

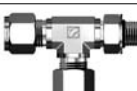
High Technology Valve & Flange & Fitting Series
Available in sizes from 1/16 to 2in (2mm to 38mm)

Tube Fittings

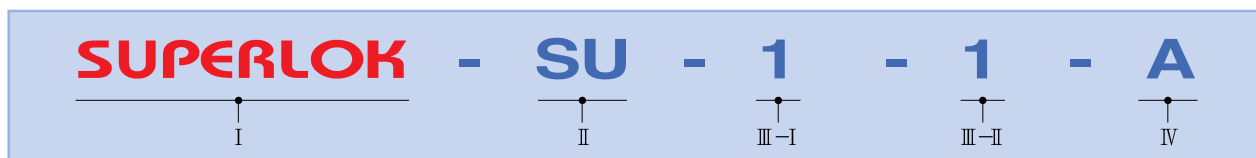


 **SUPERLOK[®]**

 **BMT Co., Ltd.**
www.superlok.com

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Ordering Information



I : **SUPERLOK** Tube Fitting II : Fitting Type III : Fitting Size (III - I : Tube O.D. III - II : Pipe Thread Size or Tube Size) IV : Material

I : **SUPERLOK** Tube Fitting

II : Type of Fitting

SU : Union **SMC** : Male Connector **SUE** : Union Elbow **SUT** : Union Tee
SWC : Weld connector **SR** : Reducer **SSMC** : SAE/MS O-Ring Male Connector **SAU** : An union **SP** : Plug

※ Referred to catalogue Index

III : Size of Fitting

III - I : Tube O.D

Fractional Tube	O.D (Inch)	1/16	1/8	3/16	1/4	5/16	3/8	1/2	5/8	3/4	7/8	1	1-1/4	1-1/2	2
Identify		1	2	3	4	5	6	8	10	12	14	16	20	24	32
Metric Tube	O.D (mm)	2	3	4	6	8	10	12	16	20	22	25	28	32	38
Identify		2M	3M	4M	6M	8M	10M	12M	16M	20M	22M	25M	28M	32M	38M

III - II : Pipe Thread Size or tube size

SIZE (INCH)	1/8	1/4	3/8	1/2	3/4	1	Applied Size
ISO TAPERED	2R	4R	6R	8R	12R	16R	JIS B0203(PT), DIN2999, BSPT
NPT	2N	4N	6N	8N	12N	16N	ANSI B1.20.1
ISO PARALLEL	2G	4G	6G	8G	12G	16G	JIS B0202(PF), ISO 228/1, BSPP
UNIFIED SCREW	2U	4U	6U	8U	12U	16U	AMERICAN STANDARD UNIFIED SCREW THREAD

IV : Material

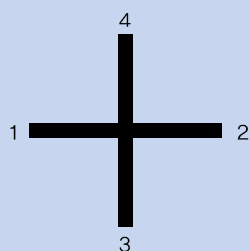
MATERIAL	Aluminum (Use dash "-")	Brass and Copper (Use dash "-")	Carbon Steel	316 Stainless Steel	Monel Alloy 400	Alloy 825	Alloy 625	Alloy C-276
Identify	AL	B	S45C,A105(15),SS400(400)....	316,316L (36L)	M40	825	625	276

Example

* SMC8-6N SS316L
 SUPERLOK MALE CONNECTOR, Tube O.D: 1/2", Thread :3/8"NPT,
 Stainless Steel 316L

* In case of Stainless Steel,
 it is possible to express SS316 or 316 itself.

TEES and CROSSES



- TEES are described by the size of 1 & 2 and then the branch (3).
- CROSSES are described by the size of 1 & 2 and then the branch (3 & 4).

Ex. 1) SMT- 6 - 6N (- 316)

MALE BRANCH TEE 3/8" × 3/8" × 3/8" NPT Stainless steel 316

Ex. 2) SUC - 8 - M40

UNION CROSS 1/2" × 1/2" × 1/2" × 1/2" Monel 400

* Products are for reference only and are subject to change on client's request.



Features of SUPERLOK Tube Fittings



SUPERLOK Tube Fittings have been designed and manufactured under the strictest material management, high precision machining and the best process technology.

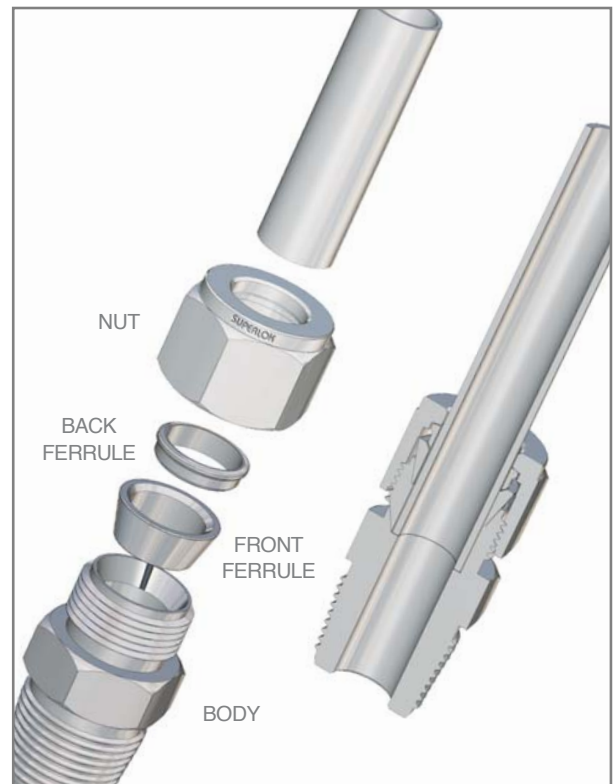
SUPERLOK Tube Fittings provide a reliable, leak proof seal under severe conditions such as temperature cycling, vibration and pulsation. In addition, SUPERLOK Tube Fittings can contribute to productivity improvement because of Superior machined surfaces on the inner surface of each SUPERLOK Tube Fitting.

SUPERLOK Tube Fittings can be assembled easily without the requirement of any special tools. Consideration of the entire system design is important to insure safe and reliable results.

Structure of SUPERLOK

SUPERLOK Tube Fittings consist of four precision parts that are manufactured under the strictest of quality control. These four precision parts together make up the BEST Tube Fitting in the world.

SUPERLOK Tube Fittings secure leak free connections due to ease of assembly providing customers with confidence and appreciation of overall lower cost of installed systems.



■ Quality and Process Control

BMT's SUPERLOK Tube Fittings and Valves are produced to unmatched quality through strict statistical process control.

Stringent and consistent in process analysis regulates that tight tolerances are adhered to. The written Quality Control Manual is followed which demands persistent improvement in all areas of the Quality process where possible.

■ SUPERLOK Warranty

BMT warrants that SUPERLOK Tube Fittings shall be free from defects in material and workmanship for the life of the product.

The purchaser's solutions shall be limited to replacement and installation of any parts that fail through a defect in material or workmanship.

SUPERLOK acknowledges that this brochure is regarded as the Warranty and does not publish a separate warranty unless there is a specific special requirement.

■ SUPERLOK Installation Instruction

1. Installation under 1 inch or 25MM

SUPERLOK Tube Fittings shall be delivered to the customer completely assembled and ready for installation.

Turning the nut to the finger tight position is the only requirement before starting the installation.

Fittings should not be disassembled before installation to maintain cleanliness and prevent unwanted foreign material from entering the system.

Care in the proper selection of tubing also contributes to a safe and reliable installation.

Step 1

Insert the tubing into the SUPERLOK Tube Fitting making sure the tubing is bottomed out and is in complete contact with the shoulder of the fitting. Also, the nut should be in the finger-tight position at this time.

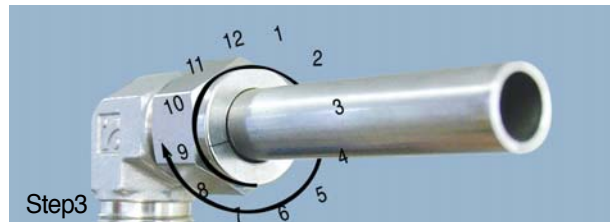
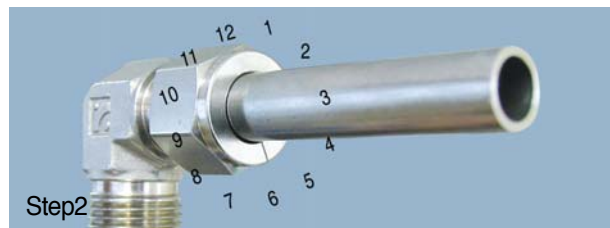
Step 2

Before tightening, mark the SUPERLOK nut at the 6 o'clock position.

Step 3

Hold the fitting body safely with a back-up wrench and tighten the nut 1-1/4 turns until your mark reaches the 9 o'clock position.

Note: For 1/16", 1/8" and 3/16 inch; 2, 3 and 4 mm tube fittings, tighten the nut 3/4 of a turn to the 3 o'clock position.



Gaugeability

On initial installation, the SUPERLOK Inspection Gauge assures the installer or inspector that a fitting has been sufficiently tightened.

Position the SUPERLOK Inspection Gauge next to the gap between the nut and the body.

• If the gauge will not enter the gap, the fitting is sufficiently Tightened.



• If the gauge will enter the gap, additional tightening is required.





2. Installation for high pressure or severe service systems

Since tubing has different O.D. tolerances, it is important to have a common starting point to take out in dimensional variations. This is done by tightening the fitting slightly until the tubing can not freely rotate in the fitting as it can in the finger-tight position. At this point tighten the nut 1-1/4 turns.

Safety Considerations on Installations for High Pressure Systems

1. Make sure the proper tubing wall thickness is selected in accordance with pressure ratings. (see Page 13) Tubing should have a hardness of HRB 80 or less.
2. Do not assemble or disassemble fittings when the system is pressurized.

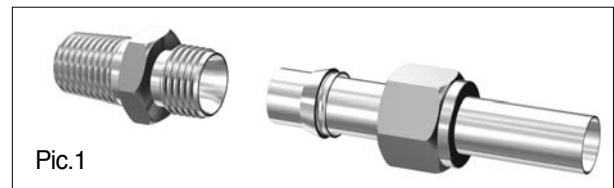
3. Re-tightening Instructions

Step 1

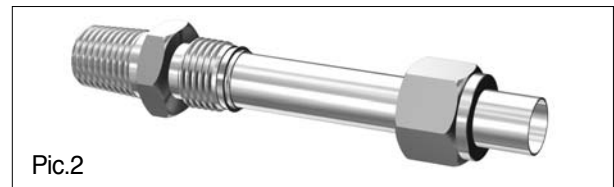
Pic. 1 shows the fitting in the disconnected position. Insert the tubing with the pre-swaged ferrules into the fitting body making sure the front ferrule is firmly seated as shown in Pic. 2

Step 2

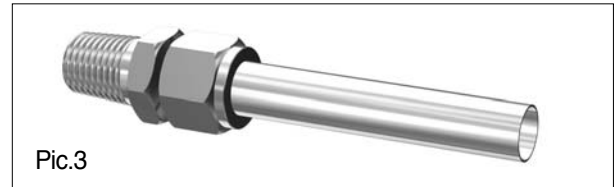
Finger-tighten the nut and then with a wrench turn the nut to the original 9 o'clock position. At this point a slight change of resistance will be felt. Tighten the nut slightly more as the change in resistance is felt and the installation is complete as shown in Pic. 3 by tightening slightly more.



Pic.1



Pic.2



Pic.3

Technical Information

■ Hardness Limitation

High Quality Stainless Steel tubing that is fully annealed; Seamless or Welded per ASTM A269, A213 or equivalent should be used with SUPERLOK Tube fittings. The tubing must be a maximum hardness of HRB 90 or less on the Rockwell Scale, however HRB 80 is more suitable for bending and offers a greater difference in hardness to the ferrules. This difference in hardness offers more ease in assembly and better interaction between the ferrules and the tubing.

■ Compatibility

SUPERLOK Tube fittings are manufactured in order to be 100% interchangeable with other Tube Fittings currently on the market. SUPERLOK fully warrants the compatibility of with different manufactures provided the same strict manufacturing practices and tolerances are held by those manufactures. If possible only the SUPERLOK should be used to guarantee system quality.

■ Gas System Application

SUPERLOK Tube Fittings are appropriate for Gas Systems, but the implementation of certain standards mentioned below should be adhered to just as in other systems.

1. Tubing hardness must be less than that of the ferrules.
2. Tubing should be free of surface imperfections, defects and round in shape.
3. Refer to Table 2 on page 13 for selection of the appropriate wall thickness. (Only shaded areas should be selected for Gas Systems)
4. Tubing ends must be cut squarely and perpendicular to the center-line of the tubing. After the tubing is cut it must be deburred on both the inside and outside with a High quality fully sharpened deburring tool.
5. Follow the SUPERLOK Installation Instructions from pages 8 and 9 in the catalog.
6. Do not attempt to bend the tubing after a fitting has been Installed in a fixed position.
7. Tubing Systems should be installed to allow for adequate expansion and contraction as well as ease of maintenance.

■ MATERIAL

SUPERLOK tube fitting are available as standard in stainless steel, brass, and alloy material . Straight fittings are machined from cold finished bar stock and shaped bodies from forgings Specifications for fitting materials are listed below. For special applications , contact your local distributors

Material	Bar Stock	Forging
316 SS	ASTM A479 ASTM A276	ASTM A182
Monel, Alloy 400	ASTM B164	ASTM B 564
Inconel, Alloy 600	ASTM B 166	ASTM B 564
Hastelloy, Alloy C-276	ASTM B 574	ASTM B 564
Brass	ASTM B 16 ASTM B 453	ASTM B 283

■ Maximum Temperature by Materials

Aluminum	400 °F	204 °C
Copper	400 °F	204 °C
Steel	375 °F	191 °C
SUS304	1000 °F	538 °C
SUS316	1200 °F	649 °C
MONEL	800 °F	427 °C

Please refer to ASME B31.3-1993 concerning the detailed information about the maximum & minimum temperature of various materials.

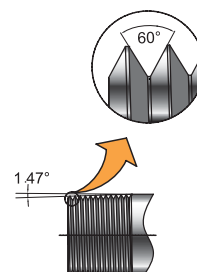
■ Vacuum, Cryogenic and High Temperature Applications

SUPERLOK Tube Fittings have been tested in Vacuum, Cryogenic and High Temperatures insuring repeatable and reliable performance in the severest of Applications.

■ THREADS

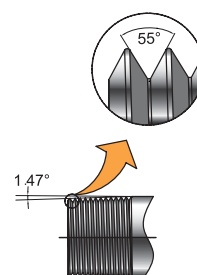
1. NPT (National Pipe Thread)

- Thread angle 60°
- Tapered angle 1°47'
- Manufactured by the standard of ASME B 1.20.1



2. ISO 7/1 Taperad Thread

- Thread angle 55°
- Tapered angle 1°47'
- Equivalent to the standard of DIN2999, BS21(BSPT) and JIS B0203(PT).



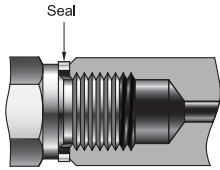
3. ISO 228/1 Parallel Thread

- Thread angle 55°
- Equivalent to the standard of BS 2779 (BSPP), JIS B0202 (PF).
- As the thread in accordance with ISO 228/1 cannot be sealed perfectly, the sealing shall be done by the following method.
- Use a gasket or O-Ring to seal.



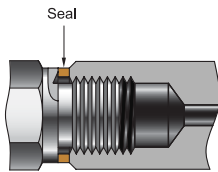
① Bonded Washer Seal

Be sealed by contacting the inclined surface of the hex body of male thread to the surface of the female thread. In case of sealing, a washer which composed of metal and elastic material is located at the center of tapered surface.



② Metal Gasket Seal

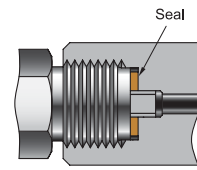
A Metal gasket(generally copper) is sealed between the body of male thread and the surface of female thread.



③ Metal Gasket Seal

This is a method to insert a gasket into the flat surface of thread's inside.

The sealing shall be completed with pushing the gasket by male thread surface.



4. UNF Thread

- Thread angle 60°
- This is classified into UN, UNC and UNF. The standard is classified by the diameter of thread and the number of threads per inch.
- ASME B 1.1

Tube Standard Information

■ Tube Selection

Suitable tubing selection is essential in performance of tubing system.

When selecting tubing material, size and wall thickness, customer must consider pressure, flux (flow), temperature, environment and compatibility of system.

Consideration facts at the selection of tube

1. Quality of the tube materials & manufacturing method.
2. Thickness and outer diameter of tube.
3. Surface treatment of tube .
4. Hardness of tube.
5. Concentricity of tube.

■ Tube Bending

Tubing must have a minimum straight length before the start of any bend when inserting the tube into a SUPERLOK Tube Fitting. Tubing where the minimum straight length is not adhered can result in leakage and jeopardize the integrity of the system.

See the chart below for minimum straight lengths.

Requirements for quality Tubing Material

- Tubing must be free of surface imperfections and suitable for Bending.

Pressure coefficient for tubing as it relates to temperature change.

• The recommended straight line length of tube in Tube bending

Tube O.D. (inch)	1/8	3/16	1/4	5/16	3/8	1/2	5/8	3/4	7/8	1
L(mm) 직선 튜빙길이	12.70	18.25	19.05	20.63	22.20	23.81	30.16	31.75	33.30	38.10

※ L: The straight line length of tubing from the ending part of tubing to the beginning part of bending

■ The requirements for tube quality of the material

Carbon steel tubing

- ASTM A179 or equivalent.
- Carbon steel tubing for an oil pressure usage of high quality, annealed and seamless.
- Maximum hardness : HRB72.
- Tubing must be free from scars and shall be suitable for bending and expansion works.

Copper tubing

- ASTM B68, B75 or equivalent.
- Copper tubing of high quality, annealed and seamless.

Stainless steel tubing

- ASTM A213, A269 or equivalent.
- Stainless steel tubing of high quality, annealed and seamless. (316, 304, 321, etc.)
- Hardness : below HRB 80.
- Tubing must be free from scars and shall be suitable for bending and expansion works.

Monel tubing

- ASTM B165 or equivalent.
- 400 alloy tubing of high quality, annealed and seamless.

- Hardness : below HRB 75.
- Tubing must be free from scars and shall be suitable for bending and expansion works.

■ A pressure Grade Coefficient of Tubing owing to Temperature Change.

Table 1

° F	° C	Copper	304SS	316SS	Monel
200	93	0.80	1.00	1.00	0.88
400	204	0.50	0.93	0.96	0.79
600	316	---	0.82	0.85	0.79
800	427	---	0.76	0.79	0.76
1000	538	---	0.69	0.76	---
1200	649	---	0.30	0.37	---

Multiply the allowable working pressure in Table 2 by the coefficient in Table1 in order to decide allowable pressure at high temperature.

