

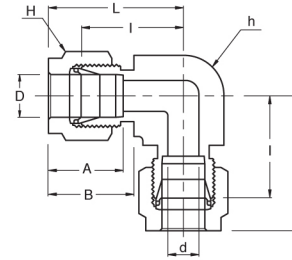
**PAP** PETRO ARTAN PART

**Tube Fittings**

***Elbow & Tee***



**PAP-UE**  
Union Elbow



**Connects Fractional Tubes**

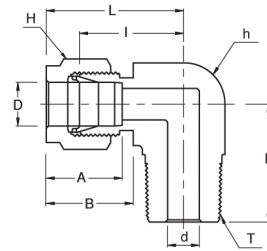
Part No.	Tube O.D. D (inch)	d Min	Width Across Flat		A	B	I	L
			h (inch)	H (inch)				
PAP-UE - 1	1/16	1.27	3/8	5/16	8.63	10.92	14.00	18.03
PAP-UE - 2	1/8	2.28	3/8	7/16	12.70	15.24	15.74	22.35
PAP-UE - 3	3/16	3.04	1/2	1/2	13.71	16.00	18.54	25.14
PAP-UE - 4	1/4	4.82	1/2	9/16	15.24	17.78	20.10	27.40
PAP-UE - 5	5/16	6.35	5/8	5/8	16.25	18.54	22.35	29.71
PAP-UE - 6	3/8	7.11	5/8	11/16	16.76	19.30	23.11	30.48
PAP-UE - 8	1/2	10.41	13/16	7/8	22.86	21.84	25.90	36.06
PAP-UE - 10	5/8	12.70	15/16	1	24.38	21.84	27.94	38.10
PAP-UE - 12	3/4	15.74	1-1/16	1-1/8	24.38	21.84	29.71	39.87
PAP-UE - 14	7/8	18.28	1-3/8	1-1/4	25.90	21.84	34.54	44.70
PAP-UE - 16	1	22.35	1-3/8	1-1/2	31.24	26.41	36.83	49.02
PAP-UE - 20	1-1/4	27.69	1-11/16	1-7/8	41.15	38.86	44.45	66.55
PAP-UE - 24	1-1/2	34.04	2	2-1/4	50.04	45.21	50.80	77.98
PAP-UE - 32	2	45.97	2-3/4	3	67.56	62.74	69.85	107.19

**Connects Metric Tubes**

Part No.	Tube O.D. D	d Min	Width Across Flat		A	B	I	L
			h	H				
PAP-UE - 2M	2	1.7	9.5	12	12.9	15.3	15.7	22.3
PAP-UE - 3M	3	2.4	9.5	12	12.9	15.3	15.7	22.3
PAP-UE - 4M	4	2.4	12.7	12	13.7	16.1	18.8	25.4
PAP-UE - 6M	6	4.8	12.7	14	15.3	17.7	19.6	27.0
PAP-UE - 8M	8	6.4	15.9	16	16.2	18.6	22.4	29.9
PAP-UE - 10M	10	7.9	17.5	19	17.2	19.5	23.9	31.5
PAP-UE - 12M	12	9.5	20.6	22	22.8	22.0	25.9	36.0
PAP-UE - 15M	15	11.9	23.8	25	24.4	22.0	27.9	38.8
PAP-UE - 16M	16	12.7	23.8	25	24.4	22.0	27.9	38.0
PAP-UE - 18M	18	15.1	27.0	30	24.4	22.0	29.7	39.8
PAP-UE - 20M	20	15.9	34.9	32	26.0	22.0	34.5	44.6
PAP-UE - 22M	22	18.3	34.9	32	26.0	22.0	34.5	44.6
PAP-UE - 25M	25	21.8	34.9	38	31.3	26.5	36.8	49.1
PAP-UE - 28M	28	21.8	41	46	36.6	36.6	43.2	64.0
PAP-UE - 30M	30	26.2	46	50	39.6	39.2	48.3	69.9
PAP-UE - 32M	32	28.6	46	50	42.0	41.6	49.3	72.3
PAP-UE - 38M	38	33.7	55	60	49.4	47.9	56.4	84.0

• All dimensions in millimeters unless specified as "inch"

**PAP-ME**  
**Male Elbow**

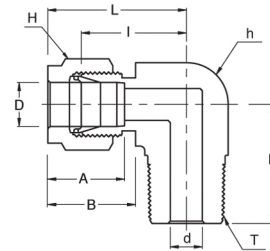


**Connects Metric Tubes To Female NPT Thread**

Part No.	Tube O.D. D	T (NPT)	d Min	Width Across Flat		A	B	I	L	L <sub>1</sub>
				h	H					
PAP-ME 2M - 2N	3	1/8	2.4	12.7	12	12.9	15.3	17.0	23.6	17.8
PAP-ME 3M - 4N	3	1/4	2.4	12.7	12	12.9	15.3	18.0	24.6	23.4
PAP-ME 4M - 2N	4	1/8	2.4	12.7	12	13.7	16.1	18.8	25.4	18.8
PAP-ME 4M - 4N	4	1/4	2.4	12.7	12	13.7	16.1	18.8	25.4	23.4
PAP-ME 6M - 2N	6	1/8	4.8	12.7	14	15.3	17.7	19.6	27.0	18.8
PAP-ME 6M - 4N	6	1/4	4.8	12.7	14	15.3	17.7	19.6	27.0	23.4
PAP-ME 6M - 6N	6	3/8	4.8	15.9	14	15.3	17.7	22.4	29.8	26.2
PAP-ME 6M - 8N	6	1/2	4.8	20.6	14	15.3	17.7	24.4	31.8	33.0
PAP-ME 8M - 2N	8	1/8	4.8	14.3	16	16.2	18.6	21.3	28.8	19.8
PAP-ME 8M - 4N	8	1/4	6.4	14.3	16	16.2	18.6	21.3	28.8	24.4
PAP-ME 8M - 6N	8	3/8	6.4	15.9	16	16.2	18.6	23.1	30.6	26.2
PAP-ME 8M - 8N	8	1/2	6.4	20.6	16	16.2	18.6	25.1	32.6	33.0
PAP-ME 10M - 2N	10	1/8	4.8	17.5	19	17.2	19.5	23.9	31.5	21.6
PAP-ME 10M - 4N	10	1/4	7.1	17.5	19	17.2	19.5	23.9	31.5	26.2
PAP-ME 10M - 6N	10	3/8	7.9	17.5	19	17.2	19.5	23.9	31.5	26.2
PAP-ME 10M - 8N	10	1/2	7.9	20.6	19	17.2	19.5	25.9	33.5	33.0
PAP-ME 12M - 4N	12	1/4	7.1	20.6	22	22.8	22.0	25.9	36.0	28.2
PAP-ME 12M - 6N	12	3/8	9.5	20.6	22	22.8	22.0	25.9	36.0	28.2
PAP-ME 12M - 8N	12	1/2	9.5	20.6	22	22.8	22.0	25.9	36.0	33.0
PAP-ME 12M - 12N	12	3/4	9.5	27.0	22	22.8	22.0	29.7	39.8	36.8
PAP-ME 16M - 6N	16	3/8	9.5	23.8	25	24.4	22.0	27.9	38.0	30.2
PAP-ME 16M - 8N	16	1/2	11.9	23.8	25	24.4	22.0	27.9	38.0	35.1
PAP-ME 16M - 12N	16	3/4	12.7	27.0	25	24.4	22.0	29.7	39.8	36.8
PAP-ME 18M - 8N	18	1/2	11.9	27.0	30	24.4	22.0	29.7	39.8	36.8
PAP-ME 18M - 12N	18	3/4	15.1	27.0	30	24.4	22.0	29.7	39.8	36.8
PAP-ME 20M - 8N	20	1/2	11.9	34.9	32	26.0	22.0	34.5	44.6	41.7
PAP-ME 20M - 12N	20	3/4	15.9	34.9	32	26.0	22.0	34.5	44.6	41.7
PAP-ME 22M - 12N	22	3/4	15.9	34.9	32	26.0	22.0	34.5	44.6	41.7
PAP-ME 20M - 16N	22	1	18.3	34.9	32	26.0	22.0	34.5	44.6	46.5
PAP-ME 25M - 12N	25	3/4	15.9	34.9	38	31.3	26.5	36.8	49.1	41.7
PAP-ME 25M - 16N	25	1	21.8	34.9	38	31.3	26.5	36.8	49.1	46.5
PAP-ME 30M - 20N	30	1-1/4	26.2	46	50	39.6	39.2	48.3	69.9	53.1
PAP-ME 32M - 20N	32	1-1/4	27.8	46	50	42.0	41.6	49.3	72.3	53.1
PAP-ME 38M - 24N	38	1-1/2	33.7	55	60	49.4	47.9	56.4	84.0	60.4

• All dimensions in millimeters unless specified as "inch"

