

Tube Fittings



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



Our company consists of high precision mechanical components for superior manufacturing processes. We have specialized in the field of Automotive, Aerospace, Semiconductor, shipbuilding and petrochemical industries since its foundation in 1988.

We have been successfully nominated as an official supplier and manufacturer of Tube Fittings & Valves by companies such as; SAMSUNG Electronics, LG Electronics, Hyundai, etc. It was a landmark for Superlok to be evaluated for its high technology at the related industries.

Superlok's key capabilities are Technology and Know-how accumulated from years of experience in the field, High Productivity with modernization, automation and consistent High Quality by strict quality control system. Our mission is to supply our products, **SUPERLOK**, with high quality and high reliability to our customers through continuous R&D investment and an extensive quality control system.

Our ultimate goal is to be a Technically Leading Company in Tube Fittings & Valves and make our brand, **SUPERLOK**, the World's Best.



History Of Superlok

2009

- Achieved GOST-R (Russian Importing License) for F / V.
- ECE R 110 & ISO 15500 TUV NORDE certificate (Number: RDW-99050016, the Approval of Special Components of the Vehicles Using Compressed Natural Gases in their Propulsion System)
- Supplied DBB to Sarawak SHELL Berhad (SSB), project named CILI PADI GAS FIELD Development and Engineered by TECHNIP.
- Have certified the ASME "N, NS, NPT" stamp from the ASME Survey Team.
- Approved from ConocoPhillips Indonesia for supplying "SUPERLOK" product.

2008

- Approved as a Vendor to Major Companies in the Leading Industries.
- Marine Engineering & Shipbuilding Industry: Samsung Heavy Ind. (SHI), Daewoo Shipbuilding & Marine Eng. (DSME), Hyundai Heavy Ind. (HHI) and Total Pzflor FPSO Project by Total S.A.
- Power Plant Industry: Korea Hydro & Nuclear Power Co. (KHNP), Korea West Power Co. (WP) and 5 all power plant companies in Korea.
- EPC Industry: SK Eng. & Const., Samsung Eng., Hyundai E&C, Daewoo E&C, GS E&C, and Kukdong E&C.
- Oil & Gas, Refinery Industry: AOC in Kuwait, SK Energy, GS-Caltex (Oil Refining, Crude Oil, Petroleum, Lubricants and Chemicals), and PETRONAS Gr. in Malaysia.

2007

- OHSMS 18001 (HSBRK-S015: Occupational Health and Safety Management System Certificate)
- ISO 14001 (HSBRK-E118: Environmental Management System Certificate)
- GL (Germanischer Lloyd) ■ API (American Petroleum Institute)
- KEPIC, Certificate of Qualification (Korea Electric Power Industry Code)
- Undergoing--ASME (American Society of Mechanical Engineers) N Stamp
- BMT have secured and exported the product of SUPERLOK brand to more than 20 countries including the USA, China, South-East, Middle-East, Europe and so on as of this year.
- Started to supply SUPERLOK product to KHNP (Korea Hydro & Nuclear Power company), SHI and DSME, SK Energy and GS-Caltex, and GS EC. REGISTRATION IN THE MAJOR COMPANIES
- Registered as an official Supplier in SHI (Samsung Heavy Industries) and DSME (Daewoo Shipbuilding & Marine Engineering)
- Registered as an official Supplier in WP (West), KOMIPO (Midland), KOSPO (Southern), and KSEP (South-East Power)
- Registered as an official Supplier in SK Corporation, GS-Caltex (Oil Refining, Crude Oil, Petroleum, Lubricants, Chemicals) and GS Engineering & Construction Corp.
- Registered as an official Supplier in Petronas Gr. Malaysia and started supply of SUPERLOK Double block & Bleed Valves and others.
- BMT has been listed on the Public Stock Exchange as of Nov. 2, 2007. (KOSDAQ : Korea Securities Dealers Automated Quotations)

2006

- ABS (American Bureau of Shipping) ■ Lloyd (Lloyd's Register of Shipping)
- DNV (Det Norske Veritas / Norwegian Assoc.) ■ Awarded 3 Million dollars Exporting Tower
- Designated an Excellence Quality Company by Ministry of Commerce, Industry and Energy
- Registered as an official Supplier in EWP (Korean East-West Power Co., Ltd.).

2005

- Established an R&D Institute.
- Awarded The Grand Prix of the Busan Enterprises in the Technical Field.
- Made a manager contract with Dong Yang Securities Co. regarding IPO.
- Registered a Patent and a Design of MCPD (Molded Case Power Distributor) and began an Electric business.

2004

- Selected as a "Promising Company" by an Industrial Bank of Korea (KIUP Bank)
- Confirmed as a "Materials and Components Professional Comp."
- Confirmed as a "Innovation Business Company" by SMBA
- Designated as a "Superior Exporting Firm" by SMBA

2003 ~ 2000

- Designated as an Official Vendor in Supplying Tube Fittings and Valves by Samsung Electronics.
- Selected as a "New Technology Venture Business" by Small and Medium Biz Administration (SMBA)
- Selected as a "Superior Technology Co." by Korea Technology Credit Guarantee Fund (KOTEC)
- Achieved Certificate of ISO 9001 (ISO 2001) ° Registered the Brand "SUPERLOK"
- Changed the CO. Name to "BMT Co., Ltd."

1988

- Established GyeongPoong Machinery Co

Certificates



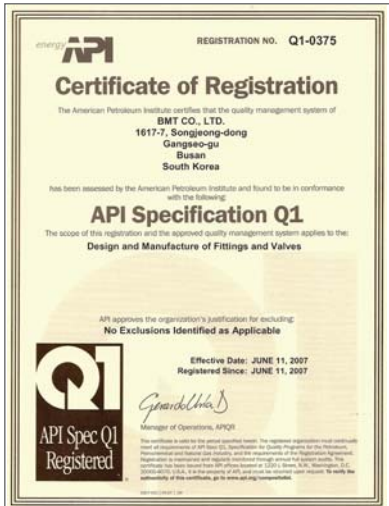
■ ISO 14001



■ ISO 9001



■ ISO 18001



■ API-SPECQ1



■ DNV-P-12285



■ GL CERT-SUPERLOK



■ ABS 06-BK150238-PDA

























































■ LR 06.10006

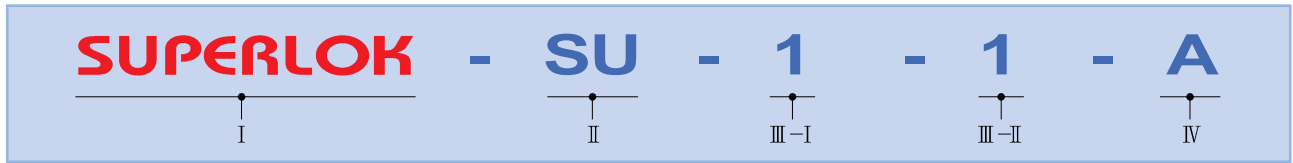


■ ECE R110

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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

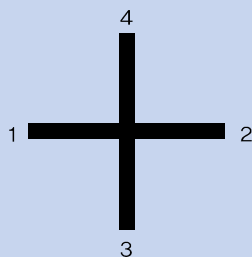
MATERIAL	Aluminum (Use dash "-")	Brass and Copper (Use dash "-")	Carbon Steel ** (** : Refer to Alloy No.)	Stainless Steel*** (*** : Refer to Alloy No.)	Monel Alloy 400	Inconel Alloy 600
Identify	A	B	C**	SS**	M	INC

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) SMBT6 - 6N - SS316

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

Ex. 2) SUC - 8 - M

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 are produced by a strict management of materials, high precision design and the best processing technologies.

