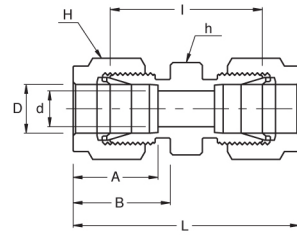


***Union & Connector***



## PAP-U Union



### Connects Fractional Tubes

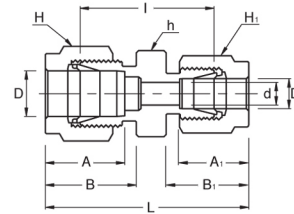
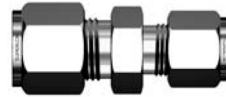
Part No.	Tube O.D. D (inch)	d Min	Width Across Flat		A	B	I	L
			h (inch)	H (inch)				
PAP-U -1	1/16	1.27	5/16	5/16	8.63	10.92	17.52	25.15
PAP-U -2	1/8	2.28	7/16	7/16	12.70	15.24	22.35	35.56
PAP-U -3	3/16	3.04	7/16	1/2	13.71	16.00	24.13	37.33
PAP-U -4	1/4	4.82	1/2	9/16	15.24	17.78	26.16	40.89
PAP-U -5	5/16	6.35	9/16	5/8	16.25	18.54	28.19	42.92
PAP-U -6	3/8	7.11	5/8	11/16	16.76	19.30	30.22	44.95
PAP-U -8	1/2	10.41	13/16	7/8	22.86	21.84	30.98	51.30
PAP-U -10	5/8	12.70	15/16	1	24.38	21.84	31.75	52.07
PAP-U -12	3/4	15.74	1-1/16	1-1/8	24.38	21.84	33.27	53.59
PAP-U -14	7/8	18.28	1-3/16	1-1/4	25.90	21.84	34.79	55.11
PAP-U -16	1	22.35	1-3/8	1-1/2	31.24	26.41	40.38	64.77
PAP-U -20	1-1/4	27.69	1-3/4	1-7/8	41.15	38.86	48.00	92.20
PAP-U -24	1-1/2	34.04	2-1/8	2-1/4	50.04	45.21	53.59	107.95
PAP-U -32	2	45.97	2-3/4	3	67.56	62.74	74.68	149.35

### Connects Metric Tubes

Part No.	Tube O.D. D	d Min	Width Across Flat		A	B	I	L
			h	H				
PAP-U - 2M	2	1.7	12	12	12.9	15.3	22.4	35.6
PAP-U - 3M	3	2.4	12	12	12.9	15.3	22.1	35.3
PAP-U - 4M	4	2.4	12	12	13.7	16.1	24.1	37.3
PAP-U - 6M	6	4.8	14	14	15.3	17.7	26.2	41.0
PAP-U - 8M	8	6.4	15	16	16.2	18.6	28.2	43.2
PAP-U -10M	10	7.9	18	19	17.2	19.5	31.0	46.2
PAP-U -12M	12	9.5	22	22	22.8	22.0	31.0	51.2
PAP-U -15M	15	11.9	24	25	24.4	22.0	31.8	52.0
PAP-U -16M	16	12.7	24	25	24.4	22.0	31.8	52.0
PAP-U -18M	18	15.1	27	30	24.4	22.0	33.3	53.5
PAP-U -20M	20	15.9	30	32	26.0	22.0	34.8	55.0
PAP-U -22M	22	18.3	30	32	26.0	22.0	34.8	55.0
PAP-U -25M	25	21.8	35	38	31.3	26.5	40.4	65.0

• All dimensions in millimeters unless specified as "inch"

**PAP-RU**  
**Reducing Union**



**Connects Fractional Tubes**

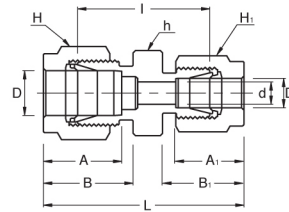
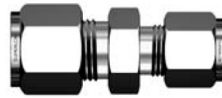
Part No.	Tube O.D.		d Min	Width Across Flat			A	A <sub>1</sub>	B	B <sub>1</sub>	I	L
	D (inch)	D <sub>1</sub> (inch)		h (inch)	H (inch)	H <sub>1</sub> (inch)						
PAP-RU 2- 1	1/8	1/16	1.27	7/16	7/16	5/16	12.7	8.63	15.24	10.92	20.60	31.00
PAP-RU 3- 2	3/16	1/8	2.28	7/16	1/2	7/16	13.71	12.70	16.00	15.24	23.36	36.57
PAP-RU 4- 2	1/4	1/8	2.28	1/2	9/16	7/16	15.24	12.70	17.78	15.24	24.63	38.60
PAP-RU 4- 3	1/4	3/16	3.04	1/2	9/16	1/2	15.24	13.71	17.78	16.00	25.40	39.37
PAP-RU 5- 2	5/16	1/8	2.28	9/16	5/8	7/16	16.25	12.70	18.54	15.24	25.90	39.87
PAP-RU 5- 4	5/16	1/4	4.82	9/16	5/8	9/16	16.25	15.24	18.54	17.78	27.43	42.16
PAP-RU 6- 2	3/8	1/8	2.28	5/8	11/16	7/16	16.76	12.70	19.30	15.24	26.92	40.89
PAP-RU 6- 4	3/8	1/4	4.82	5/8	11/16	9/16	16.76	15.24	19.30	17.78	28.44	43.18
PAP-RU 6- 5	3/8	5/16	6.35	5/8	11/16	5/8	16.76	16.25	19.30	18.54	29.46	44.19
PAP-RU 8- 2	1/2	1/8	2.28	13/16	7/8	7/16	22.86	12.70	21.84	15.24	28.44	45.21
PAP-RU 8- 4	1/2	1/4	4.82	13/16	7/8	9/16	22.86	15.24	21.84	17.78	29.46	46.99
PAP-RU 8- 6	1/2	3/8	7.11	13/16	7/8	11/16	22.86	16.76	21.84	19.30	30.98	48.51
PAP-RU 10- 6	5/8	3/8	7.11	15/16	1	11/16	24.38	16.76	21.84	19.30	31.75	49.27
PAP-RU 10- 8	5/8	1/2	10.41	15/16	1	7/8	24.38	22.86	21.84	21.84	31.75	52.07
PAP-RU 12- 4	3/4	1/4	4.82	1-1/16	1-1/8	9/16	24.38	15.24	21.84	17.78	31.75	49.27
PAP-RU 12- 6	3/4	3/8	7.11	1-1/16	1-1/8	11/16	24.38	16.76	21.84	19.30	33.27	50.80
PAP-RU 12- 8	3/4	1/2	10.41	1-1/16	1-1/8	7/8	24.38	22.86	21.84	21.84	33.27	53.59
PAP-RU 12- 10	3/4	5/8	12.70	1-1/16	1-1/8	1	24.38	24.38	21.84	21.84	33.27	53.59
PAP-RU 18- 8	1	1/2	10.41	1-3/8	1-1/2	7/8	31.24	22.86	26.41	21.84	39.50	63.24
PAP-RU 16- 12	1	3/4	15.74	1-3/8	1-1/2	1-1/8	31.24	24.38	26.41	21.84	39.00	62.73

