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The new building, opened in 2008, with offices and warehouse in the same structure, is the result of Tierre Group investments in these years and shows how much the company trusts in its Staff, Partners and in its opportunities of growth. Reliability, professional skills, quality of the products and high level of service are the main goals of Tierre Group, being at the same time the strength of the company itself.

Continuous important investments in the warehouse logistics, in technology and human resources, in instruments and software, for a better and more efficient stock management, show Tierre Group attention to its Customers' needs. Large warehouse stock, flexibility, quick deliveries are the key points encouraged the development and the consolidation of Tierre Group attention to its Customers' needs.

A complete and updated web site, together with the concrete presence of the company at the most important exhibitions in the international field, makes Tierre Group a valid and reliable partner.

Tierre Group believes in the potentialities of its collaborators, providing them with dedicated instruments for their professional growth. In this way Tierre Group has been growing in the last years and looks positively at the future challenges.





NUCLEAR POWER PLANT



SEMICONDUCTOR INDUSTRY



**GENERAL INFORMATION FOR S-LOK TUBE FITTINGS**

S-Lok tube fittings are manufactured to very strict quality control for maximum assurance of reliable performance. S-Lok tube fittings require no special tools assembly.

Connections can be quickly and easily made by simple insertion and then tightening the nuts.

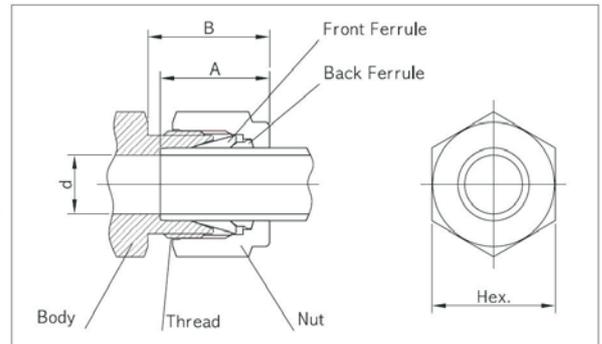
S-Lok tube fitting has been specifically designed for use on instrumentation, process and control systems and equipment employed in chemical, petroleum, power generating and pulp and paper plants.

S-Lok tube fitting has also found extensive application in other fields where a very high quality tube fitting is required.

**CONSTRUCTION OF S-LOK TUBE FITTINGS**

S-Lok tube fittings are composed of four precision parts: body, nut, front ferrule and back ferrule.

By screwing the nut onto the body, the nut is tightened against the tapered area of the body and its edge is compressed tightly against the tube by curling inward. The back ferrule that is located between the body and thenut rolls up as the front ferrule rolls and bites into the tube and achieves the connection of the tube and the fitting as well as a non-leakage effect.



The twin ferrule design performs leak proof sealing with all assembly and reassembly motion being transmitted axially through the tubing. This results in no radial movement of the tubing upon assembly and reassembly. Therefore, the tubing is not stressed and the mechanical integrity is maintained. This is the result of close tolerance control in machining, surface smoothness and hardness of each and every part of the S-Lok tube fitting. Through this swaging action, the S-Lok fitting becomes integrated mechanically with the tubing connection.

**S-LOK FRACTIONAL TUBE AND DIMENSIONS**

Size No.	Tube O.D.	S-LOK thread	A	B	d	Hex.
2	1/8"	5/16-20UN	12,70	15,24	2,28	11,10
3	3/16"	3/8-20UN	13,70	16,00	3,04	12,70
4	1/4"	7/16-20UNF	15,24	17,78	4,80	14,20
5	5/16"	1/2-20UNF	16,25	18,54	6,35	15,80
6	3/8"	9/16-20UN	16,76	19,30	7,10	17,40
8	1/2"	3/4-20UNEF	22,86	21,84	10,40	22,20
10	5/8"	7/8-20UNEF	24,38	21,84	12,70	25,40
12	3/4"	1-20UNEF	24,38	21,84	15,70	28,60
14	7/8"	1-1/8-20UN	25,90	21,84	18,20	31,80
16	1"	1-5/16-20UN	31,24	26,41	22,40	38,10

**S-LOK METRIC TUBE AND DIMENSIONS**

Size No.	Tube O.D.	S-LOK thread	A	B	d	Hex.
3M	3mm	5/16-20UN	12,90	15,30	2,40	12
4M	4mm	3/8-20UN	13,70	16,10	2,40	12
6M	6mm	7/16-20UNF	15,30	17,70	4,80	14
8M	8mm	1/2-20UNF	16,20	18,60	6,40	16
10M	10mm	5/8-20UN	17,20	19,50	7,90	19
12M	12mm	3/4-20UNEF	22,80	22,00	9,50	22
15M	15mm	7/8-20UNEF	24,40	22,00	11,90	25
16M	16mm	7/8-20UNEF	24,40	22,00	12,70	25
18M	18mm	1-20UNEF	24,40	22,00	15,10	30
20M	20mm	1-1/8-20UN	26,00	22,00	15,90	32
22M	22mm	1-1/8-20UN	26,00	22,00	18,30	32
25M	25mm	1-5/16-20UN	31,30	26,50	21,80	38

**FITTING MATERIALS**

S-Lok tube fittings are made of stainless steel(type 316). Straight bodies and nuts and shaped bodies are machined close grain forgings.

**TYPICAL RAW MATERIAL LIST**

Fitting Material	Bar Stock	Forging	Tubing
Stainless Steel Type 316	ASTM A479	ASTM A182	ASTM A269
	ASTM A276	F316	ASTM A213
	JIS G4303	JIS G3214	ASTM A249

**SUITABLE TUBING MATERIALS**

S-Lok tube fittings can be used with the following tube specifications.

Stainless steel tube:

- a. TP304 and TP316 of ATEM A269 or A213, or equivalent.
  - b. SUS304TP and SUS316TP of JIS G3459 or equivalent.
  - c. The wall thickness selection should be based on the operation pressure, temperature and shock conditions.
- Fully annealed tubing is recommended. Stainless steel tubing having a hardness of Rockwell B80 or less should be used.
- d. Specific recommendation-See Table 1.(page 5)

## TUBING

A suitable tubing selection is essential in the performance of a tubing system. For safe, reliable and leak-free seals tubing should be considered as a fitting component. S-Lok fittings perform at best when a good quality tubing is used. When selecting tubing material, size and wall thickness, the customer must consider pressure, flow, temperature, environment and compatibility of the system.

- General Rules:

1. For leak-free sealing, the tubing surface is very important. The tubing must have a good surface free from scratches, draw mark, flat spots or dirt.
2. In case of welded tubing, it should not have a visible poor bead on its outside diameter.
3. Using a similar material for the tube and the fittings is essential for the same thermal compatibility and corrosion resistance. The tubing and the material should be compatible with the process fluid, temperature and environment.
4. Tubing must be softer than the fitting material. When tubing and fittings are made of the same material, the metal tubing must be fully annealed.
5. Tubing hardness must be selected according to the information in the table from 2 to 4.
6. Do not select a too thin or thick wall. A too thin wall may collapse and a too thick wall may not properly be deformed by the ferrule action. The wall thickness selection should be based on the applicable pressure, temperature, shock and vibration.

Factors to be considered when selecting the tube:

1. Quality of the tube material and manufacturing method.
2. Hardness of the tube.
3. Surface treatment of the tube.
4. O.D and tolerance.
5. Wall thickness and tolerance.
6. Concentricity of the tube.

### TUBING TEMPERATURE RATINGS

The maximum and minimum operating temperatures for various tubing materials:

Tubing Material	Temperature range
Stainless Steel 316	-321°F to 1200°F (-196°C to 649°C)
Carbon Steel	-65°F to 799°F (-53°C to 426°C)
Copper	-40°F to 400°F (-40°C to 205°C)
Alloy 400	-324°F to 800°F (-198°C to 427°C)
Alloy C276	-320°F to 1000°F (-195°C to 537°C)
Alloy 600	-205°F to 1200°F (-130°C to 648°C)
Titanium	-320°F to 6000°F (-195°C to 315°C)
Teflon	0°F to 150°F (-17°C to 65°C)

### ALLOWED WORKING TEMPERATURE

When Elastomer seal is used in the fitting, care must be taken for allowable working temperature. See working temperature below.

Elastomer seal material	Working temperature
NBR (e.g. perbunan®)	-40°C to 110°C (-40°F to 230°F)
FKM (e.g. Viton®)	-28°C to 204°C (-20°F to 400°F)
PTFE (e.g. Teflon®)	-60°C to 204°C (-76°F to 464°F)

### TEMPERATURE DE-RATING FACTORS

The allowed working pressure is determined by various temperatures.

To determine the working pressure at a specific temperature, multiply the working pressure at the ambient temperature shown in table 2~4 by the factor shown in the table 1.

**TABLE 1. TEMPERATURE DE-RATING FACTORS**

Temp.		Stainless Steel		Carbon Steel	Copper	Alloys
°F	°C	ASTM A269 304	ASTM 316	ASTM A179	ASTM B75	400
100	37	1,00	1,00	1,00	1,00	1,00
200	93	1,00	1,00	0,95	0,80	0,88
300	148	1,00	1,00	0,90	0,78	0,82
400	204	0,93	0,96	0,86	0,50	0,79
500	206	0,87	0,90	0,82	0,13	0,79
600	315	0,82	0,85	0,77	.	0,79
700	370	0,80	0,82	0,73	.	0,76
800	426	0,76	0,79	0,59	.	0,76
900	480	0,73	0,78	.	.	.
1000	537	0,69	0,76	.	.	.
1200	649	0,30	0,37	.	.	.

#### Example:

Tube SS316 3/8 O.D. x 0,035" at 700°F

3,300psi x 0,82 = 2706psi

Therefore 2706psi is the maximum allowed working pressure of SS316 3/8" O.D. x 0,035" wall tubing.

## STAINLESS STEEL TUBING

Fully annealed 304 or 316 high quality seamless steel tube to Astm A269 or equivalent.

Hardness : Rb80 or less

**TABLE 2. STAINLESS STEEL TUBING**

STAINLESS STEEL FRACTIONAL TUBING																
Tube O.D. (Inches)	Tube Wall Thickness in Inches															
	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	0,134	0,156	0,188
1/16"	5600	6800	8100	9400	12000											
1/8"						8500	10900									
3/16"						5400	7000	10200								
1/4"						4000	5100	7500	10200			Working Pressure in psig				
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		
1 1/4"											2400	2800	3300	3600	4100	4900
1 1/2"												2300	2700	3000	3400	4000
2"													2000	2200	2500	2900

For gas service, applying tube wall thickness only on outside of shade boundary

## STAINLESS STEEL METRIC TUBING

Tube O.D. (mm)	Tube Wall Thickness in millimeters (Inches)															
	0,71 (0,028)	0,89 (0,035)	1,00	1,25 (0,049)	1,50	1,65 (0,065)	2,00	2,11 (0,083)	2,41 (0,095)	2,50	2,77 (0,109)	3,00	3,05 (0,120)	3,50	4,00	4,50
3	10800	13800	15300													
4	7900	10100	11500	14400												
6	5000	6500	7400	9400	11500	12700										
8		4700	5800	6800	8400	9300								Working Pressure in psig		
10		3700	4200	5300	6500	7,30										
12		3000	3400	4400	5300	5900	6600	7000								
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			
38										2300	-	2900	-	3400	3900	4400

- Working pressures are based on a allowed stress value of 20,000PSI (137,800kPa=1,378bar) as specified by ASME B31.3-1999 over the temperature range of -29°C to 37°C (-20°F to 100°F ).
- Safety Factor=3.75:1, considering ultimate tensile strength 75,000PSI (516,700kPa=5,167bar)
- Pressure calculations are based on Maximum O.D. and minimum wall thickness and no allowance is made for corrosion and erosion.  
e.g. ASTM A269 1/2 O.D x 0.035" OD tolerance  $\pm 0.005"$ , W.T.  $\pm 10\%$ . Calculations are based on 0.050" OD x 0.035" W.T.
- To determine Bar, multiply PSIG by 0.0689. To determine kPa, multiply PSIG 6.89.
- To convert bar to PSIG, multiply bar by 14.51
- For working pressure per ASME B31.1, multiply value by 0.94

## WELDED STAINLESS STEEL TUBING

Based on ASM2 B31.3-1999 for weld integrity a de-rating factor must be applied to welded tubing.

For double butt seam tubing multiply by 0.85

For single butt seam tubing multiply by 0.80.

## COPPER TUBING

High quality soft annealed seamless copper tube to ASTM B-75 or equivalent.

Hardness : Rockwell 15T 60 or less

**TABLE 3. COPPER TUBING**

COPPER FRACTIONAL TUBING										
Tube O.D. (Inches)	Tube Wall Thickness in Inches									
	0,010	0,012	0,028	0,035	0,049	0,065	0,083	0,095	0,109	0,120
1/16"	1700	3800	5400	6000						
1/8"			2700	3400						
3/16"			1800	2300	3400					
1/4"			1300	1600	2500	3500		Working Pressure in psig		
5/16"				1300	1900	2700				
3/8"				1000	1600	2200				
1/2"				800	1100	1600	2200			
5/8"		For gas service, applying tube wall thickness only on outside of shade boundary			900	1200	1600	1900		
3/4"				700	1000	1300	1500	1800		
7/8"				600	800	1100	1300	1500		
1"				500	700	900	1100	1300	1500	

COPPER METRIC TUBING													
Tube O.D. (mm)	Tube Wall Thickness in millimeters (Inches)												
	0,71 (0,028)	0,89 (0,035)	1,0	1,25 (0,049)	1,5	1,65 (0,065)	2,00	2,11 (0,083)	2,41 (0,095)	2,50	2,77 (0,109)	3,00	3,05 (0,120)
3	3465	4400	4900										
4	2520	3230	3670	4610									
6	1611	2070	2350	3020	3670	4060					Working Pressure in psig		
8		1510	1710	2790	2680	2990							
10		1190	1350	1710	2090	2320							
12		970	1100	1410	1710	1900	2350	2500					
16			810	1030	1260	1390	1710	1810	2100	2190			
18				915	1100	1220	1510	1600	1840	1930	2160		
20		For gas service, applying tube wall thickness only on outside of shade boundary		810	990	1090	1350	1420	1650	1710	1920		
22				740	900	990	1200	1290	1480	1550	1730		
25				640	780	870	1060	1120	1290	1350	1490	1640	1670

- Working pressures are based on a allowed stress value of 6000PSI (413bar=41,300kPa) as specified by ASME B31.3-1999 over the temperature range of -29°C to 37°C (-20°F to 100°F).
- Safety Factor=5:1, considering ultimate tensile strength 30,000PSI (2067bar=206,700kPa)
- Pressure calculations are based on Maximum O.D. and minimum wall thickness and no allowance is made for corrosion and erosion.
- For working pressure per ASME B31.1, multiply value by 0.94

### ALLOY 400 TUBING

Fully annealed seamless Alloy 400 tubing to ASTM B165 or equivalent.  
Hardness : Rb75 or less

**TABLE 4. FOR SEAMLESS ALLOY 400 TUBING**

FOR SEAMLESS MONEL 400 FRACTIONAL TUBING										
Tube O.D. (Inches)	Tube Wall Thickness in Inches									
	0,010	0,012	0,028	0,035	0,049	0,065	0,083	0,095	0,109	0,120
1/8"			7900	10100						
1/4"			3700	4800	7000	9500				
3/8"				3100	4400	6100				
1/2"				2300	3200	4400				
3/4"					2200	3000	4000	4600		
1"						2200	2900	3400	3900	4300

- Working pressures are based on a allowed stress value of 18,700PSI (128,000kPa=1288bar) as specified by ASMEB31.3-1999 over the temperature range of -29°C to 37°C (-20°F to 100°F).
- Safety Factor=3.75:1, considering ultimate tensile strength 70,000PSI (482,300kPa=4,823bar)
- Pressure calculations are based on Maximum O.D. and minimum wall thickness and no allowance is made for corrosion and erosion.
- For working pressure per ASME B31.1, multiply value by 0.94

### SPECIAL ALLOY TUBING

When Special Alloy Tubing is Selected, we recommend :

Fully Annealed Seamless (or Welded and Cold-draw, where premitted), Alloy tubing to the ASTM specification as shown below. Tubing should be free of scratches for bending or flaring.

S-LOK material Designator	Tube material	ASTM Number	Tubing	
			Type	Maximum hardness
HC	Alloy C276	B622	Seamless	RB 90
IN	Alloy 600	B167	Seamless	RB 90
Ti	Titanium-Grade2	B338	Seamless or Welded	RB 90

#### Pressure Rating Equivalents:

- 1) 1bar = 100kPa = 14,51psi 2) 1kPa = 0,01bar = 0,1451psi  
3) 1psi = 0,069bar = 6,89kPa 4) 1kg/cm<sup>2</sup> = 0,98 bar = 14,22 psi

### TUBING FOR GAS APPLICATION

S-Lok tube fittings are designed for a wide range of leak-free application including gas leak proof and vacuum service. Gases can escape even tin small leakages due to their small molecules, tube must therefore be carefully handled not to get scratched.

Use heavier wall tubing for gas service. Heavy wall tubing resists ferrule action by coining out minor defects of the tube surface and thin wall tubes may collapse with little resistance to ferrule action.

For Gas service, use the tubing of the un-shadowed section in table 2- 4

### CRYOGENIC SERVICE

S-Lok fittings in SS316 Stainless Steel provide highly reliable performance from Cryogenic Temperatures to High Temperature Levels.

Ss316 Stainless Steel Temperature Rating : -321°F to 1200°F (-196°C to 649°C )

Cryogenic temperatures are considered to be temperatures Below : -100°F (-73°C )

**PIPE THREAD**

Many S-Lok tube fittings have a male or female pipe end. These ends sometimes have a lower pressure rating than the pressure rating of the tube fitting end.

**TABLE 5. PIPE END PRESSURE RATING**

Size Designator	ISO/NPT Pipe Size	Stainless Steel 316			
		Male		Female	
		psig	bar	psig	bar
1	1/16	11000	758	6700	462
2	1/8	10000	689	6500	448
4	1/4	8000	551	6600	455
6	3/8	7800	538	5300	365
8	1/2	7700	531	4900	338
12	3/4	7300	503	4600	317
16	1	5300	365	4400	303
20	1 1/4	6000	414	5000	345
24	1 1/2	5000	345	4600	317
32	2	3900	269	3900	269

- The ratings shown above are based on ASME B31.3-1999.
- Female pipe ends have lower ratings than male pipe in a given size due to the inner and outer diameters of female threads being larger than those of male pipe ends.
- The ratings shown above are reference only.

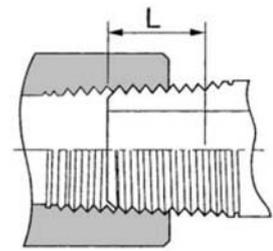
**PIPE THREAD SEALANT**

Pipe thread sealant is essential to ensure leak-free seal. Since the Teflon tape is commonly used, we provide information of recommended tape width, as well as the numbers of thread to be wrapped. The Teflon™ tape fills the voids between threads and prevents galling on pipe threads. The sealant usually contains a lubricant.

**TABLE 6.**

Unit: Inches

Nominal Pipe Size	Recommended Tape Width	Effective Thread Length (external) L*	Approx. # of thread
1/8	1/8 - 1/4	0,2639	7
1/4	1/4	0,4018	7 - 1/4
3/8	1/4	0,4075	7 - 1/3
1/2	1/4 - 1/2	0,5337	7 - 1/2
3/4	1/4 - 1/2	0,5457	7 - 2/3
1	1/4 - 1/2	0,6828	8



\*ASME B1.20.1-NPT

**Note**

- 1.Wrap Teflon™ Tape clockwise from first thread. Do not overhang the first thread, as the tape may get into the fluid system.
- 2.Teflon™ Tape has a temperature limit of 230°C (450°F)

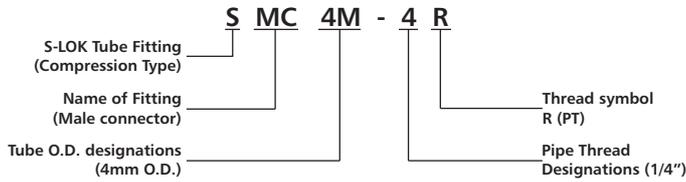
**Note**

The information shown in table 1-6 are is for design purpose, but for reference only. The accuracy of information is the liability of our company.

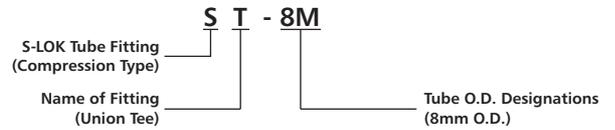
## DESIGNATION PART NUMBER SYSTEM

The symbols in the part number column on each page represent the shape and size of individual fittings.

### EXAMPLE 1: Tube to Pipe ends

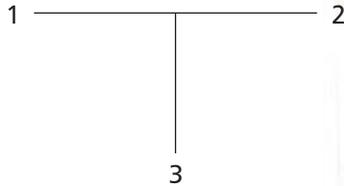


### EXAMPLE 2: Tube to Tube ends

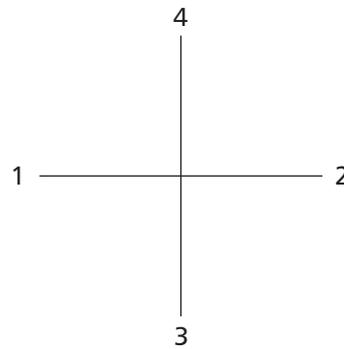


### EXAMPLE 3: Tee & Cross

Tees are described by first the run (1 and 2) and next the branch (3)



Cross are described by first the run (1 and 2) and next the branch (3 and 4)



### Tube O.D. Designator

Inch O.D.	Identifier	Metric O.D.	Identifier
1/16	1	2mm	2M
1/8	2	3mm	3M
3/16	3	4mm	4M
1/4	4	6mm	6M
5/16	5	8mm	8M
3/8	6	10mm	10M
1/2	8	12mm	12M
5/8	10	16mm	16M
3/4	12	20mm	20M
7/8	14	22mm	22M
1	16	25mm	25M
1 1/4	20	28mm	28M
1 1/2	24	32mm	32M
2	32	38mm	38M

### Pipe Thread Size Designator

Nom. Size	Identifier
1/8	2
1/4	4
3/8	6
1/2	8
3/4	12
1	16
1 1/4	20
1 1/2	24
2	32

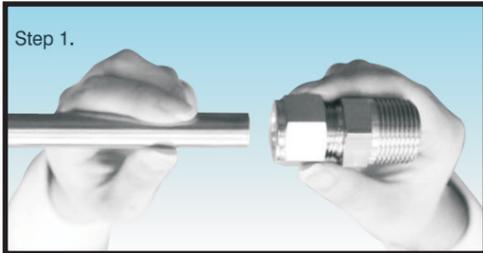
### Fittings Material Designator

Material
SS316

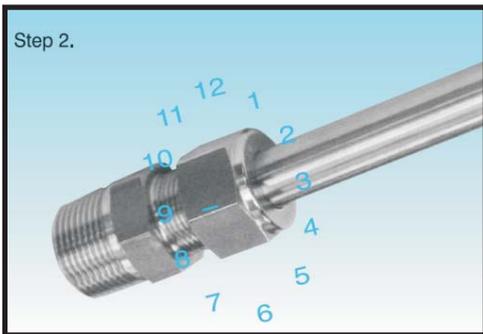
Type Symbol	Taper Threads		Parallel Threads	
	R	N	G	U
Specification	ISO 7/1, BS21 (BSPT), JIS B 0203 (PT), DIN2999	ANIS B1.20.1 (NPT)	ISO228/1, BS 2779 (BSPP), JIS B0202 (PF)	American Standard unified Screw Threads

### INSTALLATION INSTRUCTIONS

S-LOK is supplied finger-tight and ready for immediate use. Therefore the fitting disassembly is not necessary for the installation.



Make sure that the nut is finger-tight. Put the tubing into the S-Lok tube fitting until the tube end is positioned on the bottom on the shoulder inside the fitting.



Tighten the nut 1-1/4 turn with a wrench by holding the fitting body with a back up wrench.

Marking the nut at the 9:00 o'clock position may be necessary for counting the number of turns as the mark stop at the 12 o'clock position after 1-1/4 turns.

\* Only 3/4 turn from finger tight is required for sizes 1/8", 3/16", 3mm and 4mm.

### RE-ASSEMBLY INSTRUCTIONS

S-LOK connections can be used many times. Prior to re-assembly, ensure that the components are clean and without defects.

#### STEP 1.

Insert the tubing with pre-swaged ferrules and a nut into the body until the front ferrule seats firmly in the fitting body.

#### STEP 2.

Hand tighten the nut. Then rotate the nut with a wrench to the original 1-1/4 tight position (a sudden increase in pair may occur when placed at the original position) and snug slightly with a wrench.

### TUBE HANDLING DURING INSTALLATION

- 1 - Do not force the tubing into the fitting when it does not smoothly go in. It may be a deformed oval or have burs at the tubing end.
- 2 - It is important to use the proper tube cutter and maintain a sharp cutting wheel on it always.

### PROPER TUBE HANDLING

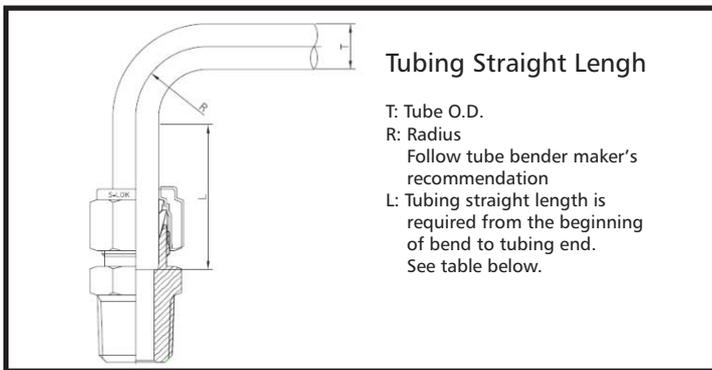
Good handling practices can greatly save the good finishing surface of the tubing supplied.

- Tubing should never be dragged out of a tubing rack.
- Tubing should never be dragged across cement, asphalt, gravel or any other rough surface.
- Tubing cutter wheel and hacksaw blade should always be sharp.
- Try not to take deep cuts with each turn of the cutter or stroke of the saw.
- Tube end should always be deburred.
- Tubing should be stored to avoid collection of dirt and contamination.
- If possible, tubing ends should be plugged so to avoid that any foreign materials fall inside.

### TUBE BENDING

For leak tight installation, in case of bending tubing near the S-Lok fittings, there should be enough lineal distance from the bending point to the fittings. When tube bend is too close to a fitting, the deformed section at the point of bending shall enter the fitting and it may result in leaks.

Besides this the bending radius should not be too short, as the bending radius may affect the working pressure and may cause insufficient flow. Minimum bending radius is usually recommended by the tube bender manufacture.



