



# ICONIC ENGINEERING



## Instrumentation

- TUBE FITTING
- PIPE FITTING
- NEEDLE VALVE
- MANIFOLD VALVE

The profession for best quality and best results.

One stand instrumentation solution / control & leak solution

## About the company

**ICONIC ENGINEERING** A fast growing manufacturing company having over 2 decades of experience and expertise in manufacturing and marketing high quality Fittings and Valves suitable for Instrumentation, Hydraulic and Pneumatics application, used in industries like Automobile, Chemical, Petrochemical, oil & Gas, nuclear, Power Plant, Pharmaceutical, Marine, Packaging, Printing Industries etc

## Manufacture

We manufacture each and every component of our products in our own manufacturing facilities using various CNC Lathes, VMC Lathes, and Auto screw machines etc. to very close tolerances by closely monitoring critical dimensions, surface finishes, run out, sharp edges etc. after referring and meeting the requirements as per drawing, under rigid quality controlled procedures approved to ISO 9001 : 2015, which ensures consistent quality and high performance products.

## Quality

Chartered Accel Industries has total quality management culture from the incoming high quality traceable raw material to finish products ensuring our commitment to efficient and high-quality products compatible with ISO 9001: 2015. This is achieved by continuously improving the products, process and systems. At every stage, we have controlled quality checks so that all our supplies reach to our customers with zero defect

## Packing

All exposed threads of the products are protected with plastic caps to prevent damage, each assembly is packed in sealed and clear polyethylene bag for cleanliness and carefully packed in cardboard boxes to prevent transit damage. Each and every package is labeled for proper and easy identification



## Pipe End Thread Information

The end connections with the lower pressure rating is the determining factor of pressure rating for the fittings with both Uni-Lok tube ends and pipe thread ends .

## Pressure Rating for Pipe End Thread

### Tapered Pipe Threads - NPT or ISO 7/1(BSPT)

Allowable pressure ratings for male and female threads are based on ASME B31.3 at ambient temperature.

Pipe Size	316SS				Brass		
	Male		Female		Male	Female	
inch	bar	psig	bar	psig	psig	bar	psig
1/16	760	11000	460	6700	5500	230	3300
1/8	690	10000	440	6500	5000	220	3200
1/4	550	8000	450	6600	4000	220	3300
3/8	540	7800	360	5300	3900	180	2600
1/2	530	7700	330	4900	3800	160	2400
3/4	500	7300	320	4600	3600	160	2300
1	370	5300	300	4400	2600	150	2200
1-1/4	410	6000	350	5000	3000	170	2500
1-1/2	340	5000	310	4600	2500	150	2300
2	270	3900	270	3900	1900	130	1900

Designator for NPT pipe thread is N, ISO/7 is R.

## ISO 228/1 Parallel Thread (BSPP)

The pressure ratings are at ambient temperature.

Male Pipe Size	316SS	
	bar	psig
1/8	316	4568
1/4	315	4568
3/8	315	4568
1/2	160	2320

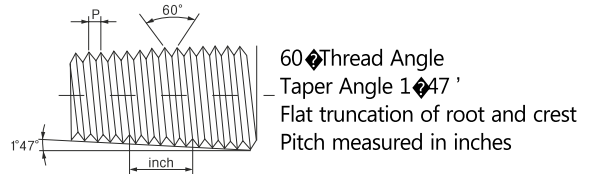
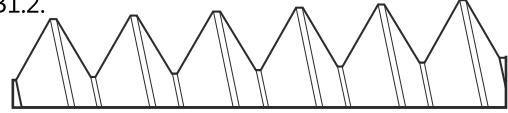
## O-Seal Fittings

Rated to 206 bar (3000 psig) for 316SS fittings up to 1 inch and 25mm

## Kinds of Pipe End Thread

### NPT Pipe Thread

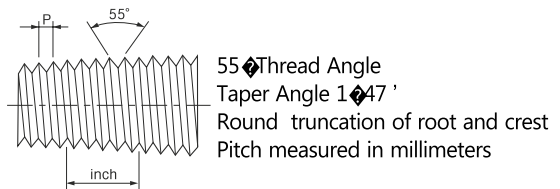
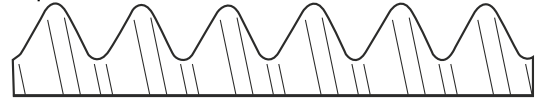
NPT (National Pipe Thread) is based on ANSI B1.2.



### ISO 7/1 Tapered Pipe Thread

International Organization for Standard (ISO 7/1) Tapered (PT)

Equivalent to BSPT (British Standard Pipe Taper Thread), DIN 2999, JIS B0203

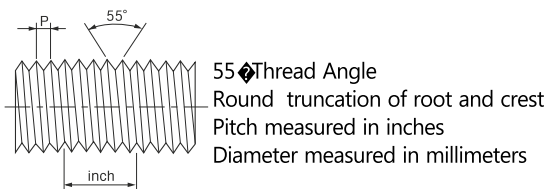
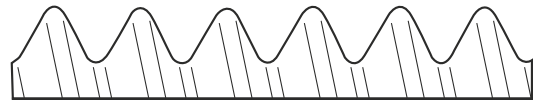


### ISO 228/1 Parallel Pipe Thread

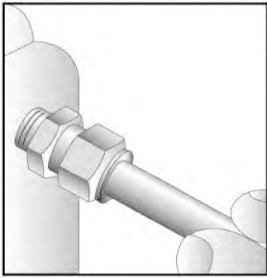
International Organization for Standard (ISO 228/1) Parallel (PF)

Equivalent to BSPP (British Standard Pipe Parallel Thread), DIN ISO228/1, JIS B0202

Gasket or O-ring is normally used to seal into the parallel female threaded components.



## Tube Fitting Installation Instruction



1. Firmly insert the tubing until it bottoms in the fitting body.
2. Finger tighten the nut.
3. Mark the nut at the 6 o'clock position, with pencil or scribe.

4. Hold the body with a backup wrench, or vice, then tighten nut.

5. 1-1/4 turns to the 9 o'clock position.

**Reassembly** - Simply insert tube assembly into fitting body, tighten nut to the original position as indicated by the previous mark, then snug up slightly with a wrench.

## Materials

Tube Fitting are available in various kinds of materials as below. Straight fittings are machined from cold finished bar stock and shaped fittings from forgings. For more details or special application, contact your local distributors.

