



Valves & Fittings

We support the
innovations of customers

Leak - Proof Flow & Control Solution Partner

The Best Partner
for Value Creation

S-LOK® Tube Fittings

HanSun

한선엔지니어링(주)
HANSUN ENGINEERING CO., LTD.



EFORT
COUPLINGS - VALVES - TUBING

S-LOK® Tube Fittings have been designed specifically for the many demanding applications such as chemical, petroleum, power generating, pulp and paper, and various types of manufacturing industries. They provide a highly reliable, leak proof and torque free seal on all tubing connections. **S-LOK®** Tube Fittings are commonly used on instrumentation, process and control systems where high quality tube fittings are required.





Certificate List



API Spec.Q1



API Monogram



ABS



Lloyd's



KR



DNV



GL



BV



CCS



NK



ECE R110 / ISO / 5500 /
NGV 3.1 / CSA 12.3



Gost - R



Achilles



Achilles FPAL



Achilles JQS

INTRODUCTION OF S-LOK TUBE FITTING

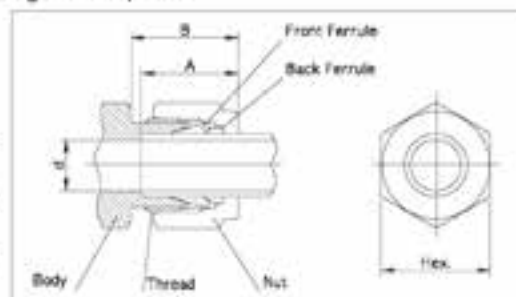
S-LOK tube fittings are manufactured under very strict quality control to assure maximum reliable performance. S-LOK tube fittings require no special tools assembly. Connections can be quickly and easily made by simple insertion and tightening the nuts.

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 fittings could also be used in extensive applications of other fields where very high quality tube fittings are 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 is also located between the body and nut. As the front ferrule rolls, the back ferrule rolls up and bites into the tube resulting in the connection of tube and the fitting as well as a non-leakage effect.



The twin ferrule design achieves the leak proof sealing by assembly motion being transmitted axially through the tubing. This results in no radial movement of the tubing upon assembly. Therefore, the tube is not stressed and the mechanical integrity is maintained. This is the result of close monitoring of tolerance control in machining, and surface smoothness and hardness of each and every part of S-LOK tube fittings. Through this swaging action, S-LOK tube fittings are mechanically integrated with the tube connected.

S-LOK Fractional Tube End Dimensions

Unit: mm

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	13.71	16.00	3.04	12.70
4	1/4	7/16-20UNF	15.24	17.78	4.82	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	7.11	17.40
8	1/2	3/4-20UNEF	22.86	21.84	10.41	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	15.74	28.60
14	7/8	1-1/8-20UN	25.90	21.84	18.28	31.80
16	1	1-5/16-20UN	31.24	26.41	22.35	38.10

S-LOK Metric Tube End Dimensions

Unit: mm

Size No.	Tube O.D.	S-LOK Thread	A	B	d	Hex.
3M	3mm	5/16-20UN	12.9	15.3	2.4	12.0
4M	4mm	3/8-20UN	13.7	16.1	2.4	12.0
6M	6mm	7/16-20UNF	15.3	17.7	4.8	14.0
8M	8mm	1/2-20UNF	16.2	18.6	6.4	16.0
10M	10mm	5/8-20UN	17.2	19.5	7.9	19.0
12M	12mm	3/4-20UNEF	22.8	22.0	9.5	22.0
15M	15mm	7/8-20UNEF	24.4	22.0	11.9	25.0
16M	16mm	7/8-20UNEF	24.4	22.0	12.7	25.0
18M	18mm	1-20UNEF	24.4	22.0	15.1	30.0
20M	20mm	1-1/8-20UN	26.0	22.0	15.9	32.0
22M	22mm	1-1/8-20UN	26.0	22.0	18.3	32.0
25M	25mm	1-5/16-20UN	31.3	26.5	21.8	38.0

FITTING MATERIALS

S-LOK tube fittings are made of 316 stainless steel (S316), brass and alloy steel such as monel or others.

SUITABLE TUBING MATERIALS

S-LOK tube fittings can be used with the following tube specifications:

Stainless steel tube;

- TP304 and TP316 of ASTM A269 or A213, or equivalent.
- SUS304TP and SUS316TP of JIS G3459 or equivalent.
- The wall thickness selection should be based on the operation pressure, temperature and shock conditions. Fully annealed tubing is recommended.

Stainless steel tubing with the hardness of Rockwell B90 or less should be used.

- Specific recommendation-See Table 1.(page 5)

Typical Raw Material List

Fitting Material	Bar Stock	Forging	Tubing
Stainless Steel Type 316	ASTM A479 ASTM A276 JIS G4303	ASTM A182 F316 JIS G3214	ASTM A269 ASTM A213 ASTM A249
Brass	ASTM B16 Alloy 360 ASTM B453 Alloy 345 JIS H3250 Alloy C3604	ASTM B124 Alloy 377 JIS H3250 Alloy C3771	ASTM B68 ASTM B75 ASTM B88 DIN 1786
Carbon Steel	JIS G4051 S20C-S48C	JIS G4051 S20C-S48C	ASTM A161 ASTM A179 DIN 2391
Alloy 400	ASTM B164	ASTM B164	ASTM B165

Tubing

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

- General Rules.

1. For leak-free sealing, the tubing surface is very important. The tubing must have a good surface condition with free of scratches, draw mark, flat spots or dirt.
2. In case of welded tubing, it should not have a visible poor bead on its surface.
3. Tubing and fitting material is essential for the thermal compatibility and corrosion resistance. The material should be compatible with the processing fluid, the temperature and the environment.
4. Tubing must be softer than 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 2 to 4.
6. Do not select a too thin or too thick wall. A too thin wall may collapse, and a too thick wall may not properly be deformed by the ferrule action. Selecting the wall's thickness should be based on the applicable pressure, temperature, shock and vibration.

- Consider the following in selecting tube.

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

Tubing Temperature Ranges

The maximum and minimum operating temperatures for various tubing material.

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 800°F (-195°C to 315°C)
PTFE	0°F to 150°F (-17°C to 65°C)

Allowable 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®)	-35°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 240°C (-76°F to 464°F)

Temperature De-rating Factors

The allowable working pressure is determined by various temperatures.

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

Table 1. Temperature De-rating Factors

Temp. °F (°C)	Stainless Steel ASTM A269 304 316	C.Steel ASTM A179	Copper ASTM B75	Alloy 400
100 (37)	1.00	1.00	1.00	1.00
200 (93)	1.00	1.00	0.95	0.88
300 (148)	1.00	1.00	0.90	0.82
400 (204)	0.93	0.96	0.86	0.79
500 (260)	0.87	0.90	0.82	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 S316 3/8 O.D. x 0.035" at 700°F.

$$3,300\text{psi} \times 0.82 = 2,706\text{psi}$$

Therefore 2,706psi is the maximum allowable working pressure of S316 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 : HRB90 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
1/16"	5,600	6,800	8,100	9,400	12,000										
1/8"						8,500	10,900								
3/16"						5,400	7,000	10,200							
1/4"						4,000	5,100	7,500	10,200						
5/16"							4,000	5,800	8,000						
3/8"							3,300	4,800	6,500						
1/2"	For gas service, applying						2,600	3,700	5,100	6,700					
5/8"	tube wall thickness should only							2,900	4,000	5,200	6,000				
3/4"	be selected from the outside of							2,400	3,300	4,200	4,900	5,800			
7/8"	the shaded boundary							2,000	2,800	3,600	4,200	4,800			
1"									2,400	3,100	3,600	4,200	4,700		
1 1/4"										2,400	2,800	3,300	3,600	4,100	4,900
1 1/2"											2,300	2,700	3,000	3,400	4,000
2"												2,000	2,200	2,500	2,900

Stainless Steel Metric Tubing															
Tube O.D (mm)	Tube Wall Thickness in mm (inches)														
	0.71 (0.028)	0.89 (0.035)	1.00	1.25 (0.049)	1.50	1.65 (0.065)	2.0	2.11 (0.083)	2.41 (0.095)	2.50	2.77 (0.109)	3.00	3.05 (0.120)	3.50	4.00
3	10,800	13,800	15,300												
4	7,900	10,100	11,500	14,400											
6	5,000	6,500	7,400	9,400	11,500	12,700									
8		4,700	5,800	6,800	8,400	9,300									
10		3,700	4,200	5,300	6,500	7,300									
12		3,000	3,400	4,400	5,300	5,900	6,600	7,000							
16			2,500	3,200	3,900	4,300	5,300	5,700	6,600	6,800					
18	For gas service,			2,800	3,400	3,600	4,700	5,000	5,800	6,000	6,700				
20	applying tube wall			2,500	3,000	3,400	4,200	4,400	5,100	5,300	6,000				
22	thickness should only			2,300	2,800	3,000	3,800	4,000	4,600	4,800	5,400				
25	be selected from the			2,000	2,400	2,700	3,300	3,500	4,000	4,200	4,700	5,100	5,200		
38	outside of the shaded boundary									2,300	-	2,900	-	3,400	3,900

- Working pressures are based on allowable stress value of 20,000psi (137,800kPa=1,378bar) as specified in ASME B31.3 within 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" O.D tolerance ± 0.005 " W.T. $\pm 10\%$. Calculations are based on 0.050" O.D 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 of ASME B31.1, multiply the above value by 0.94

Welded stainless steel Tubing

Based on ASME B31.3 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

Table3. 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"	1,700	3,800	5,400	6,000						
1/8"			2,700	3,400				Working Pressure in psig		
3/16"			1,800	2,300	3,400					
1/4"			1,300	1,600	2,500	3,500				
5/16"				1,300	1,900	2,700				
3/8"				1,000	1,600	2,200				
1/2"	For gas service, applying			800	1,100	1,600	2,200			
5/8"	tube wall thickness should only				900	1,200	1,600	1,900		
3/4"	be selected from the outside of				700	1,000	1,300	1,500	1,800	
7/8"	the shaded boundary				600	800	1,100	1,300	1,500	
1"					500	700	900	1,100	1,300	1,500

Copper Metric Tubing													
Tube O.D. (mm)	Tube Wall Thickness in mm (inches)												
	0.71 (0.028)	0.89 (0.035)	1.0	1.25 (0.049)	1.5	1.65 (0.065)	2.0	2.11 (0.083)	2.41 (0.095)	2.5	2.77 (0.109)	3.0	3.05 (0.120)
3	3,400	4,400	4,900										
4	2,500	3,200	3,600	4,600									
6	1,6100	2,000	2,300	3,000	3,600	4,000				Working Pressure in psig			
8		1,500	1,700	2,700	2,600	2,900							
10		1,100	1,300	1,700	2,000	2,300							
12		900	1,100	1,400	1,700	1,900	2,300	2,500					
16	For gas service,		800	1,000	1,200	1,300	1,700	1,800	2,100	2,100			
18	applying tube wall thickness			900	1,100	1,200	1,500	1,600	1,800	1,900	2,100		
20	should only be selected			800	900	1,000	1,300	1,400	1,600	1,700	1,900		
22	from the outside of the			700	900	900	1,200	1,200	1,400	1,500	1,700		
25	shaded boundary			600	700	800	1,000	1,100	1,200	1,300	1,400	1,600	1,600

• Working pressures are based on allowable stress value of 6000psi(413bar=41,300kPa) as specified in ASME B31.3 within 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 of ASME B31.1, multiply the above value by 0.94

Alloy 400 Tubing

Fully annealed seamless Alloy 400 tubing to ASTM B165 or equivalent.

Hardness : HRB75 or less

Table 4. For seamless Alloy400 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"			7,900	10,100						
1/4"			3,700	4,800	7,000	9,500				
3/8"	For gas service, applying			3,100	4,400	6,100		Working Pressure in psig		
1/2"	tube wall thickness should only			2,300	3,200	4,400				
3/4"	be selected from the outside of				2,200	3,000	4,000	4,800		
1"	the shaded boundary					2,200	2,900	3,400	3,900	4,300

- Working pressures are based on allowable stress value of 20,000psi (137,800kPa=1,378bar) as specified in ASME B31.3-1999 within 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 of ASME B31.1, multiply the above value by 0.94

Special Alloy Tubing

When special alloy tubing is selected, we recommend:

Fully annealed seamless (or welded and cold-drawn, where permitted) 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
C276	Alloy C276	B622	Seamless	HRB 100
A600	Alloy 600	B167	Seamless	HRB 92
Ti	Titanium-Grade2	B338	Seamless or Welded	-

Pressure Rating Equivalents:

- | | |
|------------------------------|--|
| 1) 1bar = 100kPa = 14.51psi | 2) 1kPa = 0.01bar = 0.1451 psi |
| 3) 1psi = 0.069bar = 6.89kPa | 4) 1 kg / cm ² = 0.98bar = 14.22psi |

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 the most minute leakpath 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 316 stainless steel provide highly reliable performance from cryogenic temperatures to high temperature levels.

316 stainless steel temperature range : -321°F to 1200°F (-196°C to 649°C)

Cryogenic temperature 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 occasionally have a lower pressure rating than the pressure rating of the tube fitting end so consider both of the ratings.

Table 5. Pipe End Pressure Rating

Size Designator	ISO/NPT Pipe Size	Stainless Steel 316				Brass				Carbon Steel			
		Male		Female		Male		Female		Male		Female	
		psig	bar	psig	bar	psig	bar	psig	psig	psig	bar	psig	psig
1	1/16	11,000	758	6,700	462	5,500	379	3,300	227	11,000	758	6,700	462
2	1/8	10,000	689	6,500	448	5,000	345	3,200	221	10,000	689	6,500	448
4	1/4	8,000	551	6,600	455	4,000	276	3,300	227	8,000	551	6,600	455
6	3/8	7,800	538	5,300	365	3,900	269	2,600	179	7,800	538	5,300	365
8	1/2	7,700	531	4,900	338	3,800	262	2,400	165	7,700	531	4,900	338
12	3/4	7,300	503	4,600	317	3,600	248	2,300	159	7,300	503	4,600	317
16	1	5,300	365	4,400	303	2,600	179	2,200	152	5,300	365	4,400	303
20	1-1/4	6,000	414	5,000	345	3,000	207	2,500	172	6,000	414	5,000	345
24	1-1/2	5,000	345	4,600	317	2,500	172	2,300	159	5,000	345	4,600	317
32	2	3,900	269	3,900	269	1,900	131	1,900	131	3,900	269	3,900	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.

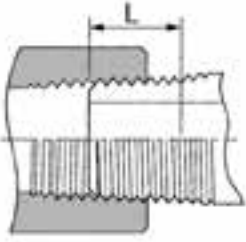
Pipe Thread Sealant

Pipe thread sealant is essential to ensure leak-free seal.

Since the PTFE tape is commonly used, we provide information of recommended tape width, as well as the numbers of thread to be wrapped. The PTFE 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 PTFE tape clockwise from first thread. Do not overhang the first thread, as the tape may get into the fluid system.
- 2.PTFE tape has a temperature limit of 230°C (450°F)

Note

The information shown in table 1-6 are not for design purpose, but for reference only.
The accuracy of information is not the liability of our company.

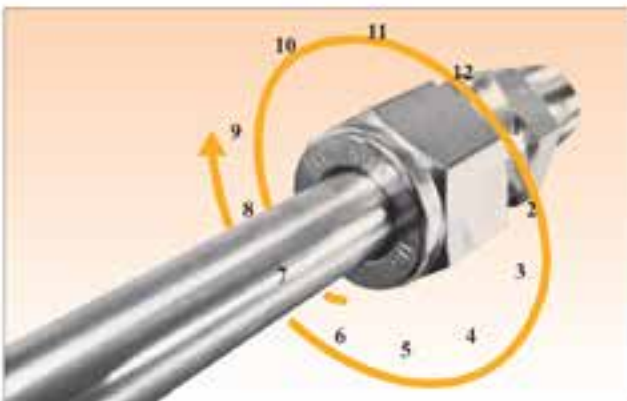
S-LOK® Tube Fitting Instruction Manual

Installation Instruction

Fully insert the tube into the fitting and against the shoulder; tight the nut by finger-tightening. (Caution : The tube may be elliptical or have burrs; foreign material on the surface and/or inside of the tube fitting).



Mark the nut at the 6 o'clock position before placing the spanner.



While holding the fitting body steady, tight the nut with the spanner by turning one and one-quarter (1 1/4) clockwise. Make sure that the spanner's starting point at 6 o'clock is being positioned at 9 o'clock after tightening 1 1/4 clockwise.

Tighten the nut only 3/4 turn to the 3 o'clock position for 1/16, 1/8 and 3/16 inch (2mm, 3mm and 4mm) size tube fittings.

When it was tightened 1 1/4 turn clockwise, the tube fitting has been designed to be enduring even from the bursting pressure of the tube, therefore insufficient tightening against the regulation may cause the leakage and bursting while over-tightening makes the reassembly difficult due to deformity.

Gageability

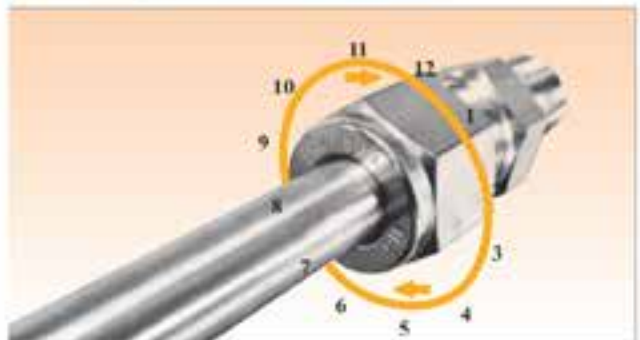


Gap Inspection Gage assures the installer or the inspector that the instrument has been sufficiently tightened during the first installation inspection.

Place Gap Inspection Gage at the gap between the nut and body.

- When the gage does not fit into the gap, it means that the fitting is sufficiently tightened.
- When the gage fits into the gap, it means that it needs to be tightened more.

Reassembly Instruction



S-LOK products can be disassembled and reassembled numerously.

For reassembly, insert the tube with ferrules into the fitting until the front ferrule seats against the fitting body to avoid any damage from foreign objects at the disassembled area.

After hand-tightening the nut while holding the fitting's body steady, tight the nut with a spanner to the previously pulled-up position. At this point, you would feel a significant increase in resistance. Then tight the nut slightly.

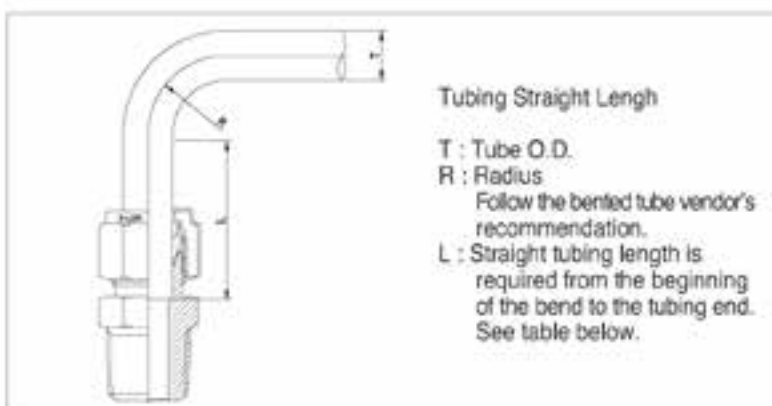
Proper Tube Handling

Good handling practices can greatly save the good surface finish of the supplied tube.