## PAP-ME Male Elbow



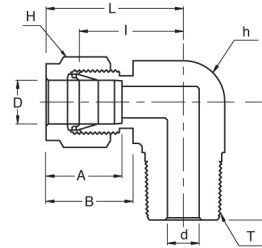
### Connects Metric Tubes To Female ISO Tapered Thread

Part No.	Tube O.D. D	T R (PT)	d Min	Width Across Flat		A	B	I	L	L <sub>1</sub>
				h	H					
PAP-ME 3M - 2R	3	1/8	2.4	12.7	12	12.9	15.3	17.0	23.6	17.8
PAP-ME 3M - 4R	3	1/4	2.4	12.7	12	12.9	15.3	18.0	24.6	23.4
PAP-ME 4M - 2R	4	1/8	2.4	12.7	12	13.7	16.1	18.8	25.4	18.8
PAP-ME 4M - 4R	4	1/4	2.4	12.7	12	13.7	16.1	18.8	25.4	23.4
PAP-ME 6M - 2R	6	1/8	4.8	12.7	14	15.3	17.7	19.6	27.0	18.8
PAP-ME 6M - 4R	6	1/4	4.8	12.7	14	15.3	17.7	19.6	27.0	23.4
PAP-ME 6M - 6R	6	3/8	4.8	15.9	14	15.3	17.7	22.4	29.8	26.2
PAP-ME 6M - 8R	6	1/2	4.8	20.6	14	15.3	17.7	24.4	31.8	33.0
PAP-ME 8M - 2R	8	1/8	4.8	14.3	16	16.2	18.6	21.3	28.8	19.8
PAP-ME 8M - 4R	8	1/4	6.4	14.3	16	16.2	18.6	21.3	28.8	24.4
PAP-ME 8M - 6R	8	3/8	6.4	15.9	16	16.2	18.6	23.1	30.6	26.2
PAP-ME 8M - 8R	8	1/2	6.4	20.6	16	16.2	18.6	25.1	32.6	33.0
PAP-ME 10M - 4R	10	1/4	7.1	17.5	19	17.2	19.5	23.9	31.5	26.2
PAP-ME 10M - 6R	10	3/8	7.9	17.5	19	17.2	19.5	23.9	31.5	26.2
PAP-ME 10M - 8R	10	1/2	7.9	20.6	19	17.2	19.5	25.9	33.5	33.0
PAP-ME 12M - 2R	12	1/8	4.8	20.6	22	22.8	22.0	25.9	36.0	23.6
PAP-ME 12M - 4R	12	1/4	7.1	20.6	22	22.8	22.0	25.9	36.0	28.2
PAP-ME 12M - 6R	12	3/8	9.5	20.6	22	22.8	22.0	25.9	36.0	28.2
PAP-ME 10M - 8R	12	1/2	9.5	20.6	22	22.8	22.0	25.9	36.0	33.0
PAP-ME 10M - 12R	12	3/4	9.5	27.0	22	22.8	22.0	29.7	39.8	36.8
PAP-ME 16M - 6R	16	3/8	9.5	23.8	25	24.4	22.0	27.9	38.0	30.2
PAP-ME 16M - 8R	16	1/2	11.9	23.8	25	24.4	22.0	27.9	38.0	35.1
PAP-ME 18M - 8R	18	1/2	11.9	27.0	30	24.4	22.0	29.7	39.8	36.8
PAP-ME 18M - 12R	18	3/4	15.1	27.0	30	24.4	22.0	29.7	39.8	36.8
PAP-ME 20M - 8R	20	1/2	11.9	34.9	32	26.0	22.0	34.5	44.6	41.7
PAP-ME 20M - 12R	20	3/4	15.9	34.9	32	26.0	22.0	34.5	44.6	41.7
PAP-ME 22M - 12R	22	3/4	15.9	34.9	32	26.0	22.0	34.5	44.6	41.7
PAP-ME 22M - 16R	22	1	18.3	34.9	32	26.0	22.0	34.5	44.6	46.5
PAP-ME 25M - 12R	25	3/4	15.9	34.9	38	31.3	26.5	36.8	49.1	41.7
PAP-ME 25M - 16R	25	1	21.8	34.9	38	31.3	26.5	36.8	49.1	46.5

• All dimensions in millimeters unless specified as "inch"



**PAP-ME**  
**Male Elbow**

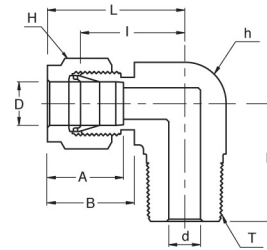


**Connects Fractional Tube To Female NPT Thread**

Part No.	Tube O.D. D (inch)	T (NPT)	d Min	Width Across Flat		A	B	I	L	L <sub>1</sub>
				h (inch)	H (inch)					
PAP-ME 2 - 2N	1/8	1/8	2.28	1/2	7/16	12.70	15.24	18.00	24.30	18.80
PAP-ME 2 - 4N	1/8	1/4	2.28	1/2	7/16	12.70	15.24	18.00	24.30	23.36
PAP-ME 3 - 2N	3/16	1/8	3.04	1/2	1/2	13.71	16.00	18.79	25.40	18.79
PAP-ME 3 - 4N	3/16	1/4	3.04	1/2	1/2	13.71	16.00	18.79	25.40	23.36
PAP-ME 4 - 2N	1/4	1/8	4.82	1/2	9/16	15.24	17.78	19.55	26.92	18.79
PAP-ME 4 - 4N	1/4	1/4	4.82	1/2	9/16	15.24	17.78	19.55	26.92	23.36
PAP-ME 4 - 6N	1/4	3/8	4.82	5/8	9/16	15.24	17.78	22.35	29.71	26.16
PAP-ME 4 - 8N	1/4	1/2	4.82	13/16	9/16	15.24	17.78	24.38	31.75	33.02
PAP-ME 5 - 2N	5/16	1/8	4.82	9/16	5/8	16.25	18.54	21.33	28.70	19.81
PAP-ME 5 - 4N	5/16	1/4	6.35	9/16	5/8	16.25	18.54	21.33	28.70	24.38
PAP-ME 5 - 6N	5/16	3/8	6.35	11/16	5/8	16.25	18.54	23.11	30.48	26.16
PAP-ME 6 - 2N	3/8	1/8	4.82	5/8	11/16	16.76	19.30	23.11	30.48	20.82
PAP-ME 6 - 4N	3/8	1/4	7.11	5/8	11/16	16.76	19.30	23.11	30.48	25.40
PAP-ME 6 - 6N	3/8	3/8	7.11	5/8	11/16	16.76	19.30	23.87	31.24	26.16
PAP-ME 6 - 8N	3/8	1/2	7.11	13/16	11/16	16.76	19.30	25.90	33.27	33.02
PAP-ME 6 - 12N	3/8	3/4	7.11	1-1/16	11/16	16.76	19.30	29.71	37.08	36.83
PAP-ME 8 - 4N	1/2	1/4	7.11	13/16	7/8	22.86	21.84	25.90	36.06	28.19
PAP-ME 8 - 6N	1/2	3/8	9.65	13/16	7/8	22.86	21.84	25.90	36.06	28.19
PAP-ME 8 - 8N	1/2	1/2	10.41	13/16	7/8	22.86	21.84	25.90	36.06	33.02
PAP-ME 8 - 12N	1/2	3/4	10.41	1-1/16	7/8	22.86	21.84	29.71	39.87	36.83
PAP-ME 10 - 6N	5/8	3/8	9.65	15/16	1	24.38	21.84	27.94	38.10	30.22
PAP-ME 10 - 8N	5/8	1/2	11.93	15/16	1	24.38	21.84	27.94	38.10	35.10
PAP-ME 10 - 12N	5/8	3/4	12.70	1-1/16	1	24.38	21.84	29.71	39.87	36.83
PAP-ME 12 - 8N	3/4	1/2	11.93	1-1/16	1-1/8	24.38	21.84	29.71	39.87	36.83
PAP-ME 12 - 12N	3/4	3/4	15.74	1-1/16	1-1/8	24.38	21.84	29.71	39.87	36.83
PAP-ME 14 - 12N	7/8	3/4	15.74	1-3/8	1-1/4	25.90	21.84	34.54	44.70	41.65
PAP-ME 16 - 12N	1	3/4	15.74	1-3/8	1-1/2	31.24	26.41	36.83	49.02	41.65
PAP-ME 16 - 16N	1	1	22.35	1-3/8	1-1/2	31.24	26.41	36.83	49.02	46.48
PAP-ME 20 - 20N	1-1/4	1-1/4	27.69	1-11/16	1-7/8	41.15	38.86	44.45	66.55	47.75
PAP-ME 24 - 24N	1-1/2	1-1/2	34.04	2	2-1/4	50.04	45.21	50.80	77.98	60.45
PAP-ME 32 - 32N	2	2	45.97	2-3/4	3	67.56	62.74	69.85	107.19	70.61