#### Straight Length Of INCH Tubing

Unit: Inch

Tube O.D.	Straight Length	
	L1	L2
1/16	2/1	13/32
1/8	23/32	19/32
3/16	3/4	5/8
1/4	13/16	11/16
5/16	7/8	23/32
3/8	15/16	3/4
1/2	13/16	31/32
5/8	1 1/4	1 1/32
3/4	1 1/4	1 1/32
7/8	1 5/16	1 1/32
1	1 1/2	1 9/32
1 1/4	2	1 13/16
1 1/2	1 13/32	2 7/32
2	3 1/4	3 1/32

#### Straight Length Of METRIC Tubing

Unit: mm

Tube O.D.	Straight Length	
	L1	L2
3	19	16
6	21	17
8	23	18
10	25	20
12	31	24
14	32	25
16	32	25
18	32	25
20	34	26
22	34	27
25	40	33
32	51	47
38	60	55

#### Note

L1 = Recommended straight length of tubing required

L2 = Absolute minimum straight length of tubing required

UNION CONNECTOR



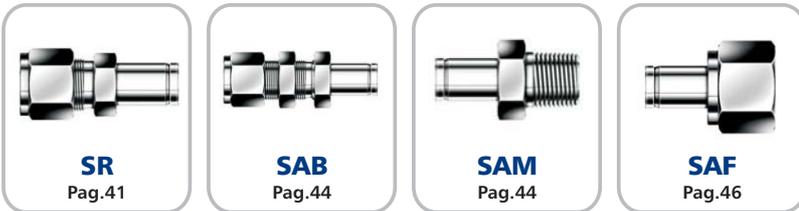
MALE CONNECTOR



FEMALE CONNECTOR



ADAPTER CONNECTOR



TUBE ADAPTER



MALE CONNECTOR WITH O’RING



TUBE TO WELD END



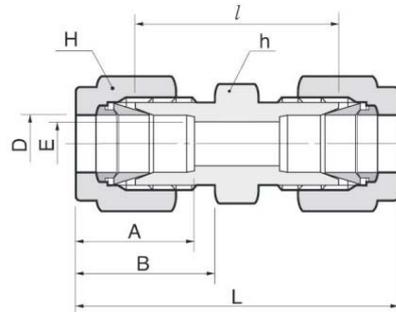
PLUG CONNECTORS



ACCESSORIES



**SU** - Union



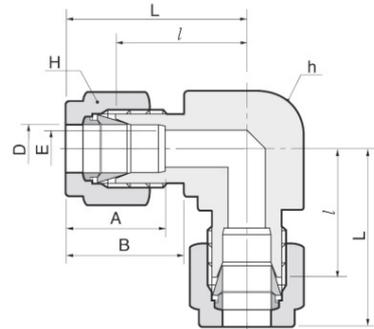
**INCH tube connection**

Part No.	Tube O.D.		E Min.	Width across flat				A	B	I	L
	D			h		H					
	in	mm		in	mm	in	mm				
SU-1	1/16	1,59	1,27	5/16	7,93	5/16	7,93	8,63	10,92	17,50	25,15
SU-2	1/8	3,17	2,28	5/16	11,11	7/16	11,11	12,70	15,24	22,35	35,56
SU-3	3/16	4,76	3,04	7/16	11,11	1/2	12,70	13,71	16,00	24,13	37,33
SU-4	1/4	6,35	4,82	1/2	12,70	9/16	14,28	15,24	17,78	26,16	40,89
SU-5	5/16	7,93	6,35	9/16	14,28	5/8	15,87	16,25	18,54	28,19	42,92
SU-6	3/8	9,52	7,11	5/8	15,87	11/16	17,46	16,76	19,30	30,22	44,95
SU-8	1/2	12,70	10,41	13/16	20,64	7/8	22,22	22,86	21,84	30,98	51,30
SU-10	5/8	15,87	12,70	15/16	23,81	1	25,40	24,38	21,84	31,75	52,07
SU-12	3/4	19,05	15,74	1-1/16	26,98	1-1/8	28,58	24,38	21,84	33,27	53,59
SU-14	7/8	22,22	18,28	1-3/16	30,16	1-1/4	31,75	25,90	21,84	35,05	55,37
SU-16	1	25,40	22,35	1-3/8	34,92	1-1/2	38,10	31,24	26,41	40,38	64,77
SU-20	1-1/4	31,75	27,68	1-3/4	44,45	1-7/8	47,63	41,14	38,86	48,00	92,20
SU-24	1-1/2	38,10	34,03	2-1/8	53,97	2-1/4	57,15	50,03	45,21	53,60	107,95
SU-32	2	50,80	45,97	2-3/4	69,85	3	76,20	67,56	62,73	74,70	149,35

**METRIC tube connection**

Part No.	Tube O.D.		E Min.	Width across flat		A	B	I	L
	D mm			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	
SU-28M	28	21,8	41	46	36,6	36,6	43,4	85,0	
SU-32M	32	28,6	46	50	42,0	41,6	51,3	97,3	
SU-38M	38	33,7	55	60	49,4	47,9	58,4	113,6	

**SL** - Union Elbow



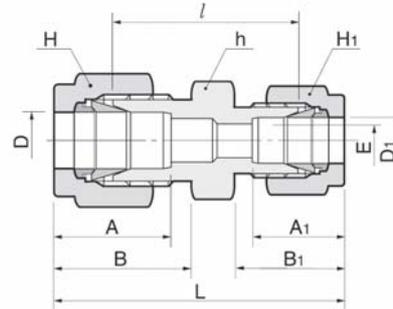
**INCH tube connection**

Part No.	Tube O.D.		E Min.	Width across flat				A	B	I	L
	D			h		H					
	in	mm		in	mm	in	mm				
SL-1	1/16	1,59	1,27	3/8	9,52	5/16	7,93	8,63	10,92	14,00	17,88
SL-2	1/8	3,17	2,28	3/8	9,52	7/16	11,11	12,70	15,24	15,74	22,35
SL-3	3/16	4,76	3,04	1/2	12,70	1/2	12,70	13,71	16,00	17,78	24,38
SL-4	1/4	6,35	4,82	1/2	12,70	9/16	14,28	15,24	17,78	19,55	26,92
SL-5	5/16	7,93	6,35	9/16	14,28	5/8	15,87	16,25	18,54	21,33	28,70
SL-6	3/8	9,52	7,11	5/8	15,87	11/16	17,46	16,76	19,30	23,11	30,48
SL-8	1/2	12,70	10,41	13/16	20,64	7/8	22,22	22,86	21,84	25,90	36,06
SL-10	5/8	15,87	12,70	15/16	23,81	1	25,40	24,38	21,84	28,70	38,80
SL-12	3/4	19,05	15,74	1-1/16	26,98	1-1/8	28,58	24,38	21,84	29,71	39,87
SL-14	7/8	22,22	18,28	1-1/4	31,75	1-1/4	31,75	25,90	21,84	34,54	44,70
SL-16	1	25,40	22,35	1-27/64	36,12	1-1/2	38,10	31,24	26,41	36,83	49,02
SL-20	1-1/4	31,75	27,68	1-11/16	42,86	1-7/8	47,63	41,14	38,86	44,50	66,54
SL-24	1-1/2	38,10	34,03	2	50,80	2-1/4	57,15	50,03	45,21	50,80	77,97
SL-32	2	50,80	45,97	2-3/4	69,85	3	76,20	67,56	62,73	69,80	107,18

**METRIC tube connection**

Part No.	Tube O.D.		E Min.	Width across flat		A	B	I	L
	D mm			h					
				H					
SL-2M	2	1,7	1,7	9,5	12	12,9	15,3	15,7	22,3
SL-3M	3	2,4	2,4	9,5	12	12,9	15,3	15,7	22,3
SL-4M	4	2,4	2,4	12,7	12	13,7	16,4	18,8	25,4
SL-6M	6	4,8	4,8	12,7	14	15,3	17,7	19,6	27,0
SL-8M	8	6,4	6,4	14,3	16	16,2	18,6	21,3	28,8
SL-10M	10	7,9	7,9	17,5	19	17,2	19,5	23,9	31,5
SL-12M	12	9,5	9,5	20,6	22	22,8	22,0	25,9	36,0
SL-15M	15	11,9	11,9	25,4	25	24,4	22,0	28,7	38,8
SL-16M	16	12,7	12,7	25,4	25	24,4	22,0	28,7	38,8
SL-18M	18	15,1	15,1	27,0	30	24,4	22,0	29,7	39,8
SL-20M	20	15,9	15,9	31,8	32	26,0	22,0	34,5	42,6
SL-22M	22	18,3	18,3	31,8	32	26,0	22,0	34,5	42,6
SL-25M	25	21,8	21,8	36,0	38	31,3	26,5	36,8	49,1
SL-28M	28	21,8	21,8	41,0	46	36,6	36,6	43,2	64,0
SL-32M	32	28,6	28,6	46,0	50	42,0	41,6	49,3	72,3
SL-38M	38	33,7	33,7	55,0	60	49,4	47,9	56,4	84,0

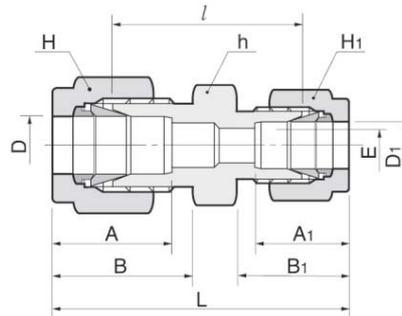
**SUR** - Reduced Union



**INCH tube connection**

Part No.	Tube O.D.				E min.	Width across flat						A	A1	B	B1	l	L
	D		D1			h		H		H1							
	in	mm	in	mm		in	mm	in	mm	in	mm						
SUR-2-1	1/8	3,18	1/16	1,59	1,27	7/16	11,11	7/16	11,11	5/16	7,93	12,70	8,63	15,24	10,92	20,60	30,91
SUR-3-1	3/16	4,76	1/16	1,59	1,27	7/16	11,11	1/2	12,70	5/16	7,93	13,71	8,63	16,00	10,92	21,84	32,25
SUR-3-2	3/16	4,76	1/8	3,17	2,28	7/16	11,11	1/2	12,70	7/16	11,11	13,71	12,70	16,00	15,24	23,36	36,57
SUR-4-1	1/4	6,35	1/16	1,59	1,27	1/2	12,70	9/16	14,28	5/16	7,93	15,24	8,63	17,78	10,92	23,11	34,29
SUR-4-2	1/4	6,35	1/8	3,17	2,28	1/2	12,70	9/16	14,28	7/16	11,11	15,24	12,70	17,78	15,24	24,63	38,60
SUR-4-3	1/4	6,35	3/16	4,76	3,04	1/2	12,70	9/16	14,28	1/2	12,70	15,24	13,71	17,78	16,00	25,40	39,37
SUR-5-2	5/16	7,93	1/8	3,17	2,28	9/16	14,28	5/8	15,87	7/16	11,11	16,25	12,70	18,54	15,24	25,90	39,87
SUR-5-4	5/16	7,93	1/4	6,35	4,82	9/16	14,28	5/8	15,87	9/16	14,28	16,25	15,24	18,54	17,78	27,43	42,16
SUR-6-1	3/8	9,52	1/16	1,59	1,27	5/8	15,87	11/16	17,46	5/16	7,93	16,76	8,63	19,30	10,92	25,40	36,57
SUR-6-2	3/8	9,52	1/8	3,17	2,28	5/8	15,87	11/16	17,46	7/16	11,11	16,76	12,70	19,30	15,24	26,92	40,89
SUR-6-4	3/8	9,52	1/4	6,35	4,82	5/8	15,87	11/16	17,46	9/16	14,28	16,76	15,24	19,30	17,78	28,44	43,18
SUR-6-5	3/8	9,52	5/16	7,93	6,35	5/8	15,87	11/16	17,46	5/8	15,87	16,76	16,25	19,30	18,54	29,46	44,19
SUR-8-2	1/2	12,70	1/8	3,17	2,28	13/16	20,64	7/8	22,22	7/16	11,11	22,86	12,70	21,84	15,24	28,44	45,21
SUR-8-4	1/2	12,70	1/4	6,35	4,82	13/16	20,64	7/8	22,22	9/16	14,28	22,86	15,24	21,84	17,78	29,46	46,99
SUR-8-6	1/2	12,70	3/8	9,52	7,11	13/16	20,64	7/8	22,22	11/16	17,46	22,86	16,76	21,84	19,30	30,98	48,51
SUR-10-6	5/8	15,87	3/8	9,52	7,11	15/16	23,81	1	25,40	11/16	17,46	24,38	16,76	21,84	19,30	31,75	49,27
SUR-10-8	5/8	15,87	1/2	12,70	10,41	15/16	23,81	1	25,40	7/8	22,22	24,38	22,86	21,84	21,84	31,75	52,07
SUR-12-4	3/4	19,05	1/4	6,35	4,82	1-1/16	26,98	1-1/8	28,57	9/16	14,48	24,38	15,24	21,84	17,78	31,75	49,27
SUR-12-6	3/4	19,05	3/8	9,52	7,11	1-1/16	26,98	1-1/8	28,57	11/16	17,46	24,38	16,76	21,84	19,30	33,27	50,80
SUR-12-8	3/4	19,05	1/2	12,70	10,41	1-1/16	26,98	1-1/8	28,57	7/8	22,22	24,38	22,86	21,84	21,84	33,27	53,59
SUR-12-10	3/4	19,05	5/8	15,87	12,70	1-1/16	26,98	1-1/8	28,57	1	25,40	24,38	24,38	21,84	21,84	33,27	53,59
SUR-16-8	1	25,40	1/2	12,70	10,41	1-3/8	34,92	1-1/2	38,10	7/8	22,22	31,24	22,86	26,41	21,84	40,89	63,24
SUR-16-12	1	25,40	3/4	19,05	15,74	1-3/8	34,92	1-1/2	38,10	1-1/8	28,58	31,24	24,38	26,41	21,84	40,38	62,73

**SUR** - Reduced Union



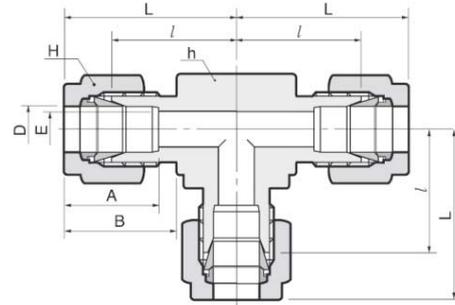
**METRIC tube connections**

Part No.	Tube O.D.		E min.	Width across flat			A	A1	B	B1	l	L
	D mm	D1 mm		h	H	H1						
SUR 3M-2M	3	2	1,7	12	12	12	12,9	12,9	15,3	15,3	22,1	35,3
SUR 6M-2M	6	2	1,7	14	14	12	15,3	12,9	17,7	15,3	24,6	38,6
SUR 6M-3M	6	3	2,4	14	14	12	15,3	12,9	17,7	15,3	24,6	38,6
SUR 6M-4M	6	4	2,4	14	14	12	15,3	13,7	17,7	16,1	25,4	39,4
SUR 8M-6M	8	6	4,8	15	16	14	16,2	15,3	18,6	17,7	27,4	42,3
SUR 10M-6M	10	6	4,8	18	19	14	17,2	15,3	19,5	17,7	29,5	44,5
SUR 10M-8M	10	8	6,4	18	19	16	17,2	16,2	19,5	18,6	30,0	45,1
SUR 12M-6M	12	6	4,8	22	22	14	22,8	15,3	22,0	17,7	29,5	47,0
SUR 12M-8M	12	8	6,4	22	22	16	22,8	16,2	22,0	18,6	30,2	47,8
SUR 12M-10M	12	10	7,9	22	22	19	22,8	17,2	22,0	19,5	31,0	48,7
SUR 16M-10M	16	10	7,9	24	25	19	24,4	17,2	22,0	19,5	31,8	49,5
SUR 16M-12M	16	12	9,5	24	25	22	24,4	22,8	22,0	22,0	31,8	52,0
SUR 18M-12M	18	12	9,5	27	30	22	24,4	22,8	22,0	22,0	33,3	53,5
SUR 25M-18M	25	18	15,1	35	38	30	31,3	24,4	26,5	22,0	38,6	61,0
SUR 25M-20M	25	20	15,9	35	38	32	31,3	26,0	26,5	22,0	39,9	62,3

**METRIC tube connections to INCH tube connections**

Part No.	Tube O.D.			E min.	Width across flat			A	A1	B	B1	l	L
	D mm	in	D1 mm		h	H	H1						
SUR 3M-2	3	1/8	3,17	2,4	12	12	11,1	12,9	12,8	15,3	15,2	22,1	35,2
SUR 4M-2	4	1/8	3,17	2,4	12	12	11,1	13,7	12,8	16,1	15,2	23,4	36,5
SUR 4M-4	4	1/4	6,35	2,4	14	12	14,3	13,7	15,3	16,1	17,7	25,4	39,4
SUR 6M-2	6	1/8	3,17	2,4	14	14	11,1	15,3	12,8	17,7	15,2	24,6	38,5
SUR 6M-4	6	1/4	6,35	4,8	14	14	14,3	15,3	15,8	17,7	17,7	26,2	41,0
SUR 6M-5	6	5/16	7,93	4,8	14	14	15,9	15,3	16,2	17,7	18,6	27,4	42,3
SUR 8M-4	8	1/4	6,35	4,8	15	16	14,3	16,2	15,3	18,6	17,7	27,4	42,3
SUR 10M-2	10	1/8	3,17	2,4	18	19	11,1	17,2	12,8	19,5	15,2	27,7	41,8
SUR 10M-4	10	1/4	6,35	4,8	18	19	14,3	17,2	15,3	19,5	17,7	29,5	44,5
SUR 10M-5	10	5/16	7,93	6,4	18	19	15,9	17,2	16,2	19,5	18,6	30,3	45,1
SUR 10M-6	10	3/8	9,52	7,1	18	19	17,5	17,2	16,9	19,5	18,6	31,0	45,9
SUR 12M-5	12	5/16	7,93	6,4	22	22	15,9	22,8	16,2	22,0	18,6	30,2	47,8
SUR 12M-6	12	3/8	9,52	7,1	22	22	17,5	22,8	16,9	22,0	19,2	31,0	48,4
SUR 12M-8	12	1/2	12,70	9,5	22	22	22,2	22,8	22,8	22,0	22,0	31,0	51,2
SUR 15M-8	15	1/2	12,70	10,3	24	25	22,2	24,4	22,8	22,0	22,0	31,8	52,0
SUR 16M-10	16	5/8	15,87	12,7	24	25	25,4	24,4	24,4	22,0	22,0	31,8	52,0
SUR 18M-12	18	3/4	19,05	15,1	27	30	28,6	24,4	24,4	22,0	22,0	33,3	53,5
SUR 20M-12	20	3/4	19,05	15,9	30	32	28,6	26,0	24,4	22,0	22,0	34,8	54,9
SUR 20M-16	20	1	25,40	15,9	34,9	32	38,1	26,0	31,2	22,0	26,4	38,0	60,3
SUR 22M-16	22	1	25,40	18,3	34,9	32	38,1	26,0	31,2	22,0	26,4	38,2	60,3

**ST** - Union Tee



**INCH tube connection**

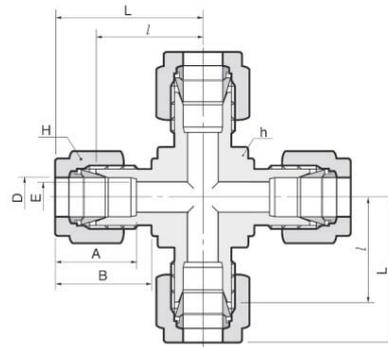
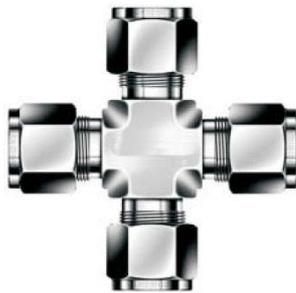
Part No.	Tube O.D.		E Min.	Width across flat				A	B	I	L
	D			h		H					
	in	mm		in	mm	in	mm				
ST-1	1/16	1,59	1,27	3/8	9,52	5/16	7,93	8,63	10,92	14,00	17,88
ST-2	1/8	3,17	2,28	3/8	9,52	7/16	11,11	12,70	15,24	15,74	22,35
ST-3	3/16	4,76	3,04	1/2	12,70	1/2	12,70	13,71	16,00	17,78	24,38
ST-4	1/4	6,35	4,82	1/2	12,70	9/16	14,28	15,24	17,78	19,55	26,92
ST-5	5/16	7,93	6,35	9/16	14,28	5/8	15,87	16,25	18,54	21,33	28,70
ST-6	3/8	9,52	7,11	5/8	15,87	11/16	17,46	16,76	19,30	23,11	30,48
ST-8	1/2	12,70	10,41	13/16	20,64	7/8	22,22	22,86	21,84	25,90	36,06
ST-10	5/8	15,87	12,70	15/16	23,81	1	25,40	24,38	21,84	28,70	38,80
ST-12	3/4	19,05	15,74	1-1/16	26,98	1-1/8	28,58	24,38	21,84	29,71	39,87
ST-14	7/8	22,22	18,28	1-1/4	31,75	1-1/4	31,75	25,90	21,84	34,54	44,70
ST-16	1	25,40	22,35	1-27/64	36,12	1-1/2	38,10	31,24	26,41	36,83	49,02
ST-20	1-1/4	31,75	27,68	1-11/16	42,86	1-7/8	47,63	41,14	38,86	44,50	66,54
ST-24	1-1/2	38,10	34,03	2	50,80	2-1/4	57,15	50,03	45,21	50,80	77,97
ST-32	2	50,80	45,97	2-3/4	69,85	3	76,20	67,56	62,73	69,80	107,18

**METRIC tube connection**

Part No.	Tube O.D.		E Min.	Width across flat		A	B	I	L
	D mm			h					
				H					
ST-2M	2	1,7	1,7	9,5	12	12,9	15,3	15,7	22,3
ST-3M	3	2,4	2,4	9,5	12	12,9	15,3	15,7	22,3
ST-4M	4	2,4	2,4	12,7	12	13,7	16,4	18,8	25,4
ST-6M	6	4,8	4,8	12,7	14	15,3	17,7	19,6	27,0
ST-8M	8	6,4	6,4	14,3	16	16,2	18,6	21,3	28,8
ST-10M	10	7,9	7,9	17,5	19	17,2	19,5	23,9	31,5
ST-12M	12	9,5	9,5	20,6	22	22,8	22,0	25,9	36,0
ST-15M	15	11,9	11,9	25,4	25	24,4	22,0	28,7	38,8
ST-16M	16	12,7	12,7	25,4	25	24,4	22,0	28,7	38,8
ST-18M	18	15,1	15,1	27,0	30	24,4	22,0	29,7	39,8
ST-20M	20	15,9	15,9	31,8	32	26,0	22,0	32,5	42,6
ST-22M	22	18,3	18,3	31,8	32	26,0	22,0	32,5	42,6
ST-25M	25	21,8	21,8	36,0	38	31,3	26,5	36,8	49,1
ST-28M	28	21,8	21,8	41,0	46	36,6	36,6	43,2	64,0
ST-32M	32	28,6	28,6	46,0	50	42,0	41,6	49,3	72,3
ST-38M	38	33,7	33,7	55,0	60	49,4	47,9	56,4	84,0

**SX** - Union Cross

Note:  
Cross may be made from  
plate stock



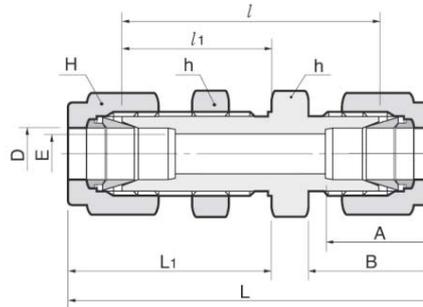
**INCH tube connection**

Part No.	Tube O.D.		E Min.	Width across flat				A	B	I	L
	D			h		H					
	in	mm		in	mm	in	mm				
SX-1	1/16	1,59	1,27	3/8	9,52	5/16	7,93	8,63	10,92	14,00	17,88
SX-2	1/8	3,17	2,28	3/8	9,52	7/16	11,11	12,70	15,24	15,74	22,35
SX-3	3/16	4,76	3,04	1/2	12,70	1/2	12,70	13,71	16,00	17,78	24,38
SX-4	1/4	6,35	4,82	1/2	12,70	9/16	14,28	15,24	17,78	19,55	26,92
SX-5	5/16	7,93	6,35	1/2	12,70	5/8	15,87	16,25	18,54	21,33	28,70
SX-6	3/8	9,52	7,11	11/16	17,46	11/16	17,46	16,76	19,30	23,11	30,48
SX-8	1/2	12,70	10,41	13/16	20,64	7/8	22,22	22,86	21,84	25,90	36,06
SX-10	5/8	15,87	12,70	13/16	20,64	1	25,40	24,38	21,84	28,70	38,80
SX-12	3/4	19,05	15,74	1	25,40	1-1/8	28,58	24,38	21,84	29,71	39,87
SX-14	7/8	22,22	18,28	1-1/4	31,75	1-1/4	31,75	25,90	21,84	34,54	44,70
SX-16	1	25,40	22,35	1-27/64	36,12	1-1/2	38,10	31,24	26,41	36,83	49,02
SX-20	1-1/4	31,75	27,68	1-11/16	42,86	1-7/8	47,63	41,14	38,86	44,50	66,54

**METRIC tube connection**

Part No.	Tube O.D.		E Min.	Width across flat		A	B	I	L
	D mm			h					
				H					
SX-3M	3	2,4	2,4	9,5	12	12,9	15,3	15,7	22,3
SX-4M	4	2,4	2,4	12,7	12	13,7	16,1	18,8	25,4
SX-6M	6	4,8	4,8	12,7	14	15,3	17,7	19,6	27,0
SX-8M	8	6,4	6,4	14,3	16	16,2	18,6	21,3	28,8
SX-10M	10	7,9	7,9	17,5	19	17,2	19,5	23,9	31,5
SX-12M	12	9,5	9,5	20,6	22	22,8	22,0	25,9	36,0
SX-15M	15	11,9	11,9	25,4	25	24,4	22,0	28,7	38,8
SX-16M	16	12,7	12,7	25,4	25	24,4	22,0	28,7	38,8
SX-18M	18	15,1	15,1	27,0	30	24,4	22,0	29,7	39,8
SX-20M	20	15,9	15,9	31,8	32	26,0	22,0	32,5	42,6
SX-22M	22	18,3	18,3	31,8	32	26,0	22,0	32,5	42,6
SX-25M	25	21,8	21,8	36,0	38	31,3	26,5	36,8	49,1