- 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 any foreign materials will not fall inside.

Tube bending

For sealing installation in case of bended tubing being near S-LOK fittings, there should be enough lineal distance from bending point to the fittings. When tube bend is too close to the fitting, the deformed section of the bend may enter the fitting, and it may result in leaking. Also, the bending radius should not be too short of bending radius may affect the working pressure and may cause insufficient flow. Minimum bending radius is usually recommended by the tube bending manufacturer.



• Length of straight section of Fractional tubing

Unit: inch

Tube O.D	Straight Length	
	L1	L2
1/16	1/2	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	1-3/16	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

• Length of straight section 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	6
22	34	27
25	40	33
32	54	47
38	63	55

Note

L1=Recommended length of straight section of tubing required

L2=Absolute minimum length of straight section of tubing required

ORDERING INFORMATION

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	18	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

• Fitting Material Designator

Material	Identifier
S316	S6
S316L	S6L
S304	S4
Carbon Steel	CS
Brass	BS
Alloy400	A400

• Pipe Thread Symbol

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

Tube to Tube Union

Union
SU  21

Union Elbow
SL  22

Reducing Union
SUR  23

Union Tee
ST  25

Reducing Union Tee
STR  26

Union Cross
SX  28

Bulkhead Union
SUB  29

Tube to Male Pipe

Male Connector
SMC-N  30

Male Connector
SMC-R  31

Thermocouple Connector
SMCT  31

Male Connector for Bonded Seal
SMC-G  32

Male Connector for Metal Gasket
SOM  34

Bulkhead Male Connector
SMCB  36

45° Male Elbow
SLBM  36

Male Elbow
SLM  37

Male Run Tee
STRM  38

Male Branch Tee
STBM  41

Tube to Female Pipe

Female Connector
SCF  43

Gauge Connector
SCG  45

Bulkhead Female Connector
SCBF  45

Female Elbow
SLF  46

Female Run Tee
STRF  47

Female Branch Tee
STBF  48

Stub Tube Connector

Reducer
SR  49

Bulkhead Adapter
SAB  51

Male Adapter
SAM  51

Female Adapter
SAF  53

Female Adapter
SAG  54

Port Connector
SCP  55

Reducing Port Connector
SCRP  55

Tube to AN Tube

AN Union
SUA  56

AN Bulkhead Union
SUBA  56

AN Adapter
SAA  56

Tube to SAE O-Ring Seal

SAE Male Connector
SMCS  58

Positionable SAE Male Elbow
SLS  58

Positionable 45° SAE Male Elbow
SLBS  59

Positionable SAE Male Run Tee
STRS  59

Positionable SAE Male Branch Tee
STBS  59

O-Seal Straight Thread Connector
SCOS  61

O-Seal Pipe Thread Connector
SCOP  61

Tube to Weld End

Male Pipe Weld Connector
SCW  62

Male Pipe Weld Elbow
SLW  63

Tube Socket Weld Connector
SCSW  63

Tube Socket Weld Elbow
SLSW  63

Welding Bulkhead Union
SBUW  64

Plug and Cap

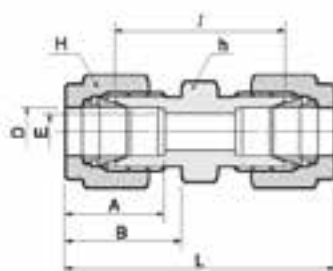
Plug
SP  65

Cap
SC  65

Spare Parts

Tube Insert SI		66
Nut SN		66
Front Ferrule SFF		67
Back Ferrule SFB		67

Union
SU



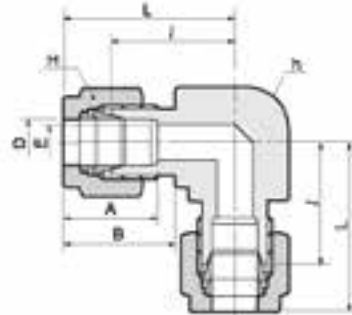
Connects fractional tube

Part No.	Tube O.D. D		E Min.	Width across flat				A	B	i	L
	in	mm		h	mm	H	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	7/16	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

Connects metric tube

Connects metric tube								
Part No.	Tube O.D.	E	Width across flat		A	B	i	L
	D	Min.	h	H				
SU-2M	2	1.7	12	12	12.9	15.3	22.1	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

Union Elbow SL



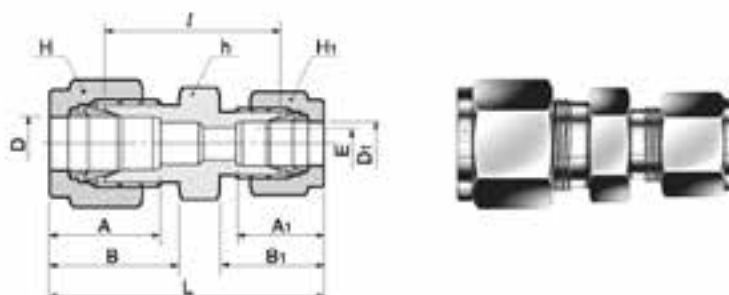
Connects fractional tube

Part No.	Tube O.D. D		E Min.	Width across flat				A	B	L	L
	in	mm		h	mm	H	mm				
SL-1	1/16	1.59	1.27	3/8	9.52	5/16	7.93	8.63	10.92	14.00	17.68
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	26.62
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	39.67
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	1-3/8	34.92	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

Connects metric tube

Part No.	Tube O.D.	E	Width across flat		A	B	I	L
	D	Min.	h	H				
SL-2M	2	1.7	9.5	12	12.9	15.3	15.7	22.3
SL-3M	3	2.4	9.5	12	12.9	15.3	15.7	22.3
SL-4M	4	2.4	12.7	12	13.7	16.4	18.6	25.4
SL-6M	6	4.8	12.7	14	15.3	17.7	19.6	27.0
SL-8M	8	6.4	14.3	16	16.2	18.6	21.3	28.8
SL-10M	10	7.9	17.5	19	17.2	19.5	23.9	31.5
SL-12M	12	9.5	20.6	22	22.8	22.0	25.9	36.0
SL-15M	15	11.9	25.4	25	24.4	22.0	28.7	38.8
SL-16M	16	12.7	25.4	25	24.4	22.0	28.7	38.8
SL-18M	18	15.1	27.0	30	24.4	22.0	29.7	39.8
SL-20M	20	15.9	31.8	32	26.0	22.0	34.5	42.6
SL-22M	22	18.3	31.8	32	26.0	22.0	34.5	42.6
SL-25M	25	21.8	34.9	38	31.3	26.5	36.8	49.1
SL-28M	28	21.8	41.0	46	36.6	36.6	43.2	64.0
SL-32M	32	28.6	46.0	50	42.0	41.6	49.3	72.3
SL-38M	38	33.7	55.0	60	49.4	47.9	56.4	84.0

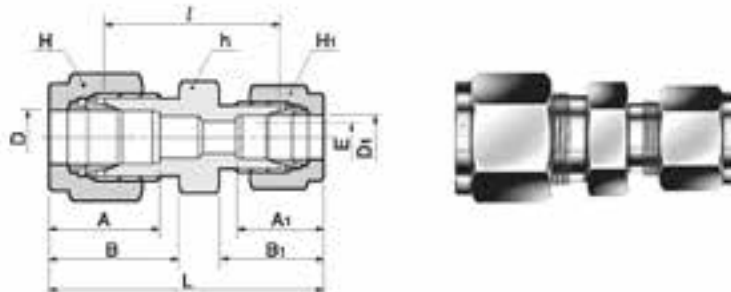
Reducing Union SUR



Connects fractional tube

Part No.	Tube O.D.				E	Width across flat								A	A ₁	B	B ₁	l	L
	D		D ₁			h		H		H ₁									
	in	mm	in	mm		Min.	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		

Reducing Union SUR



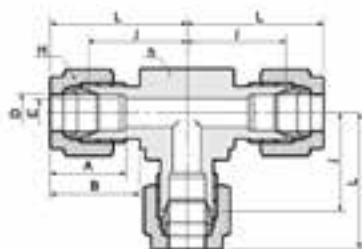
Connects metric tube

Part No	Tube O.D.		E Min.	Width across flat			A	A ₁	B	B ₁	l	L
	D	D ₁		h	H	H ₁						
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

Connects metric tube to fractional tube

Part No.	Tube O.D.			E Min.	Width across flat			A	A ₁	B	B ₁	l	L
	D	in	mm		h	H	H ₁						
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	26.6	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

Union Tee ST



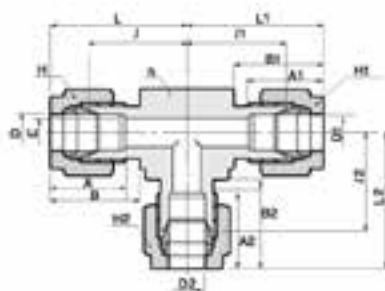
Connects fractional tube

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	18.76	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	26.96	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	1-3/8	34.9	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

Connects metric tube

Connects mating tube								
Part No.	Tube O.D.	E	Width across flat		A	B	I	L
	D	Min.	h	H				
ST-2M	2	1.7	9.5	12	12.9	15.3	15.7	22.3
ST-3M	3	2.4	9.5	12	12.9	15.3	15.7	22.3
ST-4M	4	2.4	12.7	12	13.7	16.1	18.8	25.4
ST-6M	6	4.8	12.7	14	15.3	17.7	19.6	27.0
ST-8M	8	6.4	14.3	16	16.2	18.6	21.3	28.8
ST-10M	10	7.9	17.5	19	17.2	19.5	23.9	31.5
ST-12M	12	9.5	20.6	22	22.8	22.0	25.9	36.0
ST-15M	15	11.9	25.4	25	24.4	22.0	28.7	38.8
ST-16M	16	12.7	25.4	25	24.4	22.0	28.7	38.8
ST-18M	18	15.1	27.0	30	24.4	22.0	29.7	39.8
ST-20M	20	15.9	31.8	32	26.0	22.0	32.5	42.6
ST-22M	22	18.3	31.8	32	26.0	22.0	32.5	42.6
ST-25M	25	21.8	34.9	38	31.3	26.5	36.8	49.1
ST-28M	28	21.8	41.0	46	36.6	36.6	43.2	64.0
ST-32M	32	28.6	46.0	50	42.0	41.6	49.3	72.3
ST-38M	38	33.7	55.0	60	49.4	47.9	56.4	84.0

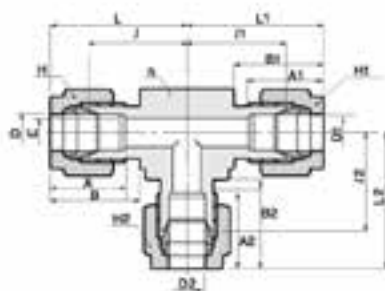
Reducing Union Tee STR



Connects fractional tube

Part No	Port 1 D		Port 2 D1		Port 3 D2		E Min.	Width across flat																			
	in.	mm	in.	mm	in.	mm		A	A1	A2	B	B1	B2	h		H		H1		H2		L	L1	L2	L3	L4	L5
														in.	mm	in.	mm	in.	mm	in.	mm						
STR-4-2	1/4	6.35	1/4	6.35	1/8	3.17	2.4	15.24	15.24	12.7	17.78	17.78	15.24	1/2	12.7	9/16	14.28	9/16	14.28	7/16	11.11	19.55	19.55	17.9	26.91	26.91	24.5
STR-4-6	1/4	6.35	1/4	6.35	3/8	9.52	4.8	15.24	15.24	16.76	17.78	17.78	19.3	5/8	15.87	9/16	14.28	9/16	14.28	11/16	17.46	21.92	21.92	23.1	29.28	29.28	30.46
STR-4-8-8	1/4	6.35	1/2	12.7	1/2	12.7	4.8	15.24	22.86	22.86	17.78	21.84	21.84	13/16	20.64	9/16	14.28	7/8	22.22	7/8	22.22	24.4	25.9	25.9	31.76	36.06	36.06
STR-6-4-6	3/8	9.52	1/4	6.35	3/8	9.52	4.8	16.76	15.24	16.76	19.3	17.78	19.3	5/8	15.87	11/16	17.46	9/16	14.28	11/16	17.46	23.1	21.92	23.1	30.46	29.28	30.46
STR-6-4	3/8	9.52	3/8	9.52	1/4	6.35	4.8	16.76	16.76	15.24	19.3	19.3	17.78	5/8	15.87	11/16	17.46	11/16	17.46	9/16	14.28	23.1	23.1	21.92	30.46	30.46	29.28
STR-6-8	3/8	9.52	3/8	9.52	1/2	12.7	7.1	16.76	16.76	22.86	19.3	19.3	21.84	13/16	20.64	11/16	17.46	11/16	17.46	7/8	22.22	25.9	25.9	25.9	33.26	33.26	36.06
STR-8-4-6	1/2	12.7	1/4	6.35	3/8	9.52	4.8	22.86	15.24	16.76	21.84	17.78	19.3	13/16	20.64	7/8	22.22	9/16	14.28	11/16	17.46	25.9	25.9	25.9	36.06	33.26	33.26
STR-8-4-8	1/2	12.7	1/4	6.35	1/2	12.7	7.1	22.86	15.24	22.86	21.84	17.78	21.84	13/16	20.64	7/8	22.22	9/16	14.28	7/8	22.22	25.9	24.4	25.9	36.06	31.76	36.06
STR-8-6-6	1/2	12.7	3/8	9.52	3/8	9.52	7.1	22.86	16.76	16.76	21.84	19.3	19.3	13/16	20.64	7/8	22.22	11/16	17.46	11/16	17.46	25.9	25.9	25.9	36.06	33.26	33.26
STR-8-8	1/2	12.7	1/2	12.7	1/4	6.35	4.8	22.86	22.86	15.24	21.84	21.84	17.78	13/16	20.64	7/8	22.22	7/8	22.22	9/16	14.28	25.9	25.9	24.4	36.06	36.06	31.76
STR-8-8	1/2	12.7	1/2	12.7	3/8	9.52	7.1	22.86	22.86	16.76	21.84	21.84	19.3	13/16	20.64	7/8	22.22	7/8	22.22	11/16	17.46	25.9	25.9	25.9	36.06	36.06	33.26
STR-10-6	5/8	15.87	5/8	15.87	3/8	9.52	7.1	24.38	24.38	16.76	21.84	21.84	19.3	15/16	23.81	1	25.4	1	25.4	11/16	17.46	28.7	28.7	28.7	38.86	38.86	36.06
STR-12-8-12	3/4	19.05	1/2	12.7	3/4	19.05	10.41	24.38	22.86	24.38	21.84	21.84	21.84	1-1/16	26.98	1-1/8	28.57	7/8	22.22	1-1/8	28.57	29.71	29.71	29.71	39.87	39.87	39.87
STR-12-4	3/4	19.05	3/4	19.05	1/4	6.35	4.8	24.38	24.38	15.24	21.84	21.84	17.78	1-1/16	26.98	1-1/8	28.57	1-1/8	28.57	9/16	14.28	29.71	29.71	28.21	39.87	39.87	35.57
STR-12-6	3/4	19.05	3/4	19.05	3/8	9.52	7.1	24.38	24.38	16.76	21.84	21.84	19.3	1-1/16	26.98	1-1/8	28.57	1-1/8	28.57	11/16	17.46	29.71	29.71	29.71	39.87	39.87	35.57
STR-12-8	3/4	19.05	3/4	19.05	1/2	12.7	10.41	24.38	24.38	22.86	21.84	21.84	21.84	1-1/16	26.98	1-1/8	28.57	1-1/8	28.57	7/8	22.22	29.71	29.71	29.71	39.87	39.87	38.57
STR-12-16	3/4	19.05	3/4	19.05	1	25.4	15.0	24.38	24.38	31.24	21.84	21.84	26.41	1-3/8	34.92	1-1/8	28.57	1-1/8	28.57	1-1/2	38.10	34.43	34.43	36.83	49.02	49.02	45.7
STR-12-20	3/4	19.05	3/4	19.05	1-1/4	31.75	16.0	24.38	24.38	41.14	21.84	21.84	38.86	1-11/16	42.86	1-1/8	28.57	1-1/8	28.57	1-7/8	47.63	39.41	39.41	44.45	49.57	49.57	66.55
STR-14-8	7/8	22.22	7/8	22.22	1/2	12.7	10.41	25.9	25.9	22.86	21.84	21.84	21.84	1-1/4	31.75	1-1/4	31.75	1-1/4	31.75	7/8	22.22	34.54	34.54	34.54	44.7	44.7	44.7
STR-16-12-12	1	25.4	3/4	19.05	3/4	19.05	16.0	31.24	24.38	24.38	26.41	21.84	21.84	1-3/8	34.92	1-1/2	38.10	1-1/8	28.57	1-1/8	28.57	36.83	35.54	35.54	49.02	45.7	45.7
STR-16-4	1	25.4	1	25.4	1/4	6.35	4.8	31.24	31.24	15.24	26.41	26.41	17.78	1-3/8	34.92	1-1/2	38.10	1-1/2	38.10	9/16	14.28	36.83	36.83	33.04	49.02	49.02	40.4
STR-16-6	1	25.4	1	25.4	3/8	9.52	7.1	31.24	31.24	16.76	26.41	26.41	19.3	1-3/8	34.92	1-1/2	38.10	1-1/2	38.10	11/16	17.46	36.83	36.83	34.54	49.02	49.02	41.9
STR-16-8	1	25.4	1	25.4	1/2	12.7	10.41	31.24	31.24	22.86	26.41	26.41	21.84	1-3/8	34.92	1-1/2	38.10	1-1/2	38.10	7/8	22.22	36.83	36.83	34.54	49.02	49.02	44.7
STR-16-12	1	25.4	1	25.4	3/4	19.05	16.0	31.24	31.24	24.38	26.41	26.41	21.84	1-3/8	34.92	1-1/2	38.10	1-1/2	38.10	1-1/8	28.57	36.83	36.83	35.54	49.02	49.02	45.7
STR-20-12-12	1 1/4	31.75	3/4	19.05	3/4	19.05	16.0	41.14	24.38	24.38	38.86	21.84	21.84	1-11/16	42.86	1-7/8	47.63	1-1/8	28.57	1-1/8	28.57	44.45	39.41	39.41	66.55	49.57	49.57
STR-20-12	1 1/4	31.75	1 1/4	31.75	3/4	19.05	16.0	41.14	41.14	24.38	38.86	38.86	21.84	1-11/16	42.86	1-7/8	47.63	1-7/8	47.63	1-1/8	28.57	44.45	44.45	39.41	66.55	66.55	49.57
STR-24-20-20	1 1/2	38.10	1 1/4	31.75	1 1/4	31.75	27.60	50.03	41.14	41.14	45.21	38.86	38.86	2	50.8	2-1/4	57.15	1-7/8	47.63	1-7/8	47.63	50.8	46.62	46.62	77.97	71.72	71.72
STR-24-8	1 1/2	38.10	1 1/2	38.10	1/2	12.7	10.41	50.03	50.03	22.86	45.21	45.21	21.84	2	50.8	2-1/4	57.15	2-1/4	57.15	7/8	22.22	50.8	50.8	44.58	77.97	77.97	54.74
STR-24-12	1 1/2	38.10	1 1/2	38.10	3/4	19.05	16.0	50.03	50.03	24.38	45.21	45.21	21.84	2	50.8	2-1/4	57.15	2-1/4	57.15	1-1/8	28.57	50.8	50.8	44.58	77.97	77.97	54.74
STR-24-16	1 1/2	38.10	1 1/2	38.10	1	25.4	22.3	50.03	50.03	31.24	45.21	45.21	26.41	2	50.8	2-1/4	57.15	2-1/4	57.15	1-1/2	38.10	50.8	50.8	47.75	77.97	77.97	59.94