(See page 12, 13)

Example

SUS316
(3/8" O.D of tube) × (0.049" wall thickness)
1200°F : 4800 psi × 0.37 = 1776 psi

The applicable operation pressure of SUS 316 tubing for wall thickness, 3/8" O.D × 0.049", is 1776 psi at 1200°F



Technological Data

Table 2 Stainless Steel Tubing

Stainless Steel tubing which is high quality (such as 304, 316, 316L and so on), fully annealed and seamless ASTM A269, A213 or equivalent.

STAINLESS STEEL FRACTIONAL TUBE

Tube O.D. (inch)	TUBE WALL THICKNESS (inch)												
	0.010	0.012	0.014	0.016	0.020	0.028	0.035	0.049	0.065	0.083	0.095	0.109	0.120
1/16	5600	6800	8100	9400	12000								
1/8						8500	10900						
3/16						5400	7000	10200					
1/4						4000	5100	7500	10200				
5/16							4000	5800	8000				
3/8							3300	4800	6500				
1/2							2600	3700	5100	6700			
5/8								2900	4000	5200	6000		
3/4								2400	3300	4200	4900	5800	
7/8								2000	2800	3600	4200	4800	
1									2400	3100	3600	4200	4700

* 가스용 Tubing working pressure(psi) / 허용상용압력(psi)

STAINLESS STEEL METRIC TUBE

Tube O.D. (mm)	TUBE WALL THICKNESS (mm)												
	0.71	0.89	1.00	1.25	1.50	1.65	2.00	2.11	2.41	2.50	2.77	3.00	3.05
3	10800	13800	15300										
4	7900	10100	11500	14400									
6	5000	6500	7400	9400	11500	12700							
8		4700	5800	6800	8400	9300							
10		3700	4200	5300	6500	7300							
12		3000	3400	4400	5300	5900	6800	7200					
16			2500	3200	3900	4300	5300	5700	6600	6800			
18				2800	3400	3800	4700	5000	5800	6000	6700		
20				2500	3000	3400	4200	4400	5100	5300	6000		
22				2300	2800	3000	3800	4000	4600	4800	5400		
25				2000	2400	2700	3300	3500	4000	4200	4700	5100	5200

* 가스용 Tubing working pressure(psi) / 허용상용압력(psi)

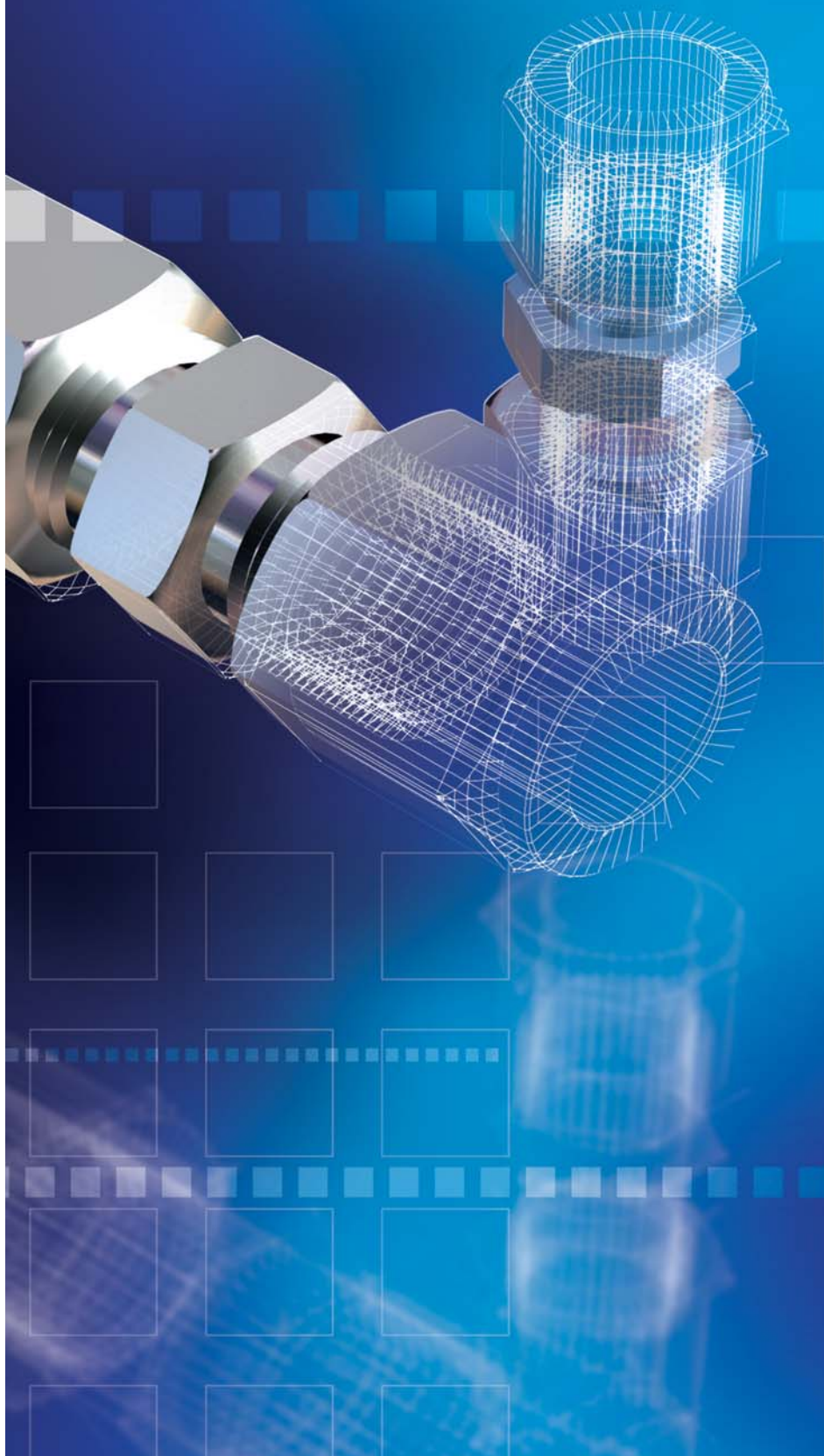
Allowable stress value between -20°F and 100°F (-28.9°C ~ 37.8°C) is 19,500 psi

Safety factor is 4 (Ultimate tensile strength is 75,000 psi)

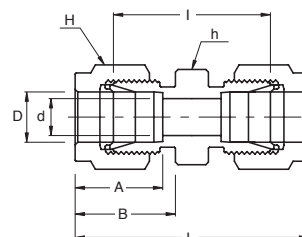
- The above data are based on the minimum wall thickness and the maximum O. D. allowed by and under the standard of ASTM A269.
- The dimensions are not considered to erosion or corrosion.

Union & Connector

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CONNECTOR	
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SU Union



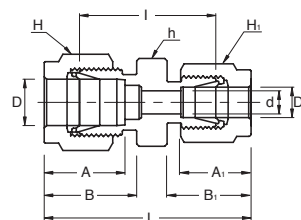
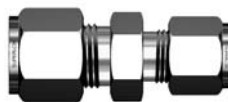
Connects Fractional Tubes

Part No.	Tube O.D. D (inch)	d Min	Width Across Flat		A	B	I	L
			h (inch)	H (inch)				
SU - 1	1/16	1.27	5/16	5/16	8.63	10.92	17.52	25.15
SU - 2	1/8	2.28	7/16	7/16	12.70	15.24	22.35	35.56
SU - 3	3/16	3.04	7/16	1/2	13.71	16.00	24.13	37.33
SU - 4	1/4	4.82	1/2	9/16	15.24	17.78	26.16	40.89
SU - 5	5/16	6.35	9/16	5/8	16.25	18.54	28.19	42.92
SU - 6	3/8	7.11	5/8	11/16	16.76	19.30	30.22	44.95
SU - 8	1/2	10.41	13/16	7/8	22.86	21.84	30.98	51.30
SU - 10	5/8	12.70	15/16	1	24.38	21.84	31.75	52.07
SU - 12	3/4	15.74	1-1/16	1-1/8	24.38	21.84	33.27	53.59
SU - 14	7/8	18.28	1-3/16	1-1/4	25.90	21.84	34.79	55.11
SU - 16	1	22.35	1-3/8	1-1/2	31.24	26.41	40.38	64.77
SU - 20	1-1/4	27.69	1-3/4	1-7/8	41.15	38.86	48.00	92.20
SU - 24	1-1/2	34.04	2-1/8	2-1/4	50.04	45.21	53.59	107.95
SU - 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				
SU - 2M	2	1.7	12	12	12.9	15.3	22.4	35.6
SU - 3M	3	2.4	12	12	12.9	15.3	22.1	35.3
SU - 4M	4	2.4	12	12	13.7	16.1	24.1	37.3
SU - 6M	6	4.8	14	14	15.3	17.7	26.2	41.0
SU - 8M	8	6.4	15	16	16.2	18.6	28.2	43.2
SU - 10M	10	7.9	18	19	17.2	19.5	31.0	46.2
SU - 12M	12	9.5	22	22	22.8	22.0	31.0	51.2
SU - 15M	15	11.9	24	25	24.4	22.0	31.8	52.0
SU - 16M	16	12.7	24	25	24.4	22.0	31.8	52.0
SU - 18M	18	15.1	27	30	24.4	22.0	33.3	53.5
SU - 20M	20	15.9	30	32	26.0	22.0	34.8	55.0
SU - 22M	22	18.3	30	32	26.0	22.0	34.8	55.0
SU - 25M	25	21.8	35	38	31.3	26.5	40.4	65.0

SRU Reducing Union



Connects Fractional Tubes

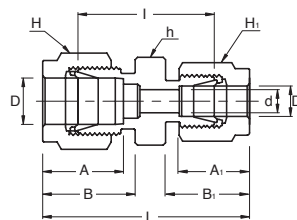
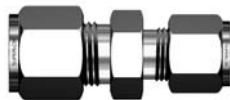
Part No.	Tube O.D.		d Min	Width Across Flat			A	A ₁	B	B ₁	I	L
	D (inch)	D ₁ (inch)		h (inch)	H (inch)	H ₁ (inch)						
SRU - 2 - 1	1/8	1/16	1.27	7/16	7/16	5/16	12.7	8.63	15.24	10.92	20.60	31.00
SRU - 3 - 2	3/16	1/8	2.28	7/16	1/2	7/16	13.71	12.70	16.00	15.24	23.36	36.57
SRU - 4 - 2	1/4	1/8	2.28	1/2	9/16	7/16	15.24	12.70	17.78	15.24	24.63	38.60
SRU - 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
SRU - 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
SRU - 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
SRU - 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
SRU - 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
SRU - 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
SRU - 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
SRU - 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
SRU - 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
SRU -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
SRU -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
SRU -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
SRU -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
SRU -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
SRU -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
SRU -16 - 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
SRU -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 ₁	B	B ₁	I	L
	D	D ₁		h	H	H ₁						
SRU - 6M- 3M	6	3	2.4	14	14	12	15.3	12.9	17.7	15.3	24.6	38.6
SRU - 6M- 4M	6	4	2.4	14	14	12	15.3	13.7	17.7	16.1	25.4	39.4
SRU - 8M- 6M	8	6	4.8	15	16	14	16.2	15.3	18.6	17.7	27.4	42.3
SRU -10M- 6M	10	6	4.8	18	19	14	17.2	15.3	19.5	17.7	29.5	44.5
SRU -10M- 8M	10	8	6.4	18	19	16	17.2	16.2	19.5	18.6	30.0	45.1
SRU -12M- 6M	12	6	4.8	22	22	14	22.8	15.3	22.0	17.7	29.5	47.0
SRU -12M- 8M	12	8	6.4	22	22	16	22.8	16.2	22.0	18.6	30.2	47.8
SRU -12M- 10M	12	10	7.9	22	22	19	22.8	17.2	22.0	19.5	31.0	48.7
SRU -16M- 12M	16	12	9.5	24	25	22	24.4	22.8	22.0	22.0	31.8	52.0
SRU -25M- 18M	25	18	15.1	35	38	30	31.3	24.4	26.5	22.0	38.6	61.0
SRU -25M- 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". Dimension are for reference only, subject to change

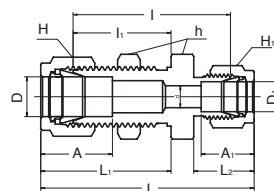
SRU Reducing Union



Connects Metric Tubes To Fractional Tubes

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

SBHRU Bulkhead Reducing Union

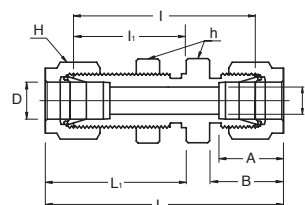


Connects Fractional Tubes

Part No.	Tube O.D.		d Min	Width Across Flat			A	A ₁	I	I ₁	L	L ₁	L ₂	Panel Hole Drill Size	Panel Max. Thickness
	D (inch)	D ₁ (inch)		h (inch)	H (inch)	H ₁ (inch)									
SBHRU - 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
SBHRU - 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
SBHRU - 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". Dimension are for reference only, subject to change

SBHU Bulkhead Union



Connects Fractional Tubes

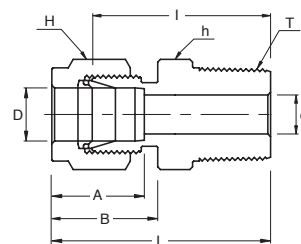
Part No.	Tube O.D. D (inch)	d Min	Width Across Flat		A	B	I	I ₁	L	L ₁	Panel Hole Drill Size	Panel Max. Thickness
			h (inch)	H (inch)								
SBHU - 1	1/16	1.27	5/16	5/16	8.63	10.92	23.87	13.46	31.50	17.27	5.16	3.05
SBHU - 2	1/8	2.28	1/2	7/16	12.70	15.24	38.10	24.63	51.30	31.24	8.33	12.70
SBHU - 3	3/16	3.04	9/16	1/2	13.71	16.00	40.38	25.40	53.59	32.00	9.92	12.70
SBHU - 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
SBHU - 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
SBHU - 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
SBHU - 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
SBHU - 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
SBHU - 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
SBHU - 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
SBHU - 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	I ₁	L	L ₁	Panel Hole Drill Size	Panel Max. Thickness
			h	h ₁ *	H								
SBHU - 3M	3	2.4	14	12.7	12	12.9	15.3	38.1	24.6	51.3	31.2	8.3	12.7
SBHU - 4M	4	2.4	14	14.3	12	13.7	16.1	40.4	25.4	53.6	32.0	9.9	12.7
SBHU - 6M	6	4.8	16	15.9	14	15.3	17.7	42.9	26.2	57.7	33.6	11.5	10.2
SBHU - 8M	8	6.4	18	17.5	16	16.2	18.6	46.0	28.6	61.0	36.1	13.1	11.2
SBHU - 10M	10	7.9	22	22.0	19	17.2	19.5	48.5	29.4	63.7	37.0	16.2	11.2
SBHU - 12M	12	9.5	24	23.8	22	22.8	22.0	50.8	31.8	71.0	41.9	19.5	12.7
SBHU - 15M	15	11.9	27	27.0	25	24.4	22.0	52.3	32.5	72.5	42.6	22.8	12.7
SBHU - 16M	16	12.7	27	27.0	25	24.4	22.0	52.3	32.5	72.5	42.6	22.8	12.7
SBHU - 18M	18	15.1	30	30.0	30	24.4	22.0	58.7	37.3	78.9	47.4	26.0	16.8
SBHU - 20M	20	15.9	35	35.0	32	26.0	22.0	64.3	42.9	84.5	53.0	29.0	17.0
SBHU - 22M	22	18.3	35	35.0	32	26.0	22.0	64.3	42.9	84.5	53.0	29.0	19.1
SBHU - 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

h₁* : Metric Tubes Bulkhead Hexagon application only

SMC Male Connector

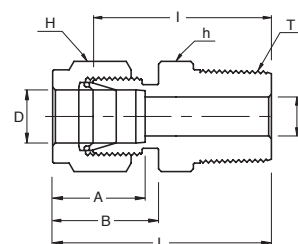


Connects Fractional Tubes To Female NPT Thread

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

SMC Male Connector



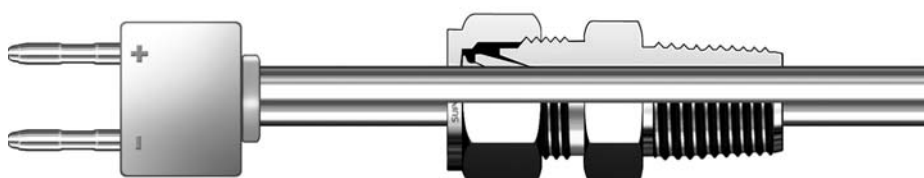
Connects Fractional Tube To Female ISO Tapered Thread

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

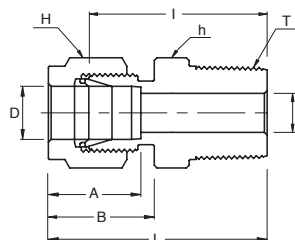
Bored - Through Fittings for Thermocouples

SUPERLOK Bored-Through MALE CONNECTORS accommodate thermocouples or dip tubes. To order, use TM as a suffix to the desired Male Connector ordering number.

Note - The root diameter of the pipe thread end of male connectors makes it impractical to bore through all male connectors.