**SUB** - Bulkhead Union



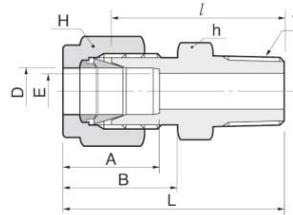
**INCH tube connection**

Part No.	Tube O.D.		E Min.	Width across flat				A	B	I	I1	L	L1	Panel Hole Drill size	Panel max Thickness
	D			h		H									
	in	mm		in	mm	in	mm								
SUB-1	1/16	1,59	1,27	5/16	7,93	5/16	7,93	8,63	10,92	23,87	13,46	31,50	17,27	5,16	3,05
SUB-2	1/8	3,17	2,28	1/2	12,70	7/16	11,11	12,70	15,24	38,10	24,63	51,30	31,24	8,33	12,70
SUB-3	3/16	4,76	3,04	9/16	14,28	1/2	12,70	13,71	16,00	40,38	25,40	53,59	32,00	9,92	12,70
SUB-4	1/4	6,35	4,82	5/8	15,87	9/16	14,28	15,24	17,78	42,92	26,16	57,65	33,52	11,50	10,16
SUB-5	5/16	7,93	6,35	11/16	17,46	5/8	15,87	16,25	18,54	45,97	28,44	60,70	35,81	13,09	11,17
SUB-6	3/8	9,52	7,11	3/4	19,05	11/16	17,46	16,76	19,30	47,49	29,46	62,23	36,83	14,68	11,17
SUB-8	1/2	12,70	10,41	15/16	23,81	7/8	22,22	22,86	21,84	50,80	31,75	71,12	41,91	19,44	12,70
SUB-10	5/8	15,87	12,70	1-1/16	26,98	1	25,40	24,38	21,84	52,32	32,51	72,64	42,67	22,62	12,70
SUB-12	3/4	19,05	15,74	1-3/16	30,16	1-1/8	28,58	24,38	21,84	58,67	37,33	78,99	47,49	25,79	16,76
SUB-14	7/8	22,22	18,28	1-3/8	34,92	1-1/4	31,75	25,90	21,84	64,26	42,92	84,58	53,08	28,97	19,05
SUB-16	1	25,40	22,35	1-5/8	41,27	1-1/2	38,10	31,24	26,41	71,37	45,21	95,75	57,40	33,73	19,05
SUB-20	1-1/4	31,75	27,68	1-7/8	47,63	1-7/8	47,63	41,14	38,86	78,99	47,75	123,19	69,85	41,67	19,05
SUB-24	1-1/2	38,10	34,03	2-1/4	57,15	2-1/4	57,15	50,03	45,21	84,83	49,27	139,19	76,45	49,61	19,05
SUB-32	2	50,80	45,97	2-3/4	69,85	3	76,20	67,56	62,73	105,66	56,38	180,34	93,72	57,94	19,05

**METRIC tube connection**

Part No.	Tube O.D.		E Min.	Width across flat				A	B	I	I1	L	L1	Panel Hole Drill size	Panel max Thickness
	D			h		H									
	mm	mm		mm	mm	mm	mm								
SUB-3M	3	2,4	2,4	14	12	12,9	15,3	38,1	24,6	51,3	31,2	8,3	12,7		
SUB-4M	4	2,4	2,4	14	12	13,7	16,1	40,4	25,4	53,6	32,0	9,9	12,7		
SUB-6M	6	4,8	4,8	16	14	15,3	17,7	42,9	26,2	57,7	33,6	11,5	10,2		
SUB-8M	8	6,4	6,4	18	16	16,2	18,6	46,0	28,6	61,0	36,1	13,1	11,2		
SUB-10M	10	7,9	7,9	22	19	17,2	19,5	48,5	29,4	63,7	37,0	16,2	11,2		
SUB-12M	12	9,5	9,5	24	22	22,8	22,0	50,8	31,8	71,0	41,9	19,5	12,7		
SUB-15M	15	11,9	11,9	27	25	24,4	22,0	52,3	32,5	72,5	42,6	22,8	12,7		
SUB-16M	16	12,7	12,7	27	25	24,4	22,0	52,3	32,5	72,5	42,6	22,8	12,7		
SUB-18M	18	15,1	15,1	30	30	24,4	22,0	58,7	37,3	78,9	47,4	26,0	16,8		
SUB-20M	20	15,9	15,9	35	32	26,0	22,0	64,3	42,9	84,5	53,0	29,0	17,0		
SUB-22M	22	18,3	18,3	35	32	26,0	22,0	64,3	42,9	84,5	53,0	29,0	19,1		
SUB-25M	25	21,8	21,8	41,3	38	31,3	26,5	71,4	45,2	95,9	57,5	33,7	19,1		
SUB-32M	32	28,6	28,6	50	50	42,0	41,6	82,3	49,5	128,3	72,5	42,5	19,0		
SUB-38M	38	33,7	33,7	60	60	49,4	47,9	89,4	51,5	144,6	79,1	50,5	19,0		

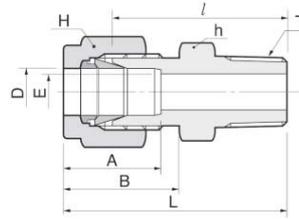
**SMC-N** - Male connector



**INCH tube connections - male NPT thread**

Part No.	Tube O.D.		T (NPT)	E Min.	Width across flat				A	B	I	L
	D				h		H					
	in	mm			in	mm	in	mm				
SMC 1-1N	1/16	1,59	1/16	1,27	5/16	7,93	5/16	7,93	8,63	10,92	20,00	23,83
SMC 1-2N	1/16	1,59	1/8	1,27	7/16	11,11	5/16	7,93	8,63	10,92	22,35	26,23
SMC 1-4N	1/16	1,59	1/4	1,27	9/16	14,28	5/16	7,93	8,63	10,92	27,17	30,98
SMC 2-1N	1/8	3,17	1/16	2,28	7/16	11,11	7/16	11,11	12,70	15,24	23,11	29,71
SMC 2-2N	1/8	3,17	1/8	2,28	7/16	11,11	7/16	11,11	12,70	15,24	23,87	30,48
SMC 2-4N	1/8	3,17	1/4	2,28	9/16	14,28	7/16	11,11	12,70	15,24	28,95	35,56
SMC 2-6N	1/8	3,17	3/8	2,28	11/16	17,46	7/16	11,11	12,70	15,24	29,21	35,81
SMC 2-8N	1/8	3,17	1/2	2,28	7/8	22,22	7/16	11,11	12,70	15,24	35,56	42,16
SMC 3-2N	3/16	4,76	1/8	3,04	7/16	11,11	1/2	12,70	13,71	16,00	24,63	31,24
SMC 3-4N	3/16	4,76	1/4	3,04	9/16	14,28	1/2	12,70	13,71	16,00	29,71	36,32
SMC 4-1N	1/4	6,35	1/16	4,82	1/2	12,70	9/16	14,28	15,24	17,78	25,40	32,76
SMC 4-2N	1/4	6,35	1/8	4,82	1/2	12,70	9/16	14,28	15,24	17,78	25,40	32,76
SMC 4-4N	1/4	6,35	1/4	4,82	9/16	14,28	9/16	14,28	15,24	17,78	30,48	37,84
SMC 4-6N	1/4	6,35	3/8	4,82	11/16	17,46	9/16	14,28	15,24	17,78	30,98	38,35
SMC 4-8N	1/4	6,35	1/2	4,82	7/8	22,22	9/16	14,28	15,24	17,78	37,33	44,70
SMC 4-12N	1/4	6,35	3/4	4,82	1-1/16	26,98	9/16	14,28	15,24	17,78	38,86	46,22
SMC 5-2N	5/16	7,93	1/8	4,82	9/16	14,28	5/8	15,87	16,25	18,54	26,67	34,03
SMC 5-4N	5/16	7,93	1/4	6,35	9/16	14,28	5/8	15,87	16,25	18,54	31,24	38,60
SMC 5-6N	5/16	7,93	3/8	6,35	11/16	17,46	5/8	15,87	16,25	18,54	31,75	39,11
SMC 5-8N	5/16	7,93	1/2	6,35	7/8	22,22	5/8	15,87	16,25	18,54	38,11	45,60
SMC 6-2N	3/8	9,52	1/8	4,82	5/8	15,87	11/16	17,46	16,76	19,30	27,94	35,30
SMC 6-4N	3/8	9,52	1/4	7,11	5/8	15,87	11/16	17,46	16,76	19,30	32,51	39,87
SMC 6-6N	3/8	9,52	3/8	7,11	11/16	17,46	11/16	17,46	16,76	19,30	32,51	39,87
SMC 6-8N	3/8	9,52	1/2	7,11	7/8	22,22	11/16	17,46	16,76	19,30	38,86	46,22
SMC 6-12N	3/8	9,52	3/4	7,11	1-1/16	26,98	11/16	17,46	16,76	19,30	40,38	47,75
SMC 8-2N	1/2	12,70	1/8	4,82	13/16	20,64	7/8	22,22	22,86	21,84	28,70	38,86
SMC 8-4N	1/2	12,70	1/4	7,11	13/16	20,64	7/8	22,22	22,86	21,84	33,27	43,43
SMC 8-6N	1/2	12,70	3/8	9,65	13/16	20,64	7/8	22,22	22,86	21,84	33,27	43,43
SMC 8-8N	1/2	12,70	1/2	10,41	7/8	22,22	7/8	22,22	22,86	21,84	38,86	49,02
SMC 8-12N	1/2	12,70	3/4	10,41	1-1/16	26,98	7/8	22,22	22,86	21,84	40,38	50,54
SMC 8-16N	1/2	12,70	1	10,41	1-3/8	34,92	7/8	22,22	22,86	21,84	46,99	57,15
SMC 10-6N	5/8	15,87	3/8	9,65	15/16	23,81	1	25,40	24,38	21,84	34,03	44,19
SMC 10-8N	5/8	15,87	1/2	11,93	15/16	23,81	1	25,40	24,38	21,84	38,86	49,02
SMC 10-12N	5/8	15,87	3/4	12,70	1-1/16	26,98	1	25,40	24,38	21,84	40,38	50,54
SMC 12-8N	3/4	19,05	1/2	11,93	1-1/16	26,98	1-1/8	28,58	24,38	21,84	40,38	50,54
SMC 12-12N	3/4	19,05	3/4	15,74	1-1/16	26,98	1-1/8	28,58	24,38	21,84	40,38	50,54
SMC 12-16N	3/4	19,05	1	15,74	1-3/8	34,92	1-1/8	28,58	24,38	21,84	46,99	57,15
SMC 14-12N	7/8	22,22	3/4	15,74	1-3/16	30,16	1-1/4	31,75	25,90	21,84	40,38	50,54
SMC 14-16N	7/8	22,22	1	18,28	1-3/8	34,92	1-1/4	31,75	25,90	21,84	46,99	57,15
SMC 16-8N	1	25,40	1/2	11,93	1-3/8	34,92	1-1/2	38,10	31,24	26,41	45,21	57,40
SMC 16-12N	1	25,40	3/4	15,74	1-3/8	34,92	1-1/2	38,10	31,24	26,41	45,21	57,40
SMC 16-16N	1	25,40	1	22,35	1-3/8	34,92	1-1/2	38,10	31,24	26,41	50,03	62,23
SMC 20-16N	1-1/4	31,75	1	22,35	1-3/4	44,45	1-7/8	47,63	41,14	38,86	55,11	77,21
SMC 20-20N	1-1/4	31,75	1-1/4	27,68	1-3/4	44,45	1-7/8	47,63	41,14	38,86	55,11	77,21
SMC 20-24N	1-1/4	31,75	1-1/2	27,68	1-3/4	44,45	1-7/8	47,63	41,14	38,86	60,54	82,64
SMC 24-20N	1-1/2	38,10	1-1/4	27,68	2-1/8	53,98	2-1/4	57,15	50,03	45,21	59,42	86,60
SMC 24-24N	1-1/2	38,10	1-1/2	34,03	2-1/8	53,98	2-1/4	57,15	50,03	45,21	61,72	88,90
SMC 32-32N	2	50,80	2	45,97	2-3/4	69,85	3	76,20	67,56	62,73	76,20	113,53

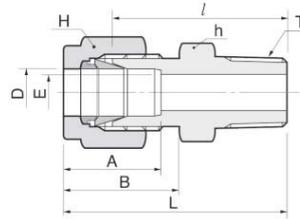
**SMC-N** - Male connector



**METRIC tube connections - male NPT thread**

Part No.	Tube O.D. D mm	T (NPT)	E 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	23,1	29,7
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	30,2	37,6
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	36,6	44,0
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	39,2
SMC 8M-8N	8	1/2	6,4	22	16	16,2	18,6	37,3	44,8
SMC 10M-2N	10	1/8	4,8	18	19	17,2	19,5	28,7	36,3
SMC 10M-4N	10	1/4	7,1	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	38,1	45,7
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	38,1	48,2
SMC 12M-12N	12	3/4	9,5	27	22	22,8	22,0	38,9	49,0
SMC 15M-8N	15	1/2	11,9	24	25	24,4	22,0	38,9	49,0
SMC 16M-4N	16	1/4	7,1	24	25	24,4	22,0	34,0	44,1
SMC 16M-6N	16	3/8	9,5	24	25	24,4	22,0	34,0	44,1

**SMC-R** - Male connector



**METRIC tube connections - male taper thread**

Part No.	Tube O.D. D mm	T R (PT)	E 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	23,1	29,7
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	30,2	37,6
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	36,6	44,0
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	39,2
SMC 8M-8R	8	1/2	6,4	22	16	16,2	18,6	37,3	44,8
SMC 10M-2R	10	1/8	4,8	18	19	17,2	19,5	28,7	36,3
SMC 10M-4R	10	1/4	7,1	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	38,1	45,7
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	38,1	48,2
SMC 12M-12R	12	3/4	9,5	27	22	22,8	22,0	38,9	49,0
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	38,9	49,0
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	47,8	57,9
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 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

S-Lok thermocouple connector has no shoulder nor sizing angle inside the fitting, the features enable thermocoupler to go through the fitting's thread end. Suffix with a "T" to identify the connections.

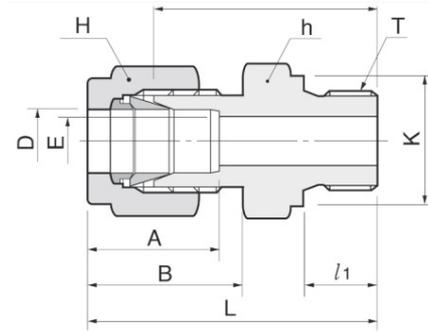
Example: SMCT 8-8N-S for ordering Thermocouple connector  
O.D. 1/2" x 1/2" NPT S316

**ASSEMBLY INSTRUCTIONS**

- 1 - Position the length of the Thermocouple passed through the fitting's thread end and hold it to prevent shifting during assembly
- 2 - Turn the nut 1/4 after finger tight with a wrench by holding the body with a back up wrench for size 1/4" (6mm) or higher.



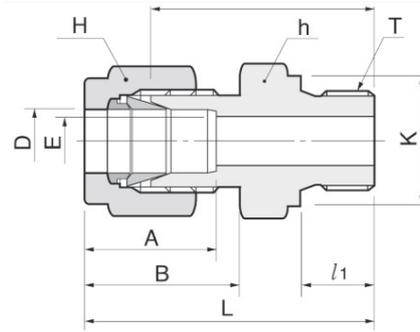
**SMC-G** - Male connector for Bonded Seal



**INCH tube connections - male parallel thread**

Part No.	Tube O.D.		T (PF)	E Min.	Width across flat				A	B	I	l1	L	K
	D				h		H							
	in	mm			in	mm	in	mm						
SMC 2-2G	1/8	3,17	1/8	2,28	9/16	14,28	7/16	11,11	12,70	15,24	23,37	7,11	29,97	13,72
SMC 2-4G	1/8	3,17	1/4	2,28	3/4	19,05	7/16	11,11	12,70	15,24	28,70	11,18	35,31	18,03
SMC 2-6G	1/8	3,17	3/8	2,28	7/8	22,22	7/16	11,11	12,70	15,24	29,72	11,18	36,21	21,84
SMC 4-2G	1/4	6,35	1/8	2,28	9/16	14,28	9/16	14,28	15,24	17,78	24,89	7,11	32,26	13,72
SMC 4-4G	1/4	6,35	1/4	4,82	3/4	19,05	9/16	14,28	15,24	17,78	30,23	11,18	37,59	18,03
SMC 4-6G	1/4	6,35	3/8	4,82	7/8	22,22	9/16	14,28	15,24	17,78	31,50	11,18	38,86	21,84
SMC 4-8G	1/4	6,35	1/2	4,82	1-1/16	26,98	9/16	14,28	15,24	17,78	37,34	14,22	44,70	25,91
SMC 6-4G	3/8	9,53	1/4	4,82	3/4	19,05	11/16	17,46	16,76	19,30	31,75	11,18	39,12	18,03
SMC 6-6G	3/8	9,53	3/8	7,11	7/8	22,22	11/16	17,46	16,76	19,30	33,02	11,18	40,39	21,84
SMC 6-8G	3/8	9,53	1/2	7,11	1-1/16	26,98	11/16	17,46	16,76	19,30	38,86	14,22	46,23	25,91
SMC 8-4G	1/2	12,70	1/4	7,11	13/16	20,64	7/8	22,22	22,86	21,84	32,51	11,18	42,67	18,03
SMC 8-6G	1/2	12,70	3/8	9,65	7/8	22,22	7/8	22,22	22,86	21,84	33,02	11,18	43,18	21,84
SMC 8-8G	1/2	12,70	1/2	10,41	1-1/16	26,98	7/8	22,22	22,86	21,84	38,86	14,22	49,02	25,91
SMC 12-8G	3/4	19,05	1/2	11,93	1-1/16	26,98	1-1/8	28,58	24,38	21,84	38,86	14,22	49,02	25,91
SMC 12-12G	3/4	19,05	3/4	15,74	1-5/16	33,33	1-1/8	28,58	24,38	21,84	42,67	15,75	52,83	32,00
SMC 16-8G	1	25,40	1/2	11,93	1-3/8	34,92	1-1/2	38,10	31,24	26,41	43,69	14,22	55,88	25,91
SMC 16-16G	1	25,40	1	22,35	1-5/8	41,27	1-1/2	38,10	31,24	26,41	47,75	18,29	59,94	39,12
SMC 24-24G	1-1/2	38,10	1-1/2	34,03	2-1/4	57,15	2-1/4	57,15	50,03	45,21	57,57	22,00	84,75	55,00

**SMC-G** - Male connector for Bonded Seal



**METRIC tube connections - male parallel thread**

Part No.	Tube O.D.	T G (PF)	E Min.	Width across flat		A	B	I	I1	L	K
	D mm			h	H						
SMC 2M-2G	2	1/8	1,7	14	12	12,9	15,3	23,4	7,1	30,0	13,8
SMC 3M-2G	3	1/8	2,4	14	12	12,9	15,3	23,4	7,1	30,0	13,8
SMC 3M-4G	3	1/4	2,4	19	12	12,9	15,3	28,7	11,2	35,3	18,0
SMC 4M-2G	4	1/8	2,4	14	12	13,7	16,1	24,1	7,1	30,7	13,8
SMC 4M-4G	4	1/4	2,4	19	12	13,7	16,1	29,4	11,2	36,0	18,0
SMC 6M-2G	6	1/8	4,0	14	14	15,3	17,7	24,9	7,1	32,3	13,8
SMC 6M-4G	6	1/4	4,8	19	14	15,3	17,7	30,2	11,2	37,6	18,0
SMC 6M-6G	6	3/8	4,8	22	14	15,3	17,7	31,5	11,2	38,9	21,8
SMC 6M-8G	6	1/2	4,8	27	14	15,3	17,7	37,3	14,2	44,7	26,0
SMC 8M-2G	8	1/8	4,0	15	16	16,2	18,6	25,7	7,1	33,2	13,8
SMC 8M-4G	8	1/4	6,4	19	16	16,2	18,6	31,0	11,2	38,5	13,8
SMC 8M-6G	8	3/8	6,4	22	16	16,2	18,6	32,3	11,2	39,8	21,8
SMC 8M-8G	8	1/2	6,4	27	16	16,2	18,6	38,1	14,2	45,6	26,0
SMC 10M-4G	10	1/4	6,4	19	19	17,2	19,5	31,8	11,2	39,4	18,0
SMC 10M-6G	10	3/8	7,9	22	19	17,2	19,5	33,0	11,2	40,6	21,8
SMC 10M-8G	10	1/2	7,9	27	19	17,2	19,5	38,9	14,2	46,5	26,0
SMC 12M-4G	12	1/4	5,9	22	22	22,8	22,0	32,5	11,2	42,6	18,0
SMC 12M-6G	12	3/8	7,9	22	22	22,8	22,0	33,0	11,2	43,1	21,8
SMC 12M-8G	12	1/2	9,5	27	22	22,8	22,0	38,9	14,2	49,0	26,0
SMC 12M-12G	12	3/4	9,5	32	22	22,8	22,0	42,7	15,7	52,8	32,0
SMC 16M-6G	16	3/8	7,9	24	25	24,4	22,0	33,8	11,2	43,9	21,8
SMC 16M-8G	16	1/2	11,9	27	25	24,4	22,0	38,9	14,2	49,0	26,0
SMC 18M-8G	18	1/2	11,9	27	30	24,4	22,0	38,9	14,2	49,0	26,0
SMC 18M-12G	18	3/4	15,1	35	30	24,4	22,0	42,7	15,7	52,8	32,0
SMC 20M-8G	20	1/2	11,9	30	32	26,0	22,0	40,4	14,2	50,5	26,0
SMC 20M-12G	20	3/4	15,9	35	32	26,0	22,0	42,7	15,7	52,8	32,0
SMC 22M-12G	22	3/4	15,9	35	32	26,0	22,0	42,7	15,7	52,8	32,0
SMC 22M-16G	22	1	18,3	41	32	26,0	22,0	45,2	18,3	55,3	39,0
SMC 25M-12G	25	3/4	15,9	35	38	31,3	26,5	45,2	15,7	57,5	32,0
SMC 25M-16G	25	1	19,8	41	38	31,3	26,5	47,8	18,3	60,1	39,0
SMC 28M-16G	28	1	19,8	41	46	36,6	36,6	49,3	18,3	70,1	39,0
SMC 28M-20G	28	1-1/4	21,8	50	46	36,6	36,6	53,1	19,8	73,9	49,0
SMC 32M-20G	32	1-1/4	25,0	50	50	42,0	41,6	55,9	19,8	78,9	49,0
SMC 38M-24G	38	1-1/2	31,8	55	60	49,4	47,9	63,2	22,1	90,8	54,7

**ISO PIPE THREAD**

The International Standard Organization created the ISO 228/1 and 7/1 threads to standardize the nomenclature of several international pipe threads.

**228/1**

The ISO 228/1 is a parallel thread which is not a sealing threads. The pressure tight seal is usually made metal to metal against the female port or with a gasket.

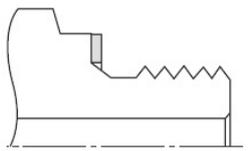
The 228/1 is described with the following codes:

- 1 - BS 2779 (BSPP) 2 - DIN-ISO 228/1 3 - JIS B0202 (PF) 4 - ISO 228/1

The 228/1 thread sealings available in the S-Lok range are listed below.

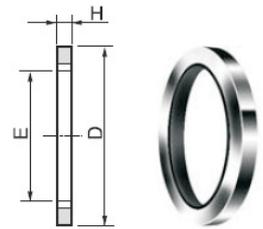
A self-centering taper is constructed at the hex. This taper centers a bonded washer to seal to the surface surrounding the female thread

**SGB Bonded Seal Gasket  
(Buna inner ring bonded to carbon steel outer ring)**



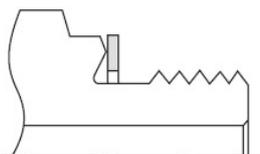
Sealing by compression against face of body  
Reference DIN 3852 Type A

Ordering Number	E		H		D	
	mm	in	mm	in	mm	in
SGB-2-	10,4	0,41	2,0	0,08	16,0	0,63
SGB-4-	13,7	0,54	2,0	0,08	20,6	0,81
SGB-6-	17,3	0,68	2,0	0,08	23,9	0,94
SGB-8-	21,6	0,85	2,5	0,10	28,7	1,13
SGB-12-	27,2	1,06	2,5	0,10	35,1	1,38
SGB-16-	33,8	1,33	2,5	0,10	42,9	1,69
SGB-20-	42,4	1,67	2,5	0,10	51,05	2,01
SGB-24-	48,8	1,92	2,5	0,10	59,18	2,33



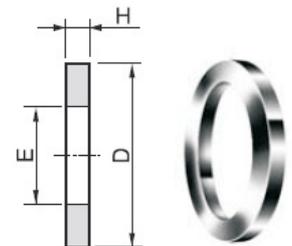
A metal gasket performs the sealing between the reverse level of the fitting and the face of the face of the female threaded component

**SGC Copper Gasket**



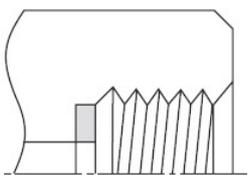
Sealing by gasket (washer)  
Reference DIN 3852 Type B

Ordering Number	E		H		D	
	mm	in	mm	in	mm	in
SGC-2-	10	0,39	2,0	0,08	18	0,71
SGC-4-	14	0,55	2,0	0,08	22	0,86
SGC-6-	17	0,67	2,0	0,08	26	1,02
SGC-8-	22	0,86	2,0	0,08	32	1,26
SGC-12-	27	1,06	2,0	0,08	38	1,50
SGC-16-	34	1,34	2,0	0,08	42	1,65



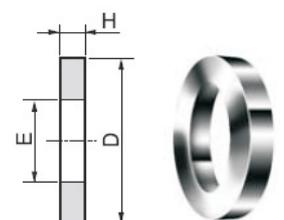
A gasket is dropped into the flat bottom of the female thread. The face of the male thread exerts a load on the gasket to seal

**SGG Copper Gasket**



Sealing by gasket.  
Reference DIN 3852 Type Y

Ordering Number	E		H		D	
	mm	in	mm	in	mm	in
SGG-4-	7,6	0,30	1,8	0,07	10,7	0,42
SGG-6-	8,6	0,34	2,3	0,09	14,2	0,56
SGG-8-	9,1	0,36	2,5	0,10	17,8	0,70



**7/1**

The ISO 7/1 is a tapered thread that is sealing thread working by interference fit. This still requires a thread sealant for pressure-tight seal by filling the voids between threads. It also prevents galling on piping threads. The sealant usually contains a lubricant.

The 7/1 is described in following codes:

- 1 - BS21 (BSPT) 2 - JIS B0203 (PT) 3 - ISO 7/1 4 - DIN 2999 (male thread only)

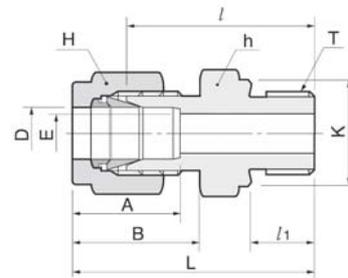
The 7/1 looks similar to the NPT thread. See how different they are as illustrates below.