SUPERLOK Tube Fittings tighten easily and are leakage free under shock, impact and high tension. Therefore, result in additional productivity and cost reduction to SUPERLOK Tube Fitting users. Ultimate fluid control as a result of our fittings superior surface finish.

SUPERLOK can be assembled easily without any special tools. The use of low quality tubing may deteriorate Fitting's function.

Structure of SUPERLOK

The whole system design should be considered so that there is no issues with reliability or safety. SUPERLOK consists of 4 precision parts. All parts are manufactured to a very strict tolerance standard under systematic and constant quality control.

All parts that are produced by this process can cope with the various environmental conditions and customer's needs.

SUPERLOK Tube Fittings provide superior leakage prevention and reduce the cost associated potential leakage.



Quality and Process Control

SUPERLOK Tube Fittings & Valves are produced using high quality materials through a strict quality control (various test and the self-examination) and the written systematic quality control assurance.

Warranty of Quality and Exchange

The SUPERLOK Tube Fitting are being manufactured without defect in raw materials and manufacturing process, with the guarantee of its construction and workmanship according to the specifications.

However, defects due to user's recklessness, unreasonable assembling methods, operation errors and disregarding manufacturer's indications can not be compensated.

In case leakage occurs by the defect on SUPERLOK Tube Fitting, in spite of normal operation, all the defected fittings shall be exchanged immediately.

SUPERLOK acknowledges this leaflet as warranty and does not publish separate warranty as long as special requirement issues are not required.

SUPERLOK Installation Instruction

1. Installation under 1 inch or 25MM

SUPERLOK Tube Fittings shall be delivered to the customer in a completely assembled state, ready for immediate use only with finger-tightening. Disassembling the product prior to use can cause leakage or allow inflow of foreign debris into the fitting's inside. Do not use with poor quality tubing, which can cause leakage or functional deterioration.

SUPERLOK Tube Fittings are installed in three easy steps:

Step 1

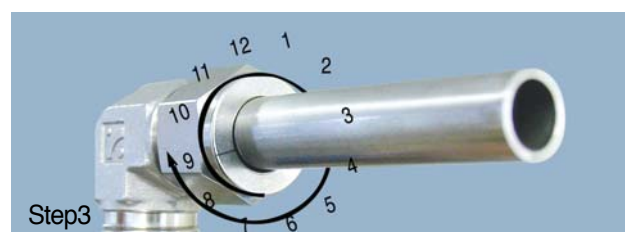
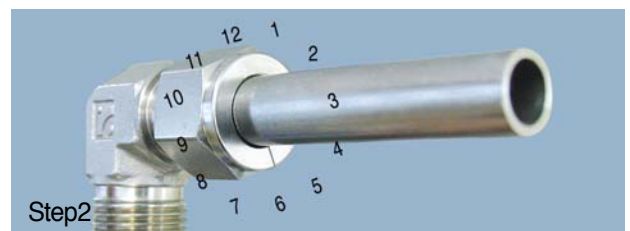
Insert the tubing into SUPERLOK Tube Fitting. At this point, make sure that the tubing is in contact with the shoulder of fitting and then finger-tighten the nut.

Step 2

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

Step 3

Hold the fitting body safely with a backup wrench and tighten the nut 1-1/4 turn. (pay attention to the mark of starting point, make one revolution and place at 9 o'clock position. Marking the starting point at the 6 o'clock position will let you notice where the starting point is). After 1-1/4 revolution, when the starting point is now at 9 o'clock position, you can easily confirm and see that SUPERLOK Tube Fitting is installed accurately. After 1-1/4 revolution of the SUPERLOK nut past finger-tightening, make sure fitting is sufficiently tightened using by the Gap Inspection Gage.



2. Installation at high pressure or the high safety systems

Since there are variations in tubing, confirm the starting point of the fitting is desirable. The starting point is determined by when the nut is tightened by using a wrench until the tubing does not turn freely in the fitting. At this point, make the 1-1/4 revolution and further tighten the nut.

(If tube rotation is not possible, tighten the nut approximately 1/8 turn from the finger-tight position)

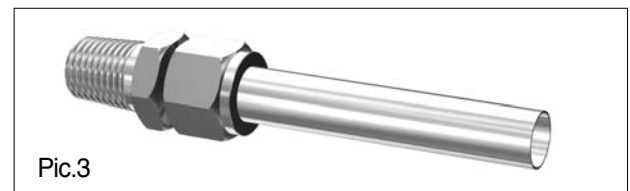
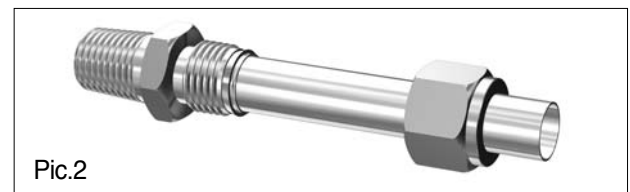
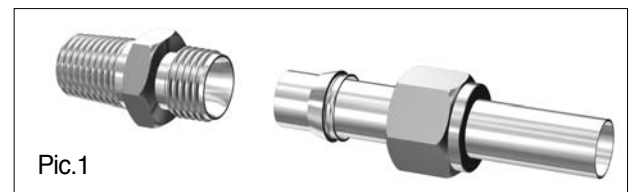
Safety Considerations on Installations for High Pressure System

(Apply to the installation of general system)

1. Confirm the thickness and material of tubing is proper to applicable usage. The material of tubing is compatible with the material of fitting and the hardness of tubing shall be less than that of fitting.
2. Do not assemble or disassemble the fitting when the system is holding pressure.
3. Since assembled tubing to a pair of fixed fittings cannot be in contact with the both sides of fittings' shoulder, there shall be a leakage risk caused by deformation from high temperature and high pressure.
4. Do not turn the fitting body.

3. Re-tightening Instruction

1. Show the disconnected position of fittings.
2. When inserting the tubing with preswaged ferrule into the fitting body, the front ferrule shall be seated in the fitting body.
3. Finger-tighten the nut and revolve the nut to the original position with a wrench. At the original position, the resistance increases. At the point, the job will be done by tightening slightly more.



Technological Information

■ Hardness Limitation

Generally, heat treated tubing shall be used (in Metal tubing) in order to be properly used with SUPERLOK tube fittings.

Hardness of stainless steel tubing is being limited below HRb90, but large majority of users are using the hardness of tube limited below HRb80. On the other hand, it is actually economical to use tubing by lowering the hardness of tubing because the assembly is easy and tubing can be bent easily. Therefore, SUPERLOK encourages customers to use tubing with the hardness

below HRb 80. This is for customer's convenience and perfect leakage prevention in operation.

■ Compatibility

SUPERLOK is manufactured in order to be compatible with other firm's tube fitting from the beginning of design. We can warrant 100% confidence in cases of being made under the mutual control of tolerance and hardness with other firm. But it is best to operate with only SUPERLOK products if possible.

Application in Gas System

SUPERLOK is appropriate in use of gas systems, but potential leakage can be prevented by the implementation of the below standards.

