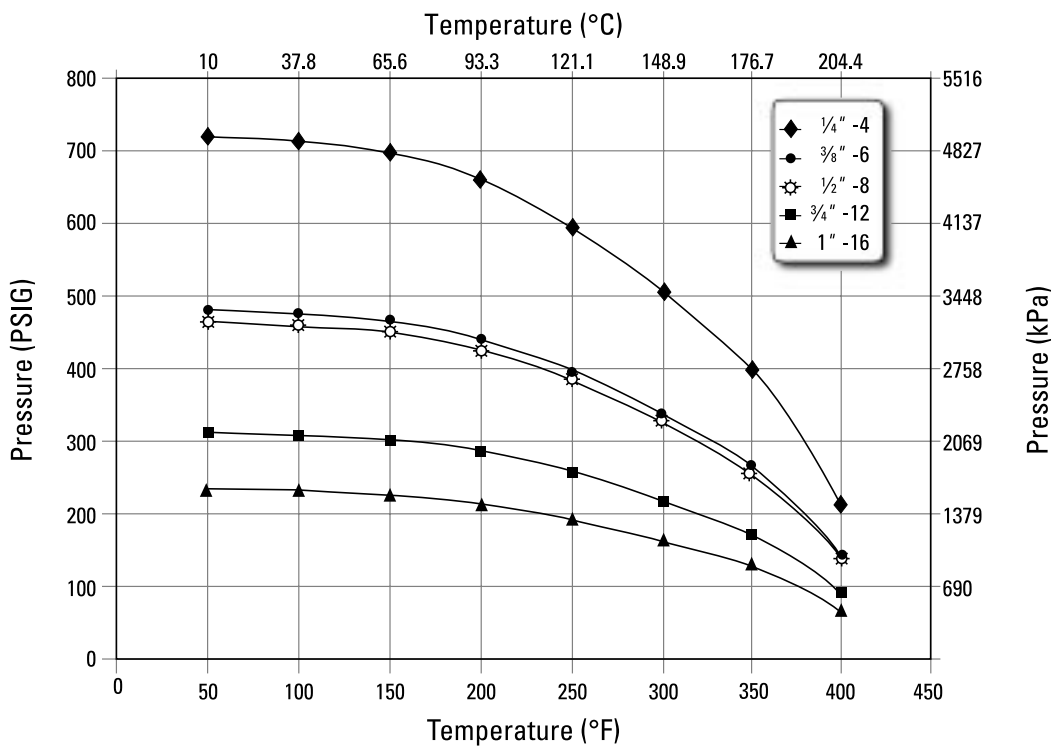


Flare Grip®
Course Thread
Pipe Fittings
Grab Seal™

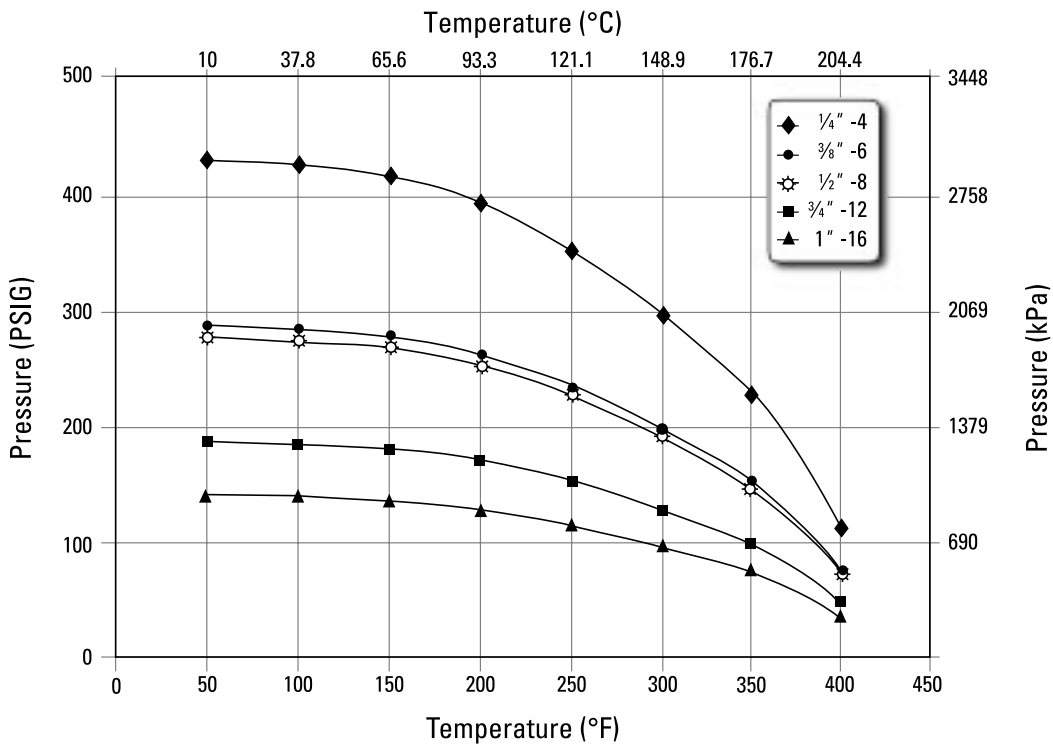


Flare Grip® Performance Charts

Flare Grip® Fitting Burst Pressure vs Temperature



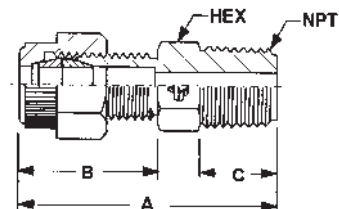
Flare Grip® Fitting Maximum Operating Pressure



Note: All fittings are class 100 clean room assembled and double bagged.

Union Adapter Male

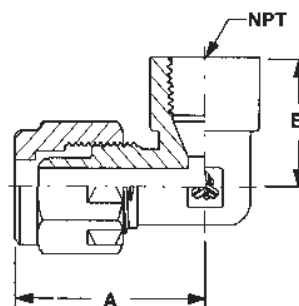
Male Flare Connector
Male NPT Threads



Part No.	O.D. Tube Size	Male NPT Size	Orifice	A	B	C	Hex Flat
FMP42UAM	1/4	1/8	0.13 (03.30 mm)	1.71 (43.43 mm)	1.06 (26.92 mm)	0.40 (10.17 mm)	0.44
FMP44UAM	1/4	1/4	0.13 (03.30 mm)	1.81 (45.97 mm)	1.06 (26.92 mm)	0.50 (12.71 mm)	0.50
FMP46UAM	1/4	3/8	0.13 (03.30 mm)	1.93 (49.02 mm)	1.06 (26.92 mm)	0.50 (12.71 mm)	0.68
FMP48UAM	1/4	1/2	0.13 (03.30 mm)	2.06 (52.32 mm)	1.06 (26.92 mm)	0.63 (16.00 mm)	0.87
FMP62UAM	3/8	1/8	0.25 (06.35 mm)	1.90 (48.26 mm)	1.13 (28.70 mm)	0.40 (10.17 mm)	0.68
FMP64UAM	3/8	1/4	0.25 (06.35 mm)	2.00 (50.80 mm)	1.13 (28.70 mm)	0.50 (12.71 mm)	0.68
FMP66UAM	3/8	3/8	0.25 (06.35 mm)	2.00 (50.80 mm)	1.13 (28.70 mm)	0.50 (12.71 mm)	0.68
FMP68UAM	3/8	1/2	0.25 (06.35 mm)	2.13 (54.10 mm)	1.13 (28.70 mm)	0.63 (16.00 mm)	0.87
FMP84UAM	1/2	1/4	0.29 (07.37 mm)	2.20 (55.88 mm)	1.33 (33.78 mm)	0.50 (12.71 mm)	0.87
FMP86UAM	1/2	3/8	0.38 (09.63 mm)	2.20 (55.88 mm)	1.33 (33.78 mm)	0.50 (12.71 mm)	0.87
FMP88UAM	1/2	1/2	0.38 (09.63 mm)	2.33 (59.18 mm)	1.33 (33.78 mm)	0.63 (16.00 mm)	0.87
FMP812UAM	1/2	3/4	0.38 (09.63 mm)	2.63 (66.80 mm)	1.33 (33.78 mm)	0.80 (20.33 mm)	1.12
FMP128UAM	3/4	1/2	0.46 (11.68 mm)	2.55 (64.77 mm)	1.42 (36.07 mm)	0.63 (16.00 mm)	1.38
FMP1212UAM	3/4	3/4	0.63 (16.00 mm)	2.72 (69.09 mm)	1.42 (36.07 mm)	0.80 (20.33 mm)	1.38
FMP1612UAM	1	3/4	0.75 (19.04 mm)	3.08 (78.23 mm)	1.63 (41.40 mm)	0.80 (20.33 mm)	1.38
FMP1616UAM	1	1	0.88 (22.35 mm)	3.06 (77.72 mm)	1.63 (41.40 mm)	0.94 (23.88 mm)	1.38

Elbow Adapter Female

Male Flare Connector
Female NPT Threads



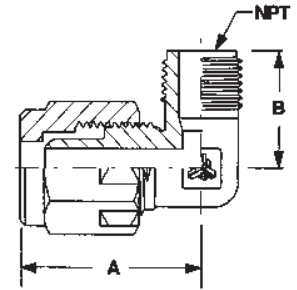
Part No.	O.D. Tube Size	Female NPT Size	Orifice	A	B
FMP44EAF	1/4	1/4	0.13 (03.30 mm)	1.46 (37.08 mm)	1.00 (25.40 mm)
FMP64EAF	3/8	1/4	0.25 (06.35 mm)	1.53 (38.86 mm)	1.00 (25.40 mm)
FMP66EAF	3/8	3/8	0.25 (06.35 mm)	1.60 (40.64 mm)	1.00 (25.40 mm)
FMP68EAF	3/8	1/2	0.25 (06.35 mm)	1.69 (42.93 mm)	1.12 (25.40 mm)
FMP86EAF	1/2	3/8	0.38 (09.63 mm)	1.80 (45.72 mm)	1.25 (31.75 mm)
FMP88EAF	1/2	1/2	0.38 (09.63 mm)	1.89 (48.01 mm)	1.25 (31.75 mm)
FMP1212EAF	3/4	3/4	0.63 (16.00 mm)	2.02 (51.31 mm)	1.62 (41.15 mm)
FMP1616EAF	1	1	0.88 (22.35 mm)	2.50 (63.50 mm)	1.88 (47.75 mm)

Note: All fittings are class 100 clean room assembled and double bagged.