SMC Male Connector

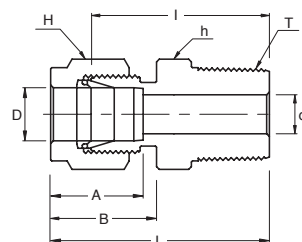


Connects Metric Tube To Female NPT Thread

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

SMC Male Connector



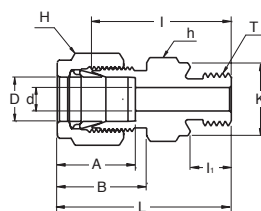
Connects Metric Tube To Female ISO Tapered Thread

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

SMC - GM

Male Connector For Metal Gasket Seal

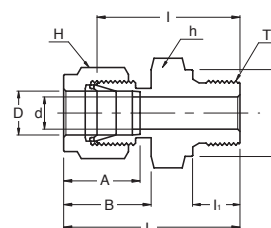


Connects Metric Tube To Female ISO Parallel Thread

Part No.	Tube O.D. D	T G (PF)	d Min	Width Across Flat		A	B	I	I ₁	L	K
				h	H						
SMC - 3M - 2GM	3	1/8	2.4	14	12	12.9	15.3	23.4	7.1	30.0	13.8
SMC - 3M - 4GM	3	1/4	2.4	19	12	12.9	15.3	28.7	11.2	35.3	18.0
SMC - 4M - 2GM	4	1/8	2.4	14	12	13.7	16.1	24.1	7.1	30.7	13.8
SMC - 6M - 2GM	6	1/8	4.0	14	14	15.3	17.7	24.9	7.1	32.3	13.8
SMC - 6M - 4GM	6	1/4	4.8	19	14	15.3	17.7	30.2	11.2	37.6	18.0
SMC - 6M - 6GM	6	3/8	4.8	22	14	15.3	17.7	31.5	11.2	38.9	21.8
SMC - 6M - 8GM	6	1/2	4.8	27	14	15.3	17.7	37.3	14.2	44.7	26.0
SMC - 8M - 2GM	8	1/8	4.0	15	16	16.2	18.6	25.7	7.1	33.2	13.8
SMC - 8M - 4GM	8	1/4	6.4	19	16	16.2	18.6	31.0	11.2	38.5	18.0
SMC - 8M - 6GM	8	3/8	6.4	22	16	16.2	18.6	32.3	11.2	39.8	21.8
SMC - 8M - 8GM	8	1/2	6.4	27	16	16.2	18.6	38.1	14.2	45.6	26.0
SMC -10M - 4GM	10	1/4	5.9	19	19	17.2	19.5	31.8	11.2	39.4	18.0
SMC -10M - 6GM	10	3/8	7.9	22	19	17.2	19.5	33.0	11.2	40.6	21.8
SMC -10M - 8GM	10	1/2	7.9	27	19	17.2	19.5	38.9	14.2	46.5	26.0
SMC -12M - 4GM	12	1/4	5.9	22	22	22.8	22.0	32.5	11.2	42.6	18.0
SMC -12M - 6GM	12	3/8	7.9	22	22	22.8	22.0	33.0	11.2	43.1	21.8
SMC -12M - 8GM	12	1/2	9.5	27	22	22.8	22.0	38.9	14.2	49.0	26.0
SMC -12M - 12GM	12	3/4	9.5	35	22	22.8	22.0	42.7	15.7	52.8	32.0
SMC -15M - 8GM	15	1/2	11.9	27	25	24.4	22.0	38.9	14.2	49.0	26.0
SMC -16M - 6GM	16	3/8	7.9	24	25	24.4	22.0	33.8	11.2	43.9	21.8
SMC -16M - 8GM	16	1/2	11.9	27	25	24.4	22.0	38.9	14.2	49.0	26.0
SMC -18M - 8GM	18	1/2	11.9	27	30	24.4	22.0	38.9	14.2	49.0	26.0
SMC -18M - 12GM	18	3/4	15.1	35	30	24.4	22.0	42.7	15.7	52.8	32.0
SMC -20M - 8GM	20	1/2	11.9	30	32	26.0	22.0	40.4	14.2	50.5	26.0
SMC -20M - 12GM	20	3/4	15.9	35	32	26.0	22.0	42.7	15.7	52.8	32.0
SMC -22M - 12GM	22	3/4	15.9	35	32	26.0	22.0	42.7	15.7	52.8	32.0
SMC -22M - 16GM	22	1	18.3	41	32	26.0	22.0	45.2	18.3	55.3	39.0
SMC -25M - 12GM	25	3/4	15.9	35	38	31.3	26.5	45.2	15.7	57.5	32.0
SMC -25M - 16GM	25	1	19.8	41	38	31.3	26.5	47.8	18.3	60.1	39.0

* See page 10 for Explanation of ISO Pipe Thread.

SGMC Male Connector For Bonded Washer Seal

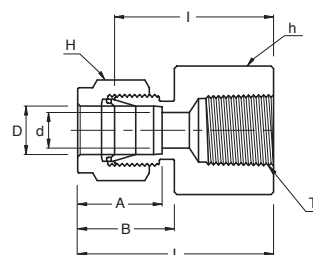


Connects Metric Tubes To Female ISO Parallel Thread

Part No.	Tube O.D. D	T G (PF)	d Min	Width Across Flat		A	B	I	I ₁	L	K
				h	H						
SGMC - 3M - 2G	3	1/8	2.4	14	12	12.9	15.3	23.4	7.1	30.0	13.8
SGMC - 3M - 4G	3	1/4	2.4	19	12	12.9	15.3	28.7	11.2	35.3	18.0
SGMC - 4M - 2G	4	1/8	2.4	14	12	13.7	16.1	24.1	7.1	30.7	13.8
SGMC - 6M - 2G	6	1/8	4.0	14	14	15.3	17.7	24.9	7.1	32.3	13.8
SGMC - 6M - 4G	6	1/4	4.8	19	14	15.3	17.7	30.2	11.2	37.6	18.0
SGMC - 6M - 6G	6	3/8	4.8	22	14	15.3	17.7	31.5	11.2	38.9	21.8
SGMC - 6M - 8G	6	1/2	4.8	27	14	15.3	17.7	37.3	14.2	44.7	26.0
SGMC - 8M - 2G	8	1/8	4.0	15	16	16.2	18.6	25.7	7.1	33.2	13.8
SGMC - 8M - 4G	8	1/4	6.4	19	16	16.2	18.6	31.0	11.2	38.5	18.0
SGMC - 8M - 6G	8	3/8	6.4	22	16	16.2	18.6	32.3	11.2	39.8	21.8
SGMC - 8M - 8G	8	1/2	6.4	27	16	16.2	18.6	38.1	14.2	45.6	26.0
SGMC -10M - 4G	10	1/4	5.9	19	19	17.2	19.5	31.8	11.2	39.4	18.0
SGMC -10M - 6G	10	3/8	7.9	22	19	17.2	19.5	33.0	11.2	40.6	21.8
SGMC -10M - 8G	10	1/2	7.9	27	19	17.2	19.5	38.9	14.2	46.5	26.0
SGMC -12M - 4G	12	1/4	5.9	22	22	22.8	22.0	32.5	11.2	42.6	18.0
SGMC -12M - 6G	12	3/8	7.9	22	22	22.8	22.0	33.0	11.2	43.1	21.8
SGMC -12M - 8G	12	1/2	9.5	27	22	22.8	22.0	38.9	14.2	49.0	26.0
SGMC -12M -12G	12	3/4	9.5	35	22	22.8	22.0	42.7	15.7	52.8	32.0
SGMC -16M - 6G	16	3/8	7.9	24	25	24.4	22.0	33.8	11.2	43.9	21.8
SGMC -16M - 8G	16	1/2	11.9	27	25	24.4	22.0	38.9	14.2	49.0	26.0
SGMC -18M - 8G	18	1/2	11.9	27	30	24.4	22.0	38.9	14.2	49.0	26.0
SGMC -18M -12G	18	3/4	15.1	35	30	24.4	22.0	42.7	15.7	52.8	32.0
SGMC -20M - 8G	20	1/2	11.9	30	32	26.0	22.0	40.4	14.2	50.5	26.0
SGMC -20M -12G	20	3/4	15.9	35	32	26.0	22.0	42.7	15.7	52.8	32.0
SGMC -22M -12G	22	3/4	15.9	35	32	26.0	22.0	42.7	15.7	52.8	32.0
SGMC -22M -16G	22	1	18.3	41	32	26.0	22.0	45.2	18.3	55.3	39.0
SGMC -25M -12G	25	3/4	15.9	35	38	31.3	26.5	45.2	15.7	57.5	32.0
SGMC -25M -16G	25	1	19.8	41	38	31.3	26.5	47.8	18.3	60.1	39.0

* See page 10 for Explanation of ISO Pipe Thread.

SFC Female Connector

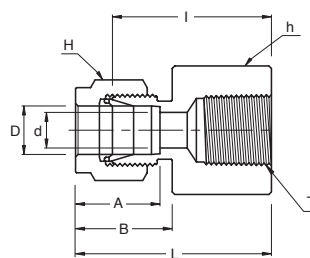


Connects Fractional Tubes To Male NPT Thread

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

SFC Female Connector

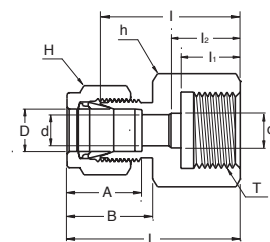


Connects Metric Tubes To Male ISO Tapered Thread

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

* NPT Threads are available upon request

SGC Gauge Connector



Connects Fractional Tubes To ISO Parallel Thread

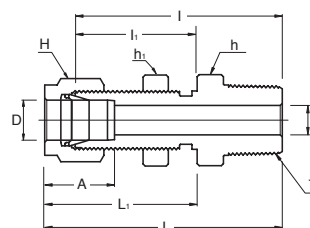
Part No.	Tube O.D. D (inch)	T G (PF)	d Min	d _i	Width Across Flat		A	B	I	I ₁	I ₂	L
					h (inch)	H (inch)						
SGC - 4 - 4G	1/4	1/4	4.82	5.58	3/4	9/16	15.24	17.78	30.22	13.00	17.00	37.59
SGC - 4 - 6G	1/4	3/8	4.82	6.60	15/16	9/16	15.24	17.78	30.22	14.20	20.30	37.59
SGC - 4 - 8G	1/4	1/2	4.82	6.60	1-1/16	9/16	15.24	17.78	36.07	18.80	24.90	43.43
SGC - 5 - 4G	5/16	1/4	5.58	-	3/4	5/8	16.25	18.54	30.98	13.00	-	38.35
SGC - 5 - 8G	5/16	1/2	7.11	-	1-1/16	5/8	16.25	18.54	33.53	18.80	-	40.89
SGC - 6 - 4G	3/8	1/4	5.58	-	3/4	11/16	16.76	19.30	31.75	13.00	-	39.12
SGC - 6 - 6G	3/8	3/8	6.60	-	15/16	11/16	16.76	19.30	31.24	14.20	-	38.61
SGC - 6 - 8G	3/8	1/2	7.11	-	1-1/16	11/16	16.76	19.30	34.54	18.80	-	41.91
SGC - 8 - 4G	1/2	1/4	5.58	-	7/8	7/8	22.86	21.84	31.80	13.00	-	41.95
SGC - 8 - 6G	1/2	3/8	6.60	-	15/16	7/8	22.86	21.84	34.29	14.20	-	44.45
SGC - 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 _i	Width Across Flat		A	B	I	I ₁	I ₂	L
					h	H						
SGC - 3M - 4G	3	1/4	2.4	5.5	19	12	12.9	15.3	28.7	13	17	35.3
SGC - 6M - 4G	6	1/4	4.8	5.5	19	14	15.3	17.7	30.2	13	17	37.6
SGC - 6M - 6G	6	3/8	4.8	6.5	24	14	15.3	17.7	30.2	14	20	37.6
SGC - 6M - 8G	6	1/2	4.8	7.0	27	14	15.3	17.7	36.1	19	25	43.5
SGC - 8M - 4G	8	1/4	5.5	5.5	19	16	16.2	18.6	31.0	13	-	38.5
SGC - 8M - 6G	8	3/8	6.5	6.5	24	16	16.2	18.6	28.7	14	-	36.2
SGC - 8M - 8G	8	1/2	7.0	7.0	27	16	16.2	18.6	33.5	19	-	41.0
SGC -10M - 4G	10	1/4	5.5	5.5	19	19	17.2	19.5	31.8	13	-	39.4
SGC -10M - 6G	10	3/8	6.5	6.5	24	19	17.2	19.5	31.2	14	-	38.8
SGC -10M - 8G	10	1/2	7.0	7.0	27	19	17.2	19.5	34.5	19	-	42.1
SGC -12M - 4G	12	1/4	5.5	5.5	22	22	22.8	22.0	31.8	13	-	41.9
SGC -12M - 6G	12	3/8	6.5	6.5	24	22	22.8	22.0	34.3	14	-	44.4
SGC -12M - 8G	12	1/2	7.0	7.0	27	22	22.8	22.0	38.1	19	-	48.2
SGC -20M - 8G	20	1/2	7.0	7.0	30	32	26.0	22.0	44.2	19	-	54.3
SGC -22M - 8G	22	1/2	7.0	7.0	30	32	26.0	22.0	44.2	19	-	54.3

* See page 11 for Explanation of ISO Pipe Thread.

SMCB Bulkhead Male Connector

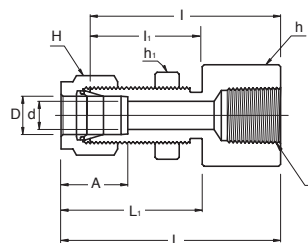


Connects Fractional Tubes To Female NPT Thread

Part No.	Tube O.D. D (inch)	T * (NPT)	d Min	Width Across Flat			A	I	I ₁	L	L ₁	Panel Hole Drill Size	Panel Max. Thickness
				h (inch)	h ₁ (inch)	H (inch)							
SMCB - 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
SMCB - 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
SMCB - 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
SMCB - 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
SMCB - 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
SMCB - 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
SMCB - 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
SMCB - 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
SMCB -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
SMCB -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

SFCB 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 ₁	L	L ₁	Panel Hole Drill Size	Panel Max. Thickness
				h (inch)	h ₁ (inch)	H (inch)							
SFCB - 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
SFCB - 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
SFCB - 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
SFCB - 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
SFCB - 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
SFCB - 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
SFCB -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 ₁	L	L ₁	Panel Hole Drill Size	Panel Max. Thickness
				h	h ₁	H							
SFCB - 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
SFCB - 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
SFCB - 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
SFCB -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

Elbow & Tee

ELBOWS

SUE
Union Elbow

page 31



SME
Male Elbow

page 32



SHME
45° Male Elbow

page 35



SPHME
45° Positionable Male Elbow

page 36



SPME
Positionable Male Elbow

page 36



SFE
Female Elbow

page 38



TEE

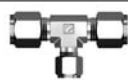
SUT
Union Tee

page 39



SRUT
Reducing Union Tee

page 40



SMBT
Male Branch Tee

page 41



SPMBT
Positionable Male Branch Tee

page 42



SMRT
Male Run Tee

page 44



SPMRT
Positionable Male Run Tee

page 45



SFBT
Female Branch Tee

page 47



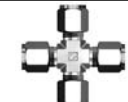
SFRT
Female Run Tee

page 48

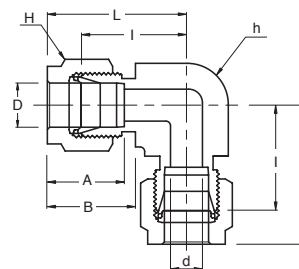


SUC
Union Cross

page 49



SUE Union Elbow



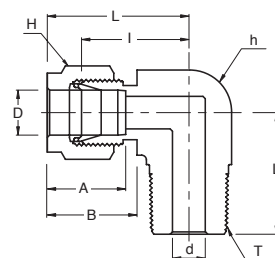
Connects Fractional Tubes

Part No.	Tube O.D. D (inch)	d Min	Width Across Flat		A	B	I	L
			h (inch)	H (inch)				
SUE - 1	1/16	1.27	3/8	5/16	8.63	10.92	14.00	18.03
SUE - 2	1/8	2.28	3/8	7/16	12.70	15.24	15.74	22.35
SUE - 3	3/16	3.04	1/2	1/2	13.71	16.00	18.54	25.14
SUE - 4	1/4	4.82	1/2	9/16	15.24	17.78	20.10	27.40
SUE - 5	5/16	6.35	5/8	5/8	16.25	18.54	22.35	29.71
SUE - 6	3/8	7.11	5/8	11/16	16.76	19.30	23.11	30.48
SUE - 8	1/2	10.41	13/16	7/8	22.86	21.84	25.90	36.06
SUE - 10	5/8	12.70	15/16	1	24.38	21.84	27.94	38.10
SUE - 12	3/4	15.74	1-1/16	1-1/8	24.38	21.84	29.71	39.87
SUE - 14	7/8	18.28	1-3/8	1-1/4	25.90	21.84	34.54	44.70
SUE - 16	1	22.35	1-3/8	1-1/2	31.24	26.41	36.83	49.02
SUE - 20	1-1/4	27.69	1-11/16	1-7/8	41.15	38.86	44.45	66.55
SUE - 24	1-1/2	34.04	2	2-1/4	50.04	45.21	50.80	77.98
SUE - 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				
SUE - 2M	2	1.7	9.5	12	12.9	15.3	15.7	22.3
SUE - 3M	3	2.4	9.5	12	12.9	15.3	15.7	22.3
SUE - 4M	4	2.4	12.7	12	13.7	16.1	18.8	25.4
SUE - 6M	6	4.8	12.7	14	15.3	17.7	19.6	27.0
SUE - 8M	8	6.4	15.9	16	16.2	18.6	22.4	29.9
SUE - 10M	10	7.9	17.5	19	17.2	19.5	23.9	31.5
SUE - 12M	12	9.5	20.6	22	22.8	22.0	25.9	36.0
SUE - 15M	15	11.9	23.8	25	24.4	22.0	27.9	38.8
SUE - 16M	16	12.7	23.8	25	24.4	22.0	27.9	38.0
SUE - 18M	18	15.1	27.0	30	24.4	22.0	29.7	39.8
SUE - 20M	20	15.9	34.9	32	26.0	22.0	34.5	44.6
SUE - 22M	22	18.3	34.9	32	26.0	22.0	34.5	44.6
SUE - 25M	25	21.8	34.9	38	31.3	26.5	36.8	49.1
SUE - 28M	28	21.8	41	46	36.6	36.6	43.2	64.0
SUE - 30M	30	26.2	46	50	39.6	39.2	48.3	69.9
SUE - 32M	32	28.6	46	50	42.0	41.6	49.3	72.3
SUE - 38M	38	33.7	55	60	49.4	47.9	56.4	84.0