**Connects Metric Tubes**

Part No.	Tube O.D.		d Min	Width Across Flat			A	A <sub>1</sub>	B	B <sub>1</sub>	I	L
	D	D <sub>1</sub>		h	H	H <sub>1</sub>						
PAP-RU 6M- 3M	6	3	2.4	14	14	12	15.3	12.9	17.7	15.3	24.6	38.6
PAP-RU 6M- 4M	6	4	2.4	14	14	12	15.3	13.7	17.7	16.1	25.4	39.4
PAP-RU 8M- 6M	8	6	4.8	15	16	14	16.2	15.3	18.6	17.7	27.4	42.3
PAP-RU 10M- 6M	10	6	4.8	18	19	14	17.2	15.3	19.5	17.7	29.5	44.5
PAP-RU 10M- 8M	10	8	6.4	18	19	16	17.2	16.2	19.5	18.6	30.0	45.1
PAP-RU12M- 6M	12	6	4.8	22	22	14	22.8	15.3	22.0	17.7	29.5	47.0
PAP-RU12M- 8M	12	8	6.4	22	22	16	22.8	16.2	22.0	18.6	30.2	47.8
PAP-RU12M-10M	12	10	7.9	22	22	19	22.8	17.2	22.0	19.5	31.0	48.7
PAP-RU16M-12M	16	12	9.5	24	25	22	24.4	22.8	22.0	22.0	31.8	52.0
PAP-RU25M-18M	25	18	15.1	35	38	30	31.3	24.4	26.5	22.0	38.6	61.0
PAP-RU25M-20M	25	20	15.9	35	38	32	31.3	26.0	26.5	22.0	39.9	62.3

• All dimensions in millimeters unless specified as "inch"

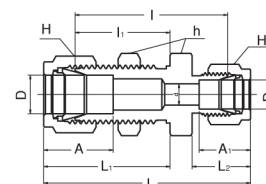
## PAP-RU Reducing Union



### Connects Metric Tubes To Fractional Tubes

Part No.	Tube O.D.		d Min	Width Across Flat			A	A <sub>1</sub>	B	B <sub>1</sub>	I	L
	D	D <sub>1</sub> (inch)		h	H	H <sub>1</sub>						
PAP-RU 3M - 2	3	1/8	2.4	12	12	11.1	12.9	12.8	15.3	15.2	22.1	35.2
PAP-RU 4M - 2	4	1/8	2.4	12	12	11.1	13.7	12.8	16.1	15.2	23.4	36.5
PAP-RU 4M - 4	4	1/4	2.4	14	12	14.3	13.7	15.3	16.1	17.7	25.4	39.4
PAP-RU 6M - 2	6	1/8	2.4	14	14	11.1	15.3	12.8	17.7	15.2	24.6	38.5
PAP-RU 6M - 4	6	1/4	4.8	14	14	14.3	15.3	15.3	17.7	17.7	26.2	41.0
PAP-RU 6M - 5	6	5/16	4.8	14	14	15.9	15.3	16.2	17.7	18.6	27.4	42.3
PAP-RU 8M - 4	8	1/4	4.8	15	16	14.3	16.2	15.3	18.6	17.7	27.4	42.3
PAP-RU 10M - 2	10	1/8	2.4	18	19	11.1	17.2	12.8	19.5	15.2	27.7	41.8
PAP-RU 10M - 4	10	1/4	4.8	18	19	14.3	17.2	15.3	19.5	17.7	29.5	44.5
PAP-RU 10M - 5	10	5/16	6.4	18	19	15.9	17.2	16.2	19.5	18.6	30.0	45.1
PAP-RU 10M - 6	10	3/8	7.1	18	19	17.5	17.2	16.9	19.5	19.2	31.0	45.9
PAP-RU 12M - 5	12	5/16	6.4	22	22	15.9	22.8	16.2	22.0	18.6	30.2	47.8
PAP-RU 12M - 6	12	3/8	7.1	22	22	17.5	22.8	16.9	22.0	19.2	31.0	48.4
PAP-RU 12M - 8	12	1/2	9.5	22	22	22.2	22.8	22.8	22.0	22.0	31.0	51.2
PAP-RU 15M - 8	15	1/2	10.3	24	25	22.2	24.4	22.8	22.0	22.0	31.8	52.0
PAP-RU 16M -10	16	5/8	12.7	24	25	25.4	24.4	24.4	22.0	22.0	31.8	52.0
PAP-RU 18M -12	18	3/4	15.1	27	30	28.6	24.4	24.4	22.0	22.0	33.3	53.5
PAP-RU 20M -12	20	3/4	15.9	30	32	28.6	26.0	24.4	22.0	22.0	34.8	54.9
PAP-RU 20M -16	20	1	15.9	35	32	38.1	26.0	31.2	22.0	26.4	40.4	62.8
PAP-RU 25M -16	25	1	21.8	35	38	38.1	31.3	31.3	26.5	26.5	40.4	65.0

## PAP-BHRU Bulkhead Reducing Union



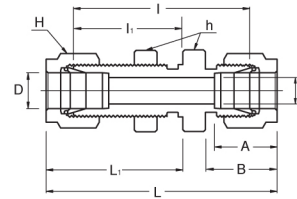
### Connects Fractional Tubes

Part No.	Tube O.D.		d Min	Width Across Flat			A	A <sub>1</sub>	I	I <sub>1</sub>	L	L <sub>1</sub>	L <sub>2</sub>	Panel Hole Drill Size	Panel Max. Thickness
	D (inch)	D <sub>1</sub> (inch)		h (inch)	H (inch)	H <sub>1</sub> (inch)									
PAP-BHRU 4 - 2	1/4	1/8	2.28	5/8	9/16	7/16	15.24	12.70	41.14	26.16	55.11	33.52	15.24	11.50	10.16
PAP-BHRU 6 - 4	3/8	1/4	4.82	3/4	11/16	9/16	16.76	15.24	45.97	29.46	60.70	36.57	17.78	14.68	11.17
PAP-BHRU 8 - 4	1/2	1/4	4.82	15/16	7/8	9/16	22.86	15.24	49.27	31.75	66.80	41.91	17.78	19.44	12.70