**ISO Internal Parallel Pipe Thread**

Diagram	Pipe thread designator	ISO Female Parallel Pipe Size	Minimum Full Thread Depth L	Thread Minor Diameter D	Thread Minor Diameter D
	2	1/8	0,31	0,337 / 0,348	0,59
	4	1/4	0,47	0,450 / 0,468	0,75
	6	3/8	0,47	0,588 / 0,606	0,91
	8	1/2	0,55	0,733 / 0,755	1,06
	12	3/4	0,63	0,949 / 0,971	1,30
	16	1	0,71	1,193 / 1,218	1,57

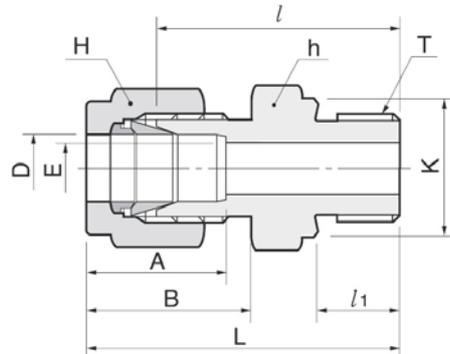
**SOM - Male connector for Metal Gaskets**



**INCH tube connections - male parallel thread**

Part No.	Tube O.D.		T (PF)	E Min.	Width across flat				A	B	I	I1	L	K
	D in	D mm			h in	h mm	H in	H mm						
SOM 2-2G	1/8	3,17	1/8	2,28	9/16	14,28	7/16	11,11	12,70	15,24	23,37	7,11	29,97	13,72
SOM 2-4G	1/8	3,17	1/4	2,28	3/4	19,05	7/16	11,11	12,70	15,24	28,70	11,18	35,31	18,03
SOM 2-6G	1/8	3,17	3/8	2,28	7/8	22,22	7/16	11,11	12,70	15,24	29,72	11,18	36,21	21,84
SOM 4-2G	1/4	6,35	1/8	2,28	9/16	14,28	9/16	14,28	15,24	17,78	24,89	7,11	32,26	13,72
SOM 4-4G	1/4	6,35	1/4	4,82	3/4	19,05	9/16	14,28	15,24	17,78	30,23	11,18	37,59	18,03
SOM 4-6G	1/4	6,35	3/8	4,82	7/8	22,22	9/16	14,28	15,24	17,78	31,50	11,18	38,86	21,84
SOM 4-8G	1/4	6,35	1/2	4,82	1-1/16	26,98	9/16	14,28	15,24	17,78	37,34	14,22	44,70	25,91
SOM 6-4G	3/8	9,53	1/4	4,82	3/4	19,05	11/16	17,46	16,76	19,30	31,75	11,18	39,12	18,03
SOM 6-6G	3/8	9,53	3/8	7,11	7/8	22,22	11/16	17,46	16,76	19,30	33,02	11,18	40,39	21,84
SOM 6-8G	3/8	9,53	1/2	7,11	1-1/16	26,98	11/16	17,46	16,76	19,30	38,86	14,22	46,23	25,91
SOM 8-4G	1/2	12,70	1/4	7,11	13/16	20,64	7/8	22,22	22,86	21,84	32,51	11,18	42,67	18,03
SOM 8-6G	1/2	12,70	3/8	9,65	7/8	22,22	7/8	22,22	22,86	21,84	33,02	11,18	43,18	21,84
SOM 8-8G	1/2	12,70	1/2	10,41	1-1/16	26,98	7/8	22,22	22,86	21,84	38,86	14,22	49,02	25,91
SOM 12-8G	3/4	19,05	1/2	11,93	1-1/16	26,98	1-1/8	28,58	24,38	21,84	38,86	14,22	49,02	25,91
SOM 12-12G	3/4	19,05	3/4	15,74	1-5/16	33,33	1-1/8	28,58	24,38	21,84	42,67	15,75	52,83	32,00
SOM 16-8G	1	25,40	1/2	11,93	1-3/8	34,92	1-1/2	38,10	31,24	26,41	43,69	14,22	55,88	25,91
SOM 16-16G	1	25,40	1	22,35	1-5/8	41,27	1-1/2	38,10	31,24	26,41	47,75	18,29	59,94	39,12
SOM 20-20G	1-1/4	31,75	1-1/4	27,68	2	50,80	1-7/8	47,63	41,14	38,86	51,16	20,00	73,26	49,00
SOM 24-24G	1-1/2	38,10	1-1/2	34,03	2-1/4	57,15	2-1/4	57,15	50,03	45,21	57,57	22,00	84,75	55,00

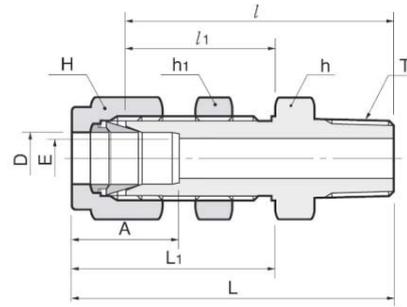
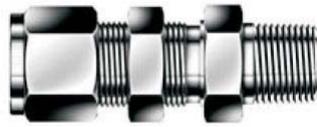
**SOM** - Male connector for Metal Gaskets



**METRIC tube connections - male parallel thread**

Part No.	Tube O.D.	T G (PF)	E Min.	Width across flat		A	B	l	l1	L	K
	D mm			h	H						
SOM 3M-2G	3	1/8	2,4	14	12	12,9	15,3	23,4	7,1	30,0	13,8
SOM 3M-4G	3	1/4	2,4	19	12	12,9	15,3	28,7	11,2	35,3	18,0
SOM 4M-2G	4	1/8	2,4	14	12	13,7	16,1	24,1	7,1	30,7	13,8
SOM 6M-2G	6	1/8	4,0	14	14	15,3	17,7	24,9	7,1	32,3	13,8
SOM 6M-4G	6	1/4	4,8	19	14	15,3	17,7	30,2	11,2	37,6	18,0
SOM 6M-6G	6	3/8	4,8	22	14	15,3	17,7	31,5	11,2	38,9	21,8
SOM 6M-8G	6	1/2	4,8	27	14	15,3	17,7	37,3	14,2	44,7	26,0
SOM 8M-2G	8	1/8	4,0	15	16	16,2	18,6	25,7	7,1	33,2	13,8
SOM 8M-4G	8	1/4	6,4	19	16	16,2	18,6	31,0	11,2	38,5	13,8
SOM 8M-6G	8	3/8	6,4	22	16	16,2	18,6	32,3	11,2	39,8	21,8
SOM 8M-8G	8	1/2	6,4	27	16	16,2	18,6	38,1	14,2	45,6	26,0
SOM 10M-4G	10	1/4	5,9	19	19	17,2	19,5	31,8	11,2	39,4	18,0
SOM 10M-6G	10	3/8	7,9	22	19	17,2	19,5	33,0	11,2	40,6	21,8
SOM 10M-8G	10	1/2	7,9	27	19	17,2	19,5	38,9	14,2	46,5	26,0
SOM 12M-4G	12	1/4	5,9	22	22	22,8	22,0	32,5	11,2	42,6	18,0
SOM 12M-6G	12	3/8	7,9	22	22	22,8	22,0	33,0	11,2	43,1	21,8
SOM 12M-8G	12	1/2	9,5	27	22	22,8	22,0	38,9	14,2	49,0	26,0
SOM 12M-12G	12	3/4	9,5	32	22	22,8	22,0	42,7	15,7	52,8	32,0
SOM 15M-8G	15	1/2	11,9	27	25	24,4	22,0	33,9	14,2	49,0	26,0
SOM 16M-6G	16	3/8	7,9	24	25	24,4	22,0	33,8	11,2	43,9	21,8
SOM 16M-8G	16	1/2	11,9	27	25	24,4	22,0	38,9	14,2	49,0	26,0
SOM 18M-8G	18	1/2	11,9	27	30	24,4	22,0	38,9	14,2	49,0	26,0
SOM 18M-12G	18	3/4	15,1	35	30	24,4	22,0	42,7	15,7	52,8	32,0
SOM 20M-8G	20	1/2	11,9	30	32	26,0	22,0	40,4	14,2	50,5	26,0
SOM 20M-12G	20	3/4	15,9	35	32	26,0	22,0	42,7	15,7	52,8	32,0
SOM 22M-12G	22	3/4	15,9	35	32	26,0	22,0	42,7	15,7	52,8	32,0
SOM 22M-16G	22	1	18,3	41	32	26,0	22,0	45,2	18,3	55,3	39,0
SOM 25M-12G	25	3/4	15,9	35	38	31,3	26,5	45,2	15,7	57,5	32,0
SOM 25M-16G	25	1	19,8	41	38	31,3	26,5	47,8	18,3	60,1	39,0
SOM 28M-16G	28	1	19,8	41	46	36,6	36,6	49,3	18,3	70,1	39,0
SOM 28M-20G	28	1-1/4	21,8	50	46	36,6	36,6	53,1	19,8	73,9	49,0
SOM 32M-20G	32	1-1/4	28,6	50	50	42,0	41,6	55,9	19,8	78,9	49,0
SOM 38M-24G	38	1-1/2	31,8	55	60	49,4	47,9	61,7	20,6	89,3	54,7

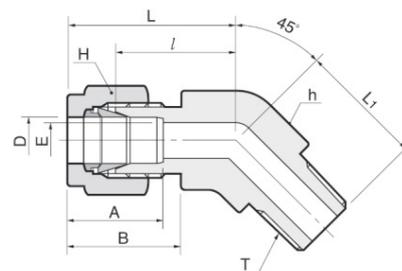
**SMCB** - Bulkhead Male Connector



**INCH tube connections - male NPT thread**

Part No.	Tube O.D.		T (NPT)	E min.	Width across flat					A	I	I1	L	L1	Panel Hole Drill size	Panel Max Thickness	
	D				h	h1	H										
	in	mm						in	mm								in
SMCB 2-2N	1/8	3,17	1/8	2,28	1/2	12,70	1/2	12,70	7/16	11,11	12,70	39,87	24,63	46,48	31,24	8,33	12,70
SMCB 4-2N	1/4	6,35	1/8	4,82	5/8	15,87	5/8	15,87	9/16	14,28	15,24	42,16	26,16	49,53	33,52	11,50	10,16
SMCB 4-4N	1/4	6,35	1/4	4,82	5/8	15,87	5/8	15,87	9/16	14,28	15,24	45,97	26,16	53,34	33,52	11,50	10,16
SMCB 6-4N	3/8	9,52	1/4	7,11	3/4	19,05	3/4	19,05	11/16	17,46	16,76	50,03	29,46	57,40	36,83	14,68	11,17
SMCB 6-6N	3/8	9,52	3/8	7,11	3/4	19,05	3/4	19,05	11/16	17,46	16,76	50,03	29,46	57,40	36,83	14,68	11,17
SMCB 6-8N	3/8	9,52	1/2	7,11	7/8	22,22	3/4	19,05	11/16	17,46	16,76	56,38	29,46	63,75	36,83	14,68	11,17
SMCB 8-6N	1/2	12,70	3/8	9,39	15/16	23,81	15/16	23,81	7/8	22,22	22,86	53,08	31,75	63,24	41,91	19,44	12,70
SMCB 8-8N	1/2	12,70	1/2	10,41	15/16	23,81	15/16	23,81	7/8	22,22	22,86	58,67	31,75	68,83	41,91	19,44	12,70
SMCB 12-12N	3/4	19,05	3/4	15,74	1-3/16	30,16	1-3/16	30,16	1-1/8	28,58	24,38	66,04	37,33	76,20	47,49	25,76	16,76
SMCB 16-16N	1	25,40	1	22,35	1-5/8	41,28	1-5/8	41,28	1-1/2	38,10	31,24	81,02	45,21	93,21	57,40	33,73	19,05
SMCB 20-20N	1-1/4	31,75	1-1/4	27,68	1-7/8	47,63	1-7/8	47,63	1-7/8	47,63	41,14	85,97	47,75	108,27	69,85	41,67	19,05
SMCB 24-24N	1-1/2	38,10	1-1/2	34,03	2-1/4	57,15	2-1/4	57,15	2-1/4	57,15	50,03	93,03	49,27	120,21	76,45	49,61	19,05
SMCB 32-32N	2	50,80	2	45,97	2-3/4	69,85	2-3/4	69,85	3	76,20	67,56	107,29	56,38	144,62	93,71	16,27	19,05

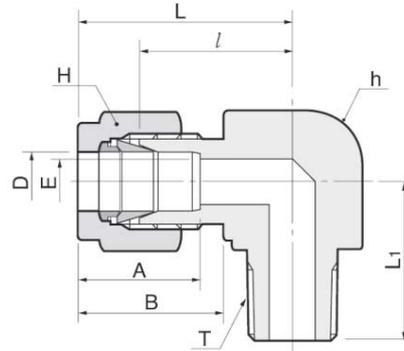
**SLBM** - 45° Male Elbow



**INCH tube connections - male NPT thread**

Part No.	Tube O.D.		T (NPT)	E Min.	Width across flat				A	B	I	L	L1
	D				h	H							
	in	mm					in	mm					
SLBM 4-2N	1/4	6,35	1/8	4,82	1/2	12,70	9/16	14,28	15,24	17,78	17,27	24,63	16,51
SLBM 4-4N	1/4	6,35	1/4	4,82	1/2	12,70	9/16	14,28	15,24	17,78	17,27	24,63	21,08
SLBM 6-2N	3/8	9,52	1/8	4,82	5/8	15,87	11/16	17,46	16,76	19,30	20,57	27,94	18,28
SLBM 6-4N	3/8	9,52	1/4	7,11	5/8	15,87	11/16	17,46	16,76	19,30	20,57	27,94	22,86
SLBM 6-6N	3/8	9,52	3/8	7,11	13/16	20,64	11/16	17,46	16,76	19,30	21,84	29,21	24,13
SLBM 8-6N	1/2	12,70	3/8	9,65	13/16	20,64	7/8	22,22	22,86	21,84	21,84	32,00	24,13
SLBM 8-8N	1/2	12,70	1/2	10,41	13/16	20,64	7/8	22,22	22,86	21,84	21,84	32,00	28,95
SLBM 12-12N	3/4	19,05	3/4	15,74	1-1/8	28,58	1-1/8	28,58	24,38	21,84	23,87	34,03	30,98
SLBM 16-16N	1	25,40	1	22,35	1-3/8	34,93	1-1/2	38,10	31,24	26,41	28,19	40,38	37,84

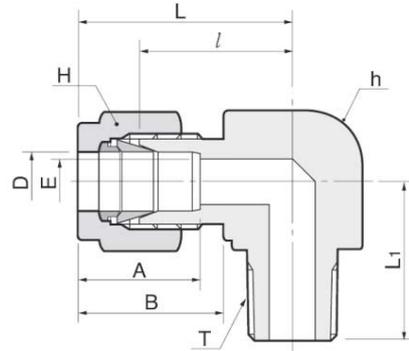
**SLM** - Male Elbow



**INCH tube connections - male NPT thread**

Part No.	Tube O.D.		T (NPT)	E Min.	Width across flat				A	B	I	L	L1
	D				h		H						
	in	mm			in	mm	in	mm					
SLM 1-1N	1/16	1,59	1/16	1,27	7/16	11,11	5/16	7,93	8,63	10,92	15,24	19,05	17,78
SLM 1-2N	1/16	1,59	1/8	1,27	7/16	11,11	5/16	7,93	8,63	10,92	15,24	19,05	17,78
SLM 2-2N	1/8	3,17	1/8	2,28	1/2	12,70	7/16	11,11	12,70	15,24	18,30	24,91	18,90
SLM 2-4N	1/8	3,17	1/4	2,28	1/2	12,70	7/16	11,11	12,70	15,24	18,30	24,91	23,36
SLM 3-2N	3/16	4,76	1/8	3,04	1/2	12,70	1/2	12,70	13,71	16,00	18,79	25,40	18,79
SLM 3-4N	3/16	4,76	1/4	3,04	1/2	12,70	1/2	12,70	13,71	16,00	18,79	25,40	23,36
SLM 4-1N	1/4	6,35	1/16	3,04	1/2	12,70	9/16	14,28	15,24	17,78	19,55	26,90	18,79
SLM 4-2N	1/4	6,35	1/8	4,82	1/2	12,70	9/16	14,28	15,24	17,78	19,10	26,47	19,10
SLM 4-4N	1/4	6,35	1/4	4,82	1/2	12,70	9/16	14,28	15,24	17,78	19,81	27,18	23,87
SLM 4-6N	1/4	6,35	3/8	4,82	11/16	17,46	9/16	14,28	15,24	17,78	22,35	29,71	26,20
SLM 4-8N	1/4	6,35	1/2	4,82	13/16	20,64	9/16	14,28	15,24	17,78	24,60	31,97	33,02
SLM 5-2N	5/16	7,93	1/8	4,82	9/16	14,28	5/8	15,87	16,25	18,54	21,33	28,70	19,81
SLM 5-4N	5/16	7,93	1/4	6,35	9/16	14,28	5/8	15,87	16,25	18,54	21,33	29,77	24,50
SLM 5-6N	5/16	7,93	3/8	6,35	11/16	17,46	5/8	15,87	16,25	18,54	23,11	30,48	26,20
SLM 6-2N	3/8	9,52	1/8	4,82	5/8	15,87	11/16	17,46	16,76	19,30	23,11	30,48	20,60
SLM 6-4N	3/8	9,52	1/4	7,11	5/8	15,87	11/16	17,46	16,76	19,30	23,11	30,48	25,40
SLM 6-6N	3/8	9,52	3/8	7,11	11/16	17,46	11/16	17,46	16,76	19,30	23,87	31,24	26,20
SLM 6-8N	3/8	9,52	1/2	7,11	13/16	20,64	11/16	17,46	16,76	19,30	25,90	31,42	33,02
SLM 6-12N	3/8	9,52	3/4	7,11	1-1/16	26,98	11/16	17,46	16,76	19,30	29,71	37,08	36,83
SLM 8-4N	1/2	12,70	1/4	7,11	13/16	20,64	7/8	22,22	22,86	21,84	25,90	36,06	28,30
SLM 8-6N	1/2	12,70	3/8	9,65	13/16	20,64	7/8	22,22	22,86	21,84	25,90	36,06	28,30
SLM 8-8N	1/2	12,70	1/2	10,41	13/16	20,64	7/8	22,22	22,86	21,84	25,90	36,06	33,02
SLM 8-12N	1/2	12,70	3/4	10,41	1-1/16	26,98	7/8	22,22	22,86	21,84	29,71	39,87	36,83
SLM 10-6N	5/8	15,87	3/8	9,65	15/16	23,81	1	25,40	24,38	21,84	28,00	37,06	30,22
SLM 10-8N	5/8	15,87	1/2	11,93	15/16	23,81	1	25,40	24,38	21,84	28,00	37,06	35,10
SLM 10-12N	5/8	15,87	3/4	12,70	1-1/16	26,98	1	25,40	24,38	21,84	29,71	39,87	36,83
SLM 12-8N	3/4	19,05	1/2	11,93	1-1/16	26,98	1-1/8	28,57	24,38	21,84	29,71	39,87	37,00
SLM 12-12N	3/4	19,05	3/4	15,74	1-1/16	26,98	1-1/8	28,57	24,38	21,84	29,71	39,87	36,83
SLM 14-12N	7/8	22,22	3/4	15,74	1-1/4	31,75	1-1/4	31,75	25,90	21,84	34,54	44,70	41,65
SLM 16-12N	1	25,40	3/4	15,74	1-27/64	36,00	1-1/2	38,10	31,24	26,41	36,83	49,02	42,20
SLM 16-16N	1	25,40	1	22,35	1-27/64	36,00	1-1/2	38,10	31,24	26,41	36,83	49,02	46,70
SLM 20-20N	1-1/4	31,75	1-1/4	27,68	1-11/16	42,86	1-7/8	47,63	41,14	38,86	44,50	66,54	47,75
SLM 24-24N	1-1/2	38,10	1-1/2	34,03	2	50,80	2-1/4	57,15	50,03	45,21	50,80	77,97	60,45
SLM 32-32N	2	50,80	2	45,97	2-3/4	69,85	3	76,20	62,73	63,73	69,80	107,18	70,61

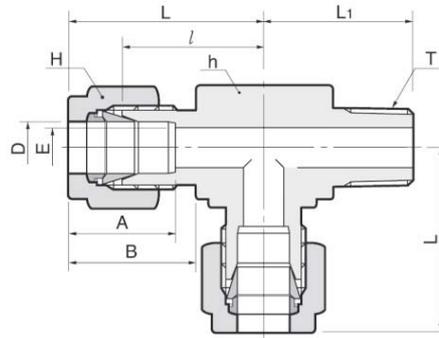
**SLM** - Male Elbow



**METRIC tube connections - male taper thread**

Part No.	Tube O.D. D mm	T R (PT)	E Min.	Width across flat		A	B	I	L	L1
				h	H					
SLM 3M-2R	3	1/8	2,4	12,7	12	12,9	15,3	17,0	23,6	17,8
SLM 3M-4R	3	1/4	2,4	12,7	12	12,9	15,3	18,0	24,6	23,4
SLM 4M-2R	4	1/8	2,4	12,7	12	13,7	16,1	18,8	25,4	18,8
SLM 4M-4R	4	1/4	2,4	12,7	12	13,7	16,1	18,8	25,4	23,4
SLM 6M-2R	6	1/8	4,8	12,7	14	15,3	17,7	19,6	27,0	18,8
SLM 6M-4R	6	1/4	4,8	12,7	14	15,3	17,7	19,6	27,0	23,4
SLM 6M-6R	6	3/8	4,8	17,5	14	15,3	17,7	22,4	29,8	26,2
SLM 6M-8R	6	1/2	4,8	20,6	14	15,3	17,7	24,4	31,8	33,0
SLM 8M-2R	8	1/8	4,8	14,3	16	16,2	18,6	21,3	28,8	19,8
SLM 8M-4R	8	1/4	6,4	14,3	16	16,2	18,6	21,3	28,8	24,4
SLM 8M-6R	8	3/8	6,4	17,5	16	16,2	18,6	23,1	30,6	26,2
SLM 8M-8R	8	1/2	6,4	20,6	16	16,2	18,6	25,1	32,6	33,0
SLM 10M-2R	10	1/8	4,8	17,5	19	17,2	19,5	23,9	31,5	23,6
SLM 10M-4R	10	1/4	7,1	17,5	19	17,2	19,5	23,9	31,5	26,2
SLM 10M-6R	10	3/8	7,9	17,5	19	17,2	19,5	23,9	31,5	26,2
SLM 10M-8R	10	1/2	7,9	20,6	19	17,2	19,5	25,9	33,5	33,0
SLM 12M-2R	12	1/8	4,8	20,6	22	22,8	22,0	25,9	36,0	23,6
SLM 12M-4R	12	1/4	7,1	20,6	22	22,8	22,0	25,9	36,0	28,2
SLM 12M-6R	12	3/8	9,5	20,6	22	22,8	22,0	25,9	36,0	28,2
SLM 12M-8R	12	1/2	9,5	20,6	22	22,8	22,0	25,9	36,0	33,0
SLM 12M-12R	12	3/4	9,5	27,0	22	22,8	22,0	29,7	39,8	36,8
SLM 16M-6R	16	3/8	9,5	25,4	25	24,4	22,0	27,9	38,0	30,2
SLM 16M-8R	16	1/2	11,9	25,4	25	24,4	22,0	27,9	38,0	35,1
SLM 16M-12R	16	3/4	12,7	27,0	25	24,4	22,0	29,7	39,8	36,8
SLM 18M-8R	18	1/2	11,9	27,0	30	24,4	22,0	29,7	39,8	36,8
SLM 18M-12R	18	3/4	15,1	27,0	30	24,4	22,0	29,7	39,8	36,8
SLM 20M-8R	20	1/2	11,9	31,8	32	26,0	22,0	34,5	44,6	41,7
SLM 20M-12R	20	3/4	15,9	31,8	32	26,0	22,0	34,5	44,6	41,7
SLM 22M-12R	22	3/4	15,9	31,8	32	26,0	22,0	34,5	44,6	41,7
SLM 22M-16R	22	1	18,3	36,0	32	26,0	22,0	34,5	44,6	46,5
SLM 25M-12R	25	3/4	15,9	36,0	38	31,3	26,5	36,8	49,1	41,7
SLM 25M-16R	25	1	21,8	36,0	38	31,3	26,5	36,8	49,1	46,5

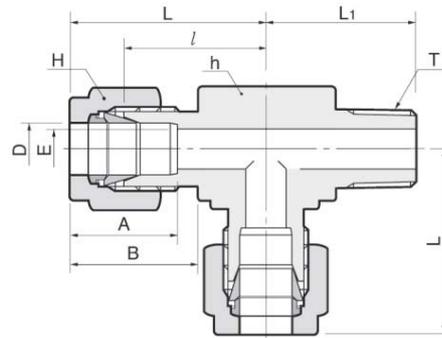
**STRM** - Male Run Tee



**INCH tube connections - male NPT thread**

Part No.	Tube O.D.		T (NPT)	E Min.	Width across flat				A	B	I	L	L1
	D				h		H						
	in	mm			in	mm	in	mm					
STRM 1-1N	1/16	1,59	1/16	1,27	7/16	11,11	5/16	7,93	8,63	10,92	15,24	19,05	17,78
STRM 1-2N	1/16	1,59	1/8	1,27	7/16	11,11	5/16	7,93	8,63	10,92	15,24	19,05	17,78
STRM 2-2N	1/8	3,17	1/8	2,28	1/2	12,70	7/16	11,11	12,70	15,24	18,30	24,91	18,90
STRM 2-4N	1/8	3,17	1/4	2,28	1/2	12,70	7/16	11,11	12,70	15,24	18,30	24,91	23,36
STRM 3-2N	3/16	4,76	1/8	3,04	1/2	12,70	1/2	12,70	13,71	16,00	18,79	24,38	18,79
STRM 3-4N	3/16	4,76	1/4	3,04	1/2	12,70	1/2	12,70	13,71	16,00	18,79	25,40	23,36
STRM 4-1N	1/4	6,35	1/16	3,04	1/2	12,70	9/16	14,28	15,24	17,78	19,55	26,90	18,79
STRM 4-2N	1/4	6,35	1/8	4,82	1/2	12,70	9/16	14,28	15,24	17,78	19,55	26,92	18,79
STRM 4-4N	1/4	6,35	1/4	4,82	1/2	12,70	9/16	14,28	15,24	17,78	19,55	27,08	23,87
STRM 4-6N	1/4	6,35	3/8	4,82	11/16	17,46	9/16	14,28	15,24	17,78	22,35	29,71	28,40
STRM 4-8N	1/4	6,35	1/2	4,82	13/16	20,64	9/16	14,28	15,24	17,78	24,60	31,97	35,10
STRM 5-2N	5/16	7,94	1/8	4,82	9/16	14,28	5/8	15,87	16,25	18,54	22,35	29,71	19,81
STRM 5-4N	5/16	7,94	1/4	6,35	9/16	14,28	5/8	15,87	16,25	18,54	22,35	29,77	24,50
STRM 5-6N	5/16	7,94	3/8	6,35	11/16	17,46	5/8	15,87	16,25	18,54	23,11	30,48	28,40
STRM 6-4N	3/8	9,52	1/4	7,11	5/8	15,87	11/16	17,46	16,76	19,30	23,11	30,48	25,40
STRM 6-6N	3/8	9,52	3/8	7,11	11/16	17,46	11/16	17,46	16,76	19,30	23,87	31,24	28,44
STRM 6-8N	3/8	9,52	1/2	7,11	13/16	20,64	11/16	17,46	16,76	19,30	25,90	33,27	33,02
STRM 6-12N	3/8	9,52	3/4	7,11	1-1/16	26,98	11/16	17,46	16,76	19,30	29,71	37,08	36,83
STRM 8-4N	1/2	12,70	1/4	7,11	13/16	20,64	7/8	22,22	22,86	21,84	25,90	36,06	28,30
STRM 8-6N	1/2	12,70	3/8	9,65	13/16	20,64	7/8	22,22	22,86	21,84	25,90	36,06	28,30
STRM 8-8N	1/2	12,70	1/2	10,41	13/16	20,64	7/8	22,22	22,86	21,84	25,90	36,06	33,02
STRM 8-12N	1/2	12,70	3/4	10,41	1-1/16	26,98	7/8	22,22	22,86	21,84	29,71	39,84	36,83
STRM 10-6N	5/8	15,87	3/8	9,65	15/16	23,81	1	25,40	24,38	21,84	27,90	38,10	29,40
STRM 10-8N	5/8	15,87	1/2	11,93	15/16	23,81	1	25,40	24,38	21,84	27,90	38,10	34,00
STRM 10-12N	5/8	15,87	3/4	12,70	1-1/16	26,98	1	25,40	24,38	21,84	29,71	39,87	36,83
STRM 12-8N	3/4	19,05	1/2	11,93	1-1/16	26,98	1-1/8	28,58	24,38	21,84	29,71	39,87	37,00
STRM 12-12N	3/4	19,05	3/4	15,74	1-1/16	26,98	1-1/8	28,58	24,38	21,84	29,71	39,87	36,83
STRM 14-12N	7/8	22,23	3/4	15,74	1-1/16	26,98	1-1/4	31,75	25,90	21,84	34,54	44,70	41,65
STRM 16-12N	1	25,40	3/4	15,74	1-1/4	31,75	1-1/2	38,10	31,24	26,41	36,83	49,02	42,20
STRM 16-16N	1	25,40	1	22,35	1-27/64	36,12	1-1/2	38,10	31,24	26,41	36,83	49,02	46,70