Tubing standard in gas system (Apply to the installation of general system)

1. The hardness of tubing shall be less than those of fitting.
2. Surface of the tubing must be free from scars, defect, pollution, etc. Must be flexible and expansion of tubing should be easy.
3. Refer to Table 2, 3, 4, 5 for tubing choices with gas systems.
4. End of tubing should not be deformed. (For example, the end part of tubing should not be an oval.)
5. End of tubing must be perpendicular to the center line of tubing and be deburred. For these reason, tube cutting machine must have a sharp blade and deburring tools should be used.
6. Firm connection shall be performed. Insufficient connection is the main cause of leakage and failure of system.
7. Do not bend tubing after inserting tubing into the fitting.
8. Observe the procedure of operation which is suggested by our firm.
9. Use minimum wall thickness of below table in order to secure maximum safety in gas system.

MATERIAL

SUPERLOK tube fittings are available 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

Application to Cryogenic and High Temperature System

SUPERLOK Tube Fittings are suitable for vacuum systems, high pressure, cryogenic conditions, and high temperature applications. SUPERLOK Tube Fittings have been tested repeatedly under various conditions and exceeded industry standards.

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 temperatures of various materials.

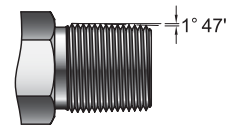
THREADS

1. NPT (National Pipe Thread)

- Thread angle 60°
- Tapered angle 1°47'
- Manufactured by the standard of ANSI B2.1

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).



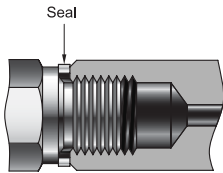
ISO Tapered
(thread sealant required)

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

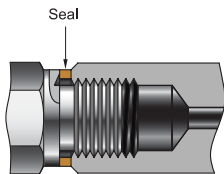
Be sealed by contacting the inclined surface of the hex body of male thread to the surface of the female thread.



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.

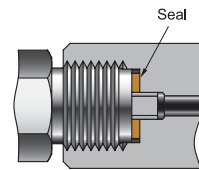


③ Metal Gasket Seal

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.

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

In the case of bending tubing near at SUPERLOK fittings, there should be enough lineal distance from bending point to the fittings as this can be a reason for leakage. (see the below Table).

This is essential to protect the customer's system from leakage. The required straight line length of tube should be larger than the tube diameter. For more detailed specifications and technical data, we suggest you to contact SUPERLOK engineers.

• **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 or welded, 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

 * Tubing working pressure(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

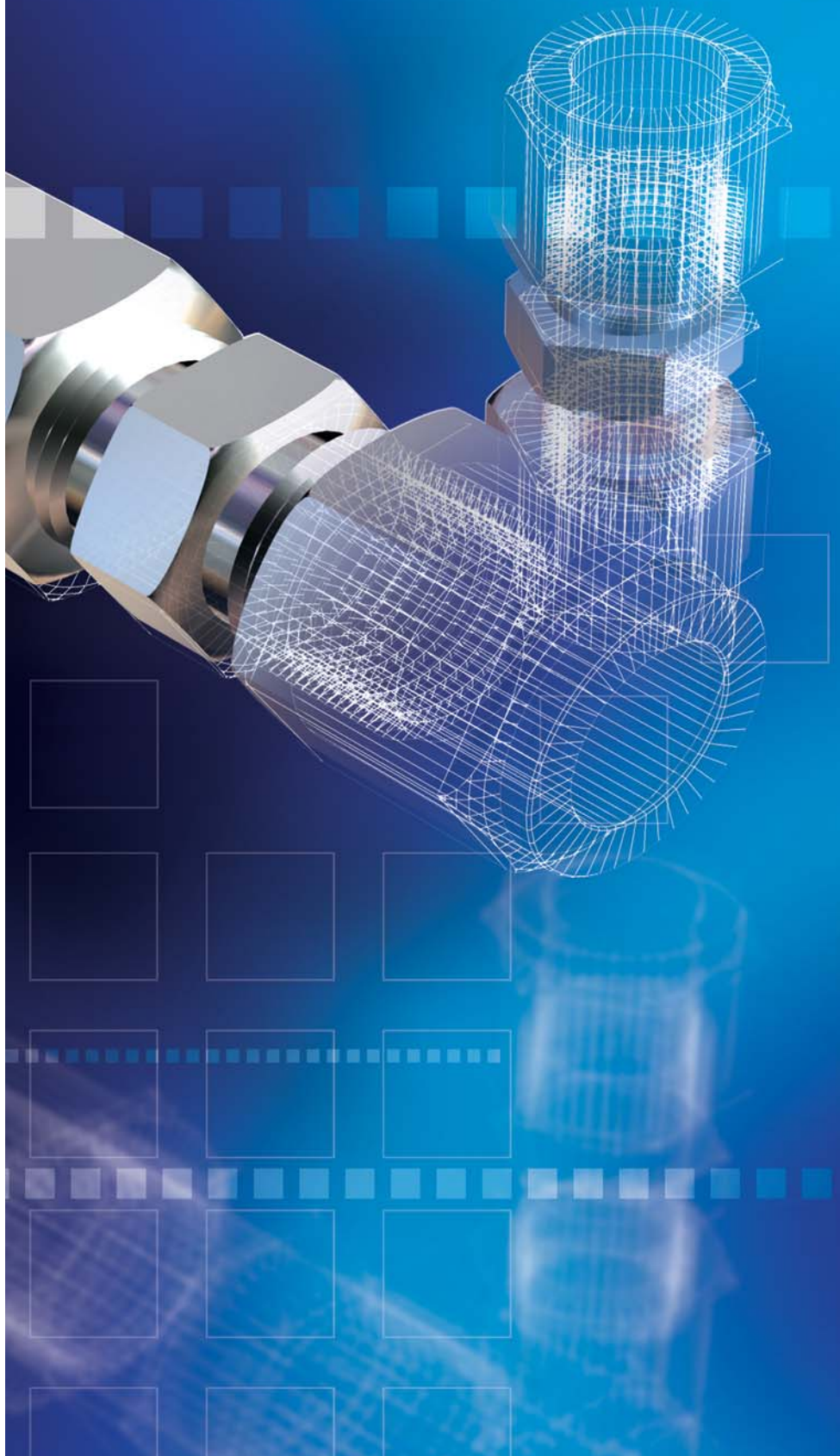
 * Tubing working pressure(psi) /

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)

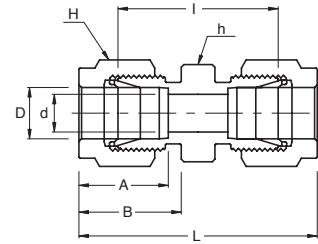
- The above data is based on the minimum wall thickness and the maximum O. D. allowed by and under the standard of ASTM A269.
- The dimensions are not considered to erosion or corrosion.