• All dimensions in millimeters unless specified as "inch"

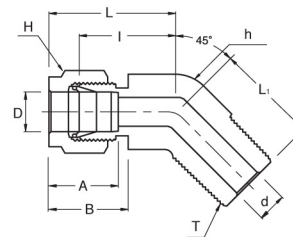
## PAP-ME Male Elbow



### Connects Fractional Tubes To Female ISO Tapered Thread

Part No.	Tube O.D. D (inch)	T R (PT)	d Min	Width Across Flat		A	B	I	L	L <sub>1</sub>
				h (inch)	H (inch)					
PAP-ME 4 - 2R	1/4	1/8	4.82	1/2	9/16	15.24	17.78	19.55	26.92	18.79
PAP-ME 4 - 4R	1/4	1/4	4.82	1/2	9/16	15.24	17.78	19.55	26.92	23.36
PAP-ME 4 - 6R	1/4	3/8	4.82	5/8	9/16	15.24	17.78	22.35	29.71	26.16
PAP-ME 4 - 8R	1/4	1/2	4.82	13/16	9/16	15.24	17.78	24.38	31.75	33.02
PAP-ME 5 - 4R	5/16	1/4	6.35	9/16	5/8	16.25	18.54	21.33	28.70	24.38
PAP-ME 6 - 4R	3/8	1/4	7.11	5/8	11/16	16.76	19.30	23.11	30.48	25.40
PAP-ME 6 - 6R	3/8	3/8	7.11	5/8	11/16	16.76	19.30	23.87	31.24	26.16
PAP-ME 8 - 6R	1/2	3/8	9.65	13/16	7/8	22.86	21.84	25.91	36.07	28.20
PAP-ME 8 - 8R	1/2	1/2	10.41	13/16	7/8	22.86	21.84	25.91	36.07	33.02

## PAP-HME 45° Male Elbow



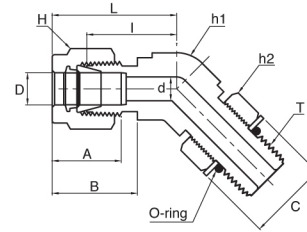
### Connects Fractional Tubes To Female NPT Thread

Part No.	Tube O.D. D (inch)	T* (NPT)	d Min	Width Across Flat		A	B	I	L	L <sub>1</sub>
				h (inch)	H (inch)					
PAP-HME 4 - 2N	1/4	1/8	4.82	1/2	9/16	15.24	17.78	17.27	24.63	16.51
PAP-HME 4 - 4N	1/4	1/4	4.82	1/2	9/16	15.24	17.78	17.27	24.63	21.08
PAP-HME 6 - 2N	3/8	1/8	4.82	5/8	11/16	16.76	19.30	20.57	27.94	18.28
PAP-HME 6 - 4N	3/8	1/4	7.11	5/8	11/16	16.76	19.30	20.57	27.94	22.86
PAP-HME 6 - 6N	3/8	3/8	7.11	13/16	11/16	16.76	19.30	21.84	29.21	24.13
PAP-HME 8 - 6N	1/2	3/8	9.65	13/16	7/8	22.86	21.84	21.84	32.00	24.13
PAP-HME 8 - 8N	1/2	1/2	10.41	13/16	7/8	22.86	21.84	21.84	32.00	28.95

\* ISO Tapered Threads are available upon request

• All dimensions in millimeters unless specified as "inch"

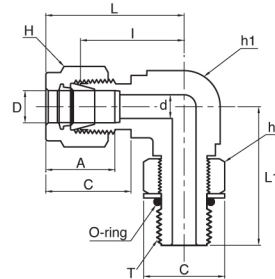
**PAP-PHME**  
45° Positionable  
Male Elbow



**Connects Fractional Tubes To SAE/MS Straight Thread**

Part No.	Tube O.D. D (inch)	T (U)	d Min	Width Across Flat			A	B	I	L	L1	C
				h1	h2	H						
PAP-PHME 4 - 4U	1/4	7/16-20	4.83	1/2	9/16	9/16	15.24	17.78	18.29	25.64	25.65	16.51
PAP-PHME 6 - 6U	3/8	9/16-18	7.11	5/8	11/16	11/16	16.76	19.30	20.57	27.94	28.19	20.07
PAP-PHME 8 - 8U	1/2	3/4-16	10.41	13/16	7/8	7/8	22.86	21.84	21.84	32.00	32.26	25.65
PAP-PHME 12 - 12U	3/4	1-1/16-12	15.75	1-1/8	1-1/4	1-1/8	24.38	24.84	29.72	39.88	47.24	36.58
PAP-PHME 16 - 16U	1	1-5/16-12	22.35	1-3/8	1-1/2	1-1/2	31.24	26.42	35.31	47.50	50.55	43.94

**PAP-PME**  
Positionable  
Male Elbow

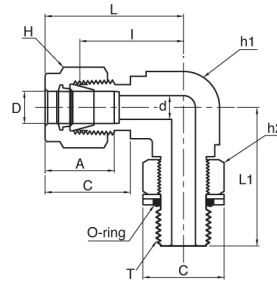


**Connects Fractional Tubes To SAE/MS Straight Thread**

Part No.	Tube O.D. D (inch)	T (U)	d Min	Width Across Flat			A	B	I	L	L1	C
				h1	h2	H						
PAP-PME 4 - 4U	1/4	7/16-20	4.83	1/2	9/16	9/16	15.24	17.78	21.08	28.45	28.45	16.51
PAP-PME 4 - 6U	1/4	9/16-18	4.83	5/8	11/16	9/16	15.24	17.78	23.11	30.48	32.26	20.07
PAP-PME 5 - 5U	5/16	1/2-20	5.84	9/16	5/8	5/8	16.26	18.54	22.86	30.23	29.46	18.29
PAP-PME 6 - 6U	3/8	9/16-18	7.11	5/8	11/16	11/16	16.76	19.30	24.64	32.00	32.26	20.07
PAP-PME 6 - 8U	3/8	3/4-16	7.11	13/16	7/8	11/16	16.76	19.30	27.43	34.80	37.85	25.65
PAP-PME 8 - 8U	1/2	3/4-16	10.41	13/16	7/8	7/8	22.86	21.84	27.43	37.59	37.85	25.65
PAP-PME 10 - 10U	5/8	7/8-14	12.70	15/16	1	1	24.38	21.84	29.46	39.62	43.43	29.46
PAP-PME 12 - 12U	3/4	1-1/16-12	15.75	1-1/16	1-1/4	1-1/8	24.38	21.84	31.24	41.40	48.77	36.58
PAP-PME 14 - 14U	7/8	3/16-12	18.29	1-3/16	1-3/8	1-1/4	25.91	21.84	33.02	43.18	50.55	40.39
PAP-PME 16 - 16U	1	1-5/16-12	22.35	1-3/8	1-1/2	1-1/2	31.24	26.42	38.35	50.55	53.59	43.94
PAP-PME 20 - 20U	1-1/4	1-5/8-12	27.69	1-11/16	1-7/8	1-7/8	41.15	38.86	45.72	67.82	58.17	54.86
PAP-PME 24 - 24U	1-1/2	1-7/8-12	34.04	2	2-1/8	2-1/4	50.04	45.21	50.80	77.98	60.45	62.23
PAP-PME 32 - 32U	2-1/2	2-1/2-12	45.97	2-3/4	2-3/4	3	67.56	62.74	69.85	107.19	71.63	80.26

• All dimensions in millimeters unless specified as "inch"

## PAP-PME Positionable Male Elbow



### Connects Fractional Tubes To Female ISO Parallel Thread

Part No.	Tube O.D. D (inch)	T (PF)	d Min	Width Across Flat			A	B	I	L	L1	C
				h1	h2	H						
PAP-PME 4 - 2G	1/4	1/8	4.06	1/2	9/16	9/16	15.24	17.78	19.56	26.92	26.42	17.27
PAP-PME 4 - 4G	1/4	1/4	4.83	5/8	3/4	9/16	15.24	17.78	21.59	28.96	32.26	22.86
PAP-PME 6 - 4G	3/8	1/4	5.84	5/8	3/4	11/16	16.76	19.30	23.11	30.48	32.26	22.86
PAP-PME 6 - 6G	3/8	3/8	7.11	13/16	7/8	11/16	16.76	19.30	25.91	33.27	37.08	26.42
PAP-PME 8 - 4G	1/2	1/4	5.84	13/16	3/4	7/8	22.86	21.84	25.91	36.07	35.05	26.42
PAP-PME 8 - 6G	1/2	3/8	7.87	13/16	7/8	7/8	22.86	21.84	25.91	36.07	37.08	22.86
PAP-PME 8 - 8G	1/2	1/2	10.41	15/16	1-1/16	7/8	22.86	21.84	27.94	38.10	43.43	26.42
PAP-PME 10 - 8G	5/8	1/2	11.94	15/16	1-1/16	1	24.38	21.84	27.94	38.10	43.43	32.00
PAP-PME 12 - 8G	3/4	1/2	11.94	1-1/16	1-1/16	1-1/8	24.38	21.84	29.72	39.88	45.21	32.00
PAP-PME 12 - 12G	3/4	3/4	15.75	1-1/16	1-3/8	1-1/8	24.38	21.84	29.72	39.88	48.77	41.15
PAP-PME 16 - 12G	1	3/4	15.75	1-3/8	1-3/8	1-1/2	31.24	26.42	36.83	49.02	53.34	41.15
PAP-PME 16 - 16G	1	1	19.81	1-3/8	1-3/8	1-1/2	31.24	26.42	36.83	49.02	53.59	48.51