• All dimensions in millimeters unless specified as "inch"



**PAP-BHU**  
**Bulkhead Union**



**Connects Fractional Tubes**

Part No.	Tube O.D. D (inch)	d Min	Width Across Flat		A	B	I	h	L	L <sub>1</sub>	Panel Hole Drill Size	Panel Max. Thickness
			h (inch)	H (inch)								
PAP-BHU - 1	1/16	1.27	5/16	5/16	8.63	10.92	23.87	13.46	31.50	17.27	5.16	3.05
PAP-BHU - 2	1/8	2.28	1/2	7/16	12.70	15.24	38.10	24.63	51.30	31.24	8.33	12.70
PAP-BHU - 3	3/16	3.04	9/16	1/2	13.71	16.00	40.38	25.40	53.59	32.00	9.92	12.70
PAP-BHU - 4	1/4	4.82	5/8	9/16	15.24	17.78	42.92	26.16	57.65	33.52	11.50	10.16
PAP-BHU - 5	5/16	6.35	11/16	5/8	16.25	18.54	45.97	28.44	60.70	35.81	13.09	11.17
PAP-BHU - 6	3/8	7.11	3/4	11/16	16.76	19.30	47.49	29.46	62.23	36.83	14.68	11.17
PAP-BHU - 8	1/2	10.41	15/16	7/8	22.86	21.84	50.80	31.75	71.12	41.91	19.44	12.70
PAP-BHU - 10	5/8	12.70	1-1/16	1	24.38	21.84	52.32	32.51	72.64	42.67	22.62	12.70
PAP-BHU - 12	3/4	15.74	1-3/16	1-1/8	24.38	21.84	58.67	37.33	78.99	47.49	25.79	16.76
PAP-BHU - 14	7/8	18.28	1-3/8	1-1/4	25.90	21.84	64.26	42.92	84.58	53.08	28.97	19.05
PAP-BHU - 16	1	22.35	1-5/8	1-1/2	31.24	26.41	71.37	45.21	95.75	57.40	33.73	19.05

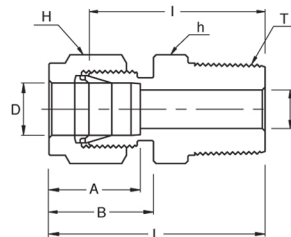
**Connects Metric Tubes**

Part No.	Tube O.D. D	d Min	Width Across Flat			A	B	I	h	L	L <sub>1</sub>	Panel Hole Drill Size	Panel Max. Thickness
			h	h <sub>1</sub> *	H								
PAP-BHU - 3M	3	2.4	14	12.7	12	12.9	15.3	38.1	24.6	51.3	31.2	8.3	12.7
PAP-BHU - 4M	4	2.4	14	14.3	12	13.7	16.1	40.4	25.4	53.6	32.0	9.9	12.7
PAP-BHU - 6M	6	4.8	16	15.9	14	15.3	17.7	42.9	26.2	57.7	33.6	11.5	10.2
PAP-BHU - 8M	8	6.4	18	17.5	16	16.2	18.6	46.0	28.6	61.0	36.1	13.1	11.2
PAP-BHU - 10M	10	7.9	22	22.0	19	17.2	19.5	48.5	29.4	63.7	37.0	16.2	11.2
PAP-BHU - 12M	12	9.5	24	23.8	22	22.8	22.0	50.8	31.8	71.0	41.9	19.5	12.7
PAP-BHU - 15M	15	11.9	27	27.0	25	24.4	22.0	52.3	32.5	72.5	42.6	22.8	12.7
PAP-BHU - 16M	16	12.7	27	27.0	25	24.4	22.0	52.3	32.5	72.5	42.6	22.8	12.7
PAP-BHU - 18M	18	15.1	30	30.0	30	24.4	22.0	58.7	37.3	78.9	47.4	26.0	16.8
PAP-BHU - 20M	20	15.9	35	35.0	32	26.0	22.0	64.3	42.9	84.5	53.0	29.0	17.0
PAP-BHU - 22M	22	18.3	35	35.0	32	26.0	22.0	64.3	42.9	84.5	53.0	29.0	19.1
PAP-BHU - 25M	25	21.8	41.3	41.3	38	31.3	26.5	71.4	45.2	95.9	57.5	33.7	19.1

h<sub>1</sub>\* : Metric Tubes Bulkhead Hexagon application only

\* All dimensions in millimeters unless specified as "inch"