SME Male Elbow

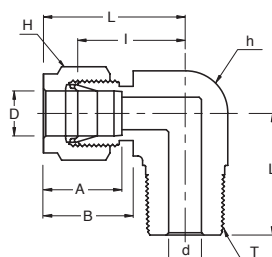


Connects Metric Tubes To Female NPT Thread

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

SME Male Elbow

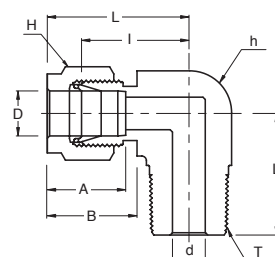


Connects Metric Tubes To Female ISO Tapered Thread

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

SME Male Elbow

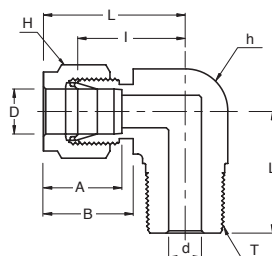


Connects Fractional Tube To Female NPT Thread

Part No.	Tube O.D. D (inch)	T (NPT)	d Min	Width Across Flat		A	B	I	L	L ₁
				h (inch)	H (inch)					
SME - 2 - 2N	1/8	1/8	2.28	1/2	7/16	12.70	15.24	18.00	24.30	18.80
SME - 2 - 4N	1/8	1/4	2.28	1/2	7/16	12.70	15.24	18.00	24.30	23.36
SME - 3 - 2N	3/16	1/8	3.04	1/2	1/2	13.71	16.00	18.79	25.40	18.79
SME - 3 - 4N	3/16	1/4	3.04	1/2	1/2	13.71	16.00	18.79	25.40	23.36
SME - 4 - 2N	1/4	1/8	4.82	1/2	9/16	15.24	17.78	19.55	26.92	18.79
SME - 4 - 4N	1/4	1/4	4.82	1/2	9/16	15.24	17.78	19.55	26.92	23.36
SME - 4 - 6N	1/4	3/8	4.82	5/8	9/16	15.24	17.78	22.35	29.71	26.16
SME - 4 - 8N	1/4	1/2	4.82	13/16	9/16	15.24	17.78	24.38	31.75	33.02
SME - 5 - 2N	5/16	1/8	4.82	9/16	5/8	16.25	18.54	21.33	28.70	19.81
SME - 5 - 4N	5/16	1/4	6.35	9/16	5/8	16.25	18.54	21.33	28.70	24.38
SME - 5 - 6N	5/16	3/8	6.35	11/16	5/8	16.25	18.54	23.11	30.48	26.16
SME - 6 - 2N	3/8	1/8	4.82	5/8	11/16	16.76	19.30	23.11	30.48	20.82
SME - 6 - 4N	3/8	1/4	7.11	5/8	11/16	16.76	19.30	23.11	30.48	25.40
SME - 6 - 6N	3/8	3/8	7.11	5/8	11/16	16.76	19.30	23.87	31.24	26.16
SME - 6 - 8N	3/8	1/2	7.11	13/16	11/16	16.76	19.30	25.90	33.27	33.02
SME - 6 - 12N	3/8	3/4	7.11	1-1/16	11/16	16.76	19.30	29.71	37.08	36.83
SME - 8 - 4N	1/2	1/4	7.11	13/16	7/8	22.86	21.84	25.90	36.06	28.19
SME - 8 - 6N	1/2	3/8	9.65	13/16	7/8	22.86	21.84	25.90	36.06	28.19
SME - 8 - 8N	1/2	1/2	10.41	13/16	7/8	22.86	21.84	25.90	36.06	33.02
SME - 8 - 12N	1/2	3/4	10.41	1-1/16	7/8	22.86	21.84	29.71	39.87	36.83
SME -10 - 6N	5/8	3/8	9.65	15/16	1	24.38	21.84	27.94	38.10	30.22
SME -10 - 8N	5/8	1/2	11.93	15/16	1	24.38	21.84	27.94	38.10	35.10
SME -10 - 12N	5/8	3/4	12.70	1-1/16	1	24.38	21.84	29.71	39.87	36.83
SME -12 - 8N	3/4	1/2	11.93	1-1/16	1-1/8	24.38	21.84	29.71	39.87	36.83
SME -12 - 12N	3/4	3/4	15.74	1-1/16	1-1/8	24.38	21.84	29.71	39.87	36.83
SME -14 - 12N	7/8	3/4	15.74	1-3/8	1-1/4	25.90	21.84	34.54	44.70	41.65
SME -16 -1 2N	1	3/4	15.74	1-3/8	1-1/2	31.24	26.41	36.83	49.02	41.65
SME -16 - 16N	1	1	22.35	1-3/8	1-1/2	31.24	26.41	36.83	49.02	46.48
SME -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
SME -24 - 24N	1-1/2	1-1/2	34.04	2	2-1/4	50.04	45.21	50.80	77.98	60.45
SME -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". Dimension are for reference only, subject to change

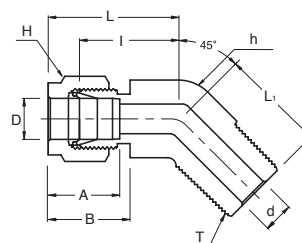
SME Male Elbow



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 ₁
				h (inch)	H (inch)					
SME - 4 - 2R	1/4	1/8	4.82	1/2	9/16	15.24	17.78	19.55	26.92	18.79
SME - 4 - 4R	1/4	1/4	4.82	1/2	9/16	15.24	17.78	19.55	26.92	23.36
SME - 4 - 6R	1/4	3/8	4.82	5/8	9/16	15.24	17.78	22.35	29.71	26.16
SME - 4 - 8R	1/4	1/2	4.82	13/16	9/16	15.24	17.78	24.38	31.75	33.02
SME - 5 - 4R	5/16	1/4	6.35	9/16	5/8	16.25	18.54	21.33	28.70	24.38
SME - 6 - 4R	3/8	1/4	7.11	5/8	11/16	16.76	19.30	23.11	30.48	25.40
SME - 6 - 6R	3/8	3/8	7.11	5/8	11/16	16.76	19.30	23.87	31.24	26.16
SME - 8 - 6R	1/2	3/8	9.65	13/16	7/8	22.86	21.84	25.91	36.07	28.20
SME - 8 - 8R	1/2	1/2	10.41	13/16	7/8	22.86	21.84	25.91	36.07	33.02

SHME 45° Male Elbow

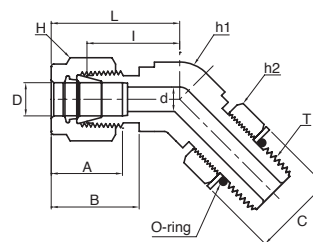


Connects Fractional Tubes To Female NPT Thread

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

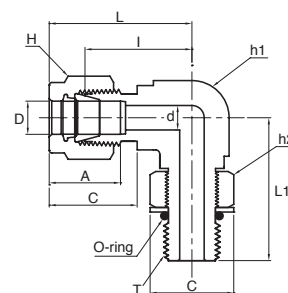
SPHME 45° Positionable Male Elbow



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						
SPHME - 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
SPHME - 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
SPHME - 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
SPHME -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
SPHME -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

SPME Positionable Male Elbow

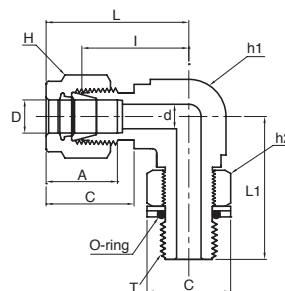


Connects Fractional Tubes To SAE/MS Straight Thread

Part No.	Tube O.D. D (inch)	T (U)	d Min	Width Across Flat			A	B	I	L	L1	C
				h1	h2	H						
SPME - 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
SPME - 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
SPME - 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
SPME - 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
SPME - 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
SPME - 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
SPME -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
SPME -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
SPME -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
SPME -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
SPME -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
SPME -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
SPME -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". Dimension are for reference only, subject to change

SPME Positionable Male Elbow



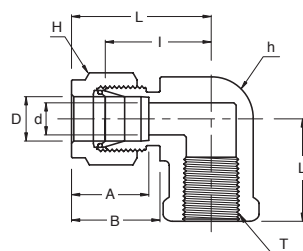
Connects Fractional Tubes To Female ISO Parallel Thread

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

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

* ISO Tapered Threads are available upon request

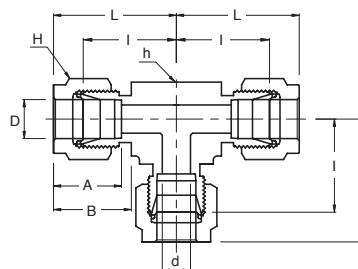
Connects Metric Tubes To Male NPT Thread

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

SUT Union Tee



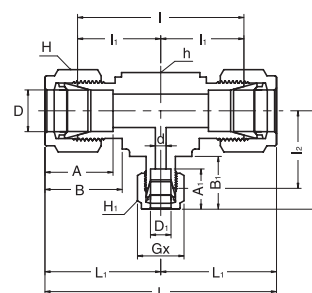
Connects Fractional Tubes

Part No.	Tube O.D. D (inch)	d Min	Width Across Flat		A	B	I	L
			h (inch)	H (inch)				
SUT - 1	1/16	1.27	3/8	5/16	8.63	10.92	14.00	18.03
SUT - 2	1/8	2.28	3/8	7/16	12.70	15.24	15.80	22.35
SUT - 3	3/16	3.04	1/2	1/2	13.71	16.00	18.54	25.14
SUT - 4	1/4	4.82	1/2	9/16	15.24	17.78	20.10	27.40
SUT - 5	5/16	6.35	5/8	5/8	16.25	18.54	22.35	29.71
SUT - 6	3/8	7.11	5/8	11/16	16.76	19.30	23.11	30.48
SUT - 8	1/2	10.41	13/16	7/8	22.86	21.84	25.90	36.06
SUT - 10	5/8	12.70	1	1	24.38	21.84	28.70	38.86
SUT - 12	3/4	15.74	1-1/16	1-1/8	24.38	21.84	29.71	39.87
SUT - 14	7/8	18.28	1-3/8	1-1/4	25.90	21.84	34.54	44.70
SUT - 16	1	22.35	1-3/8	1-1/2	31.24	26.41	36.83	49.02
SUT - 20	1-1/4	27.69	1-11/16	1-7/8	41.15	38.86	44.45	66.55
SUT - 24	1-1/2	34.04	2	2-1/4	50.04	45.21	50.80	77.98
SUT - 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				
SUT - 2M	2	1.7	9.5	12	12.9	15.3	15.7	22.3
SUT - 3M	3	2.4	9.5	12	12.9	15.3	15.7	22.3
SUT - 4M	4	2.4	12.7	12	13.7	16.1	18.8	25.4
SUT - 6M	6	4.8	12.7	14	15.3	17.7	19.6	27.0
SUT - 8M	8	6.4	15.9	16	16.2	18.6	22.4	29.9
SUT - 10M	10	7.9	17.5	19	17.2	19.5	23.9	31.5
SUT - 12M	12	9.5	20.6	22	22.8	22.0	25.9	36.0
SUT - 15M	15	11.9	25.4	25	24.4	22.0	28.7	38.8
SUT - 16M	16	12.7	25.4	25	24.4	22.0	28.7	38.8
SUT - 18M	18	15.1	27.0	30	24.4	22.0	29.7	38.8
SUT - 20M	20	15.9	34.9	32	26.0	22.0	34.5	44.6
SUT - 22M	22	18.3	34.9	32	26.0	22.0	34.5	44.6
SUT - 25M	25	21.8	34.9	38	31.3	26.5	36.8	49.1
SUT - 28M	28	21.8	41	46	36.6	36.6	43.2	64.0
SUT - 30M	30	26.2	46	50	39.6	39.2	48.3	69.9
SUT - 32M	32	28.6	46	50	42.0	41.6	49.3	72.3
SUT - 38M	38	33.7	55	60	49.4	47.9	56.4	84.0

SRUT Reducing Union Tee

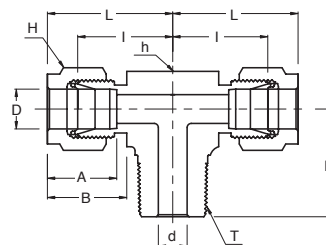


Connects Fractional Tubes

Part No.	Tube O.D.		d Min	Width Across Flat			A	A ₁	B	B ₁	I	I ₁	I ₂	L	L ₁	L ₂
	D (inch)	D ₁ (inch)		h (inch)	H (inch)	H ₁ (inch)										
SRUT - 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
SRUT - 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
SRUT - 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
SRUT - 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
SRUT - 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
SRUT - 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
SRUT - 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
SRUT - 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
SRUT - 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". Dimension are for reference only, subject to change

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

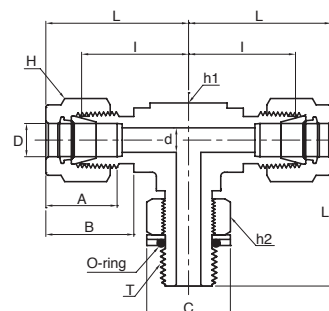
* ISO Tapered Threads are available upon request

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 ₁
				h	H					
SMBT - 3M - 2R	3	1/8	2.4	12.7	12	12.9	15.3	17.0	23.6	17.8
SMBT - 3M - 4R	3	1/4	2.4	12.7	12	12.9	15.3	18.0	24.6	23.4
SMBT - 4M - 2R	4	1/8	2.4	12.7	12	13.7	16.1	18.8	25.4	18.8
SMBT - 6M - 2R	6	1/8	4.8	12.7	14	15.3	17.7	19.6	27.0	18.8
SMBT - 6M - 4R	6	1/4	4.8	12.7	14	15.3	17.7	19.6	27.0	23.4
SMBT - 8M - 2R	8	1/8	4.8	15.9	16	16.2	18.6	22.4	29.9	20.8
SMBT - 8M - 4R	8	1/4	6.4	15.9	16	16.2	18.6	22.4	29.9	25.4
SMBT -10M - 4R	10	1/4	7.1	17.5	19	17.2	19.5	23.9	31.5	28.2
SMBT -10M - 6R	10	3/8	7.9	17.5	19	17.2	19.5	23.9	31.5	28.2
SMBT -12M - 4R	12	1/4	7.1	20.6	22	22.8	22.0	25.9	36.0	28.2
SMBT -12M - 6R	12	3/8	9.5	20.6	22	22.8	22.0	25.9	36.0	28.2
SMBT -12M - 8R	12	1/2	9.5	20.6	22	22.8	22.0	25.9	36.0	33.0
SMBT -16M - 6R	16	3/8	9.5	25.4	25	24.4	22.0	27.9	38.0	30.2
SMBT -16M - 8R	16	1/2	11.9	25.4	25	24.4	22.0	27.9	38.0	35.1
SMBT -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

SPMBT Positionable Male Branch Tee



Connects Fractional Tubes To Female ISO Parallel Thread

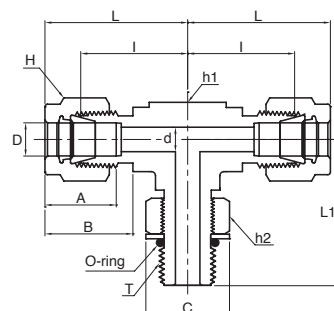
Part No.	Tube O.D. D (inch)	T (PF)	d Min	Width Across Flat			A	B	I	L	L1	C
				h1	h2	H						
SPMBT - 4 - 2G	1/4	1/8	4.06	1/2	9/16	9/16	15.24	17.78	19.56	26.92	26.42	17.27
SPMBT - 4 - 4G	1/4	1/4	4.83	5/8	3/4	9/16	15.24	17.78	21.59	28.96	32.26	22.86
SPMBT - 6 - 4G	3/8	1/4	5.08	5/8	3/4	11/16	15.24	19.30	23.11	30.48	32.26	22.86
SPMBT - 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
SPMBT - 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
SPMBT -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
SPMBT -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
SPMBT -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
SPMBT -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						
SPMBT - 6M - 2G	6	1/8	4.0	1/2	9/16	14	15.3	17.7	19.6	27.0	26.4	17.3
SPMBT - 6M - 4G	6	1/4	4.8	5/8	3/4	14	15.3	17.7	21.6	29.0	32.3	22.9
SPMBT - 8M - 2G	8	1/8	4.0	9/16	9/16	16	16.2	18.6	21.3	28.8	27.4	17.3
SPMBT - 8M - 4G	8	1/4	5.9	5/8	3/4	16	16.2	18.6	22.4	29.9	32.2	22.9
SPMBT -10M - 4G	10	1/4	5.9	13/16	3/4	19	17.2	19.5	25.9	33.5	35.0	22.9
SPMBT -12M - 6G	10	3/8	7.9	13/16	7/8	22	22.8	22.0	25.9	36.0	37.1	26.4
SPMBT -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". Dimension are for reference only, subject to change

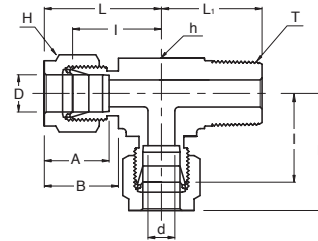
SPMBT Positionable Male Branch Tee



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						
SPMBT - 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
SPMBT - 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
SPMBT - 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
SPMBT -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
SPMBT -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
SPMBT -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
SPMBT -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
SPMBT -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

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

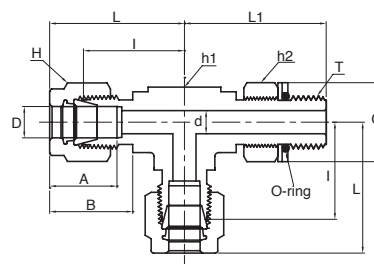
Connects Metric Tubes To Female ISO Tapered Thread

Part No.	Tube O.D. D	T* R (PT)	d Min	Width Across Flat		A	B	I	L	L ₁
				h	H					
SMRT - 3M - 2R	3	1/8	2.4	12.7	12	12.9	15.3	17.0	23.6	17.8
SMRT - 3M - 4R	3	1/4	2.4	12.7	12	12.9	15.3	18.0	24.6	23.4
SMRT - 4M - 2R	4	1/8	2.4	12.7	12	13.7	16.1	18.8	25.4	18.8
SMRT - 6M - 2R	6	1/8	4.8	12.7	14	15.3	17.7	19.6	27.0	18.8
SMRT - 6M - 4R	6	1/4	4.8	12.7	14	15.3	17.7	19.6	27.0	23.4
SMRT - 8M - 2R	8	1/8	4.8	15.9	16	16.2	18.6	22.4	29.9	20.8
SMRT - 8M - 4R	8	1/4	6.4	15.9	16	16.2	18.6	22.4	29.9	25.4
SMRT -10M - 4R	10	1/4	7.1	17.5	19	17.2	19.5	23.9	31.5	28.2
SMRT -10M - 6R	10	3/8	7.9	17.5	19	17.2	19.5	23.9	31.5	28.2
SMRT -12M - 4R	12	1/4	7.1	20.6	22	22.8	22.0	25.9	36.0	28.2
SMRT -12M - 6R	12	3/8	9.5	20.6	22	22.8	22.0	25.9	36.0	28.2
SMRT -12M - 8R	12	1/2	9.5	20.6	22	22.8	22.0	25.9	36.0	33.0
SMRT -16M - 6R	16	3/8	9.5	25.4	25	24.4	22.0	27.9	38.0	30.2
SMRT -16M - 8R	16	1/2	11.9	25.4	25	24.4	22.0	27.9	38.0	35.1
SMRT -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". Dimension are for reference only, subject to change

SPMRT Positionable Male Run Tee



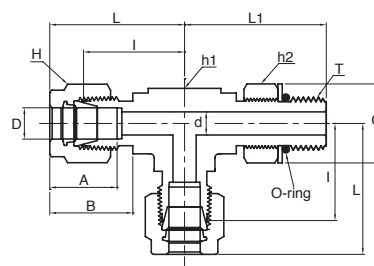
Connects Fractional Tubes To Female ISO Parallel Thread

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

SPMRT Positionable Male Run Tee

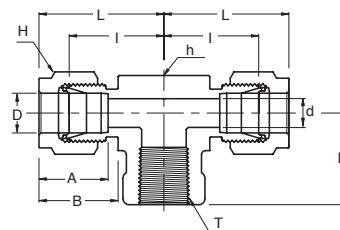


Connects Fractional Tubes To SAE/MS Straight Thread

Part No.	Tube O.D. D (inch)	T (U)	d Min	Width Across Flat			A	B	I	L	L1	C
				h1	h2	H						
SPMRT - 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
SPMRT - 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
SPMRT - 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
SPMRT -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
SPMRT -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
SPMRT -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
SPMRT -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
SPMRT -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". Dimension are for reference only, subject to change

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

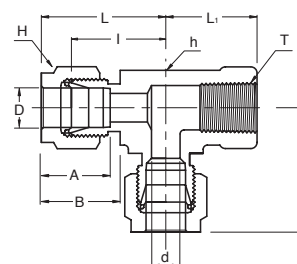
* ISO Tapered Threads are available upon request