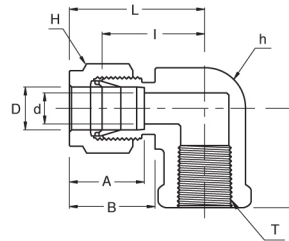
### Connects Metric Tubes To Female ISO Parallel Thread

Part No.	Tube O.D. D (inch)	T (PF)	d Min	Width Across Flat			A	B	I	L	L1	C
				h1	h2	H						
PAP-PME 6M - 2G	6	1/8	4.0	1/2	9/16	14	15.3	17.7	19.6	27.0	26.4	17.3
PAP-PME 6M - 4G	6	1/4	4.8	5/8	3/4	14	15.3	17.7	21.6	29.0	32.3	22.9
PAP-PME 8M - 2G	8	1/8	4.0	9/16	9/16	16	16.2	18.6	21.3	28.8	27.4	17.3
PAP-PME 8M - 4G	8	1/4	5.9	5/8	3/4	16	16.2	18.6	22.4	29.9	32.2	22.9
PAP-PME 10M - 4G	10	1/4	5.9	13/16	3/4	19	17.2	19.5	25.9	33.5	35.0	22.9
PAP-PME 10M - 6G	10	3/8	7.9	13/16	7/8	19	17.2	19.5	25.9	33.5	37.1	26.4
PAP-PME 12M - 4G	12	1/4	5.9	13/16	3/4	22	22.8	22.0	25.9	36.0	35.0	22.9
PAP-PME 12M - 6G	12	3/8	7.9	13/16	7/8	22	22.8	22.0	25.9	36.0	37.1	26.4
PAP-PME 12M - 8G	12	1/2	9.5	15/16	1-1/16	22	22.8	22.0	27.9	38.0	43.4	32.0
PAP-PME 12M - 12G	12	3/4	9.5	1-1/16	1-3/8	22	22.8	22.0	29.7	39.8	48.8	41.1

• All dimensions in millimeters unless specified as "inch"



**PAP-FE**  
**Female Elbow**



**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	L <sub>1</sub>
				h (inch)	H (inch)					
PAP-FE 2 - 2N	1/8	1/8	2.28	1/2	7/16	12.70	15.24	18.03	24.63	19.05
PAP-FE 2 - 4N	1/8	1/4	2.28	11/16	7/16	12.70	15.24	20.82	27.43	22.35
PAP-FE 3 - 2N	3/16	1/8	3.04	1/2	1/2	13.71	16.00	18.79	25.40	19.05
PAP-FE 4 - 2N	1/4	1/8	4.82	1/2	9/16	15.24	17.78	19.55	26.92	19.05
PAP-FE 4 - 4N	1/4	1/4	4.82	11/16	9/16	15.24	17.78	22.35	29.71	22.35
PAP-FE 4 - 6N	1/4	3/8	4.82	13/16	9/16	15.24	17.78	24.38	31.75	22.35
PAP-FE 4 - 8N	1/4	1/2	4.82	1	9/16	15.24	17.78	27.17	34.54	28.44
PAP-FE 5 - 2N	5/16	1/8	6.35	9/16	5/8	16.25	18.54	21.33	28.70	19.05
PAP-FE 5 - 4N	5/16	1/4	6.35	11/16	5/8	16.25	18.54	23.11	30.48	22.35
PAP-FE 6 - 2N	3/8	1/8	7.11	5/8	11/16	16.76	19.30	23.11	30.48	19.05
PAP-FE 6 - 4N	3/8	1/4	7.11	11/16	11/16	16.76	19.30	23.87	31.24	22.35
PAP-FE 6 - 6N	3/8	3/8	7.11	13/16	11/16	16.76	19.30	25.90	33.27	22.35
PAP-FE 6 - 8N	3/8	1/2	7.11	1	11/16	16.76	19.30	28.70	36.06	28.44
PAP-FE 8 - 4N	1/2	1/4	10.41	13/16	7/8	22.86	21.84	25.90	36.06	22.35
PAP-FE 8 - 6N	1/2	3/8	10.41	13/16	7/8	22.86	21.84	25.90	36.06	22.35
PAP-FE 8 - 8N	1/2	1/2	10.41	1	7/8	22.86	21.84	28.70	38.86	37.00
PAP-FE 10 - 6N	5/8	3/8	12.70	15/16	1	24.38	21.84	27.94	38.10	22.35
PAP-FE 10 - 8N	5/8	1/2	12.70	1-1/16	1	24.38	21.84	29.71	39.87	28.44
PAP-FE 12 - 8N	3/4	1/2	15.74	1-1/16	1-1/8	24.38	21.84	29.71	39.87	28.44
PAP-FE 12 - 12N	3/4	3/4	15.74	1-3/8	1-1/8	24.38	21.84	34.54	44.70	31.75
PAP-FE 14 - 12N	7/8	3/4	18.28	1-3/8	1-1/4	25.90	21.84	34.54	44.70	31.75
PAP-FE 16 - 12N	1	3/4	22.35	1-3/8	1-1/2	31.24	26.41	36.83	49.02	31.75
PAP-FE 16 - 16N	1	1	22.35	1-11/16	1-1/2	31.24	26.41	41.40	53.59	38.10

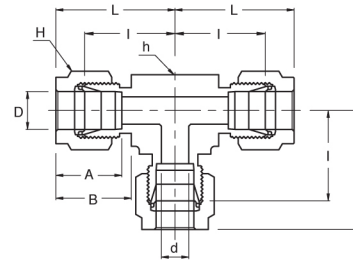
**Connects Metric Tubes To Male NPT Thread**

Part No.	Tube O.D. D	T* (NPT)	d Min	Width Across Flat		A	B	I	L	L <sub>1</sub>
				h	H					
PAP-FE 6M - 4N	6	1/4	4.8	17.46	14	15.3	17.7	22.4	29.8	22.40
PAP-FE 6M - 6N	6	3/8	4.8	20.63	14	15.3	17.7	24.4	31.7	22.40
PAP-FE 6M - 8N	6	1/2	4.8	25.40	14	15.3	17.7	27.2	34.6	28.40
PAP-FE 8M - 4N	8	1/4	6.4	17.46	16	16.2	18.6	23.1	30.6	22.40
PAP-FE 8M - 8N	8	1/2	6.4	20.63	16	16.2	18.6	28.0	35.2	28.40
PAP-FE 10M - 4N	10	1/4	7.9	17.46	19	17.2	19.5	25.9	33.5	22.40
PAP-FE 10M - 6N	10	3/8	7.9	20.63	19	17.2	19.5	25.9	33.5	22.40
PAP-FE 10M - 8N	10	1/2	7.9	25.40	19	17.2	19.5	28.7	36.1	28.40
PAP-FE 12M - 6N	12	3/8	9.5	20.63	22	22.8	22.0	25.9	36.2	22.35
PAP-FE 12M - 8N	12	1/2	9.5	25.40	22	22.8	22.0	28.7	38.8	28.40

\* ISO Tapered Threads are available upon request

• All dimensions in millimeters unless specified as "inch"