Materials	Bar Stock	Forgings
316 SS or 316L SS	ASTM A479 ASME SA479	ASTM A182 ASME SA182
Brass <sup>Ⓞ</sup>	ASTM B16 ASTM B453	ASTM B283
Alloy 400 (Monel <sup>®</sup> )	ASTM B164	
Alloy 600 (Inconel <sup>®</sup> )	ASTM B166	ASTM B564
Alloy 625 (Inconel <sup>®</sup> )	ASTM B166	ASME SB564
Alloy 825 (Incoloy <sup>®</sup> )	ASTM B425	
Alloy C-276 (Hastelloy <sup>Ⓞ</sup> )	ASTM B574	ASTM B564
PTFE	ASTM D1710	ASTM D3294
Alloy 2205 / UNS 32205(Duplex)	ASTM A479	ASTM A182
Alloy 2207 / UNS 32750(Super Duplex)	ASTM A479	
UNS 31254 (Incoloy 25-6MO <sup>®</sup> )	ASTM B649	-

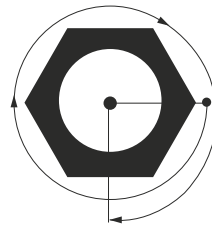
<sup>Ⓞ</sup>Nickel plating is available as optional.

\*Monel, Inconel, Incoloy, Incoloy 25-6MO are the trade marks of Special Metals.

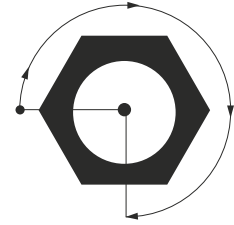
\*Hastelloy C is the trade mark of Haynes International.

6. The above applies to all fittings from 1/4 to 1" (6mm to 25mm).

1/4" ~1" O.D.  
6mm~25mm O.D.



1/16" ~3/16" O.D.  
2mm~4mm O.D.



7. Fittings from 1/8" to 3/16" (3mm to 4mm), only 3/4 turn is required.

## Sour Environment Services

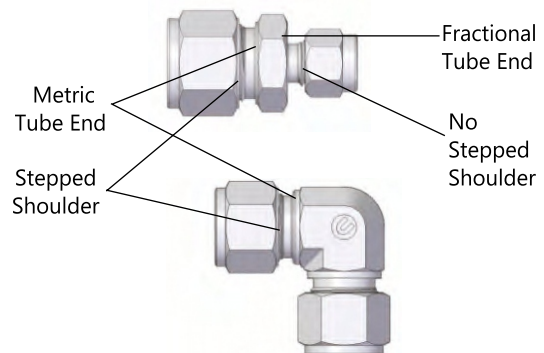
Tube Fittings are comply with NACE MR-0175/ISO

115156 for sour oilfield application or NACE MR-0103 for petroleum refining operations.

To order, add - N to the end of part number.

## Identification of Metric Tube Fittings

Every tube Fitting with metric tube end have a stepped shoulder to distinguish the fittings with fractional tube end.



## Cleaning

Tube Fittings are free from machine oils, loose particles and grease throughout the close cleaning process. tube fittings for oxygen enriched systems are available by the special cleaning procedure. To order, add - SC to the part number.





## Tubing Information

The proper selection of tubing is essential to assure maximum fitting reliability and performance. When choosing tubing material, size and wall thickness, consider system's pressure, flow rate, temperature, environment and compatibility with great care.

### Maximum Allowable Working Pressure

#### Stainless Steel Tubing

Fully annealed and seamless stainless steel tubing to comply with ASTM A269 or equivalent.

Hardness should not exceed Rb 80.

Tubing should be free from scratched and suitable for bending and flaring.

Fractional(Inch) Tubing											
Tube O.D. (inch)	Tube Wall Thickness (inch)										
	0.028	0.035	0.049	0.065	0.083	0.095	0.109	0.120	0.134	0.156	0.188
1/8	8550	10950									
3/16	5500	7100	10300								
1/4	4100	5200	7600	10300							
5/16		4100	5900	8100							
3/8		3350	4850	6550							
1/2		2650	3750	5150	6750						
5/8			2950	4050	5250	6050					
3/4			2450	3350	4250	4950	5850				
7/8			2050	2850	3650	4250	4850				
1				2400	3100	3600	4200	4700			
1-1/4					2400	2800	3300	3600	4100	4900	
1-1/2						2300	2700	3000	3400	4000	4900
2							2000	2200	2500	2900	3600

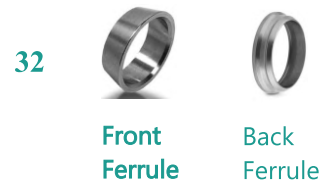
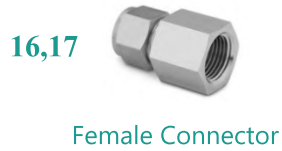
Metric Tubing											
Tube O.D. (mm)	Tube Wall Thickness (mm)										
	0.8	1.0	1.2	1.5	2.0	2.2	2.5	3.0	3.5	4.0	4.5
3	9700										
4	7900	11500									
6	4500	6100	7850	10300							
8		4500	5650	7550							
10		3500	4350	5800	8400						
12		2900	3600	4800	6800						
14		2300	2900	4000	5500	6250					
15		2200	2750	3650	5200	5800					
16			2450	3350	4800	5350	5800				
18			2150	2950	4200	4650	5350				
20			2030	2600	3750	4200	4800				
22			1750	2300	3350	3750	4350				
25					2900	3350	3750	4650			
38						2030	2300	2900	3500	3900	4500

For gas service application, use only tubing with wall thickness on outside of gray areas.

Allowable stress of 20000 psig between -30°C(-22°F) and 40°C(104°F) based on ultimate tensile strength to be 74000 psig.



# TUBE FITTING



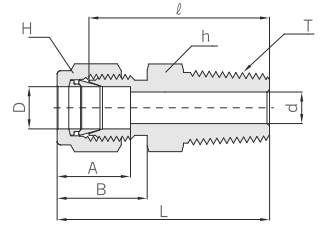
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# TUBE FITTING



## Male Connector IEMA



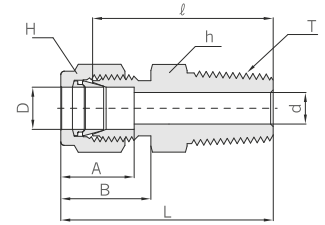
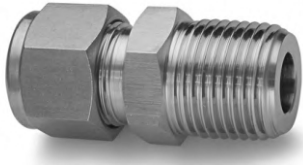
### Connects Fractional Tube To Female NPT Thread