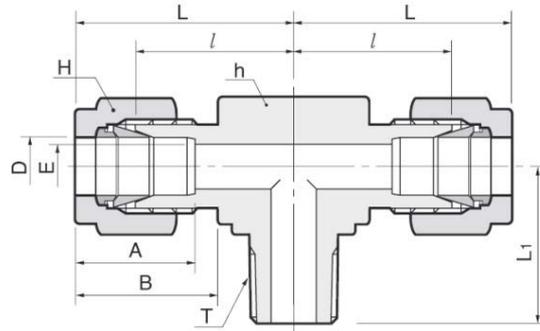
**STRM** - Male Run Tee



**METRIC tube connections - male taper thread**

Part No.	Tube O.D. D mm	T R (PT)	E Min.	Width across flat		A	B	I	L	L1
				h	H					
STRM 3M-2R	3	1/8	2,4	12,7	12	12,9	15,3	17,0	23,6	17,8
STRM 3M-4R	3	1/4	2,4	12,7	12	12,9	15,3	18,0	24,6	23,4
STRM 4M-2R	4	1/8	2,4	12,7	12	13,7	16,1	18,8	25,4	18,8
STRM 4M-4R	4	1/4	2,4	12,7	12	13,7	16,1	18,8	25,4	23,4
STRM 6M-2R	6	1/8	4,8	12,7	14	15,3	17,7	19,6	27,0	18,8
STRM 6M-4R	6	1/4	4,8	14,2	14	15,3	17,7	19,6	27,0	23,4
STRM 6M-6R	6	3/8	4,8	17,5	14	15,3	17,7	22,4	29,8	26,2
STRM 6M-8R	6	1/2	4,8	20,6	14	15,3	17,7	24,4	31,8	33,0
STRM 8M-2R	8	1/8	4,8	14,3	16	16,2	18,6	21,3	28,8	19,8
STRM 8M-4R	8	1/4	6,4	14,3	16	16,2	18,6	21,3	28,8	24,4
STRM 8M-6R	8	3/8	6,4	17,5	16	16,2	18,6	23,1	30,6	26,2
STRM 8M-8R	8	1/2	6,4	20,6	16	16,2	18,6	25,1	32,6	33,0
STRM 10M-2R	10	1/8	4,8	17,5	19	17,2	19,5	23,9	31,5	23,6
STRM 10M-4R	10	1/4	7,1	17,5	19	17,2	19,5	23,9	31,5	26,2
STRM 10M-6R	10	3/8	7,9	17,5	19	17,2	19,5	23,9	31,5	26,2
STRM 10M-8R	10	1/2	7,9	20,6	19	17,2	19,5	25,9	33,5	33,0
STRM 12M-2R	12	1/8	4,8	20,6	22	22,8	22,0	25,9	36,0	23,6
STRM 12M-4R	12	1/4	7,1	20,6	22	22,8	22,0	25,9	36,0	28,2
STRM 12M-6R	12	3/8	9,5	20,6	22	22,8	22,0	25,9	36,0	28,2
STRM 12M-8R	12	1/2	9,5	20,6	22	22,8	22,0	25,9	36,0	33,0
STRM 12M-12R	12	3/4	9,5	27,0	22	22,8	22,0	29,7	39,8	36,8
STRM 16M-6R	16	3/8	9,5	25,4	25	24,4	22,0	27,9	38,0	30,2
STRM 16M-8R	16	1/2	11,9	25,4	25	24,4	22,0	27,9	38,0	35,1
STRM 16M-12R	16	3/4	12,7	27,0	25	24,4	22,0	29,7	39,8	36,8
STRM 18M-8R	18	1/2	11,9	27,0	30	24,4	22,0	29,7	39,8	36,8
STRM 18M-12R	18	3/4	15,1	27,0	30	24,4	22,0	29,7	39,8	36,8
STRM 20M-8R	20	1/2	11,9	31,8	32	26,0	22,0	34,5	44,6	41,7
STRM 20M-12R	20	3/4	15,9	31,8	32	26,0	22,0	34,5	44,6	41,7
STRM 22M-12R	22	3/4	15,9	31,8	32	26,0	22,0	34,5	44,6	41,7
STRM 22M-16R	22	1	18,3	36,0	32	26,0	22,0	34,5	44,6	46,5
STRM 25M-12R	25	3/4	15,9	36,0	38	31,3	26,5	36,8	49,1	41,7
STRM 25M-16R	25	1	21,8	36,0	38	31,3	26,5	36,8	49,1	46,5

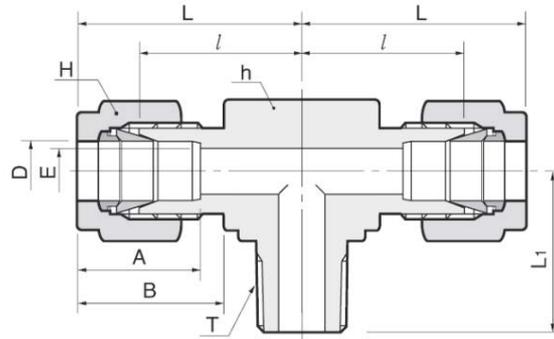
**STBM** - Male Run Tee



**INCH tube connections - male NPT thread**

Part No.	Tube O.D.		T (NPT)	E Min.	Width across flat				A	B	I	L	L1
	D				h		H						
	in	mm			in	mm	in	mm					
STBM 1-1N	1/16	1,59	1/16	1,27	7/16	11,11	5/16	7,93	8,63	10,92	15,24	19,05	17,78
STBM 1-2N	1/16	1,59	1/8	1,27	7/16	11,11	5/16	7,93	8,63	10,92	15,24	19,05	17,78
STBM 2-2N	1/8	3,17	1/8	2,28	1/2	12,70	7/16	11,11	12,70	15,24	18,30	24,91	18,90
STBM 2-4N	1/8	3,17	1/4	2,28	1/2	12,70	7/16	11,11	12,70	15,24	18,30	24,91	23,36
STBM 3-2N	3/16	4,76	1/8	3,04	1/2	12,70	1/2	12,70	13,71	16,00	18,79	24,38	18,79
STBM 3-4N	3/16	4,76	1/4	3,04	1/2	12,70	1/2	12,70	13,71	16,00	18,79	25,40	23,36
STBM 4-1N	1/4	6,35	1/16	3,04	1/2	12,70	9/16	14,28	15,24	17,78	19,55	26,90	18,79
STBM 4-2N	1/4	6,35	1/8	4,82	1/2	12,70	9/16	14,28	15,24	17,78	19,55	26,92	19,10
STBM 4-4N	1/4	6,35	1/4	4,82	1/2	12,70	9/16	14,28	15,24	17,78	19,55	27,08	23,87
STBM 4-6N	1/4	6,35	3/8	4,82	11/16	17,46	9/16	14,28	15,24	17,78	22,35	29,71	28,40
STBM 4-8N	1/4	6,35	1/2	4,82	13/16	20,64	9/16	14,28	15,24	17,78	24,60	31,97	35,10
STBM 5-2N	5/16	7,93	1/8	4,82	9/16	14,28	5/8	15,87	16,25	18,54	22,35	29,71	19,81
STBM 5-4N	5/16	7,93	1/4	6,35	9/16	14,28	5/8	15,87	16,25	18,54	22,35	29,77	24,50
STBM 5-6N	5/16	7,93	3/8	6,35	11/16	17,46	5/8	15,87	16,25	18,54	23,11	30,48	28,40
STBM 6-4N	3/8	9,52	1/4	7,11	5/8	15,87	11/16	17,46	16,76	19,30	23,11	30,48	25,40
STBM 6-6N	3/8	9,52	3/8	7,11	11/16	17,46	11/16	17,46	16,76	19,30	23,87	31,24	28,44
STBM 6-8N	3/8	9,52	1/2	7,11	13/16	20,64	11/16	17,46	16,76	19,30	25,90	33,27	33,02
STBM 6-12N	3/8	9,52	3/4	7,11	1 1/16	26,98	11/16	17,46	16,76	19,30	29,71	37,08	36,83
STBM 8-4N	1/2	12,70	1/4	7,11	13/16	20,64	7/8	22,22	22,86	21,84	25,90	36,06	28,30
STBM 8-6N	1/2	12,70	3/8	10,41	13/16	20,64	7/8	22,22	22,86	21,84	25,90	36,06	28,30
STBM 8-8N	1/2	12,70	1/2	10,41	13/16	20,64	7/8	22,22	22,86	21,84	25,90	36,06	33,02
STBM 8-12N	1/2	12,70	3/4	10,41	1-1/16	26,98	7/8	22,22	22,86	21,84	29,71	39,87	36,83
STBM 10-6N	5/8	15,87	3/8	9,65	15/16	23,81	1	25,40	24,38	21,84	27,90	38,10	29,40
STBM 10-8N	5/8	15,87	1/2	11,93	15/16	23,81	1	25,40	24,38	21,84	27,90	38,10	34,00
STBM 10-12N	5/8	15,87	3/4	12,70	1-1/16	26,98	1	25,40	24,38	21,84	29,71	39,87	36,83
STBM 12-8N	3/4	19,05	1/2	11,93	1-1/16	26,98	1-1/8	28,58	24,38	21,84	29,71	39,87	37,00
STBM 12-12N	3/4	19,05	3/4	15,74	1-1/16	26,98	1-1/8	28,58	24,38	21,84	29,71	39,87	36,83
STBM 14-12N	7/8	22,22	3/4	15,74	1-1/16	26,98	1-1/4	31,75	25,90	21,84	34,54	44,70	41,65
STBM 16-12N	1	25,40	3/4	15,74	1-1/4	31,75	1-1/2	38,10	31,24	26,41	36,83	49,02	42,20
STBM 16-16N	1	25,40	1	22,35	1-27/64	36,12	1-1/2	38,10	31,24	26,41	36,83	49,02	46,70

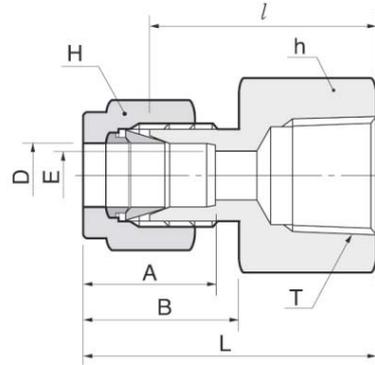
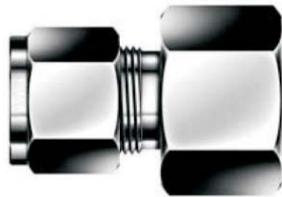
**STBM** - Male Branch Tee



**METRIC tube connections - male taper thread**

Part No.	Tube O.D. D mm	T R (PT)	E Min.	Width across flat		A	B	I	L	L1
				h	H					
STBM 3M-2R	3	1/8	2,4	12,7	12	12,9	15,3	17,0	23,6	17,8
STBM 3M-4R	3	1/4	2,4	12,7	12	12,9	15,3	18,0	24,6	23,4
STBM 4M-2R	4	1/8	2,4	12,7	12	13,7	16,1	18,8	25,4	18,8
STBM 4M-4R	4	1/4	2,4	12,7	12	13,7	16,1	18,8	25,4	23,4
STBM 6M-2R	6	1/8	4,8	12,7	14	15,3	17,7	19,6	27,0	18,8
STBM 6M-4R	6	1/4	4,8	14,2	14	15,3	17,7	19,6	27,0	23,4
STBM 6M-6R	6	3/8	4,8	17,5	14	15,3	17,7	22,4	29,8	26,2
STBM 6M-8R	6	1/2	4,8	20,6	14	15,3	17,7	24,4	31,8	33,0
STBM 8M-2R	8	1/8	4,8	14,3	16	16,2	18,6	21,3	28,8	19,8
STBM 8M-4R	8	1/4	6,4	14,3	16	16,2	18,6	21,3	28,8	24,4
STBM 8M-6R	8	3/8	6,4	17,5	16	16,2	18,6	23,1	30,6	26,2
STBM 8M-8R	8	1/2	6,4	20,6	16	16,2	18,6	25,1	32,6	33,0
STBM 10M-2R	10	1/8	4,8	17,5	19	17,2	19,5	23,9	31,5	23,6
STBM 10M-4R	10	1/4	7,1	17,5	19	17,2	19,5	23,9	31,5	26,2
STBM 10M-6R	10	3/8	7,9	17,5	19	17,2	19,5	23,9	31,5	26,2
STBM 10M-8R	10	1/2	7,9	20,6	19	17,2	19,5	25,9	33,5	33,0
STBM 12M-2R	12	1/8	4,8	20,6	22	22,8	22,0	25,9	36,0	23,6
STBM 12M-4R	12	1/4	7,1	20,6	22	22,8	22,0	25,9	36,0	28,2
STBM 12M-6R	12	3/8	9,5	20,6	22	22,8	22,0	25,9	36,0	28,2
STBM 12M-8R	12	1/2	9,5	20,6	22	22,8	22,0	25,9	36,0	33,0
STBM 12M-12R	12	3/4	9,5	27,0	22	22,8	22,0	29,7	39,8	36,8
STBM 16M-6R	16	3/8	9,5	25,4	25	24,4	22,0	27,9	38,0	30,2
STBM 16M-8R	16	1/2	11,9	25,4	25	24,4	22,0	27,9	38,0	35,1
STBM 16M-12R	16	3/4	12,7	27,0	25	24,4	22,0	29,7	39,8	36,8
STBM 18M-8R	18	1/2	11,9	27,0	30	24,4	22,0	29,7	39,8	36,8
STBM 18M-12R	18	3/4	15,1	27,0	30	24,4	22,0	29,7	39,8	36,8
STBM 20M-8R	20	1/2	11,9	31,8	32	26,0	22,0	34,5	44,6	41,7
STBM 20M-12R	20	3/4	15,9	31,8	32	26,0	22,0	34,5	44,6	41,7
STBM 22M-12R	22	3/4	15,9	31,8	32	26,0	22,0	34,5	44,6	41,7
STBM 22M-16R	22	1	18,3	36,0	32	26,0	22,0	34,5	44,6	46,5
STBM 25M-12R	25	3/4	15,9	36,0	38	31,3	26,5	36,8	49,1	41,7
STBM 25M-16R	25	1	21,8	36,0	38	31,3	26,5	36,8	49,1	46,5

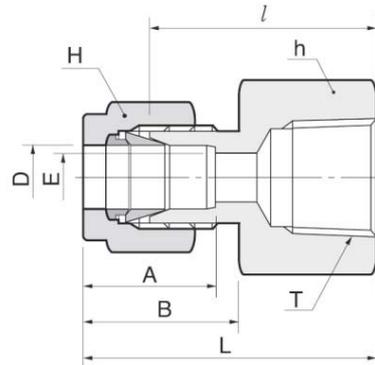
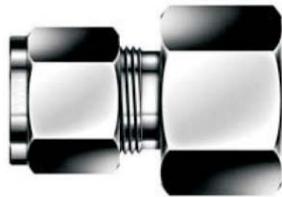
**SCF - Female Connector**



**INCH tube connections - female NPT thread**

Part No.	Tube O.D.		T (NPT)	E Min.	Width across flat				A	B	I	L
	D				h		H					
	in	mm			in	mm	in	mm				
SCF 1-1N	1/16	1,59	1/16	1,27	7/16	11,11	5/16	7,93	8,63	10,92	19,81	23,62
SCF 1-2N	1/16	1,59	1/8	1,27	9/16	14,28	5/16	7,93	8,63	10,92	20,57	24,38
SCF 2-2N	1/8	3,17	1/8	2,28	9/16	14,28	7/16	11,11	12,70	15,24	22,09	28,70
SCF 2-4N	1/8	3,17	1/4	2,28	3/4	19,05	7/16	11,11	12,70	15,24	26,92	33,52
SCF 3-2N	3/16	4,76	1/8	3,04	9/16	14,28	1/2	12,70	13,71	16,00	23,11	29,71
SCF 4-2N	1/4	6,35	1/8	4,82	9/16	14,28	9/16	14,28	15,24	17,78	23,87	31,24
SCF 4-4N	1/4	6,35	1/4	4,82	3/4	19,05	9/16	14,28	15,24	17,78	28,44	35,81
SCF 4-6N	1/4	6,35	3/8	4,82	7/8	22,22	9/16	14,28	15,24	17,78	30,22	37,59
SCF 4-8N	1/4	6,35	1/2	4,82	1-1/16	26,98	9/16	14,28	15,24	17,78	35,05	42,41
SCF 5-2N	5/16	7,93	1/8	6,35	9/16	14,28	5/8	15,87	16,25	18,54	24,63	32,00
SCF 5-4N	5/16	7,93	1/4	6,35	3/4	19,05	5/8	15,87	16,25	18,54	29,46	36,83
SCF 6-2N	3/8	9,52	1/8	7,11	5/8	15,87	11/16	17,46	16,76	19,30	25,40	32,76
SCF 6-4N	3/8	9,52	1/4	7,11	3/4	19,05	11/16	17,46	16,76	19,30	30,22	37,59
SCF 6-6N	3/8	9,52	3/8	7,11	7/8	22,22	11/16	17,46	16,76	19,30	31,75	39,11
SCF 6-8N	3/8	9,52	1/2	7,11	1-1/16	26,98	11/16	17,46	16,76	19,30	36,57	43,94
SCF 6-12N	3/8	9,52	3/4	7,11	1-5/16	33,33	11/16	17,46	16,76	19,30	40,38	47,75
SCF 8-4N	1/2	12,70	1/4	10,41	1-3/16	20,64	7/8	22,22	22,86	21,84	30,22	40,38
SCF 8-6N	1/2	12,70	3/8	10,41	7/8	22,22	7/8	22,22	22,86	21,84	31,75	41,91
SCF 8-8N	1/2	12,70	1/2	10,41	1-1/16	26,98	7/8	22,22	22,86	21,84	36,57	46,73
SCF 8-12N	1/2	12,70	3/4	10,41	1-5/16	33,33	7/8	22,22	22,86	21,84	38,10	48,26
SCF 10-6N	5/8	15,87	3/8	12,70	15/16	23,81	1	25,40	24,38	21,84	31,75	41,91
SCF 10-8N	5/8	15,87	1/2	12,70	1-1/16	26,98	1	25,40	24,38	21,84	36,57	46,73
SCF 10-12N	5/8	15,87	3/4	12,70	1-5/16	33,33	1	25,40	24,38	21,84	38,10	48,26
SCF 12-8N	3/4	19,05	1/2	15,74	1-1/16	26,98	1-1/8	28,58	24,38	21,84	36,57	46,73
SCF 12-12N	3/4	19,05	3/4	15,74	1-5/16	33,33	1-1/8	28,58	24,38	21,84	38,10	48,26
SCF 14-12N	7/8	22,22	3/4	18,28	1-5/16	33,33	1-1/4	31,75	25,90	21,84	39,62	49,78
SCF 16-12N	1	25,40	3/4	22,35	1-3/8	34,92	1-1/2	38,10	31,24	26,41	41,14	53,34
SCF 16-16N	1	25,40	1	22,35	1-5/8	41,27	1-1/2	38,10	31,24	26,41	50,03	62,23
SCF 20-20N	1-1/4	31,75	1-1/4	27,68	2-1/8	53,98	1-7/8	47,63	41,14	38,86	52,57	74,67
SCF 24-24N	1-1/2	38,10	1-1/2	34,03	2-3/8	60,33	2-1/4	57,15	50,03	45,21	56,13	83,31
SCF 32-32N	2	50,80	2	45,97	2-1/8	73,03	3	76,20	67,56	62,73	64,26	101,60

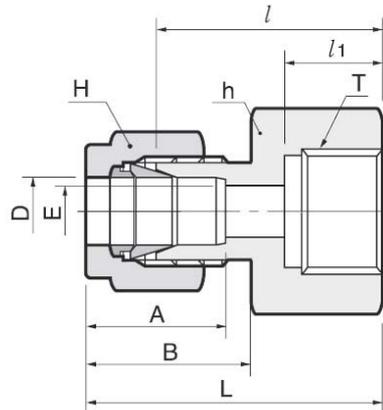
**SCF** - Female Connector



**METRIC tube connections - female taper thread**

Part No.	Tube O.D. D mm	T R (PT)	E Min.	Width across flat		A	B	I	L
				h	H				
SCF 3M-2R	3	1/8	2,4	14	12	12,9	15,3	22,1	28,7
SCF 3M-4R	3	1/4	2,4	19	12	12,9	15,3	26,9	33,5
SCF 4M-2R	4	1/8	2,4	14	12	13,7	16,1	23,1	29,7
SCF 6M-2R	6	1/8	4,8	14	14	15,3	17,7	23,9	31,3
SCF 6M-4R	6	1/4	4,8	19	14	15,3	17,7	28,4	35,8
SCF 6M-6R	6	3/8	4,8	22	14	15,3	17,7	29,5	36,9
SCF 6M-8R	6	1/2	4,8	27	14	15,3	17,7	35,1	42,5
SCF 8M-2R	8	1/8	6,4	15	16	16,2	18,6	24,6	32,1
SCF 8M-4R	8	1/4	6,4	19	16	16,2	18,6	29,5	37,0
SCF 8M-6R	8	3/8	6,4	22	16	16,2	18,6	30,2	37,7
SCF 8M-8R	8	1/2	6,4	27	16	16,2	18,6	35,8	43,3
SCF 10M-2R	10	1/8	7,9	18	19	17,2	19,5	25,4	33,0
SCF 10M-4R	10	1/4	7,9	19	19	17,2	19,5	30,2	37,8
SCF 10M-6R	10	3/8	7,9	22	19	17,2	19,5	31,0	38,6
SCF 10M-8R	10	1/2	7,9	27	19	17,2	19,5	36,6	44,2
SCF 12M-2R	12	1/8	8,3	22	22	22,8	22,0	28,4	38,5
SCF 12M-4R	12	1/4	9,5	22	22	22,8	22,0	30,2	40,3
SCF 12M-6R	12	3/8	9,5	22	22	22,8	22,0	31,0	41,1
SCF 12M-8R	12	1/2	9,5	27	22	22,8	22,0	36,6	46,7
SCF 12M-12R	12	3/4	9,5	35	22	22,8	22,0	38,9	49,0
SCF 15M-8R	15	1/2	11,9	27	25	24,4	22,0	36,6	46,7
SCF 16M-8R	16	1/2	12,7	27	25	24,4	22,0	36,8	46,9
SCF 20M-8R	20	1/2	15,9	30	32	26,0	22,0	37,8	47,9
SCF 20M-12R	20	3/4	15,9	35	32	26,0	22,0	39,6	49,7
SCF 22M-12R	22	3/4	18,3	35	32	26,0	22,0	39,6	49,7
SCF 22M-16R	22	1	18,3	41	32	26,0	22,0	47,8	57,9
SCF 25M-12R	25	3/4	21,8	35	38	31,3	26,5	41,1	53,4
SCF 25M-16R	25	1	21,8	41	38	31,3	26,5	50,0	62,3

**SCG - Gauge Connector**



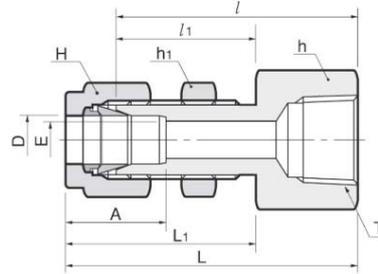
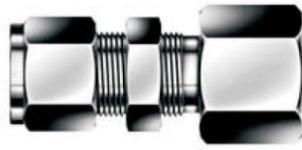
**METRIC tube connections - female parallel thread (gauge)**

Part No.	Tube O.D.		T R (PF)	E Min.	Width across flat		A	B	I	L	L1
	D mm				h	H					
SCG 3M-4G	3		1/4	2,4	19	12	12,9	15,3	28,7	13	35,3
SCG 6M-4G	6		1/4	4,8	19	14	15,3	17,7	30,2	13	37,6
SCG 6M-6G	6		3/8	4,8	24	14	15,3	17,7	30,2	14	37,6
SCG 6M-8G	6		1/2	4,8	27	14	15,3	17,7	36,3	19	43,0
SCG 8M-4G	8		1/4	5,5	19	16	16,2	18,6	31,0	13	38,5
SCG 8M-6G	8		3/8	6,5	24	16	16,2	18,6	28,7	14	36,2
SCG 8M-8G	8		1/2	7,0	27	16	16,2	18,6	33,0	19	40,5
SCG 10M-4G	10		1/4	5,5	19	19	17,2	19,5	31,8	13	39,4
SCG 10M-6G	10		3/8	6,5	24	19	17,2	19,5	31,2	14	38,8
SCG 10M-8G	10		1/2	7,0	27	19	17,2	19,5	33,8	19	41,4
SCG 12M-4G	12		1/4	5,5	22	22	22,8	22,0	31,8	13	41,9
SCG 12M-6G	12		3/8	6,5	24	22	22,8	22,0	34,3	14	44,4
SCG 12M-8G	12		1/2	7,0	27	22	22,8	22,0	38,1	19	48,2
SCG 20M-8G	20		1/2	7,0	30	32	26,0	22,0	44,2	19	54,3