## PAP-UT Union Tee



### Connects Fractional Tubes

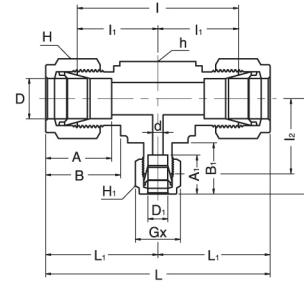
Part No.	Tube O.D. D (inch)	d Min	Width Across Flat		A	B	I	L
			h (inch)	H (inch)				
PAP-UT - 1	1/16	1.27	3/8	5/16	8.63	10.92	14.00	18.03
PAP-UT - 2	1/8	2.28	3/8	7/16	12.70	15.24	15.80	22.35
PAP-UT - 3	3/16	3.04	1/2	1/2	13.71	16.00	18.54	25.14
PAP-UT - 4	1/4	4.82	1/2	9/16	15.24	17.78	20.10	27.40
PAP-UT - 5	5/16	6.35	5/8	5/8	16.25	18.54	22.35	29.71
PAP-UT - 6	3/8	7.11	5/8	11/16	16.76	19.30	23.11	30.48
PAP-UT - 8	1/2	10.41	13/16	7/8	22.86	21.84	25.90	36.06
PAP-UT - 10	5/8	12.70	1	1	24.38	21.84	28.70	38.86
PAP-UT - 12	3/4	15.74	1-1/16	1-1/8	24.38	21.84	29.71	39.87
PAP-UT - 14	7/8	18.28	1-3/8	1-1/4	25.90	21.84	34.54	44.70
PAP-UT - 16	1	22.35	1-3/8	1-1/2	31.24	26.41	36.83	49.02
PAP-UT - 20	1-1/4	27.69	1-11/16	1-7/8	41.15	38.86	44.45	66.55
PAP-UT - 24	1-1/2	34.04	2	2-1/4	50.04	45.21	50.80	77.98
PAP-UT - 32	2	45.97	2-3/4	3	67.56	62.74	69.85	107.19

### Connects Metric Tubes

Part No.	Tube O.D. D	d Min	Width Across Flat		A	B	I	L
			h	H				
PAP-UT - 2M	2	1.7	9.5	12	12.9	15.3	15.7	22.3
PAP-UT - 3M	3	2.4	9.5	12	12.9	15.3	15.7	22.3
PAP-UT - 4M	4	2.4	12.7	12	13.7	16.1	18.8	25.4
PAP-UT - 6M	6	4.8	12.7	14	15.3	17.7	19.6	27.0
PAP-UT - 8M	8	6.4	15.9	16	16.2	18.6	22.4	29.9
PAP-UT - 10M	10	7.9	17.5	19	17.2	19.5	23.9	31.5
PAP-UT - 12M	12	9.5	20.6	22	22.8	22.0	25.9	36.0
PAP-UT - 15M	15	11.9	25.4	25	24.4	22.0	28.7	38.8
PAP-UT - 16M	16	12.7	25.4	25	24.4	22.0	28.7	38.8
PAP-UT - 18M	18	15.1	27.0	30	24.4	22.0	29.7	38.8
PAP-UT - 20M	20	15.9	34.9	32	26.0	22.0	34.5	44.6
PAP-UT - 22M	22	18.3	34.9	32	26.0	22.0	34.5	44.6
PAP-UT - 25M	25	21.8	34.9	38	31.3	26.5	36.8	49.1
PAP-UT - 28M	28	21.8	41	46	36.6	36.6	43.2	64.0
PAP-UT - 30M	30	26.2	46	50	39.6	39.2	48.3	69.9
PAP-UT - 32M	32	28.6	46	50	42.0	41.6	49.3	72.3
PAP-UT - 38M	38	33.7	55	60	49.4	47.9	56.4	84.0

• All dimensions in millimeters unless specified as "inch"

**PAP-RUT**  
Reducing Union Tee

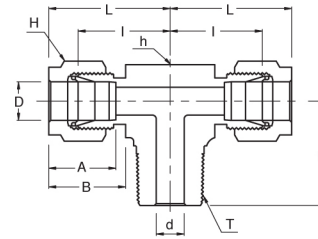


**Connects Fractional Tubes**

Part No.	Tube O.D.		d Min	Width Across Flat			A	A <sub>1</sub>	B	B <sub>1</sub>	I	I <sub>1</sub>	I <sub>2</sub>	L	L <sub>1</sub>	L <sub>2</sub>
	D (inch)	D <sub>1</sub> (inch)		h (inch)	H (inch)	H <sub>1</sub> (inch)										
PAP-RUT 6 - 6 - 4	3/8	1/4	4.82	5/8	11/16	9/16	16.76	15.24	19.30	17.78	46.22	23.11	21.59	60.96	30.48	28.95
PAP-RUT 6 - 8 - 4	1/2	1/4	4.82	13/16	7/8	9/16	22.86	15.24	21.84	17.78	51.81	25.90	24.38	72.13	36.06	31.75
PAP-RUT 8 - 8 - 6	1/2	3/8	7.11	13/16	7/8	11/16	22.86	16.76	21.84	19.30	51.81	25.90	25.90	72.13	36.06	33.27
PAP-RUT 10 - 10 - 6	5/8	3/8	7.11	1	1	11/16	24.38	16.76	21.84	19.30	57.40	28.70	28.70	77.72	38.86	36.06
PAP-RUT 12 - 12 - 6	3/4	3/8	7.11	1 1/16	1 1/8	11/16	24.38	16.76	21.84	19.30	59.43	29.71	29.71	79.75	39.87	37.08
PAP-RUT 12 - 12 - 8	3/4	1/2	10.41	1 1/16	1 1/8	7/8	24.38	22.86	21.84	21.84	59.43	29.71	29.71	79.75	39.87	39.87
PAP-RUT 16 - 16 - 6	1	3/8	7.11	1 3/8	1 1/2	1 1/16	31.24	16.76	26.41	19.30	73.66	36.83	34.54	98.04	49.02	41.91
PAP-RUT 16 - 16 - 8	1	1/2	10.41	1 3/8	1 1/2	7/8	31.24	21.84	26.41	22.86	73.66	36.83	34.54	98.04	49.02	44.70
PAP-RUT 16 - 16 - 12	1	3/4	15.74	1 3/8	1 1/2	1 1/8	31.24	24.38	26.41	21.84	73.66	36.83	34.54	98.04	49.02	44.70

• All dimensions in millimeters unless specified as "inch"

## PAP-MBT Male Branch Tee



### 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	L <sub>1</sub>
				h (inch)	H (inch)					
PAP-MBT 2 - 2N	1/8	1/8	2.28	1/2	7/16	12.70	15.24	18.30	24.91	18.90
PAP-MBT 2 - 4N	1/8	1/4	2.28	1/2	7/16	12.70	15.24	18.03	24.63	23.36
PAP-MBT 3 - 2N	3/16	1/8	3.04	1/2	1/2	13.71	16.00	17.78	25.40	18.79
PAP-MBT 4 - 2N	1/4	1/8	4.82	1/2	9/16	15.24	17.78	19.55	26.92	18.79
PAP-MBT 4 - 4N	1/4	1/4	4.82	1/2	9/16	15.24	17.78	19.55	26.92	23.36
PAP-MBT 5 - 2N	5/16	1/8	4.82	5/8	5/8	16.25	18.54	22.35	29.71	20.82
PAP-MBT 6 - 4N	3/8	1/4	7.11	5/8	11/16	16.76	19.30	23.11	30.48	25.40
PAP-MBT 6 - 6N	3/8	3/8	7.11	5/8	11/16	16.76	19.30	23.10	30.48	28.19
PAP-MBT 8 - 6N	1/2	3/8	9.65	13/16	7/8	22.86	21.84	25.90	36.06	28.19
PAP-MBT 8 - 8N	1/2	1/2	10.41	13/16	7/8	22.86	21.84	25.90	36.06	33.02
PAP-MBT 10 - 8N	5/8	1/2	11.93	1	1	24.38	21.84	28.70	38.86	35.81
PAP-MBT 12-12N	3/4	3/4	15.74	1-1/16	1-1/8	24.38	21.84	29.71	39.87	36.83

\* ISO Tapered Threads are available upon request

### Connects Metric Tubes To Female ISO Tapered Thread

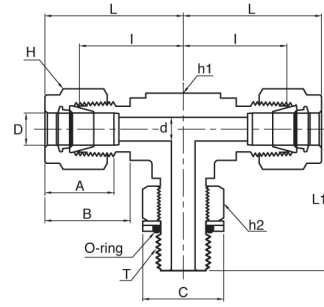
Part No.	Tube O.D. D	T* R (PT)	d Min	Width Across Flat		A	B	I	L	L <sub>1</sub>
				h	H					
PAP-MBT 3M - 2R	3	1/8	2.4	12.7	12	12.9	15.3	17.0	23.6	17.8
PAP-MBT 3M - 4R	3	1/4	2.4	12.7	12	12.9	15.3	18.0	24.6	23.4
PAP-MBT 4M - 2R	4	1/8	2.4	12.7	12	13.7	16.1	18.8	25.4	18.8
PAP-MBT 6M - 2R	6	1/8	4.8	12.7	14	15.3	17.7	19.6	27.0	18.8
PAP-MBT 6M - 4R	6	1/4	4.8	14.2	14	15.3	17.7	19.6	27.0	23.4
PAP-MBT 8M - 2R	8	1/8	4.8	14.3	16	16.2	18.6	21.3	28.8	19.8
PAP-MBT 8M - 4R	8	1/4	6.4	14.3	16	16.2	18.6	21.3	28.8	24.4
PAP-MBT 10M - 4R	10	1/4	7.1	17.5	19	17.2	19.5	23.9	31.5	28.2
PAP-MBT 10M - 6R	10	3/8	7.9	17.5	19	17.2	19.5	23.9	31.5	28.2
PAP-MBT 12M - 4R	12	1/4	7.1	20.6	22	22.8	22.0	25.9	36.0	28.2
PAP-MBT 12M - 6R	12	3/8	9.5	20.6	22	22.8	22.0	25.9	36.0	28.2
PAP-MBT 12M - 8R	12	1/2	9.5	20.6	22	22.8	22.0	25.9	36.0	33.0
PAP-MBT 16M - 6R	16	3/8	9.5	25.4	25	24.4	22.0	27.9	38.0	30.2
PAP-MBT 16M - 8R	16	1/2	11.9	25.4	25	24.4	22.0	27.9	38.0	35.1
PAP-MBT 20M - 12R	20	3/4	15.9	31.8	32	26.0	22.0	34.5	44.6	41.7