## PAP-MC Male Connector

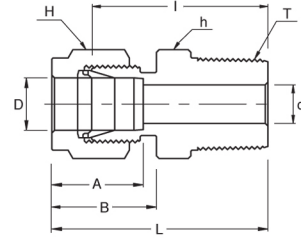


### Connects Fractional Tubes To Female NPT Thread

Part No.	Tube O.D. D (inch)	T (NPT)	d Min	Width Across Flat		A	B	I	L
				h (inch)	H (inch)				
PAP-MC 1- 1N	1/16	1/16	1.27	5/16	5/16	8.63	10.92	20.00	23.83
PAP-MC 1- 2N	1/16	1/8	1.27	7/16	7/16	8.63	10.92	22.35	26.23
PAP-MC 2- 2N	1/8	1/8	2.28	7/16	7/16	12.70	15.24	23.87	30.48
PAP-MC 2- 4N	1/8	1/4	2.28	9/16	7/16	12.70	15.24	28.95	35.56
PAP-MC 2- 6N	1/8	3/8	2.28	11/16	7/16	12.70	15.24	29.21	35.81
PAP-MC 2- 8N	1/8	1/2	2.28	7/8	7/16	12.70	15.24	35.56	42.16
PAP-MC 3- 2N	3/16	1/8	3.04	7/16	1/2	13.71	16.00	24.63	31.24
PAP-MC 3- 4N	3/16	1/4	3.04	9/16	1/2	13.71	16.00	29.71	36.32
PAP-MC 4- 2N	1/4	1/8	4.82	1/2	9/16	15.24	17.78	25.40	32.76
PAP-MC 4- 4N	1/4	1/4	4.82	9/16	9/16	15.24	17.78	30.48	37.84
PAP-MC 4- 6N	1/4	3/8	4.82	11/16	9/16	15.24	17.78	30.98	38.35
PAP-MC 4- 8N	1/4	1/2	4.82	7/8	9/16	15.24	17.78	37.33	44.70
PAP-MC 4- 12N	1/4	3/4	4.82	1-1/16	9/16	15.24	17.78	38.86	46.22
PAP-MC 5- 2N	5/16	1/8	4.82	9/16	5/8	16.25	18.54	26.67	34.03
PAP-MC 5- 4N	5/16	1/4	6.35	9/16	5/8	16.25	18.54	31.24	38.60
PAP-MC 5- 6N	5/16	3/8	6.35	11/16	5/8	16.25	18.54	31.75	39.11
PAP-MC 6- 2N	3/8	1/8	4.82	5/8	11/16	16.76	19.30	27.94	35.30
PAP-MC 6- 4N	3/8	1/4	7.11	5/8	11/16	16.76	19.30	32.51	39.87
PAP-MC 6- 6N	3/8	3/8	7.11	11/16	11/16	16.76	19.30	32.51	39.87
PAP-MC 6- 8N	3/8	1/2	7.11	7/8	11/16	16.76	19.30	38.86	46.22
PAP-MC 6- 12N	3/8	3/4	7.11	1-1/16	11/16	16.76	19.30	40.38	47.75
PAP-MC 8- 2N	1/2	1/8	4.82	13/16	7/8	22.86	21.84	28.70	38.86
PAP-MC 8- 4N	1/2	1/4	7.11	13/16	7/8	22.86	21.84	33.27	43.43
PAP-MC 8- 6N	1/2	3/8	9.65	13/16	7/8	22.86	21.84	33.27	43.43
PAP-MC 8- 8N	1/2	1/2	10.41	7/8	7/8	22.86	21.84	38.86	49.02
PAP-MC 8- 12N	1/2	3/4	10.41	1-1/16	7/8	22.86	21.84	40.38	50.54
PAP-MC 8- 16N	1/2	1	10.41	1-3/8	7/8	22.86	21.84	46.99	57.15
PAP-MC 10- 6N	5/8	3/8	9.65	15/16	1	24.38	21.84	34.03	44.19
PAP-MC 10- 8N	5/8	1/2	11.93	15/16	1	24.38	21.84	38.86	49.02
PAP-MC 10- 12N	5/8	3/4	12.70	1-1/16	1	24.38	21.84	40.38	50.54
PAP-MC 12- 8N	3/4	1/2	11.93	1-1/16	1-1/8	24.38	21.84	40.38	50.54
PAP-MC 10- 12N	3/4	3/4	15.74	1-1/16	1-1/8	24.38	21.84	40.38	50.54
PAP-MC 10- 16N	3/4	1	15.74	1-3/8	1-1/8	24.38	21.84	46.99	57.15
PAP-MC 14- 12N	7/8	3/4	15.74	1-3/16	1-1/4	25.90	21.84	40.38	50.54
PAP-MC 14- 16N	7/8	1	18.28	1-3/8	1-1/4	25.90	21.84	46.99	57.15
PAP-MC 16- 8N	1	1/2	11.93	1-3/8	1-1/2	31.24	26.41	45.21	57.40
PAP-MC 16- 12N	1	3/4	15.74	1-3/8	1-1/2	31.24	26.41	45.21	57.40
PAP-MC 16- 16N	1	1	22.35	1-3/8	1-1/2	31.24	26.41	50.03	62.23
PAP-MC 20- 16N	1-1/4	1	22.35	1-3/4	1-7/8	41.15	38.86	55.12	77.22
PAP-MC 20- 20N	1-1/4	1-1/4	27.69	1-3/4	1-7/8	41.15	38.86	55.12	77.22
PAP-MC 24- 24N	1-1/2	1-1/2	34.04	2-1/8	2-1/4	50.04	45.21	61.72	88.90
PAP-MC 32- 32N	2	2	45.97	2-3/4	3	67.56	62.74	76.20	113.54

• All dimensions in millimeters unless specified as "inch"

## PAP-MC Male Connector

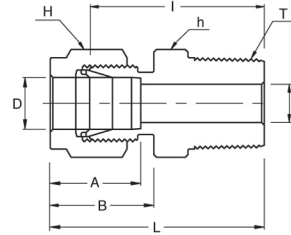
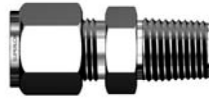


### Connects Fractional Tube To Female ISO Tapered Thread

Part No.	Tube O.D. D (inch)	T R (PT)	d Min	Width Across Flat		A	B	I	L
				h (inch)	H (inch)				
PAP-MC 2 - 2R	1/8	1/8	2.28	7/16	7/16	12.70	15.24	23.87	30.48
PAP-MC 2 - 4R	1/8	1/4	2.28	9/16	7/16	12.70	15.24	28.95	35.56
PAP-MC 4 - 2R	1/4	1/8	4.82	1/2	9/16	15.24	17.78	25.40	32.76
PAP-MC 4 - 4R	1/4	1/4	4.82	9/16	9/16	15.24	17.78	30.48	37.84
PAP-MC 4 - 6R	1/4	3/8	4.82	11/16	9/16	15.24	17.78	30.98	38.35
PAP-MC 4 - 8R	1/4	1/2	4.82	7/8	9/16	15.24	17.78	37.33	44.70
PAP-MC 5 - 2R	5/16	1/8	4.82	9/16	5/8	16.25	18.54	26.67	34.03
PAP-MC 5 - 4R	5/16	1/4	6.35	9/16	5/8	16.25	18.54	31.24	38.60
PAP-MC 6 - 2R	3/8	1/8	4.82	5/8	11/16	16.76	19.30	27.94	35.30
PAP-MC 6 - 4R	3/8	1/4	7.11	5/8	11/16	16.76	19.30	32.51	39.87
PAP-MC 6 - 6R	3/8	3/8	7.11	11/16	11/16	16.76	19.30	32.51	39.87
PAP-MC 6 - 8R	3/8	1/2	7.11	7/8	11/16	16.76	19.30	38.86	46.22
PAP-MC 8 - 4R	1/2	1/4	7.11	13/16	7/8	22.86	21.84	33.27	43.43
PAP-MC 8 - 6R	1/2	3/8	9.65	13/16	7/8	22.86	21.84	33.27	43.43
PAP-MC 8 - 8R	1/2	1/2	10.41	7/8	7/8	22.86	21.84	38.86	49.02
PAP-MC 8 - 12R	1/2	3/4	10.41	1-1/16	7/8	22.86	21.84	40.38	50.54
PAP-MC 12-12R	3/4	3/4	15.74	1-1/16	1-1/8	24.38	21.84	40.38	50.54
PAP-MC 16- 16R	1	1	22.35	1-3/8	1-1/2	31.24	26.41	50.03	62.23

• All dimensions in millimeters unless specified as "inch"