Flare Grip® PFA Fittings (FMP)

Elbow Adapter Male

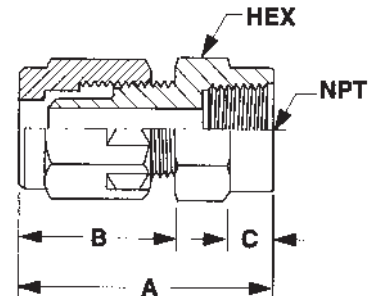
Male Flare Connector
Male NPT Threads



Part No.	O.D. Tube Size	Male NPT Size	Orifice	A	B
FMP42EAM	1/4	1/8	0.13 (03.30 mm)	1.34 (34.04 mm)	0.72 (18.29 mm)
FMP44EAM	1/4	1/4	0.13 (03.30 mm)	1.34 (34.04 mm)	0.97 (24.64 mm)
FMP46EAM	1/4	3/8	0.13 (03.30 mm)	1.34 (34.04 mm)	0.85 (21.59 mm)
FMP62EAM	3/8	1/8	0.19 (04.83 mm)	1.55 (39.37 mm)	0.85 (21.59 mm)
FMP64EAM	3/8	1/4	0.25 (06.35 mm)	1.64 (41.66 mm)	0.95 (24.13 mm)
FMP66EAM	3/8	3/8	0.25 (06.35 mm)	1.53 (38.86 mm)	1.05 (26.67 mm)
FMP68EAM	3/8	1/2	0.25 (06.35 mm)	1.73 (43.94 mm)	1.13 (28.70 mm)
FMP84EAM	1/2	1/4	0.38 (09.65 mm)	1.73 (43.94 mm)	1.13 (28.70 mm)
FMP86EAM	1/2	3/8	0.38 (09.65 mm)	1.73 (43.94 mm)	1.13 (28.70 mm)
FMP88EAM	1/2	1/2	0.38 (09.65 mm)	1.82 (46.23 mm)	1.13 (28.70 mm)
FMP812EAM	1/2	3/4	0.38 (09.65 mm)	2.03 (51.56 mm)	1.50 (38.10 mm)
FMP128EAM	3/4	1/2	0.46 (11.68 mm)	2.03 (51.56 mm)	1.38 (35.05 mm)
FMP1212EAM	3/4	3/4	0.63 (16.00 mm)	2.05 (52.07 mm)	1.50 (38.10 mm)
FMP1612EAM	1	3/4	0.75 (19.04 mm)	2.50 (63.50 mm)	1.75 (44.45 mm)
FMP1616EAM	1	1	0.88 (22.35 mm)	2.50 (63.50 mm)	1.88 (47.75 mm)

Union Adapter Female

Male Flare Connector
Female NPT Threads



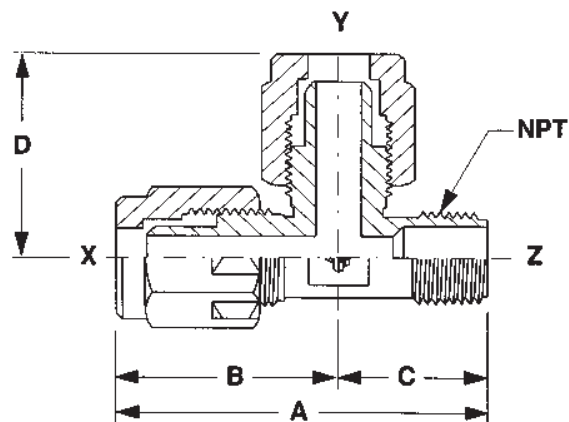
Part No.	O.D. Tube Size	Female NPT Size	Orifice	A	B	C	Hex Flat
FMP42UAF	1/4	1/8	0.13 (03.30 mm)	1.63 (41.40 mm)	1.06 (26.92 mm)	0.30 (07.62 mm)	0.56
FMP44UAF	1/4	1/4	0.13 (03.30 mm)	1.63 (41.40 mm)	1.06 (26.92 mm)	0.33 (08.38 mm)	0.94
FMP46UAF	1/4	3/8	0.13 (03.30 mm)	1.63 (41.40 mm)	1.06 (26.92 mm)	0.31 (07.88 mm)	1.00
FMP48UAF	1/4	1/2	0.13 (03.30 mm)	1.84 (46.74 mm)	1.06 (26.92 mm)	0.40 (10.16 mm)	1.13
FMP62UAF	3/8	1/8	0.25 (06.35 mm)	1.82 (46.23 mm)	1.13 (28.70 mm)	0.30 (07.62 mm)	0.69
FMP64UAF	3/8	1/4	0.25 (06.35 mm)	1.82 (46.23 mm)	1.13 (28.70 mm)	0.32 (08.13 mm)	0.94
FMP66UAF	3/8	3/8	0.25 (06.35 mm)	1.82 (46.23 mm)	1.13 (28.70 mm)	0.31 (07.88 mm)	1.00
FMP68UAF	3/8	1/2	0.25 (06.35 mm)	1.91 (48.51 mm)	1.13 (28.70 mm)	0.40 (10.16 mm)	1.13
FMP84UAF	1/2	1/4	0.29 (07.37 mm)	2.00 (50.80 mm)	1.33 (33.78 mm)	0.30 (07.62 mm)	0.88
FMP86UAF	1/2	3/8	0.38 (09.63 mm)	2.00 (50.80 mm)	1.33 (33.78 mm)	0.32 (08.13 mm)	1.13
FMP88UAF	1/2	1/2	0.38 (09.63 mm)	2.07 (52.58 mm)	1.33 (33.78 mm)	0.40 (10.16 mm)	1.13
FMP812UAF	1/2	3/4	0.38 (09.63 mm)	2.23 (56.64 mm)	1.33 (33.78 mm)	0.38 (09.63 mm)	1.38
FMP128UAF	3/4	1/2	0.46 (11.68 mm)	2.19 (55.63 mm)	1.42 (36.07 mm)	0.40 (10.16 mm)	1.38
FMP1212UAF	3/4	3/4	0.63 (16.00 mm)	2.32 (58.93 mm)	1.42 (36.07 mm)	0.40 (10.16 mm)	1.63
FMP1216UAF	3/4	1	0.63 (16.00 mm)	2.56 (65.02 mm)	1.42 (36.07 mm)	0.63 (16.00 mm)	1.75
FMP1616UAF	1	1	0.88 (22.35 mm)	2.75 (69.85 mm)	1.63 (41.40 mm)	0.63 (16.00 mm)	1.75

Note: All fittings are class 100 clean room assembled and double bagged.

Flare Grip® PFA Fittings (FMP)

Male Run Tee

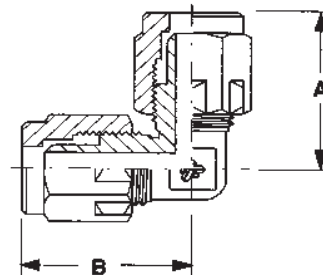
Male Flare Connector
Male Pipe End



Part No.	O.D. Tube Size X	O.D. Tube Size Y	Male Pipe Size Z	Orifice	A	B	C	D
FMP4MRT	1/4	1/4	1/4	0.13 (09.65 mm)	2.41 (61.21 mm)	1.44 (36.58 mm)	0.97 (24.64 mm)	1.44 (36.58 mm)
FMP6MRT	3/8	3/8	3/8	0.25 (09.65 mm)	2.48 (62.99 mm)	1.54 (39.12 mm)	0.94 (23.88 mm)	1.54 (39.12 mm)
FMP8MRT	1/2	1/2	1/2	0.38 (09.65 mm)	3.09 (78.49 mm)	1.85 (46.99 mm)	1.24 (31.50 mm)	1.85 (46.99 mm)
FMP12MRT	3/4	3/4	3/4	0.63 (09.65 mm)	3.72 (94.49 mm)	2.22 (56.39 mm)	1.50 (38.10 mm)	2.22 (56.39 mm)
FMP16MRT	1	1	1	0.88 (16.00 mm)	4.37 (111.00 mm)	2.49 (63.25 mm)	1.88 (47.75 mm)	2.49 (63.25 mm)

Union Elbow

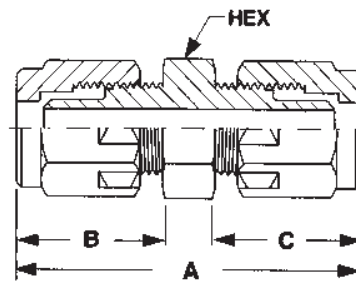
Male Flare Connector



Part No.	O.D. Tube Size	Orifice	A	B
FMP4UE	1/4	0.13 (03.30 mm)	1.50 (38.10 mm)	1.50 (38.10 mm)
FMP6UE	3/8	0.25 (06.35 mm)	1.66 (42.16 mm)	1.66 (42.16 mm)
FMP8UE	1/2	0.38 (09.65 mm)	1.85 (46.99 mm)	1.85 (46.99 mm)
FMP12UE	3/4	0.63 (16.00 mm)	2.20 (55.88 mm)	2.20 (55.88 mm)
FMP16UE	1	0.88 (22.35 mm)	2.49 (63.25 mm)	2.49 (63.25 mm)

Straight Union

Male Flare Connector



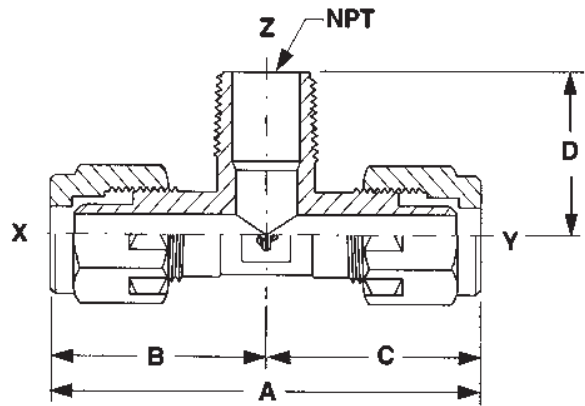
Part No.	O.D. Tube Size	Orifice	A	B	C	Hex Flat
FMP4SU	1/4	0.13 (03.30 mm)	2.47 (62.74 mm)	1.10 (27.94 mm)	1.10 (27.94 mm)	0.37
FMP6SU	3/8	0.25 (06.35 mm)	2.75 (69.85 mm)	1.19 (30.23 mm)	1.19 (30.23 mm)	0.68
FMP8SU	1/2	0.38 (09.63 mm)	3.17 (80.52 mm)	1.40 (35.56 mm)	1.40 (35.56 mm)	0.87
FMP12SU	3/4	0.63 (16.00 mm)	3.38 (85.85 mm)	1.44 (36.58 mm)	1.44 (36.58 mm)	1.38
FMP16SU	1	0.88 (22.35 mm)	3.75 (95.25 mm)	1.63 (41.40 mm)	1.63 (41.40 mm)	1.38

Note: All fittings are class 100 clean room assembled and double bagged.

Flare Grip® PFA Fittings (FMP)

Male Branch Tee

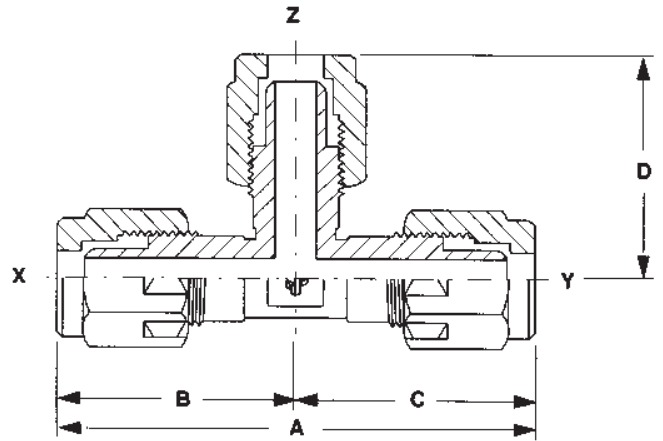
Male Flare Connector
Male NPT Threads



Part No.	O.D. Tube Size X	O.D. Tube Size Y	Male NPT Size Z	Orifice	A	B	C	D
FMP4MBT	1/4	1/4	1/4	0.13 (03.30 mm)	2.88 (73.15 mm)	1.44 (36.58 mm)	1.44 (36.58 mm)	1.02 (25.91 mm)
FMP6MBT	3/8	3/8	3/8	0.25 (06.35 mm)	3.08 (78.23 mm)	1.54 (39.12 mm)	1.54 (39.12 mm)	0.94 (23.88 mm)
FMP8MBT	1/2	1/2	1/2	0.38 (09.65 mm)	4.12 (104.65 mm)	2.06 (52.32 mm)	2.06 (52.32 mm)	1.13 (28.70 mm)
FMP12MBT	3/4	3/4	3/4	0.63 (16.00 mm)	4.40 (111.76 mm)	2.20 (55.88 mm)	2.20 (55.88 mm)	1.50 (38.10 mm)
FMP16MBT	1	1	1	0.88 (22.35 mm)	4.94 (125.48 mm)	2.47 (62.74 mm)	2.47 (62.74 mm)	1.88 (47.75 mm)

Union Tee

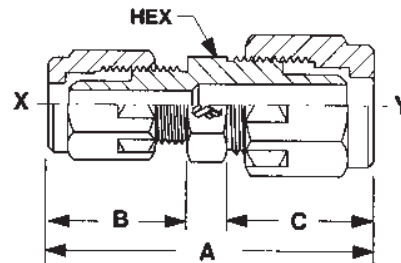
Male Flare Connector



Part No.	O.D. Tube Size X	O.D. Tube Size Y	O.D. Tube Size Z	Orifice	A	B	C	D
FMP4UT	1/4	1/4	1/4	0.13 (03.30 mm)	2.88 (73.15 mm)	1.44 (36.58 mm)	1.44 (36.58 mm)	1.44 (36.58 mm)
FMP6UT	3/8	3/8	3/8	0.25 (06.35 mm)	3.08 (78.23 mm)	1.54 (39.12 mm)	1.54 (39.12 mm)	1.54 (39.12 mm)
FMP8UT	1/2	1/2	1/2	0.38 (09.65 mm)	4.12 (104.65 mm)	2.06 (52.32 mm)	2.06 (52.32 mm)	2.06 (52.32 mm)
FMP12UT	3/4	3/4	3/4	0.63 (16.00 mm)	4.40 (111.76 mm)	2.20 (55.88 mm)	2.20 (55.88 mm)	2.20 (55.88 mm)
FMP16UT	1	1	1	0.88 (22.35 mm)	4.94 (125.48 mm)	2.47 (62.74 mm)	2.47 (62.74 mm)	2.47 (62.74 mm)