Part No.	Tube O.D. D		T* (NPT)	d Min.	Width across flat				A	B	ℓ	L
	in	mm			h		H					
					in	mm	in	mm				
1-IEMC 1N	1/16	1.58	1/16	1.27	5/16	7.93	5/16	7.93	8.63	10.92	20.00	23.83
1-IEMC 2N	1/16	1.58	1/8	1.27	7/16	11.11	7/16	11.11	8.63	10.92	22.35	26.23
1-IEMC 4N	1/16	1.58	1/4	1.27	9/16	14.28	5/16	7.93	8.63	10.92	27.17	30.98
2-IEMC 1N	1/8	3.17	1/16	2.28	7/16	11.11	7/16	11.11	12.70	15.24	23.11	29.71
2-IEMC 2N	1/8	3.17	1/8	2.28	7/16	11.11	7/16	11.11	12.70	15.24	23.87	30.48
2-IEMC 4N	1/8	3.17	1/4	2.28	9/16	14.28	7/16	11.11	12.70	15.24	28.95	35.56
2-IEMC 6N	1/8	3.17	3/8	2.28	11/16	17.46	7/16	11.11	12.70	15.24	29.21	35.81
2-IEMC 8N	1/8	3.17	1/2	2.28	7/8	22.22	7/16	11.11	12.70	15.24	35.56	42.16
3-IEMC 2N	3/16	4.76	1/8	3.04	7/16	11.11	1/2	12.70	13.71	16.00	24.63	31.24
3-IEMC 4N	3/16	4.76	1/4	3.04	9/16	14.28	1/2	12.70	13.71	16.00	29.71	36.32
4-IEMC 1N	1/4	6.35	1/16	4.82	1/2	12.70	9/16	14.28	15.24	17.78	25.40	32.76
4-IEMC 2N	1/4	6.35	1/8	4.82	1/2	12.70	9/16	14.28	15.24	17.78	25.40	32.76
4-IEMC 4N	1/4	6.35	1/4	4.82	9/16	14.28	9/16	14.28	15.24	17.78	30.48	37.84
4-IEMC 6N	1/4	6.35	3/8	4.82	11/16	17.46	9/16	14.28	15.24	17.78	30.98	38.35
4-IEMC 8N	1/4	6.35	1/2	4.82	7/8	22.22	9/16	14.28	15.24	17.78	37.33	44.70
4-IEMC 12N	1/4	6.35	3/4	4.82	1-1/16	26.98	9/16	14.28	15.24	17.78	38.86	46.22
5-IEMC 2N	5/16	7.93	1/8	4.82	9/16	14.28	5/8	15.87	16.25	18.54	26.67	34.03
5-IEMC 4N	5/16	7.93	1/4	6.35	9/16	14.28	5/8	15.87	16.25	18.54	31.24	38.60
5-IEMC 6N	5/16	7.93	3/8	6.35	11/16	17.46	5/8	15.87	16.25	18.54	31.75	39.11
6-IEMC 2N	3/8	9.52	1/8	4.82	5/8	15.87	11/16	17.46	16.76	19.30	27.94	35.30
6-IEMC 4N	3/8	9.52	1/4	7.11	5/8	15.87	11/16	17.46	16.76	19.30	32.51	39.87
6-IEMC 6N	3/8	9.52	3/8	7.11	11/16	17.46	11/16	17.46	16.76	19.30	32.51	39.87
6-IEMC 8N	3/8	9.52	1/2	7.11	7/8	22.22	11/16	17.46	16.76	19.30	38.86	46.22
6-IEMC 12N	3/8	9.52	3/4	7.11	1-1/16	26.98	11/16	17.46	16.76	19.30	40.38	47.75
8-IEMC 2N	1/2	12.70	1/8	4.82	13/16	20.63	7/8	22.22	22.86	21.84	28.70	38.86
8-IEMC 4N	1/2	12.70	1/4	7.11	13/16	20.63	7/8	22.22	22.86	21.84	33.27	43.43
8-IEMC 6N	1/2	12.70	3/8	9.65	13/16	20.63	7/8	22.22	22.86	21.84	33.27	43.43
8-IEMC 8N	1/2	12.70	1/2	10.41	7/8	22.22	7/8	22.22	22.86	21.84	38.86	49.02
8-IEMC 12N	1/2	12.70	3/4	10.41	1-1/16	26.98	7/8	22.22	22.86	21.84	40.38	50.54
8-IEMC 16N	1/2	12.70	1	10.41	1-3/8	34.92	7/8	22.22	22.86	21.84	46.99	57.15
10-IEMC 6N	5/8	15.87	3/8	9.65	15/16	23.81	1	25.40	24.38	21.84	34.03	44.19
10-IEMC 8N	5/8	15.87	1/2	11.93	15/16	23.81	1	25.40	24.38	21.84	38.86	49.02
10-IEMC 12N	5/8	15.87	3/4	12.70	1-1/16	26.98	1	25.40	24.38	21.84	40.38	50.54
12-IEMC 8N	3/4	19.05	1/2	11.93	1-1/16	26.98	1-1/8	28.57	24.38	21.84	40.38	50.54
12-IEMC 12N	3/4	19.05	3/4	15.74	1-1/16	26.98	1-1/8	28.57	24.38	21.84	40.38	50.54
12-IEMC 16N	3/4	19.05	1	15.74	1-3/8	34.92	1-1/8	28.57	24.38	21.84	46.99	57.15
14-IEMC 12N	7/8	22.22	3/4	15.74	1-3/16	30.16	1-1/4	31.75	25.90	21.84	40.38	50.54
14-IEMC 16N	7/8	22.22	1	18.28	1-3/8	34.92	1-1/4	31.75	25.90	21.84	46.99	57.15
16-IEMC 8N	1	25.40	1/2	11.93	1-3/8	34.92	1-1/2	38.10	31.24	26.41	45.21	57.40
16-IEMC 12N	1	25.40	3/4	15.74	1-3/8	34.92	1-1/2	38.10	31.24	26.41	45.21	57.40
16-IEMC 16N	1	25.40	1	22.35	1-3/8	34.92	1-1/2	38.10	31.24	26.41	50.03	62.23

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# Male Connector IEMC



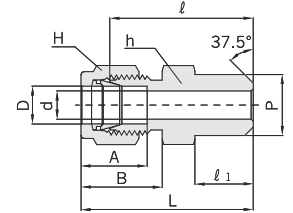
## Connects Metric Tube To Female ISO Tapered Thread