**PAP-MC**  
Male Connector



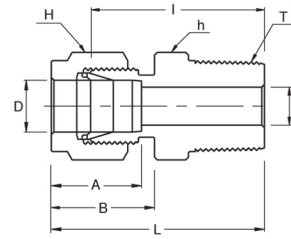
**Connects Metric Tube To Female NPT Thread**

Part No.	Tube O.D. D	T (NPT)	d Min	Width Across Flat		A	B	I	L
				h	H				
PAP-MC 2M- 2N	2	1/8	1.7	12	12	12.9	15.3	23.9	30.5
PAP-MC 3M- 2N	3	1/8	2.4	12	12	12.9	15.3	23.9	30.5
PAP-MC 3M- 4N	3	1/4	2.4	14	12	12.9	15.3	29.0	35.6
PAP-MC 4M- 2N	4	1/8	2.4	12	12	13.7	16.1	24.6	31.2
PAP-MC 4M- 4N	4	1/4	2.4	14	12	13.7	16.1	29.7	36.3
PAP-MC 6M- 2N	6	1/8	4.8	14	14	15.3	17.7	25.4	32.8
PAP-MC 6M- 4N	6	1/4	4.8	14	14	15.3	17.7	30.5	37.9
PAP-MC 6M- 6N	6	3/8	4.8	18	14	15.3	17.7	31.0	38.4
PAP-MC 6M- 8N	6	1/2	4.8	22	14	15.3	17.7	37.3	44.7
PAP-MC 8M- 2N	8	1/8	4.8	15	16	16.2	18.6	26.7	34.2
PAP-MC 8M- 4N	8	1/4	6.4	15	16	16.2	18.6	31.2	38.7
PAP-MC 8M- 6N	8	3/8	6.4	18	16	16.2	18.6	31.8	39.3
PAP-MC 8M- 8N	8	1/2	6.4	22	16	16.2	18.6	38.1	45.6
PAP-MC 10M- 2N	10	1/8	4.8	18	19	17.2	19.5	28.7	36.3
PAP-MC 10M- 4N	10	1/4	7.9	18	19	17.2	19.5	33.3	40.9
PAP-MC 10M- 6N	10	3/8	7.9	18	19	17.2	19.5	33.3	40.9
PAP-MC 10M- 8N	10	1/2	7.9	22	19	17.2	19.5	38.9	46.5
PAP-MC 12M- 2N	12	1/8	4.8	22	22	22.8	22.0	28.7	38.8
PAP-MC 12M- 4N	12	1/4	7.1	22	22	22.8	22.0	33.3	43.4
PAP-MC 12M- 6N	12	3/8	9.5	22	22	22.8	22.0	33.3	43.4
PAP-MC 12M- 8N	12	1/2	9.5	22	22	22.8	22.0	38.9	49.0
PAP-MC 12M- 12N	12	3/4	9.5	27	22	22.8	22.0	40.4	50.5
PAP-MC 14M- 4N	14	1/4	7.1	24	25	24.4	22.0	34.0	44.1
PAP-MC 14M- 6N	14	3/8	9.5	24	25	24.4	22.0	34.0	44.1
PAP-MC 14M- 8N	14	1/2	11.1	24	25	24.4	22.0	38.9	49.0
PAP-MC 16M- 6N	16	3/8	9.5	24	25	24.4	22.0	34.0	44.1
PAP-MC 16M- 8N	16	1/2	11.9	24	25	24.4	22.0	38.9	49.0
PAP-MC 16M- 12N	16	3/4	12.7	27	25	24.4	22.0	40.4	50.5
PAP-MC 18M- 8N	18	1/2	11.9	27	30	24.4	22.0	40.4	50.5
PAP-MC 18M- 12N	18	3/4	15.1	27	30	24.4	22.0	40.4	50.5
PAP-MC 20M- 8N	20	1/2	11.9	30	32	26.0	22.0	42.2	52.3
PAP-MC 20M- 12N	20	3/4	15.9	30	32	26.0	22.0	42.2	52.3
PAP-MC 22M- 12N	22	3/4	15.9	30	32	26.0	22.0	42.2	52.3
PAP-MC 22M- 16N	22	1	18.3	35	32	26.0	22.0	47.0	57.1
PAP-MC 25M- 12N	25	3/4	15.9	35	38	31.3	26.5	45.2	57.5
PAP-MC 25M- 16N	25	1	21.8	35	38	31.3	26.5	50.0	62.3
PAP-MC 28M- 16N	28	1	21.8	41	46	36.6	36.6	51.6	72.4
PAP-MC 28M- 20N	28	1-1/4	21.8	46	46	36.6	36.6	52.3	73.1
PAP-MC 30M- 20N	30	1-1/4	26.2	46	50	39.6	39.2	55.6	77.2
PAP-MC 32M- 20N	32	1-1/4	28.6	46	50	42.0	41.6	56.6	79.6
PAP-MC 38M- 24N	38	1-1/2	33.7	55	60	49.4	47.9	64.0	91.6

• All dimensions in millimeters unless specified as "inch"