Straight Union Reducer

Male Flare Connector



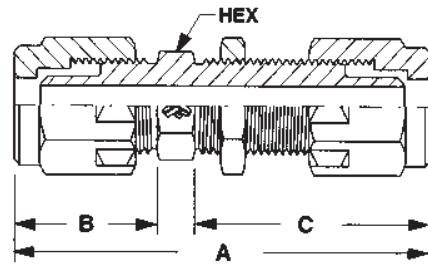
Part No.	O.D. Tube Size X	O.D. Tube Size Y	Orifice	A	B	C	Hex Flat
FMP46UR	1/4	3/8	0.13 (03.30 mm)	2.63 (66.80 mm)	1.10 (27.94 mm)	1.16 (29.46 mm)	0.68
FMP48UR	1/4	1/2	0.25 (06.35 mm)	2.87 (72.90 mm)	1.10 (27.94 mm)	1.40 (35.56 mm)	0.87
FMP68UR	3/8	1/2	0.38 (09.63 mm)	3.07 (72.90 mm)	1.30 (33.02 mm)	1.40 (35.56 mm)	0.87
FMP812UR	1/2	3/4	0.63 (16.00 mm)	3.36 (85.34 mm)	1.40 (35.56 mm)	1.46 (37.08 mm)	1.38
FMP1216UR	3/4	1	0.88 (22.35 mm)	3.58 (90.93 mm)	1.46 (37.08 mm)	1.62 (41.15 mm)	1.38

Note: All fittings are class 100 clean room assembled and double bagged.

Flare Grip® PFA Fittings (FMP)

Straight Union Panel

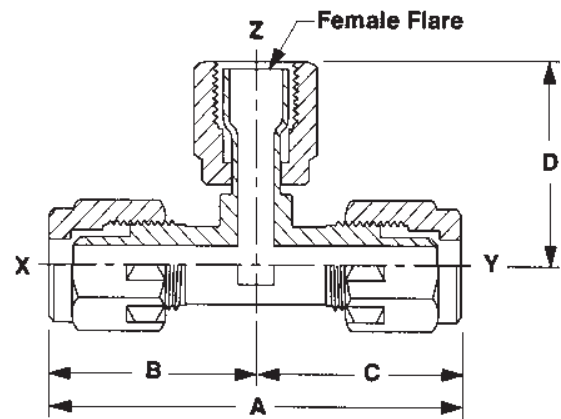
Male Flare Connector



Part No.	O.D. Tube Size	Orifice	A	B	C	Hex Flat
FMP4SUP	1/4	0.13 (03.30 mm)	3.51 (89.15 mm)	1.10 (27.94 mm)	2.04 (51.82 mm)	0.68
FMP6SUP	3/8	0.25 (06.35 mm)	3.70 (93.98 mm)	1.19 (30.23 mm)	2.14 (54.36 mm)	0.94
FMP8SUP	1/2	0.38 (09.63 mm)	4.08 (103.63 mm)	1.40 (35.56 mm)	2.32 (58.93 mm)	1.12
FMP12SUP	3/4	0.63 (16.00 mm)	4.41 (112.01 mm)	1.44 (36.58 mm)	2.47 (62.74 mm)	1.38
FMP16SUP	1	0.88 (22.35 mm)	4.66 (118.36 mm)	1.63 (41.40 mm)	2.54 (64.52 mm)	1.50

Female Flare Branch Tee

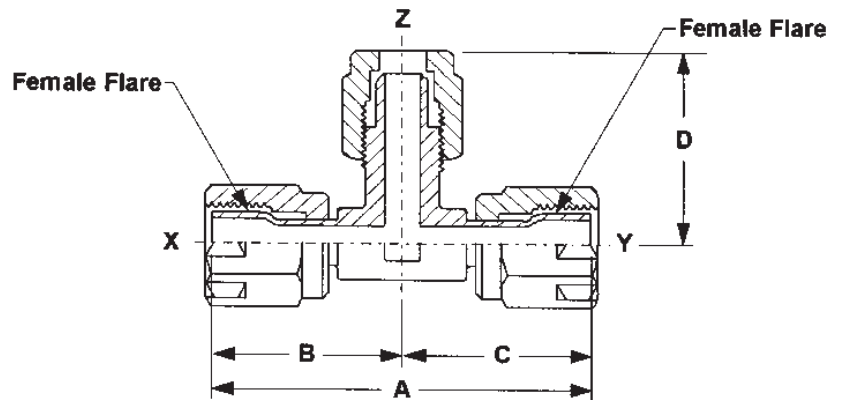
Male Flare Connector
Female Flare Connector



Part No.	X	Y	Z	Orifice	A	B	C	D
FMP8FFBT	1/2	1/2	1/2	0.38 (09.65 mm)	4.26 (108.20 mm)	2.13 (54.10 mm)	2.13 (54.10 mm)	1.91 (48.51 mm)
FMP12FFBT	3/4	3/4	3/4	0.63 (16.00 mm)	4.50 (114.30 mm)	2.25 (57.15 mm)	2.25 (57.15 mm)	2.16 (54.86 mm)
FMP16FFBT	1	1	1	0.25 (06.35 mm)	5.04 (128.02 mm)	2.52 (64.00 mm)	2.52 (64.00 mm)	2.53 (64.26 mm)

Female Flare Run Tee

Male Flare Connector
Female Flare Connector



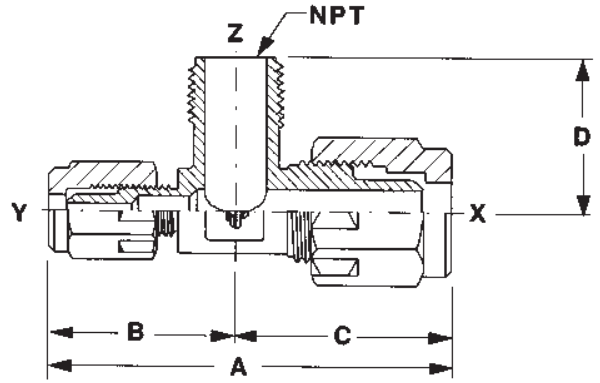
Part No.	X	Y	Z	Orifice	A	B	C	D
FMP8FFRT	1/2	1/2	1/2	0.38 (09.65 mm)	3.91 (99.31 mm)	1.91 (48.51 mm)	1.91 (48.51 mm)	2.13 (54.10 mm)
FMP12FFRT	3/4	3/4	3/4	0.63 (16.00 mm)	4.32 (109.73 mm)	2.16 (54.86 mm)	2.16 (54.86 mm)	2.25 (57.15 mm)

Note: All fittings are class 100 clean room assembled and double bagged.

Flare Grip® PFA Fittings (FMP)

Male Branch Tee Reducer

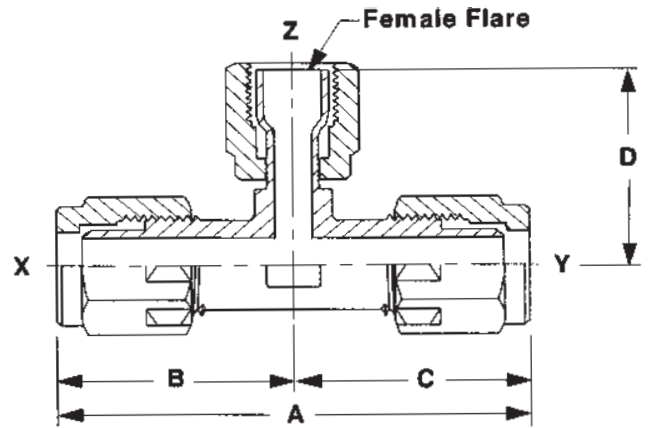
Male Flare Connector
Male NPT Threads



Part No.	O.D. Tube Size	O.D. Tube Size	Male NPT Size	Orifice	A	B	C	D
	X	Y	Z					
FMP646MBTR	3/8	1/4	3/8	0.13 (03.30 mm)	3.03 (76.96 mm)	1.46 (37.21 mm)	1.56 (39.75 mm)	1.18 (29.97 mm)
FMP848MBTR	1/2	1/4	1/2	0.13 (03.30 mm)	3.44 (87.38 mm)	1.60 (40.64 mm)	1.84 (46.74 mm)	1.31 (33.27 mm)
FMP866MBTR	1/2	3/8	3/8	0.25 (06.35 mm)	3.56 (90.43 mm)	1.84 (46.74 mm)	1.72 (43.69 mm)	1.31 (33.27 mm)
FMP12412MBTR	3/4	1/4	3/4	0.15 (03.30 mm)	4.06 (103.12 mm)	1.85 (46.99 mm)	2.21 (56.13 mm)	1.62 (41.15 mm)

Female Flare Branch Tee Reducer

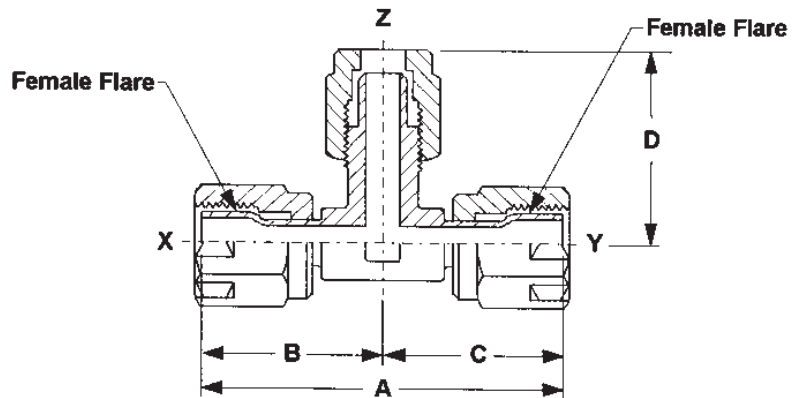
Male Flare Connector
Female Flare Connector



Part No.	X	O.D. Tube Size	Z	Orifice	A	B	C	D
		Y						
FMP12128FFBTR	3/4	3/4	1/2	0.38 (09.65 mm)	4.50 (114.30 mm)	2.25 (57.15 mm)	2.25 (57.15 mm)	2.09 (53.09 mm)
FMP161612FFBTR	1	1	3/4	0.63 (16.00 mm)	5.04 (128.02 mm)	2.52 (64.00 mm)	2.52 (64.00 mm)	2.29 (58.17 mm)

Female Flare Run Tee Reducer

Male Flare Connector
Female Flare Connector



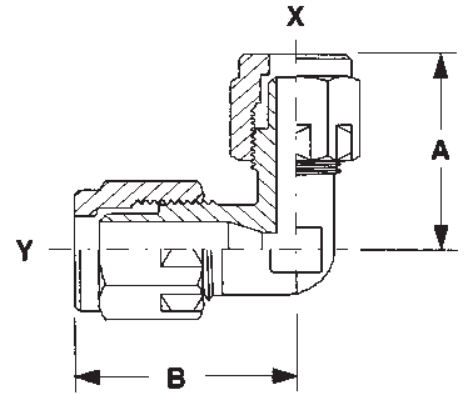
Part No.	X	Y	O.D. Tube Size	Orifice	A	B	C	D
			Z					
FMP8812FFRTR	1/2	1/2	3/4	0.38 (09.65 mm)	4.18 (106.17 mm)	2.09 (53.09 mm)	2.09 (53.09 mm)	2.25 (57.15 mm)

Note: All fittings are class 100 clean room assembled and double bagged.