Part No.	Tube O.D. D	T* R(PT)	d Min	Width across flat		A	B	ℓ	L
				h	H				
IEMC 2M-2R	2	1/8	1.7	12	12	12.9	15.3	23.9	30.5
IEMC 3M-2R	3	1/8	2.4	12	12	12.9	15.3	23.9	30.5
IEMC 3M-4R	3	1/4	2.4	14	12	12.9	15.3	29.0	35.6
IEMC 4M-2R	4	1/8	2.4	12	12	13.7	16.1	24.6	31.2
IEMC 4M-4R	4	1/4	2.4	14	12	13.7	16.1	29.7	36.3
IEMC 6M-2R	6	1/8	4.8	14	14	15.3	17.7	25.4	32.8
IEMC 6M-4R	6	1/4	4.8	14	14	15.3	17.7	30.5	37.9
IEMC 6M-6R	6	3/8	4.8	18	14	15.3	17.7	31.0	38.4
IEMC 6M-8R	6	1/2	4.8	22	14	15.3	17.7	37.3	44.7
IEMC 8M-2R	8	1/8	4.8	15	16	16.2	18.6	26.7	34.2
IEMC 8M-4R	8	1/4	6.4	15	16	16.2	18.6	31.2	38.7
IEMC 8M-6R	8	3/8	6.4	18	16	16.2	18.6	31.8	39.2
IEMC 8M-8R	8	1/2	6.4	22	16	16.2	18.6	38.1	45.6
IEMC 10M-2R	10	1/8	4.8	18	19	17.2	19.5	28.7	36.3
IEMC 10M-4R	10	1/4	7.1	18	19	17.2	19.5	33.3	40.9
IEMC 10M-6R	10	3/8	7.9	18	19	17.2	19.5	33.3	40.9
IEMC 10M-8R	10	1/2	7.9	22	19	17.2	19.5	38.9	46.5
IEMC 12M-2R	12	1/4	7.1	22	22	22.8	22.0	33.3	43.4
IEMC 12M-4R	12	3/8	9.5	22	22	22.8	22.0	33.3	43.4
IEMC 12M-6R	12	1/2	9.5	22	22	22.8	22.0	38.9	49.0
IEMC 12M-8R	12	3/4	9.5	27	22	22.8	22.0	40.4	50.5
IEMC 15M-8R	15	1/2	11.9	24	25	24.4	22.0	38.9	49.0
IEMC 16M-4R	16	1/4	7.1	24	25	24.4	22.0	34.0	44.1
IEMC 16M-6R	16	3/8	9.5	24	25	24.4	22.0	34.0	44.1
IEMC 16M-8R	16	1/2	11.9	24	25	24.4	22.0	38.9	49.0
IEMC 16M-12R	16	3/4	12.7	27	25	24.4	22.0	38.9	49.0
IEMC 18M-8R	18	1/2	11.9	27	30	24.4	22.0	40.4	50.5
IEMC 18M-12R	18	3/4	15.1	27	30	24.4	22.0	40.4	50.5
IEMC 20M-8R	20	1/2	11.9	30	32	26.0	22.0	42.2	52.3
IEMC 20M-12R	20	3/4	15.9	30	32	26.0	22.0	42.2	52.3
IEMC 22M-12R	22	3/4	15.9	30	32	26.0	22.0	42.2	52.3
IEMC 22M-16R	22	1	18.3	35	32	26.0	22.0	47.0	57.0
IEMC 25M-12R	25	3/4	15.9	35	38	31.3	26.5	45.2	57.5
IEMC 25M-16R	25	1	21.8	35	38	31.3	26.5	50.0	62.3

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# Male Pipe Weld Connector IEPWC



## Connects Fractional Tube To Pipe

Part No.	Tube O.D. D		Male Pipe Size P		d Min.	Width across flat				A	B	ℓ	ℓ <sub>1</sub>	L
	in	mm	Nom.	O.D.		h		H						
						in	mm	in	mm					
IEPWC 2M- 2P	1/8	3.17	1/8	10.30	2.28	7/16	11.11	7/16	11.11	12.70	15.24	23.87	9.65	31.24
IEPWC 3M- 2P	3/16	4.76	1/8	10.30	3.04	7/16	11.11	1/2	12.70	13.71	16.00	24.63	9.65	31.24
IEPWC 4M- 2P	1/4	6.35	1/8	10.30	4.82	1/2	12.70	9/16	14.28	15.24	17.78	25.40	9.65	32.76
IEPWC 4M- 4P	1/4	6.35	1/4	13.70	4.82	9/16	14.28	9/16	14.28	15.24	17.78	30.48	14.22	37.84
IEPWC 5M- 2P	5/16	7.93	1/8	10.30	5.08	9/16	14.28	5/8	15.87	16.25	18.54	26.67	9.65	34.03
IEPWC 5M- 4P	5/16	7.93	1/4	13.70	6.35	9/16	14.28	5/8	15.87	16.25	18.54	31.24	14.22	38.60
IEPWC 6M- 4P	3/8	9.52	1/4	13.70	7.11	5/8	15.87	11/16	17.46	16.76	19.30	32.51	14.22	39.87
IEPWC 6M- 6P	3/8	9.52	3/8	17.10	7.11	11/16	17.46	11/16	17.46	16.76	19.30	32.51	14.22	39.87
IEPWC 6M- 8P	3/8	9.52	1/2	21.30	7.11	7/8	22.22	11/16	17.46	16.76	19.30	38.86	19.05	43.23
IEPWC 6M- 12P	3/8	9.52	3/4	26.67	7.11	1-1/16	26.98	11/16	17.46	16.76	19.30	40.38	19.05	47.75
IEPWC 8M- 6P	1/2	12.70	3/8	17.10	10.41	13/16	20.63	7/8	22.22	22.86	21.84	33.27	14.22	43.43
IEPWC 8M- 8P	1/2	12.70	1/2	21.30	10.41	7/8	22.22	7/8	22.22	22.86	21.84	38.86	19.05	49.02
IEPWC 8M- 12P	1/2	12.70	3/4	26.67	10.41	1-1/16	26.98	7/8	22.22	22.86	21.84	40.38	19.05	50.54
IEPWC10M- 8P	5/8	15.87	1/2	21.30	12.70	15/16	23.81	1	25.40	24.38	21.84	38.86	19.05	49.02
IEPWC12M-12P	3/4	19.05	3/4	26.67	15.74	1-1/16	26.98	1-1/8	28.57	24.38	21.84	40.38	19.05	50.54
IEPWC16M-16P	1	25.40	1	33.40	22.35	1-3/8	34.92	1-1/2	38.10	31.24	26.41	50.03	23.87	62.23