\* NPT Threads are available upon request

• All dimensions in millimeters unless specified as "inch"



**PAP-PMBT**  
**Positionable**  
**Male Branch Tee**



**Connects Fractional Tubes To Female ISO Parallel Thread**

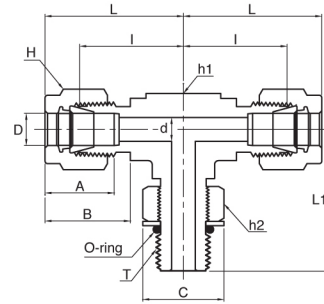
Part No.	Tube O.D. D (inch)	T (PF)	d Min	Width Across Flat			A	B	I	L	L1	C
				h1	h2	H						
PAP-PMBT 4- 2G	1/4	1/8	4.06	1/2	9/16	9/16	15.24	17.78	19.56	26.92	26.42	17.27
PAP-PMBT 4- 4G	1/4	1/4	4.83	5/8	3/4	9/16	15.24	17.78	21.59	28.96	32.26	22.86
PAP-PMBT 6- 4G	3/8	1/4	5.08	5/8	3/4	11/16	15.24	19.30	23.11	30.48	32.26	22.86
PAP-PMBT 8- 6G	3/8	3/8	7.87	13/16	7/8	7/8	22.86	21.84	25.91	36.07	37.08	26.42
PAP-PMBT 8- 8G	1/2	1/2	10.41	15/16	1-1/16	7/8	22.86	21.84	27.94	38.10	43.43	32.00
PAP-PMBT 10- 8G	5/8	1/2	11.94	15/16	1-1/16	1	24.38	21.84	27.94	38.10	43.43	32.00
PAP-PMBT 12- 8G	3/4	1/2	11.94	1-1/16	1-1/16	1-1/8	24.38	21.84	29.72	39.88	45.21	32.00
PAP-PMBT 12-12G	3/4	3/4	15.75	1-1/16	1-3/8	1-1/8	24.38	21.84	29.72	39.88	48.77	41.15
PAP-PMBT 16-16G	1	1	19.81	1-3/8	1-5/8	1-1/2	31.24	26.42	36.83	49.02	53.59	48.51

**Connects Metric Tubes To Female ISO Parallel Thread**

Part No.	Tube O.D. D (inch)	T (PF)	d Min	Width Across Flat			A	B	I	L	L1	C
				h1	h2	H						
PAP-PMBT 6M- 2G	6	1/8	4.0	1/2	9/16	14	15.3	17.7	19.6	27.0	26.4	17.3
PAP-PMBT 6M- 4G	6	1/4	4.8	5/8	3/4	14	15.3	17.7	21.6	29.0	32.3	22.9
PAP-PMBT 8M- 2G	8	1/8	4.0	9/16	9/16	16	16.2	18.6	21.3	28.8	27.4	17.3
PAP-PMBT 8M- 4G	8	1/4	5.9	5/8	3/4	16	16.2	18.6	22.4	29.9	32.2	22.9
PAP-PMBT 10M- 4G	10	1/4	5.9	13/16	3/4	19	17.2	19.5	25.9	33.5	35.0	22.9
PAP-PMBT 12M- 6G	10	3/8	7.9	13/16	7/8	22	22.8	22.0	25.9	36.0	37.1	26.4
PAP-PMBT 12M- 8G	12	1/4	9.5	15/16	1-1/16	22	22.8	22.0	27.9	38.0	35.0	32.0

• All dimensions in millimeters unless specified as "inch"

**PAP-PMBT**  
**Positionable**  
**Male Branch Tee**

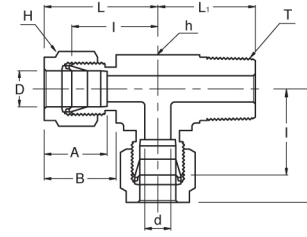


**Connects Fractional Tubes To SAE/MS Straight Thread Boss**

Part No.	Tube O.D. D (inch)	T (U)	d Min	Width Across Flat			A	B	I	L	L1	C
				h1	h2	H						
PAP-PMBT 4 - 4U	1/4	7/16-20	4.83	1/2	9/16	9/16	15.24	17.78	21.08	28.45	28.45	16.51
PAP-PMBT 6 - 6U	3/8	9/16-18	7.11	5/8	11/16	11/16	16.76	19.30	24.64	32.00	32.26	20.07
PAP-PMBT 8 - 8U	1/2	3/4-16	10.41	13/16	7/8	7/8	22.86	21.84	27.43	37.59	37.85	25.65
PAP-PMBT 12- 12U	3/4	1-1/16-12	15.75	1-1/16	1-1/4	1-1/8	24.38	21.84	31.24	41.40	48.77	36.58
PAP-PMBT 16- 16U	1	1-5/16-12	22.35	1-3/8	1-1/2	1-1/2	31.24	26.42	38.35	50.55	53.59	43.94
PAP-PMBT 20- 20U	1-1/4	1-5/8-12	27.69	1-11/16	1-7/8	1-7/8	41.15	38.86	45.72	67.82	58.17	54.86
PAP-PMBT 24- 24U	1-1/2	1-7/8-12	34.04	2	2-1/8	2-1/4	50.04	45.21	50.80	77.98	60.45	62.23
PAP-PMBT 32- 32U	2	2-1/2-12	45.97	2-3/4	2-3/4	3	67.56	62.74	69.85	107.19	71.63	80.26

• All dimensions in millimeters unless specified as "inch"

**PAP-MRT**  
**Male Run Tee**



**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	L <sub>1</sub>
				h (inch)	H (inch)					
PAP-MRT 2 - 2N	1/8	1/8	2.28	1/2	7/16	12.70	15.24	18.30	24.91	18.90
PAP-MRT 2 - 4N	1/8	1/4	2.28	1/2	7/16	12.70	15.24	18.03	24.63	23.36
PAP-MRT 3 - 2N	3/16	1/8	3.04	1/2	1/2	13.71	16.00	17.78	25.40	18.79
PAP-MRT 4 - 2N	1/4	1/8	4.82	1/2	9/16	15.24	17.78	19.55	26.92	18.79
PAP-MRT 4 - 4N	1/4	1/4	4.82	1/2	9/16	15.24	17.78	19.55	26.92	23.36
PAP-MRT 5 - 2N	5/16	1/8	4.82	5/8	5/8	16.25	18.54	22.35	29.71	20.82
PAP-MRT 6 - 4N	3/8	1/4	7.11	5/8	11/16	16.76	19.30	23.11	30.48	25.40
PAP-MRT 6 - 6N	3/8	3/8	7.11	5/8	11/16	16.76	19.30	23.10	30.48	28.19
PAP-MRT 8 - 6N	1/2	3/8	9.65	13/16	7/8	22.86	21.84	25.90	36.06	28.19
PAP-MRT 8 - 8N	1/2	1/2	10.41	13/16	7/8	22.86	21.84	25.90	36.06	33.02
PAP-MRT 10 - 8N	5/8	1/2	11.93	1	1	24.38	21.84	28.70	38.86	35.81
PAP-MRT 12 - 12N	3/4	3/4	15.74	1-1/16	1-1/8	24.38	21.84	29.71	39.87	36.83

\* ISO Tapered Threads are available upon request

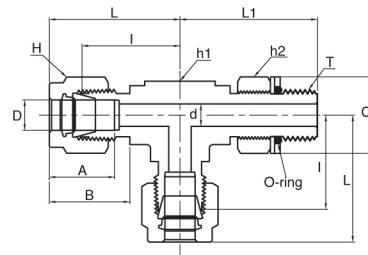
**Connects Metric Tubes To Female ISO Tapered Thread**