Flare Grip® PFA Fittings (FMP)

Union Elbow Reducer

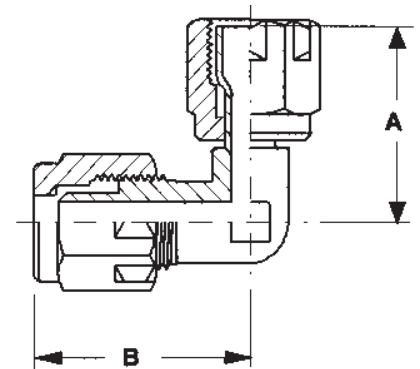
Male Flare Connector



Part No.	O.D. Tube Size X	O.D. Tube Size Y	Orifice	A	B
FMP46UER	1/4	3/8	0.13 (03.30 mm)	1.45 (36.83 mm)	1.60 (40.64 mm)
FMP68UER	3/8	1/2	0.25 (06.35 mm)	1.71 (43.43 mm)	1.85 (46.99 mm)
FMP812UER	1/2	3/4	0.38 (09.65 mm)	2.20 (55.88 mm)	2.20 (55.88 mm)
FMP1216UER	3/4	1/2	0.63 (16.00 mm)	2.40 (60.96 mm)	2.47 (62.74 mm)

Female Flare Union Elbow

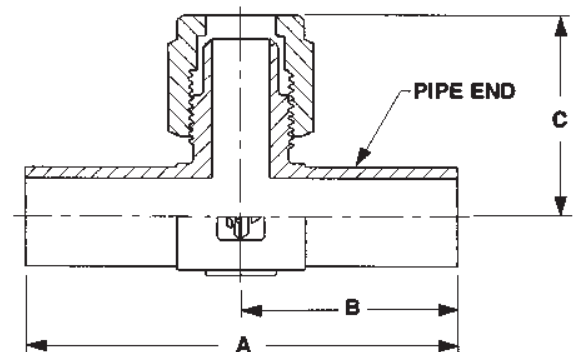
Male Flare Connector
Female Flare Connector



Part No.	O.D. Tube Size	Orifice	A	B
FMP6FFUE	3/8	0.25 (06.35 mm)	1.51 (38.35 mm)	1.63 (41.40 mm)
FMP8FFUE	1/2	0.38 (09.65 mm)	1.91 (48.51 mm)	2.13 (54.10 mm)
FMP12FFUE	3/4	0.63 (16.00 mm)	2.16 (66.29 mm)	2.25 (57.15 mm)
FMP16FFUE	1	0.88 (22.35 mm)	2.53 (64.26 mm)	2.52 (64.01 mm)

Manifold Tee

Male Flare Connector
Fusible Pipe End

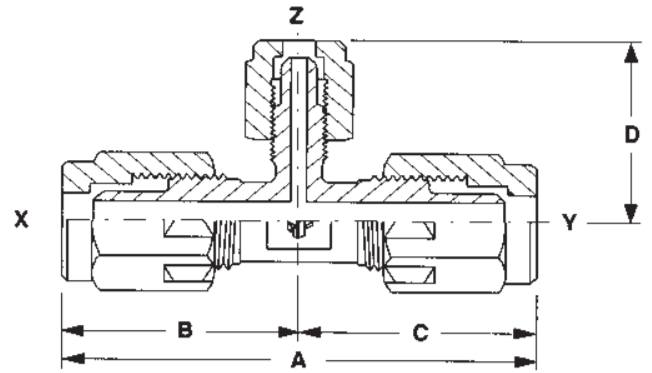


Part No.	O.D. Tube Size	Pipe Size	Orifice	A	B	C
1102731	3/8	1/2	0.25 (06.35mm)	3.94 (100.08mm)	1.97 (50.04mm)	1.50 (38.10mm)
1103873	1/2	3/4	0.38 (09.65mm)	4.12 (104.65mm)	2.06 (52.32mm)	1.75 (44.45mm)
1102249	3/4	3/4	0.63 (16.00mm)	4.60 (116.84mm)	2.30 (58.42mm)	2.13 (54.10mm)
1102729	3/4	1	0.63 (16.00mm)	4.38 (111.25mm)	2.19 (55.63mm)	2.00 (50.80mm)
1102728	1	1-1/2	0.88 (22.35mm)	4.62 (117.34mm)	2.31 (58.67mm)	2.42 (61.47mm)

Note: All fittings are class 100 clean room assembled and double bagged.

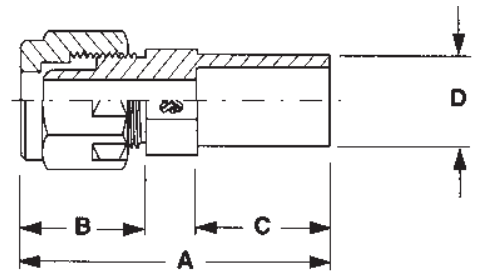
Flare Grip® PFA Fittings (FMP)

Union Tee Reducer Male Flare Connector



Part No.	O.D. Tube Size			Orifice	A	B	C	D
	X	Y	Z					
FMP664UTR	3/8	3/8	1/4	0.15 (03.30 mm)	3.08 (78.24 mm)	1.54 (39.12 mm)	1.54 (39.12 mm)	1.45 (36.83 mm)
FMP884UTR	1/2	1/2	1/4	0.15 (03.30 mm)	3.72 (94.48 mm)	1.86 (47.24 mm)	1.86 (47.24 mm)	1.68 (42.67 mm)
FMP886UTR	1/2	1/2	3/8	0.25 (06.35 mm)	3.72 (94.48 mm)	1.86 (47.24 mm)	1.86 (47.24 mm)	1.71 (43.43 mm)
FMP12128UTR	3/4	3/4	1/2	0.38 (09.63 mm)	4.40 (111.76 mm)	2.20 (55.88 mm)	2.20 (55.88 mm)	2.20 (55.88 mm)
FMP16168UTR	1	1	1/2	0.38 (09.63 mm)	4.90 (124.46 mm)	2.45 (62.23 mm)	2.45 (62.23 mm)	2.40 (60.96 mm)
FMP161612UTR	1	1	3/4	0.66 (16.76 mm)	4.98 (126.49 mm)	2.49 (63.25 mm)	2.49 (63.25 mm)	2.40 (60.96 mm)

Straight Union Adapter Male Flare Connector Fusible Pipe End

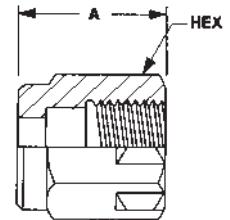


Part No.	O.D. Tube Size		Orifice	A	B	C	D
	Tube Size	Pipe Size					
FMP88/40SUA	1/2	1/2	0.38 (09.63 mm)	3.48 (88.39 mm)	1.40 (35.56 mm)	1.50 (38.10 mm)	0.84 (21.34 mm)
FMP812/40SUA	1/2	3/4	0.38 (09.63 mm)	3.54 (89.92 mm)	1.40 (35.56 mm)	1.50 (38.10 mm)	1.05 (38.10 mm)
FMP128/40SUA	3/4	1/2	0.63 (16.00 mm)	3.54 (89.92 mm)	1.46 (37.08 mm)	1.50 (38.10 mm)	0.84 (21.34 mm)
FMP1212/40SUA	3/4	3/4	0.63 (16.00 mm)	3.54 (89.92 mm)	1.46 (37.08 mm)	1.50 (38.10 mm)	1.05 (38.10 mm)
FMP1612/40SUA	1	3/4	0.81 (20.57 mm)	3.77 (95.76 mm)	1.62 (41.15 mm)	1.50 (38.10 mm)	1.05 (38.10 mm)
FMP1616/40SUA	1	1	0.88 (22.50 mm)	3.77 (95.76 mm)	1.62 (41.15 mm)	1.50 (38.10 mm)	1.32 (33.53 mm)

Nut

Part No.	O.D. Tube Size		Hex Flat
	Tube Size	A	
FMP4N	1/4	0.92 (23.37 mm)	0.74
FMP6N	3/8	1.00 (25.40 mm)	0.87
FMP8N	1/2	1.20 (30.48 mm)	1.12
FMP12N	3/4	1.28 (32.51 mm)	1.37
FMP16N	1	1.44 (36.58 mm)	1.62

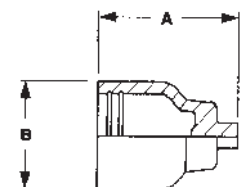
Material — Molded ETFE



Cap

Part No.	O.D. Tube Size	
	Tube Size	A
FMP4C	1/4	0.60 (15.24 mm)
FMP6C	3/8	0.75 (19.05 mm)
FMP8C	1/2	0.84 (21.34 mm)
FMP12C	3/4	0.85 (21.59 mm)
FMP16C	1	0.94 (23.88 mm)

Material — Molded PFA

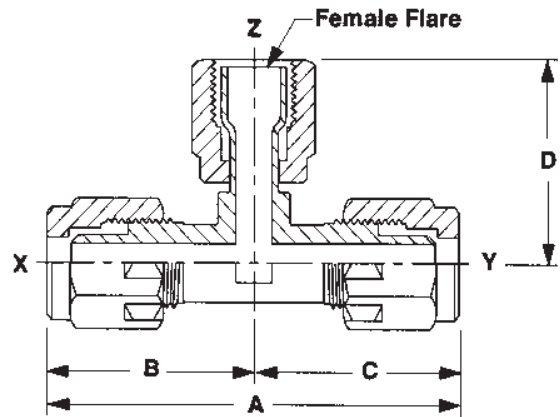


Note: All fittings are class 100 clean room assembled and double bagged.

Close Couple Fittings (FMP)

Female Flare Branch Tee

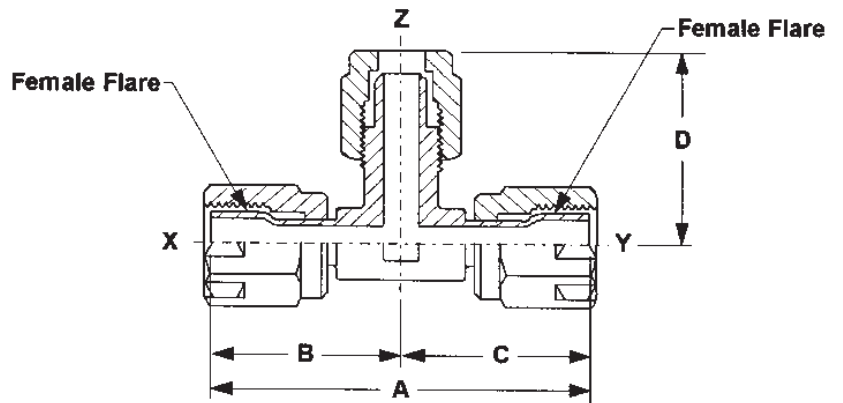
Male Flare Connector
Female Flare Connector



Part No.	X	Y	Z	Orifice	A	B	C	D
FMP8FFBT	1/2	1/2	1/2	0.38 (09.65 mm)	4.26 (108.20 mm)	2.13 (54.10 mm)	2.13 (54.10 mm)	1.91 (48.51 mm)
FMP12FFBT	3/4	3/4	3/4	0.63 (16.00 mm)	4.50 (114.30 mm)	2.25 (57.15 mm)	2.25 (57.15 mm)	2.16 (54.86 mm)
FMP16FFBT	1	1	1	0.25 (06.35 mm)	5.04 (128.02 mm)	2.52 (64.00 mm)	2.52 (64.00 mm)	2.53 (64.26 mm)

Female Flare Run Tee

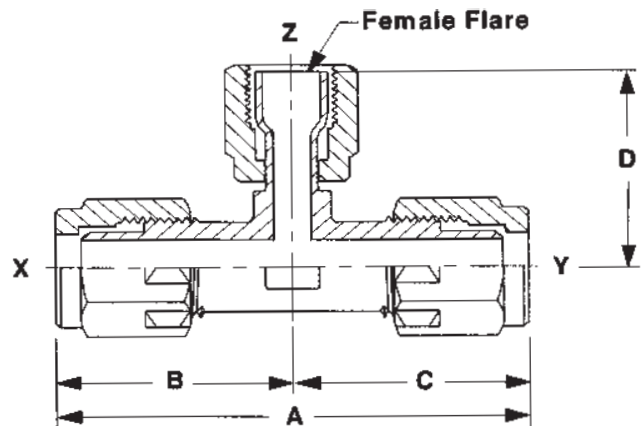
Male Flare Connector
Female Flare Connector