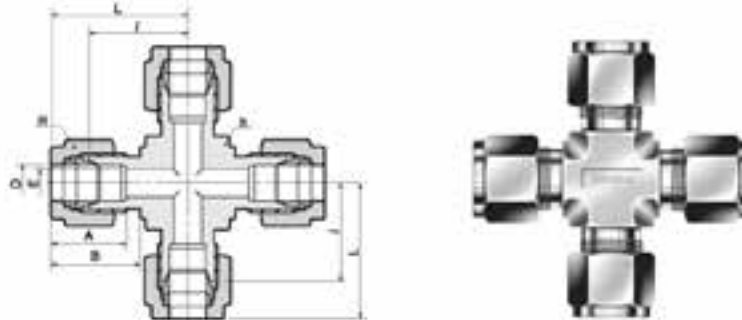
Reducing Union Tee STR



Connects metric tube

Part No.	Port 1 D	Port 2 D1	Port 3 D2	E Min.	Width across flat				A	A1	A2	B	B1	B2	Z	Z1	Z2	L	L1	L2
					h	H	H1	H2												
STR-3M-6M	3	3	6	2.4	12.7	12	12	14	12.9	12.9	15.3	15.3	15.3	17.7	18.0	18.0	19.6	24.6	24.6	27.0
STR-8M-6M	8	8	6	4.8	15	16	16	14	16.2	16.2	15.3	18.6	18.6	17.7	21.3	21.3	20.5	28.8	28.8	28.0
STR-10M-6M	10	10	6	4.8	17.4	19	19	14	17.2	17.2	15.3	19.5	19.5	17.7	23.9	23.9	22.4	31.5	31.5	29.8
STR-10M-12M	10	10	12	7.9	20.6	19	19	22	17.2	17.2	22.8	19.5	19.5	22.0	25.9	25.9	25.9	33.5	33.5	36.0
STR-12M-6M-10M	12	6	10	4.8	20.6	22	14	19	22.8	15.3	17.2	22.0	17.7	19.5	25.9	24.4	25.9	36.0	31.8	33.5
STR-12M-6M-12M	12	6	12	4.8	20.6	22	14	22	22.8	15.3	22.8	22.0	17.7	22.0	25.9	24.4	25.9	36.0	31.8	36.0
STR-12M-10M-10M	12	10	10	7.9	20.6	22	19	19	22.8	17.2	17.2	22.0	19.5	19.5	25.9	25.9	25.9	36.0	33.5	33.5
STR-12M-10M	12	12	10	7.9	20.6	22	22	19	22.8	22.8	17.2	22.0	22.0	19.5	25.9	25.9	25.9	36.0	36.0	33.5
STR-12M-6M	12	12	6	4.8	20.6	22	22	14	22.8	22.8	15.3	22.0	22.0	17.7	25.9	25.9	24.4	36.0	36.0	31.8
STR-15M-12M	15	15	12	9.8	25.4	25	25	22	24.4	24.4	22.8	22.0	22.0	22.0	28.7	28.7	28.7	38.8	38.8	38.8
STR-16M-12M	16	16	12	9.8	25.4	25	25	22	24.4	24.4	22.8	22.0	22.0	22.0	28.7	28.7	28.7	38.8	38.8	38.8
STR-18M-12M	18	18	12	9.8	27	30	30	22	24.4	24.4	22.8	22.0	22.0	22.0	29.7	29.7	28.2	39.8	39.8	38.3
STR-20M-12M-20M	20	12	20	9.8	34.9	32	22	32	26.0	22.8	26.0	22.0	22.0	22.0	32.5	32.5	32.5	42.6	42.6	42.6
STR-20M-6M	20	20	6	4.8	34.9	32	32	14	26.0	26.0	15.3	22.0	22.0	17.7	32.5	32.5	31.0	42.6	42.6	38.4
STR-20M-10M	20	20	10	7.9	34.9	32	32	19	26.0	26.0	17.2	22.0	22.0	19.5	32.5	32.5	32.5	42.6	42.6	40.1
STR-20M-12M	20	20	12	9.8	34.9	32	32	22	26.0	26.0	22.8	22.0	22.0	22.0	32.5	32.5	32.5	42.6	42.6	42.6
STR-20M-25M	20	20	25	15.9	34.9	32	32	38	26.0	26.0	31.3	22.0	22.0	26.5	34.3	34.3	36.8	44.4	44.4	49.1
STR-20M-32M	20	20	32	15.9	46	32	32	50	26.0	26.0	42.0	22.0	22.0	41.6	42.5	42.5	49.3	52.6	52.6	72.3
STR-22M-12M	22	22	12	9.8	34.9	32	32	22	26.0	26.0	22.8	22.0	22.0	22.0	32.5	32.5	32.5	42.6	42.6	42.6
STR-25M-20M-20M	25	20	20	15.9	34.9	38	32	32	31.3	26.0	26.0	26.5	22.0	22.0	36.8	34.3	34.3	49.1	44.4	44.4
STR-25M-10M	25	25	10	7.9	34.9	38	38	19	31.3	31.3	17.2	26.5	26.5	19.5	36.8	36.8	34.3	49.1	49.1	38.9
STR-25M-12M	25	25	12	9.8	34.9	38	38	22	31.3	31.3	22.8	26.5	26.5	22.0	36.8	36.8	34.3	49.1	49.1	44.4
STR-25M-20M	25	25	20	15.9	34.9	38	38	32	31.3	31.3	26.0	26.5	26.5	22.0	36.8	36.8	34.3	49.1	49.1	44.4
STR-32M-20M	32	32	20	15.9	46	38	38	32	42.0	42.0	26.0	41.6	41.6	22.0	49.3	49.3	42.5	72.3	72.3	52.6
STR-38M-32M-32M	38	32	32	28.6	50.8	60	38	38	49.4	42.0	42.0	47.9	41.6	41.6	56.4	54.7	54.7	84.0	77.7	77.7
STR-38M-20M	38	38	20	15.9	50.8	60	60	32	49.4	49.4	26.0	47.9	47.9	22.0	56.4	56.4	47.9	84.0	84.0	58.0
STR-38M-25M	38	38	25	21.8	50.8	60	60	38	49.4	49.4	31.3	47.9	47.9	26.5	56.4	56.4	50.4	84.0	84.0	62.7

Union Cross
SX



Connects fractional tube

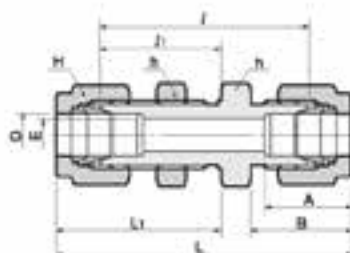
Part No.	Tube O.D.		E Min.	Width across flat				A	B	I	L
	D			h		H					
	in	mm		in	mm	in	mm				
SX-1	1/16	1.59	1.27	3/8	9.52	5/16	7.93	8.63	10.92	14.00	17.88
SX-2	1/8	3.17	2.28	3/8	9.52	7/16	11.11	12.70	15.24	15.74	22.35
SX-3	3/16	4.76	3.04	1/2	12.70	1/2	12.70	13.71	16.00	17.76	24.38
SX-4	1/4	6.35	4.82	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	5/8	15.87	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
SX-24	1-1/2	38.10	34.03	2	50.80	2-1/4	57.15	50.03	45.21	50.80	77.97
SX-32	2	50.80	45.97	2-3/4	69.85	3	76.20	67.56	62.73	69.80	107.16

Connects metric tube

Part No.	Tube O.D. D		E Min.	Width across flat		A	B	I	L
	in	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
SX-28M	28	21.8	21.8	41.0	46	36.6	36.6	43.2	64.0
SX-32M	32	28.6	28.6	46.0	50	42.0	41.6	49.3	72.3
SX-38M	38	33.7	33.7	55.0	60	49.4	47.9	56.4	84.0

S-10K Tube Fittings

Bulkhead Union SUB



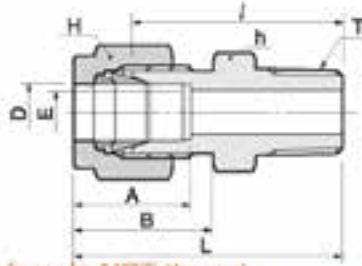
Connects fractional tube

Part No.	Tube O.D. D		E Min.	Width across flat				A	B	l	l ₁	L	L ₁	Panel Hole Drill size	Panel Max Thickness
	in	mm		h	mm	H	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	26.96	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

Connects metric tube

Part No.	Tube O.D. D		E Min.	Width across flat				A	B	l	l ₁	L	L ₁	Panel Hole Drill size	Panel Max Thickness
	in	mm		h	mm	H	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	48.4	47.9	89.4	51.5	144.6	79.1	50.5	19.0		

Male Connector
SMC-N

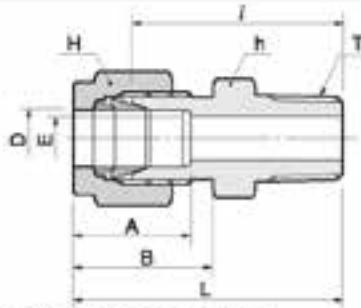


Connects fractional tube to female NPT thread

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				
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	36.86
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	86.80
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-24-32N	1-1/2	38.10	2	34.03	2-3/4	69.85	2-1/4	57.15	50.03	45.21	62.42	99.75
SMC-32-8N	2	50.80	1/2	11.93	2-3/4	69.85	3	76.20	67.56	62.73	68.40	105.73
SMC-32-20N	2	50.80	1-1/4	45.97	2-3/4	69.85	3	76.20	67.56	62.73	71.40	108.73
SMC-32-24N	2	50.80	1-1/2	45.97	2-3/4	69.85	3	76.20	67.56	62.73	75.50	112.83
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

S-LOK Tube Fittings

Male Connector SMC-R



Connects metric tube to female ISO tapered thread

Also available with NPT thread

Part No.	Tube O.D. D	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	18.1	24.6	31.2
SMC-4M-4R	4	1/4	2.4	14	12	13.7	18.1	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-26M-16R	26	1	21.8	41	46	36.6	36.6	51.6	72.4
SMC-26M-20R	26	1-1/4	21.8	46	46	36.6	36.6	52.3	73.1
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

Thermocouple Connector SMCT



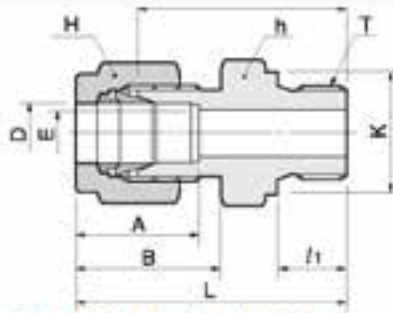
S-LOK thermocouple connector has no shoulder nor sizing angle inside the fitting; the features enable thermocouple to go through the fitting's thread end.

Example : SMCT 6-8N-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 fitting's thread end and hold it to prevent shifting during assembly.
2. Turn the nut 1-1/4 after finger tight with a wrench by holding the body with a back up wrench for size 1/4" (6mm) or above.

Male Connector for Bonded Seal SMC-G



Connects fractional tube to female ISO parallel thread

Part No.	Tube O.D. D		T (PP)	E Min.	Width across flat				A	B	I	h	L	K
	in	mm			h	mm	H	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	52.63	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-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
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

Connects metric tube to female ISO parallel thread

Part No.	Tube O.D.		T G(PP)	E Min.	Width across flat		A	B	I	h	L	K
	D				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	18.0	
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	35	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	

ISO Pipe Thread

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

ISO 228/1

The ISO 228/1 is a parallel thread that is no sealing threads. The pressure tight seal is usually made metal to metal against the female port or with a gasket.

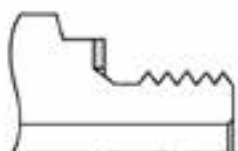
The ISO 228/1 is described in following codes.

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

The ISO 228/1 threads sealing available in S-LOK 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



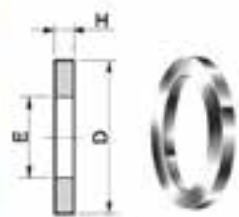
A metal gasket performs the sealing between the reverse bevel of the fitting and the face of the female threaded component.

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
SGC-20-	42.2	1.66	2.0	0.08	49.8	1.96
SGC-24-	48.0	1.89	2.0	0.08	58.4	2.30



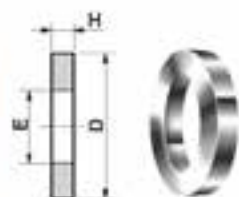
A gasket is dropped into the flat bottom of the female thread. The face of the male thread exerts a load on the gasket to seal.

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



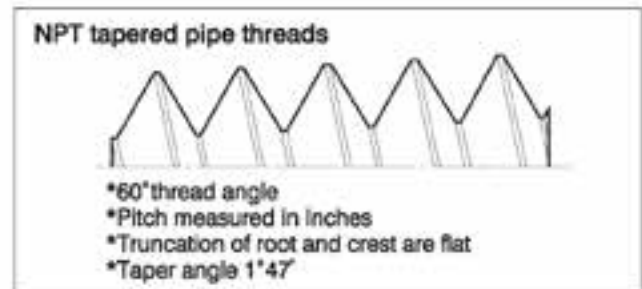
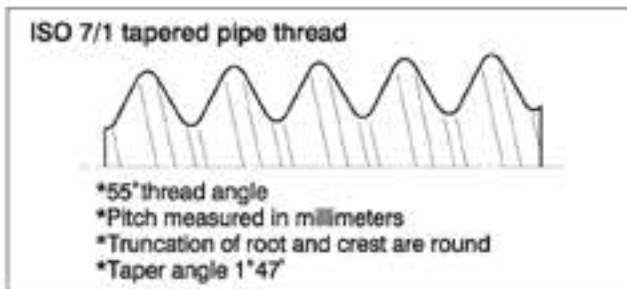
ISO 7/1

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

The ISO 7/1 is described in following codes.

1. BS 21(BSPT) 2. JIS B0203 (PT) 3. ISO 7/1 4. DIN 2999 (male thread only)

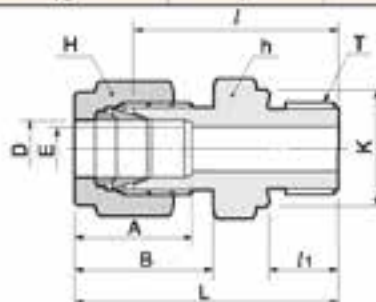
The ISO 7/1 looks similar to the NPT thread. See how different they are as illustrated below.



ISO Internal Parallel Pipe Thread

ISO Internal Parallel Pipe Thread	S-Lok Pipe Thread Designator	ISO Female Parallel Pipe Size	Minimum Full Thread Depth L	Thread Minor Diameter D	Minimum Flat Diameter for SGB & SGC C
	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

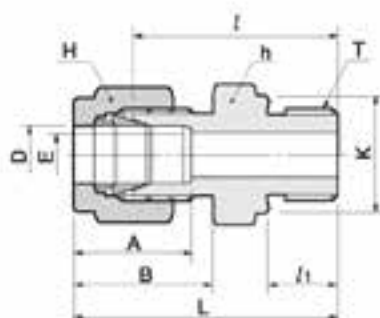
Male Connector for Metal Gasket SOM



Connects fractional tube to female ISO parallel thread

Part No.	Tube O.D. D		T (PP)	E Min.	Width across flat				A	B	I	h	L	K
	in	mm			h	H								
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 - 2-8G	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 - 4-8G	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	16.78	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	16.78	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	16.78	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

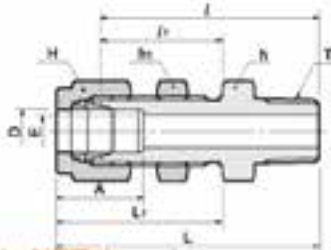
Male Connector for Metal Gasket SOM



Connects metric tube to female ISO parallel thread

Part No.	Tube O.D.	T	E	Width across flat		A	B	I	h	L	K
	D	G(PF)	Min.	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	36.1	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	35	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	56.3	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	47.8	61.7	20.6	89.3	54.7

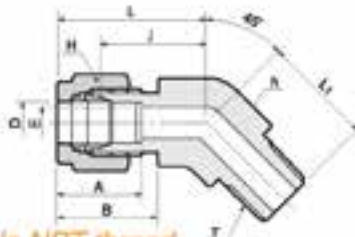
Bulkhead Male Connector SMCB



Connects fractional tube to 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										
							in	mm									
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	53.06	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	108.07	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

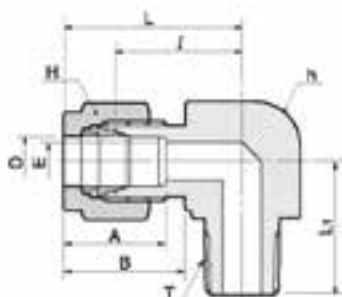
45° Male Elbow SLBM



Connects fractional tube to female NPT thread

Part No.	Tube O.D.		T (NPT)	E Min.	Width across flat				A	B	I	L	L ₁
	D				h		H						
	in	mm			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	11/16	17.46	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	26.95
SLBM-12-12N	3/4	19.05	3/4	15.74	1-1/16	26.98	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	34.92	1-1/2	38.10	31.24	26.41	28.19	40.38	37.84

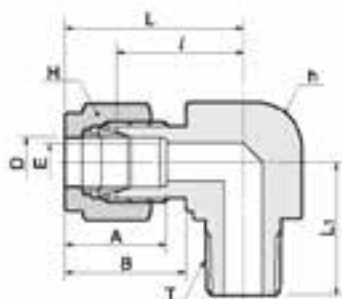
Male Elbow SLM



Connects fractional tube to female NPT thread

Part No.	Tube O.D.		T (NPT)	E Min.	Width across flat				A	B	I	L	L ₁
	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	26.30
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	26.30
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	34.92	1-3/8	38.10	31.24	26.41	36.83	49.02	42.20
SLM - 16-16N	1	25.40	1	22.35	1-27-64	34.92	1-3/8	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

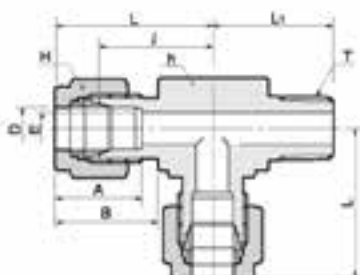
Male Elbow SLM



Connects metric tube to female ISO tapered thread

Part No.	Tube O.D.	T R(PT)	E Min.	Width across flat		A	B	l	L	L1
	D			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