**INCH tube connections - female parallel thread (gauge)**

Part No.	Tube O.D.		T G (PF)	E Min.	Width across flat				A	B	I	L	L1
	D				h		H						
	in	mm			in	mm	in	mm					
SCG 4-2G	1/4	6,35	1/8	4,82	9/16	14,28	9/16	14,28	15,24	17,78	26,30	12,00	33,55
SCG 4-4G	1/4	6,35	1/4	4,82	3/4	19,05	9/16	14,28	15,24	17,78	30,22	13,00	37,59
SCG 4-6G	1/4	6,35	3/8	4,82	15/16	23,81	9/16	14,28	15,24	17,78	30,22	14,22	37,59
SCG 4-8G	1/4	6,35	1/2	4,82	1-1/16	26,98	9/16	14,28	15,24	17,78	36,07	18,80	43,43
SCG 5-4G	5/16	7,93	1/4	5,58	3/4	19,05	5/8	15,87	16,25	18,54	30,98	13,00	38,35
SCG 5-8G	5/16	7,93	1/2	7,11	1-1/16	26,98	5/8	15,87	16,25	18,54	33,02	18,80	40,38
SCG 6-4G	3/8	9,52	1/4	5,58	3/4	19,05	11/16	17,46	16,76	19,30	31,75	12,95	39,12
SCG 6-6G	3/8	9,52	3/8	6,60	15/16	23,81	11/16	17,46	16,76	19,30	31,24	14,22	38,61
SCG 6-8G	3/8	9,52	1/2	7,11	1-1/16	26,98	11/16	17,46	16,76	19,30	34,54	18,80	41,91
SCG 8-4G	1/2	12,70	1/4	5,50	7/8	22,22	7/8	22,22	22,86	21,84	31,80	13,00	41,95
SCG 8-6G	1/2	12,70	3/8	6,60	15/16	23,81	7/8	22,22	22,86	21,84	34,29	14,24	44,45
SCG 8-8G	1/2	12,70	1/2	7,11	1-1/16	26,98	7/8	22,22	22,86	21,84	38,10	18,80	48,26

**SCBF** - Bulkhead Female Connector



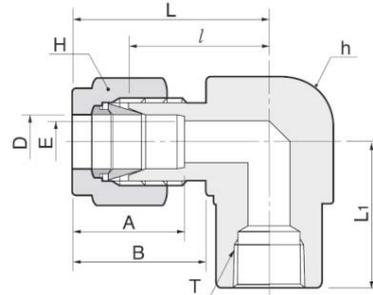
**INCH tube connections - female NPT thread**

Part No.	Tube O.D.		T (NPT)	E min.	Width across flat						A	I	I1	L	L1	Panel Hole Drill size	Panel Max Thickness
	D				h	h1	H	L	L1								
	in	mm								in							
SCBF 2-2N	1/8	3,17	1/8	2,28	9/16	14,28	1/2	12,70	7/16	11,11	12,70	38,10	24,63	44,70	31,24	8,33	12,70
SCBF 4-2N	1/4	6,35	1/8	4,82	5/8	15,87	5/8	15,87	9/16	14,28	15,24	39,62	26,16	46,99	33,52	11,50	10,16
SCBF 4-4N	1/4	6,35	1/4	4,82	3/4	19,05	5/8	15,87	9/16	14,28	15,24	44,45	26,16	51,81	33,52	11,50	10,16
SCBF 6-4N	3/8	9,52	1/4	7,11	3/4	19,05	3/4	19,05	11/16	17,46	16,76	47,75	29,46	55,11	36,83	14,68	11,17
SCBF 6-6N	3/8	9,52	3/8	7,11	7/8	22,22	3/4	19,05	11/16	17,46	16,76	49,41	29,46	56,77	36,83	14,68	11,17
SCBF 8-6N	1/2	12,70	3/8	10,41	15/16	23,81	15/16	23,81	7/8	22,22	22,86	51,56	31,75	61,72	41,91	19,44	12,70
SCBF 8-8N	1/2	12,70	1/2	10,41	1-1/16	26,98	15/16	23,81	7/8	22,22	22,86	56,38	31,75	66,54	41,91	19,44	12,70
SCBF 12-12N	3/4	19,05	3/4	15,74	1-1/4	31,75	1-3/16	30,16	1-1/8	28,57	24,38	63,60	38,30	73,51	47,21	25,76	16,76
SCBF 16-16N	1	25,40	1	22,35	1-5/8	41,27	1-5/8	41,27	1-1/2	38,10	31,24	81,04	45,21	93,23	57,40	33,73	19,05
SCBF 20-20N	1-1/4	31,75	1-1/4	27,68	1-7/8	47,63	1-7/8	47,63	1-7/8	47,63	41,14	83,49	47,75	105,59	69,85	41,67	19,05
SCBF 24-24N	1-1/2	38,10	1-1/2	34,03	1-1/4	57,15	2-1/4	57,15	2-1/4	57,15	50,03	87,39	49,27	114,57	76,45	49,61	19,05
SCBF 32-32N	2	50,80	2	45,97	1-3/4	69,85	2-3/4	69,85	3	76,20	67,56	95,30	56,38	132,63	93,71	57,94	19,05

**METRIC tube connections - female NPT thread**

Part No.	Tube O.D.		T (NPT)	E Min.	Width across flat						A	I	I1	L	L1	Panel hole Drill Size	Panel Max Thickness
	D mm				h	h1	H	L	L1								
	mm	mm															
SCBF 6M-2N	6	6	1/8	4,8	15,8	15,8	14	15,3	39,6	26,2	46,90	35,00	11,5	10,2			
SCBF 6M-4N	6	6	1/4	4,8	19,0	16,0	14	15,3	44,4	26,2	51,80	33,60	11,5	10,2			
SCBF 8M-4N	8	8	1/4	6,3	19,0	17,4	16	16,2	46,7	28,6	53,85	35,55	13,1	11,2			
SCBF 12M-8N	12	12	1/2	9,5	27,0	24,0	22	22,8	56,4	31,8	66,50	41,90	19,5	12,7			

**SLF - Female Elbow**



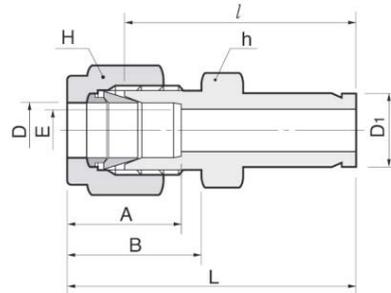
**INCH tube connections - female NPT thread**

Part No.	Tube O.D.		T (NPT)	E Min.	Width across flat				A	B	I	L	L1
	D				h		H						
	in	mm			in	mm	in	mm					
SLF 2-2N	1/8	3,17	1/8	2,28	1/2	12,70	7/16	11,11	12,70	15,24	18,03	24,63	19,05
SLF 2-4N	1/8	3,17	1/4	2,28	11/16	17,46	7/16	11,11	12,70	15,24	20,82	27,43	22,35
SLF 3-2N	3/16	4,76	1/8	3,04	1/2	12,70	1/2	12,70	13,71	16,00	18,79	25,40	19,05
SLF 4-2N	1/4	6,35	1/8	4,82	1/2	12,70	9/16	14,28	15,24	17,78	19,55	26,92	19,05
SLF 4-4N	1/4	6,35	1/4	4,82	11/16	17,46	9/16	14,28	15,24	17,78	22,35	29,71	22,35
SLF 4-6N	1/4	6,35	3/8	4,82	13/16	20,64	9/16	14,28	15,24	17,78	24,38	31,75	22,35
SLF 4-8N	1/4	6,35	1/2	4,82	1	25,40	9/16	14,28	15,24	17,78	27,17	34,54	28,44
SLF 5-2N	5/16	7,93	1/8	6,35	9/16	14,28	5/8	15,87	16,25	18,54	21,33	28,70	19,05
SLF 5-4N	5/16	7,93	1/4	6,35	11/16	17,46	5/8	15,87	16,25	18,54	23,11	30,48	22,35
SLF 6-2N	3/8	9,52	1/8	7,11	5/8	15,87	11/16	17,46	16,76	19,30	23,11	30,48	19,05
SLF 6-4N	3/8	9,52	1/4	7,11	11/16	17,46	11/16	17,46	16,76	19,30	23,87	31,24	22,35
SLF 6-6N	3/8	9,52	3/8	7,11	13/16	20,64	11/16	17,46	16,76	19,30	25,90	33,27	22,35
SLF 6-8N	3/8	9,52	1/2	7,11	1	25,40	11/16	17,46	16,76	19,30	28,70	36,06	28,44
SLF 8-4N	1/2	12,70	1/4	10,41	13/16	20,64	7/8	22,22	22,86	21,84	25,90	36,06	22,35
SLF 8-6N	1/2	12,70	3/8	10,41	13/16	20,64	7/8	22,22	22,86	21,84	25,90	36,06	22,35
SLF 8-8N	1/2	12,70	1/2	10,41	1	25,40	7/8	22,22	22,86	21,84	28,70	38,86	28,44
SLF 10-6N	5/8	15,87	3/8	12,70	15/16	23,81	1	25,40	24,38	21,84	27,94	38,10	22,35
SLF 10-8N	5/8	15,87	1/2	12,70	1	25,40	1	25,40	24,38	21,84	29,71	39,87	28,44
SLF 12-8N	3/4	19,05	1/2	15,74	1-1/16	26,98	1-1/8	28,58	24,38	21,84	29,71	39,87	28,44
SLF 12-12N	3/4	19,05	3/4	15,74	1-1/4	31,75	1-1/8	28,58	24,38	21,84	34,54	44,70	31,75
SLF 14-12N	7/8	22,22	3/4	18,28	1-1/4	31,75	1-1/4	31,75	25,90	21,84	34,54	44,70	31,75
SLF 16-12N	1	25,40	3/4	22,35	1-27/64	36,00	1-1/2	38,10	31,24	26,41	36,83	49,02	31,75
SLF 16-16N	1	25,40	1	22,35	1-11/16	42,86	1-1/2	38,10	31,24	26,41	41,40	50,29	38,10

**METRIC tube connections - female NPT thread**

Part No.	Tube O.D.		T (NPT)	E Min.	Width across flat		A	B	I	L	L1
	D				h						
	mm	mm			mm	mm					
SLF 6M-2N	6	6	1/8	4,8	12,70	14	15,3	17,7	19,6	27,0	19,00
SLF 6M-4N	6	6	1/4	4,8	17,46	14	15,3	17,7	22,4	29,8	22,40
SLF 6M-6N	6	6	3/8	4,8	20,64	14	15,3	17,7	24,4	31,7	22,40
SLF 6M-8N	6	6	1/2	4,8	25,40	14	15,3	17,7	27,2	34,6	28,40
SLF 8M-2N	8	8	1/8	6,4	15,87	16	16,2	18,6	23,1	29,9	19,00
SLF 8M-4N	8	8	1/4	6,4	17,46	16	16,2	18,6	23,1	30,6	22,40
SLF 8M-8N	8	8	1/2	6,4	25,40	16	16,2	18,6	28,0	35,2	28,40
SLF 10M-2N	10	10	1/8	7,9	17,46	19	17,2	19,5	23,9	31,5	19,00
SLF 10M-4N	10	10	1/4	7,9	17,46	19	17,2	19,5	25,9	33,5	22,35
SLF 10M-6N	10	10	3/8	7,9	20,64	19	17,2	19,5	25,9	33,5	22,40
SLF 10M-8N	10	10	1/2	7,9	25,40	19	17,2	19,5	28,7	36,1	28,40
SLF 12M-4N	12	12	1/4	9,5	20,64	22	22,8	22,0	25,9	36,0	22,40
SLF 12M-6N	12	12	3/8	9,5	20,64	22	22,8	22,0	25,9	36,2	22,35
SLF 12M-8N	12	12	1/2	9,5	25,40	22	22,8	22,0	28,7	38,8	28,40
SLF 16M-8N	16	16	1/2	12,7	26,98	25	24,4	22,0	29,7	39,5	28,40

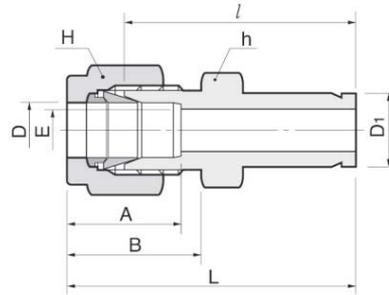
**SR - Reducer**



**INCH tube connections - inch S-LOK stem**

Part No.	Tube O.D.				E Min.	Width across flat				A	B	I	L
	D		D1			h		H					
	in	mm	in	mm		in	mm	in	mm				
SR 1-2	1/16	1,59	1/8	3,17	1,27	5/16	7,93	5/16	7,93	8,63	10,92	25,40	29,21
SR 1-4	1/16	1,59	1/4	6,35	1,27	5/16	7,93	5/16	7,93	8,63	10,92	27,68	31,49
SR 2-1	1/8	3,17	1/16	1,59	1,76	7/16	11,11	7/16	11,11	12,70	15,24	22,35	28,95
SR 2-2	1/8	3,17	1/8	3,17	2,03	7/16	11,11	7/16	11,11	12,70	15,24	26,92	33,52
SR 2-3	1/8	3,17	3/16	4,76	2,28	7/16	11,11	7/16	11,11	12,70	15,24	27,68	34,29
SR 2-4	1/8	3,17	1/4	6,35	2,28	7/16	11,11	7/16	11,11	12,70	15,24	29,46	36,06
SR 2-6	1/8	3,17	3/8	9,52	2,28	7/16	11,11	7/16	11,11	12,70	15,24	30,98	37,59
SR 2-8	1/8	3,17	1/2	12,70	2,28	9/16	14,28	7/16	11,11	12,70	15,24	37,59	44,19
SR 3-2	3/16	4,76	1/8	3,17	2,03	7/16	11,11	1/2	12,70	13,71	16,00	28,19	34,79
SR 3-4	3/16	4,76	1/4	6,35	3,04	7/16	11,11	1/2	12,70	13,71	16,00	30,48	37,08
SR 4-2	1/4	6,35	1/8	3,17	2,03	1/2	12,70	9/16	14,28	15,24	17,78	29,46	36,83
SR 4-3	1/4	6,35	3/16	4,76	3,04	1/2	12,70	9/16	14,28	15,24	17,78	30,22	37,59
SR 4-4	1/4	6,35	1/4	6,35	4,82	1/2	12,70	9/16	14,28	15,24	17,78	31,75	39,11
SR 4-5	1/4	6,35	5/16	7,93	4,82	1/2	12,70	9/16	14,28	15,24	17,78	32,51	39,87
SR 4-6	1/4	6,35	3/8	9,52	4,82	1/2	12,70	9/16	14,28	15,24	17,78	33,27	40,64
SR 4-8	1/4	6,35	1/2	12,70	4,82	9/16	14,28	9/16	14,28	15,24	17,78	38,86	46,22
SR 4-10	1/4	6,35	5/8	15,87	4,82	11/16	17,46	9/16	14,28	15,24	17,78	40,64	48,00
SR 4-12	1/4	6,35	3/4	19,05	4,82	13/16	20,64	9/16	14,28	15,24	17,78	40,38	47,75
SR 5-6	5/16	7,93	3/8	9,52	6,35	9/16	14,28	5/8	15,87	16,25	18,54	34,54	41,91
SR 5-8	5/16	7,93	1/2	12,70	6,35	9/16	14,28	5/8	15,87	16,25	18,54	40,13	47,49
SR 6-4	3/8	9,52	1/4	6,35	4,82	5/8	15,87	11/16	17,46	16,76	19,30	34,03	41,40
SR 6-6	3/8	9,52	3/8	9,52	7,11	5/8	15,87	11/16	17,46	16,76	19,30	35,81	43,18
SR 6-8	3/8	9,52	1/2	12,70	7,11	5/8	15,87	11/16	17,46	16,76	19,30	41,14	48,51
SR 6-10	3/8	9,52	5/8	15,87	7,11	11/16	17,46	11/16	17,46	16,76	19,30	42,92	50,29
SR 6-12	3/8	9,52	3/4	19,05	7,11	13/16	20,64	11/16	17,46	16,76	19,30	42,92	50,29
SR 8-4	1/2	12,70	1/4	6,35	4,82	13/16	20,64	7/8	22,22	22,86	21,84	34,79	44,95
SR 8-6	1/2	12,70	3/8	9,52	7,11	13/16	20,64	7/8	22,22	22,86	21,84	36,57	46,73
SR 8-8	1/2	12,70	1/2	12,70	9,90	13/16	20,64	7/8	22,22	22,86	21,84	42,16	52,32
SR 8-10	1/2	12,70	5/8	15,87	10,41	13/16	20,64	7/8	22,22	22,86	21,84	43,68	53,84
SR 8-12	1/2	12,70	3/4	19,05	10,41	13/16	20,64	7/8	22,22	22,86	21,84	43,68	53,84
SR 8-16	1/2	12,70	1	25,40	10,41	1 1/16	26,98	7/8	22,22	22,86	21,84	50,03	60,19
SR 10-12	5/8	15,87	3/4	19,05	12,70	15/16	23,81	1	25,40	24,38	21,84	44,45	54,61
SR 10-14	5/8	15,87	7/8	22,22	12,70	15/16	23,81	1	25,40	24,38	21,84	45,97	56,13
SR 10-16	5/8	15,87	1	25,40	12,70	1-1/16	26,98	1	25,40	24,38	21,84	50,80	60,96
SR 12-8	3/4	19,05	1/2	12,70	9,90	1-1/16	26,98	1-1/8	28,57	24,38	21,84	44,45	54,61
SR 12-16	3/4	19,05	1	25,40	15,74	1-1/16	26,98	1-1/8	28,57	24,38	21,84	52,32	62,48
SR 16-20	1	25,40	1-1/4	31,75	22,35	1-3/8	34,93	1-1/2	38,10	31,24	26,41	68,32	80,51
SR 16-24	1	25,40	1-1/2	38,10	22,35	1-5/8	41,28	1-1/2	38,10	31,24	26,41	76,96	89,15
SR 16-32	1	25,40	2	50,80	22,35	2-1/8	53,98	1-1/2	38,10	31,24	26,41	100,33	112,52
SR 20-24	1-1/4	31,75	1-1/2	38,10	27,68	1-7/8	47,63	2-1/4	57,15	41,14	38,86	82,04	104,14
SR 20-32	1-1/4	31,75	2	50,80	27,68	1-7/8	47,63	3	76,20	41,14	38,86	103,12	125,22
SR 24-32	1-1/2	38,10	2	50,80	34,03	2-1/4	57,15	3	76,20	50,03	45,21	104,14	131,31

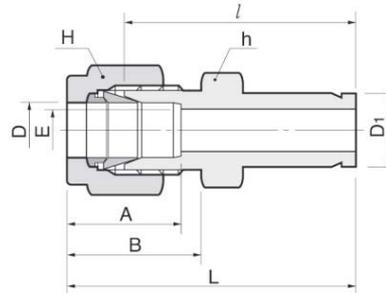
**SR** - Reducer



**METRIC tube connections - inch S-LOK stem**

Part No.	Tube O.D.			E Min.	Width across flat		A	B	I	L
	D mm	D1			h	H				
		in	mm							
SR 2M-2	2	1/8	3,17	1,7	12	12	12,9	15,3	26,9	33,5
SR 3M-2	3	1/8	3,17	2,0	12	12	12,9	15,3	26,9	33,5
SR 3M-4	3	1/4	6,35	2,4	12	12	12,9	15,3	29,5	36,1
SR 4M-4	4	1/4	6,35	2,4	12	12	13,7	16,1	30,5	37,1
SR 6M-2	6	1/8	3,18	2,0	14	14	15,3	17,7	29,5	36,9
SR 6M-4	6	1/4	6,35	4,8	14	14	15,3	17,7	31,8	39,2
SR 6M-5	6	5/16	7,93	4,8	14	14	15,3	17,7	32,5	39,9
SR 6M-6	6	3/8	9,52	4,8	14	14	15,3	17,7	33,3	40,7
SR 6M-8	6	1/2	12,70	4,8	14	14	15,3	17,7	38,9	46,3
SR 8M-6	8	3/8	9,52	6,4	15	16	16,2	18,6	34,5	42,0
SR 8M-8	8	1/2	12,70	6,4	15	16	16,2	18,6	40,1	47,6
SR 10M-6	10	3/8	9,52	7,1	18	19	17,2	19,5	36,6	44,2
SR 10M-8	10	1/2	12,70	7,9	18	19	17,2	19,5	42,2	49,8
SR 12M-8	12	1/2	12,70	9,5	22	22	22,8	22,0	42,2	52,3
SR 12M-12	12	3/4	19,05	9,5	22	22	22,8	22,0	43,7	53,8
SR 18M-12	18	3/4	19,05	15,1	27	30	24,4	22,0	46,0	56,1
SR 18M-16	18	1	25,40	15,1	27	30	24,4	22,0	52,3	62,4

**SR** - Reducer

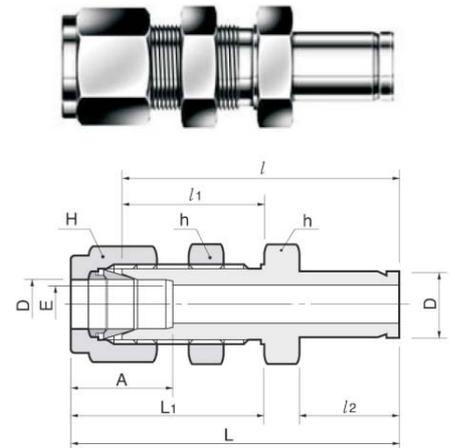
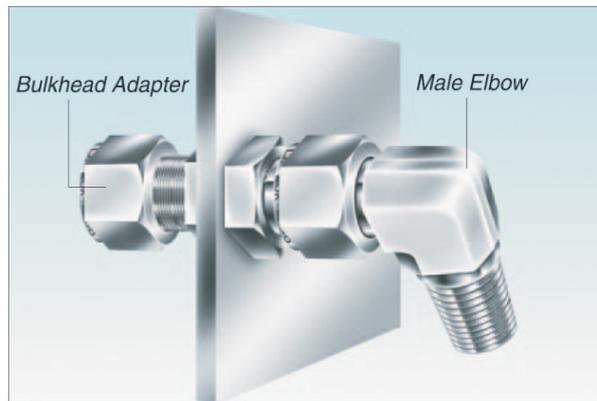


**METRIC tube connections - metric S-LOK stem**

Part No.	Tube O.D.		E Min.	Width across flat		A	B	l	L
	D mm	D1 mm		h	H				
SR 2M-3M	2	3	1,7	12	12	12,9	15,3	26,9	35,3
SR 3M-4M	3	4	2,4	12	12	12,9	15,3	28,4	35,0
SR 3M-6M	3	6	2,4	12	12	12,9	15,3	29,5	36,1
SR 3M-10M	3	10	2,4	12	12	12,9	15,3	31,8	38,4
SR 4M-6M	4	6	2,4	12	12	13,7	16,1	30,5	37,1
SR 6M-3M	6	3	1,8	14	14	15,3	17,7	29,5	36,9
SR 6M-8M	6	8	4,8	14	14	15,3	17,7	32,5	39,9
SR 6M-10M	6	10	4,8	14	14	15,3	17,7	33,3	40,7
SR 6M-12M	6	12	4,8	14	14	15,3	17,7	38,9	46,3
SR 8M-6M	8	6	4,6	15	16	16,2	18,6	32,8	40,3
SR 8M-10M	8	10	6,4	15	16	16,2	18,6	34,5	42,0
SR 8M-12M	8	12	6,4	15	16	16,2	18,6	40,1	47,6
SR 10M-6M	10	6	4,6	18	19	17,2	19,5	34,8	42,4
SR 10M-12M	10	12	7,9	18	19	17,2	19,5	42,2	49,8
SR 10M-15M	10	15	7,9	18	19	17,2	19,5	43,7	51,3
SR 10M-18M	10	18	7,9	19	19	17,2	19,5	43,7	51,3
SR 12M-6M	12	6	4,6	22	22	22,8	22,0	34,8	44,9
SR 12M-10M	12	10	7,7	22	22	22,8	22,0	36,6	46,7
SR 12M-16M	12	16	9,5	22	22	22,8	22,0	43,7	53,8
SR 12M-18M	12	18	9,5	22	22	22,8	22,0	43,7	53,8
SR 12M-20M	12	20	9,5	22	22	22,8	22,0	46,0	56,1
SR 12M-22M	12	22	9,5	24	22	22,8	22,0	46,0	56,1
SR 12M-25M	12	25	9,5	27	22	22,8	22,0	52,3	62,4
SR 16M-12M	16	12	9,1	24	25	24,4	22,0	42,9	53,0
SR 18M-12M	18	12	9,1	27	30	24,4	22,0	44,5	54,6
SR 18M-16M	18	16	12,7	27	30	24,4	22,0	46,0	56,1
SR 18M-20M	18	20	15,1	27	30	24,4	22,0	47,5	57,6
SR 18M-22M	18	22	15,1	27	30	24,4	22,0	47,5	57,6
SR 18M-25M	18	25	15,1	27	30	24,4	22,0	52,3	62,4
SR 20M-16M	20	16	12,7	30	32	26,0	22,0	47,8	57,9
SR 20M-18M	20	18	13,9	30	32	26,0	22,0	47,8	57,9
SR 20M-22M	20	22	15,8	30	32	26,0	22,0	49,3	59,4
SR 20M-25M	20	25	15,8	30	32	26,0	22,0	54,1	64,2
SR 22M-18M	22	18	13,9	30	32	26,0	22,0	47,8	57,9
SR 22M-20M	22	20	15,1	30	32	26,0	22,0	49,3	59,4
SR 22M-25M	22	25	18,3	30	32	26,0	22,0	54,1	64,2
SR 25M-18M	25	18	13,9	35	38	31,3	26,5	50,8	63,1
SR 25M-20M	25	20	15,1	35	38	31,3	26,5	52,3	64,6

## SAB - Bulkhead Adapter

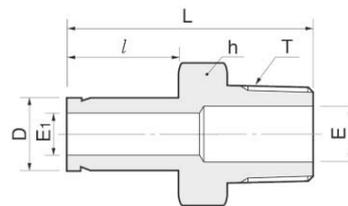
The Bulkhead Adapter is useful for panel construction when you need to set a direction



### INCH tube connections - inch S-LOK stem

Part No.	Tube O.D. D		E Min.	Width across flat				A	I	I1	I2	L	L1	Panel Hole Drill size	Panel max Thickness
	in	mm		h	H	in	mm								
SAB 2-2	1/8	3,17	2,03	1/2	12,70	7/16	11,11	12,70	42,92	24,63	13,45	49,53	31,24	8,33	12,70
SAB 4-4	1/4	6,35	4,82	5/8	15,87	9/16	14,28	15,24	48,51	26,16	15,74	55,88	33,52	11,50	10,16
SAB 6-6	3/8	9,52	7,11	3/4	19,05	11/16	17,46	16,76	53,84	29,46	17,50	61,21	36,83	14,68	11,17
SAB 8-8	1/2	12,70	10,41	15/16	23,81	7/8	22,22	22,86	62,73	31,75	23,11	72,89	41,91	19,44	12,70
SAB 10-10	5/8	15,87	12,70	1-1/16	26,98	1	25,40	24,38	65,02	32,51	24,70	75,18	42,67	22,62	12,70
SAB 20-20	1-1/4	31,75	27,68	1-7/8	47,63	1-7/8	47,63	41,14	102,07	47,75	40,00	124,17	69,85	41,67	19,05
SAB 24-24	1-1/2	38,10	34,03	2-1/4	57,15	2-1/4	57,15	50,03	118,33	49,27	51,50	145,51	76,45	49,61	19,05
SAB 32-32	2	50,80	45,97	2-3/4	69,85	3	76,20	67,56	148,79	56,38	68,40	185,82	93,71	57,94	19,05