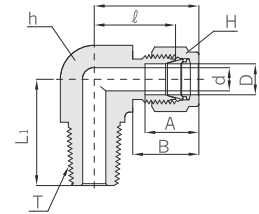
## Connects Metric Tube To Pipe

Part No .	Tube O.D. D	Male Pipe Size P		d Min.	Width across flat		A	B	ℓ	ℓ <sub>1</sub>	L
		Nom.	O.D.		h	H					
IEPWC 3M- 2P	3	1/8	10.3	2.4	12	12	12.9	15.3	23.1	9.7	29.7
IEPWC 4M- 2P	4	1/8	10.3	2.4	12	12	13.7	16.1	24.1	9.7	30.7
IEPWC 6M- 2P	6	1/8	10.3	4.8	14	14	15.3	17.7	25.4	9.7	32.8
IEPWC 6M- 4P	6	1/4	13.7	4.8	14	14	15.3	17.7	30.2	14.2	37.6
IEPWC 8M- 2P	8	1/8	10.3	5.1	15	16	16.2	18.6	26.7	9.7	34.2
IEPWC 8M- 4P	8	1/4	13.7	6.4	15	16	16.2	18.6	31.2	14.2	38.7
IEPWC 8M- 8P	8	1/2	21.3	6.4	22	16	16.2	18.6	37.3	19.0	44.8
IEPWC 10M- 4P	10	1/4	13.7	7.1	18	19	17.2	19.5	33.3	14.2	40.9
IEPWC 10M- 6P	10	3/8	17.1	7.9	18	19	17.2	19.5	33.3	14.2	40.1
IEPWC 10M- 8P	10	1/2	21.3	7.9	22	19	17.2	19.5	38.1	19.0	45.7
IEPWC 12M- 4P	12	1/4	13.7	7.1	22	22	22.8	22.0	33.3	14.2	43.4
IEPWC 12M- 6P	12	3/8	17.1	9.5	22	22	22.8	22.0	33.3	14.2	43.4
IEPWC 12M- 8P	12	1/2	21.3	9.5	22	22	22.8	22.0	38.1	19.0	48.2
IEPWC 14M- 6P	14	3/8	17.1	10.3	24	25	24.4	22.0	34.0	14.2	44.1
IEPWC 15M- 8P	15	1/2	21.3	11.9	24	25	24.4	22.0	38.9	19.0	49.0
IEPWC 16M- 8P	16	1/2	21.3	12.7	24	25	24.4	22.0	38.9	19.0	49.0
IEPWC 18M- 8P	18	1/2	21.3	13.5	27	30	24.4	22.0	40.4	19.0	50.5

All dimensions are reference only, and are subject to change without prior notice. Sizes and types other than those featured above are available on request.



# Male Elbow IEME



## Connects Fractional Tube To Female NPT Thread

Part No.	Tube O.D. D		T* (NPT)	d Min.	Width across flat				A	B	ℓ	L	L <sub>1</sub>
	in	mm			h		H						
					in	mm	in	mm					
IEME 1-1N	1/16	1.58	1/16	1.27	7/16	11.11	5/16	7.93	8.63	10.92	15.24	19.05	17.78
IEME 1-2N	1/16	1.58	1/8	1.27	7/16	11.11	5/16	7.93	8.63	10.92	15.24	19.05	17.78
IEME 2-2N	1/8	3.17	1/8	2.28	1/2	12.70	7/16	11.11	12.70	15.24	18.30	24.91	18.90
IEME 2-4N	1/8	3.17	1/4	2.28	1/2	12.70	7/16	11.11	12.70	15.24	18.30	24.91	23.36
IEME 3-2N	3/16	4.76	1/8	3.04	1/2	12.70	1/2	12.70	13.71	16.00	18.79	25.40	18.79
IEME 3-4N	3/16	4.76	1/4	3.04	1/2	12.70	1/2	12.70	13.71	16.00	18.79	25.40	23.36
IEME 4-1N	1/4	6.35	1/16	3.04	1/2	12.70	9/16	14.28	15.24	17.78	19.55	26.90	18.79
IEME 4-2N	1/4	6.35	1/8	4.82	1/2	12.70	9/16	14.28	15.24	17.78	19.10	26.47	19.10
IEME 4-4N	1/4	6.35	1/4	4.82	1/2	12.70	9/16	14.28	15.24	17.78	19.81	27.18	23.87
IEME 4-6N	1/4	6.35	3/8	4.82	11/16	17.46	9/16	14.28	15.24	17.78	22.35	29.71	28.40
IEME 4-8N	1/4	6.35	1/2	4.82	13/16	20.63	9/16	14.28	15.24	17.78	24.60	31.97	33.00
IEME 5-2N	5/16	7.93	1/8	4.82	9/16	14.28	5/8	15.87	16.25	18.54	21.33	28.70	19.81
IEME 5-4N	5/16	7.93	1/4	6.35	9/16	14.28	5/8	15.87	16.25	18.54	22.40	29.77	24.50
IEME 5-6N	5/16	7.93	3/8	6.35	11/16	17.46	5/8	15.87	16.25	18.54	23.11	30.48	28.40
IEME 6-2N	3/8	9.52	1/8	4.82	5/8	15.87	11/16	17.46	16.76	19.30	23.11	30.48	20.80
IEME 6-4N	3/8	9.52	1/4	7.11	5/8	15.87	11/16	17.46	16.76	19.30	23.11	30.48	25.40
IEME 6-6N	3/8	9.52	3/8	7.11	11/16	17.46	11/16	17.46	16.76	19.30	23.87	31.24	28.44
IEME 6-8N	3/8	9.52	1/2	7.11	13/16	20.63	11/16	17.46	16.76	19.30	23.80	31.42	33.02
IEME 6-12N	3/8	9.52	3/4	7.11	1-1/16	26.98	11/16	17.46	16.76	19.30	29.71	37.08	36.83
IEME 8-4N	1/2	12.70	1/4	7.11	13/16	20.63	7/8	22.22	22.86	21.84	25.90	36.06	28.30
IEME 8-6N	1/2	12.70	3/8	9.65	13/16	20.63	7/8	22.22	22.86	21.84	25.90	36.06	28.30
IEME 8-8N	1/2	12.70	1/2	10.41	13/16	20.63	7/8	22.22	22.86	21.84	25.90	36.06	33.02
IEME 8-12N	1/2	12.70	3/4	10.41	1-1/16	26.98	7/8	22.22	22.86	21.84	29.71	39.87	36.83
IEME10-6N	5/8	15.87	3/8	9.65	15/16	23.80	1	25.40	24.38	21.84	27.90	37.06	30.20
IEME10-8N	5/8	15.87	1/2	11.93	15/16	23.80	1	25.40	24.38	21.84	27.90	37.06	35.00
IEME10-12N	5/8	15.87	3/4	12.70	1-1/16	26.98	1	25.40	24.38	21.84	29.71	39.87	36.83
IEME12-8N	3/4	19.05	1/2	11.93	1-1/16	26.98	1-1/8	28.57	24.38	21.84	29.71	39.87	36.83
IEME12-12N	3/4	19.05	3/4	15.74	1-1/16	26.98	1-1/8	28.57	24.38	21.84	29.71	39.87	36.83
IEME14-12N	7/8	22.22	3/4	15.74	1-3/16	30.00	1-1/4	31.75	25.90	21.84	34.54	44.70	41.65
IEME16-12N	1	25.40	3/4	15.74	1-3/8	34.92	1-1/2	38.10	31.24	26.41	36.83	49.02	42.20
IEME16-16N	1	25.40	1	22.35	1-3/8	34.92	1-1/2	38.10	31.24	26.41	36.83	49.02	46.70