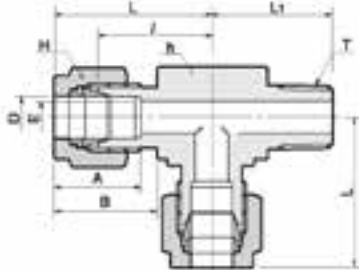
Male Run Tee STRM



Connects fractional tube to female NPT thread

Part No.	Tube O.D.		T (NPT)	E Min.	Width across flat				A	B	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	8.83	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	8.83	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	26.40
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	7.93	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	26.40
STRM - 6-4N	3/8	9.52	1/4	7.11	5/8	15.87	1/8	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	39.81	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	34.92	1-3/8	38.10	31.24	26.41	36.83	49.02	42.20
STRM - 16-16N	1	25.40	1	22.35	1-27/64	34.92	1-3/8	38.10	31.24	26.41	36.83	49.02	46.70
STRM - 20-20N	1-1/4	31.75	1-1/4	27.68	1-27/64	36.12	1-7/8	47.63	41.14	38.86	44.50	66.54	47.75
STRM - 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
STRM - 32-32N	2	50.80	2	45.97	2-3/4	69.85	3	76.20	67.56	62.73	69.80	107.18	70.61

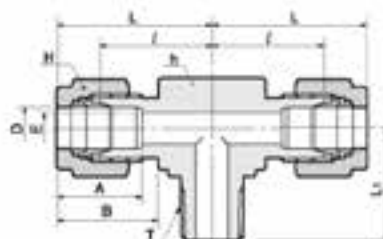
Male Run Tee STRM



Connects metric tube to female ISO tapered thread

Part No.	Tube O.D. D	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	12.7	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	19.9
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-19M-8R	18	1/2	11.9	27.0	30	24.4	22.0	29.7	39.8	36.8
STRM-19M-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

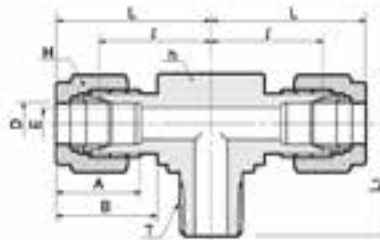
Male Branch Tee STBM



Connects fractional tube to female NPT thread

Part No.	Tube O.D.		T (NPT)	E Min.	Width across flat				A	B	I	L	L ₁
	D				h		H						
					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	26.96	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	26.96	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	26.96	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	26.96	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	26.96	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	26.96	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	34.92	1-3/8	38.10	31.24	26.41	36.83	49.02	42.20
STBM-16-16N	1	25.40	1	22.35	1-27/64	34.92	1-3/8	38.10	31.24	26.41	36.83	49.02	46.70
STBM-20-20N	1-1/4	31.75	1-1/4	27.68	1-27-64	36.12	1-7/8	47.63	41.14	38.86	44.50	66.54	47.75
STBM-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
STBM-32-32N	2	50.80	2	45.97	2-3/4	69.85	3	76.20	67.56	62.73	69.80	107.18	70.61

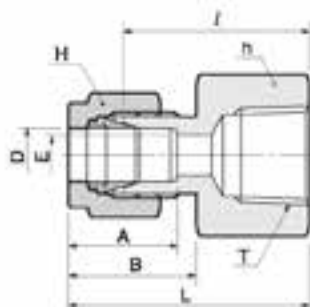
Male Branch Tee STBM



Connects metric tube to female ISO tapered thread

Part No.	Tube O.D.	T	E	Width across flat		A	B	I	L	L1
	D	R(PT)	Min.	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

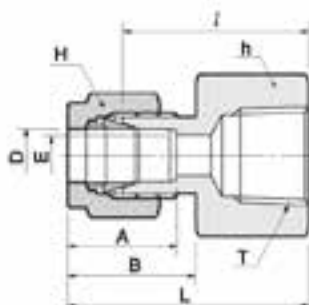
Female Connector SCF



Connects fractional tube to 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				
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	22.66	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	22.66	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	22.66	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	22.66	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	58.13	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

Female Connector SCF



Connects metric tube to male ISO tapered thread

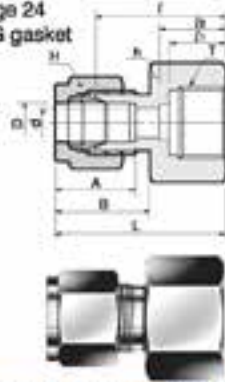
Part No.	Tube O.D. D	T R(PT)	E Min.	Width across flat		A	B	I	L
				h	H				
SCF-3M-2R	3	1/8	2.4	14	12	12.9	15.3	22.1	28.7
SCF-3M-4R	3	1/4	2.4	19	12	12.9	15.3	26.9	33.5
SCF-4M-2R	4	1/8	2.4	14	12	13.7	16.1	23.1	29.7
SCF-6M-2R	6	1/8	4.8	14	14	15.3	17.7	23.9	31.3
SCF-6M-4R	6	1/4	4.8	19	14	15.3	17.7	28.4	35.8
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	36.6	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

S-10K Tube Fittings

Gauge Connector

SCG

See page 24
for SGG gasket



Connects metric tube to ISO parallel thread (gauge)

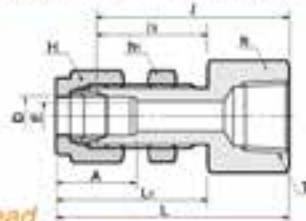
Part No.	Tube O.D.		T R(PF)	E Min.	Width across flat			A	B	l	l ₁	l ₂	d	L
	D				h	H								
SCG-3M-4G	3	1/4	2.4	19	12	12.9	15.3	28.7	13	17.0	5.5	35.3		
SCG-6M-4G	6	1/4	4.8	19	14	15.3	17.7	30.2	13	17.0	5.5	37.6		
SCG-6M-6G	6	3/8	4.8	24	14	15.3	17.7	30.2	14	20.3	6.5	37.6		
SCG-6M-8G	6	1/2	4.8	27	14	15.3	17.7	36.1	19	24.9	7.0	43.5		
SCG-8M-4G	8	1/4	5.5	19	16	16.2	18.6	31.0	13	-	5.5	38.5		
SCG-8M-6G	8	3/8	6.5	24	16	16.2	18.6	28.7	14	-	6.5	36.2		
SCG-8M-8G	8	1/2	7.0	27	16	16.2	18.6	33.5	19	-	7.0	41.0		
SCG-10M-4G	10	1/4	5.5	19	19	17.2	19.5	31.8	13	-	5.5	39.4		
SCG-10M-6G	10	3/8	6.5	24	19	17.2	19.5	31.2	14	-	6.5	38.8		
SCG-10M-8G	10	1/2	7.0	27	19	17.2	19.5	34.5	19	-	7.0	42.1		
SCG-12M-4G	12	1/4	5.5	22	22	22.8	22.0	31.8	13	-	5.5	41.9		
SCG-12M-6G	12	3/8	6.5	24	22	22.8	22.0	34.3	14	-	6.5	44.4		
SCG-12M-8G	12	1/2	7.0	27	22	22.8	22.0	38.1	19	-	7.0	48.2		
SCG-20M-8G	20	1/2	7.0	30	32	26.0	22.0	44.2	19	-	7.0	54.3		
SCG-22M-8G	22	1/2	7.0	30	32	26.0	22.0	44.2	19	-	7.0	54.3		

Connects fractional tube to ISO parallel thread (gauge)

Part No.	Tube O.D.		T G(PF)	E Min.	Width across flat				A	B	l	l ₁	l ₂	d	L
	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	17.0	5.6	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	12.95	17.0	5.6	37.59
SCG-4-6G	1/4	6.35	3/8	4.82	15/16	24.81	9/16	14.28	15.24	17.78	30.22	14.22	20.3	6.6	37.59
SCG-4-8G	1/4	6.35	1/2	4.82	1-1/16	26.96	9/16	14.28	15.24	17.78	36.07	18.80	24.9	7.1	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	12.95	-	-	38.6
SCG-5-8G	5/16	7.93	1/2	7.11	1-1/16	26.96	5/8	15.87	16.25	18.54	33.53	18.80	-	-	40.89
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	24.81	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	26.96	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	12.95	-	-	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	14.22	-	-	44.45
SCG-8-8G	1/2	12.70	1/2	7.11	1-1/16	26.96	7/8	22.22	22.86	21.84	39.10	18.80	-	-	48.26

Bulkhead Female Connector

SCBF



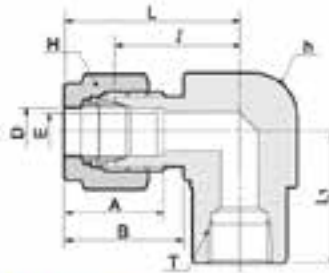
Connects fractional tube to male NPT thread

Part No.	Tube O.D.		T (NPT)	E Min.	Width across flat						A	l	l ₁	L	L ₁	Panel Hole Drill Size	Panel Max Thickness
	D	in mm			h	mm	ht	mm	H	mm							
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	26.96	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	37.33	73.51	47.21	25.79	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

Connects metric tube to male NPT thread

Part No.	Tube O.D.		T (NPT)	E Min.	Width across flat			A	l	l ₁	L	L ₁	Panel Hole Drill Size	Panel Max Thickness
	D				h	h ₁	H							
SCBF-6M-2N	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	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	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	1/2	9.5	27.0	24.0	22	22.8	56.4	31.8	66.50	41.90	19.5	12.7	

Female Elbow
SLF



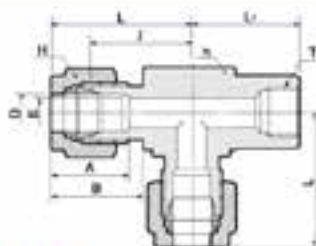
Connects fractional tube to male NPT thread

Part No.	Tube O.D. D		T (NPT)	E Min.	Width across flat				A	B	I	L	L ₁
	in	mm			h	mm	H	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	24.36	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	18.26	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

Connects metric tube to male NPT thread

Part No.	Tube O.D. D		T (NPT)	E Min.	Width across flat		A	B	I	L	L ₁
	in	mm			h	H					
SLF-6M-2N	6	152.4	1/8	4.8	12.70	14	15.3	17.7	19.6	27.0	19.00
SLF-6M-4N	6	152.4	1/4	4.8	17.46	14	15.3	17.7	22.4	29.8	22.40
SLF-6M-6N	6	152.4	3/8	4.8	20.64	14	15.3	17.7	24.4	31.7	22.40
SLF-6M-8N	6	152.4	1/2	4.8	25.40	14	15.3	17.7	27.2	34.6	28.40
SLF-8M-2N	8	203.2	1/8	6.4	15.87	16	16.2	18.6	23.1	29.9	19.00
SLF-8M-4N	8	203.2	1/4	6.4	17.46	16	16.2	18.6	23.1	30.6	22.40
SLF-8M-6N	8	203.2	1/2	6.4	25.40	16	16.2	18.6	28.0	35.2	28.40
SLF-10M-2N	10	254.0	1/8	7.9	17.46	19	17.2	19.5	23.9	31.5	19.00
SLF-10M-4N	10	254.0	1/4	7.9	20.64	19	17.2	19.5	25.9	33.5	22.40
SLF-10M-6N	10	254.0	3/8	7.9	20.64	19	17.2	19.5	25.9	33.5	22.40
SLF-10M-8N	10	254.0	1/2	7.9	25.40	19	17.2	19.5	28.7	36.1	28.40
SLF-12M-4N	12	304.8	1/4	9.5	20.64	22	22.8	22.0	25.9	36.0	22.40
SLF-12M-6N	12	304.8	3/8	9.5	20.64	22	22.8	22.0	25.9	36.2	22.35
SLF-12M-8N	12	304.8	1/2	9.5	25.40	22	22.8	22.0	28.7	38.8	28.40
SLF-16M-8N	16	406.4	1/2	12.7	26.98	25	24.4	22.0	29.7	39.5	28.40

Female Run Tee STRF



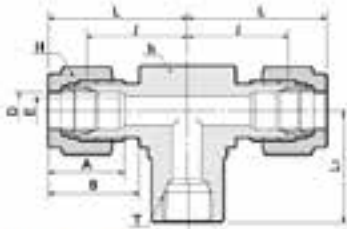
Connects fractional tube to male NPT thread

Part No.	Tube O D		T (NPT)	E Min.	Width across flat				A	B	I	L	L1
	D				h		H						
					in	mm	in	mm					
STRF-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
STRF-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
STRF-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
STRF-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
STRF-4-4N	1/4	6.35	1/4	4.82	11/16	17.46	9/16	14.28	15.24	17.78	22.86	29.71	22.35
STRF-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
STRF-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	26.44
STRF-5-2N	5/16	7.94	1/8	6.35	9/16	14.28	5/8	15.87	16.25	18.54	21.33	28.70	19.05
STRF-5-4N	5/16	7.94	1/4	6.35	11/16	17.46	5/8	15.87	16.25	18.54	23.11	30.48	22.35
STRF-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
STRF-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
STRF-6-6N	3/8	9.52	3/8	6.35	13/16	20.64	11/16	17.46	16.76	19.30	25.90	33.27	22.35
STRF-6-8N	3/8	9.52	1/2	7.11	1	25.40	11/16	17.46	16.76	19.30	26.70	36.06	26.44
STRF-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
STRF-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
STRF-8-8N	1/2	12.70	1/2	10.41	1	25.40	7/8	22.22	22.86	21.84	29.71	39.87	26.44
STRF-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
STRF-10-8N	5/8	15.87	1/2	12.70	1	25.40	1	25.40	24.38	21.84	28.70	38.86	26.44
STRF-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	26.44
STRF-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
STRF-14-12N	7/8	22.22	3/4	18.28	1-1/4	31.75	1-1/4	31.75	31.75	21.84	34.54	44.70	31.75
STRF-16-12N	1	25.40	3/4	22.35	1-27/64	34.92	1-3/8	38.10	38.10	26.41	36.83	49.02	31.75
STRF-16-16N	1	25.40	1	22.35	1-1/16	42.86	1-1/2	38.10	38.10	26.41	41.40	50.29	38.10

Connects metric tube to male NPT thread

Part No.	Tube O.D.	T	E	Width across flat		A	B	I	L	L ₁
	D	(NPT)	Min.	h	H					
STRF-6M-2N	6	1/8	4.8	12.70	14	15.3	17.7	19.6	27.0	19.00
STRF-6M-4N	6	1/4	4.8	17.48	14	15.3	17.7	22.4	29.8	22.40
STRF-6M-6N	6	3/8	4.8	20.64	14	15.3	17.7	24.4	31.7	22.40
STRF-6M-8N	6	1/2	4.8	25.40	14	15.3	17.7	27.2	34.5	28.40
STRF-8M-2N	8	1/8	6.4	15.87	16	16.2	18.6	23.1	29.9	19.00
STRF-8M-4N	8	1/4	6.4	17.48	16	16.2	18.6	23.1	30.6	22.40
STRF-8M-6N	8	3/8	6.4	20.64	16	16.2	18.6	25.2	32.4	22.40
STRF-8M-8N	8	1/2	6.4	25.40	16	16.2	18.6	28.0	35.2	28.40
STRF-10M-2N	10	1/8	7.9	20.64	19	17.2	19.5	23.9	31.5	19.00
STRF-10M-4N	10	1/4	7.9	20.64	19	17.2	19.5	25.9	33.6	22.40
STRF-10M-6N	10	3/8	7.9	20.64	19	17.2	19.5	25.9	33.6	22.40
STRF-10M-8N	10	1/2	7.9	25.40	19	17.2	19.5	26.2	33.6	28.40
STRF-12M-4N	12	1/4	9.5	20.64	22	22.8	22.0	25.9	36.0	22.40
STRF-12M-6N	12	3/8	9.5	20.64	22	22.8	22.0	25.9	36.0	22.40
STRF-12M-8N	12	1/2	9.5	25.40	22	22.8	22.0	29.7	40.0	28.40
STRF-16M-8N	16	1/2	12.7	25.40	25	24.4	22.0	29.7	40.0	28.40

Female Branch Tee STBF



Connects fractional tube to male NPT thread

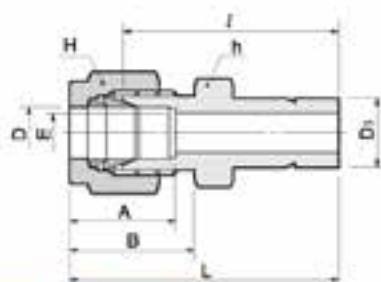
Part No.	Tube O.D.		T (NPT)	E Min.	Width across flat				A	B	I	L	L ₁
	D				h		H						
					in	mm	in	mm					
STBF-2-2N	1/8	3.17	1/8	2.28	1/2	12.70	7/16	11.11	12.70	15.24	18.03	24.38	19.05
STBF-2-4N	1/8	3.17	1/4	2.28	11/16	17.46	7/16	11.11	12.70	15.24	20.82	27.43	22.35
STBF-3-2N	3/16	4.78	1/8	3.04	1/2	12.70	1/2	12.70	13.71	16.00	18.79	25.40	19.05
STBF-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
STBF-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
STBF-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
STBF-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
STBF-5-2N	5/16	7.94	1/8	6.35	9/16	14.28	5/8	15.87	16.25	18.54	21.33	28.70	19.05
STBF-5-4N	5/16	7.94	1/4	6.35	11/16	17.46	5/8	15.87	16.25	18.54	23.11	30.48	22.35
STBF-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
STBF-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
STBF-6-6N	3/8	9.52	3/8	6.35	13/16	20.64	11/16	17.46	16.76	19.30	25.90	33.27	22.35
STBF-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
STBF-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
STBF-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
STBF-8-8N	1/2	12.70	1/2	10.41	1	25.40	7/8	22.22	22.86	21.84	29.71	39.87	28.44
STBF-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
STBF-10-8N	5/8	15.87	1/2	12.70	1	25.40	1	25.40	24.38	21.84	28.70	38.86	28.44
STBF-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
STBF-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
STBF-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
STBF-16-12N	1	25.40	3/4	22.35	1-27/64	34.92	1-3/8	38.10	31.24	26.41	36.83	49.02	31.75
STBF-16-16N	1	25.40	1	22.35	1-11/16	42.86	1-1/2	38.10	31.24	26.41	41.40	53.59	38.10