Union & Connector

UNION	
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SU Union



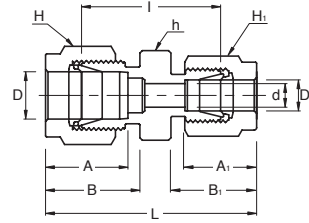
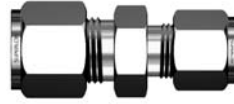
Connects Fractional Tubes

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



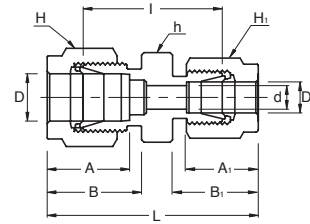
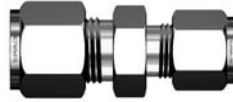
Connects Fractional Tubes

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

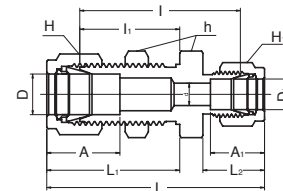
SRU Reducing Union



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	D ₁ (inch)		h	H	H ₁						
SRU 3M - 2	3	1/8	2.4	12	12	11.1	12.9	12.8	15.3	15.2	22.1	35.2
SRU 4M - 2	4	1/8	2.4	12	12	11.1	13.7	12.8	16.1	15.2	23.4	36.5
SRU 4M - 4	4	1/4	2.4	14	12	14.3	13.7	15.3	16.1	17.7	25.4	39.4
SRU 6M - 2	6	1/8	2.4	14	14	11.1	15.3	12.8	17.7	15.2	24.6	38.5
SRU 6M - 4	6	1/4	4.8	14	14	14.3	15.3	15.3	17.7	17.7	26.2	41.0
SRU 6M - 5	6	5/16	4.8	14	14	15.9	15.3	16.2	17.7	18.6	27.4	42.3
SRU 8M - 4	8	1/4	4.8	15	16	14.3	16.2	15.3	18.6	17.7	27.4	42.3
SRU 10M - 2	10	1/8	2.4	18	19	11.1	17.2	12.8	19.5	15.2	27.7	41.8
SRU 10M - 4	10	1/4	4.8	18	19	14.3	17.2	15.3	19.5	17.7	29.5	44.5
SRU 10M - 5	10	5/16	6.4	18	19	15.9	17.2	16.2	19.5	18.6	30.0	45.1
SRU 10M - 6	10	3/8	7.1	18	19	17.5	17.2	16.9	19.5	19.2	31.0	45.9
SRU 12M - 5	12	5/16	6.4	22	22	15.9	22.8	16.2	22.0	18.6	30.2	47.8
SRU 12M - 6	12	3/8	7.1	22	22	17.5	22.8	16.9	22.0	19.2	31.0	48.4
SRU 12M - 8	12	1/2	9.5	22	22	22.2	22.8	22.8	22.0	22.0	31.0	51.2
SRU 15M - 8	15	1/2	10.3	24	25	22.2	24.4	22.8	22.0	22.0	31.8	52.0
SRU 16M - 10	16	5/8	12.7	24	25	25.4	24.4	24.4	22.0	22.0	31.8	52.0
SRU 18M - 12	18	3/4	15.1	27	30	28.6	24.4	24.4	22.0	22.0	33.3	53.5
SRU 20M - 12	20	3/4	15.9	30	32	28.6	26.0	24.4	22.0	22.0	34.8	54.9
SRU 20M - 16	20	1	15.9	35	32	38.1	26.0	31.2	22.0	26.4	40.4	62.8
SRU 25M - 16	25	1	21.8	35	38	38.1	31.3	31.3	26.5	26.5	40.4	65.0

SBHRU Bulkhead Reducing Union



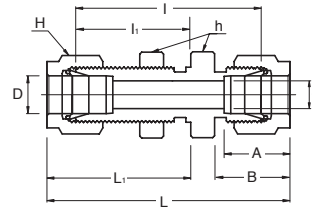
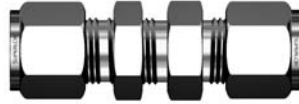
Connects Fractional Tubes

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

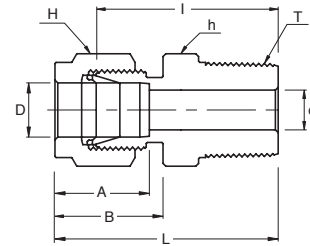
Part No.	Tube O.D. D (inch)	d Min	Width Across Flat		A	B	I	I ₁	L	L ₁	Panel Hole Drill Size	Panel Max. Thickness
			h (inch)	H (inch)								
SBHU - 1	1/16	1.27	5/16	5/16	8.63	10.92	23.87	13.46	31.50	17.27	5.16	3.05
SBHU - 2	1/8	2.28	1/2	7/16	12.70	15.24	38.10	24.63	51.30	31.24	8.33	12.70
SBHU - 3	3/16	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

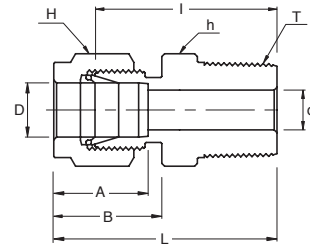


Connects Fractional Tubes To Female NPT Thread

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



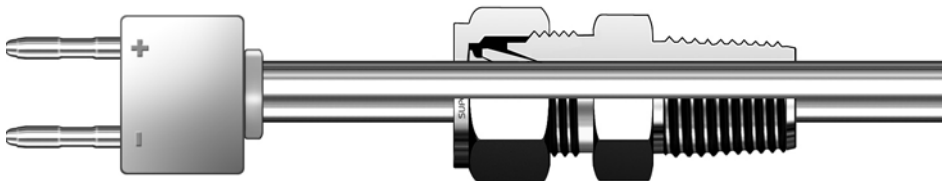
Connects Fractional Tube To Female ISO Tapered Thread

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

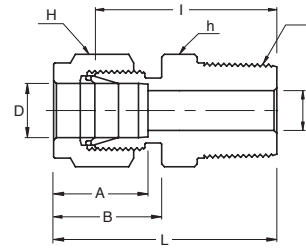
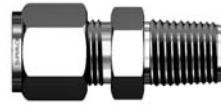
Bored - Through Fittings for Thermocouples

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

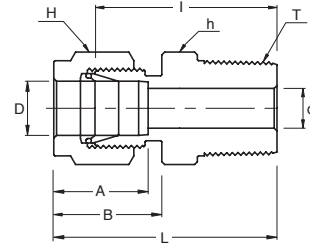
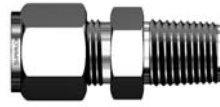


Connects Metric Tube To Female NPT Thread

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

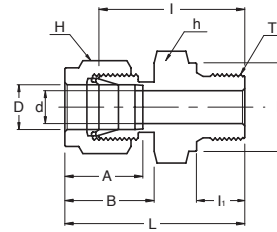


Connects Metric Tube To Female ISO Tapered Thread

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

SGMC Male Connector For Bonded Washer Seal



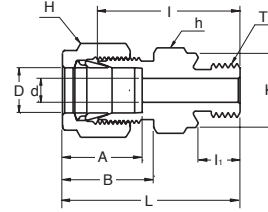
Connects Metric Tubes To Female ISO Parallel Thread

Part No.	Tube O.D. D	T G (PF)	d Min	Width Across Flat		A	B	I	l 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.