**PAP-MC**  
**Male Connector**

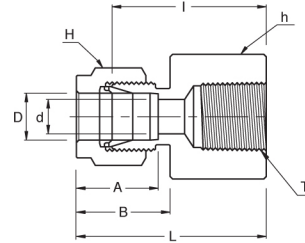


**Connects Metric Tube To Female ISO Tapered Thread**

Part No.	Tube O.D. D	T R (PT)	d Min	Width Across Flat		A	B	I	L
				h	H				
PAP-MC 2M - 2R	2	1/8	1.7	12	12	12.9	15.3	23.9	30.5
PAP-MC 3M - 2R	3	1/8	2.4	12	12	12.9	15.3	23.9	30.5
PAP-MC 3M - 4R	3	1/4	2.4	14	12	12.9	15.3	29.0	35.6
PAP-MC 4M - 2R	4	1/8	2.4	12	12	13.7	16.1	24.6	31.2
PAP-MC 4M - 4R	4	1/4	2.4	14	12	13.7	16.1	29.7	36.3
PAP-MC 6M - 2R	6	1/8	4.8	14	14	15.3	17.7	25.4	32.8
PAP-MC 6M - 4R	6	1/4	4.8	14	14	15.3	17.7	30.5	37.9
PAP-MC 6M - 6R	6	3/8	4.8	18	14	15.3	17.7	31.0	38.4
PAP-MC 6M - 8R	6	1/2	4.8	22	14	15.3	17.7	37.3	44.7
PAP-MC 8M - 2R	8	1/8	4.8	15	16	16.2	18.6	26.7	34.2
PAP-MC 8M - 4R	8	1/4	6.4	15	16	16.2	18.6	31.2	38.7
PAP-MC 8M - 6R	8	3/8	6.4	18	16	16.2	18.6	31.8	39.3
PAP-MC 8M - 8R	8	1/2	6.4	22	16	16.2	18.6	38.1	45.6
PAP-MC 10M - 2R	10	1/8	4.8	18	19	17.2	19.5	28.7	36.3
PAP-MC 10M - 4R	10	1/4	7.9	18	19	17.2	19.5	33.3	40.9
PAP-MC 10M - 6R	10	3/8	7.9	18	19	17.2	19.5	33.3	40.9
PAP-MC 10M - 8R	10	1/2	7.9	22	19	17.2	19.5	38.9	46.5
PAP-MC 12M - 4R	12	1/4	7.1	22	22	22.8	22.0	33.3	43.4
PAP-MC 12M - 6R	12	3/8	9.5	22	22	22.8	22.0	33.3	43.4
PAP-MC 12M - 8R	12	1/2	9.5	22	22	22.8	22.0	38.9	49.0
PAP-MC 12M - 12R	12	3/4	9.5	27	22	22.8	22.0	40.4	50.5
PAP-MC 15M - 8R	15	1/2	11.9	24	25	24.4	22.0	38.9	49.0
PAP-MC 16M - 4R	16	1/4	7.1	24	25	24.4	22.0	34.0	44.1
PAP-MC 16M - 6R	16	3/8	9.5	24	25	24.4	22.0	34.0	44.1
PAP-MC 16M - 8R	16	1/2	11.9	24	25	24.4	22.0	38.9	49.0
PAP-MC 16M - 12R	16	3/4	12.7	27	25	24.4	22.0	40.4	50.5
PAP-MC 18M - 8R	18	1/2	11.9	27	30	24.4	22.0	40.4	50.5
PAP-MC 16M - 12R	18	3/4	15.1	27	30	24.4	22.0	40.4	50.5
PAP-MC 20M - 8R	20	1/2	11.9	30	32	26.0	22.0	42.2	52.3
PAP-MC 20M - 12R	20	3/4	15.9	30	32	26.0	22.0	42.2	52.3
PAP-MC 22M - 12R	22	3/4	15.9	30	32	26.0	22.0	42.2	52.3
PAP-MC 22M - 16R	22	1	18.3	35	32	26.0	22.0	47.0	57.1
PAP-MC 25M - 12R	25	3/4	15.9	35	38	31.3	26.5	45.2	57.5
PAP-MC 25M - 16R	25	1	21.8	35	38	31.3	26.5	50.0	62.3
PAP-MC 28M - 16R	28	1	21.8	41	46	36.6	36.6	51.6	72.4
PAP-MC 28M - 20R	28	1-1/4	21.8	46	46	36.6	36.6	52.3	73.1
PAP-MC 30M - 20R	30	1-1/4	26.2	46	50	39.6	39.2	55.6	77.2
PAP-MC 32M - 20R	32	1-1/4	28.6	46	50	42.0	41.6	56.6	79.6
PAP-MC 38M - 24R	38	1-1/2	33.7	55	60	49.4	47.9	64.0	91.6

• All dimensions in millimeters unless specified as "inch"

## PAP-FC Female Connector



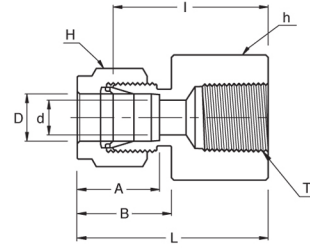
### Connects Fractional Tubes To Male NPT Thread

Part No.	Tube O.D. D (inch)	T* (NPT)	d Min	Width Across Flat		A	B	I	L
				h (inch)	H (inch)				
PAP-FC 2 - 2N	1/8	1/8	2.28	9/16	7/16	12.70	15.24	22.09	28.70
PAP-FC 2 - 4N	1/8	1/4	2.28	3/4	7/16	12.70	15.24	26.92	33.52
PAP-FC 3 - 2N	3/16	1/8	3.04	9/16	1/2	13.71	16.00	23.11	29.71
PAP-FC 4 - 2N	1/4	1/8	4.82	9/16	9/16	15.24	17.78	23.87	31.24
PAP-FC 4 - 4N	1/4	1/4	4.82	3/4	9/16	15.24	17.78	28.44	35.81
PAP-FC 4 - 6N	1/4	3/8	4.82	7/8	9/16	15.24	17.78	30.22	37.59
PAP-FC 4 - 8N	1/4	1/2	4.82	1-1/16	9/16	15.24	17.78	35.05	42.41
PAP-FC 5 - 2N	5/16	1/8	6.35	9/16	5/8	16.25	18.54	24.63	32.00
PAP-FC 4 - 4N	5/16	1/4	6.35	3/4	5/8	16.25	18.54	29.46	36.83
PAP-FC 6 - 2N	3/8	1/8	7.11	5/8	11/16	16.76	19.30	25.40	32.76
PAP-FC 6 - 4N	3/8	1/4	7.11	3/4	11/16	16.76	19.30	30.22	37.59
PAP-FC 6 - 6N	3/8	3/8	7.11	7/8	11/16	16.76	19.30	31.75	39.11
PAP-FC 6 - 8N	3/8	1/2	7.11	1-1/16	11/16	16.76	19.30	36.57	43.94
PAP-FC 4 - 12N	3/8	3/4	7.11	1-5/16	11/16	16.76	19.30	40.38	47.75
PAP-FC 8 - 4N	1/2	1/4	10.41	13/16	7/8	22.86	21.84	30.22	40.38
PAP-FC 8 - 6N	1/2	3/8	10.41	7/8	7/8	22.86	21.84	31.75	41.91
PAP-FC 8 - 8N	1/2	1/2	10.41	1-1/16	7/8	22.86	21.84	36.57	46.73
PAP-FC 8 - 12N	1/2	3/4	10.41	1-5/16	7/8	22.86	21.84	38.10	48.26
PAP-FC 10 - 6N	5/8	3/8	12.70	15/16	1	24.38	21.84	31.75	41.91
PAP-FC 10 - 8N	5/8	1/2	12.70	1-1/16	1	24.38	21.84	36.57	46.73
PAP-FC 12 - 8N	3/4	1/2	15.74	1-1/16	1-1/8	24.38	21.84	36.57	46.73
PAP-FC 12 - 12N	3/4	3/4	15.74	1-5/16	1-1/8	24.38	21.84	38.10	48.26
PAP-FC 14 - 12N	7/8	3/4	18.28	1-5/16	1-1/4	25.90	21.84	39.62	49.78
PAP-FC 16 - 12N	1	3/4	22.35	1-3/8	1-1/2	31.24	26.41	41.14	53.34
PAP-FC 16 - 16N	1	1	22.35	1-5/8	1-1/2	31.24	26.41	50.03	62.23