Part No.	X	Y	Z	Orifice	A	B	C	D
FMP8FFRT	1/2	1/2	1/2	0.38 (09.65 mm)	3.91 (99.31 mm)	1.91 (48.51 mm)	1.91 (48.51 mm)	2.13 (54.10 mm)
FMP12FFRT	3/4	3/4	3/4	0.63 (16.00 mm)	4.32 (109.73 mm)	2.16 (54.86 mm)	2.16 (54.86 mm)	2.25 (57.15 mm)

Female Flare Branch Tee Reducer

Male Flare Connector
Female Flare Connector



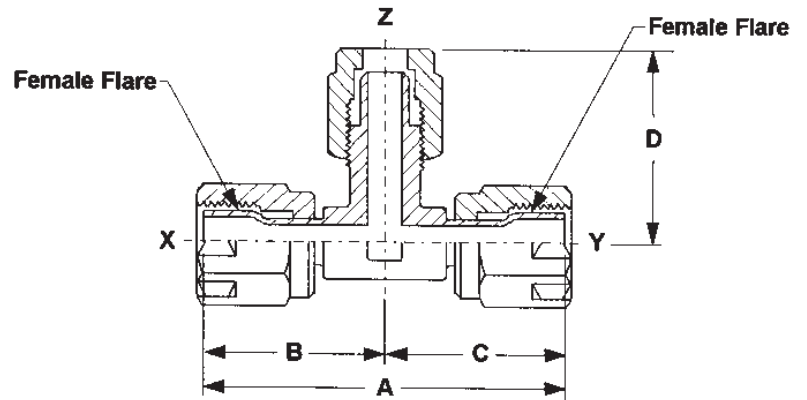
Part No.	X	Y	Z	Orifice	A	B	C	D
FMP12128FFBTR	3/4	3/4	1/2	0.38 (09.65 mm)	4.50 (114.30 mm)	2.25 (57.15 mm)	2.25 (57.15 mm)	2.09 (53.09 mm)
FMP161612FFBTR	1	1	3/4	0.63 (16.00 mm)	5.04 (128.02 mm)	2.52 (64.00 mm)	2.52 (64.00 mm)	2.29 (58.17 mm)

Note: All fittings are class 100 clean room assembled and double bagged.

Close Couple Fittings (FMP)

Female Flare Run Tee Reducer

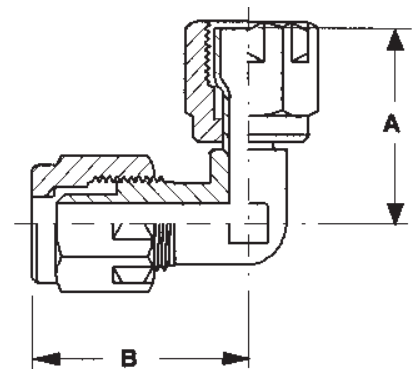
Male Flare Connector
Female Flare Connector



Part No.	O.D. Tube Size		Orifice	A	B	C	D	
	X	Y						
FMP88FFRTR	1/2	1/2	3/4	0.38 (09.65 mm)	4.18 (106.17 mm)	2.09 (53.09 mm)	2.09 (53.09 mm)	2.25 (57.15 mm)

Female Flare Union Elbow

Male Flare Connector
Female Flare Connector



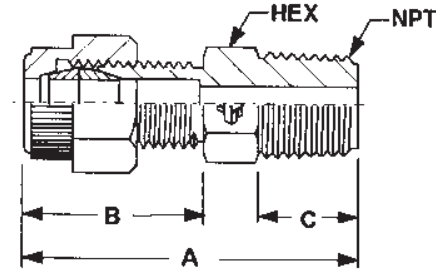
Part No.	O.D. Tube Size	Orifice	A	B
FMP6FFUE	3/8	0.25 (06.35 mm)	1.51 (38.35 mm)	1.63 (41.40 mm)
FMP8FFUE	1/2	0.38 (09.65 mm)	1.91 (48.51 mm)	2.13 (54.10 mm)
FMP12FFUE	3/4	0.63 (16.00 mm)	2.16 (66.29 mm)	2.25 (57.15 mm)
FMP16FFUE	1	0.88 (22.35 mm)	2.53 (64.26 mm)	2.52 (64.01 mm)

Note: All fittings are class 100 clean room assembled and double bagged.

Grab Seal™ PFA Compression Fittings (IMP)

Union Adapter Male

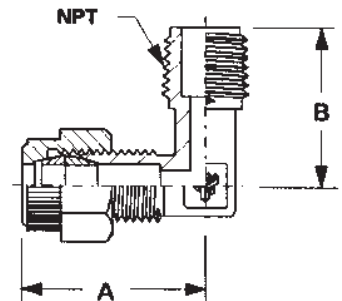
Grab Seal Connector
Male NPT Threads



Part No.	O.D. Tube Size	Male NPT Size	Orifice	A	B	C	Hex Flat
IMP22UAM	1/8	1/8	0.09 (02.29 mm)	1.21 (30.73 mm)	0.54 (13.72 mm)	0.40 (10.17 mm)	0.45
IMP24UAM	1/8	1/4	0.09 (02.29 mm)	1.31 (33.27 mm)	0.54 (13.72 mm)	0.50 (12.71 mm)	0.50
IMP42UAM	1/4	1/8	0.19 (04.83 mm)	1.23 (31.24 mm)	0.54 (13.72 mm)	0.40 (10.17 mm)	0.44
IMP44UAM	1/4	1/4	0.19 (04.83 mm)	1.33 (33.78 mm)	0.54 (13.72 mm)	0.54 (13.72 mm)	0.50
IMP46UAM	1/4	3/8	0.19 (04.83 mm)	1.43 (36.32 mm)	0.54 (13.72 mm)	0.54 (13.72 mm)	0.68
IMP48UAM	1/4	1/2	0.19 (04.83 mm)	1.54 (39.12 mm)	0.54 (13.72 mm)	0.63 (16.00 mm)	0.87
IMP62UAM	3/8	1/8	0.19 (04.83 mm)	1.36 (34.54 mm)	0.59 (14.99 mm)	0.40 (10.17 mm)	0.68
IMP64UAM	3/8	1/4	0.31 (07.87 mm)	1.46 (37.08 mm)	0.59 (14.99 mm)	0.50 (12.71 mm)	0.68
IMP66UAM	3/8	3/8	0.31 (07.87 mm)	1.45 (36.83 mm)	0.59 (14.99 mm)	0.50 (12.71 mm)	0.68
IMP68UAM	3/8	1/2	0.31 (07.87 mm)	1.59 (40.39 mm)	0.59 (14.99 mm)	0.63 (16.00 mm)	0.87
IMP84UAM	1/2	1/4	0.29 (07.37 mm)	1.54 (39.12 mm)	0.67 (17.02 mm)	0.50 (12.71 mm)	0.87
IMP86UAM	1/2	3/8	0.42 (10.67 mm)	1.54 (39.12 mm)	0.67 (17.02 mm)	0.50 (12.71 mm)	0.87
IMP88UAM	1/2	1/2	0.46 (11.68 mm)	1.68 (42.67 mm)	0.67 (17.02 mm)	0.63 (16.00 mm)	0.87
IMP812UAM	1/2	3/4	0.46 (11.68 mm)	1.97 (50.04 mm)	0.67 (17.02 mm)	0.80 (20.33 mm)	1.12
IMP128UAM	3/4	1/2	0.46 (11.68 mm)	1.89 (48.01 mm)	0.75 (19.05 mm)	0.63 (16.00 mm)	1.38
IMP1212UAM	3/4	3/4	0.68 (17.27 mm)	2.02 (51.31 mm)	0.75 (19.05 mm)	0.80 (20.33 mm)	1.38
IMP1216UAM	3/4	1	0.68 (17.27 mm)	2.19 (55.63 mm)	0.75 (19.05 mm)	0.94 (23.88 mm)	1.38
IMP1612UAM	1	3/4	0.75 (19.05 mm)	2.15 (54.61 mm)	0.84 (21.34 mm)	0.80 (20.33 mm)	1.38
IMP1616UAM	1	1	0.94 (23.88 mm)	2.28 (57.91 mm)	0.84 (21.34 mm)	0.94 (23.88 mm)	1.38

Elbow Adapter Male

Grab Seal Connector
Male NPT Threads



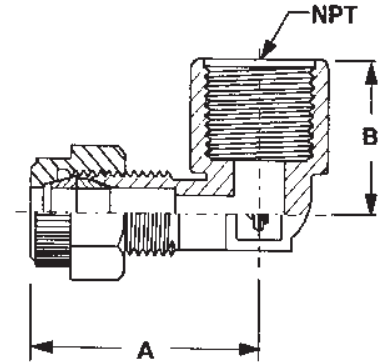
Part No.	O.D. Tube Size	Male NPT Size	Orifice	A	B
IMP22EAM	1/8	1/8	0.09 (02.29 mm)	0.11 (02.79 mm)	0.72 (18.29 mm)
IMP24EAM	1/8	1/4	0.09 (02.29 mm)	0.80 (20.32 mm)	0.78 (19.81 mm)
IMP42EAM	1/4	1/8	0.19 (04.83 mm)	0.81 (20.57 mm)	0.71 (18.03 mm)
IMP44EAM	1/4	1/4	0.19 (04.83 mm)	0.81 (20.57 mm)	0.97 (24.64 mm)
IMP46EAM	1/4	3/8	0.19 (04.83 mm)	0.92 (23.37 mm)	0.85 (21.59 mm)
IMP62EAM	3/8	1/8	0.19 (04.83 mm)	0.94 (23.88 mm)	0.85 (21.59 mm)
IMP64EAM	3/8	1/4	0.31 (07.87 mm)	0.94 (23.88 mm)	0.95 (24.13 mm)
IMP66EAM	3/8	3/8	0.31 (07.87 mm)	0.94 (23.88 mm)	1.05 (26.67 mm)
IMP68EAM	3/8	1/2	0.31 (07.87 mm)	1.03 (26.16 mm)	1.13 (28.70 mm)
IMP84EAM	1/2	1/4	0.31 (07.87 mm)	1.01 (25.65 mm)	1.13 (28.70 mm)
IMP86EAM	1/2	3/8	0.42 (10.67 mm)	1.01 (25.65 mm)	1.13 (28.70 mm)
IMP88EAM	1/2	1/2	0.46 (11.68 mm)	1.09 (27.69 mm)	1.13 (28.70 mm)
IMP812EAM	1/2	3/4	0.46 (11.68 mm)	1.30 (33.02 mm)	1.50 (38.10 mm)
IMP128EAM	3/4	1/2	0.50 (12.70 mm)	1.32 (33.53 mm)	1.38 (35.05 mm)
IMP1212EAM	3/4	3/4	0.68 (17.27 mm)	1.33 (33.78 mm)	1.50 (38.10 mm)
IMP1216EAM	3/4	1	0.68 (17.27 mm)	1.51 (38.35 mm)	1.75 (44.45 mm)
IMP1612EAM	1	3/4	0.75 (19.05 mm)	1.71 (43.43 mm)	1.75 (44.45 mm)
IMP1616EAM	1	1	0.94 (23.88 mm)	1.71 (43.43 mm)	1.88 (47.75 mm)

Note: All fittings are class 100 clean room assembled and double bagged.