Connects metric tube to male NPT thread

Part No.	Tube O.D. D		T (NPT)	E Min.	Width across flat		A	B	I	L	L ₁
	in	mm			h	H					
STBF-6M-2N	6	1/8	1/8	4.8	12.70	14	15.3	17.7	19.6	27.0	19.00
STBF-6M-4N	6	1/4	1/4	4.8	17.46	14	15.3	17.7	22.4	29.8	22.40
STBF-6M-6N	6	3/8	3/8	4.8	20.64	14	15.3	17.7	24.4	31.7	22.40
STBF-6M-8N	6	1/2	1/2	4.8	25.40	14	15.3	17.7	27.2	34.5	28.40
STBF-8M-2N	8	1/8	1/8	6.4	15.87	16	16.2	18.6	23.1	29.9	19.00
STBF-8M-4N	8	1/4	1/4	6.4	17.46	16	16.2	18.6	23.1	30.6	22.40
STBF-8M-6N	8	3/8	3/8	6.4	20.64	16	16.2	18.6	25.2	32.4	22.40
STBF-8M-8N	8	1/2	1/2	6.4	25.40	16	16.2	18.6	28.0	35.2	28.40
STBF-10M-2N	10	1/8	1/8	7.9	17.50	19	17.2	19.5	23.9	31.5	19.00
STBF-10M-4N	10	1/4	1/4	7.9	20.64	19	17.2	19.5	25.9	33.5	22.40
STBF-10M-6N	10	3/8	3/8	7.9	20.64	19	17.2	19.5	25.9	33.5	22.40
STBF-10M-8N	10	1/2	1/2	9.5	25.40	19	17.2	19.5	28.2	33.6	22.40
STBF-12M-4N	12	1/4	1/4	9.5	20.64	22	22.8	22.0	25.9	36.0	22.40
STBF-12M-6N	12	3/8	3/8	9.5	20.64	22	22.8	22.0	25.9	36.0	22.40
STBF-12M-8N	12	1/2	1/2	9.5	25.40	22	22.8	22.0	29.7	40.0	28.40
STBF-16M-8N	16	1/2	1/2	12.7	25.40	25	24.4	22.0	29.7	40.0	28.70

S-LOK Tube Fittings

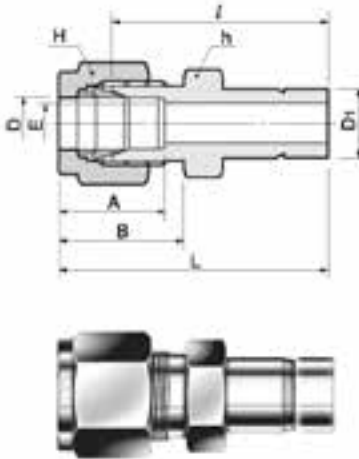
Reducer SR



Connects fractional tube to fractional S-LOK port

Part No.	Tube O.D.				E Min.	Width across flat				A	B	I	L
	D		D ₁			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	26.95
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	126.22
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

Reducer SR



Connects metric tube to fractional S-LOK port

Part No.	Tube O.D.			E Min.	Width across flat		A	B	I	L
	D	D1			h	H				
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-25M-16	25	1	25.40	20.2	35	38	31.3	26.5	57.2	69.5

Connects metric tube to metric S-LOK port

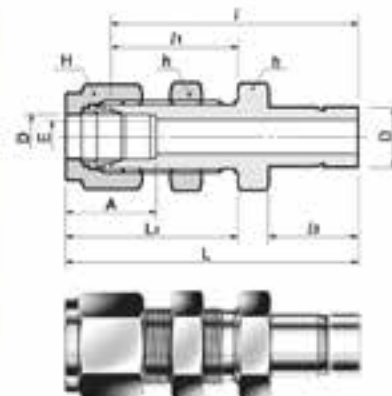
Part No.	Tube O.D.			E Min.	Width across flat		A	B	I	L
	D	D1			h	H				
SR-2M-3M	2	3	1.7	12	12	12.9	15.3	26.9	35.3	
SR-3M-4M	3	4	2.4	12	12	12.9	15.3	28.4	35.0	
SR-3M-6M	3	6	2.4	12	12	12.9	15.3	29.5	36.1	
SR-3M-10M	3	10	2.4	12	12	12.9	15.3	31.8	38.4	
SR-4M-6M	4	6	2.4	12	12	13.7	16.1	30.5	37.1	
SR-6M-3M	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	38.9	
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	16.3	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	

Bulkhead Adapter SAB

The bulkhead adapter is useful for panel construction when you need to set a direction.



Set a direction

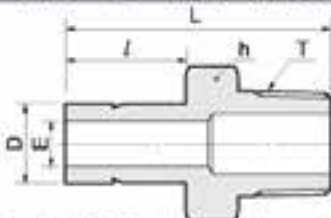


Connects fractional tube to fractional S-LOK port

Part No.	Tube O.D. D		E Min.	Width across flat				A	I	h	I ₂	L	L ₁	Panel Hole Drill Size	Panel Max Thickness
	in	mm		h	mm	H	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 - 16-16	1	25.40	20.32	1-5/8	41.28	1-1/2	38.10	31.24	88.13	45.21	31.70	100.33	57.40	33.73	19.05
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

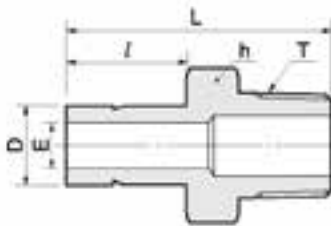
Male Adapter SAM

Connects metric S-LOK port to female ISO tapered thread



Part No.	Tube O.D. D		T R(PT)	E Min.	Width across flat		L
	in	mm			h	I	
SAM - 3M-2R	3		1/8	1.9	12	13.15	29.4
SAM - 6M-2R	6		1/8	4.1	12	15.75	32.8
SAM - 6M-4R	6		1/4	4.1	14	15.75	38.1
SAM - 6M-4R	6		1/4	5.6	14	16.50	39.1
SAM - 10M-4R	10		1/4	7.1	14	17.50	39.9
SAM - 10M-6R	10		3/8	7.1	17	17.50	40.6
SAM - 10M-8R	10		1/2	7.1	22	17.50	46.2
SAM - 12M-4R	12		1/4	8.8	14	23.50	46.5
SAM - 12M-6R	12		3/8	8.8	17	23.50	46.5
SAM - 12M-8R	12		1/2	8.8	22	23.50	51.8
SAM - 18M-8R	18		1/2	13.9	22	24.90	53.2
SAM - 18M-12R	18		3/4	13.9	27	24.90	53.2
SAM - 28M-16R	28		1	22.5	35	31.70	74.7
SAM - 28M-20R	28		1-1/4	22.5	46	31.70	76.2
SAM - 32M-20R	32		1-1/4	26.5	46	40.00	81.0
SAM - 38M-24R	38		1-1/2	31.6	55	51.50	92.2

Male Adapter SAM



Connects fractional S-LOK port to female NPT thread

Part No.	Tube O.D. D		T (NPT)	E Min.	Width across flat h		I	L
	in	mm			in	mm		
SAM - 2-2N	1/8	3.17	1/8	2.03	7/16	11.11	13.45	29.50
SAM - 2-4N	1/8	3.17	1/4	2.03	9/16	14.28	13.45	34.80
SAM - 3-2N	3/16	4.76	1/8	3.04	7/16	11.11	14.20	30.22
SAM - 3-4N	3/16	4.76	1/4	3.04	9/16	14.28	14.20	35.56
SAM - 4-2N	1/4	6.35	1/8	4.31	7/16	11.11	15.75	31.80
SAM - 4-4N	1/4	6.35	1/4	4.31	9/16	14.28	15.75	37.08
SAM - 4-6N	1/4	6.35	3/8	4.31	11/16	17.46	15.75	37.84
SAM - 4-8N	1/4	6.35	1/2	4.31	7/8	22.22	15.75	43.43
SAM - 5-2N	5/16	7.93	1/8	5.58	7/16	11.11	16.80	32.76
SAM - 5-4N	5/16	7.93	1/4	5.58	9/16	14.28	16.80	38.10
SAM - 6-2N	3/8	9.52	1/8	6.86	7/16	11.11	17.50	33.50
SAM - 6-4N	3/8	9.52	1/4	6.86	9/16	14.28	17.50	38.90
SAM - 6-6N	3/8	9.52	3/8	6.86	11/16	17.46	17.50	39.60
SAM - 6-8N	3/8	9.52	1/2	6.86	7/8	22.22	17.50	45.20
SAM - 8-4N	1/2	12.70	1/4	9.40	9/16	14.28	23.20	44.50
SAM - 8-6N	1/2	12.70	3/8	9.40	11/16	17.46	23.20	45.20
SAM - 8-8N	1/2	12.70	1/2	9.40	7/8	22.22	23.20	50.50
SAM - 10-6N	5/8	15.87	3/8	11.90	11/16	17.46	24.70	47.40
SAM - 10-8N	5/8	15.87	1/2	11.90	7/8	22.22	24.70	52.30
SAM - 10-12N	5/8	15.87	3/4	11.90	1-1/16	26.98	24.70	52.30
SAM - 12-8N	3/4	19.05	1/2	14.73	7/8	22.22	24.70	52.30
SAM - 12-12N	3/4	19.05	3/4	14.73	1-1/16	26.98	24.70	52.30
SAM - 12-16N	3/4	19.05	1	14.73	1-3/8	34.92	24.70	57.91
SAM - 14-12N	7/8	22.22	3/4	17.27	1-1/16	26.98	26.70	54.30
SAM - 16-12N	1	25.40	3/4	20.32	1-1/16	26.98	31.70	58.70
SAM - 16-16N	1	25.40	1	20.32	1-3/8	34.92	31.70	66.00
SAM - 20-20N	1-1/4	31.75	1-1/4	25.90	1-3/4	44.45	40.00	80.26
SAM - 24-24N	1-1/2	38.10	1-1/2	31.75	2-1/8	53.98	51.50	94.48
SAM - 32-32N	2	50.80	2	43.68	2-3/4	69.85	68.40	119.38

S-LOK Adapter eliminates alignment problems



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



The male elbow is positioning in the wrong direction.



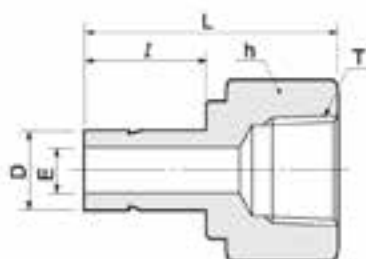
To eliminate the problem, use a male adapter into the female port.



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

S-LOK Tube Fittings

Female Adapter SAF



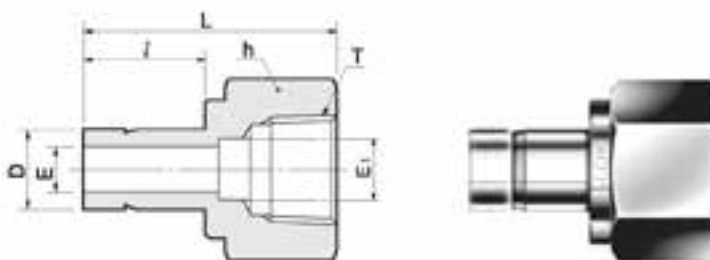
Connects fractional S-LOK port to male NPT thread

Part No.	Tube O.D. D		T (NPT)	E Min.	Width across flat h		l	L
	in	mm			in	mm		
SAF-2-2N	1/8	3.17	1/8	2.03	9/16	14.28	13.45	31.50
SAF-2-4N	1/8	3.17	1/4	2.03	3/4	19.05	13.45	35.30
SAF-3-2N	3/16	4.78	1/8	3.04	9/16	14.28	14.20	32.00
SAF-3-4N	3/16	4.78	1/4	3.04	3/4	19.05	14.20	35.81
SAF-4-2N	1/4	6.35	1/8	4.31	9/16	14.28	15.75	33.02
SAF-4-4N	1/4	6.35	1/4	4.31	3/4	19.05	15.75	37.10
SAF-4-6N	1/4	6.35	3/8	4.31	7/8	22.22	15.75	39.37
SAF-4-8N	1/4	6.35	1/2	4.31	1-1/16	26.98	15.75	45.50
SAF-5-2N	5/16	7.93	1/8	5.58	9/16	14.28	16.80	34.29
SAF-5-4N	5/16	7.93	1/4	5.58	3/4	19.05	16.80	37.59
SAF-6-2N	3/8	9.52	1/8	6.86	9/16	14.28	17.50	34.29
SAF-6-4N	3/8	9.52	1/4	6.86	3/4	19.05	17.50	38.10
SAF-6-6N	3/8	9.52	3/8	6.86	7/8	22.22	17.50	40.38
SAF-6-8N	3/8	9.52	1/2	6.86	1-1/16	26.98	17.50	46.73
SAF-8-4N	1/2	12.70	1/4	9.4	3/4	19.05	23.20	43.43
SAF-8-6N	1/2	12.70	3/8	9.4	7/8	22.22	23.20	45.46
SAF-8-8N	1/2	12.70	1/2	9.4	1-1/16	26.98	23.20	51.80
SAF-10-6N	5/8	15.87	3/8	11.9	7/8	22.22	24.70	48.26
SAF-10-8N	5/8	15.87	1/2	11.9	1-1/16	26.98	24.70	53.84
SAF-10-12N	5/8	15.87	3/4	11.9	1-5/16	33.33	24.70	55.37
SAF-12-8N	3/4	19.05	1/2	14.73	1-1/16	26.98	24.70	52.83
SAF-12-12N	3/4	19.05	3/4	14.73	1-5/16	33.33	24.70	54.86
SAF-12-16N	3/4	19.05	1	14.73	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	20.32	1-5/16	33.33	31.70	60.70
SAF-16-16N	1	25.40	1	20.32	1-5/8	41.27	31.70	64.26
SAF-20-20N	1-1/4	31.75	1-1/4	25.9	2-1/8	53.98	40.00	77.72
SAF-24-24N	1-1/2	38.10	1-1/2	31.75	2-3/8	60.33	51.50	88.90
SAF-32-32N	2	50.80	2	43.68	2-7/8	73.03	68.40	107.44

Connects metric S-LOK port to male ISO tapered thread

Part No.	Tube O.D. D		T R(P/T)	E Min.	Width across flat h		l	L
	in	mm			in	mm		
SAF-3M-2R	3	76.2	1/8	1.9	14	355.6	13.15	31.15
SAF-6M-2R	6	152.4	1/8	4.1	14	355.6	15.75	32.50
SAF-6M-4R	6	152.4	1/4	4.1	19	482.6	15.75	37.10
SAF-8M-4R	8	203.2	1/4	5.6	19	482.6	16.50	37.60
SAF-10M-4R	10	254.0	1/4	7.1	19	482.6	17.50	38.10
SAF-10M-6R	10	254.0	3/8	7.1	22	558.8	17.50	40.10
SAF-10M-8R	10	254.0	1/2	7.1	27	685.8	17.50	46.50
SAF-12M-4R	12	304.8	1/4	8.8	19	482.6	23.50	43.70
SAF-12M-6R	12	304.8	3/8	8.8	22	558.8	23.50	46.00
SAF-12M-8R	12	304.8	1/2	8.8	27	685.8	23.50	52.30
SAF-18M-12R	18	457.2	3/4	13.9	32	812.8	24.90	54.80

Female Adapter SAG



Connects fractional S-LOK port to male ISO tapered thread

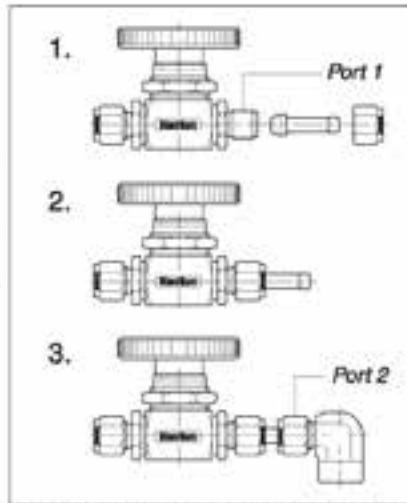
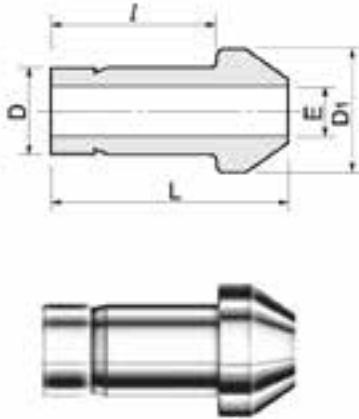
Part No.	Tube O.D. D		T G(PF)	E Min.	E _t	Width across flat h		l	l ₁	L
	in	mm				in	mm			
SAG-4-2G	1/4	6.35	1/8	4.3	4.57	9/16	14.28	15.75	12	32
SAG-4-4G	1/4	6.35	1/4	4.3	5.5	3/4	19.05	15.75	12.9	35.3
SAG-6-6G	3/8	9.52	3/8	6.6	6.5	15/16	23.81	17.5	14.1	39.37
SAG-6-8G	1/2	12.7	1/2	7.1	7	1-1/16	26.98	23.2	18.9	45.72

Connects metric S-LOK port to male ISO tapered thread

Part No.	Tube O.D. D		T G(PT)	E Min.	E _t	Width across flat h		l	l ₁	L
	in	mm				in	mm			
SAG-6M-2G	6M	6.35	1/8	4.1	4	14	15.75	12	32	
SAG-6M-4G	6M	6.35	1/4	4.1	5.5	19	15.75	13	35.3	
SAG-6M-6G	6M	9.52	3/8	4.1	6.5	24	15.75	14.22	38.4	
SAG-6M-8G	6M	12.7	1/2	4.1	7	27	15.75	18.9	42.9	
SAG-8M-4G	8M	9.52	1/4	5.6	5.5	19	16.5	13	33	
SAG-8M-6G	8M	12.7	3/8	5.6	6.5	24	16.5	14.22	38.9	
SAG-8M-8G	8M	15.88	1/2	5.6	7	27	16.5	18.9	43.7	
SAG-10M-4G	10M	12.7	1/4	7.1	5.5	19	17.5	13	34.5	
SAG-10M-6G	10M	15.88	3/8	7.1	6.5	24	17.5	14.22	36.1	
SAG-10M-8G	10M	19.05	1/2	7.1	7	27	17.5	18.9	40.1	
SAG-12M-4G	12M	15.88	1/4	8.8	5.5	19	23.5	13	40.1	
SAG-12M-6G	12M	19.05	3/8	8.8	6.5	24	23.5	14.22	44.7	
SAG-12M-8G	12M	22.22	1/2	8.8	7	27	23.5	18.9	48.8	
SAG-15M-8G	15M	22.22	1/2	12.7	7	27	24.65	18.9	49	
SAG-16M-8G	16M	25.4	1/2	12.7	7	27	24.6	18.9	49	
SAG-18M-8G	18M	27.14	1/2	13.9	7	27	24.9	18.9	49.3	
SAG-22M-8G	22M	27.14	1/2	18.3	7	27	26.6	18.9	52	
SAG-25M-8G	25M	27.14	1/2	19.8	7	30	31.7	18.9	56.1	

S-LOK Tube Fittings

Port Connector SCP



S-LOK port connector facilitates close connection to another port.

Installation Instructions

1. Remove the nut and ferrules from S-LOK port 1 and set nut only (no ferrules) over the port connector
2. Tighten the nut with wrench until sharp rise in torque is felt
3. Insert the other end of port connector into port 2 and tighten nut 1-1/4 turns with wrench.
for 1/8", 3mm only 3/4 turn from finger tight.