\* ISO Tapered Threads are available upon request

• All dimensions in millimeters unless specified as "inch"

**PAP-FC**  
**Female Connector**



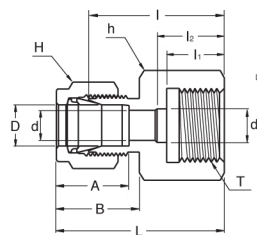
**Connects Metric Tubes To Male ISO Tapered Thread**

Part No.	Tube O.D. D	T + R (PT)	d Min	Width Across Flat		A	B	I	L
				h	H				
PAP-FC 3M - 2R	3	1/8	2.4	14	12	12.9	15.3	22.1	28.7
PAP-FC 3M - 4R	3	1/4	2.4	19	12	12.9	15.3	26.9	33.5
PAP-FC 4M - 2R	4	1/8	2.4	14	12	13.7	16.1	23.1	29.7
PAP-FC 6M - 2R	6	1/8	4.8	14	14	15.3	17.7	23.9	31.3
PAP-FC 6M - 4R	6	1/4	4.8	19	14	15.3	17.7	28.4	35.8
PAP-FC 6M - 6R	6	3/8	4.8	22	14	15.3	17.7	30.2	37.6
PAP-FC 6M - 8R	6	1/2	4.8	27	14	15.3	17.7	35.1	42.5
PAP-FC 8M - 2R	8	1/8	6.4	15	16	16.2	18.6	24.6	32.1
PAP-FC 8M - 4R	8	1/4	6.4	19	16	16.2	18.6	29.5	37.0
PAP-FC 8M - 6R	8	3/8	6.4	22	16	16.2	18.6	31.0	38.5
PAP-FC 8M - 8R	8	1/2	6.4	27	16	16.2	18.6	35.8	43.3
PAP-FC 10M - 2R	10	1/8	7.9	18	19	17.2	19.5	25.4	33.0
PAP-FC 10M - 4R	10	1/4	7.9	19	19	17.2	19.5	30.2	37.8
PAP-FC 10M - 6R	10	3/8	7.9	22	19	17.2	19.5	31.8	39.4
PAP-FC 10M - 8R	10	1/2	7.9	27	19	17.2	19.5	36.6	44.2
PAP-FC 12M - 2R	12	1/8	8.3	22	22	22.8	22.0	25.4	35.5
PAP-FC 12M - 4R	12	1/4	9.5	22	22	22.8	22.0	30.2	40.3
PAP-FC 12M - 6R	12	3/8	9.5	22	22	22.8	22.0	31.8	41.9
PAP-FC 12M - 8R	12	1/2	9.5	27	22	22.8	22.0	36.6	46.7
PAP-FC 12M - 12R	12	3/4	9.5	35	22	22.8	22.0	38.9	49.0
PAP-FC 15M - 8R	15	1/2	11.9	27	25	24.4	22.0	36.6	46.7
PAP-FC 16M - 8R	16	1/2	12.7	27	25	24.4	22.0	36.8	46.9
PAP-FC 20M - 8R	20	1/2	15.9	30	32	26.0	22.0	37.8	47.9
PAP-FC 20M - 12R	20	3/4	15.9	35	32	26.0	22.0	39.6	49.7
PAP-FC 22M - 12R	22	3/4	18.3	35	32	26.0	22.0	39.6	49.7
PAP-FC 22M - 16R	22	1	18.3	41	32	26.0	22.0	47.8	57.9
PAP-FC 25M - 12R	25	3/4	21.8	35	38	31.3	26.5	41.1	53.4
PAP-FC 25M - 16R	25	1	21.8	41	38	31.3	26.5	50.0	62.3

\* NPT Threads are available upon request

• All dimensions in millimeters unless specified as "inch"

## PAP-GC Gauge Connector



### Connects Fractional Tubes To ISO Parallel Thread

Part No.	Tube O.D. D (inch)	T G (PF)	d Min	d <sub>1</sub>	Width Across Flat		A	B	I	I <sub>1</sub>	I <sub>2</sub>	L
					h (inch)	H (inch)						
PAP-GC 2- 4G	1/4	1/4	4.82	5.58	3/4	9/16	15.24	17.78	30.22	13.00	17.00	37.59
PAP-GC 4- 6G	1/4	3/8	4.82	6.60	15/16	9/16	15.24	17.78	30.22	14.20	20.30	37.59
PAP-GC 4- 8G	1/4	1/2	4.82	6.60	1-1/16	9/16	15.24	17.78	36.07	18.80	24.90	43.43
PAP-GC 5- 4G	5/16	1/4	5.58	-	3/4	5/8	16.25	18.54	30.98	13.00	-	38.35
PAP-GC 5- 8G	5/16	1/2	7.11	-	1-1/16	5/8	16.25	18.54	33.53	18.80	-	40.89
PAP-GC 6- 4G	3/8	1/4	5.58	-	3/4	11/16	16.76	19.30	31.75	13.00	-	39.12
PAP-GC 6- 6G	3/8	3/8	6.60	-	15/16	11/16	16.76	19.30	31.24	14.20	-	38.61
PAP-GC 6- 8G	3/8	1/2	7.11	-	1-1/16	11/16	16.76	19.30	34.54	18.80	-	41.91
PAP-GC 8- 4G	1/2	1/4	5.58	-	7/8	7/8	22.86	21.84	31.80	13.00	-	41.95
PAP-GC 8- 6G	1/2	3/8	6.60	-	15/16	7/8	22.86	21.84	34.29	14.20	-	44.45
PAP-GC 8- 8G	1/2	1/2	7.11	7.11	1-1/16	7/8	22.86	21.84	38.10	18.80	-	48.26

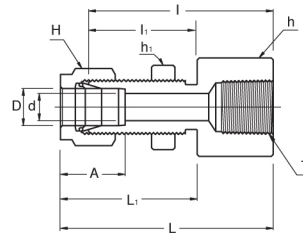
### Connects Metric Tubes To ISO Parallel Thread