Grab Seal™ PFA Compression Fittings (IMP)

Elbow Adapter Female

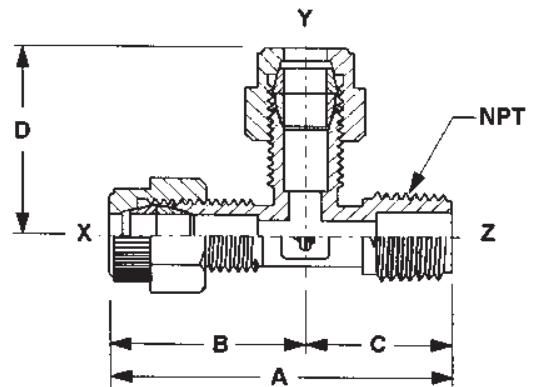
Grab Seal Connector
Female NPT Threads



Part No.	O.D. Tube Size	Female NPT Size	Orifice	A	B
IMP44EAF	1/4	1/4	0.09 (02.29 mm)	1.03 (26.16 mm)	0.80 (20.32 mm)
IMP64EAF	3/8	1/4	0.31 (07.87 mm)	1.07 (27.18 mm)	1.00 (25.40 mm)
IMP66EAF	3/8	3/8	0.31 (07.87 mm)	1.12 (28.45 mm)	1.00 (25.40 mm)
IMP68EAF	3/8	1/2	0.31 (07.87 mm)	1.31 (33.27 mm)	1.12 (28.45 mm)
IMP86EAF	1/2	3/8	0.44 (11.18 mm)	1.18 (29.97 mm)	1.12 (28.45 mm)
IMP88EAF	1/2	1/2	0.40 (10.16 mm)	1.31 (33.27 mm)	1.25 (31.75 mm)
IMP1212EAF	3/4	3/4	0.68 (17.27 mm)	1.41 (35.81 mm)	1.62 (41.15 mm)
IMP1616EAF	1	1	0.94 (23.88 mm)	1.62 (41.15 mm)	1.88 (47.75 mm)

Male Run Tee

Grab Seal Connector
Male NPT Threads

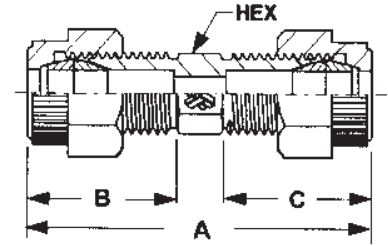


Part No.	O.D. Tube Size X	O.D. Tube Size Y	Male NPT Size Z	Orifice	A	B	C	D
IMP2MRT	1/8	1/8	1/8	0.09 (02.29 mm)	1.51 (38.35 mm)	0.74 (17.53 mm)	0.78 (19.81 mm)	0.74 (17.53 mm)
IMP4MRT	1/4	1/4	1/4	0.19 (04.83 mm)	1.66 (42.16 mm)	0.81 (20.57 mm)	0.85 (21.59 mm)	0.81 (20.57 mm)
IMP6MRT	3/8	3/8	3/8	0.31 (07.87 mm)	1.88 (47.75 mm)	0.94 (23.88 mm)	0.94 (23.88 mm)	0.94 (23.88 mm)
IMP8MRT	1/2	1/2	1/2	0.44 (11.18 mm)	2.35 (59.69 mm)	1.12 (28.45 mm)	1.23 (31.24 mm)	1.12 (28.45 mm)
IMP12MRT	3/4	3/4	3/4	0.69 (17.53 mm)	2.99 (75.95 mm)	1.49 (37.85 mm)	1.50 (38.10 mm)	1.49 (37.85 mm)
IMP16MRT	1	1	1	0.94 (23.88 mm)	3.59 (91.19 mm)	1.71 (43.43 mm)	1.88 (47.75 mm)	1.71 (43.43 mm)

Note: All fittings are class 100 clean room assembled and double bagged.

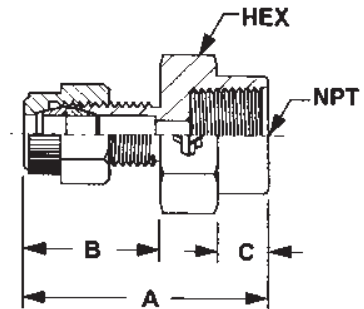
Grab Seal™ PFA Compression Fittings (IMP)

Straight Union Grab Seal Connector



Part No.	O.D. Tube Size	Orifice	A	B	C	Hex Flat
IMP2SU	1/8	0.09 (02.29 mm)	1.49 (37.08 mm)	0.54 (13.72 mm)	0.54 (13.72 mm)	0.38
IMP4SU	1/4	0.19 (04.83 mm)	1.39 (35.31 mm)	0.56 (14.22 mm)	0.56 (14.22 mm)	0.38
IMP6SU	3/8	0.31 (07.87 mm)	1.55 (39.37 mm)	0.59 (14.99 mm)	0.59 (14.99 mm)	0.68
IMP8SU	1/2	0.44 (11.18 mm)	1.70 (43.18 mm)	0.66 (16.76 mm)	0.66 (16.76 mm)	0.87
IMP12SU	3/4	0.69 (17.53 mm)	1.99 (50.55 mm)	0.75 (19.05 mm)	0.75 (19.05 mm)	1.38
IMP16SU	1	0.94 (23.88 mm)	2.18 (55.37 mm)	0.84 (21.34 mm)	0.84 (21.34 mm)	1.38

Union Adapter Female Grab Seal Connector Female NPT Threads



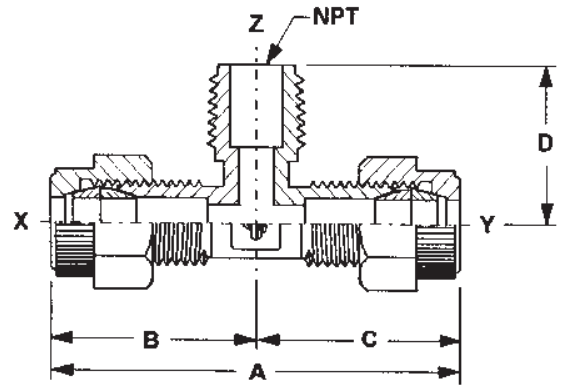
Part No.	O.D. Tube Size	Female NPT Size	Orifice	A	B	C	Hex Flat
IMP42UAF	1/4	1/8	0.19 (04.83 mm)	1.14 (28.96 mm)	0.56 (14.22 mm)	0.31 (07.87 mm)	0.56
IMP44UAF	1/4	1/4	0.19 (04.83 mm)	1.28 (41.40 mm)	0.56 (14.22 mm)	0.34 (08.64 mm)	0.94
IMP46UAF	1/4	3/8	0.19 (04.83 mm)	1.24 (31.50 mm)	0.56 (14.22 mm)	0.31 (07.87 mm)	1.00
IMP48UAF	1/4	1/2	0.19 (04.83 mm)	1.33 (33.78 mm)	0.56 (14.22 mm)	0.40 (10.16 mm)	1.13
IMP62UAF	3/8	1/8	0.25 (06.35 mm)	1.27 (32.26 mm)	0.59 (14.99 mm)	0.30 (07.62 mm)	0.69
IMP64UAF	3/8	1/4	0.31 (07.87 mm)	1.28 (32.51 mm)	0.59 (14.99 mm)	0.32 (08.13 mm)	0.94
IMP66UAF	3/8	3/8	0.31 (07.87 mm)	1.28 (32.51 mm)	0.59 (14.99 mm)	0.31 (07.87 mm)	1.00
IMP68UAF	3/8	1/2	0.31 (07.87 mm)	1.36 (34.54 mm)	0.59 (14.99 mm)	0.40 (10.16 mm)	1.13
IMP84UAF	1/2	1/4	0.31 (07.87 mm)	1.34 (34.04 mm)	0.67 (17.02 mm)	0.30 (07.62 mm)	0.88
IMP86UAF	1/2	3/8	0.45 (11.43 mm)	1.36 (34.54 mm)	0.67 (17.02 mm)	0.32 (08.13 mm)	1.13
IMP88UAF	1/2	1/2	0.46 (11.68 mm)	1.46 (37.08 mm)	0.67 (17.02 mm)	0.42 (10.67 mm)	1.13
IMP812UAF	1/2	3/4	0.46 (11.68 mm)	1.56 (39.62 mm)	0.67 (17.02 mm)	0.38 (09.63 mm)	1.38
IMP128UAF	3/4	1/2	0.50 (12.70 mm)	1.63 (41.40 mm)	0.73 (18.54 mm)	0.40 (10.16 mm)	1.38
IMP1212UAF	3/4	3/4	0.69 (17.53 mm)	1.68 (42.67 mm)	0.75 (19.05 mm)	0.40 (10.16 mm)	1.63
IMP1216UAF	3/4	1	0.69 (17.53 mm)	1.88 (47.75 mm)	0.75 (19.05 mm)	0.63 (16.00 mm)	1.75
IMP1616UAF	1	1	0.94 (23.88 mm)	1.96 (49.78 mm)	0.84 (21.34 mm)	0.63 (16.00 mm)	1.75

Note: All fittings are class 100 clean room assembled and double bagged.

Grab Seal™ PFA Compression Fittings (IMP)

Male Branch Tee

Grab Seal Connector
Male NPT Threads

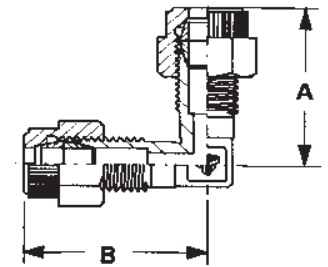


Part No.	O.D. Tube Size	O.D. Tube Size	Male NPT Size	Orifice	A	B	C	D
	X	Y	Z					
IMP2MBT	1/8	1/8	1/8	0.09 (02.29 mm)	1.48 (37.59 mm)	0.74 (18.80 mm)	0.74 (18.80 mm)	0.78 (19.81 mm)
IMP4MBT	1/4	1/4	1/4	0.19 (04.83 mm)	1.62 (41.15 mm)	0.81 (20.57 mm)	0.81 (20.57 mm)	0.82 (20.83 mm)
IMP6MBT	3/8	3/8	3/8	0.31 (07.87 mm)	1.88 (47.75 mm)	0.94 (23.88 mm)	0.94 (23.88 mm)	0.94 (23.88 mm)
IMP8MBT	1/2	1/2	1/2	0.44 (11.18 mm)	2.24 (56.90 mm)	1.12 (28.45 mm)	1.12 (28.45 mm)	1.23 (31.24 mm)
IMP12MBT	3/4	3/4	3/4	0.69 (17.53 mm)	2.98 (75.69 mm)	1.49 (37.85 mm)	1.49 (37.85 mm)	1.50 (38.10 mm)
IMP16MBT	1	1	1	0.94 (23.88 mm)	3.42 (86.87 mm)	1.71 (43.43 mm)	1.71 (43.43 mm)	1.88 (47.75 mm)

Union Elbow

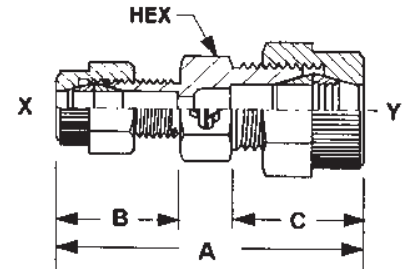
Grab Seal Connector

Part No.	O.D. Tube Size	Orifice	A	B
	Size			
IMP2UE	1/8	0.09 (02.29 mm)	0.75 (19.05 mm)	0.75 (19.05 mm)
IMP4UE	1/4	0.19 (04.83 mm)	0.95 (24.13 mm)	0.95 (24.13 mm)
IMP6UE	3/8	0.31 (07.87 mm)	1.06 (26.92 mm)	1.06 (26.92 mm)
IMP8UE	1/2	0.44 (11.18 mm)	1.13 (28.70 mm)	1.13 (28.70 mm)
IMP12UE	3/4	0.68 (17.27 mm)	1.51 (38.35 mm)	1.51 (38.35 mm)
IMP16UE	1	0.94 (23.88 mm)	1.71 (43.43 mm)	1.71 (43.43 mm)



Straight Union Reducer

Grab Seal Connector



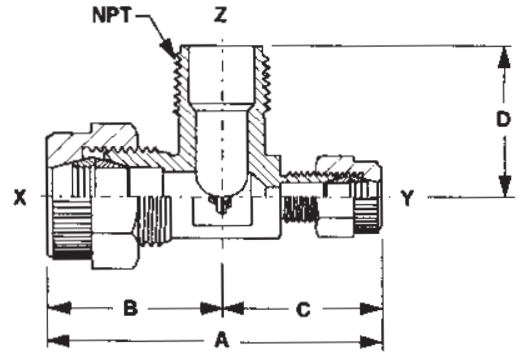
Part No.	O.D. Tube Size	O.D. Tube Size	Orifice	A	B	C	Hex Flat
	X	Y					
IMP24UR	1/8	1/4	0.09 (02.29 mm)	1.47 (37.34 mm)	0.54 (13.72 mm)	0.56 (14.22 mm)	0.68
IMP46UR	1/4	3/8	0.19 (04.83 mm)	1.52 (38.61 mm)	0.56 (14.22 mm)	0.59 (14.99 mm)	0.68
IMP48UR	1/4	1/2	0.19 (04.83 mm)	1.60 (40.64 mm)	0.56 (14.22 mm)	0.67 (17.02 mm)	0.87
IMP68UR	3/8	1/2	0.31 (07.87 mm)	1.63 (41.40 mm)	0.61 (15.49 mm)	0.65 (16.51 mm)	0.87
IMP812UR	1/2	3/4	0.70 (17.78 mm)	1.92 (48.77 mm)	0.73 (18.54 mm)	0.69 (17.53 mm)	1.38
IMP1216UR	3/4	1	0.69 (17.53 mm)	2.09 (53.09 mm)	0.73 (18.54 mm)	0.84 (21.34 mm)	1.38

Note: All fittings are class 100 clean room assembled and double bagged.