Connects Metric Tubes To Male NPT Thread

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

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

* ISO Tapered Threads are available upon request

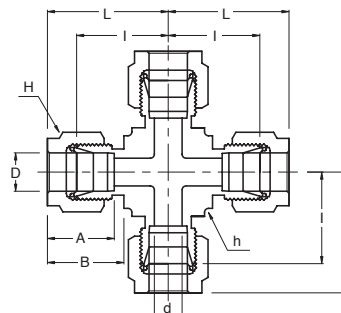
Connects Metric Tubes To Male NPT Thread

Part No.	Tube O.D. D	T* (NPT)	d Min	Width Across Flat		A	B	I	L	L ₁
				h	H					
SFRT - 6M - 2N	6	1/8	4.8	12.70	14	15.3	17.7	19.6	27.0	19.0
SFRT - 6M - 4N	6	1/4	4.8	17.46	14	15.3	17.7	22.4	29.8	22.4
SFRT - 6M - 8N	6	1/2	4.8	25.40	14	15.3	17.7	27.2	34.5	28.4
SFRT - 8M - 2N	8	1/8	6.4	15.87	16	16.2	18.6	22.4	29.9	19.0
SFRT - 8M - 4N	8	1/4	6.4	17.46	16	16.2	18.6	23.1	30.6	22.4
SFRT - 8M - 6N	8	3/8	6.4	20.63	16	16.2	18.6	25.2	32.4	22.4
SFRT - 8M - 8N	8	1/2	6.4	25.40	16	16.2	18.6	28.0	35.2	28.4
SFRT -12M - 4N	12	1/4	9.5	20.63	22	22.8	22.0	25.9	33.5	22.4
SFRT -12M - 6N	12	3/8	9.5	20.63	22	22.8	22.0	25.9	36.0	22.4
SFRT -12M - 8N	12	1/2	9.5	25.40	22	22.8	22.0	29.7	40.0	28.4
SFRT -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". Dimension are for reference only, subject to change

SUC 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)				
SUC - 1	1/16	1.27	3/8	5/16	8.63	10.92	14.00	18.03
SUC - 2	1/8	2.28	3/8	7/16	12.70	15.24	15.74	22.35
SUC - 3	3/16	3.04	1/2	1/2	13.71	16.00	18.54	25.14
SUC - 4	1/4	4.82	1/2	9/16	15.24	17.78	19.55	26.92
SUC - 5	5/16	6.35	5/8	5/8	16.25	18.54	22.35	29.71
SUC - 6	3/8	7.11	5/8	11/16	16.76	19.30	23.11	30.48
SUC - 8	1/2	10.41	13/16	7/8	22.86	21.84	25.90	36.06
SUC - 10	5/8	12.70	15/16	1	24.38	21.84	28.70	38.80
SUC - 12	3/4	15.74	1	1-1/8	24.38	21.84	29.71	39.87
SUC - 14	7/8	18.28	1-3/8	1-1/4	25.90	21.84	34.54	44.70
SUC - 16	1	22.35	1-3/8	1-1/2	31.24	26.41	36.83	49.02

Connects Metric Tubes

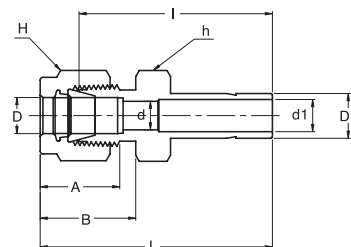
Part No.	Tube O.D. D	d Min	Width Across Flat		A	B	I	L
			h	H				
SUC - 3M	3	2.4	9.5	12	12.9	15.3	15.7	22.3
SUC - 6M	6	4.8	12.7	14	15.3	17.7	19.6	27.0
SUC - 8M	8	6.4	15.9	16	16.2	18.6	22.4	29.9
SUC - 10M	10	7.9	20.6	19	17.2	19.5	25.9	33.5
SUC - 12M	12	9.5	20.6	22	22.8	22.0	25.9	36.0
SUC - 16M	16	12.7	23.8	25	24.4	22.0	26.9	37.0
SUC - 18M	18	15.1	25.4	30	24.4	22.0	28.2	38.3
SUC - 20M	20	15.9	34.9	32	26.0	22.0	34.5	44.6
SUC - 25M	25	21.8	34.9	38	31.3	26.5	36.8	49.1

Stub Tube Connector, An Tube & O-Ring Seal



STUB TUBE CONNECTOR		
SR Reducer		
page 51		
SBR Bulkhead Reducer		
page 53		
SMA Male Adapter		
page 54		
SFA Female Adapter		
page 55		
SPC Port Connector		
page 56		
SRPC Reducing Port Connector		
page 57		
SFTC Flange Lapped Tubes Connector		
page 58		
AN TUBE		
SAF An Flare		
page 58		
SAU An Union		
page 59		
SAA An Adapter		
page 59		
O-RING SEAL		
SOSC O-Seal Straight Thread Connector		
page 60		
SOPC O-Seal Pipe Thread Connector		
page 60		
SSMC SAE/MS Male Connector		
page 61		

SR Reducer

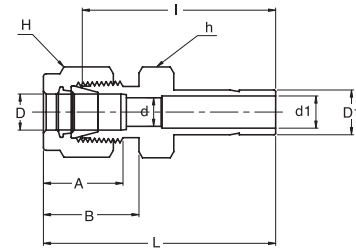
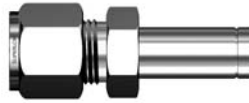


Connects Fractional Tubes To Fractional **SUPERLOK** Port

Part No.	Tube O.D.		d Min	d1 Min	Width Across Flat		A	B	I	L
	D (inch)	D ₁ (inch)			h (inch)	H (inch)				
SR - 2 - 1	1/8	1/16	2.28	0.8	7/16	7/16	12.70	15.24	22.35	28.95
SR - 2 - 2	1/8	1/8	2.28	2.1	7/16	7/16	12.70	15.24	26.92	33.52
SR - 2 - 3	1/8	3/16	2.28	3.0	7/16	7/16	12.70	15.24	27.68	34.29
SR - 2 - 4	1/8	1/16	2.28	4.4	7/16	7/16	12.70	15.24	29.46	36.06
SR - 2 - 6	1/8	1/16	2.28	6.9	7/16	7/16	12.70	15.24	30.98	37.59
SR - 2 - 8	1/8	1/2	2.28	9.4	9/16	7/16	12.70	15.24	37.59	44.19
SR - 3 - 2	3/16	1/8	3.04	2.1	7/16	1/2	13.71	16.00	28.19	34.79
SR - 3 - 4	3/16	1/4	3.04	4.4	7/16	1/2	13.71	16.00	30.48	37.08
SR - 4 - 2	1/4	1/8	4.83	2.1	1/2	9/16	15.24	17.78	29.46	36.83
SR - 4 - 3	1/4	3/16	4.83	3.0	1/2	9/16	15.24	17.78	30.22	37.59
SR - 4 - 4	1/4	1/4	4.83	4.4	1/2	9/16	15.24	17.78	31.75	39.11
SR - 4 - 5	1/4	5/16	4.83	5.6	1/2	9/16	15.24	17.78	32.51	39.87
SR - 4 - 6	1/4	3/8	4.83	6.9	1/2	9/16	15.24	17.78	33.27	40.64
SR - 4 - 8	1/4	1/2	4.83	9.4	9/16	9/16	15.24	17.78	38.86	46.22
SR - 4 - 10	1/4	5/8	4.83	12.0	11/16	9/16	15.24	17.78	40.64	48.00
SR - 4 - 12	1/4	3/4	4.83	14.8	13/16	9/16	15.24	17.78	41.40	47.75
SR - 5 - 6	5/16	3/8	6.35	6.9	9/16	5/8	16.25	18.54	34.54	41.91
SR - 5 - 8	5/16	1/2	6.35	9.4	9/16	5/8	16.25	18.54	40.13	47.49
SR - 6 - 4	3/8	1/4	7.11	4.4	5/8	11/16	16.76	19.30	34.03	41.40
SR - 6 - 6	3/8	3/8	7.11	6.9	5/8	11/16	16.76	19.30	35.81	43.18
SR - 6 - 8	3/8	1/2	7.11	9.4	5/8	11/16	16.76	19.30	41.14	48.51
SR - 6 - 10	3/8	5/8	7.11	12.0	11/16	11/16	16.76	19.30	42.92	50.29
SR - 6 - 12	3/8	3/4	7.11	14.8	13/16	11/16	16.76	19.30	42.92	50.29
SR - 8 - 4	1/2	1/4	10.41	4.4	13/16	7/8	22.86	21.84	34.79	44.95
SR - 8 - 6	1/2	3/8	10.41	6.9	13/16	7/8	22.86	21.84	36.57	46.73
SR - 8 - 8	1/2	1/2	10.41	9.4	13/16	7/8	22.86	21.84	42.16	52.32
SR - 8 - 10	1/2	5/8	10.41	12.0	13/16	7/8	22.86	21.84	43.68	53.84
SR - 8 - 12	1/2	3/4	10.41	14.8	13/16	7/8	22.86	21.84	43.68	53.84
SR - 8 - 16	1/2	1	10.41	20.4	1-1/16	7/8	22.86	21.84	50.03	60.19
SR - 10 - 12	5/8	3/4	12.70	14.8	15/16	1	24.38	21.84	44.45	54.61
SR - 10 - 14	5/8	7/8	12.70	17.0	15/16	1	24.38	21.84	45.97	56.13
SR - 10 - 16	5/8	1	12.70	20.4	1-1/16	1	24.38	21.84	50.80	60.96
SR - 12 - 8	3/4	1/2	15.74	9.4	1-1/16	1-1/8	24.38	21.84	44.45	54.61
SR - 12 - 16	3/4	1	15.74	20.4	1-1/16	1-1/8	24.38	21.84	52.32	62.48

* Fractional Tube to Metric **SUPERLOK** port are available upon request

SR Reducer

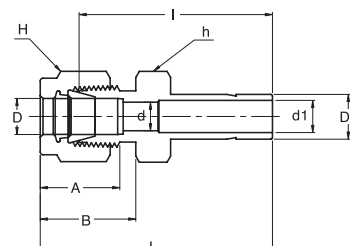


Connects Metric Tubes To Metric **SUPERLOK** Port

Part No.	Tube O.D.		d Min	d1 Min	Width Across Flat		A	B	I	L
	D	D1			h	H				
SR- 3M- 4M	3	4	2.4	2.2	12	12	12.9	15.3	28.4	35.0
SR- 3M- 6M	3	6	2.4	4.1	12	12	12.9	15.3	29.5	36.1
SR- 3M-10M	3	10	2.4	7.1	14	12	12.9	15.3	31.8	38.4
SR- 4M- 6M	4	6	2.4	4.1	12	12	13.7	16.1	30.5	37.1
SR-6M- 3M	6	3	4.8	1.8	14	14	15.3	17.7	29.5	36.9
SR-6M- 8M	6	8	4.8	5.6	14	14	15.3	17.7	32.5	39.9
SR-6M-10M	6	10	4.8	7.1	14	14	15.3	17.7	33.3	40.7
SR -6M-12M	6	12	4.8	8.8	14	14	15.3	17.7	38.9	46.3
SR -8M- 6M	8	6	6.4	4.1	15	16	16.2	18.6	32.8	40.3
SR -8M-10M	8	10	6.4	7.1	15	16	16.2	18.6	34.5	42.0
SR -8M-12M	8	12	6.4	8.8	15	16	16.2	18.6	40.1	47.6
SR-10M- 6M	10	6	7.9	4.1	18	19	17.2	19.5	34.8	42.4
SR-10M- 8M	10	8	7.9	5.6	18	19	17.2	19.5	35.8	43.4
SR-10M-12M	10	12	7.9	8.8	18	19	17.2	19.5	42.2	49.8
SR-10M-15M	10	15	7.9	11.2	18	19	17.2	19.5	43.7	51.3
SR-10M-18M	10	18	7.9	13.9	22	19	17.2	19.5	43.7	51.3
SR-12M- 6M	12	6	9.5	4.1	22	22	22.8	22.0	34.8	44.9
SR-12M- 8M	12	8	9.5	5.6	22	22	22.8	22.0	35.8	45.9
SR-12M-10M	12	10	9.5	7.1	22	22	22.8	22.0	36.6	46.7
SR-12M-16M	12	16	9.5	12.0	22	22	22.8	22.0	43.7	53.8
SR-12M-18M	12	18	9.5	13.9	22	22	22.8	22.0	43.7	53.8
SR-12M-20M	12	20	9.5	15.5	22	22	22.8	22.0	46.0	56.1
SR-12M-22M	12	22	9.5	17.9	24	22	22.8	22.0	46.0	56.1
SR-12M-25M	12	25	9.5	19.9	27	22	22.8	22.0	52.3	62.4
SR-16M-12M	16	12	12.7	8.8	27	25	24.4	22.0	42.9	53.0
SR-18M-12M	18	12	15.1	8.8	27	30	24.4	22.0	44.5	54.6
SR-18M-16M	18	16	15.1	12.0	27	30	24.4	22.0	46.0	56.1
SR-18M-20M	18	20	15.1	15.5	27	30	24.4	22.0	47.5	57.6
SR-18M-22M	18	22	15.1	17.9	30	30	24.4	22.0	47.5	57.6
SR-18M-25M	18	25	15.1	19.9	30	30	24.4	22.0	52.3	62.4
SR-20M-16M	20	16	15.9	12.0	30	32	26.0	22.0	47.8	57.9
SR-20M-18M	20	18	15.9	13.9	30	32	26.0	22.0	47.8	57.9
SR-20M-22M	20	22	15.9	17.9	30	32	26.0	22.0	49.3	59.4
SR-20M-25M	20	25	15.9	19.9	30	32	26.0	22.0	54.1	64.2
SR-22M-18M	22	18	18.3	13.9	30	32	26.0	22.0	47.8	57.9
SR-22M-20M	22	20	18.3	15.5	30	32	26.0	22.0	49.3	59.4
SR-22M-25M	22	25	18.3	19.9	30	32	26.0	22.0	54.1	64.2
SR-25M-18M	25	18	21.8	13.9	35	38	31.3	26.5	50.8	63.1
SR-25M-20M	25	20	21.8	15.5	35	38	31.3	26.5	52.3	64.6

• All dimensions in millimeters unless specified as "inch". Dimension are for reference only, subject to change

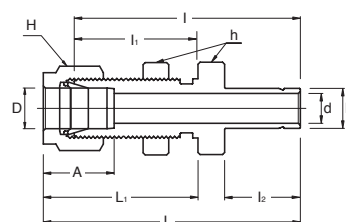
SR Reducer



Connects Metric Tubes To Fractional SUPERLOK Port

Part No.	Tube O.D.		d Min	d1 Min	Width Across Flat		A	B	I	L
	D	D ₁ (inch)			h	H				
SR - 3M - 2	3	1/8	2.4	2.1	12	12	12.9	15.3	26.9	33.5
SR - 3M - 4	3	1/4	2.4	4.4	12	12	12.9	15.3	29.5	36.1
SR - 6M - 4	6	1/4	4.8	4.4	14	14	15.3	17.7	31.8	39.2
SR - 6M - 5	6	5/16	4.8	5.6	14	14	15.3	17.7	32.5	39.9
SR - 6M - 6	6	3/8	4.8	6.9	14	14	15.3	17.7	33.3	40.7
SR - 6M - 8	6	1/2	4.8	9.4	14	14	15.3	17.7	38.9	46.3
SR - 8M - 6	8	3/8	6.4	6.9	15	16	16.2	18.6	34.5	42.0
SR - 8M - 8	8	1/2	6.4	9.4	15	16	16.2	18.6	40.1	47.6
SR - 10M - 6	10	3/8	7.9	6.9	18	19	17.2	19.5	36.6	44.2
SR - 10M - 8	10	1/2	7.9	9.4	18	19	17.2	19.5	42.2	49.8
SR - 12M - 8	12	1/2	9.5	9.4	22	22	22.8	22.0	42.2	52.3
SR - 12M - 12	12	3/4	9.5	14.8	22	22	22.8	22.0	43.7	53.8
SR - 18M - 12	18	3/4	15.1	14.8	27	30	24.4	22.0	46.0	56.1
SR - 18M - 16	18	1	15.1	20.4	27	30	24.4	22.0	52.3	62.4

SRB Bulkhead Reducer

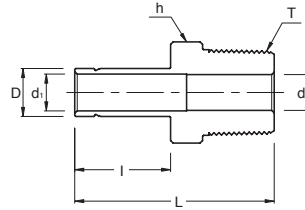


Connects Fractional Tubes To Fractional SUPERLOK Port

Part No.	Tube O.D. D (inch)	d Min	Width Across Flat		A	I	I ₁	I ₂	L	L ₁	Panel Hole Drill Size	Panel Max. Thickness
			h (inch)	H (inch)								
SRB - 2 - 2	1/8	2.1	1/2	7/16	12.70	42.92	24.63	13.46	49.53	31.24	8.33	12.70
SRB - 4 - 4	1/4	4.4	5/8	9/16	15.24	48.51	26.16	15.74	55.88	33.52	11.50	10.16
SRB - 6 - 6	3/8	6.9	3/4	11/16	16.76	53.84	29.46	17.52	61.21	36.83	14.68	11.17
SRB - 8 - 8	1/2	9.4	15/16	7/8	22.86	62.73	31.75	23.11	72.89	41.91	19.44	12.70
SRB - 10 - 10	5/8	12.0	1-1/16	1	24.38	65.02	32.51	24.70	75.18	42.67	22.62	12.70
SRB - 16 - 16	1	20.4	1-5/8	1-1/2	31.24	88.13	45.21	31.70	100.33	57.40	33.73	19.05

• All dimensions in millimeters unless specified as "inch". Dimension are for reference only, subject to change