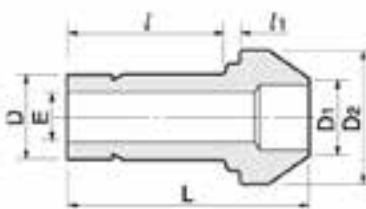
Connects two fractional S-LOK ports

Part No.	Tube O.D.		E Min.	D ₁	l	L
	in	mm				
SCP-1	1/16	1.59	1.00	3.30	10.66	13.72
SCP-2	1/8	3.17	2.03	6.09	15.75	22.35
SCP-4	1/4	6.35	4.31	9.39	18.79	24.64
SCP-5	5/16	7.93	5.58	10.92	20.06	25.90
SCP-6	3/8	9.52	6.86	12.70	20.32	26.16
SCP-8	1/2	12.70	9.4	15.74	25.90	35.81
SCP-12	3/4	19.05	14.73	22.09	27.68	37.33
SCP-16	1	25.40	20.32	28.44	34.54	48.00

Connects two metric S-LOK ports

Part No.	Tube O.D.		E Min.	D ₁	l	L
	in	mm				
SCP-3M	3	1.9	6.0	15.70	22.20	
SCP-4M	4	2.2	7.0	16.67	25.81	
SCP-6M	6	4.1	9.0	18.70	24.60	
SCP-8M	8	5.6	11.0	20.00	25.90	
SCP-10M	10	7.1	13.1	20.20	26.10	
SCP-12M	12	8.8	15.0	26.00	35.80	
SCP-15M	15	11.2	19.0	27.78	37.40	
SCP-16M	16	12	19.0	27.60	37.40	
SCP-18M	18	13.9	21.0	27.91	37.40	
SCP-20M	20	15.5	23.0	29.20	38.90	
SCP-22M	22	17.9	24.97	29.30	39.20	
SCP-25M	25	19.9	28.0	34.50	48.00	
SCP-28M	28	22.5	34.3	48.30	63.50	
SCP-32M	32	26.5	39.5	52.40	69.70	
SCP-38M	38	31.6	47.1	61.40	81.90	

Reducing Port Connector SCRP



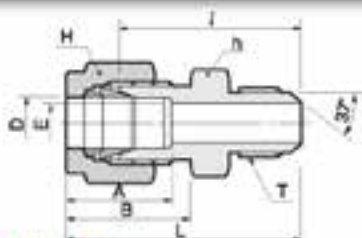
Connects two fractional S-LOK ports

Part No.	Tube O.D.				E Min.	D ₂	l	l ₁	L
	D ₁	D	D ₁	D					
SCRP 2-1	1/8	3.17	1/16	1.59	1.00	6.10	8.64	2.03	17.27
SCRP 4-2	1/4	6.35	1/8	3.17	2.28	9.39	13.45	3.30	22.60
SCRP 6-2	3/8	9.52	1/8	3.17	2.28	12.70	13.45	3.81	23.11
SCRP 6-4	3/8	9.52	1/4	6.35	4.82	12.70	15.75	3.30	24.89
SCRP 8-4	1/2	12.70	1/4	6.35	4.82	15.74	15.75	3.81	29.21
SCRP 8-6	1/2	12.70	3/8	9.52	7.11	15.74	17.50	3.30	30.48
SCRP 12-8	3/4	19.05	1/2	12.70	9.90	22.09	23.20	3.81	37.85
SCRP 16-8	1	25.40	1/2	12.70	9.90	28.40	24.47	4.82	42.67
SCRP 16-12	1	25.40	3/4	19.05	14.98	28.40	25.90	4.06	43.43

Connects two metric S-LOK ports

Part No.	Tube O.D.				E Min.	D ₂	l	l ₁	L
	D ₁	D	D ₁	D					
SCRP 6M-3M	6	3	1.9	9.0	13.50	3.2	22.60		
SCRP 8M-6M	8	6	4.1	11.0	15.70	3.1	24.70		
SCRP 10M-6M	10	6	4.1	13.1	15.70	3.4	25.00		
SCRP 10M-8M	10	8	5.6	13.1	16.80	3.1	26.00		
SCRP 12M-6M	12	6	4.1	15.0	15.70	3.6	29.10		
SCRP 12M-8M	12	8	5.6	15.0	16.80	3.4	29.80		
SCRP 12M-10M	12	10	7.1	15.0	17.50	3.1	30.40		
SCRP 16M-6M	16	6	4.1	19.0	15.75	3.6	30.40		
SCRP 16M-12M	16	12	8.8	19.0	23.10	3.4	36.20		
SCRP 28M-25M	28	25	19.8	34.3	33.00	8.2	56.50		
SCRP 32M-25M	32	25	19.8	39.5	33.00	9.9	60.30		
SCRP 38M-25M	38	25	19.8	47.1	33.00	12.3	65.80		

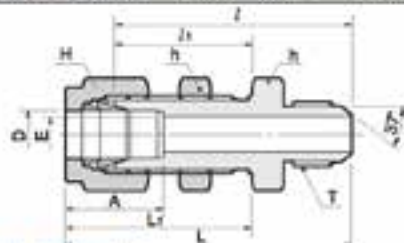
AN Union SUA



Connects fractional tube to AN flared tube

Part No.	Tube O.D.		AN Tube		Straight Thread T(U)	E Min.	Width across flat				A	B	I	L
	D		Flare Size				h		H					
	in	mm	in	mm			in	mm	in	mm				
SUA - 1-2	1/16	1.59	1/8	3.17	5/16-24	1.27	7/16	11.11	5/16	7.93	8.63	10.92	23.36	27.17
SUA - 2-2	1/8	3.17	1/8	3.17	5/16-24	1.52	7/16	11.11	7/16	11.11	12.70	15.24	24.89	31.49
SUA - 2-4	1/8	3.17	1/4	6.35	7/16-20	2.28	1/2	12.70	7/16	11.11	12.70	15.24	28.44	35.05
SUA - 4-4	1/4	6.35	1/4	6.35	7/16-20	4.31	1/2	12.70	9/16	14.28	15.24	17.78	30.22	37.59
SUA - 5-5	5/16	7.93	5/16	7.93	1/2-20	5.84	9/16	14.28	5/8	15.87	16.25	18.54	30.98	38.35
SUA - 6-4	3/8	9.52	1/4	6.35	7/16-20	4.31	5/8	15.87	11/16	17.46	16.76	19.30	32.25	39.62
SUA - 6-6	3/8	9.52	3/8	9.52	9/16-18	7.11	5/8	15.87	11/16	17.46	16.76	19.30	32.25	39.62
SUA - 8-8	1/2	12.70	1/2	12.70	3/4-16	9.90	13/16	20.64	7/8	22.22	22.86	21.84	35.81	45.97
SUA -12-12	3/4	19.05	3/4	19.05	1-1/16-12	15.49	1-1/8	28.58	1-1/8	28.58	24.38	21.84	43.18	53.34
SUA -16-16	1	25.40	1	25.40	1-5/16-12	21.33	1-3/8	34.92	1-1/2	38.10	31.24	26.41	49.27	61.46
SUA -20-20	1-1/4	31.75	1-1/4	31.75	1-5/8-12	27.68	1-3/4	44.45	1-7/8	47.63	41.14	38.66	55.46	77.56
SUA -24-24	1-1/2	38.10	1-1/2	38.10	1-7/8-12	34.03	2-1/8	53.97	2-1/4	57.15	50.03	45.21	63.07	90.25
SUA -32-32	2	50.80	2	50.80	2-1/2-12	45.97	2-3/4	69.85	3	76.20	67.56	62.73	83.24	120.57

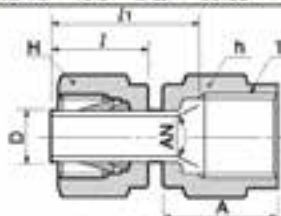
AN Bulkhead Union SUBA



Connects fractional tube to AN flared tube

Part No.	Tube O.D.		AN Tube Flare Size		Straight Thread T(U)	E Min.	Width across flat				A	I	h	L	L1	Panel Hole Drill Size	Panel Max Thickness
	D						h		H								
	in	mm	in	mm			in	mm	in	mm							
SUBA-2-2	1/8	3.17	1/8	3.17	5/16-24	1.77	1/2	12.70	7/16	11.11	13.71	40.65	24.63	47.45	31.23	8.33	12.70
SUBA-4-4	1/4	6.35	1/4	6.35	7/16-20	4.31	5/8	15.87	9/16	14.28	15.24	46.46	26.16	53.84	33.52	11.50	10.16
SUBA-6-6	3/8	9.52	3/8	9.52	9/16-18	7.11	3/4	19.05	11/16	17.46	16.76	49.78	29.46	57.15	36.83	14.68	11.17
SUBA-8-8	1/2	12.70	1/2	12.70	3/4-16	9.90	5/16	23.81	7/8	22.22	22.86	55.62	31.75	65.76	41.91	19.44	12.70
SUBA-12-12	3/4	19.05	3/4	19.05	1-1/16-12	15.49	1-3/16	30.16	1-1/8	28.58	24.38	68.83	37.33	78.99	47.49	25.79	16.76
SUBA-16-16	1	25.40	1	25.40	1-5/16-12	21.33	1-5/8	41.27	1-1/2	38.10	31.24	80.26	45.21	92.45	57.40	33.73	19.05
SUBA-20-20	1-1/4	31.75	1-1/4	31.75	1-5/8-12	27.68	1-7/8	47.63	1-7/8	47.63	41.14	86.37	47.75	108.47	69.85	41.67	19.05
SUBA-24-24	1-1/2	38.10	1-1/2	38.10	1-7/8-12	34.03	2-1/4	57.15	2-1/4	57.15	50.03	94.33	49.27	121.51	76.45	49.61	19.05
SUBA-32-32	2	50.80	2	50.80	2-1/2-12	45.97	2-3/4	69.85	3	76.20	67.56	114.29	56.38	151.62	93.71	16.27	19.05

AN Adapter SAA



Connects fractional S-LOK port to male AN

Part No.	Tube O.D. D		AN Tube Flare Size		Straight Thread T(U)	Width across flat				A	I	h
	in	mm	in	mm		h		H				
						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 Tube Fittings

SAE Fittings

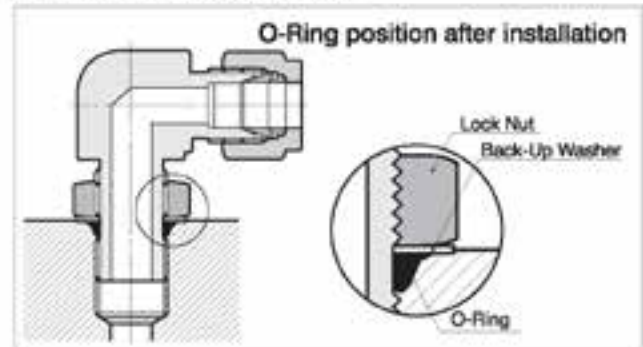
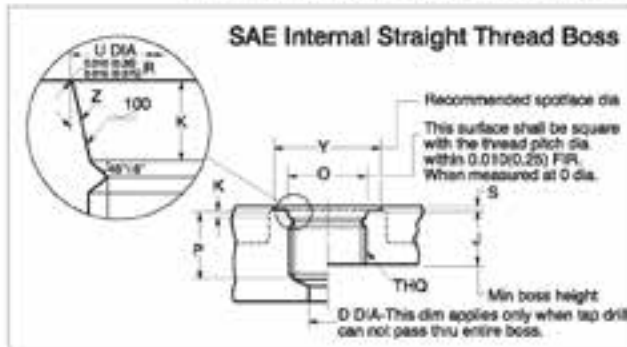
S-LOK SAE straight O-Ring seal fittings are of positionable feature and provide connection tube to straight thread boss. Further this has an advantage of eliminating welding and brazing process when used as bulkhead fitting on thin wall tanks or vessels.

These fittings are designed and manufactured to SAE standards as below:

Male or external fitting end dimensions to SAE J514

Straight thread to SAE J475 (equivalent to ANSI B1.1 or ISO R725)

Female or internal straight thread boss to SAE J1926. See diagram below.



Details of SAE Internal Straight Thread Boss

Unit:mm

Nom. Tube O.D.	Thread Size	D Min.	J Min.	K (±0.2)	O Min.	P ^d Min.	U ^a (±0.13)	Y ^c	S ^{bc} 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°

- Diameter U shall be concentric with the thread pitch diameter within 0.13 full indicator reading (FIR) and shall be free from longitudinal and spiral tool marks. Annular tool marks up to 2.5 micro meters max. shall be permissible.
- This is the maximum recommended spotface depth to permit sufficient wrench grip for the proper tightening of the fitting or locknut.
- If the face of the boss is on a machined surface, dimensions Y and S need not apply as long as R 0.25/ 0.375 is maintained to avoid damage to the O-Ring during installation.
- Tap drill depths given 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.

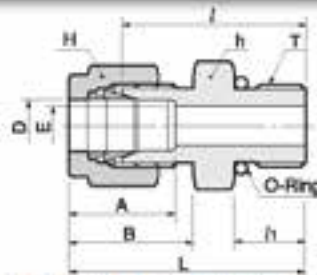
O-Ring and straight thread size for SAE Fittings Bosses

Nominal Tube O.D.	Port Size	Thread Size	O-Ring		
			Size No.	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 thread boss until the metal washer is in contact with the boss.
- 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 boss.

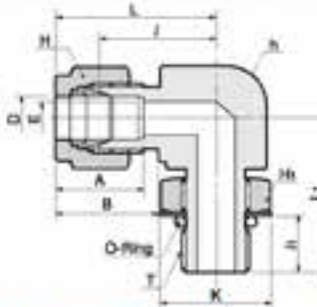
SAE Male Connector SMCS



Connects fractional tube to SAE straight thread boss

Part No.	Tube O.D. D		Straight Thread T(u)	E Min.	Width across flat				A	B	I	h	L	O-Ring Uniform Size Number
	in	mm			h	mm	H	mm						
SMCS-2-2U	1/8	3.17	5/16-24	2.28	7/16	11.11	7/16	11.11	12.70	15.24	23.26	7.62	29.97	-902
SMCS-4-4U	1/4	6.35	7/16-20	4.82	9/16	14.28	9/16	14.28	15.24	17.78	26.67	9.14	34.03	-904
SMCS-4-8U	1/4	6.35	9/16-18	4.82	11/16	17.46	9/16	14.28	15.24	17.78	28.19	9.90	35.56	-906
SMCS-4-8U	1/4	6.35	3/4-16	4.82	7/8	22.22	9/16	14.28	15.24	17.78	30.22	11.17	37.59	-908
SMCS-4-10U	1/4	6.35	7/8-14	4.82	1	25.40	9/16	14.28	15.24	17.78	33.27	12.70	40.64	-910
SMCS-5-5U	5/16	7.93	1/2-20	5.84	5/8	15.87	5/8	15.87	16.25	18.54	27.43	9.14	34.79	-905
SMCS-6-4U	3/8	9.52	7/16-20	5.08	5/8	15.87	11/16	17.46	16.76	19.30	28.19	9.14	35.56	-904
SMCS-6-8U	3/8	9.52	9/16-18	7.11	11/16	17.46	11/16	17.46	16.76	19.30	29.71	9.90	37.08	-906
SMCS-6-8U	3/8	9.52	3/4-16	7.11	7/8	22.22	11/16	17.46	16.76	19.30	31.75	11.17	39.11	-908
SMCS-6-10U	3/8	9.52	7/8-14	7.11	1	25.40	11/16	17.46	16.76	19.30	34.79	12.70	42.16	-910
SMCS-8-6U	1/2	12.70	9/16-18	7.11	13/16	20.64	7/8	22.22	22.86	21.84	28.95	9.90	39.11	-906
SMCS-8-8U	1/2	12.70	3/4-16	10.41	7/8	22.22	7/8	22.22	22.86	21.84	31.75	11.17	41.91	-908
SMCS-8-10U	1/2	12.70	7/8-14	10.41	1	25.40	7/8	22.22	22.86	21.84	34.79	12.70	44.95	-910
SMCS-8-12U	1/2	12.70	1-1/16-12	10.41	1-1/4	31.75	7/8	22.22	22.86	21.84	38.86	14.98	49.02	-912
SMCS-10-8U	5/8	15.87	3/4-16	10.66	15/16	23.81	1	25.40	24.38	21.84	31.75	11.17	41.91	-908
SMCS-10-10U	5/8	15.87	7/8-14	12.70	1	25.40	1	25.40	24.38	21.84	35.05	12.70	45.21	-910
SMCS-12-8U	3/4	19.05	3/4-16	10.66	1-1/16	26.98	1-1/8	28.57	24.38	21.84	35.81	11.17	45.97	-908
SMCS-12-12U	3/4	19.05	1-1/16-12	15.74	1-1/4	31.75	1-1/8	28.57	24.38	21.84	38.86	14.98	49.02	-912
SMCS-14-14U	7/8	22.22	1-3/16-12	18.28	1-3/8	34.92	1-1/4	31.75	25.90	21.84	38.86	14.98	49.02	-914
SMCS-16-12U	1	25.40	1-1/16-12	16.76	1-3/8	34.92	1-1/2	38.10	31.24	26.41	41.14	14.98	53.34	-912
SMCS-16-16U	1	25.40	1-5/16-12	22.35	1-1/2	38.10	1-1/2	38.10	31.24	26.41	42.16	14.98	54.35	-916
SMCS-20-20U	1-1/4	31.75	1-5/8-12	27.68	1-7/8	47.63	1-7/8	47.63	41.14	38.86	46.22	14.98	68.32	-920
SMCS-24-24U	1-1/2	38.10	1-7/8-12	34.03	2-1/8	53.98	2-1/4	57.15	50.03	45.21	50.54	14.98	77.72	-924
SMCS-32-32U	2	50.80	2-1/2-12	45.97	2-3/4	69.85	3	76.20	67.56	62.73	64.26	14.98	101.60	-932

Positionable SAE Male Elbow SLS



Connects fractional tube to SAE straight thread boss

Part No.	Tube O.D. D		Straight Thread T(u)	E Min.	Width across flat				A	B	I	I1	L	L1	K	O-Ring Uniform Size Number
	in	mm			h	mm	H	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	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	20.46 -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	22.25 -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	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	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 -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	48.78 -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 -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 -916
SLS-20-20U	1-1/4	31.75	1-5/8-12	27.68	1-11/16	42.76	1-7/8	47.63	1-7/8	47.63	41.14	38.86	45.72	16.76	67.61	58.16 -920
SLS-24-24U	1-1/2	38.10	1-7/8-12	34.03	2	50.80	2-1/4	57.15	2-1/8	53.98	50.03	45.21	50.80	16.76	77.97	60.45 -924
SLS-32-32U	2	50.80	2-1/2-12	45.97	2-3/4	69.85	3	76.20	2-3/4	69.85	67.56	62.73	69.85	16.76	107.18	71.62 -932

S-10K Tube Fittings

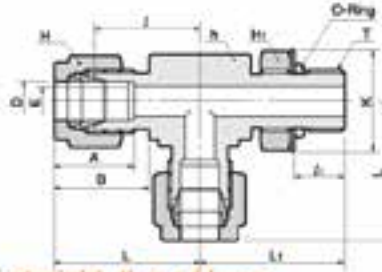
Positionable 45° SAE Male Elbow SLBS



Connects fractional tube to SAE straight thread boss

Part No.	Tube O.D. D		Straight Thread T(u)	E Min.	Width across flat						A	B	I	I ₁	L	L ₁	K	O-Ring Uniform Size Number
	in	mm			h	mm	H	mm	H ₁	mm								
SLBS-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	18.28	9.90	25.65	25.65	16.51	-904
SLBS-6-6U	3/8	9.52	9/16-18	7.11	5/8	15.87	11/16	17.46	11/16	17.46	18.78	19.30	20.57	11.17	27.94	28.19	20.06	-906
SLBS-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	21.84	12.70	32.00	32.25	25.65	-908
SLBS-12-12U	3/4	19.05	1-1/16-12	15.74	1-1/8	28.58	1-1/8	28.58	1-1/4	31.75	24.38	21.84	29.71	16.76	39.87	47.24	36.57	-912
SLBS-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	35.30	16.76	47.49	50.54	43.94	-916