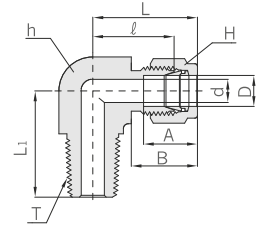
All dimensions are reference only, and are subject to change without prior notice. Sizes and types other than those featured above are available on request.







# Male Elbow IEME



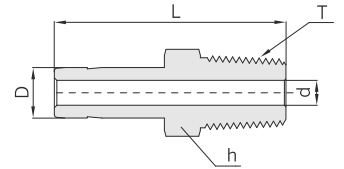
## Connects Metric Tube To Female ISO Tapered Thread

Part No.	Tube O.D. D	T* R(PT)	d Min.	Width across flat		A	B	l	L	L <sub>1</sub>
				h	H					
IEME 3M- 2R	3	1/8	2.4	12.7	12	12.9	15.3	17.0	23.6	17.8
IEME 3M- 4R	3	1/4	2.4	12.7	12	12.9	15.3	18.0	24.6	23.4
IEME 4M- 2R	4	1/8	2.4	12.7	12	13.7	16.1	18.8	25.4	18.8
IEME 4M- 4R	4	1/4	2.4	12.7	12	13.7	16.1	18.8	25.4	23.4
IEME 6M- 2R	6	1/8	4.8	12.7	14	15.3	17.7	19.6	27.0	18.8
IEME 6M- 4R	6	1/4	4.8	12.7	14	15.3	17.7	19.6	27.0	23.4
IEME 6M- 6R	6	3/8	4.8	17.5	14	15.3	17.7	22.4	29.8	26.2
IEME 6M- 8R	6	1/2	4.8	20.6	14	15.3	17.7	24.4	31.8	33.0
IEME 8M- 2R	8	1/8	4.8	14.3	16	16.2	18.6	21.3	28.8	19.8
IEME 8M- 4R	8	1/4	6.4	14.3	16	16.2	18.6	21.3	28.8	24.4
IEME 8M- 6R	8	3/8	6.4	17.5	16	16.2	18.6	23.9	31.4	28.5
IEME 8M- 8R	8	1/2	6.4	20.6	16	16.2	18.6	25.1	32.6	33.0
IEME 10M- 2R	10	1/8	4.8	17.5	19	17.2	19.5	23.9	31.5	23.6
IEME 10M- 4R	10	1/4	7.1	17.5	19	17.2	19.5	23.9	31.5	26.2
IEME 10M- 6R	10	3/8	7.9	17.5	19	17.2	19.5	23.9	31.5	26.2
IEME 10M- 8R	10	1/2	7.9	20.6	19	17.2	19.5	25.9	33.5	33.0
IEME 12M- 2R	12	1/8	4.8	20.6	22	22.8	22.0	25.9	36.0	23.6
IEME 12M- 4R	12	1/4	7.1	20.6	22	22.8	22.0	25.9	36.0	26.2
IEME 12M- 6R	12	3/8	9.5	20.6	22	22.8	22.0	25.9	36.0	26.2
IEME 12M- 8R	12	1/2	9.5	20.6	22	22.8	22.0	25.9	36.0	33.0
IEME 12M- 12R	12	3/4	9.5	27.0	22	22.8	22.0	29.7	39.8	36.8
IEME 16M- 6R	16	3/8	9.5	23.8	25	24.4	22.0	27.9	38.0	30.2
IEME 16M- 8R	16	1/2	11.9	23.8	25	24.4	22.0	27.9	38.0	35.1
IEME 16M- 12R	16	3/4	12.7	27.0	25	24.4	22.0	29.7	39.8	36.8
IEME 18M- 8R	18	1/2	11.9	27.0	30	24.4	22.0	29.7	39.8	36.8
IEME 18M- 12R	18	3/4	15.1	27.0	30	24.4	22.0	29.7	39.8	36.8
IEME 20M- 8R	20	1/2	11.9	34.9	32	26.0	22.0	34.5	44.6	41.7
IEME 20M- 12R	20	3/4	15.9	30.0	32	26.0	22.0	34.5	44.6	41.7
IEME 22M- 12R	22	3/4	15.9	30.0	32	26.0	22.0	34.5	44.6	41.7
IEME 22M- 16R	22	1	18.3	34.9	32	26.0	22.0	34.5	44.6	46.5
IEME 25M- 12R	25	3/4	15.9	34.9	38	31.3	26.5	36.8	49.1	41.7
IEME 25M- 16R	25	1	21.8	34.9	38	31.3	26.5	36.8	49.1	46.5

All dimensions are reference only, and are subject to change without prior notice. Sizes and types other than those featured above are available on request.