Part No.	Tube O.D. D	T* R (PT)	d Min	Width Across Flat		A	B	I	L	L <sub>1</sub>
				h	H					
PAP-MRT 3M- 2R	3	1/8	2.4	12.7	12	12.9	15.3	17.0	23.6	17.8
PAP-MRT 3M- 4R	3	1/4	2.4	12.7	12	12.9	15.3	18.0	24.6	23.4
PAP-MRT 4M- 2R	4	1/8	2.4	12.7	12	13.7	16.1	18.8	25.4	18.8
PAP-MRT 6M- 2R	6	1/8	4.8	12.7	14	15.3	17.7	19.6	27.0	18.8
PAP-MRT 6M- 4R	6	1/4	4.8	14.2	14	15.3	17.7	19.6	27.0	23.4
PAP-MRT 8M- 2R	8	1/8	4.8	14.3	16	16.2	18.6	21.3	28.8	19.8
PAP-MRT 8M- 4R	8	1/4	6.4	14.3	16	16.2	18.6	21.3	28.8	24.4
PAP-MRT 10M- 4R	10	1/4	7.1	17.5	19	17.2	19.5	23.9	31.5	28.2
PAP-MRT 10M- 6R	10	3/8	7.9	17.5	19	17.2	19.5	23.9	31.5	28.2
PAP-MRT 12M- 4R	12	1/4	7.1	20.6	22	22.8	22.0	25.9	36.0	28.2
PAP-MRT 12M- 6R	12	3/8	9.5	20.6	22	22.8	22.0	25.9	36.0	28.2
PAP-MRT 12M- 8R	12	1/2	9.5	20.6	22	22.8	22.0	25.9	36.0	33.0
PAP-MRT 16M- 6R	16	3/8	9.5	25.4	25	24.4	22.0	27.9	38.0	30.2
PAP-MRT 16M- 8R	16	1/2	11.9	25.4	25	24.4	22.0	27.9	38.0	35.1
PAP-MRT 20M- 12R	20	3/4	15.9	31.8	32	26.0	22.0	34.5	44.6	41.7

\* NPT Threads are available upon request

• All dimensions in millimeters unless specified as "inch"

**PAP-PMRT**  
Positionable  
Male Run Tee



**Connects Fractional Tubes To Female ISO Parallel Thread**

Part No.	Tube O.D. D (inch)	T (PF)	d Min	Width Across Flat			A	B	I	L	L1	C
				h1	h2	H						
PAP-PMRT 4 - 2G	1/4	1/8	4.06	1/2	9/16	9/16	15.24	17.78	19.56	26.92	26.42	17.27
PAP-PMRT 4 - 4G	1/4	1/4	4.83	5/8	3/4	9/16	15.24	17.78	21.59	28.96	32.26	22.86
PAP-PMRT 6 - 4G	3/8	1/4	5.84	5/8	3/4	11/16	16.76	19.30	21.11	30.48	32.26	22.86
PAP-PMRT 8 - 6G	1/4	3/8	7.87	13/16	7/8	7/8	22.86	21.84	25.91	36.07	37.08	26.42
PAP-PMRT 8 - 8G	3/8	1/2	10.41	15/16	1-1/16	7/8	22.86	21.84	27.94	38.10	43.43	32.00
PAP-PMRT 10 - 8G	1/2	1/2	11.94	15/16	1-1/16	1	24.38	21.84	27.94	38.10	43.43	32.00
PAP-PMRT 12 - 8G	3/4	1/2	11.94	1-1/16	1-1/16	1-1/8	24.38	21.84	29.72	39.88	45.21	32.00
PAP-PMRT 12 - 12G	3/4	3/4	15.75	1-1/16	1-3/8	1-1/8	24.38	21.84	29.72	39.88	48.77	41.15
PAP-PMRT 12 - 16G	1	1	19.81	1-3/8	1-5/8	1-1/2	31.24	26.42	36.83	49.02	53.59	48.51

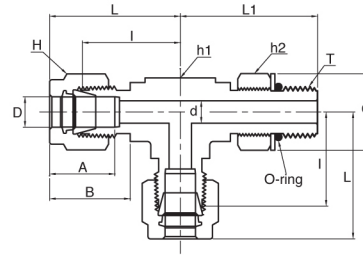
**Connects Metric Tubes To Female ISO Parallel Thread**

Part No.	Tube O.D. D (inch)	T (PF)	d Min	Width Across Flat			A	B	I	L	L1	C
				h1	h2	H						
PAP-PMRT 6M- 2G	6	1/8	4.0	1/2	9/16	14	15.3	17.7	19.6	27.0	26.4	17.3
PAP-PMRT 6M- 4G	6	1/4	4.8	5/8	3/4	14	15.3	17.7	21.6	29.0	32.2	22.9
PAP-PMRT 8M- 2G	8	1/8	4.0	9/16	9/16	16	16.2	18.6	21.3	28.8	27.4	17.3
PAP-PMRT 8M- 4G	8	1/4	6.4	5/8	3/4	16	16.2	18.6	22.4	29.9	32.2	22.9
PAP-PMRT 10M-4G	10	1/4	5.9	13/16	3/4	19	17.2	19.5	25.9	33.5	35.0	22.9
PAP-PMRT 12M-2G	10	3/8	7.9	13/16	7/8	22	22.8	22.0	25.9	36.0	37.1	26.4
PAP-PMRT 12M-8G	12	1/2	9.5	15/16	1-1/16	22	22.8	22.0	27.9	38.0	43.4	22.9

• All dimensions in millimeters unless specified as "inch"



**PAP-PMRT**  
Positionable  
Male Run Tee

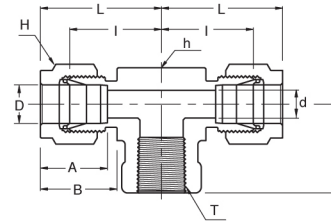


**Connects Fractional Tubes To SAE/MS Straight Thread**

Part No.	Tube O.D. D (inch)	T (U)	d Min	Width Across Flat			A	B	I	L	L1	C
				h1	h2	H						
PAP-PMRT 4 - 4U	1/4	7/16-20	4.83	1/2	9/16	9/16	15.24	17.78	21.08	28.45	28.45	16.51
PAP-PMRT 6 - 6U	3/8	9/16-18	7.11	5/8	11/16	11/16	16.76	19.30	24.64	32.00	32.26	20.07
PAP-PMRT 8 - 8U	1/2	3/4-16	10.41	13/16	7/8	7/8	22.86	21.84	27.43	37.59	37.85	25.65
PAP-PMRT 12 - 12U	3/4	1-1/16-12	15.75	1-1/16	1-1/4	1-1/8	24.38	21.84	31.24	41.40	48.77	36.58
PAP-PMRT 16 - 16U	1	1-5/16-12	22.35	1-3/8	1-1/2	1-1/2	31.24	26.42	38.35	50.55	53.59	43.94
PAP-PMRT 20 - 20U	1-1/4	1-5/8-12	27.69	1-11/16	1-7/8	1-7/8	41.15	38.86	45.72	67.82	58.17	54.86
PAP-PMRT 24 - 24U	1-1/2	1-7/8-12	34.04	2	2-1/8	2-1/4	50.04	45.21	50.80	77.98	60.45	62.23
PAP-PMRT 32 - 32U	2	2-1/2-12	45.97	2-3/4	2-3/4	3	67.56	62.74	69.85	107.19	71.63	80.26

• All dimensions in millimeters unless specified as "inch"

**PAP-FBT**  
Female Branch Tee



**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	L <sub>1</sub>
				h (inch)	H (inch)					
PAP-FBT 2 - 2N	1/8	1/8	2.28	1/2	7/16	12.70	15.24	18.03	24.63	19.05
PAP-FBT 4 - 2N	1/4	1/8	4.82	1/2	9/16	15.24	17.78	19.55	26.92	19.05
PAP-FBT 4 - 4N	1/4	1/4	4.82	11/16	9/16	15.24	17.78	22.35	29.71	22.35
PAP-FBT 6 - 4N	3/8	1/4	7.11	11/16	11/16	16.76	19.30	23.87	31.24	22.35
PAP-FBT 6 - 6N	3/8	3/8	7.11	13/16	11/16	16.76	19.30	25.90	33.27	22.35
PAP-FBT 6 - 8N	3/8	1/2	7.11	1	11/16	16.76	19.30	28.70	36.07	28.45
PAP-FBT 8 - 4N	1/2	1/4	10.41	13/16	7/8	22.86	21.84	25.90	36.06	22.35
PAP-FBT 8 - 6N	1/2	3/8	10.41	13/16	7/8	22.86	21.84	25.90	36.06	22.35
PAP-FBT 8 - 8N	1/2	1/2	10.41	1	7/8	22.86	21.84	28.70	38.86	28.44
PAP-FBT 10 - 8N	5/8	1/2	12.70	1	1	24.38	21.84	28.70	38.86	28.44
PAP-FBT 12 - 12N	3/4	3/4	15.74	1-3/8	1-1/8	24.38	21.84	34.54	44.70	31.75
PAP-FBT 16 - 12N	1	3/4	22.35	1-3/8	1-1/2	31.24	26.41	36.83	49.02	31.75
PAP-FBT 16 - 16N	1	1	22.35	1-11/16	1-1/2	31.24	26.41	41.40	53.59	38.10