SOMC

Male Connector For Metal Gasket Seal

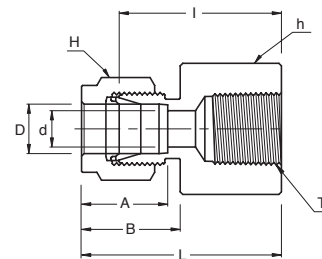


Connects Metric Tube To Female ISO Parallel Thread

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

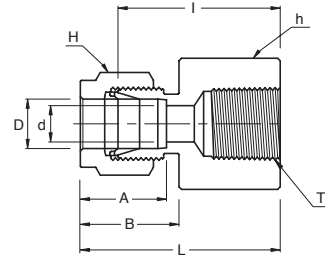


Connects Fractional Tubes To Male NPT Thread

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

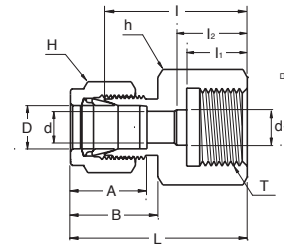


Connects Metric Tubes To Male ISO Tapered Thread

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

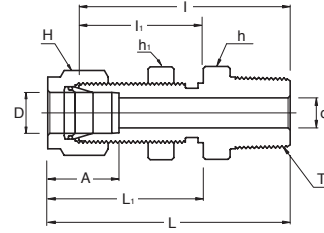
Part No.	Tube O.D. D (inch)	T G (PF)	d Min	d ₁	Width Across Flat		A	B	I	I ₁	I ₂	L
					h (inch)	H (inch)						
SGC 4 - 4G	1/4	1/4	4.82	5.58	3/4	9/16	15.24	17.78	30.22	13.00	17.00	37.59
SGC 4 - 6G	1/4	3/8	4.82	6.60	15/16	9/16	15.24	17.78	30.22	14.20	20.30	37.59
SGC 4 - 8G	1/4	1/2	4.82	6.60	1-1/16	9/16	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 ₁	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.

SBMC Bulkhead Male Connector

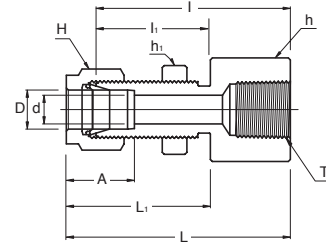


Connects Fractional Tubes To Female NPT Thread

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)							
SBMC 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
SBMC 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
SBMC 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
SBMC 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
SBMC 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
SBMC 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
SBMC 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
SBMC 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
SBMC 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
SBMC 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

SBFC 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)							
SBFC 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
SBFC 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
SBFC 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
SBFC 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
SBFC 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
SBFC 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
SBFC 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







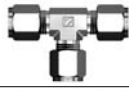







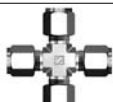
* ISO Tapered Threads are available upon request

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							
SBFC 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
SBFC 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
SBFC 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
SBFC 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

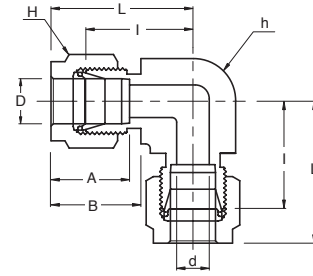
* ISO Tapered Threads are available upon request

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

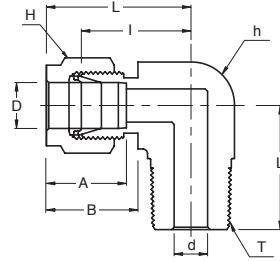
Part No.	Tube O.D. D (inch)	d Min	Width Across Flat		A	B	I	L
			h (inch)	H (inch)				
SUE - 1	1/16	1.27	3/8	5/16	8.63	10.92	14.00	18.03
SUE - 2	1/8	2.28	3/8	7/16	12.70	15.24	15.74	22.35
SUE - 3	3/16	3.04	1/2	1/2	13.71	16.00	18.54	25.14
SUE - 4	1/4	4.82	1/2	9/16	15.24	17.78	20.10	27.40
SUE - 5	5/16	6.35	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

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

SME Male Elbow

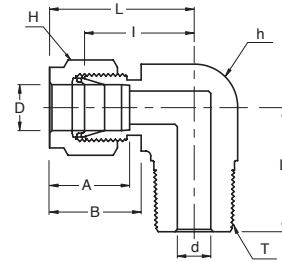


Connects Metric Tubes To Female NPT Thread

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

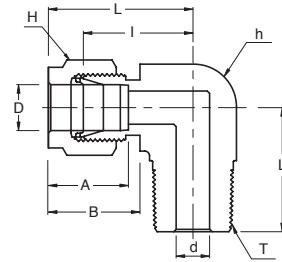
SME Male Elbow



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

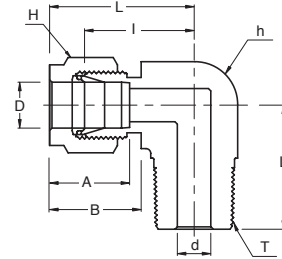
SME Male Elbow



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

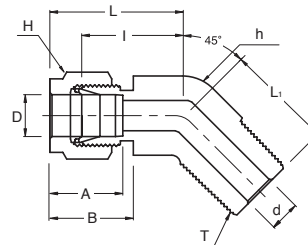
SME
Male Elbow



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

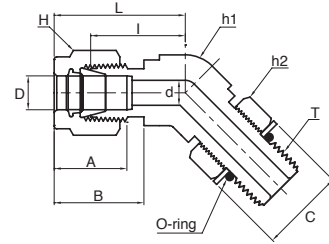


Connects Fractional Tubes To Female NPT Thread

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

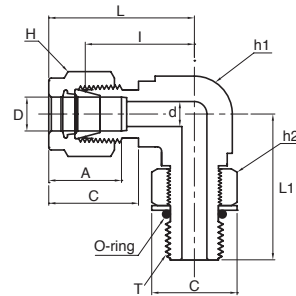
SPHME
45° Positionable
Male Elbow



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

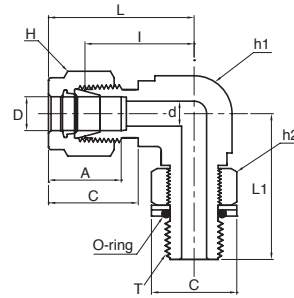


Connects Fractional Tubes To SAE/MS Straight Thread

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



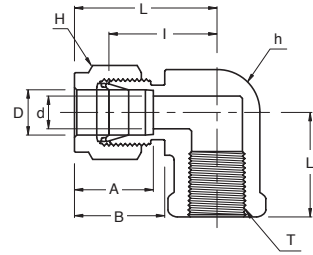
Connects Fractional Tubes To Female ISO Parallel Thread

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

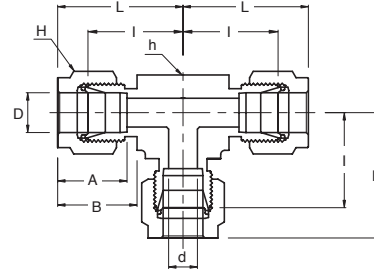
* ISO Tapered Threads are available upon request

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

SUT Union Tee



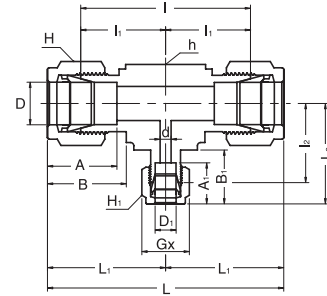
Connects Fractional Tubes

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

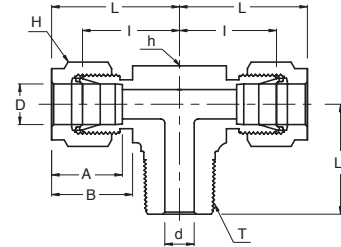
SRUT Reducing Union Tee



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 - 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 - 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 - 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 - 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 - 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 - 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 - 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 - 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 - 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