Grab Seal™ PFA Compression Fittings (IMP)

Male Branch Tee Reducer

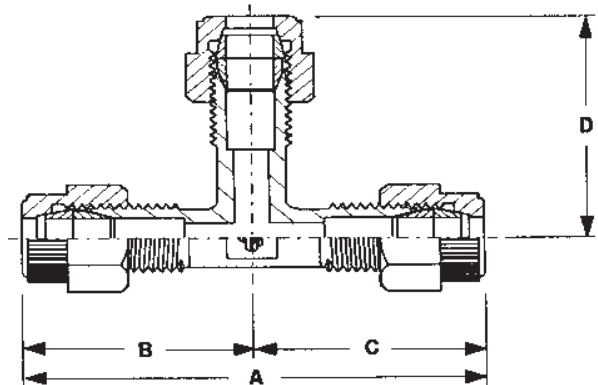
Grab Seal Connector
Male NPT Threads



Part No.	O.D. Tube Size	O.D. Tube Size	Male NPT Size	Orifice	A	B	C	D
	X	Y	Z					
IMP424MBTR	1/4	1/8	1/4	0.09 (02.29 mm)	1.60 (40.64 mm)	0.81 (20.57 mm)	0.79 (20.07 mm)	0.87 (22.10 mm)
IMP646MBTR	3/8	1/4	3/8	0.19 (04.83 mm)	1.92 (48.77 mm)	0.96 (24.51 mm)	0.96 (24.51 mm)	1.20 (30.48 mm)
IMP848MBTR	1/2	1/4	1/2	0.19 (04.83 mm)	2.17 (55.11 mm)	1.11 (28.19 mm)	1.06 (26.92 mm)	1.31 (34.58 mm)
IMP866MBTR	1/2	3/8	3/8	0.31 (07.87 mm)	2.23 (56.64 mm)	1.11 (28.19 mm)	1.12 (28.45 mm)	1.31 (34.58 mm)
IMP12412MBTR	3/4	1/4	3/4	0.19 (04.83 mm)	2.81 (71.37 mm)	1.49 (37.85 mm)	1.32 (33.53 mm)	1.62 (41.15 mm)

Union Tee

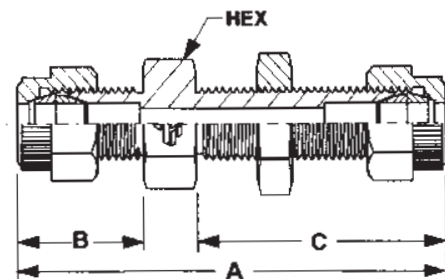
Grab Seal Connector



Part No.	O.D. Tube Size	Orifice	A	B	C	D
IMP2UT	1/8	0.09 (02.29 mm)	1.48 (37.59 mm)	0.74 (18.80 mm)	0.74 (18.80 mm)	0.74 (18.80 mm)
IMP4UT	1/4	0.19 (04.83 mm)	1.80 (45.72 mm)	0.90 (22.86 mm)	0.90 (22.86 mm)	0.90 (22.86 mm)
IMP6UT	3/8	0.31 (07.87 mm)	1.88 (47.75 mm)	0.94 (23.88 mm)	0.94 (23.88 mm)	0.94 (23.88 mm)
IMP8UT	1/2	0.44 (11.18 mm)	2.62 (66.55 mm)	1.31 (33.74 mm)	1.31 (33.74 mm)	1.31 (33.74 mm)
IMP12UT	3/4	0.69 (17.53 mm)	2.98 (75.69 mm)	1.49 (37.85 mm)	1.49 (37.85 mm)	1.49 (37.85 mm)
IMP16UT	1	0.94 (23.88 mm)	3.42 (86.87 mm)	1.71 (43.43 mm)	1.71 (43.43 mm)	1.71 (43.43 mm)

Straight Union Panel

Grab Seal Connector

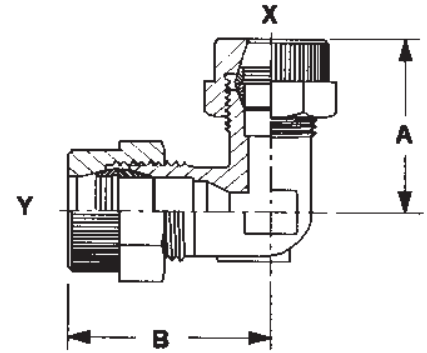


Part No.	O.D. Tube Size	Orifice	A	B	C	Hex Flat
IMP2SUP	1/8	0.09 (02.29 mm)	2.42 (61.47 mm)	0.54 (13.72 mm)	1.50 (38.10 mm)	0.56
IMP4SUP	1/4	0.19 (04.83 mm)	2.44 (61.98 mm)	0.56 (14.22 mm)	1.51 (38.35 mm)	0.68
IMP6SUP	3/8	0.31 (07.87 mm)	2.54 (64.52 mm)	0.59 (14.99 mm)	1.58 (40.13 mm)	0.94
IMP8SUP	1/2	0.44 (11.18 mm)	2.62 (66.55 mm)	0.66 (16.76 mm)	1.59 (40.39 mm)	1.12
IMP12SUP	3/4	0.69 (17.53 mm)	3.01 (76.45 mm)	0.75 (19.05 mm)	1.76 (44.70 mm)	1.38
IMP16SUP	1	0.94 (23.88 mm)	3.18 (80.77 mm)	0.84 (21.34 mm)	1.84 (46.74 mm)	1.50

Note: All fittings are class 100 clean room assembled and double bagged.

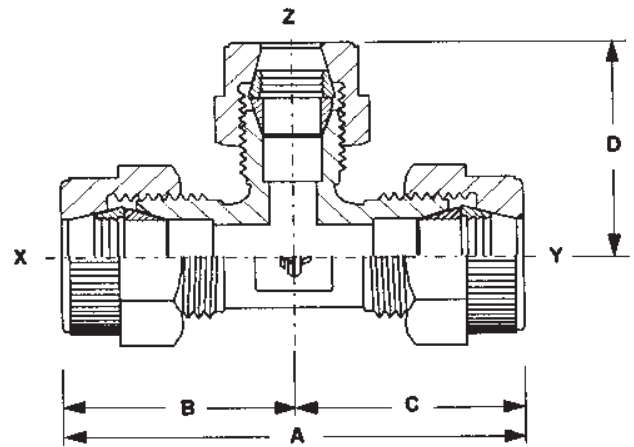
Grab Seal™ PFA Compression Fittings (IMP)

Union Elbow Reducer Grab Seal Connector



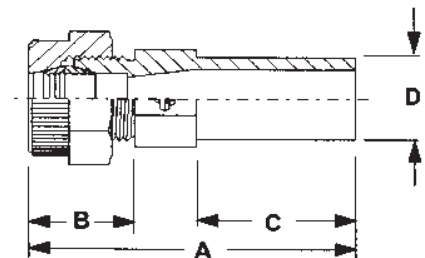
Part No.	O.D. Tube Size	O.D. Tube Size	Orifice	A	B
	X	Y			
IMP24UER	1/8	1/4	0.09 (02.29 mm)	0.81 (20.57 mm)	0.84 (21.34 mm)
IMP46UER	1/4	3/8	0.19 (04.83 mm)	0.91 (23.11 mm)	1.00 (25.40 mm)
IMP68UER	3/8	1/2	0.31 (07.87 mm)	1.11 (28.19 mm)	1.17 (29.72 mm)
IMP812UER	1/2	3/4	0.44 (11.18 mm)	1.47 (37.34 mm)	1.49 (37.85 mm)
IMP1216UER	3/4	1	0.69 (17.53 mm)	1.69 (42.93 mm)	1.71 (43.43 mm)

Union Tee Reducer Grab Seal Connector



Part No.	O.D. Tube Size			Orifice	A	B	C	D
	X	Y	Z					
IMP664UTR	3/8	3/8	1/4	0.19 (04.83 mm)	1.84 (46.74 mm)	0.92 (23.37 mm)	0.92 (23.37 mm)	0.92 (23.37 mm)
IMP884UTR	1/2	1/2	1/4	0.19 (04.83 mm)	2.26 (57.40 mm)	1.13 (28.70 mm)	1.13 (28.70 mm)	1.13 (28.70 mm)
IMP886UTR	1/2	1/2	3/8	0.31 (07.87 mm)	2.26 (57.40 mm)	1.13 (28.70 mm)	1.13 (28.70 mm)	1.11 (28.19 mm)
IMP12128UTR	3/4	3/4	1/2	0.44 (11.18 mm)	2.94 (74.68 mm)	1.47 (37.34 mm)	1.47 (37.34 mm)	1.45 (36.83 mm)

Straight Union Adapter Grab Seal Connector Fusible Pipe End



Part No.	O.D. Tube Size	O.D. Tube Size	Orifice	A	B	C	Hex Flat
	X	Y					
IMP88/40SUA	1/2	1/2	0.44 (11.18 mm)	3.00 (76.20 mm)	1.05 (26.67 mm)	1.48 (37.59 mm)	0.84 (21.34mm)
IMP812/40SUA	1/2	3/4	0.44 (11.18 mm)	3.00 (76.20 mm)	1.05 (26.67 mm)	1.48 (37.59 mm)	1.05 (38.10mm)
IMP128/40SUA	3/4	1/2	0.50 (12.70 mm)	3.13 (79.50 mm)	1.20 (30.48 mm)	1.48 (37.59 mm)	0.84 (21.34mm)
IMP1212/40SUA	3/4	3/4	0.69 (17.53 mm)	3.13 (79.50 mm)	1.20 (30.48 mm)	1.48 (37.59 mm)	1.05 (38.10mm)
IMP1612/40SUA	1	3/4	0.69 (17.53 mm)	3.24 (82.30 mm)	1.33 (33.78 mm)	1.48 (37.59 mm)	1.05 (38.10mm)
IMP1616/40SUA	1	1	0.94 (23.88 mm)	3.24 (82.30 mm)	1.33 (33.78 mm)	1.48 (37.59 mm)	1.32 (33.53mm)

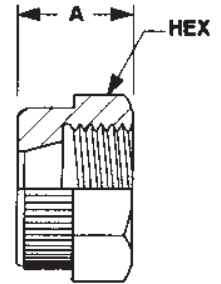
Note: All fittings are class 100 clean room assembled and double bagged.