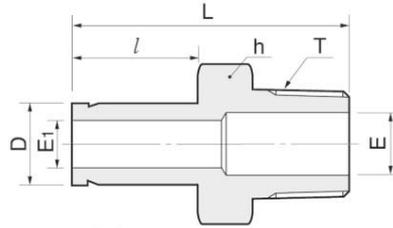
## SAM - Male Adapter



### METRIC connections S-LOK stem - male taper thread

Part No.	Tube O.D. D mm	T R (PT)	E Min.	E1 Min.	Width across flat h	I	L
SAM 6M-2R	6	1/8	4,6	4,6	12	15,75	32,8
SAM 6M-4R	6	1/4	4,6	4,6	14	15,75	38,1
SAM 8M-4R	8	1/4	6,3	6,3	14	16,50	39,1
SAM 10M-4R	10	1/4	7,7	7,7	14	17,50	39,9
SAM 10M-6R	10	3/8	7,7	7,7	17	17,50	40,6
SAM 10M-8R	10	1/2	11,9	7,7	22	17,50	45,2
SAM 12M-4R	12	1/4	7,1	9,1	14	23,50	46,5
SAM 12M-6R	12	3/8	9,1	9,1	17	23,50	46,5
SAM 12M-8R	12	1/2	11,9	9,1	22	23,50	51,8
SAM 18M-8R	18	1/2	11,9	13,9	22	24,90	53,2
SAM 18M-12R	18	3/4	15,9	13,9	27	24,90	53,2
SAM 32M-20R	32	1-1/4	27,4	-	46	40,00	81,0
SAM 38M-24R	38	1-1/2	33,3	-	55	51,50	92,2

**SAM** - Male Adapter



**INCH connections S-LOK stem - male NPT thread**

Part No.	Tube O.D.		T (NPT)	E Min.	E1	Width across flat		l	L
	in	mm				in	mm		
SAM 2-2N	1/8	3,17	1/8	4,57	1,77	7/16	11,11	13,45	29,50
SAM 2-4N	1/8	3,17	1/4	7,11	1,77	9/16	14,28	13,45	34,80
SAM 3-2N	3/16	4,76	1/8	4,57	3,04	7/16	11,11	14,20	30,22
SAM 3-4N	3/16	4,76	1/4	7,11	3,04	9/16	14,28	14,20	35,56
SAM 4-2N	1/4	6,35	1/8	4,57	4,57	7/16	11,11	15,75	31,80
SAM 4-4N	1/4	6,35	1/4	7,11	4,57	9/16	14,28	15,75	37,08
SAM 4-6N	1/4	6,35	3/8	10,41	4,57	11/16	17,46	15,75	37,84
SAM 4-8N	1/4	6,35	1/2	12,70	4,57	7/8	22,22	15,75	43,43
SAM 5-2N	5/16	7,93	1/8	4,57	6,35	7/16	11,11	16,80	32,76
SAM 5-4N	5/16	7,93	1/4	7,11	6,35	9/16	14,28	16,80	38,10
SAM 6-2N	3/8	9,52	1/8	4,57	7,11	7/16	11,11	17,50	33,50
SAM 6-4N	3/8	9,52	1/4	7,11	7,11	9/16	14,28	17,50	38,90
SAM 6-6N	3/8	9,52	3/8	10,41	7,11	11/16	17,46	17,50	39,60
SAM 6-8N	3/8	9,52	1/2	12,70	7,11	7/8	22,22	17,50	45,20
SAM 8-4N	1/2	12,70	1/4	7,11	9,90	9/16	14,28	23,20	44,50
SAM 8-6N	1/2	12,70	3/8	10,41	9,90	11/16	17,46	23,20	45,20
SAM 8-8N	1/2	12,70	1/2	12,70	9,90	7/8	22,22	23,20	50,50
SAM 10-6N	5/8	15,87	3/8	10,41	12,70	11/16	17,46	24,70	47,40
SAM 10-8N	5/8	15,87	1/2	12,70	12,70	7/8	22,22	24,70	52,30
SAM 10-12N	5/8	15,87	3/4	18,28	12,70	1-1/16	26,98	24,70	52,30
SAM 12-8N	3/4	19,05	1/2	12,70	14,98	7/8	22,22	24,70	52,30
SAM 12-12N	3/4	19,05	3/4	18,28	14,98	1-1/16	26,98	24,70	52,30
SAM 12-16N	3/4	19,05	1	22,35	14,98	1-3/8	34,92	24,70	57,91
SAM 14-12N	7/8	22,22	3/4	18,28	17,27	1-1/16	26,98	26,70	54,30
SAM 16-12N	1	25,40	3/4	18,28	20,06	1-1/16	26,98	31,70	58,70
SAM 16-16N	1	25,40	1	22,35	20,06	1-3/8	34,92	31,70	66,00
SAM 20-20N	1-1/4	31,75	1-1/4	27,68	-	1-3/4	44,45	40,00	80,26
SAM 24-24N	1-1/2	38,10	1-1/2	33,27	-	2-1/8	53,98	51,50	94,48
SAM 32-32N	2	50,80	2	44,45	-	2-3/4	69,85	68,40	119,38

The S-Lok adapter eliminates alignment problems



In the direction shown the female port is required to connect with the tubing



The male elbow is positioning in the wrong direction

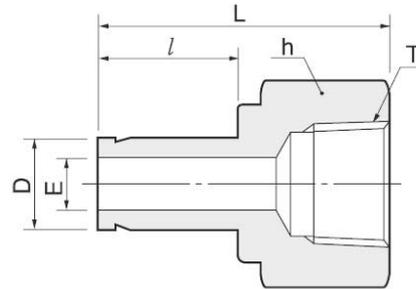


To eliminate the problem, use a male adapter into the female port



Connect a union elbow to the adapter by tightening the S-LOK port with a wrench while holding the elbow wrench pad in the desired direction

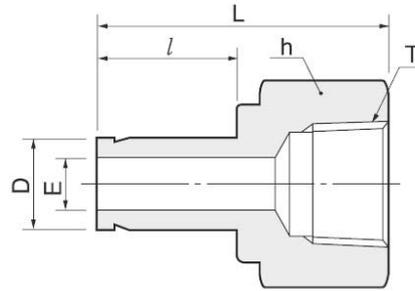
**SAF - Female Adapter**



**INCH connections S-LOK stem - female NPT thread**

Part No.	Tube O.D.		T (NPT)	E Min.	Width across flat		l	L
	D				h			
	in	mm			in	mm		
SAF 2-2N	1/8	3,17	1/8	1,77	9/16	14,28	13,45	31,50
SAF 2-4N	1/8	3,17	1/4	1,77	3/4	19,05	13,45	35,30
SAF 3-2N	3/16	4,76	1/8	3,04	9/16	14,28	14,20	32,00
SAF 3-4N	3/16	4,76	1/4	3,04	3/4	19,05	14,20	35,81
SAF 4-2N	1/4	6,35	1/8	4,57	9/16	14,28	15,75	33,02
SAF 4-4N	1/4	6,35	1/4	4,57	3/4	19,05	15,75	37,10
SAF 4-6N	1/4	6,35	3/8	4,57	7/8	22,22	15,75	39,37
SAF 4-8N	1/4	6,35	1/2	4,57	1-1/16	26,98	15,75	45,50
SAF 5-2N	5/16	7,93	1/8	6,35	9/16	14,28	16,80	34,29
SAF 5-4N	5/16	7,93	1/4	6,35	3/4	19,05	16,80	37,59
SAF 6-2N	3/8	9,52	1/8	7,11	9/16	14,28	17,50	34,29
SAF 6-4N	3/8	9,52	1/4	7,11	3/4	19,05	17,50	38,10
SAF 6-6N	3/8	9,52	3/8	7,11	7/8	22,22	17,50	40,38
SAF 6-8N	3/8	9,52	1/2	7,11	1-1/16	26,98	17,50	46,73
SAF 8-4N	1/2	12,70	1/4	9,90	3/4	19,05	23,20	43,43
SAF 8-6N	1/2	12,70	3/8	9,90	7/8	22,22	23,20	45,46
SAF 8-8N	1/2	12,70	1/2	9,90	1-1/16	26,98	23,20	51,80
SAF 10-6N	5/8	15,87	3/8	12,70	7/8	22,22	24,70	48,26
SAF 10-8N	5/8	15,87	1/2	12,70	1-1/16	26,98	24,70	53,84
SAF 10-12N	5/8	15,87	3/4	12,70	1-5/16	33,33	24,70	55,37
SAF 12-8N	3/4	19,05	1/2	14,98	1-1/16	26,98	24,70	52,83
SAF 12-12N	3/4	19,05	3/4	14,98	1-5/16	33,33	24,70	54,86
SAF 12-16N	3/4	19,05	1	14,98	1-5/8	41,27	24,70	58,42
SAF 14-12N	7/8	22,22	3/4	17,27	1-5/16	33,33	26,70	57,15
SAF 16-12N	1	25,40	3/4	20,06	1-5/16	33,33	31,70	60,70
SAF 16-16N	1	25,40	1	20,06	1-5/8	41,27	31,70	64,26
SAF 20-20N	1-1/4	31,75	1-1/4	27,68	2-1/8	53,98	40,00	77,72
SAF 24-24N	1-1/2	38,10	1-1/2	33,27	2-3/8	60,33	51,50	88,90
SAF 32-32N	2	50,80	2	44,45	2-7/8	73,03	68,40	107,44

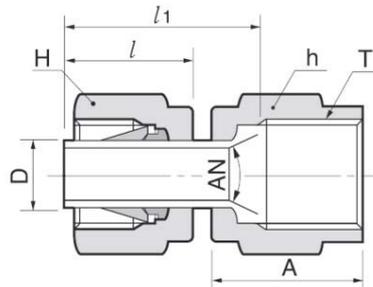
**SAF** - Female Adapter



**METRIC connections S-LOK stem - female taper thread**

Part No.	Tube O.D.		T R(PT)	E Min.	Width across flat		l	L
	D mm				h			
SAF 3M-2R	3		1/8	1,8	14	13,15	31,15	
SAF 6M-2R	6		1/8	4,6	14	15,75	32,50	
SAF 6M-4R	6		1/4	4,6	19	15,75	37,10	
SAF 8M-4R	8		1/4	6,3	19	16,50	37,60	
SAF 10M-4R	10		1/4	7,7	19	17,50	38,10	
SAF 10M-6R	10		3/8	7,7	22	17,50	40,10	
SAF 10M-8R	10		1/2	7,7	27	17,50	46,50	
SAF 12M-4R	12		1/4	9,1	19	23,50	43,70	
SAF 12M-6R	12		3/8	9,1	22	23,50	46,00	
SAF 12M-8R	12		1/2	9,1	27	23,50	52,30	
SAF 18M-12R	18		3/4	13,9	32	24,90	54,80	

**SAA** - AN Adapter



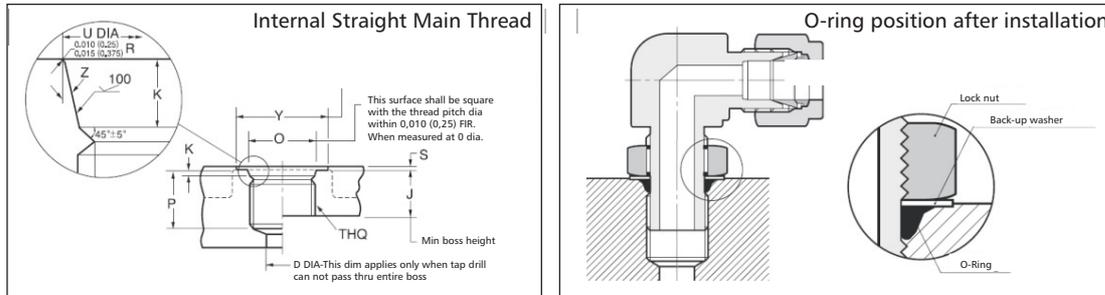
**METRIC connections S-LOK port - female taper thread**

Part No.	Tube O.D.		AN Tube Flare Size		Straight thread T (U)	Width across flat				A	l	L
	D					h		H				
	in	mm	in	mm		in	mm	in	mm			
SAA 2-2	1/8	3,17	1/8	3,17	5/16-24	3/8	9,52	7/16	11,11	13,71	13,46	18,54
SAA 2-4	1/8	3,17	1/4	6,35	7/16-20	9/16	14,28	7/16	11,11	15,74	13,46	19,05
SAA 4-4	1/4	6,35	1/4	6,35	7/16-20	9/16	14,28	9/16	14,28	15,74	15,74	21,33
SAA 6-6	3/8	9,52	3/8	9,52	9/16-18	11/16	17,46	11/16	17,46	18,28	17,52	24,89
SAA 8-8	1/2	12,70	1/2	12,70	3/4-16	7/8	22,22	7/8	22,22	21,59	23,11	31,75

S-LOK Straight O-ring Seal Fittings have positionable features and provide connection tube to straight the thread main. Further to this, it has an advantage of eliminating welding and brazing process when it is used as bulkhead fitting on thin wall tanks or vessels.

These fittings are designed and manufactured as below:

Male or External Fitting End Dimensions J514  
 Straight thread to SAE J475 (equivalent to ANSI B1,1 or ISO R725)  
 Female or Internal Straight Thread Boss J1926. See diagram below.



**Details of Internal Straight Thread Boss**

Nom. Tube O.D.	Thread Size	D min.	J min.	K (±0,2)	O min.	P <sup>d</sup> min.	U <sup>a</sup> (+0,13)	Y <sup>c</sup>	S <sup>bc</sup> max	Z (±1°)
1/8	5/16-24	1,6	10,0	1,9	11	12,0	9,1	17	1,6	12°
3/16	3/8-24	3,2	10,0	1,9	13	12,0	10,7	19	1,6	12°
1/4	7/16-20	4,4	11,5	2,4	15	14,0	12,4	21	1,6	12°
5/16	1/2-20	6,0	11,5	2,4	16	14,0	14,0	23	1,6	12°
3/8	9/16-18	7,5	12,7	2,5	18	15,5	15,6	25	1,6	12°
1/2	3/4-16	10,0	14,3	2,5	22	17,5	20,6	30	2,4	15°
5/8	7/8-14	12,5	16,7	2,5	26	20,0	23,9	34	2,4	15°
3/4	1-1/16-12	16,0	19,0	3,3	32	23,0	29,2	41	2,4	15°
7/8	1-3/16-12	18,0	19,0	3,3	35	23,0	32,3	45	2,4	15°
1	1-5/16-12	21,0	19,0	3,3	38	23,0	35,5	49	3,2	15°
1-1/4	1-5/8-12	27,0	19,0	3,3	48	23,0	43,5	58	3,2	15°
1-1/2	1-7/8-12	33,0	19,0	3,3	54	23,0	49,8	65	3,2	15°
2	2-1/2-12	70,0	19,0	3,3	70	23,0	65,7	88	3,2	15°

- a - Diameter U shall be concentric with the thread pitch diameter within 0,13 full indicator reading (FIR) and shall be without longitudinal and spiral tool marks. The tool marks up to 2,5 Micro meters max. shall be allowable.
- b - This is the maximum recommended spotface depth to allow sufficient wrench grip for the proper tightening of the fitting or locknut.
- c - If the face of the main one is on a machined surface, dimensions Y and S do not need to be applied as long as R 0,25/0,375 is maintained to avoid damage to the o’ring during installation.
- d - The depths of the given tap drills require the use of bottoming taps to produce the specified full thread lengths. Where standard taps are used, the tap drill depths must be increased accordingly

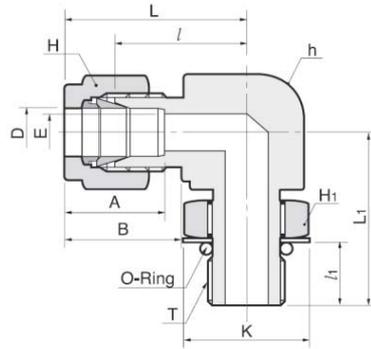
**Details of Internal Straight Main Thread**

Nominal Tube O.D.	Port Size	Thread size	Size no.	O-Ring	
				I.D. inch	Cross Section inch
1/8	2	5/16-24	902	0,239	0,064
3/16	3	3/8-24	903	0,301	0,064
1/4	4	7/16-20	904	0,351	0,072
5/16	5	1/2-20	905	0,414	0,072
3/8	6	9/16-18	906	0,468	0,078
1/2	8	3/4-16	908	0,644	0,087
5/8	10	7/8-14	910	0,755	0,097
3/4	12	1-1/16-12	912	0,924	0,116
7/8	14	1-3/16-12	914	1,048	0,116
1	16	1-5/16-12	916	1,171	0,116
1-1/4	20	1-5/8-12	920	1,475	0,118
1-1/2	24	1-7/8-12	924	1,720	0,118
2	32	2-1/2-12	932	2,337	0,118

**Installation Instruction**

- Step 1 - Ensure the locknut is fully raised
- Step 2 - Lubricate the o’ring with a light oil or petroleum and turn the fitting into the straight main thread until the metal washer is in contact with it.
- Step 3 - Position the fitting by backing it out (not more than 1 turn counter-clockwise) until the S-LOK fitting is oriented in the desired direction.
- Step 4 - With a back up wrench, hold the wrench pad and tighten the locknut until the washer is set against the face of the main thread.

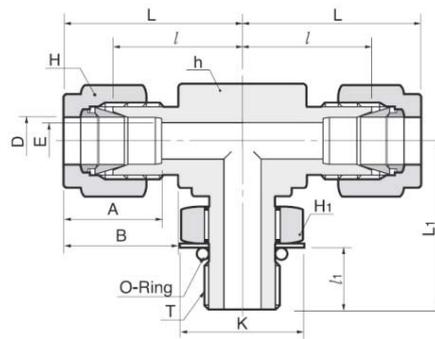
**SLS - Positionable Male Elbow**



**INCH tube connections to straight main thread**

Part No.	Tube O.D.		Straight Thread T(u)	E Min.	Width across flat						A	B	I	I1	L	L1	K	O'ring uniform Size Number
	D				h	H	H1	L	L1	K								
	in	mm																
SLS 4-4U	1/4	6,35	7/16-20	4,82	1/2	12,70	9/16	14,28	9/16	14,28	15,24	17,78	21,08	9,90	28,44	28,44	16,51	-904
SLS 5-5U	5/16	7,93	1/2-20	5,84	9/16	14,28	5/8	15,87	5/8	15,87	16,25	18,54	22,86	9,90	30,22	29,46	18,28	-905
SLS 6-6U	3/8	9,52	9/16-18	7,11	5/8	15,87	11/16	17,46	11/16	17,46	16,76	19,30	24,63	11,17	32,00	32,25	20,06	-906
SLS 6-8U	3/8	9,52	3/4-16	7,11	13/16	20,64	11/16	17,46	7/8	22,22	16,76	19,30	27,43	12,70	34,79	37,84	25,65	-908
SLS 8-8U	1/2	12,70	3/4-16	10,41	13/16	20,64	7/8	22,22	7/8	22,22	22,86	21,84	27,43	12,70	37,59	37,84	25,65	-908
SLS 10-10U	5/8	15,87	7/8-14	12,70	1	25,40	1	25,40	1	25,40	24,38	21,84	29,46	14,22	39,62	43,43	29,46	-910
SLS 12-12U	3/4	19,05	1-1/16-12	15,74	1-1/16	26,98	1-1/8	28,57	1-1/4	31,75	24,38	21,84	31,24	16,76	41,40	48,76	36,57	-912
SLS 14-14U	7/8	22,22	1-3/16-12	18,28	1-1/4	31,75	1-1/4	31,75	1-3/8	34,92	25,90	21,84	33,02	16,76	43,18	50,54	40,38	-914
SLS 16-16U	1	25,40	1-5/16-12	22,35	1-3/8	34,92	1-1/2	38,10	1-1/2	38,10	31,24	26,41	38,35	16,76	50,54	53,59	43,94	-916

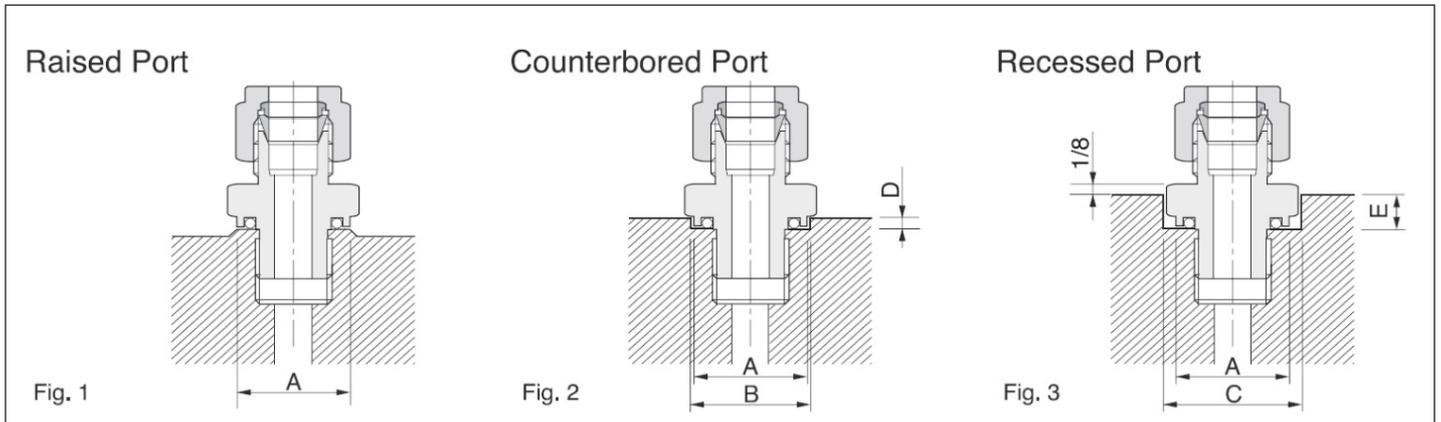
**STBS - Positionable Male Branch Tee**



**INCH tube connections to straight main thread**

Part No.	Tube O.D.		Straight Thread T(u)	E Min.	Width across flat						A	B	I	I1	L	L1	K	O'ring uniform Size Number
	D				h	H	H1	L	L1	K								
	in	mm																
STBS 4-4U	1/4	6,35	7/16-20	4,82	1/2	12,70	9/16	14,28	9/16	14,28	15,24	17,78	21,08	9,90	28,44	28,44	16,51	-904
STBS 6-6U	3/8	9,52	9/16-18	7,11	5/8	15,87	11/16	17,46	11/16	17,46	16,76	19,30	24,63	11,17	32,00	32,25	20,06	-906
STBS 8-8U	1/2	12,70	3/4-16	10,41	13/16	20,64	7/8	22,22	7/8	22,22	22,86	21,84	27,43	12,70	37,59	37,84	25,65	-908
STBS 12-12U	3/4	19,05	1-1/16-12	15,74	1-1/16	26,98	1-1/8	28,58	1-1/4	31,75	24,38	21,84	31,24	16,76	41,40	48,76	36,57	-912
STBS 16-16U	1	25,40	1-5/16-12	22,35	1-3/8	34,92	1-1/2	38,10	1-1/2	38,10	31,24	26,41	38,35	16,76	50,54	53,59	43,94	-916

S-LOK o’ring seal fittings provide leak-tight sealing on both vacuum and high pressure with a smooth & flat surface, perpendicular to the threaded port to ensure metal to metal contact. The standard Buna N o’ring is contained in a precision groove to prevent o’ring extrusion at high pressures and for a controlled squeeze in a vacuum service.



**Mounting Dimensions for O-seal connectors**

S-LOK Part no.	Straight Thread	Pipe Thread	Diameter						Depth			
			A		B		C		D		E	
			Min.	Min.	Min.	Min.	Max.	Max.	Max.	Max.		
			inch	mm	inch	mm	inch	mm	inch	mm	inch	mm
SCO2-2U	5/16-24	-	0,50	12,7	0,59	15,0	0,66	16,8	0,09	2,3	0,16	5,6
SCO3-3U	3/8-24	-	0,56	14,2	0,66	16,8	0,75	19,1	0,09	2,3	0,22	5,6
SCO4-4U	7/16-20	-	0,69	17,5	0,78	19,8	0,88	22,4	0,16	4,1	0,28	7,1
SCO5-5U	1/2-20	-	0,75	19,1	0,91	23,1	1,03	26,2	0,16	4,1	0,31	7,9
SCO6-6U	9/16-18	-	0,81	20,6	0,97	24,6	1,09	27,7	0,16	4,1	0,31	7,9
SCO8-8U	3/4-16	-	1,00	25,4	1,16	29,5	1,31	33,3	0,16	4,1	0,34	8,6
SCO12-12U	1-1/16-12	-	1,41	35,8	1,53	38,9	1,75	44,5	0,22	5,6	0,50	12,7
SCO16-16U	1-5/16-12	-	1,69	42,9	1,78	45,2	2,03	51,6	0,22	5,6	0,56	14,2
SCO2-2	-	1/8 NPT	0,69	17,5	0,78	19,8	0,88	22,4	0,16	4,1	0,28	7,1
SCO4-2	-	1/8 NPT	0,69	17,5	0,78	19,8	0,88	22,4	0,16	4,1	0,28	7,1
SCO4-4	-	1/4 NPT	0,87	22,1	0,97	24,6	1,09	27,7	0,16	4,1	0,31	7,9
SCO6-6	-	3/8 NPT	1,00	25,4	1,16	29,5	1,31	33,3	0,16	4,1	0,34	8,6
SCO6-8	-	1/2 NPT	1,22	31,0	1,34	34,0	1,53	38,9	0,22	5,6	0,44	11,2
SCO8-8	-	1/2 NPT	1,22	31,0	1,34	34,0	1,53	38,9	0,22	5,6	0,44	11,2

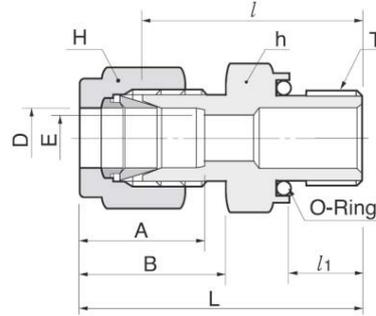
**When installing an o’ring seal fitting:**

- 1 - Hand-tighten it until the o’ring is squeeze can be felt during the last 1/4 turn
- 2 - Snug the fitting lightly with a wrench

**When connecting & disconnecting the tubing to the o’ring fitting:**

- 1 - Use a back-up wrench on the fitting hex so that it does not turn while the nut is tightened at the tubing connection.
- 2 - When you disconnect the tubing, also use a back-up wrench so that the fitting does not turn.
- 3 - For a recessed port, use a thin back-up wrench (1/8”) to hold the fitting hex (Fig. 3).