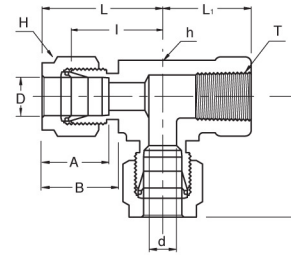
**Connects Metric Tubes To Male NPT Thread**

Part No.	Tube O.D. D	T* (NPT)	d Min	Width Across Flat		A	B	I	L	L <sub>1</sub>
				h	H					
PAP-FBT 6M- 2N	6	1/8	4.8	12.70	14	15.3	17.7	19.6	27.0	19.0
PAP-FBT 6M- 4N	6	1/4	4.8	17.46	14	15.3	17.7	22.4	29.8	22.4
PAP-FBT 6M- 6N	6	3/8	4.8	20.63	14	15.3	17.7	24.4	31.7	22.4
PAP-FBT 6M- 8N	6	1/2	4.8	25.40	14	15.3	17.7	27.2	34.5	28.4
PAP-FBT 8M- 2N	8	1/8	6.4	15.87	16	16.2	18.6	22.4	29.9	19.0
PAP-FBT 8M- 4N	8	1/4	6.4	17.46	16	16.2	18.6	23.1	30.6	22.4
PAP-FBT 8M- 6N	8	3/8	6.4	20.63	16	16.2	18.6	25.2	32.4	22.4
PAP-FBT 8M- 8N	8	1/2	6.4	25.40	16	16.2	18.6	28.0	35.2	28.4
PAP-FBT 10M- 4N	10	1/4	7.9	20.63	19	17.2	19.5	25.9	33.5	22.4
PAP-FBT 10M- 6N	10	3/8	7.9	20.63	19	17.2	19.5	25.9	33.3	22.4
PAP-FBT 10M- 8N	10	1/2	9.5	25.40	19	17.2	19.5	26.2	33.6	22.4
PAP-FBT 12M- 4N	12	1/4	9.5	20.63	22	22.8	22.0	25.9	36.0	22.4
PAP-FBT 12M- 6N	12	3/8	9.5	20.63	22	22.8	22.0	25.9	36.0	22.4
PAP-FBT 12M- 8N	12	1/2	9.5	25.40	22	22.8	22.0	29.7	40.0	28.4
PAP-FBT 16M- 8N	16	1/2	12.7	25.40	25	24.4	22.0	28.7	38.8	28.4

\* ISO Tapered Threads are available upon request

• All dimensions in millimeters unless specified as "inch"

**PAP-FRT**  
**Female Run Tee**



**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	L <sub>1</sub>
				h (inch)	H (inch)					
PAP-FRT 2 - 2N	1/8	1/8	2.28	1/2	7/16	12.70	15.24	18.03	24.63	19.05
PAP-FRT 4 - 2N	1/4	1/8	4.82	1/2	9/16	15.24	17.78	19.55	26.92	19.05
PAP-FRT 4 - 4N	1/4	1/4	4.82	11/16	9/16	15.24	17.78	22.35	29.71	22.35
PAP-FRT 5 - 4N	3/8	1/4	7.11	11/16	11/16	16.76	19.30	23.87	31.24	22.35
PAP-FRT 8 - 6N	1/2	3/8	10.41	13/16	7/8	22.86	21.84	25.90	36.06	22.35
PAP-FRT 8 - 8N	1/2	1/2	10.41	1	7/8	22.86	21.84	28.70	39.87	28.44
PAP-FRT 12 - 12N	3/4	3/4	15.74	1-3/8	1-1/8	24.38	21.84	34.54	44.70	31.75
PAP-FRT 16 - 12N	1	3/4	22.35	1-3/8	1-1/2	31.24	26.41	36.83	49.02	31.75
PAP-FRT 16 - 16N	1	1	22.35	1-11/16	1-1/2	31.24	26.41	41.40	53.59	38.10

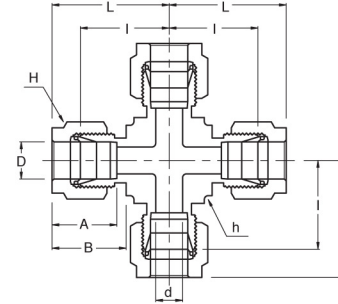
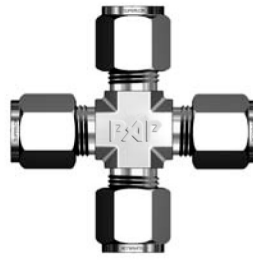
**Connects Metric Tubes To Male NPT Thread**

Part No.	Tube O.D. D	T* (NPT)	d Min	Width Across Flat		A	B	I	L	L <sub>1</sub>
				h	H					
PAP-FRT 6M - 2N	6	1/8	4.8	12.70	14	15.3	17.7	19.6	27.0	19.0
PAP-FRT 6M - 4N	6	1/4	4.8	17.46	14	15.3	17.7	22.4	29.8	22.4
PAP-FRT 6M - 8N	6	1/2	4.8	25.40	14	15.3	17.7	27.2	34.5	28.4
PAP-FRT 8M - 2N	8	1/8	6.4	15.87	16	16.2	18.6	22.4	29.9	19.0
PAP-FRT 8M - 4N	8	1/4	6.4	17.46	16	16.2	18.6	23.1	30.6	22.4
PAP-FRT 8M - 6N	8	3/8	6.4	20.63	16	16.2	18.6	25.2	32.4	22.4
PAP-FRT 8M - 8N	8	1/2	6.4	25.40	16	16.2	18.6	28.0	35.2	28.4
PAP-FRT 12M - 4N	12	1/4	9.5	20.63	22	22.8	22.0	25.9	33.5	22.4
PAP-FRT 12M - 6N	12	3/8	9.5	20.63	22	22.8	22.0	25.9	36.0	22.4
PAP-FRT 12M - 8N	12	1/2	9.5	26.98	22	22.8	22.0	29.7	40.0	28.4
PAP-FRT 16M - 8N	16	1/2	12.7	25.40	25	24.4	22.0	29.7	39.8	28.4

\* ISO Tapered Threads are available upon request

• All dimensions in millimeters unless specified as "inch"

**PAP-UC**  
Union Cross



**Connects Fractional Tubes**

Part No.	Tube O.D. D (inch)	d Min	Width Across Flat		A	B	I	L
			h (inch)	H (inch)				
PAP-UC - 1	1/16	1.27	3/8	5/16	8.63	10.92	14.00	18.03
PAP-UC - 2	1/8	2.28	3/8	7/16	12.70	15.24	15.74	22.35
PAP-UC - 3	3/16	3.04	1/2	1/2	13.71	16.00	18.54	25.14
PAP-UC - 4	1/4	4.82	1/2	9/16	15.24	17.78	19.55	26.92
PAP-UC - 5	5/16	6.35	5/8	5/8	16.25	18.54	22.35	29.71
PAP-UC - 6	3/8	7.11	5/8	11/16	16.76	19.30	23.11	30.48
PAP-UC - 8	1/2	10.41	13/16	7/8	22.86	21.84	25.90	36.06
PAP-UC - 10	5/8	12.70	15/16	1	24.38	21.84	28.70	38.80
PAP-UC - 12	3/4	15.74	1-1/16	1-1/8	24.38	21.84	29.71	39.87
PAP-UC - 14	7/8	18.28	1-3/8	1-1/4	25.90	21.84	34.54	44.70
PAP-UC - 16	1	22.35	1-3/8	1-1/2	31.24	26.41	36.83	49.02

**Connects Metric Tubes**

Part No.	Tube O.D. D	d Min	Width Across Flat		A	B	I	L
			h	H				
PAP-UC 3M	3	2.4	9.5	12	12.9	15.3	15.7	22.3
PAP-UC 6M	6	4.8	12.7	14	15.3	17.7	19.6	27.0
PAP-UC 8M	8	6.4	15.9	16	16.2	18.6	22.4	29.9
PAP-UC 10M	10	7.9	20.6	19	17.2	19.5	25.9	33.5
PAP-UC 12M	12	9.5	20.6	22	22.8	22.0	25.9	36.0
PAP-UC 16M	16	12.7	23.8	25	24.4	22.0	26.9	37.0
PAP-UC 18M	18	15.1	27.0	30	24.4	22.0	28.2	38.3
PAP-UC 20M	20	15.9	34.9	32	26.0	22.0	34.5	44.6
PAP-UC 25M	25	21.8	34.9	38	31.3	26.5	36.8	49.1

• All dimensions in millimeters unless specified as "inch"