SMA Male Adapter



Connects Fractional **SUPERLOK** Port To Female NPT Thread

Part No.	Tube O.D. D (inch)	T* (NPT)	d (Min)	d ₁	Width Across Flat h (inch)	I	L
SMA - 2 - 2N	1/8	1/8	4.82	2.10	7/16	13.45	29.50
SMA - 2 - 4N	1/8	1/4	7.11	2.10	9/16	13.45	34.80
SMA - 3 - 2N	3/16	1/8	4.82	3.04	7/16	14.20	30.22
SMA - 3 - 4N	3/16	1/4	7.11	3.04	9/16	14.20	35.56
SMA - 4 - 2N	1/4	1/8	4.40	4.40	7/16	15.75	31.80
SMA - 4 - 4N	1/4	1/4	4.40	4.40	9/16	15.75	37.08
SMA - 4 - 6N	1/4	3/8	4.40	4.40	11/16	15.75	37.84
SMA - 4 - 8N	1/4	1/2	4.40	4.40	7/8	15.75	43.43
SMA - 5 - 2N	5/16	1/8	4.82	5.60	7/16	16.80	32.76
SMA - 5 - 4N	5/16	1/4	6.35	5.60	9/16	16.80	38.10
SMA - 6 - 2N	3/8	1/8	4.82	6.90	7/16	17.50	33.50
SMA - 6 - 4N	3/8	1/4	6.90	6.90	9/16	17.50	38.90
SMA - 6 - 6N	3/8	3/8	6.90	6.90	11/16	17.50	39.60
SMA - 6 - 8N	3/8	1/2	6.90	6.90	7/8	17.50	45.20
SMA - 8 - 4N	1/2	1/4	7.11	9.40	9/16	23.20	44.50
SMA - 8 - 6N	1/2	3/8	9.40	9.40	11/16	23.20	45.20
SMA - 8 - 8N	1/2	1/2	9.40	9.40	7/8	23.20	50.80
SMA -10 - 6N	5/8	3/8	9.90	12.00	11/16	24.70	47.40
SMA -10 - 8N	5/8	1/2	12.00	12.00	7/8	24.70	52.30
SMA -10 - 12N	5/8	3/4	14.98	12.00	1-1/16	24.70	52.30
SMA -12 - 8N	3/4	1/2	11.94	14.80	7/8	24.70	52.30
SMA -12 - 12N	3/4	3/4	14.80	14.80	1-1/16	24.70	52.30
SMA -12 - 16N	3/4	1	20.32	14.80	1-3/8	24.70	57.91
SMA -14 - 12N	7/8	3/4	14.98	17.27	1-1/16	26.70	54.30
SMA -16 - 12N	1	3/4	15.74	20.40	1-1/16	31.70	58.70
SMA -16 - 16N	1	1	20.40	20.40	1-3/8	31.70	66.00

* ISO Tapered Threads are available upon request

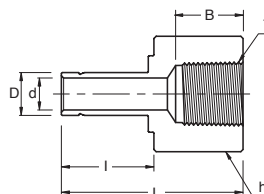
Connects Metric **SUPERLOK** Port To Female NPT Thread

Part No.	Tube O.D. (D)	T* (NPT)	d (Min)	d ₁	Width Across Flat (h)	I	L
SMA - 6M - 2N	6	1/8	4.1	4.1	12	15.75	32.8
SMA - 6M - 4N	6	1/4	4.1	4.1	14	15.75	38.1
SMA - 8M - 4N	8	1/4	5.6	5.6	14	16.50	39.1
SMA -10M - 4N	10	1/4	7.1	7.1	14	17.50	39.9
SMA -10M - 6N	10	3/8	7.1	7.1	18	17.50	40.6
SMA -10M - 8N	10	1/2	11.9	7.1	22	17.50	46.2
SMA -12M - 4N	12	1/4	7.1	8.8	16	23.50	46.5
SMA -12M - 8N	12	1/2	11.9	8.8	22	23.50	52.0
SMA -18M - 12N	18	3/4	15.9	13.9	27	24.90	54.8

* ISO Tapered Threads are available upon request

• All dimensions in millimeters unless specified as "inch". Dimension are for reference only, subject to change

SFA Female Adapter



Connects Fractional **SUPERLOK** Port To Male NPT Thread

Part No.	Tube O.D. D (inch)	T* (NPT)	d (Min)	Width Across Flat h (inch)	I	L
SFA - 2 - 2N	1/8	1/8	2.10	9/16	13.45	31.50
SFA - 2 - 4N	1/8	1/4	2.10	3/4	13.45	35.30
SFA - 3 - 2N	3/16	1/8	3.04	9/16	14.20	32.00
SFA - 3 - 4N	3/16	1/4	3.04	3/4	14.20	35.81
SFA - 4 - 2N	1/4	1/8	4.40	9/16	15.75	33.02
SFA - 4 - 4N	1/4	1/4	4.40	3/4	15.75	37.10
SFA - 4 - 6N	1/4	3/8	4.40	7/8	15.75	39.37
SFA - 4 - 8N	1/4	1/2	4.40	1-1/16	15.75	45.50
SFA - 5 - 2N	5/16	1/8	5.60	9/16	16.80	34.29
SFA - 5 - 4N	5/16	1/4	5.60	3/4	16.80	37.59
SFA - 6 - 2N	3/8	1/8	6.90	9/16	17.50	34.29
SFA - 6 - 4N	3/8	1/4	6.90	3/4	17.50	38.10
SFA - 6 - 6N	3/8	3/8	6.90	7/8	17.50	40.38
SFA - 6 - 8N	3/8	1/2	6.90	1-1/16	17.50	46.73
SFA - 8 - 4N	1/2	1/4	9.40	3/4	23.20	43.43
SFA - 8 - 6N	1/2	3/8	9.40	7/8	23.20	45.46
SFA - 8 - 8N	1/2	1/2	9.40	1-1/16	23.20	51.80
SFA -10 - 6N	5/8	3/8	12.00	7/8	24.70	48.26
SFA -10 - 8N	5/8	1/2	12.00	1-1/16	24.70	53.08
SFA -12 - 8N	3/4	1/2	14.80	1-1/16	24.70	52.83
SFA -12 -12N	3/4	3/4	14.80	1-5/16	24.70	54.86
SFA -12 -16N	3/4	1	14.80	1-5/8	24.70	58.42
SFA -14 -12N	7/8	3/4	17.27	1-5/16	26.70	57.15
SFA -16 -12N	1	3/4	20.40	1-5/16	31.70	60.70
SFA -16 -16N	1	1	20.40	1-5/8	31.70	64.26

* ISO Tapered Threads are available upon request

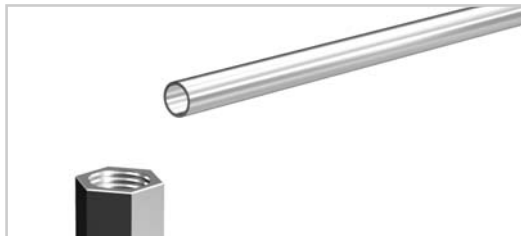
Connects Metric **SUPERLOK** Port To Male NPT Thread

Part No.	Tube O.D. (D)	T* (NPT)	d (Min)	Width Across Flat (h)	I	L
SFA - 3M - 2N	3	1/8	1.8	14	13.15	31.2
SFA - 6M - 2N	6	1/8	4.1	14	15.75	32.5
SFA - 6M - 4N	6	1/4	4.1	19	15.75	37.1
SFA - 8M - 4N	8	1/4	5.6	19	16.50	37.6
SFA -10M - 4N	10	1/4	7.1	19	17.50	38.1
SFA -10M - 6N	10	3/8	7.1	22	17.50	40.1
SFA -10M - 8N	10	1/2	7.1	27	17.50	46.5
SFA -12M - 4N	12	1/4	8.8	19	23.50	43.7
SFA -12M - 6N	12	3/8	8.8	22	23.50	46.0
SFA -12M - 8N	12	1/2	8.8	27	23.50	52.3
SFA -18M - 12N	18	3/4	13.9	32	24.90	54.8

* ISO Tapered Threads are available upon request

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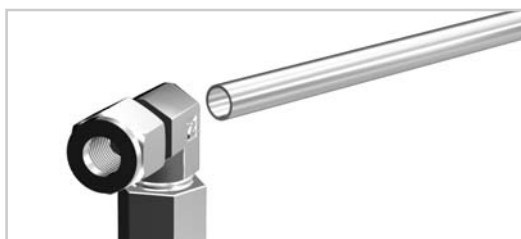
SUPERLOK Adapter Solve Alignment Problems



1. Required installation is to connect tubing in direction shown, to a female port.



3. To connect this situation, merely tighten pipe thread of male adapter into female port.

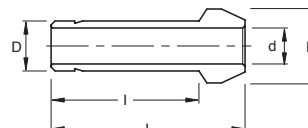


2. With pipe connection tight, the male elbow is pointing in the wrong direction for desired tubing run.



4. Connect union elbow to adapter by tightening SUPERLOK connection with wrench while holding elbow pointing in desired direction Then insert tubing into the other end of the Union Elbow and connect tubing

SPC Port Connector



Connects Fractional SUPERLOK Ports

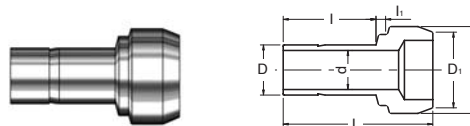
Part No.	Tube O.D.(D) (inch)	d (Min)	E	I	L
SPC - 2	1/8	2.1	6.09	15.75	22.35
SPC - 4	1/4	4.4	9.39	18.79	24.63
SPC - 5	5/16	5.6	10.92	20.06	25.90
SPC - 6	3/8	6.9	12.70	20.32	26.16
SPC - 8	1/2	9.4	15.74	25.90	35.81
SPC - 12	3/4	14.8	22.09	27.68	37.33
SPC - 16	1	20.4	28.44	34.54	48.00

Connects Metric SUPERLOK Ports

Part No.	Tube O.D. (D)	d (Min)	E	I	L
SPC - 3M	3	1.9	6.0	15.7	22.2
SPC - 6M	6	4.1	9.0	18.7	24.6
SPC - 8M	8	5.6	11.0	20.0	25.9
SPC - 10M	10	7.1	13.1	20.2	26.1
SPC - 12M	12	8.8	15.0	26.0	35.8
SPC - 16M	16	12.0	19.0	27.6	37.4

• All dimensions in millimeters unless specified as "inch". Dimension are for reference only, subject to change

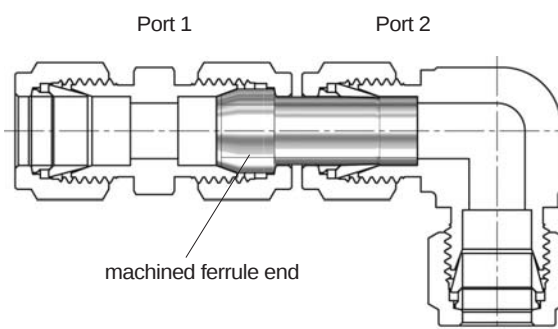
SRPC Reducing Port Connector



Connects Fractional **SUPERLOK** Port To Male AN

Part No.	Tube O.D. D ₁ (inch)	Reduced Tube O.D. D (inch)	d	E	I	I ₁	L
SRPC - 2 - 1	1/8	1/16	0.76	6.09	8.63	2.03	17.27
SRPC - 4 - 1	1/4	1/16	0.76	9.39	8.63	3.55	18.03
SRPC - 4 - 2	1/4	1/8	2.10	9.39	13.46	3.30	22.60
SRPC - 6 - 2	3/8	1/8	2.10	12.70	13.46	3.81	23.11
SRPC - 6 - 4	3/8	1/4	4.40	12.70	15.74	3.30	24.89
SRPC - 8 - 4	1/2	1/4	4.40	15.74	15.74	3.81	29.21
SRPC - 8 - 6	1/2	3/8	6.90	15.74	17.52	3.30	30.48
SRPC -12 - 8	3/4	1/2	9.40	22.09	24.38	3.81	37.84
SRPC -16 - 8	1	1/2	9.40	28.44	24.38	4.82	42.67
SRPC -16 - 12	1	3/4	14.80	28.44	25.90	4.06	43.43

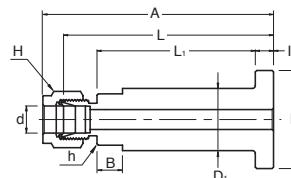
Installation Instructions Port Connector



- Remove nut and ferrules from the first of two SUPERLOK ports to be connected.
- Slip nut (no ferrules) over machined ferrule end of port connector.
- Insert port connector into SUPERLOK port 1 and snug by hand.
Tighten with wrench 1/4 turn only. For 1/8, 3/16 in., 2, 3, and 4mm tube fittings, tighten only 1/8 turn.
Subsequent connections are made by tightening slightly with a wrench after snugging the nut by hand.
- Insert other end of port connector into SUPERLOK port 2 and tighten nut 1 1/4 turns from finger-tight.
For 1/16, 1/8, 3/16 in., 2, 3, and 4mm tube fittings, only 3/4 turn from finger-tight is necessary.

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SFTC Lap Joint Flange Tubes Connector



Connects Fractional Tubes

Part No.	Tube Size (inch)	Flange Seat	Dimensions									
			A	B	L ₁	L	I	h (inch)	H (inch)	D	D ₁	d (Min)
SFTC - 4 - SM	1/4	SM	80.8	8.9	56.5	74.9	6.5	11/16	9/16	34.5	21.1	4.8
SFTC - 4 - SR	1/4	SR	80.8	8.9	56.5	74.9	6.5	11/16	9/16	34.5	21.1	4.8
SFTC - 6 - SM	3/8	SM	82.3	8.9	56.5	74.9	6.5	11/16	11/16	34.5	21.1	7.1
SFTC - 6 - SR	3/8	SR	82.3	8.9	56.5	74.9	6.5	11/16	11/16	34.5	21.1	7.1
SFTC - 8 - SM	1/2	SM	85.1	8.9	56.5	74.9	6.5	3/4	7/8	34.5	21.1	10.4
SFTC - 8 - SR	1/2	SR	85.1	8.9	56.5	74.9	6.5	3/4	7/8	34.5	21.1	10.4

Lap joint flange tube connector provides easy joint between process lines and instruments designed for use with 1/2in Lap joint flanges to ANSI B 16.5 or BS 1560

Flange Seal Finish

Two surface finishes, smooth or serrated, are available on the sealing surface of the stub end.



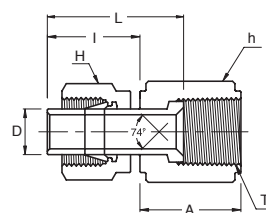
Smooth
Identifier : SM
Ra 3.2 ~ 6.3
micrometer



Serrated
Identifier : SR
Ra 6.3 ~ 12.5
micrometer

*Note : GROOVE identifies serrated surface finish

SAF An Flare

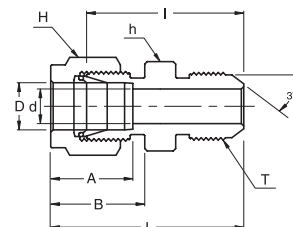


Connects Fractional SUPERLOK Port To Male AN

Part No.	Tube O.D. D (inch)	AN Tube Flare Size (inch)	Straight Thread T (U)	Width Across Flat		A	I	L
				h (inch)	H (inch)			
SAF - 2 - 2U	1/8	1/8	5/16-24	3/8	7/16	13.71	13.46	18.54
SAF - 2 - 4U	1/8	1/4	7/16-20	9/16	7/16	15.74	13.46	19.05
SAF - 4 - 4U	1/4	1/4	7/16-20	9/16	9/16	15.74	15.74	21.33
SAF - 6 - 6U	3/8	3/8	9/16-18	11/16	11/16	18.28	17.52	24.89
SAF - 8 - 8U	1/2	1/2	3/4-16	7/8	7/8	21.59	23.11	31.75

• All dimensions in millimeters unless specified as "inch". Dimension are for reference only, subject to change

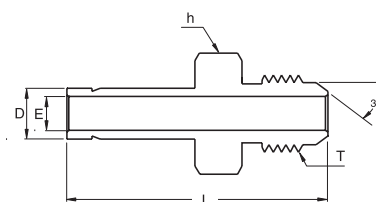
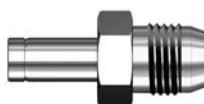
SAU An Union



Connects Fractional Tubes To An Flared Tubes

Part No.	Tube O.D. D (inch)	AN Tube Flare Size (inch)	Straight Thread T (U)	d Min	Width Across Flat		A	B	I	L
					h (inch)	H (inch)				
SAU - 2 - 2U	1/8	1/8	5/16-24	1.52	7/16	7/16	12.70	15.24	25.65	32.25
SAU - 2 - 4U	1/8	1/4	7/16-20	2.28	1/2	7/16	12.70	15.24	28.44	35.05
SAU - 4 - 4U	1/4	1/4	7/16-20	4.31	1/2	9/16	15.24	17.78	30.22	37.59
SAU - 5 - 5U	5/16	5/16	1/2-20	5.84	9/16	5/8	16.25	18.54	30.98	38.35
SAU - 6 - 4U	3/8	1/4	7/16-20	4.31	5/8	11/16	16.76	19.30	32.25	39.62
SAU - 6 - 6U	3/8	3/8	9/16-18	7.11	5/8	11/16	16.76	19.30	32.25	39.62
SAU - 8 - 8U	1/2	1/2	3/4-16	9.90	13/16	7/8	22.86	21.84	35.81	45.97
SAU -12 - 12U	3/4	3/4	1-1/16-12	15.49	1-1/8	1-1/8	24.38	21.84	43.18	53.34
SAU -16 - 16U	1	1	1-5/16-12	21.33	1-3/8	1-1/2	31.24	26.41	49.27	61.46

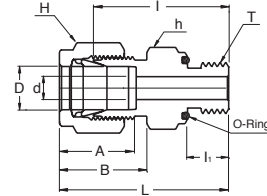
SAA An Adapter



Connects Fractional SUPERLOK Port To AN Flared Tubes

Part No.	Tube O.D. D (inch)	AN Tube Flare Size (inch)	Straight Thread T (U)	Width Across Flat h (inch)	E	L
SAA - 4 - 4U	1/4	1/4	7/16-20	1/2	4.40	37.08
SAA - 6 - 4U	3/8	1/4	7/16-20	1/2	6.90	38.86
SAA - 6 - 6U	3/8	3/8	9/16-18	5/8	6.90	39.62
SAA - 8 - 8U	1/2	1/2	3/4-16	13/16	9.40	48.51
SAA -12 - 12U	3/4	3/4	1-1/16-12	1-1/8	14.80	56.13
SAA -16 - 16U	1	1	1-5/16-12	1-3/8	20.40	65.53

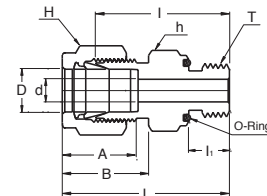
SOSC O-Seal Straight Thread Connector



Connects Fractional Tube To Female Straight Thread

Part No.	Tube O.D. D (inch)	Straight Thread T (U)	d Min	Width Across Flat		A	B	I	I ₁	L	O-Ring Uniform Size Number
				h (inch)	H (inch)						
SOSC - 2 - 2U	1/8	5/16-24	2.28	9/16	7/16	12.70	15.24	26.16	8.63	32.76	-011
SOSC - 3 - 3U	3/16	3/8-24	3.05	5/8	1/2	13.71	16.00	27.68	9.65	34.29	-012
SOSC - 4 - 4U	1/4	7/16-20	4.82	3/4	9/16	15.24	17.78	30.98	10.41	38.35	-111
SOSC - 5 - 5U	5/16	1/2-20	6.35	7/8	5/8	16.25	18.54	33.27	11.17	40.64	-112
SOSC - 6 - 6U	3/8	9/16-18	7.11	15/16	11/16	16.76	19.30	35.05	11.93	42.41	-114
SOSC - 8 - 8U	1/2	3/4-16	10.41	1-1/8	7/8	22.86	21.84	35.81	11.93	45.97	-116
SOSC -12 -12U	3/4	1-1/16-12	15.75	1-1/2	1-1/8	24.38	21.84	42.16	14.22	52.32	-215
SOSC -16 -16U	1	1-5/16-12	22.35	1-3/4	1-1/2	31.24	26.41	45.97	14.22	58.16	-219