# Male Adapter IEMA



## Connects Fractional Port To Female NPT Thread

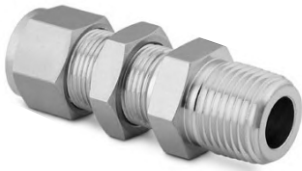
Part No.	Tube O.D. D		T* (NPT)	d (mm)	Width across flat h		L
	in	mm			in	mm	
IEMA 2- 2N	1/8	3.17	1/8	2.03	7/16	11.11	29.50
IEMA 2- 2N	1/8	3.17	1/4	2.03	9/16	14.28	34.80
IEMA 2- 2N	3/16	4.76	1/8	3.04	7/16	11.11	30.22
IEMA 2- 2N	3/16	4.76	1/4	3.04	9/16	14.28	35.56
IEMA 2- 2N	1/4	6.35	1/8	4.32	7/16	11.11	31.80
IEMA 2- 2N	1/4	6.35	1/4	4.32	9/16	14.28	37.08
IEMA 2- 2N	1/4	6.35	3/8	4.32	11/16	17.46	37.84
IEMA 2- 2N	1/4	6.35	1/2	4.32	7/8	22.22	43.43
IEMA 2- 2N	5/16	7.93	1/8	4.57	7/16	11.11	32.76
IEMA 2- 2N	5/16	7.93	1/4	5.59	9/16	14.28	38.10
IEMA 2- 2N	3/8	9.52	1/8	4.83	7/16	11.11	33.50
IEMA 2- 2N	3/8	9.52	1/4	6.86	9/16	14.28	38.90
IEMA 2- 2N	3/8	9.52	3/8	6.86	11/16	17.46	39.60
IEMA 2- 2N	3/8	9.52	1/2	6.86	7/8	22.22	45.20
IEMA 2- 2N	1/2	12.70	1/4	7.11	9/16	14.28	44.50
IEMA 2- 2N	1/2	12.70	3/8	9.40	11/16	17.46	45.20
IEMA 2- 2N	1/2	12.70	1/2	9.40	7/8	22.22	50.50
IEMA 2- 2N	5/8	15.87	3/8	9.65	11/16	17.46	47.40
IEMA 2- 2N	5/8	15.87	1/2	11.94	7/8	22.22	52.30
IEMA 2- 2N	5/8	15.87	3/4	11.94	1-1/16	26.98	52.30
IEMA 2- 2N	3/4	19.05	1/2	11.94	7/8	22.22	52.30
IEMA 2- 2N	3/4	19.05	3/4	14.73	1-1/16	26.98	52.30
IEMA 2- 2N	3/4	19.05	1	14.73	1-3/8	34.92	57.91
IEMA 2- 2N	7/8	22.22	3/4	15.75	1-1/16	26.98	54.30
IEMA 2- 2N	1	25.40	3/4	15.75	1-1/16	26.98	58.70
IEMA 2- 2N	1	25.40	1	20.32	1-3/8	34.92	66.00

## Connects Metric Port To Female ISO Taperad Thread

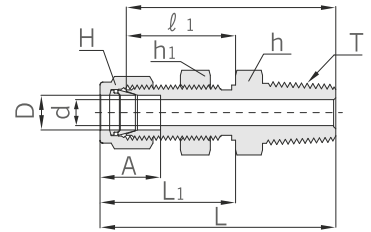
Part No.	Tube O.D. D	T* R(PT)	d Min.	Width across flat h	ℓ	L
IEMA 2- 2N	6	1/8	4.1	12	15.75	32.8
IEMA 2- 2N	6	1/4	4.1	14	15.75	38.1
IEMA 2- 2N	8	1/4	5.6	14	16.50	39.1
IEMA 2- 2N	10	1/4	7.1	14	17.50	39.9
IEMA 2- 2N	10	3/8	7.1	18	17.50	40.6
IEMA 2- 2N	10	1/2	7.1	22	17.50	45.2
IEMA 2- 2N	12	1/4	7.1	14	23.50	46.5
IEMA 2- 2N	12	3/8	8.8	17	23.50	46.2
IEMA 2- 2N	12	1/2	8.8	22	23.50	51.8
IEMA 2- 2N	18	1/2	11.9	22	24.90	53.2
IEMA 2- 2N	18	3/4	13.9	27	24.90	53.2

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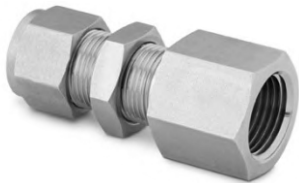


## Bulkhead Male Connector SEBMC

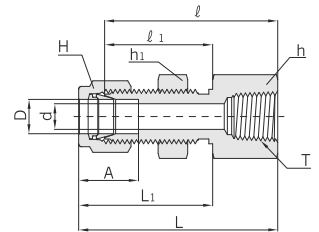


### Connects Fractional Tube To Female NPT Thread

Part No.	Tube O.D. D		T* (NPT)	d Min.	Width across flat						A	l	l <sub>1</sub>	L	L <sub>1</sub>	Panel Hole Drill Size	Panel Max. Thickness
	in	mm			h		h <sub>1</sub>		H								
					in	mm	in	mm	in	mm							
SEBMC 2 - 2N	1/8	3.17	1/8	2.28	1/2	12.70	1/2	12.70	7/16	11.11	12.70	39.87	24.63	46.48	31.24	8.33	12.20
SEBMC 4 - 2N	1/4	6.35	1/8	4.82	5/8	15.87	5/8	15.87	9/16	14.28	15.24	42.16	26.16	49.53	33.52	11.50	10.16
SEBMC 4 - 4N	1/4	6.35	1/4	4.82	5/8	15.87	5/8	15.87	9/16	14.28	15.24	45.97	26.16	53.34	33.52	11.50	10.16
SEBMC 6 - 4N	3/8	9.52	1/4	7.11	3/4	19.05	3/4	19.05	11/16	17.46	16.76	50.03	29.46	57.40	36.83	14.68	11.17
SEBMC 6 - 6N	3/8	9.52	3/8	7.11	3/4	19.05	3/4	19.05	11/16	17.46	16.76	50.03	29.46	57.40	36.83	14.68	11.17
SEBMC 6 - 8N	3/8	9.52	1/2	7.11	7/8	22.22	3/4	19.05	11/16	17.46	16.76	56.38	29.46	63.75	36.83	14.68	11.17
SEBMC 8 - 6N	1/2	12.70	3/8	9.39	15/16	23.81	15/16	23.81	7/8	22.22	22.86	53.08	31.75	63.24	41.91	19.44	12.70
SEBMC 8 - 8N	1/2	12.70	1/2	10.41	15/16	23.81	15/16	23.81	7/8	22.22	22.86	58.67	31.75	68.83	41.91	19.44	12.70
SEBMC 2 - 12N	3/4	19.05	3/4	15.74	1-3/16	30.16	1-3/16	30.16	1-1/8	28.57	24.38	66.04	37.33	76.20	47.49	25.76	16.76
SEBMC 6 - 16N	1	25.40	1	22.35	1-5/8	41.27	1-5/8	41.27	1-1/2	38.10	31.24	81.02	45.21	93.21	57.40	33.73	19.05