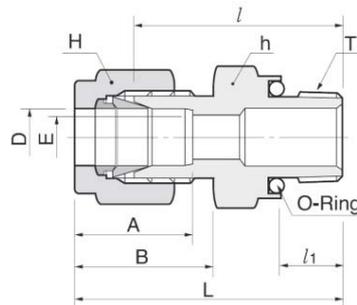
## SCOS - O-Seal Straight Thread Connector



### INCH tube connections - male straight thread

Part No.	Tube O.D. D		Straight Thread T (u)	E Min.	Width across flat				A	B	l	l1	L	O-ring Uniform Size Number
	in	mm			h	H	in	mm						
SCOS 2-2U	1/8	3,17	5/16-20	2,28	9/16	14,28	7/16	11,11	12,70	15,24	26,16	8,63	32,76	-011
SCOS 3-3U	3/16	4,76	3/8-24	3,04	5/8	15,87	1/2	12,70	13,71	16,00	27,68	9,65	34,29	-012
SCOS 4-4U	1/4	6,35	7/16-20	4,82	3/4	19,05	9/16	14,28	15,24	17,78	30,98	10,41	38,35	-111
SCOS 5-5U	5/16	7,93	1/2-20	6,35	7/8	22,22	5/8	15,87	16,25	18,54	33,27	11,17	40,64	-112
SCOS 6-6U	3/8	9,52	9/16-18	7,11	15/16	23,81	11/16	17,46	16,76	19,30	35,05	11,93	42,41	-113
SCOS 8-8U	1/2	12,70	3/4-16	10,41	1-1/8	28,57	7/8	22,22	22,86	21,84	35,81	11,93	45,97	-116
SCOS 12-12U	3/4	19,05	1-1/16-12	15,74	1-1/2	38,10	1-1/8	28,58	24,38	21,84	42,16	14,22	52,32	-215
SCOS 16-16U	1	25,40	1-5/16-12	22,35	1-3/4	44,45	1-1/2	38,10	31,24	26,41	45,97	14,22	58,16	-219

## SCOP - O-Seal Pipe Thread Connector

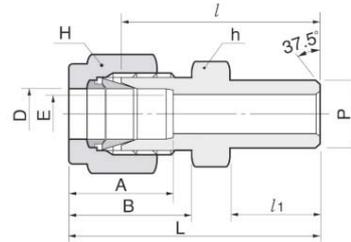


### INCH tube connections - male NPT thread

Part No.	Tube O.D. D		T *(NPT)	E Min.	Width across flat				A	B	l	l1	L	O-ring Uniform Size Number
	in	mm			h	H	in	mm						
SCOP 2-2N	1/8	3,17	1/8	2,28	3/4	19,05	7/16	11,11	12,70	15,24	26,16	7,11	32,76	-111
SCOP 4-2N	1/4	6,35	1/8	4,82	3/4	19,05	9/16	14,28	15,24	17,78	27,68	7,11	35,05	-111
SCOP 4-4N	1/4	6,35	1/4	4,82	15/16	23,81	9/16	14,28	15,24	17,78	30,98	9,65	38,35	-113
SCOP 6-4N	3/8	9,52	1/4	7,11	15/16	23,81	11/16	17,46	16,76	19,30	32,51	9,65	39,87	-113
SCOP 6-6N	3/8	9,52	3/8	7,11	1 1/8	28,58	11/16	17,46	16,76	19,30	34,03	10,41	41,40	-116
SCOP 6-8N	3/8	9,52	1/2	7,11	1 5/16	33,33	11/16	17,46	16,76	19,30	39,62	13,46	46,99	-212
SCOP 8-8N	1/2	12,70	1/2	10,41	1 5/16	33,33	7/8	22,22	22,86	21,84	39,62	13,46	49,78	-212

\*: ISO Parallel Threads are available upon request.

## SCW - Male Pipe Weld Connector



### INCH tube connections - pipe

Part No.	Tube O.D.		Male Pipe Size		E Min.	Width across flat				A	B	I	I1	L
	D		P			h		H						
	in	mm	Nom.	O.D.		in	mm	in	mm					
SCW 2-2P	1/8	3,17	1/8	10,29	2,28	7/16	11,11	7/16	11,11	12,70	15,24	23,87	9,65	31,24
SCW 3-2P	3/16	4,76	1/8	10,29	3,04	7/16	11,11	1/2	12,70	13,71	16,00	24,63	9,65	31,24
SCW 4-2P	1/4	6,35	1/8	10,29	4,82	1/2	12,70	9/16	14,28	15,24	17,78	25,40	9,65	32,76
SCW 4-4P	1/4	6,35	1/4	13,72	4,82	9/16	14,28	9/16	14,28	15,24	17,78	30,48	14,22	37,84
SCW 5-2P	5/16	7,93	1/8	10,29	5,08	9/16	14,28	5/8	15,87	16,25	18,54	26,67	9,65	34,03
SCW 5-4P	5/16	7,93	1/4	13,72	6,35	9/16	14,28	5/8	15,87	16,25	18,54	31,24	14,22	38,60
SCW 6-4P	3/8	9,52	1/4	13,72	7,11	5/8	15,87	11/16	17,46	16,76	19,30	32,51	14,22	39,87
SCW 6-6P	3/8	9,52	3/8	17,15	7,11	11/16	17,46	11/16	17,46	16,76	19,30	32,51	14,22	39,87
SCW 6-8P	3/8	9,52	1/2	21,34	7,11	7/8	22,22	11/16	17,46	16,76	19,30	38,86	11,05	43,23
SCW 8-6P	1/2	12,70	3/8	17,15	10,41	13/16	20,64	7/8	22,22	22,86	21,84	33,27	14,22	43,43
SCW 8-8P	1/2	12,70	1/2	21,34	10,41	7/8	22,22	7/8	22,22	22,86	21,84	38,86	19,05	49,02
SCW 8-12P	1/2	12,70	3/4	26,67	10,41	1-1/16	26,98	7/8	22,22	22,86	21,84	40,38	19,05	50,54
SCW 10-8P	5/8	15,87	1/2	21,34	12,70	15/16	23,81	1	25,40	24,38	21,84	38,86	19,05	49,02
SCW 12-12P	3/4	19,05	3/4	26,67	15,74	1-1/16	26,98	1-1/8	28,58	24,38	21,84	40,38	19,05	50,54
SCW 16-16P	1	25,40	1	33,40	22,35	1-3/8	34,92	1-1/2	38,10	31,24	26,41	50,03	23,87	62,23
SCW 20-20P	1-1/4	31,75	1-1/4	42,16	27,68	1-3/4	44,45	2	50,80	41,14	38,86	55,11	23,87	77,21
SCW 24-24P	1-1/2	38,10	1-1/2	48,26	34,03	2-1/8	53,98	2-1/4	57,15	50,03	45,21	61,72	26,16	88,90
SCW 32-32P	2	50,80	2	60,33	47,75	2-3/4	69,85	3	76,20	67,56	62,73	76,20	26,92	113,53

### METRIC tube connections - pipe

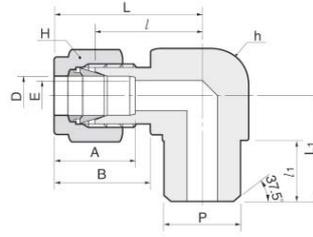
Part No.	Tube O.D.		Male Pipe Size		E Min.	Width across flat				A	B	I	I1	L
	D		P			h		H						
	mm	mm	Nom.	O.D.		mm	mm	mm	mm					
SCW 3M-2P	3		1/8	10,29	2,4	12	12	12,9	15,3	23,1	9,7	29,7		
SCW 4M-2P	4		1/8	10,29	2,4	12	12	13,7	16,1	24,1	9,7	30,7		
SCW 6M-2P	6		1/8	10,29	4,8	14	14	15,3	17,7	25,4	9,7	32,8		
SCW 6M-4P	6		1/4	13,72	4,8	14	14	15,3	17,7	30,2	14,2	37,6		
SCW 8M-2P	8		1/8	10,29	5,1	15	16	16,2	18,6	26,7	9,7	34,2		
SCW 8M-4P	8		1/4	13,72	6,4	15	16	16,2	18,6	31,2	14,2	38,7		
SCW 8M-8P	8		1/2	21,34	6,4	22	16	16,2	18,6	37,3	19,0	44,8		
SCW 10M-4P	10		1/4	13,72	7,1	18	19	17,2	19,5	33,3	14,2	40,9		
SCW 10M-6P	10		3/8	17,15	7,9	18	19	17,2	19,5	32,5	14,2	40,1		
SCW 10M-8P	10		1/2	21,34	7,9	22	19	17,2	19,5	38,1	19,0	45,7		
SCW 12M-4P	12		1/4	13,72	7,1	22	22	22,8	22,0	33,3	14,2	43,4		
SCW 12M-6P	12		3/8	17,15	9,5	22	22	22,8	22,0	33,3	14,2	43,4		
SCW 12M-8P	12		1/2	21,34	9,5	22	22	22,8	22,0	38,1	19,0	48,2		
SCW 14M-6P	14		3/8	17,15	10,3	24	25	24,4	22,0	34,0	14,2	44,1		
SCW 15M-8P	15		1/2	21,34	11,9	24	25	24,4	22,0	38,9	19,0	49,0		
SCW 16M-8P	16		1/2	21,34	12,7	24	25	24,4	22,0	38,9	19,0	49,0		
SCW 18M-8P	18		1/2	21,34	13,5	27	30	24,4	22,0	40,4	19,0	50,5		
SCW 32M-20P	32		1-1/4	42,16	28,6	46	50	42,0	41,6	56,6	23,9	79,6		
SCW 38M-24P	38		1-1/2	48,26	33,7	55	60	49,4	47,9	64,0	26,2	91,6		

S-LOK weld ends are constructed to schedule 80 wall or greater.

The first step is to remove the nut and ferrules from the S-LOK fitting to protect them from weld head and cover the threads with a protective device (i.e. another nut or a plug) SP to protect the S-LOK port threads & sealing surface from weld spatter. Only finger-tighten the protective device so that you can use it many times.

The second step is to tack weld at four positions 90° apart to hold the fitting in place to ensure alignment and concentricity of the components, then complete the weld.

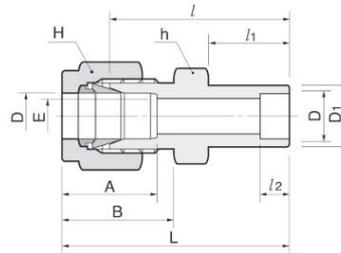
**SLW** - Male Pipe Weld Elbow



**INCH tube connections - pipe**

Part No.	Tube O.D.		Male Pipe Size		E Min.	Width across flat				A	B	I	I1	L	L1
	D		P			h		H							
	in	mm	Nom.	O.D.		in	mm	in	mm						
SLW 2-2P	1/8	3,17	1/8	10,29	4,82	1/2	12,70	9/16	14,28	15,24	17,78	19,55	9,65	26,92	18,79
SLW 4-4P	1/4	6,35	1/4	13,72	4,82	1/2	12,70	9/16	14,28	15,24	17,78	19,55	14,22	26,92	23,36
SLW 6-4P	3/8	9,52	1/4	13,72	7,11	5/8	15,87	11/16	17,46	16,76	19,30	23,11	14,22	30,48	25,40
SLW 8-8P	1/2	12,70	1/2	21,34	10,41	13/16	20,64	7/8	22,22	22,86	21,84	25,90	19,05	36,06	33,02
SLW 12-12P	3/4	19,05	3/4	26,67	15,74	1-1/16	26,98	1-1/8	28,58	24,38	21,84	29,71	19,05	39,87	36,83

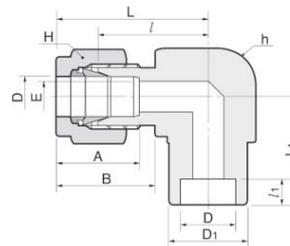
**SCSW** - Tube Socket Weld Connector



**INCH tubes connections**

Part No.	Tube O.D.		E Min.	D1	Width across flat				A	B	I	I1	I2	L
	D				h		H							
	in	mm			in	mm	in	mm						
SCSW 2-2	1/8	3,17	2,28	7,87	7/16	11,11	7/16	11,11	12,70	15,24	22,35	8,63	6,35	28,95
SCSW 4-4	1/4	6,35	4,82	11,17	1/2	12,70	9/16	14,28	15,24	17,78	26,16	10,41	7,87	33,52
SCSW 6-6	3/8	9,52	7,11	15,74	5/8	15,87	11/16	17,46	16,76	19,30	30,22	11,93	9,65	37,59
SCSW 8-8	1/2	12,70	10,41	19,05	13/16	20,64	7/8	22,22	22,86	21,84	30,98	11,93	12,70	41,14
SCSW 12-12	3/4	19,05	15,74	26,67	1 1/16	26,98	1 1/8	28,58	24,38	21,84	33,27	11,93	14,22	43,43
SCSW 16-16	1	25,40	22,35	33,27	1 3/8	34,92	1 1/2	38,10	31,24	26,41	40,38	14,22	19,05	52,57

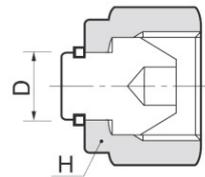
**SLSW** - Tube Socket Weld Elbow



**INCH tubes connections**

Part No.	Tube O.D.		E Min.	D1	Width across flat				A	B	I	I1	L	L1
	D				h		H							
	in	mm			in	mm	in	mm						
SLSW 4-4	1/4	6,35	4,82	12,70	1/2	12,70	9/16	14,28	15,24	17,78	19,55	7,87	26,92	19,55
SLSW 6-6	3/8	9,52	7,11	15,74	5/8	15,87	11/16	17,46	16,76	19,30	23,11	9,65	30,48	23,11
SLSW 8-8	1/2	12,70	10,41	20,57	13/16	20,64	7/8	22,22	22,86	21,84	25,90	12,70	36,06	25,90
SLSW 12-12	3/4	19,05	15,74	26,92	1-1/16	26,98	1-1/8	28,58	24,38	21,84	29,71	14,22	39,87	29,71
SLSW 16-16	1	25,40	22,35	35,05	1-3/8	34,93	1-1/2	38,10	31,24	26,41	36,83	19,05	49,02	36,83

**SP - Plug**



**INCH**

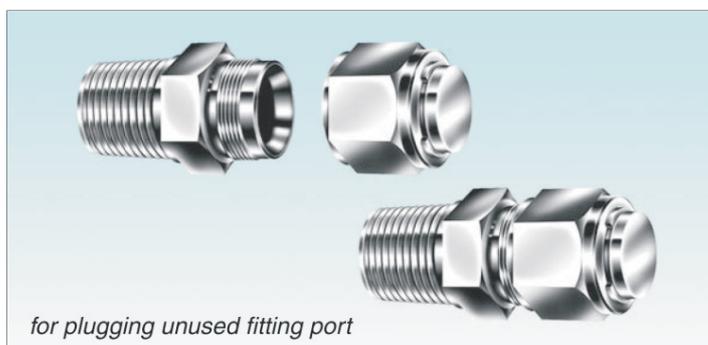
Part No.	Tube O.D. D		Width across flat H	
	in	mm	in	mm
SP-1	1/16	1,59	5/16	7,93
SP-2	1/8	3,17	7/16	11,11
SP-3	3/16	4,76	1/2	12,70
SP-4	1/4	6,35	9/16	14,28
SP-5	5/16	7,93	5/8	15,87
SP-6	3/8	9,52	11/16	17,46
SP-8	1/2	12,70	7/8	22,22
SP-10	5/8	15,87	1	25,40
SP-12	3/4	19,05	1-1/8	28,58
SP-14	7/8	22,22	1-1/4	31,75
SP-16	1	25,40	1-1/2	38,10
SP-20	1-1/4	31,75	1-7/8	47,63
SP-24	1-1/2	38,10	2-1/4	57,15
SP-32	2	50,80	3	76,20

**METRIC**

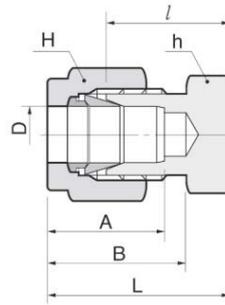
Part No.	Tube O.D. D		Width across flat H	
	in	mm	in	mm
SP-2M		2		12
SP-3M		3		12
SP-4M		4		12
SP-6M		6		14
SP-8M		8		16
SP-10M		10		19
SP-12M		12		22
SP-15M		15		25
SP-16M		16		25
SP-18M		18		30
SP-20M		20		32
SP-22M		22		32
SP-25M		25		38
SP-28M		28		46
SP-32M		32		50
SP-38M		38		60

**Installation instruction**

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



**SC - Cap**



**Cap end of INCH tube connections**

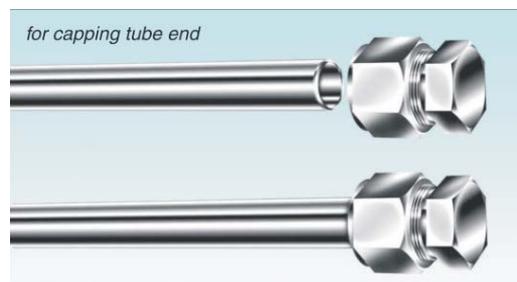
Part No.	Tube O.D.		Width across flat				A	B	l	L
	D		h		H					
	in	mm	in	mm	in	mm				
SC-1	1/16	1,59	5/16	7,93	5/16	7,93	8,63	10,92	11,20	14,18
SC-2	1/8	3,17	7/16	11,11	7/16	11,11	12,70	15,24	13,46	20,06
SC-3	3/16	4,76	7/16	11,11	1/2	12,70	13,71	16,00	14,73	21,33
SC-4	1/4	6,35	1/2	12,70	9/16	14,28	15,24	17,78	16,00	23,26
SC-5	5/16	7,93	9/16	14,28	5/8	15,87	16,25	18,54	17,01	24,38
SC-6	3/8	9,52	5/8	15,87	11/16	17,46	16,76	19,30	18,28	25,65
SC-8	1/2	12,70	13/16	20,63	7/8	22,22	22,86	21,84	19,05	29,21
SC-10	5/8	15,87	15/16	23,81	1	25,40	24,38	21,84	19,81	29,97
SC-12	3/4	19,05	1-1/16	26,98	1-1/8	28,57	24,38	21,84	21,33	31,49
SC-14	7/8	22,22	1-3/16	30,16	1-1/4	31,75	25,90	21,84	23,87	34,03
SC-16	1	25,40	1-3/8	34,92	1-1/2	38,10	31,24	26,41	26,16	38,35
SC-20	1-1/4	31,75	1-3/4	44,45	1-7/8	47,63	41,14	38,86	31,24	53,34
SC-24	1-1/2	38,10	2-1/8	53,98	2-1/4	57,15	50,15	45,21	37,33	64,51
SC-32	2	50,80	2-3/4	69,85	3	76,20	67,56	62,73	49,27	86,61

**Cap end of METRIC tube connections**

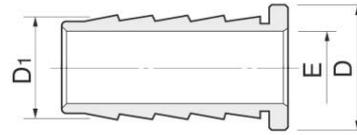
Part No.	Tube O.D.		Width across flat		A	B	l	L
	D		h					
SC-2M	2	12	12	12	12,9	15,3	13,5	20,1
SC-3M	3	12	12	12	12,9	15,3	13,5	20,1
SC-4M	4	12	12	12	13,7	16,1	14,7	21,3
SC-6M	6	14	14	14	15,3	17,7	15,7	23,1
SC-8M	8	15	16	16	16,2	18,6	17,0	24,5
SC-10M	10	18	19	19	17,2	19,5	19,0	26,6
SC-12M	12	22	22	22	22,8	22,0	19,0	29,1
SC-15M	15	24	25	25	24,4	22,0	19,8	29,9
SC-16M	16	24	25	25	24,4	22,0	19,8	29,9
SC-18M	18	27	30	30	24,4	22,0	21,3	31,4
SC-20M	20	30	32	32	26,0	22,0	23,9	34,0
SC-22M	22	30	32	32	26,0	22,0	23,9	34,0
SC-25M	25	35	38	38	31,3	26,5	26,2	38,5
SC-32M	32	46	50	50	42,0	41,6	32,8	55,8
SC-38M	38	55	60	60	49,4	47,9	37,8	65,4

**Installation instruction**

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



**SI** - Tube Insert



**INCH**

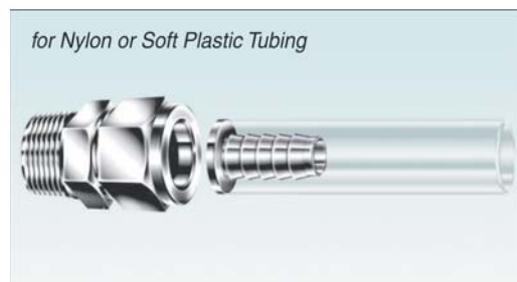
Part No.	Tube O.D.				E
	D		D1		
	in	mm	in	mm	
SI 3-2	3/16	4,76	1/8	3,17	2,28
SI 4-2	1/4	6,35	1/8	3,17	2,28
SI 4-3	1/4	6,35	3/16	4,76	3,55
SI 5-2	5/16	7,93	1/8	3,17	2,28
SI 5-3	5/16	7,93	3/16	4,76	3,04
SI 5-4	5/16	7,93	1/4	6,35	4,82
SI 6-3	3/8	9,52	3/16	4,76	3,04
SI 6-4	3/8	9,52	1/4	6,35	4,82
SI 8-4	1/2	12,70	1/4	6,35	4,82
SI 8-6	1/2	12,70	3/8	9,52	7,87
SI 10-6	5/8	15,87	3/8	9,52	7,87
SI 10-8	5/8	15,87	1/2	12,70	11,17
SI 12-8	3/4	19,05	1/2	12,70	11,17
SI 12-10	3/4	19,05	5/8	15,87	14,22
SI 16-12	1	25,40	3/4	19,05	17,52

**METRIC**

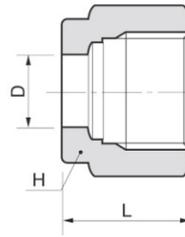
Part No.	Tube O.D.		E
	D	D1	
SI 6M-4M	6	4	2,8
SI 8M-6M	8	6	4,4
SI 10M-8M	10	8	6,4
SI 12M-8M	12	8	6,4
SI 12M-10M	12	10	8,3

**Installation instruction**

The S-Lok Tube insert supports the soft plastic tubing, so that the tubing does not collapse when the ferrules deform it. When you select a size of tube insert, check if the tubing O.D. and I.D. conform to those of the tube insert.



**SN** - Nut



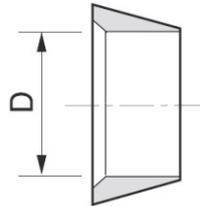
**INCH**

Part No.	Tube O.D. D		Width across flat H		L
	in	mm	in	mm	
SN-1	1/16	1,59	5/16	7,93	7,90
SN-2	1/8	3,17	7/16	11,11	11,93
SN-3	3/16	4,76	1/2	12,70	11,93
SN-4	1/4	6,35	9/16	14,28	12,70
SN-5	5/16	7,93	5/8	15,87	13,46
SN-6	3/8	9,52	11/16	17,46	14,22
SN-8	1/2	12,70	7/8	22,22	17,52
SN-10	5/8	15,87	1	25,40	17,52
SN-12	3/4	19,05	1-1/8	28,57	17,52
SN-14	7/8	22,22	1-1/4	31,75	17,52
SN-16	1	25,40	1-1/2	38,10	20,57
SN-20	1-1/4	31,75	1-7/8	47,63	31,75
SN-24	1-1/2	38,10	2-1/4	57,15	38,10
SN-32	2	50,80	3	76,20	52,32

**METRIC**

Part No.	Tube O.D. D	Width across flat H		L
SN-2M	2	12		11,90
SN-3M	3	12		11,90
SN-4M	4	12		11,90
SN-6M	6	14		12,70
SN-8M	8	16		13,50
SN-10M	10	19		15,10
SN-12M	12	22		17,40
SN-15M	15	25		17,40
SN-16M	16	25		17,40
SN-18M	18	30		17,40
SN-20M	20	32		17,40
SN-22M	22	32		17,40
SN-25M	25	38		20,60
SN-28M	28	46		30,60
SN-32M	32	50		34,40
SN-38M	38	60		40,60

**SFF - Front Ferrule**



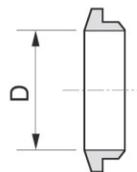
**INCH**

Part No.	Tube O.D. D	
	in	mm
SFF-1	1/16	1,59
SFF-2	1/8	3,17
SFF-3	3/16	4,76
SFF-4	1/4	6,35
SFF-5	5/16	7,93
SFF-6	3/8	9,52
SFF-8	1/2	12,70
SFF-10	5/8	15,87
SFF-12	3/4	19,05
SFF-14	7/8	22,22
SFF-16	1	25,40
SFF-20	1-1/4	31,75
SFF-24	1-1/2	38,10
SFF-32	2	50,80

**METRIC**

Part No.	Tube O.D. D
	SFF-2M
SFF-3M	3
SFF-4M	4
SFF-6M	6
SFF-8M	8
SFF-10M	10
SFF-12M	12
SFF-15M	15
SFF-16M	16
SFF-18M	18
SFF-20M	20
SFF-22M	22
SFF-25M	25
SFF-28M	28
SFF-32M	32
SFF-38M	38

**SFB - Back Ferrule**



**INCH**

Part No.	Tube O.D. D	
	in	mm
SFB-1	1/16	1,59
SFB-2	1/8	3,17
SFB-3	3/16	4,76
SFB-4	1/4	6,35
SFB-5	5/16	7,93
SFB-6	3/8	9,52
SFB-8	1/2	12,70
SFB-10	5/8	15,87
SFB-12	3/4	19,05
SFB-14	7/8	22,22
SFB-16	1	25,40
SFB-20	1-1/4	31,75
SFB-24	1-1/2	38,10
SFB-32	2	50,80

**METRIC**

Part No.	Tube O.D. D
	SFB-2M
SFB-3M	3
SFB-4M	4
SFB-6M	6
SFB-8M	8
SFB-10M	10
SFB-12M	12
SFB-15M	15
SFB-16M	16
SFB-18M	18
SFB-20M	20
SFB-22M	22
SFB-25M	25
SFB-28M	28
SFB-32M	32
SFB-38M	38

**SFS** - Ferrule Set



**INCH**

Part No.	Tube O.D. D	
	in	mm
SFS-1	1/16	1,59
SFS-2	1/8	3,17
SFS-3	3/16	4,76
SFS-4	1/4	6,35
SFS-5	5/16	7,93
SFS-6	3/8	9,52
SFS-8	1/2	12,70
SFS-10	5/8	15,87
SFS-12	3/4	19,05
SFS-14	7/8	22,22
SFS-16	1	25,40

**METRIC**

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