SOPC O-Seal Pipe Thread Connector

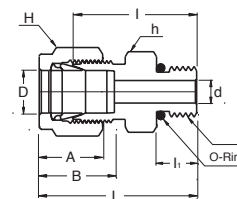


Connects Fractional Tube To Female NPT Thread

Part No.	Tube O.D. D (inch)	T* (NPT)	d Min	Width Across Flat		A	B	I	I ₁	L	O-Ring Uniform Size Number
				h (inch)	H (inch)						
SOPC - 2 - 2N	1/8	1/8	2.28	3/4	7/16	12.70	15.24	26.16	7.11	32.76	-111
SOPC - 4 - 2N	1/4	1/8	4.82	3/4	9/16	15.24	17.78	27.68	7.11	35.05	-111
SOPC - 4 - 4N	1/4	1/4	4.82	15/16	9/16	15.24	17.78	30.98	9.65	38.35	-113
SOPC - 6 - 4N	3/8	1/4	7.11	15/16	11/16	16.76	19.30	32.51	9.65	39.87	-113
SOPC - 6 - 6N	3/8	3/8	7.11	1-1/8	11/16	16.76	19.30	34.03	10.41	41.40	-116
SOPC - 6 - 8N	3/8	1/2	7.11	1-5/16	11/16	16.76	19.30	39.62	13.46	46.99	-212
SOPC - 8 - 8N	1/2	1/2	10.41	1-5/16	7/8	22.86	21.84	39.62	13.46	49.78	-212

*All dimensions in millimeters unless specified as "inch". Dimension are for reference only, subject to change

SSMC SAE/MS Male Connector



Connects Fractional Tubes To SAE/MS Straight Thread Boss

Part No.	Tube O.D. D (inch)	Straight Thread T (U)	d Min	Width Across Flat		A	B	I	I ₁	L	O-Ring Uniform Size Number
				h (inch)	H (inch)						
SSMC - 2 - 2U	1/8	5/16-24	2.28	7/16	7/16	12.70	15.24	23.36	7.62	29.97	3-902
SSMC - 4 - 4U	1/4	7/16-20	4.82	9/16	9/16	15.24	17.78	26.67	9.14	34.03	3-904
SSMC - 4 - 6U	1/4	9/16-18	4.82	11/16	9/16	15.24	17.78	28.19	9.90	35.56	3-906
SSMC - 4 - 8U	1/4	3/4-16	4.82	7/8	9/16	15.24	17.78	30.22	11.17	37.59	3-908
SSMC - 4 - 10U	1/4	7/8-14	4.82	1	9/16	15.24	17.78	33.27	12.70	40.64	3-910
SSMC - 5 - 5U	5/16	1/2-20	6.35	5/8	5/8	16.25	18.54	27.43	9.14	34.79	3-905
SSMC - 6 - 4U	3/8	7/16-20	5.08	5/8	11/16	16.76	19.30	28.19	9.14	35.56	3-904
SSMC - 6 - 6U	3/8	9/16-18	7.11	11/16	11/16	16.76	19.30	29.71	9.90	37.08	3-906
SSMC - 6 - 8U	3/8	3/4-16	7.11	7/8	11/16	16.76	19.30	31.75	11.17	39.11	3-908
SSMC - 6 - 10U	3/8	7/8-14	7.11	1	11/16	16.76	19.30	34.79	12.70	42.16	3-910
SSMC - 8 - 6U	1/2	9/16-18	7.11	13/16	7/8	22.86	21.84	28.95	9.90	39.11	3-906
SSMC - 8 - 8U	1/2	3/4-16	10.41	7/8	7/8	22.86	21.84	31.75	11.17	41.91	3-908
SSMC - 8 - 10U	1/2	7/8-14	10.41	1	7/8	22.86	21.84	34.79	12.70	44.95	3-910
SSMC - 8 - 12U	1/2	1-1/16-12	10.41	1-1/4	7/8	22.86	21.84	38.86	14.98	49.02	3-912
SSMC - 10 - 8U	5/8	3/4-16	10.66	15/16	1	24.38	21.84	31.75	11.17	41.91	3-908
SSMC - 10 - 10U	5/8	7/8-14	12.70	1	1	24.38	21.84	35.05	12.70	45.21	3-910
SSMC - 12 - 8U	3/4	3/4-16	10.66	1-1/16	1-1/8	24.38	21.84	35.81	11.17	45.97	3-908
SSMC - 12 - 12U	3/4	1-1/16-12	15.74	1-1/4	1-1/8	24.38	21.84	38.86	14.98	49.02	3-912
SSMC - 14 - 14U	7/8	1-3/16-12	18.28	1-3/8	1-1/4	25.90	21.84	38.86	14.98	49.02	3-914
SSMC - 16 - 12U	1	1-1/16-12	16.76	1-3/8	1-1/2	31.24	26.41	41.14	14.98	53.34	3-912
SSMC - 16 - 16U	1	1-5/16-12	22.35	1-1/2	1-1/2	31.24	26.41	42.16	14.98	54.35	3-916

Mounting Dimensions for O-Seal Connectors

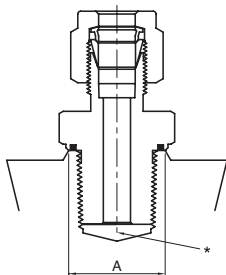


Figure 1

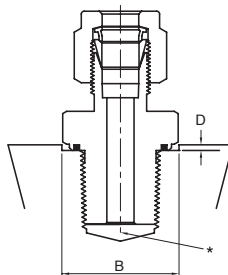


Figure 2

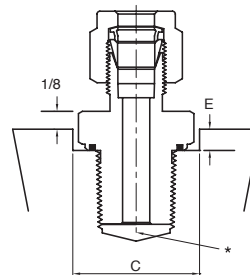


Figure 3

*ALLOW CLEARANCE FOR FULL THREAD

■ Installation Instruction

In order to prevent the leakage with SUPERLOK O-Seal Fittings, the surface perpendicular to the axis of the thread should be flat.

When installing an O-Seal fitting, turn it until finger-tight. (The squeeze on O-Ring can be felt during the last 1/4 turn). After finger-tight installation, snug lightly with a wrench.

When connecting the tubing to the SUPERLOK connector, always use a back-up wrench on the O-Seal fitting hex so it does not turn while the nut is being tightened. Also use a back-up wrench when disconnecting a tubing connection.

For a raised surface, such as Figure 1, it is recommended that the flat surface have a diameter at least as large as dimension "A" for the various size O-Seal fittings. This diameter is sufficient to allow metal-to-metal contact outside of the O-Ring sealing diameter and to prevent O-Ring extrusion at high pressure.

Figure 2 is an O-Seal fitting using with a counter bored or recessed hole. In this case, the diameter "B" is sufficient to allow the round shoulder of the O-seal to clear for proper installation. "D" gives the maximum depth that can be used with this diameter.

Figure 3 shows the usage at deeper grooved or concaved area and "E" is the maximum depth that will allow a thin wrench (1/8") to hold the O-Seal fitting while the SUPERLOK connection is made to the tubing. The diameter "C" is sufficient to allow the hex of the fitting to turn in the recessed hole.

Basic Ordering Number	Straight Thread	Pipe Thread	A Min. Dia.	B Min. Dia.	C Min. Dia.	D Min. Dia.	E Min. Dia.
SOSC - 1 - 2U	5/16-24	-	12.7	15.0	16.8	2.3	4.1
SOSC - 2 - 2U	5/16-24	-	12.7	15.0	16.8	2.3	5.6
SOPC - 2 - 2N	-	1/8 NPT	17.5	19.8	22.4	4.1	7.1
SOSC - 3 - 3U	3/8-24	-	14.2	16.8	19.1	2.3	5.6
SOSC - 4 - 4U	7/16-20	-	17.5	19.8	22.4	4.1	7.1
SOPC - 4 - 2N	-	1/8 NPT	17.5	19.8	22.4	4.1	7.1
SOPC - 4 - 4N	-	1/4 NPT	22.1	24.6	27.7	4.1	7.9
SOSC - 5 - 5U	1/2-20	-	19.1	23.1	26.2	4.1	7.9
SOSC - 6 - 6U	9/16-18	-	20.6	24.6	27.7	4.1	7.9
SOPC - 6 - 4N	-	1/4 NPT	22.1	24.6	27.7	4.1	7.9
SOPC - 6 - 6N	-	3/8 NPT	25.4	29.5	33.3	4.1	8.6
SOPC - 6 - 8N	-	1/2 NPT	31.0	34.0	38.9	5.6	11.2
SOSC - 8 - 8U	3/4-16	-	25.4	29.5	33.3	4.1	8.6
SOPC - 8 - 8N	-	1/2 NPT	31.0	34.0	38.9	5.6	11.2
SOSC - 12 - 12U	1-1/16-12	-	35.8	38.9	44.5	5.6	12.7
SOSC - 16 - 16U	1-5/16-12	-	42.9	45.2	51.6	5.6	14.2

Dimensions are for reference only and are subject to change.

• All dimensions in millimeters unless specified as "inch". Dimension are for reference only, subject to change

SAE/MS Straight Thread Positionable Elbows and Tees

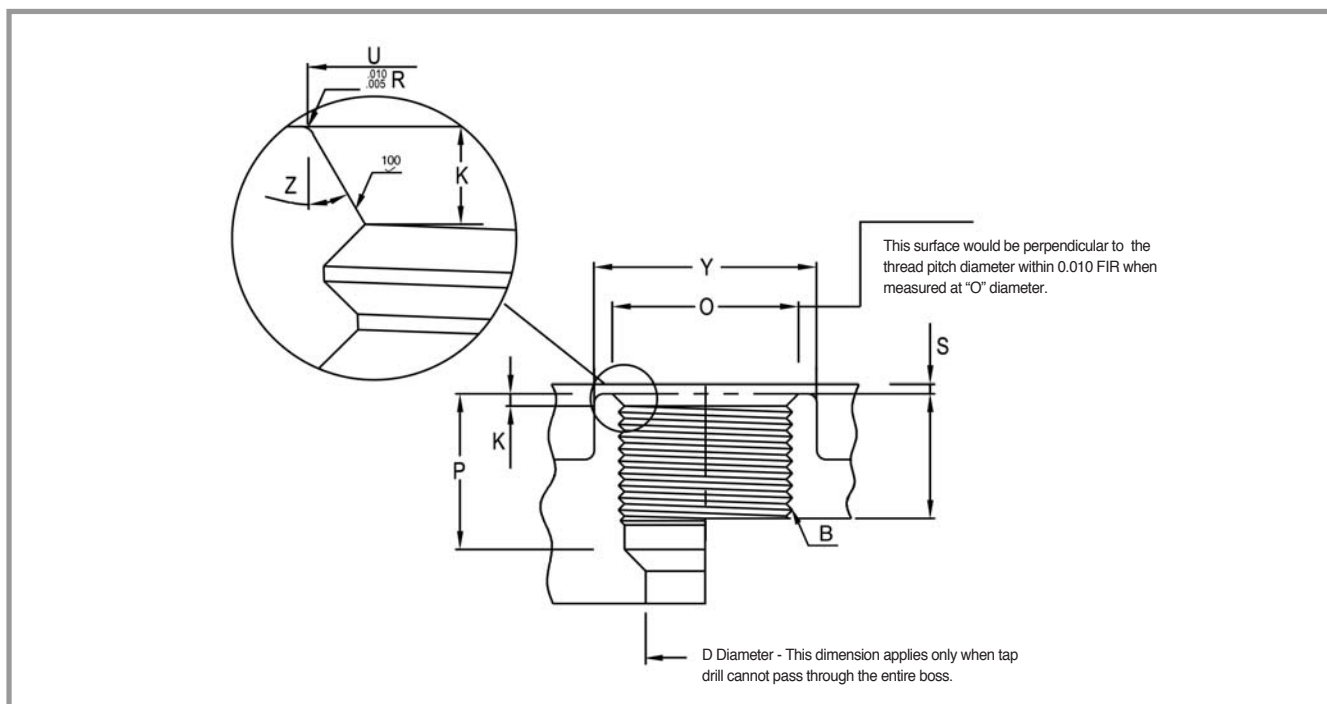
Installation instructions

1. Lubricate O-Ring with the lubricant which is applicable for the system fluid, environment and O-Ring material.
(Standard O-Ring materials is viton. Other O-Ring materials are also available).
2. Turn the fittings into the straight thread boss until the metal back-up washer contacts the face of the boss.
At this moment, O-Ring gets into inclined groove.
3. Until SUPERLOK's end is oriented in the proper direction, position the fittings by turning to counter clockwise.
(no more than 1 turning)
4. Until the washer contacts to the face of the bosses, tighten the fittings with wrench and back-up wrench.



※ Note: SAE/MS's POSITIONABLE TEE and ELBOWS shall be compatible with SAE J1926, MS16142, or O-Ring female straight thread for JIS boss.

SAE/MS Internal Straight Thread Boss



- O : This surface would be perpendicular to the thread pitch diameter within 0.010 FIR when measured at "O" diameter.
- D : This dimension applies only when tap drill cannot pass through the entire boss.

• All dimensions in millimeters unless specified as "inch". Dimension are for reference only, subject to change

Data for SAE/MS Straight Thread Boss

B / Straight Thread						D Dia	Full Thread Depth	K	O Dia	P ^④	S ^{②③}	U ^① Dia	Y ^③ Dia	Z
Nom. Tube O.D	Thread Size	Pitch Dia		Minor Dia										
		Min	Max	Min	Max									
1/8	5/16 - 24	0.2854	0.2902	0.267	0.277	0.062	0.390	0.074	0.438	0.468	0.062	0.358	0.672	12
3/16	3/8 - 24	0.3479	0.3528	0.330	0.340	0.125	0.390	0.074	0.500	0.468	0.062	0.421	0.750	12
1/4	7/16 - 20	0.4050	0.4104	0.383	0.395	0.172	0.454	0.093	0.563	0.547	0.062	0.487	0.828	12
5/16	1/2 - 20	0.4675	0.4731	0.446	0.457	0.234	0.454	0.093	0.625	0.547	0.062	0.550	0.906	12
3/8	9/16 - 18	0.5624	0.5323	0.502	0.515	0.297	0.500	0.097	0.688	0.609	0.062	0.616	0.969	12
1/2	3/4 - 16	0.7094	0.7159	0.682	0.696	0.391	0.562	0.100	0.875	0.688	0.094	0.811	1.188	15
5/8	7/8 - 14	0.8286	0.8356	0.798	0.814	0.484	0.656	0.100	1.000	0.781	0.094	0.942	1.344	15
3/4	1 1/16 - 12	1.0084	1.0158	0.972	0.990	0.609	0.750	1.130	1.250	0.906	0.094	1.148	1.625	15
7/8	1 3/16 - 12	1.1334	1.1409	1.097	1.115	0.719	0.750	1.130	1.375	0.906	0.094	1.273	1.765	15
1	1 5/16 - 12	1.2584	1.2659	1.222	1.240	0.844	0.750	0.130	1.500	0.906	0.125	1.398	1.910	15
1 1/4	1 5/8 - 12	1.5709	1.5785	1.535	1.553	1.078	0.750	0.132	1.875	0.906	0.125	1.713	2.270	15
1 1/2	1 7/8 - 12	1.8209	1.8287	1.785	1.803	1.312	0.750	0.132	2.125	0.906	0.125	1.962	2.560	15
2	2 1/2 - 12	2.4459	2.4540	2.410	2.428	1.781	0.750	0.132	2.750	0.906	0.125	2.587	3.480	15

- ① Diameter U shall be concentric with thread pitch diameter within 0.005 full indicator reading (FIR) and shall be free from longitudinal and spiral tool marks. Annular tool marks shall be less than 100micro inches.
- ② This is the maximum recommended spotface depth to permit sufficient wrench grip for proper tightening of the fitting or locknut
- ③ If the surface of boss surface is machined, dimensions Y and S does not need to be applied.
- ④ Bottoming tap shall be used to satisfy the tap drill depth. Where standard taps are used, the drill depths must be increased accordingly

O-Ring for SAE/MS Fittings Bosses

Thread size	Inside Dimension (mm)	Cross Section (mm)	O-Ring Size No.	Thread size	Inside Dimension (mm)	Cross Section (mm)	O-Ring Size No.
5/16-24	6.07	1.63	3-902	33/4-16	16.36	2.21	3-908
3/8-24	7.65	1.63	3-903	7/8-14	19.18	2.46	3-910
7/16-20	8.92	1.83	3-904	1-1/16-12	23.47	2.95	3-912
1/2-20	10.52	1.83	3-905	1-3/16-12	26.59	2.95	3-914
9/16-18	11.89	1.98	3-906	1-5/16-12	29.74	2.95	3-916

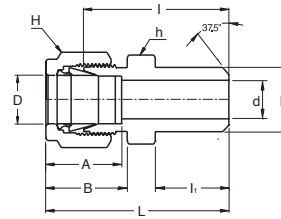
• All dimensions in millimeters unless specified as "inch". Dimension are for reference only, subject to change

Weld End, Plug & Cap, Spare Part

WELD END	
SPWC Male Pipe Weld Connector page 66	
SMPWE Male Pipe Weld Elbow page 67	
SSWC Socket Weld Connector page 67	
SSWE Socket Weld Elbow page 67	
PLUG & CAP	
SP Plug page 68	
SC Cap page 68	
SPARE PART	
SN Nut page 69	
SFF Front Ferrule page 69	
SBF Back Ferrule page 70	
SFS Ferrule Set page 70	
SI Insert page 70	
SBHR Bulkhead Retainer page 71	
SVP Vent Protector page 71	



SPWC Male Pipe Weld Connector



Connects Fractional Tubes To Pipe

Part No.	Tube O.D. D (inch)	Male Pipe Size P		d Min	Width Across Flat		A	B	I	I ₁	L
		Nom.	O.D.		h (inch)	H (inch)					
SPWC - 2 - 2P	1/8	1/8	10.30	2.28	7/16	7/16	12.70	15.24	23.87	9.65	30.48
SPWC - 3 - 2P	3/16	1/8	10.30	3.04	7/16	1/2	13.71	16.00	24.63	9.65	31.24
SPWC - 4 - 2P	1/4	1/8	10.30	4.82	1/2	9/16	15.24	17.78	25.40	9.65	32.76
SPWC - 4 - 4P	1/4	1/4	13.70	4.82	9/16	9/16	15.24	17.78	30.48	14.22	37.84
SPWC - 5 - 2P	5/16	1/8	10.30	5.08	9/16	5/8	16.25	18.54	26.67	9.65	34.03
SPWC - 5 - 4P	5/16	1/4	13.70	6.35	9/16	5/8	16.25	18.54	31.24	14.22	38.60
SPWC - 6 - 4P	3/8	1/4	13.70	7.11	5/8	11/16	16.76	19.30	32.51	14.22	39.87
SPWC - 6 - 6P	3/8	3/8	17.10	7.11	11/16	11/16	16.76	19.30	32.51	14.22	39.87
SPWC - 6 - 8P	3/8	1/2	21.30	7.11	7/8	11/16	16.76	19.30	38.86	19.05	46.22
SPWC - 8 - 6P	1/2	3/8	17.10	10.41	13/16	7/8	22.86	21.84	33.27	14.22	43.43
SPWC - 8 - 8P	1/2	1/2	21.30	10.41	7/8	7/8	22.86	21.84	38.86	19.05	49.02
SPWC - 8 - 12P	1/2	3/4	26.67	10.41	1-1/16	7/8	22.86	21.84	40.38	19.05	50.54
SPWC - 10 - 8P	5/8	1/2	21.30	12.70	15/16	1	24.38	21.84	38.86	19.05	49.02
SPWC - 12 - 12P	3/4	3/4	26.67	15.74	1-1/16	1-1/8	24.38	21.84	40.38	19.05	50.54
SPWC - 16 - 16P	1	1	33.40	22.35	1-3/8	1-1/2	31.24	26.41	50.03	23.87	62.23