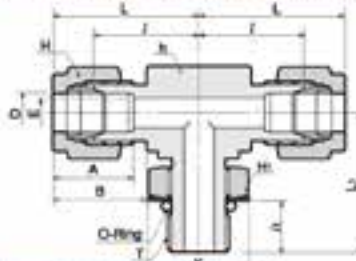
Positionable SAE Male Run Tee STRS



Connects fractional tube to SAE straight thread boss

Part No.	Tube O.D. D		Straight Thread T(u)	E Min.	Width across flat						A	B	I	I ₁	L	L ₁	K	O-Ring Uniform Size Number
	in	mm			h	mm	H	mm	H ₁	mm								
STRS-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
STRS-6-6U	3/8	9.52	9/16-18	7.11	5/8	15.87	11/16	17.46	11/16	17.46	18.78	19.30	24.63	11.17	32.00	32.25	20.06	-906
STRS-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
STRS-12-12U	3/4	19.05	1-1/16-12	15.74	1-1/8	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
STRS-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	50.54	43.94	-916
STRS-20-20U	1-1/4	31.75	1-5/8-12	27.68	1-11/16	42.86	1-7/8	47.63	1-7/8	47.63	41.14	38.86	45.72	16.76	67.81	58.16	54.86	-920
STRS-24-24U	1-1/2	38.10	1-7/8-12	34.03	2	50.80	2-1/4	57.15	2-1/8	53.98	50.03	45.21	50.80	16.76	77.97	60.45	62.23	-924
STRS-32-32U	2	50.80	2-1/2-12	45.97	2-3/4	69.85	3	76.20	2-3/4	69.85	67.56	62.73	69.85	16.76	107.18	71.62	80.26	-932

Positionable SAE Male Branch Tee STBS



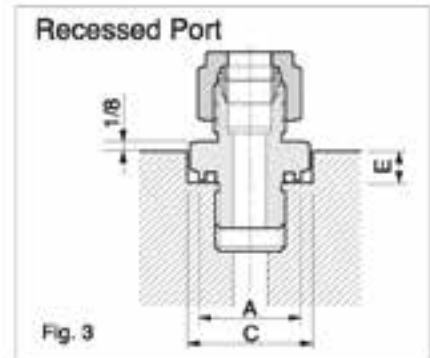
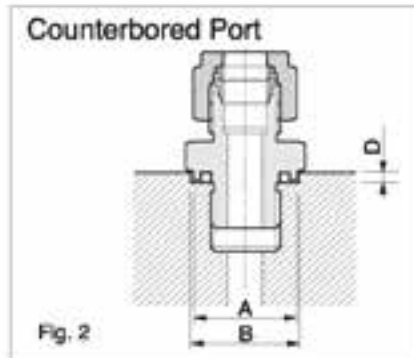
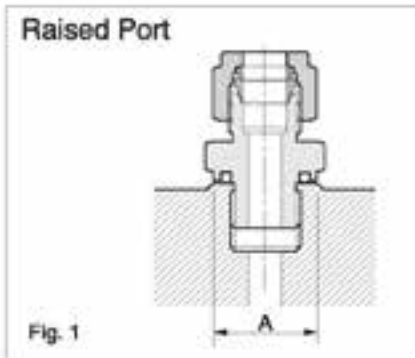
Connects fractional tube to SAE straight thread boss

Part No.	Tube O.D. D		Straight Thread T(u)	E Min.	Width across flat						A	B	I	I ₁	L	L ₁	K	O-Ring Uniform Size Number
	in	mm			h	mm	H	mm	H ₁	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	18.78	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	1-1/8	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
STBS-20-20U	1-1/4	31.75	1-5/8-12	27.68	1-11/16	42.86	1-7/8	47.63	1-7/8	47.63	41.14	38.86	45.72	16.76	67.81	58.16	54.86	-920
STBS-24-24U	1-1/2	38.10	1-7/8-12	34.03	2	50.80	2-1/4	57.15	2-1/8	53.98	50.03	45.21	50.80	16.76	77.97	60.45	62.23	-924
STBS-32-32U	2	50.80	2-1/2-12	45.97	2-3/4	69.85	3	76.20	2-3/4	69.85	67.56	62.73	69.85	16.76	107.18	71.62	80.26	-932

O-Seal Connector

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 pressure and for a controlled squeeze in a vacuum service.



Mounting Dimensions for O-seal connectors

Saehan-LOK Part No.	Straight Thread	Pipe Thread	Diameter						Depth			
			A		B		C		D		E	
			Min.		Min.		Min.		Max.		Max.	
			Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm
SCOS-2-2U	5/16-24	-	0.50	12.7	0.59	15.0	0.66	16.8	0.09	2.3	0.16	5.6
SCOS-3-3U	3/8-24	-	0.56	14.2	0.66	16.8	0.75	19.1	0.09	2.3	0.22	5.6
SCOS-4-4U	7/16-20	-	0.69	17.5	0.78	19.8	0.88	22.4	0.16	4.1	0.28	7.1
SCOS-5-5U	1/2-20	-	0.75	19.1	0.91	23.1	1.03	26.2	0.16	4.1	0.31	7.9
SCOS-6-6U	9/16-18	-	0.81	20.6	0.97	24.6	1.09	27.7	0.16	4.1	0.31	7.9
SCOS-8-8U	3/4-16	-	1.00	25.4	1.16	29.5	1.31	33.3	0.16	4.1	0.34	8.6
SCOS-12-12U	1-1/16-12	-	1.41	35.8	1.53	38.9	1.75	44.5	0.22	5.6	0.50	12.7
SCOS-16-16U	1-5/16-12	-	1.89	42.9	1.78	45.2	2.03	51.8	0.22	5.6	0.56	14.2
SCOP-2-2	-	1/8 NPT	0.69	17.5	0.78	19.8	0.88	22.4	0.16	4.1	0.28	7.1
SCOP-4-2	-	1/8 NPT	0.69	17.5	0.78	19.8	0.88	22.4	0.16	4.1	0.28	7.1
SCOP-4-4	-	1/4 NPT	0.87	22.1	0.97	24.6	1.09	27.7	0.16	4.1	0.31	7.9
SCOP-6-6	-	3/8 NPT	1.00	25.4	1.16	29.5	1.31	33.3	0.16	4.1	0.34	8.6
SCOP-6-8	-	1/2 NPT	1.22	31.0	1.34	34.0	1.53	38.9	0.22	5.6	0.44	11.2
SCOP-8-8	-	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:

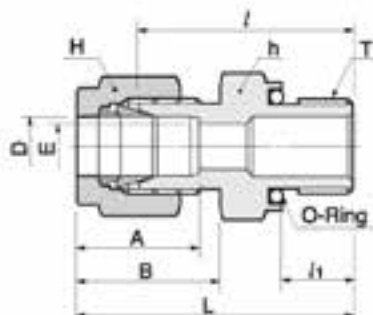
1. Hand-tighten it until the squeeze on the O-ring can be felt during the last 1/4 turn
2. Snug the fitting lightly with a wrench

When connecting & disconnecting the tubing to the O-ring fitting:

1. Use a back-up wrench on the fitting hex so it does not turn while the nut is being tightened at the tubing connection.
2. When disconnecting the tubing also use a back-up wrench so 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).

S-LOK Tube Fittings

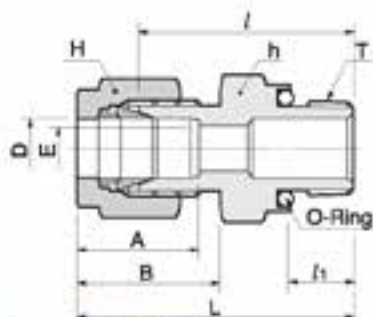
O-Seal Straight Thread Connector SCOS



Connects fractional tube to female straight thread

Part No.	Tube O.D. D		Straight Thread T(u)	E Min.	Width across flat				A	B	I	I ₁	L	O-Ring Uniform Size Number
	in	mm			h	mm	H	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	32.78	-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	16.78	19.30	35.05	11.93	42.41	-113
SCOS-6-8U	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

O-Seal Pipe Thread Connector SCOP

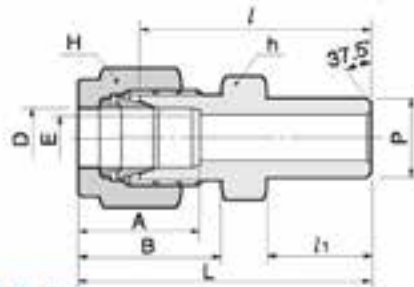


Connects fractional tube to female NPT thread

Part No.	Tube O.D. D		T *(NPT)	E Min.	Width across flat				A	B	I	I ₁	L	O-Ring Uniform Size Number
	in	mm			h	mm	H	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	32.78	-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	16.78	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	16.78	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	16.78	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.

Male Pipe
Weld Connector
SCW



Connects fractional tube to pipe

Part No.	Tube O.D.		Male Pipe Size		E	Width across flat				A	B	l	h	L
	D		P			h		H						
						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	4.78	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	32.78
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	19.05	46.33
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	26.96	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	26.96	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

Connects metric tube to pipe

Part No.	Tube D	O.D.	Male Pipe Size		E Min.	Width across flat		A	B	l	h	L	
			P	Nom.		O. D.	h						H
SCW-3M-2P	3		1/8	10.29	2.4	12	12	12.9	15.3	23.1	9.7	28.7	
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	91.8	

S-LOK Welding information

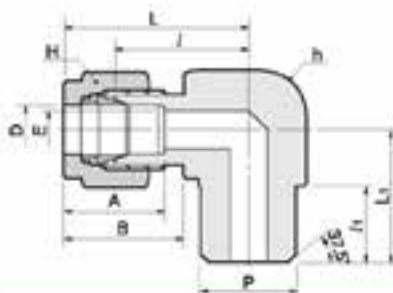
S-LOK weld ends are constructed to Schedule 80 wall or greater.

The first step is to remove the nut and ferrules from the S-LOK fitting to protect them from weld heat 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.

S-LOK Tube Fittings

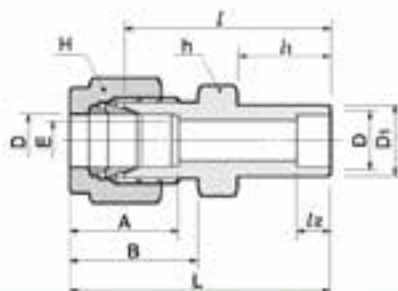
Male Pipe Weld Elbow **SLW**



Connects fractional tube to pipe

Part No.	Tube O.D. D		Male Pipe Size P		E Min.	Width across flat				A	B	l	h	L	L1
	in	mm	Nom.	O. D.		h	mm	H	in						
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-8-6P	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

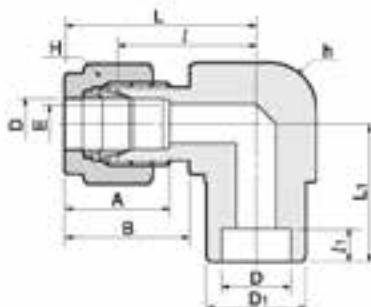
Tube Socket Weld Connector **SCSW**



Connects fractional tubes

Part No.	Tube O. D.		E Min.	D ₁	Width across flat				A	B	l	h	L	
	D				h		H							
					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

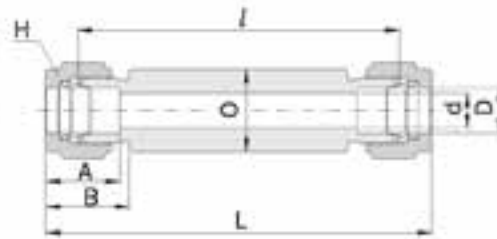
Tube Socket Weld Elbow **SLSW**



Connects fractional tubes

Part No.	Tube O.D. D		E Min.	D1	Width across flat				A	B	l	h	L	L1
	in	mm			h	mm	H	in						
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

**Welding
Bulkhead Union
SBUW**



Connects fractional Tubes

Part No.	Tube O.D. D		d min	H		A	B	I	L	O
	in	mm		in	mm					
SBUW-1	1/16	1.59	1.27	5/16	7.93	8.63	10.92	64.2	71.85	10
SBUW-2	1/8	3.17	2.28	7/16	11.11	12.7	15.24	67.2	80.41	12
SBUW-3	3/16	4.76	3.04	7/16	11.11	13.71	16	69	82.2	12
SBUW-4	1/4	6.35	4.82	1/2	12.7	15.24	17.78	70.4	85.13	14
SBUW-5	5/16	7.93	6.35	9/16	14.28	16.25	18.54	73.7	88.43	16
SBUW-6	3/8	9.52	7.11	5/8	15.87	16.76	19.3	73.7	88.43	19
SBUW-8	1/2	12.7	10.41	13/16	20.64	22.86	21.84	73.7	94.02	22
SBUW-10	5/8	15.87	12.7	15/16	23.81	24.38	21.84	73.7	94.02	28
SBUW-12	3/4	19.05	15.74	11/16	26.98	24.38	21.84	73.7	94.02	32
SBUW-14	7/8	22.22	18.28	13/16	30.16	25.9	21.84	73.7	94.02	32
SBUW-16	1	25.4	22.35	13/8	34.92	31.24	26.41	78.5	102.89	35
SBUW-20	1-1/4	31.75	27.68	13/4	44.45	41.14	38.86	83.9	128.1	50
SBUW-24	1-1/2	38.1	34.03	21/8	53.97	50.03	45.21	86.1	140.45	55
SBUW-32	2	50.8	45.97	23/4	60.85	67.56	62.73	100.9	175.55	80

Connects Metric Tubes

Part No.	Tube O.D. D	d min	H	A	B	I	L	O
SBUW-2M	2	1.7	12	12.9	15.3	67.3	80.5	12
SBUW-3M	3	2.4	12	12.9	15.3	67.3	80.5	12
SBUW-4M	4	2.4	12	13.7	16.1	69	82.2	12
SBUW-6M	6	4.8	14	15.3	17.7	70.4	85.2	14
SBUW-8M	8	6.4	16	16.2	18.6	74	89	16
SBUW-10M	10	7.9	19	17.2	19.5	74	89.2	19
SBUW-12M	12	9.5	22	22.8	22	74	94.2	22
SBUW-15M	15	11.9	25	24.4	22	74	94.2	25
SBUW-16M	16	12.7	25	24.4	22	74	94.2	28
SBUW-18M	18	15.1	30	24.4	22	74	94.2	28
SBUW-20M	20	15.9	32	26	22	74	94.2	32
SBUW-22M	22	18.3	32	26	22	74	94.2	32
SBUW-25M	25	21.8	38	31.3	26.5	78.6	103.2	38
SBUW-26M	28	21.8	46	36.6	36.6	81.7	116.3	45
SBUW-30M	30	26.2	50	39.5	39.2	74	117.2	50
SBUW-32M	32	28.6	50	42	41.6	87.1	133.1	50
SBUW-38M	38	33.7	60	49.4	47.9	90.9	146.1	60
SBUW-42M	42	36.5	65	49.4	47.9	90.9	146.1	60

S-10K Tube Fittings

Plug SP



Installation Instructions

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)

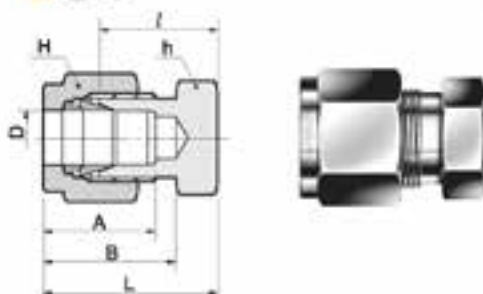
fractional

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

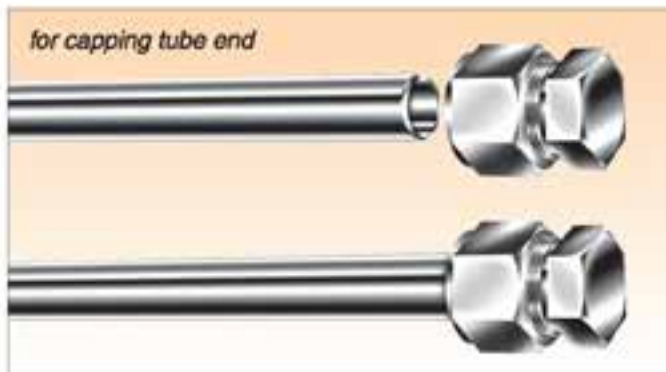
Part No.			Part No.		
Part No.	Tube O.D.	Width across flat	Part No.	Tube O.D.	Width across flat
	D	H		D	H
SP-2M	2	12	SP-16M	16	25
SP-3M	3	12	SP-18M	18	30
SP-4M	4	12	SP-20M	20	32
SP-6M	6	14	SP-22M	22	32
SP-8M	8	16	SP-25M	25	38
SP-10M	10	19	SP-28M	28	46
SP-12M	12	22	SP-32M	32	50
SP-15M	15	25	SP-38M	38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

Cap SC



Installation Instructions

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)



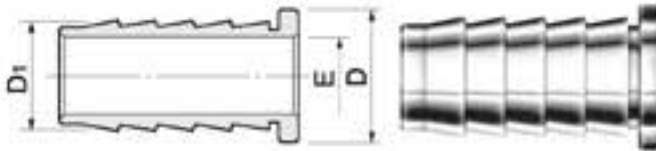
Cap end of fractional tube

Part No.	Tube O.D. D		Width across flat H				A	B	I	L
	in	mm	h	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	26.57	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	88.61

Cap end of metric tube

Part No.	Tube O.D.	Width across flat		A	B	I	L
	D	h	H				
SC-2M	2	12	12	12.9	15.3	13.5	20.1
SC-3M	3	12	12	12.9	15.3	13.5	20.1
SC-4M	4	12	12	13.7	16.1	14.7	21.3
SC-6M	6	14	14	15.3	17.7	15.7	23.1
SC-8M	8	15	16	16.2	18.6	17.0	24.5
SC-10M	10	18	19	17.2	19.5	19.0	26.6
SC-12M	12	22	22	22.8	22.0	19.0	29.1
SC-15M	15	24	25	24.4	22.0	19.8	29.9
SC-16M	16	24	25	24.4	22.0	19.8	29.9
SC-18M	18	27	30	24.4	22.0	21.3	31.4
SC-20M	20	30	32	26.0	22.0	23.9	34.0
SC-22M	22	30	32	26.0	22.0	23.9	34.0
SC-25M	25	35	38	31.3	26.5	26.2	38.5
SC-28M	28	41	46	36.6	36.6	27.7	48.5
SC-32M	32	46	50	42.0	41.6	32.8	55.8
SC-38M	38	55	60	49.4	47.9	37.8	65.4

Tube Insert SI



for Nylon or Soft Plastic Tubing



fractional

Part No.	Tube O.D.		Tube I.D.		E
	D		D _i		
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	12.7	1/4	6.35	4.82
SI-8-6	1/2	12.7	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	25.4	3/4	19.05	17.52

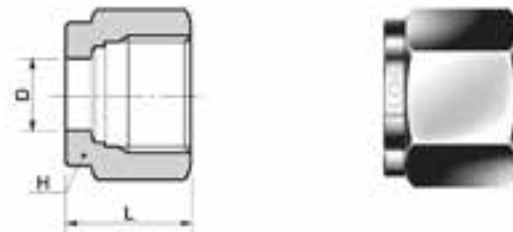
Installation Instructions

The S-LOK Tube Insert supports the soft plastic tubing, thus 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.

metric

Part No.	Tube O.D.		Tube I.D.		E
	D		D _i		
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

Nut SN



fractional

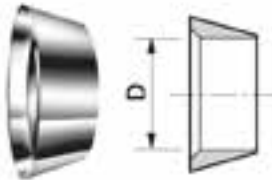
Part No.	Tube O.D.		Width across flat		L
	D		H		
SN-1	1/16	1.59	5/16	7.93	7.90
SN-2	1/8	3.17	7/16	11.11	11.93
SN-3	3/16	4.76	1/2	12.70	11.93
SN-4	1/4	6.35	9/16	14.28	12.70
SN-5	5/16	7.93	5/8	15.87	13.46
SN-6	3/8	9.52	11/16	17.46	14.22
SN-8	1/2	12.70	7/8	22.22	17.52
SN-10	5/8	15.87	1	25.40	17.52
SN-12	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.		Width across flat		L
	D		H		
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

S-LOK Tube Fittings

Front Ferrule SFF



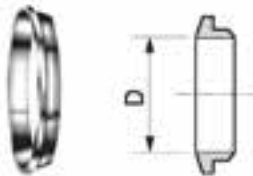
fractional

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	2
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-36M	36

Back Ferrule SFB



fractional

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

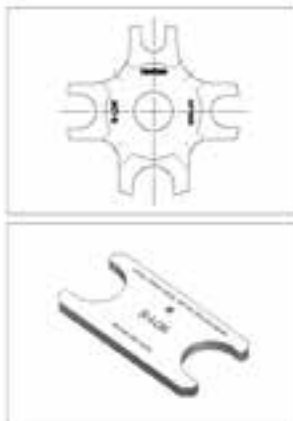
metric

Part No.	Tube O.D. D
SFB-2M	2
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-36M	36

Gap Gauge for Pull-up Inspection SIG

S-LOK maintains unbelievably tight tolerance on its each and every part. S-LOK tube fittings are monitored and gauged throughout process. This assures S-LOK consistency and makes S-LOK fittings gaugable.