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

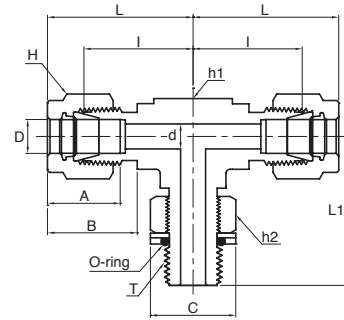
* ISO Tapered Threads are available upon request

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



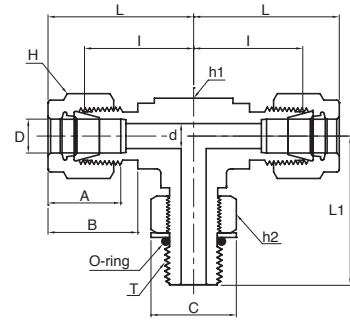
Connects Fractional Tubes To Female ISO Parallel Thread

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

SPMBT
Positionable
Male Branch Tee

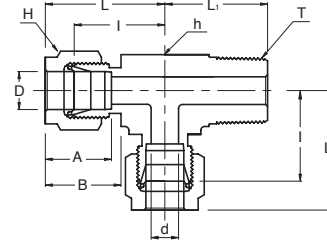


Connects Fractional Tubes To SAE/MS Straight Thread Boss

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

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

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

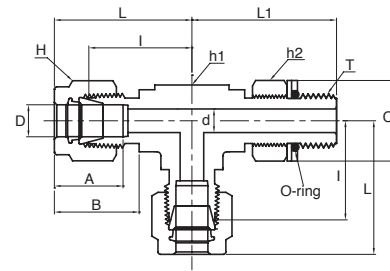
* ISO Tapered Threads are available upon request

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

SPMRT Positionable Male Run Tee



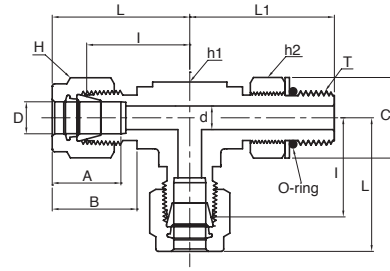
Connects Fractional Tubes To Female ISO Parallel Thread

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

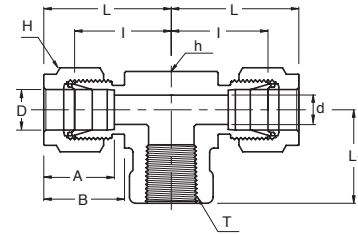


Connects Fractional Tubes To SAE/MS Straight Thread

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

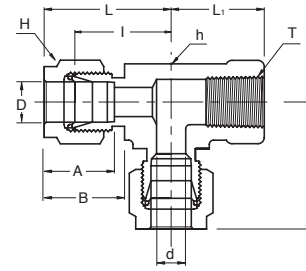
* ISO Tapered Threads are available upon request

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

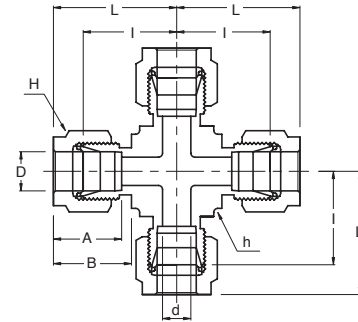
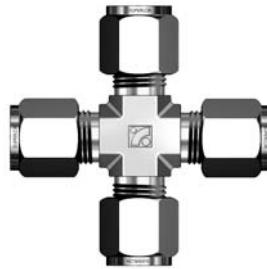
* ISO Tapered Threads are available upon request

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

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

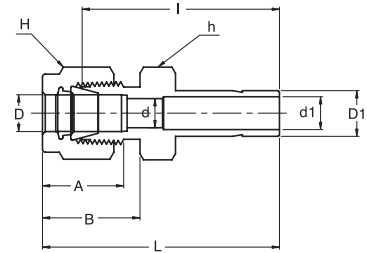
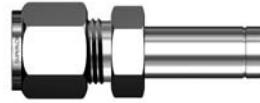
Part No.	Tube O.D. D	d Min	Width Across Flat		A	B	I	L
			h	H				
SUC - 3M	3	2.4	9.5	12	12.9	15.3	15.7	22.3
SUC - 6M	6	4.8	12.7	14	15.3	17.7	19.6	27.0
SUC - 8M	8	6.4	15.9	16	16.2	18.6	22.4	29.9
SUC - 10M	10	7.9	20.6	19	17.2	19.5	25.9	33.5
SUC - 12M	12	9.5	20.6	22	22.8	22.0	25.9	36.0
SUC - 16M	16	12.7	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

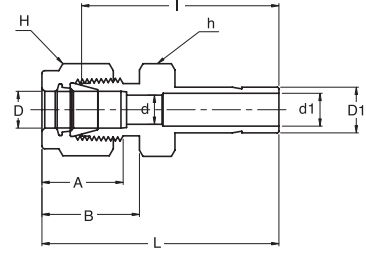
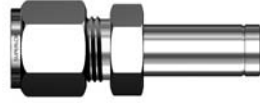


Connects Fractional Tubes To Fractional **SUPERLOK** Port

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

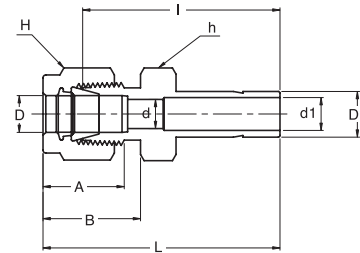
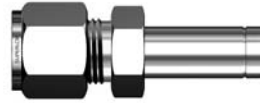


Connects Metric Tubes To Metric SUPERLOK Port

Part No.	Tube O.D.		d Min	d1 Min	Width Across Flat		A	B	I	L
	D	D ₁			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

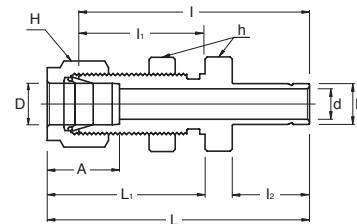
SR
Reducer



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

SBR
Bulkhead Reducer

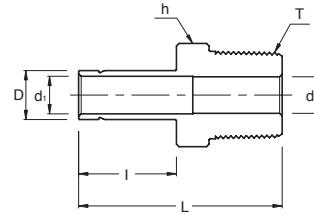


Connects Fractional Tubes To Fractional SUPERLOK Port

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)								
SBR 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
SBR 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
SBR 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
SBR 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
SBR 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
SBR 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

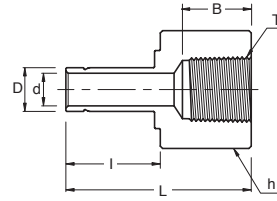
Connects Metric **SUPERLOK** Port To Female NPT Thread

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

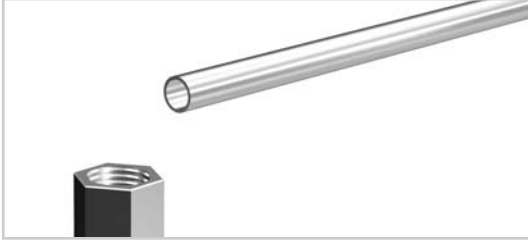
Connects Metric **SUPERLOK** Port To Male NPT Thread

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

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

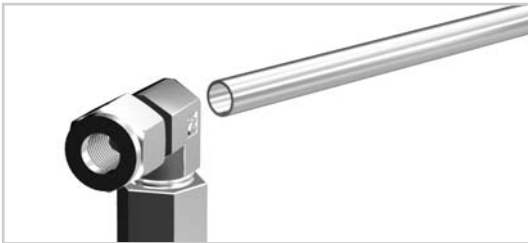
SUPERLOK Adapter Solutions to Alignment Problems



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.