Connects Metric Tubes To Pipe

Part No.	Tube O.D. D	Male Pipe Size P		d Min	Width Across Flat		A	B	I	I ₁	L
		Nom.	O.D.		h	H					
SPWC - 3M - 2P	3	1/8	10.3	2.4	12	12	12.9	15.3	23.9	9.7	30.5
SPWC - 4M - 2P	4	1/8	10.3	2.4	12	12	13.7	16.1	24.6	9.7	31.2
SPWC - 6M - 2P	6	1/8	10.3	4.8	14	14	15.3	17.7	25.4	9.7	32.8
SPWC - 6M - 4P	6	1/4	13.7	4.8	14	14	15.3	17.7	30.5	14.2	37.9
SPWC - 8M - 2P	8	1/8	10.3	5.1	15	16	16.2	18.6	26.7	9.7	34.2
SPWC - 8M - 4P	8	1/4	13.7	6.4	15	16	16.2	18.6	31.2	14.2	38.7
SPWC - 8M - 8P	8	1/2	21.3	6.4	22	16	16.2	18.6	38.1	19.0	45.6
SPWC - 10M - 4P	10	1/4	13.7	7.1	18	19	17.2	19.5	33.3	14.2	40.9
SPWC - 10M - 6P	10	3/8	17.1	7.9	18	19	17.2	19.5	33.3	14.2	40.9
SPWC - 10M - 8P	10	1/2	21.3	7.9	22	19	17.2	19.5	38.9	19.0	46.5
SPWC - 12M - 4P	12	1/4	13.7	7.1	22	22	22.8	22.0	33.3	14.2	43.4
SPWC - 12M - 6P	12	3/8	17.1	9.5	22	22	22.8	22.0	33.3	14.2	43.4
SPWC - 12M - 8P	12	1/2	21.3	9.5	22	22	22.8	22.0	38.9	19.0	49.0
SPWC - 15M - 8P	15	1/2	21.3	11.9	24	25	24.4	22.0	38.9	19.0	49.0
SPWC - 16M - 8P	16	1/2	21.3	12.7	24	25	24.4	22.0	38.9	19.0	49.0
SPWC - 18M - 8P	18	1/2	21.3	13.5	27	30	24.4	22.0	40.4	19.0	50.5

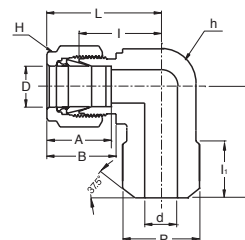
Note : **SUPERLOK** weld ends are constructed per schedule 80 wall thickness or greater. Weld End : ANSI B31.1 and B31.3

Weld end **SUPERLOK** Usage Informations :

- Do weld after removing nut and ferrules from body to protect them from weld heat.
- Do protect thread end or port and seat area of **SUPERLOK** body with another nut and plug.(for easy disassembly just finger tighten it)
- Correct weld procedure is required during welding and after weld completion. suitable heat treatment must be carried out in accordance with industry or your own standard.

• All dimensions in millimeters unless specified as "inch". Dimension are for reference only, subject to change

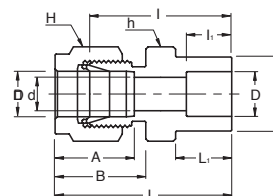
SMPWE Male Pipe Weld Elbow



Connects Fractional Tubes To Pipe

Part No.	Tube O.D. D (inch)	Pipe Size (P)		d Min	Width Across Flat		A	B	I	I ₁	L	L ₁
		Nom.	O.D.		h (inch)	H (inch)						
SMPWE - 4 - 4P	1/4	1/4	13.70	4.82	1/2	9/16	15.24	17.78	19.55	14.22	26.90	23.37
SMPWE - 6 - 4P	3/8	1/4	13.70	7.11	5/8	11/16	16.76	19.30	23.11	14.22	30.48	25.40
SMPWE - 8 - 8P	1/2	1/2	21.30	10.41	13/16	7/8	22.86	21.84	25.90	19.05	36.06	33.02

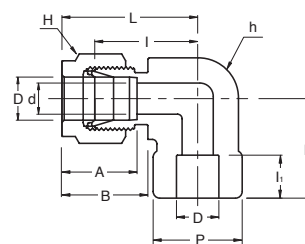
SSWC Tube Socket Weld Connector



Connects Fractional Tubes

Part No.	Tube O.D. D (inch)	d Min	P	Width Across Flat		A	B	I	I ₁	L	L ₁
				h (inch)	H (inch)						
SSWC - 2	1/8	2.28	7.87	7/16	7/16	12.70	15.24	22.35	6.35	28.95	8.63
SSWC - 4	1/4	4.82	11.17	1/2	9/16	15.24	17.78	26.16	7.87	33.52	10.41
SSWC - 6	3/8	7.11	15.74	5/8	11/16	16.76	19.30	30.22	9.65	37.59	11.93
SSWC - 8	1/2	10.41	19.05	13/16	7/8	22.86	21.84	30.98	12.70	41.14	11.93
SSWC - 12	3/4	15.74	26.67	1-1/16	1-1/8	24.38	21.84	33.27	14.22	43.43	11.93
SSWC - 16	1	22.35	33.27	1-3/8	1-1/2	31.24	26.41	40.38	19.05	52.57	14.22

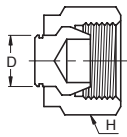
SSWE Tube Socket Weld Elbow



Connects Fractional Tubes

Part No.	Tube O.D. D (inch)	d Min	P	Width Across Flat		A	B	I	I ₁	L	L ₁
				h (inch)	H (inch)						
SSWE - 4	1/4	4.82	12.70	1/2	9/16	15.24	17.78	19.55	7.87	26.92	19.55
SSWE - 6	3/8	7.11	15.75	5/8	11/16	16.76	19.30	23.11	9.65	30.48	23.11
SSWE - 8	1/2	10.41	20.57	13/16	7/8	22.86	21.84	25.90	12.70	36.06	25.90
SSWE - 12	3/4	15.74	26.92	1-1/16	1-1/8	24.38	21.84	29.71	14.22	39.87	29.71
SSWE - 16	1	22.35	35.05	1-3/8	1-1/2	31.24	26.41	36.83	19.05	49.02	36.83

SP Plug



Plug provides plugging fitting port

Installation instruction

1. With wrench, 1/4 turn from finger-tight position.
(1/8 turn for 1/8", 3/16", 2, 3, 4 size plug)
2. Remove nut and ferrules from body

Fractional

Part No.	Tube O.D. D (inch)	Width Across Flat H (inch)	Part No.	Tube O.D. D (inch)	Width Across Flat H (inch)
SP - 2	1/8	7/16	SP - 8	1/2	7/8
SP - 3	3/16	1/2	SP - 10	5/8	1
SP - 4	1/4	9/16	SP - 12	3/4	1-1/8
SP - 5	5/16	5/8	SP - 14	7/8	1-1/4
SP - 6	3/8	11/16	SP - 16	1	1-1/2

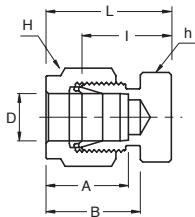
Plugs Unused port of Metric **SUPERLOK** fittings

Metric

Part No.	Tube O.D. D	Width Across Flat H	Part No.	Tube O.D. D	Width Across Flat H
SP - 2M	2	12	SP - 15M	15	25
SP - 3M	3	12	SP - 16M	16	25
SP - 4M	4	12	SP - 18M	18	30
SP - 6M	6	14	SP - 20M	20	32
SP - 8M	8	16	SP - 22M	22	32
SP - 10M	10	19	SP - 25M	25	38
SP - 12M	12	22			

Plugs Unused port of Fractional **SUPERLOK** fittings

SC Cap



Installation instruction

1. With wrench, 1-1/4 turn from finger-tight position.
(3/4 turn for 1/8", 3/16", 3mm, 4mm)
2. Insert tube end into cap

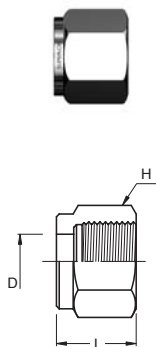
Connects Caps End of Fractional Tubes

Part No.	Tube O.D. D (inch)	Width Across Flat		A	B	I	L
		h (inch)	H (inch)				
SC - 1	1/16	5/16	5/16	8.63	10.92	11.20	14.98
SC - 2	1/8	7/16	7/16	12.70	15.24	13.46	20.06
SC - 3	3/16	7/16	1/2	13.71	16.00	14.73	21.33
SC - 4	1/4	1/2	9/16	15.24	17.78	16.00	23.36
SC - 5	5/16	9/16	5/8	16.25	18.54	17.01	24.38
SC - 6	3/8	5/8	11/16	16.76	19.30	18.28	25.65
SC - 8	1/2	13/16	7/8	22.86	21.84	19.05	29.21
SC - 10	5/8	15/16	1	24.38	21.84	19.81	29.97
SC - 12	3/4	1-1/16	1-1/8	24.38	21.84	23.33	33.49
SC - 14	7/8	1-3/16	1-1/4	25.90	21.84	23.87	34.03
SC - 16	1	1-3/8	1-1/2	31.24	26.41	26.16	38.35

Connects Metric Tubes

Part No.	Tube O.D. D	Width Across Flat		A	B	I	L	Part No.	Tube O.D. D	Width Across Flat		A	B	I	L
		h	H							h	H				
SC - 2M	2	12	12	12.9	15.3	13.5	20.1	SC - 15M	15	24	25	24.4	22.0	19.8	29.9
SC - 3M	3	12	12	12.9	15.3	13.5	20.1	SC - 16M	16	24	25	24.4	22.0	19.8	29.9
SC - 4M	4	12	12	13.7	16.1	14.7	21.3	SC - 18M	18	27	30	24.4	22.0	21.3	31.4
SC - 6M	6	14	14	15.3	17.7	15.7	23.1	SC - 20M	20	30	32	26.0	22.0	23.9	34.0
SC - 8M	8	15	16	16.2	18.6	17.0	24.5	SC - 22M	22	30	32	26.0	22.0	23.9	34.0
SC - 10M	10	18	19	17.2	19.5	19.0	26.6	SC - 25M	25	35	38	31.3	26.5	26.2	38.5
SC - 12M	12	22	22	22.8	22.0	19.0	29.1								

SN Nut



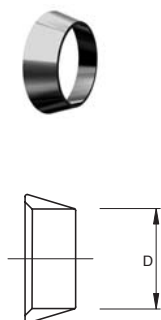
Fractional

Part No.	Tube O.D. D (inch)	Width Across Flat H (inch)	L	Part No.	Tube O.D. D (inch)	Width Across Flat H (inch)	L
SN - 1	1/16	5/16	7.90	SN - 8	1/2	7/8	17.52
SN - 2	1/8	7/16	11.93	SN - 10	5/8	1	17.52
SN - 3	3/16	1/2	11.93	SN - 12	3/4	1-1/8	17.52
SN - 4	1/4	9/16	12.70	SN - 14	7/8	1-1/4	17.52
SN - 5	5/16	5/8	13.46	SN - 16	1	1-1/2	20.6
SN - 6	3/8	11/16	14.22				

Metric

Part No.	Tube O.D. D	Width Across Flat H	L	Part No.	Tube O.D. D	Width Across Flat H	L
SN - 2M	2	12	11.9	SN - 14M	14	25	17.4
SN - 3M	3	12	11.9	SN - 15M	15	25	17.4
SN - 4M	4	12	11.9	SN - 16M	16	25	17.4
SN - 6M	6	14	12.7	SN - 18M	18	30	17.4
SN - 8M	8	16	13.5	SN - 20M	20	32	17.4
SN - 10M	10	19	15.1	SN - 22M	22	32	17.4
SN - 12M	12	22	17.4	SN - 25M	25	38	20.6

SFF Front Ferrule



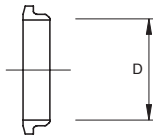
Fractional

Part No.	Tube O.D. D (inch)	Part No.	Tube O.D. D (inch)
SFF - 1	1/16	SFF - 8	1/2
SFF - 2	1/8	SFF - 10	5/8
SFF - 3	3/16	SFF - 12	3/4
SFF - 4	1/4	SFF - 14	7/8
SFF - 5	5/16	SFF - 16	1
SFF - 6	3/8		

Metric

Part No.	Tube O.D. D	Part No.	Tube O.D. D
SFF - 2M	2	SFF - 14M	14
SFF - 3M	3	SFF - 15M	15
SFF - 4M	4	SFF - 16M	16
SFF - 6M	6	SFF - 18M	18
SFF - 8M	8	SFF - 20M	20
SFF - 10M	10	SFF - 22M	22
SFF - 12M	12	SFF - 25M	25

SBF Back Ferrule



Fractional

Part No.	Tube O.D. D (inch)	Part No.	Tube O.D. D (inch)	Part No.	Tube O.D. D (inch)
SBF - 1	1/16	SBF - 5	5/16	SBF - 12	3/4
SBF - 2	1/8	SBF - 6	3/8	SBF - 14	7/8
SBF - 3	3/16	SBF - 8	1/2	SBF - 16	1
SBF - 4	1/4	SBF - 10	5/8		

Metric

Part No.	Tube O.D. D	Part No.	Tube O.D. D	Part No.	Tube O.D. D
SBF - 2M	2	SBF - 10M	10	SBF - 18M	18
SBF - 3M	3	SBF - 12M	12	SBF - 20M	20
SBF - 4M	4	SBF - 14M	14	SBF - 22M	22
SBF - 6M	6	SBF - 15M	15	SBF - 25M	25
SBF - 8M	8	SBF - 16M	16		

SFS Ferrule Set



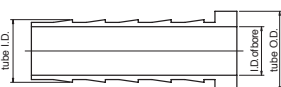
Fractional

Part No.	Tube O.D. D (inch)	Part No.	Tube O.D. D (inch)	Part No.	Tube O.D. D (inch)
SFS - 1	1/16	SFS - 5	5/16	SFS - 12	3/4
SFS - 2	1/8	SFS - 6	3/8	SFS - 14	7/8
SFS - 3	3/16	SFS - 8	1/2	SFS - 16	1
SFS - 4	1/4	SFS - 10	5/8		

Metric

Part No.	Tube O.D. D	Part No.	Tube O.D. D	Part No.	Tube O.D. D
SFS - 2M	2	SFS - 10M	10	SFS - 20M	20
SFS - 3M	3	SFS - 12M	12	SFS - 22M	22
SFS - 4M	4	SFS - 15M	15	SFS - 25M	25
SFS - 6M	6	SFS - 16M	16		
SFS - 8M	8	SFS - 18M	18		

SI Insert

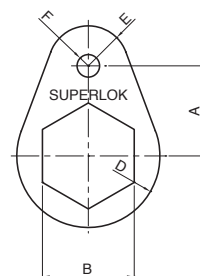


Fractional

Part No.	Tube O.D. (inch)	Tube I.D. (inch)	I.D. of Bore (mm)	Part No.	Tube O.D. (inch)	Tube I.D. (inch)	I.D. of Bore (mm)
SI - 3 - 2	3/16	1/8	2.28	SI 8 - 4	1/2	1/4	4.82
SI - 4 - 2	1/4	1/8	2.28	SI 8 - 6	1/2	3/8	7.87
SI - 4 - 3	1/4	3/16	3.55	SI 10 - 6	5/8	3/8	7.87
SI - 5 - 2	5/16	1/8	2.28	SI 10 - 8	5/8	1/2	11.17
SI - 5 - 3	5/16	3/16	3.04	SI 12 - 8	3/4	1/2	11.17
SI - 5 - 4	5/16	1/4	4.82	SI 12 - 10	3/4	5/8	14.22
SI - 6 - 3	3/8	3/16	3.04	SI 16 - 12	1	3/4	17.52
SI - 6 - 4	3/8	1/4	4.82				

• All dimensions in millimeters unless specified as "inch". Dimension are for reference only, subject to change

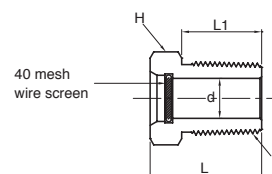
SBHR Bulkhead Retainer



Part No.	A (inch)	B (inch)	C (inch)	D Dia (inch)	E Dia (inch)	F Dia (inch)
SBHR - 1	3/8	5/16	1/8	5/16	5/32	5/32
SBHR - 2	1/2	1/2	1/8	13/32	7/32	5/32
SBHR - 3 ①	9/16	9/16	1/8	15/32	1/4	5/32
SBHR - 4 ②	5/8	5/8	1/8	1/2	9/32	5/32
SBHR - 5	1/16	11/16	1/8	9/16	5/16	5/32
SBHR - 6	3/4	3/4	1/8	5/8	11/32	5/32
SBHR - 8 ③	15/16	15/16	1/8	3/4	13/32	7/32
SBHR - 10 ④	1	1-1/16	1/8	13/16	13/32	7/32
SBHR - 12 ⑤	1-1/16	1-3/16	1/8	29/32	15/32	7/32
SBHR - 14	1-1/8	1-5/16	1/8	1-1/32	17/32	7/32
SBHR - 16	1-9/32	1-5/8	1/8	1-5/32	9/16	7/32
SBHR - 8M	11/16	18 mm	1/8	9/16	5/16	5/32
SBHR - 10M	15/16	22 mm	1/8	3/4	13/32	7/32

- ① Can be used with 3mm and 4mm bulkheads
- ② Can be used with 6mm bulkheads
- ③ Can be used with 12mm bulkheads
- ④ Can be used with 15mm and 16mm bulkheads
- ⑤ Can be used with 18mm bulkheads

SVP Vent Protector



Part No.	T (NPT)	L	L1	d	H (inch)
SVP - 4N	1/4	19.81	14.22	7.11	9/16
SVP - 6N	3/8	20.57	14.22	10.41	11/16
SVP - 8N	1/2	26.16	19.05	12.70	7/8
SVP - 12N	3/4	26.92	19.05	18.29	1-1/16

* ISO Tapered Threads are available upon request

• All dimensions in millimeters unless specified as "inch". Dimension are for reference only, subject to change