## Bulkhead Female Connector SEBFC



### Connects Fractional Tube To Male NPT Thread

Part No.	Tube O.D. D		T* (NPT)	d Min.	Width across flat						A	l	l <sub>1</sub>	L	L <sub>1</sub>	Panel Hole Drill Size	Panel Max. Thickness
	in	mm			h		h <sub>1</sub>		H								
					in	mm	in	mm	in	mm							
SEBFC 2 - 2N	1/8	3.17	1/8	2.28	9/16	14.28	1/2	12.70	7/16	11.11	12.70	38.10	24.63	44.70	31.24	8.38	12.70
SEBFC 4 - 2N	1/4	6.35	1/8	4.82	5/8	15.87	5/8	15.87	9/16	14.28	15.24	39.62	26.16	46.99	33.52	11.50	10.16
SEBFC 4 - 4N	1/4	6.35	1/4	4.82	3/4	19.05	5/8	15.87	9/16	14.28	15.24	44.45	26.16	51.81	33.52	11.50	10.16
SEBFC 6 - 4N	3/8	9.52	1/4	7.11	3/4	19.05	3/4	19.05	11/16	17.46	16.76	47.75	29.46	55.11	36.83	14.68	11.17
SEBFC 8 - 6N	1/2	12.70	3/8	10.41	15/16	23.81	15/16	23.81	7/8	22.22	22.86	51.56	31.75	61.72	41.91	19.44	12.70
SEBFC 8 - 8N	1/2	12.70	1/2	10.41	1-1/16	26.98	15/16	23.81	7/8	22.22	22.86	56.38	31.75	66.54	41.91	19.44	12.70
SEBFC 12 - 12N	3/4	19.05	3/4	15.74	1-1/4	31.75	1-3/16	30.16	1-1/8	28.57	24.38	63.60	38.30	73.51	47.21	25.79	16.76

### Connects Metric Tube To Male NPT Thread

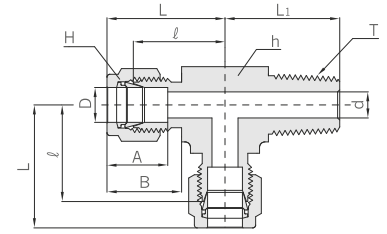
Part No.	Tube O.D. D	T* (NPT)	d Min.	Width across flat			A	l	l <sub>1</sub>	L	L <sub>1</sub>	Panel Hole Drill Size	Panel Max. Thickness
				h	h <sub>1</sub>	H							
SEBFC 6M - 2N	6	1/8	4.8	16.0	15.8	14	15.3	39.6	26.2	46.90	35.00	11.5	10.2
SEBFC 6M - 4N	6	1/4	4.8	19.0	16.0	14	15.3	44.4	26.2	51.80	33.60	11.5	10.2
SEBFC 8M - 4N	8	1/4	6.3	19.0	17.4	16	16.2	46.7	28.6	53.85	35.55	13.1	11.2
SEBFC 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

All dimensions are reference only, and are subject to change without prior notice. Sizes and types other than those featured above are available on request.





## Male Run Tee CAMRT



### Connects Fractional Tube To Female NPT Thread

Part No.	Tube O.D. D		T* (NPT)	d Min.	Width across flat				A	B	ℓ	L	L <sub>1</sub>
	in	mm			h		H						
					in	mm	in	mm					
SEMRT 2 - 2N	1/8	3.17	1/8	2.28	1/2	12.70	7/16	11.11	12.70	15.24	17.00	24.91	17.80
SEMRT 2 - 4N	1/8	3.17	1/4	2.28	1/2	12.70	7/16	11.11	12.70	15.24	18.03	24.91	23.36
SEMRT 3 - 2N	3/16	4.76	1/8	3.04	1/2	12.70	1/2	12.70	13.71	16.00	17.78	24.38	17.78
SEMRT 4 - 2N	1/4	6.35	1/8	4.82	1/2	12.70	9/16	14.28	15.24	17.78	19.55	26.92	18.79
SEMRT 4 - 4N	1/4	6.35	1/4	4.82	1/2	12.70	9/16	14.28	15.24	17.78	19.71	27.38	23.87
SEMRT 5 - 2N	5/16	7.93	1/8	4.82	9/16	14.28	5/8	15.87	16.25	18.54	22.35	29.71	20.82
SEMRT 6 - 4N	3/8	9.52	1/4	7.11	5/8	15.87	11/16	17.46	16.75	19.30	23.11	30.48	25.40
SEMRT 6 - 6N	3/8	9.52	3/8	7.11	11/16	17.46	11/16	17.46	16.76	19.30	23.87	31.24	26.20
SEMRT 8 - 6N	1/2	12.70	3/8	9.65	13/16	20.63	7/8	22.22	22.86	21.84	25.90	36.06	28.19
SEMRT 8 - 8N	1/2	12.70	1/2	10.41	13/16	20.63	7/8	22.22	22.86	21.84	25.90	36.06	33.02
SEMRT10 - 8N	5/8	15.87	1/2	11.93	15/16	23.80	1	25.40	24.38	21.84	27.94	38.10	35.05
SEMRT12 - 12N	3/4	19.05	3/4	15.74	1-1/16	26.98	1-1/8	28.57	24.38	21.84	28.19	38.35	36.83

### Connects Metric Tube To Female ISO Tapered Thread

Part No.	Tube O.D. D	T* R(PT)	d Min.	Width across flat		A	B	ℓ	L	L <sub>1</sub>
				h	H					
SEMRT 3M - 2R	3	1/8	2.4	12.7	12	12.9	15.3	17.0	23.6	17.8
SEMRT 3M - 4R	3	1/4	2.4	12.7	12	12.9	15.3	18.0	24.6	23.4
SEMRT 4M - 2R	4	1/8	2.4	12.7	12	13.7	16.1	18.8	25.4	18.8
SEMRT 6M - 2R	6	1/8	4.8	12.7	14	15.3	17.7	19.6	27.0	18.8
SEMRT 6M - 4R	6	1/4	4.8	14.2	14	15.3	17.7	19.6	27.0	23.4
SEMRT 8M - 2R	8	1/8	4.8	14.3	16	16.2	18.6	21.3	28.8	19.8
SEMRT 8M - 4R	8	1/4	6.4	14.3	16	16.2	18.6	21.3	28.8	24.4
SEMRT10M - 4R	10	1/4	7.1	17.5	19	17.2	19.5	23.9	31.5	28.2
SEMRT10M - 6R	10	3/8	7.9	17.5	19	17.2	19.5	23.9	31.5	28.2
SEMRT12M - 4R	12	1/4	7.1	20.6	22	22.8	22.0	25.9	36.0	28.2
SEMRT12M - 6R	12	3/8	9.5	20.6	22	22.8	22.0	25.9	36.0	28.2
SEMRT12M - 8R	12	1/2	9.5	20.6	22	22.8	22.0	25.9	36.0	33.0
SEMRT16M - 6R	16	3/8	9.5	23.8	25	24.4	22.0	27.9	38.0	30.2
SEMRT16M - 8R	16	1/2	11.9	23.8	25	24.4	22.0	27.9	38.0	35.1
SEMRT20M - 12R	20	3/4	15.9	30.0	32	26.0	22.0	34.5	44.6	41.7

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