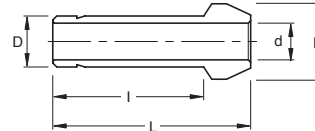


2. With pipe connection tight, the male elbow is pointing in the wrong direction for desired tubing run.



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

SPC Port Connector



Connects Fractional SUPERLOK Ports

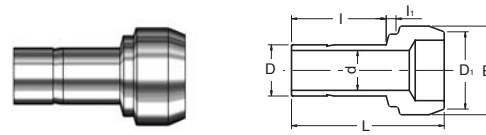
Part No.	Tube O.D.(D) (inch)	d (Min)	E	I	L
SPC - 2	1/8	2.1	6.09	15.75	22.35
SPC - 4	1/4	4.4	9.39	18.79	24.63
SPC - 5	5/16	5.6	10.92	20.06	25.90
SPC - 6	3/8	6.9	12.70	20.32	26.16
SPC - 8	1/2	9.4	15.74	25.90	35.81
SPC - 12	3/4	14.8	22.09	27.68	37.33
SPC - 16	1	20.4	28.44	34.54	48.00

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

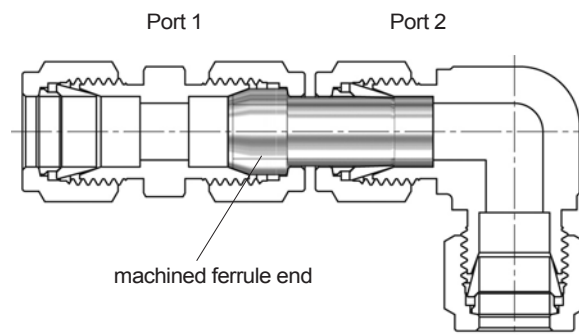
SRPC Reducing Port Connector



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

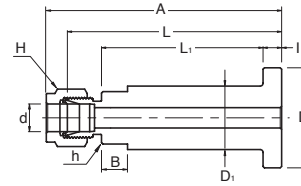
Installation Instructions Port Connector



- Remove nut and ferrules from the first of two SUPERLOK ports to be connected.
- Slip nut (not 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 finger tight.
- Insert other end of the 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.

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

SFTC Lap Joint Flange Tubes Connector



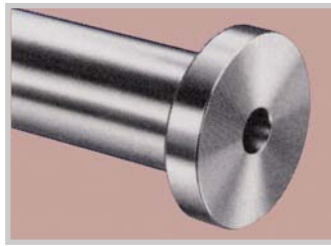
Connects Fractional Tubes

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

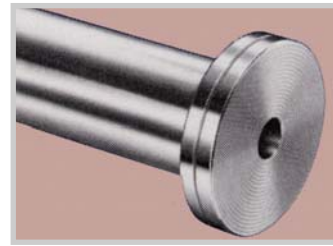
Lap joint flange tube connector provides easy joint between process lines and instruments designed for use with 1/2in Lap joint flanges to ANSI B 16.5 or BS 1560

Flange Seal Finish

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



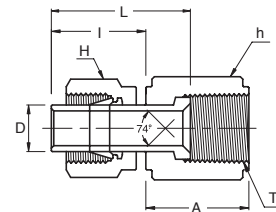
Smooth
Identifier : SM
Ra 3.2 ~ 6.3
micrometer



Serrated
Identifier : SR
Ra 6.3 ~ 12.5
micrometer

*Note : GROOVE identifies serrated surface finish

SAF An Flare

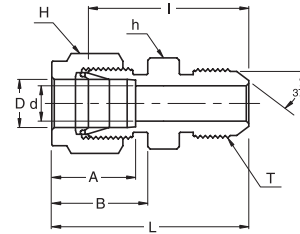


Connects Fractional SUPERLOK Port To Male AN

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)			
SAF2 - 2U	1/8	1/8	5/16-24	3/8	7/16	13.71	13.46	18.54
SAF2 - 4U	1/8	1/4	7/16-20	9/16	7/16	15.74	13.46	19.05
SAF4 - 4U	1/4	1/4	7/16-20	9/16	9/16	15.74	15.74	21.33
SAF6 - 6U	3/8	3/8	9/16-18	11/16	11/16	18.28	17.52	24.89
SAF8 - 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

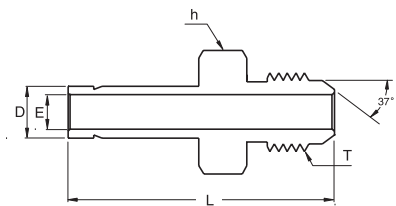
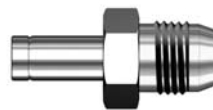
SAU An Union



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

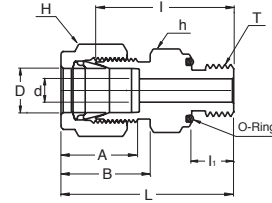
SAA An Adapter



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

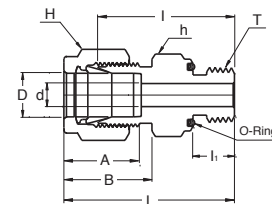
SOSC O-Seal Straight Thread Connector



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

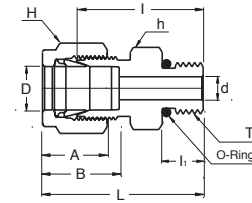
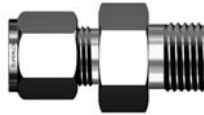


Connects Fractional Tube To Female NPT Thread

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

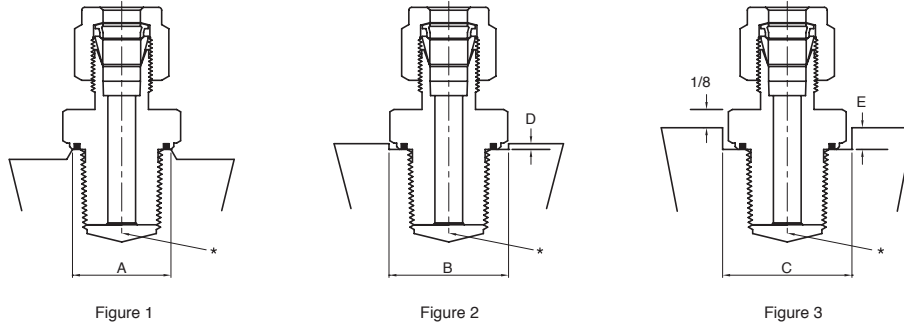
SSMC SAE/MS Male Connector



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	h	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



*ALLOW CLEARANCE FOR FULL THREAD

■ Installation Instruction

In order to prevent 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. (A 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 has 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.