Part No.	Tube O.D. D	T G (PF)	d Min	d <sub>1</sub>	Width Across Flat		A	B	I	I <sub>1</sub>	I <sub>2</sub>	L
					h	H						
PAP-GC 3M - 4G	3	1/4	2.4	5.5	19	12	12.9	15.3	28.7	13	17	35.3
PAP-GC 6M - 4G	6	1/4	4.8	5.5	19	14	15.3	17.7	30.2	13	17	37.6
PAP-GC 6M - 6G	6	3/8	4.8	6.5	24	14	15.3	17.7	30.2	14	20	37.6
PAP-GC 6M - 8G	6	1/2	4.8	7.0	27	14	15.3	17.7	36.1	19	25	43.5
PAP-GC 8M - 4G	8	1/4	5.5	5.5	19	16	16.2	18.6	31.0	13	-	38.5
PAP-GC 8M - 6G	8	3/8	6.5	6.5	24	16	16.2	18.6	28.7	14	-	36.2
PAP-GC 8M - 8G	8	1/2	7.0	7.0	27	16	16.2	18.6	33.5	19	-	41.0
PAP-GC 10M - 4G	10	1/4	5.5	5.5	19	19	17.2	19.5	31.8	13	-	39.4
PAP-GC 10M - 6G	10	3/8	6.5	6.5	24	19	17.2	19.5	31.2	14	-	38.8
PAP-GC 10M - 8G	10	1/2	7.0	7.0	27	19	17.2	19.5	34.5	19	-	42.1
PAP-GC 12M - 4G	12	1/4	5.5	5.5	22	22	22.8	22.0	31.8	13	-	41.9
PAP-GC 12M - 6G	12	3/8	6.5	6.5	24	22	22.8	22.0	34.3	14	-	44.4
PAP-GC 12M - 8G	12	1/2	7.0	7.0	27	22	22.8	22.0	38.1	19	-	48.2
PAP-GC 20M - 8G	20	1/2	7.0	7.0	30	32	26.0	22.0	44.2	19	-	54.3
PAP-GC 22M - 8G	22	1/2	7.0	7.0	30	32	26.0	22.0	44.2	19	-	54.3

• All dimensions in millimeters unless specified as "inch"



**PAP-BFC**  
**Bulkhead Female**  
**Connector**



**Connects Fractional Tubes To Male NPT Thread**

Part No.	Tube O.D. D (inch)	T* (NPT)	d Min	Width Across Flat			A	I	I <sub>1</sub>	L	L <sub>1</sub>	Panel Hole Drill Size	Panel Max. Thickness
				h (inch)	h <sub>1</sub> (inch)	H (inch)							
PAP-BFC 2- 2N	1/8	1/8	2.28	9/16	1/2	7/16	12.70	38.10	24.63	44.70	31.24	8.33	12.70
PAP-BFC 4- 2N	1/4	1/8	4.82	5/8	5/8	9/16	15.24	39.62	26.16	46.99	33.52	11.50	10.16
PAP-BFC 4- 4N	1/4	1/4	4.82	3/4	5/8	9/16	15.24	44.45	26.16	51.81	33.52	11.50	10.16
PAP-BFC 6- 4N	3/8	1/4	7.11	3/4	3/4	11/16	16.76	47.75	29.46	55.11	36.83	14.68	11.17
PAP-BFC 8- 6N	1/2	3/8	10.41	15/16	15/16	7/8	22.86	51.56	31.75	61.72	41.91	19.44	12.70
PAP-BFC 8- 8N	1/2	1/2	10.41	1-1/16	15/16	7/8	22.86	56.38	31.75	66.54	41.91	19.44	12.70
PAP-BFC 12-12N	3/4	3/4	15.74	1-1/4	1-3/16	1-1/8	24.38	63.60	37.33	73.51	47.49	25.79	16.76

\* ISO Tapered Threads are available upon request

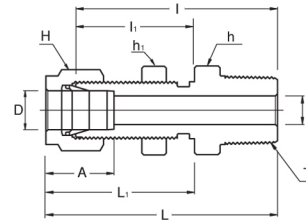
**Connects Metric Tubes To Male NPT Thread**

Part No.	Tube O.D. D	T* (NPT)	d Min	Width Across Flat			A	I	I <sub>1</sub>	L	L <sub>1</sub>	Panel Hole Drill Size	Panel Max. Thickness
				h	h <sub>1</sub>	H							
PAP-BFC 6M- 2N	6	1/8	4.8	15.8	15.8	14	15.3	39.6	27.7	46.90	35.00	11.5	10.2
PAP-BFC 6M- 4N	6	1/4	4.8	19.0	16.0	14	15.3	44.4	26.2	51.80	33.60	11.5	10.2
PAP-BFC 8M- 4N	8	1/4	6.3	19.0	17.4	16	16.2	46.7	28.4	53.85	35.55	13.1	11.2
PAP-BFC 12M- 8N	12	1/2	9.5	27.0	24.0	22	22.8	56.4	31.8	66.50	41.90	19.5	12.7

\* ISO Tapered Threads are available upon request

• All dimensions in millimeters unless specified as "inch"

**PAP-BMC**  
Bulkhead Male  
Connector



**Connects Fractional Tubes To Female NPT Thread**

Part No.	Tube O.D. D (inch)	T* (NPT)	d Min	Width Across Flat			A	I	I <sub>1</sub>	L	L <sub>1</sub>	Panel Hole Drill Size	Panel Max. Thickness
				h (inch)	h <sub>1</sub> (inch)	H (inch)							
PAP-BMC 2 - 2N	1/8	1/8	2.28	1/2	1/2	7/16	12.70	39.87	24.63	46.48	31.24	8.33	12.70
PAP-BMC 4 - 2N	1/4	1/8	4.82	5/8	5/8	9/16	15.24	42.16	26.16	49.53	33.52	11.50	10.16
PAP-BMC 4 - 4N	1/4	1/4	4.82	5/8	5/8	9/16	15.24	46.73	26.16	54.10	33.52	11.50	10.16
PAP-BMC 6 - 4N	3/8	1/4	7.11	3/4	3/4	11/16	16.76	50.03	29.46	57.40	36.83	14.68	11.17
PAP-BMC 6 - 6N	3/8	3/8	7.11	3/4	3/4	11/16	16.76	50.03	29.46	57.40	36.83	14.68	11.17
PAP-BMC 6 - 8N	3/8	1/2	7.11	7/8	3/4	11/16	16.76	56.38	29.46	63.75	36.83	14.68	11.17
PAP-BMC 8 - 6N	1/2	3/8	9.65	15/16	15/16	7/8	22.86	53.08	31.75	63.24	41.91	19.44	12.70
PAP-BMC 8 - 8N	1/2	1/2	10.41	15/16	15/16	7/8	22.86	58.67	31.75	68.83	41.91	19.44	12.70
PAP-BMC 12 - 12N	3/4	3/4	15.74	1-3/16	1-3/16	1-1/8	24.38	66.04	37.33	76.20	47.49	25.79	16.76
PAP-BMC 16 - 16N	1	1	22.35	1-5/8	1-5/8	1-1/2	31.24	81.02	45.21	93.21	57.40	33.73	19.05

\* ISO Tapered Threads are available upon request

• All dimensions in millimeters unless specified as "inch"