Grab Seal™ PFA Compression Fittings (IMP)

Nut

Part No.	O.D. Tube Size	A	Hex Flat
IMP2N	1/8	0.52 (13.21 mm)	0.52
IMP4N	1/4	0.56 (14.22 mm)	0.62
IMP6N	3/8	0.72 (18.29 mm)	0.87
IMP8N	1/2	0.78 (19.81 mm)	1.18
IMP12N	3/4	0.92 (23.37 mm)	1.37
IMP16N	1	0.94 (23.88 mm)	1.62

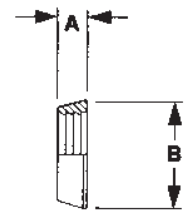
Material — Molded ETFE



Gripper

Part No.	O.D. Tube Size	A	B
IMP2G*	1/8	0.08 (05.08 mm)	0.22 (05.33 mm)
IMP4G	1/4	0.15 (05.08 mm)	0.38 (09.14 mm)
IMP6G	3/8	0.19 (06.60 mm)	0.56 (13.46 mm)
IMP8G	1/2	0.19 (07.11 mm)	0.69 (17.02 mm)
IMP12G	3/4	0.21 (08.64 mm)	0.97 (23.88 mm)
IMP16G	1	0.21 (09.40 mm)	1.22 (30.23 mm)

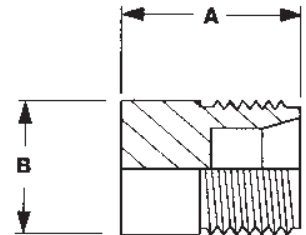
Material — Molded PVDF
*Machined CTFE



Cap

Part No.	O.D. Tube Size	A	B
SLF2C	1/8	0.88 (22.35 mm)	0.31 (07.87 mm)
SLF4C	1/4	0.88 (22.35 mm)	0.44 (11.18 mm)
SLF6C	3/8	0.88 (22.35 mm)	0.69 (17.02 mm)
SLF8C	1/2	0.94 (23.88 mm)	0.88 (22.35 mm)
SLF12C	3/4	1.00 (25.40 mm)	1.13 (28.70 mm)
SLF16C	1	1.07 (27.18 mm)	1.38 (35.05 mm)

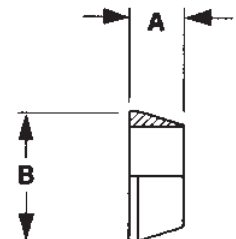
Material — PTFE



Ferrule

Part No.	O.D. Tube Size	A	B
IMP2F	1/8	0.20 (05.08 mm)	0.21 (05.33 mm)
IMP4F	1/4	0.20 (05.08 mm)	0.36 (09.14 mm)
IMP6F	3/8	0.26 (06.60 mm)	0.53 (13.46 mm)
IMP8F	1/2	0.28 (07.11 mm)	0.67 (17.02 mm)
IMP12F	3/4	0.34 (08.64 mm)	0.94 (23.88 mm)
IMP16F	1	0.37 (09.40 mm)	1.19 (30.23 mm)

Material — PTFE



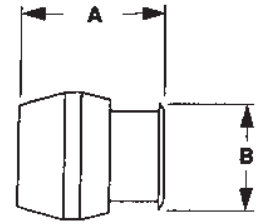
Note: All fittings are class 100 clean room assembled and double bagged.

Grab Seal™ Manifold Tee

Plug

Part No.	O.D. Tube Size	A	B
IMP2P	1/8	0.39 (09.91 mm)	0.22 (02.59 mm)
IMP4P	1/4	0.57 (14.48 mm)	0.36 (09.14 mm)
IMP6P	3/8	0.71 (18.03 mm)	0.53 (13.46 mm)
IMP8P	1/2	0.75 (19.05 mm)	0.67 (17.02 mm)
IMP12P	3/4	0.88 (22.35 mm)	0.94 (23.88 mm)
IMP16P	1	0.88 (22.35 mm)	1.18 (29.97 mm)

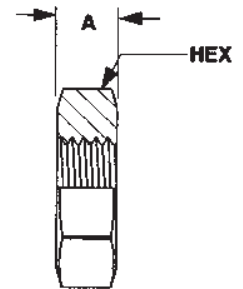
Material — PTFE



Panel Nut

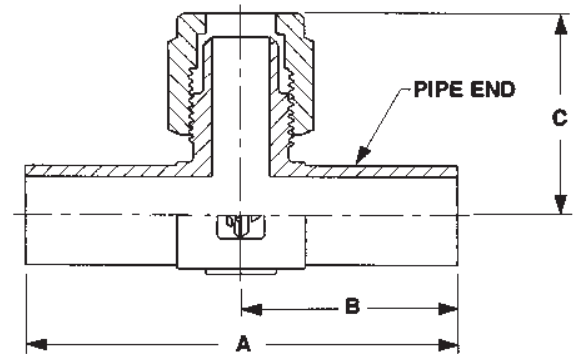
Part No.	O.D. Tube Size	A	Hex Flat
IMP2PN	1/8	0.25 (06.35 mm)	0.75
IMP4PN	1/4	0.25 (06.35 mm)	0.75
IMP6PN	3/8	0.25 (06.35 mm)	1.00
IMP8PN	1/2	0.25 (06.35 mm)	1.25
IMP12PN	3/4	0.25 (06.35 mm)	1.62
IMP16PN	1	0.25 (06.35 mm)	1.62

Material — PVC



Manifold Tee

Male Flare Connector
Fusible Pipe End



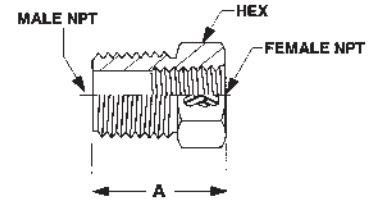
Part No.	O.D. Tube Size	Pipe Size	Orifice	A	B	C
FMP68MT	3/8	1/2	0.25 (06.35mm)	3.94 (100.08mm)	1.97 (50.04mm)	1.50 (38.10mm)
FMP812MT	1/2	3/4	0.38 (09.65mm)	4.12 (104.65mm)	2.06 (52.32mm)	1.75 (44.45mm)
FMP1212MT	3/4	3/4	0.63 (16.00mm)	4.60 (116.84mm)	2.30 (58.42mm)	2.13 (54.10mm)
FMP1216MT	3/4	1	0.63 (16.00mm)	4.38 (111.25mm)	2.19 (55.63mm)	2.00 (50.80mm)
FMP1624MT	1	1-1/2	0.88 (22.35mm)	4.62 (117.34mm)	2.31 (58.67mm)	2.42 (61.47mm)

Note: All fittings are class 100 clean room assembled and double bagged.

Pipe PFA Fittings, Molded

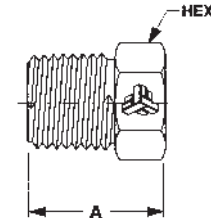
Bushing

<i>Part No.</i>	<i>Male NPT Size</i>	<i>Female NPT Size</i>	<i>A</i>	<i>Hex Flat</i>
MPF42B	1/4	1/8	0.94 (23.88 mm)	0.56
MPF64B	3/8	1/4	1.00 (25.40 mm)	0.68
MPF84B	1/2	1/4	1.00 (25.40 mm)	1.00
MPF86B	1/2	3/8	1.00 (25.40 mm)	1.00
MPF128B	3/4	1/2	1.13 (28.70 mm)	1.25



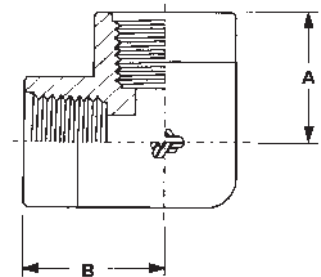
Plug

<i>Part No.</i>	<i>Male NPT Size</i>	<i>A</i>	<i>Hex Flat</i>
MPF4P	1/4	0.75 (19.05 mm)	0.50
MPF6P	3/8	0.88 (22.35 mm)	0.68
MPF8P	1/2	1.00 (25.40 mm)	0.88



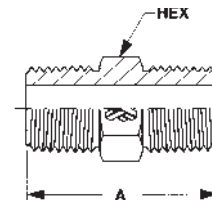
Elbow

<i>Part No.</i>	<i>Female NPT Size</i>	<i>A</i>	<i>B</i>
MFP4E	1/4	0.81 (20.64 mm)	0.81 (20.64 mm)
MFP8E	1/2	1.13 (28.70 mm)	1.13 (28.70 mm)



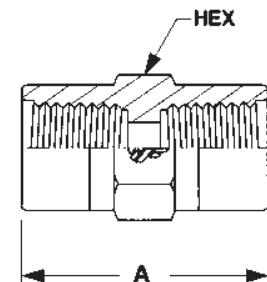
Nipple

<i>Part No.</i>	<i>Male NPT Size</i>	<i>A</i>	<i>Hex Flat</i>
MPF4N	1/4	1.25 (31.75 mm)	0.50
MPF6N	3/8	1.38 (35.05 mm)	0.68
MPF8N	1/2	1.68 (42.67 mm)	0.87
MPF12N	3/4	1.88 (47.75 mm)	1.25



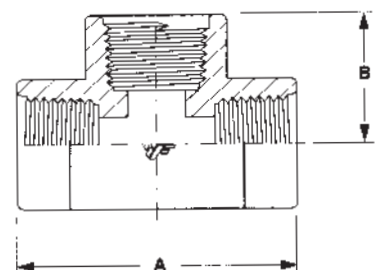
Coupling

<i>Part No.</i>	<i>Male NPT Size</i>	<i>A</i>	<i>Hex Flat</i>
MPF4C	1/4	1.50 (38.10 mm)	0.81
MPF8C	1/2	1.50 (38.10 mm)	1.25



Tee

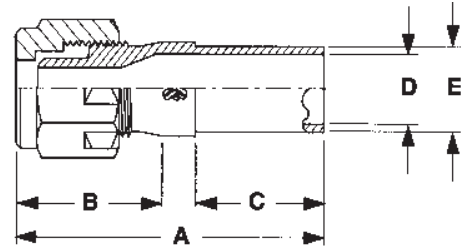
<i>Part No.</i>	<i>Male NPT Size</i>	<i>A</i>	<i>B</i>
MPF4T	1/4	1.63 (41.40 mm)	0.81 (20.64 mm)
MPF8T	1/2	2.25 (57.15 mm)	1.13 (28.70 mm)



Note: All fittings are class 100 clean room assembled and double bagged.

Transition PVDF Fitting

Male Flare Connector
Fusible Pipe End



Part No.	O.D. Tube Size	Pipe Size	Orifice	A	B	C	D	E
TFS4-20 mm	1/4	20 mm	0.15 (03.30 mm)	3.33 (84.58 mm)	1.45 (36.83 mm)	1.50 (38.10 mm)	0.64 (16.26 mm)	0.79 (20.06 mm)
TFS4-25 mm	1/4	25 mm	0.15 (03.30 mm)	3.24 (82.30 mm)	1.36 (34.54 mm)	1.50 (38.10 mm)	0.82 (20.83 mm)	0.98 (24.89 mm)
TFS6-20 mm	3/8	20 mm	0.25 (06.35 mm)	3.42 (86.87 mm)	1.55 (39.37 mm)	1.50 (38.10 mm)	0.64 (16.26 mm)	0.79 (20.06 mm)
TFS6-25 mm	3/8	25 mm	0.25 (06.35 mm)	3.33 (84.58 mm)	1.45 (36.83 mm)	1.50 (38.10 mm)	0.82 (20.83 mm)	0.98 (24.89 mm)
TFS8-20 mm	1/2	20 mm	0.38 (09.63 mm)	3.58 (90.93 mm)	1.70 (43.18 mm)	1.50 (38.10 mm)	0.64 (16.26 mm)	0.79 (20.06 mm)
TFS8-25 mm	1/2	25 mm	0.38 (09.63 mm)	3.54 (89.92 mm)	1.66 (42.16 mm)	1.50 (38.10 mm)	0.82 (20.83 mm)	0.98 (24.89 mm)
TFS8-32 mm	1/2	32 mm	0.38 (09.63 mm)	3.54 (89.92 mm)	1.66 (42.16 mm)	1.50 (38.10 mm)	1.07 (27.18 mm)	1.26 (32.00 mm)
TFS12-20 mm	3/4	20 mm	0.63 (16.00 mm)	3.67 (93.22 mm)	1.46 (37.08 mm)	1.50 (38.10 mm)	0.64 (16.26 mm)	0.79 (20.06 mm)
TFS12-25 mm	3/4	25 mm	0.63 (16.00 mm)	3.67 (93.22 mm)	1.46 (37.08 mm)	1.50 (38.10 mm)	0.82 (20.83 mm)	0.98 (24.89 mm)
TFS12-32 mm	3/4	32 mm	0.63 (16.00 mm)	3.67 (93.22 mm)	1.46 (37.08 mm)	1.50 (38.10 mm)	1.07 (27.18 mm)	1.26 (32.00 mm)
TFS16-25 mm	1	25 mm	0.88 (22.50 mm)	3.75 (95.25 mm)	1.62 (41.15 mm)	1.50 (38.10 mm)	0.82 (20.83 mm)	0.98 (24.89 mm)
TFS16-32 mm	1	32 mm	0.88 (22.50 mm)	3.75 (95.25 mm)	1.87 (47.50 mm)	1.50 (38.10 mm)	1.07 (27.18 mm)	1.26 (32.00 mm)

Materials — PVDF Body; ETFE Nut

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