SAE/MS Straight Thread Positionable Elbows and Tees

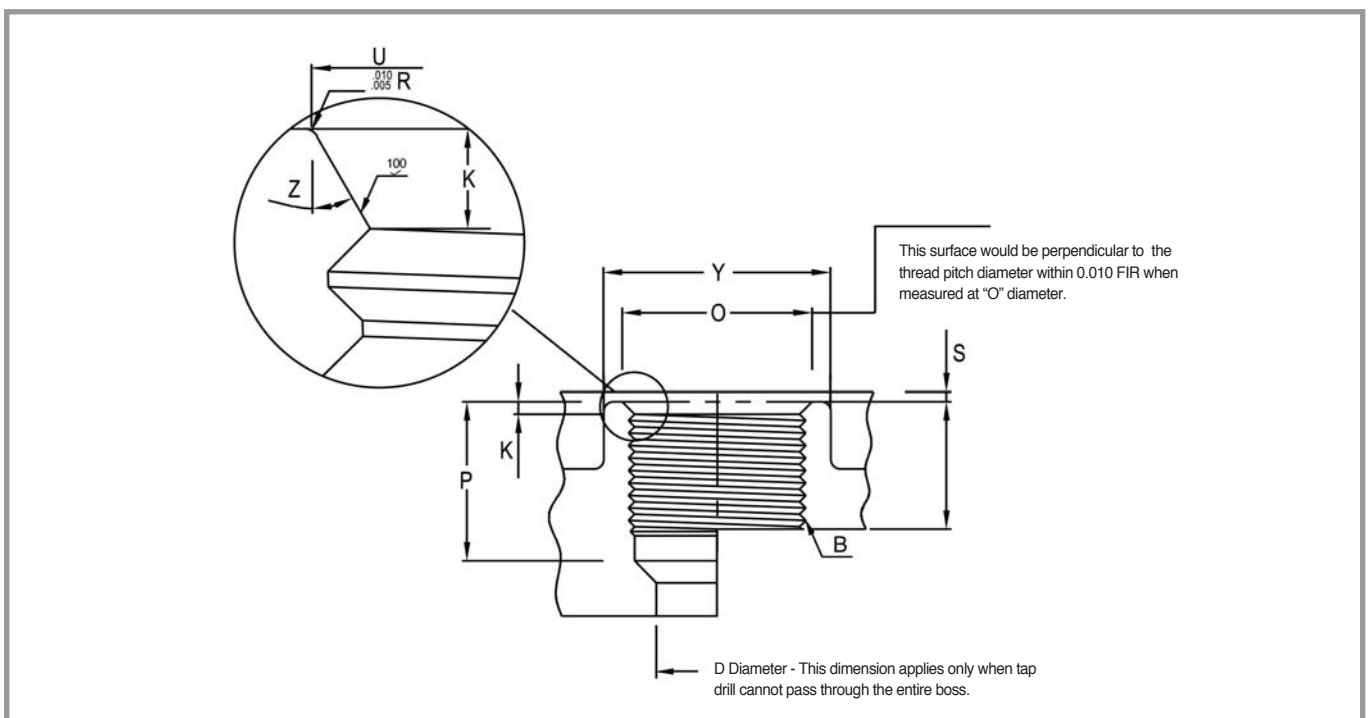
Installation instructions

1. Lubricate O-Ring with lubricant that 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 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 TEES 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 will 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

Nom. Tube.O.D	Thread Size	B / Straight Thread				D Dia	Full Thread Depth	K	O Dia	P [ⓐ]	S [ⓑ]	U [Ⓒ] Dia	Y [Ⓓ] Dia	Z
		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














- ⓐ 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.
- ⓑ This is the maximum recommended spot face depth to permit sufficient wrench grip for proper tightening of the fitting or locknut
- ⓒ If the surface of boss surface is machined, dimensions Y and S do not need to be applied.
- ⓓ 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	3/4-16	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

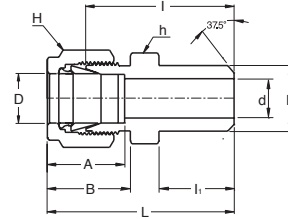
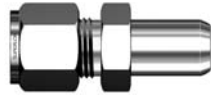
• All dimensions in millimeters unless specified as "inch". Dimension are for reference only, subject to change

Weld End, Plug & Cap, Spare Part

WELD END	
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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	h	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	h	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

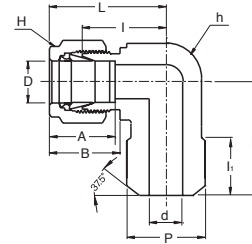
Note : SUPERLOK weld ends are constructed per schedule 80 wall thickness or greater. Weld End : ANSI B31.1 and B31.3

Weld end SUPERLOK Usage Information:

- Weld after removing nut and ferrules from body to protect them from weld heat.
- Protect thread end 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 standard.

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

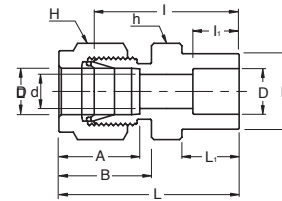
SMPWE Male Pipe Weld Elbow



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

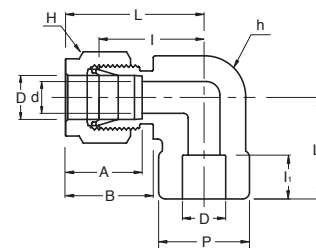
SSWC Socket Weld Connector



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

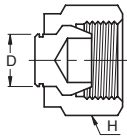
SSWE Socket Weld Elbow



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

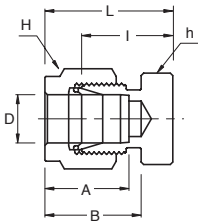
Plugs Unused port of Metric **SUPERLOK** fittings

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

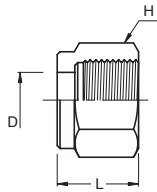
Part No.	Tube O.D. D (inch)	Width Across Flat		A	B	I	L
		h (inch)	H (inch)				
SC - 1	1/16	5/16	5/16	8.63	10.92	11.20	14.98
SC - 2	1/8	7/16	7/16	12.70	15.24	13.46	20.06
SC - 3	3/16	7/16	1/2	13.71	16.00	14.73	21.33
SC - 4	1/4	1/2	9/16	15.24	17.78	16.00	23.36
SC - 5	5/16	9/16	5/8	16.25	18.54	17.01	24.38
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	21.33	31.49
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								

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

SN Nut



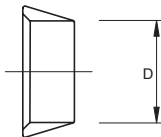
Fractional

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



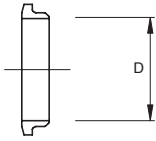
Fractional

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



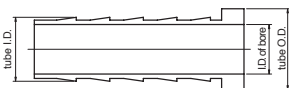
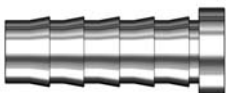
Fractional

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		

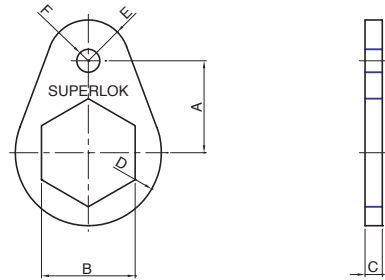
SI Insert



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				

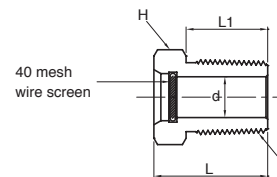
SBR
Bulkhead Retainer



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