This no-go gauge is the useful tool to inspect if the fittings are pulled up 1-1/4 turns from the finger-tight position. When the gauge doesn't fit the gap between the nut and body hex, the fitting is tightened 1-1/4 turns from the finger-tight position. If the gauge fits the gap, the fittings are not fully tightened.



Multiple Size Gap Gauge

Part No.	Applicable S-LOK Tube O.D.
SIG-45810M-5410	1/4", 5/16", 1/2", 6mm, 8mm, 10mm, 12mm



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innovations of customers

Leak - Proof Flow & Control Solution Partner

The Best Partner
for Value Creation

Instrument Pipe Fittings

HanSun

한선엔지니어링(주)
HANSUN ENGINEERING CO., LTD.







Certificate List



■ Features

- All instrument thread fittings are designed in accordance with ASME B31.3 for instrument and process.
- Male thread are protected with cap.
- Burr-free internal and outside surfaces.
- NPT threads are based on requirement of ASME B1.20.1

• Material Standards & Temperature Ratings

Material	Bar Stock	Forgings	Temperature
SS316	ASTM A479 ASTM A276	ASTM A182	-325°F to 1200°F (-198°C to 648°C)
Brass	ASTM B16, ASTM B453	ASTM B283	-325°F to 400°F (-198°C to 204°C)
Carbon steel	ASTM A108 JIS G4051	JIS G4051	-20°F to 350°F (-29°C to 176°C)

■ Pressure Ratings

Size Designator	NPT Size	316 Stainless Steel				Brass				Carbon steel			
		Male		Female		Male		Female		Male		Female	
		psig	bar	psig	bar	psig	bar	psig	bar	psig	bar	psig	bar
1	1/8	11,000	758	6,700	462	5,500	379	3,300	227	11,000	758	6,700	462
2	1/8	10,000	689	6,500	448	5,000	345	3,200	221	10,000	689	6,500	448
4	1/4	8,000	551	6,600	455	4,000	276	3,300	227	8,000	551	6,600	455
6	3/8	7,800	538	5,300	365	3,900	269	2,600	179	7,800	538	5,300	365
8	1/2	7,700	531	4,900	338	3,800	262	2,400	165	7,700	531	4,900	338
12	3/4	7,300	503	4,600	317	3,600	248	2,300	159	7,300	503	4,600	317
16	1	5,300	365	4,400	303	2,600	179	2,200	152	5,300	365	4,400	303
20	1 1/4	6,000	414	5,000	345	3,000	207	2,500	172	6,000	414	5,000	345
24	1 1/2	5,000	345	4,600	317	2,500	172	2,300	159	5,000	344	4,600	317
30	2	3,900	269	3,900	269	1,900	131	1,900	131	3,900	269	3,900	269

- Pressure ratings listed are for temperature up to 37.8°C (100°F).
- Based on Pressure Pipe Code ASME B31.3 pressure rating is calculated with an allowable stress value of 20,000psi SS316, 10,000psi, brass 20,000psi, carbon Steel.
- To determine the working pressure in accordance with Power Pipe Code ASME B31.1, multiply psig by 0.94.
- Brass pressure ratings remain the same.
- Due to larger outer diameter of female threads rating of female are lower than male threads.
- To determine kPa rating, multiply psig by 6.89.
- Reducing Hex Bushing (P-SHB) pressure rating is not covered in this table. See the pressure rating in the dimensional data chart.

■ Ordering Information

Material	S.Steel 316	S.Steel 316L	Carbon Steel	Brass
Identifier	S6	S6L	CS	BS

• Example: P - SHN - 8N - S6

Pipe fitting Material
Name of fitting Pipe thread Size

• Pipe Thread Symbol & Designator

Pipe Size	Designator	NPT	ISO Thread	
			Tapered (7/1)	Parallel (228/1)
1/8	2	2N	2R	2G
1/4	4	4N	4R	4G
3/8	6	6N	6R	6G
1/2	8	8N	8R	8G
3/4	12	12N	12R	12G
1	16	16N	16R	16G

P-SCNClose Nipple
(Male NPT both ends)

74

P-SHNHex Nipple
(Male NPT both ends)

74

P-SHRNHex Reducing Nipple
(Male NPT to reduced male NPT)

74

P-SHNHex Nipple
(Male NPT to ISO tapered)

74

P-SHNHex Nipple
(Male NPT to male ISO parallel)

75

P-SHLNHex Long Nipple
(Male NPT both ends)

75

P-MFAAAdapter
(Female NPT to male NPT)

75

P-MFRAReducing Adapter
(Female NPT to reduced male NPT)

75

P-MFAAAdapter
(Female NPT to male ISO tapered)

76

P-MFABAdapter
(Female NPT to male ISO parallel)

76

P-SHBReducing Hex Bushing
(Male NPT to reduced female NPT)

76

P-SCPipe Cap
(Female NPT)

77

P-SPPipe Plug
(Male NPT)

77

P-SHCHex Coupling
(Female NPT both ends)

77

P-SHRCHex Reducing Coupling
(Female NPT to reduced female NPT)

77

P-SLElbow
(Female NPT both ends)

78

P-SSLStreet Elbow
(Female to male NPT)

78

P-SRSLReducing Street Elbow
(Female to male NPT)

78

P-SMLMale Elbow
(Male NPT both ends)

78

P-STTee
(Female NPT)

79

P-SRTRun Tee
(Female to male to female NPT)

79

P-SBTBranch Tee
(Female to male to male NPT)

79

P-SMTMale Tee
(Male NPT)

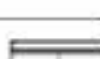
79

P-SUJUnion Ball Joint
(Female NPT both ends)

79

SCG

Iso Parallel Gasket



79

P-SWFC

Union



81

P-SWLA

Union Elbow



81

P-SWTAUnion Tee
(Female NPT both ends)

81

P-SSA

Male Connector



81

P-SSB

Female Connector



81

P-SMLSW

Male Elbow



81

P-SFLSW

Female Elbow



82

P-SWRMPipe Weld to Tube
Socket Weld

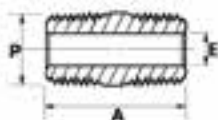
82

P-SWRMTube Weld to Tube
Socket Weld

82

P-SCN**Close Nipple**

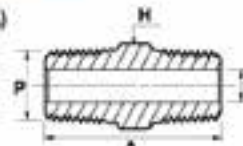
(Male NPT both ends)



Part Number	P Pipe Size	A	E
P-SCN- 2N	1/8	19.05	4.8
P-SCN- 4N	1/4	28.4	7.1
P-SCN- 6N	3/8	28.4	9.6
P-SCN- 8N	1/2	31.7	11.9
P-SCN-12N	3/4	31.7	15.7
P-SCN-16N	1	47.8	22.4

P-SHN**Hex Nipple**

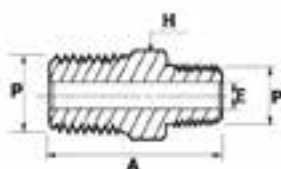
(Male NPT both ends)



Part Number	P Pipe Size	A	E	H Hex
P-SHN- 2N	1/8	25.4	4.8	11.1
P-SHN- 4N	1/4	35.3	7.1	14.2
P-SHN- 6N	3/8	36.1	9.6	17.4
P-SHN- 8N	1/2	46.7	11.9	22.2
P-SHN-12N	3/4	46.7	15.7	26.9
P-SHN-16N	1	58.7	22.3	34.9

P-SHRN**Hex Reducing Nipple**

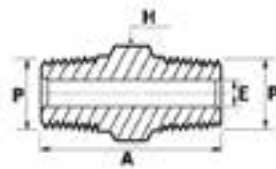
(Male NPT to reduced male NPT)



Part Number	P Pipe Size	P1 Reduced Pipe Size	A	E	H Hex
P-SHRN- 4-2N	1/4	1/8	30.7	4.8	14.2
P-SHRN- 6-2N	3/8	1/8	32.0	4.8	17.4
P-SHRN- 6-4N	3/8	1/4	36.1	7.1	17.4
P-SHRN- 8-2N	1/2	1/8	37.2	4.8	22.2
P-SHRN- 8-4N	1/2	1/4	41.7	7.1	22.2
P-SHRN- 8-6N	1/2	3/8	41.7	9.6	22.2
P-SHRN-12-4N	3/4	1/4	41.7	7.1	26.9
P-SHRN-12-8N	3/4	1/2	46.7	11.9	26.9
P-SHRN-16-4N	1	1/4	49.3	7.1	34.9
P-SHRN-16-8N	1	1/2	54.1	11.9	34.9

P-SHN**Hex Nipple**

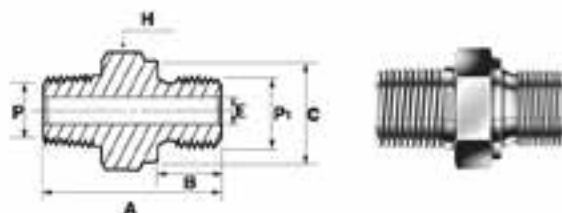
(Male NPT to ISO tapered)



Part Number	P NPT Thread Size	P1 BSP/ISO Thread Size	A	E	H Hex
P-SHN- 2NR	1/8	1/8-28 7/1	24.6	4.1	11.1
P-SHN- 4NR	1/4	1/4-19 7/1	35.6	6.4	14.2
P-SHN- 6NR	3/8	3/8-19 7/1	36.3	9.7	17.4
P-SHN- 8NR	1/2	1/2-14 7/1	46	11.9	22.2
P-SHN-12NR	3/4	3/4-14 7/1	46.7	15.7	26.9
P-SHN-16NR	1	1-11 7/1	58.9	22.4	34.9

P-SHN**Hex Nipple**

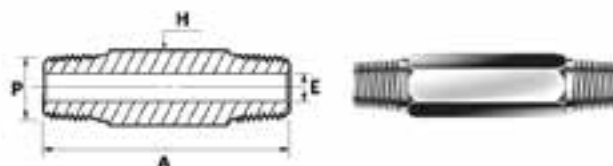
(Male NPT to male parallel)



Part Number	P NPT Thread Size	P1 BSP/ISO Thread Size	A	B	C	E	H Hex
P-SHN - 2NG	1/8	1/8-28 228/1	27.4	7.1	13.7	4.1	14.2
P-SHN - 4NG	1/4	1/4-19 228/1	36.8	11.2	17.8	5.8	19.05
P-SHN - 6NG	3/8	3/8-19 228/1	37.6	11.2	21.8	7.9	22.2
P-SHN - 8NG	1/2	1/2-14 228/1	45.0	14.2	26.1	11.9	26.9
P-SHN-12NG	3/4	3/4-14 228/1	49.0	15.7	31.5	15.7	33.3
P-SHN-16NG	1	1-11 228/1	56.9	18.3	38.9	19.8	41

P-SHLN**Hex Long Nipple**

(Male NPT both ends)



Part Number	P Pipe Size	A	E	H Hex
P-SHLN - 2N	1/8	★	4.8	11.1
P-SHLN - 4N	1/4	★	7.1	14.2
P-SHLN - 6N	3/8	★	9.7	17.4
P-SHLN - 8N	1/2	★	11.9	22.2
P-SHLN-12N	3/4	★	15.7	26.9
P-SHLN-16N	1	★	22.4	34.9

★ : Configure to order

P-MFAA**Adapter**

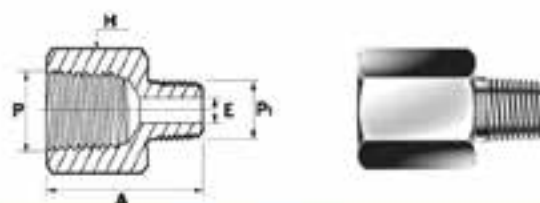
(Female NPT to male NPT)



Part Number	P Pipe Size	A	E	H Hex
P-MFAA - 2N	1/8	27.4	4.8	14.2
P-MFAA - 4N	1/4	35.6	7.1	19.05
P-MFAA - 6N	3/8	37.8	9.6	22.2
P-MFAA - 8N	1/2	49.0	11.9	26.9
P-MFAA -12N	3/4	50.3	15.7	31.7
P-MFAA -16N	1	58.0	22.3	41.2

P-MFRA**Reducing Adapter**

(Female NPT to reduced male NPT)

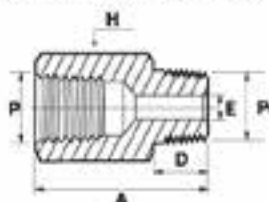


Part Number	P Female Pipe Size	P1 Male Pipe Size	A	E	H Hex
P-MFRA - 2 - 4N	1/4	1/8	31.5	4.8	19.05
P-MFRA - 2 - 6N	3/8	1/8	33.5	4.8	22.2
P-MFRA - 4 - 6N	3/8	1/4	37.8	7.1	22.2
P-MFRA - 2 - 8N	1/2	1/8	40.0	4.8	26.9
P-MFRA - 4 - 8N	1/2	1/4	44.5	7.1	26.9
P-MFRA - 6 - 8N	1/2	3/8	44.5	9.6	26.9
P-MFRA - 4-12N	3/4	1/4	45.7	7.1	31.8
P-MFRA - 6-12N	3/4	3/8	45.7	9.6	31.8
P-MFRA - 8-12N	3/4	1/2	51.1	11.9	31.8
P-MFRA - 4-16N	1	1/4	50.8	7.1	41.2
P-MFRA - 8-16N	1	1/2	54.9	11.9	41.2
P-MFRA-12-16N	1	3/4	55.1	15.7	41.2

P-MFAA

Adapter

(Female NPT to male ISO tapered)

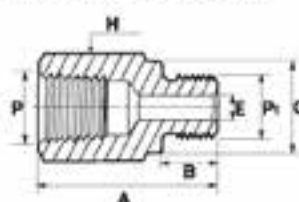


Part Number	P NPT Thread Size	P1 BSP/ISO Thread Size	A	D	E	H Hex
P-MFAA-2RN	1/8	1/8-28 7/1	27.4	9.7	4.8	14.2
P-MFAA-4RN	1/4	1/4-19 7/1	35.8	14.2	7.1	19.05
P-MFAA-6RN	3/8	3/8-19 7/1	37.6	14.2	9.7	22.2
P-MFAA-8RN	1/2	1/2-14 7/1	49.0	19.1	11.9	26.9
P-MFAA-12RN	3/4	3/4-14 7/1	50.3	19.1	15.7	31.8
P-MFAA-16RN	1	1-11 7/1	58.0	23.9	22.3	41.2

P-MFAB

Adapter

(Female NPT to male ISO parallel)

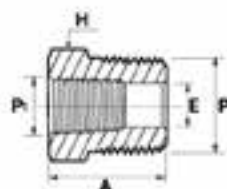


Part Number	P NPT Thread Size	P1 BSP/ISO Thread Size	A	B	C	E	H Hex
P-MFAB-2GN	1/8	1/8-28 228/1	24.9	7.1	13.7	4.1	14.2
P-MFAB-4GN	1/4	1/4-19 228/1	33.3	11.2	17.8	5.8	19.05
P-MFAB-6GN	3/8	3/8-19 228/1	37.8	11.2	21.8	7.9	22.2
P-MFAB-8GN	1/2	1/2-14 228/1	43.9	14.2	26.1	11.9	26.9
P-MFAB-12GN	3/4	3/4-14 228/1	50.8	15.7	31.5	15.7	33.3
P-MFAB-16GN	1	1-11 228/1	53.1	18.3	38.9	19.8	41.2

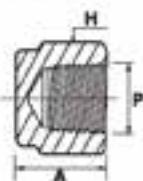
P-SHB

Reducing Hex Bushing

(Male NPT to reduced female NPT)



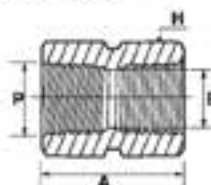
Part Number	P Male Pipe Size	P1 Female Pipe Size	A	E	H Hex	Working Pressure(PSIG)		
						316SS	Brass	Carbon Steel
P-SHB-4-2N	1/4	1/8	26.7	7.1	14.2	5600	3100	6200
P-SHB-6-2N	3/8	1/8	21.8	8.5	17.4			
P-SHB-6-4N	3/8	1/4	30.0	9.6	19.05	5200	3100	6200
P-SHB-8-2N	1/2	1/8	27.4	8.5	22.2	-	-	-
P-SHB-8-4N	1/2	1/4	27.4	11.7	22.2	5800	3100	6200
P-SHB-8-6N	1/2	3/8	35.6	11.9	22.2	4400	2500	5100
P-SHB-12-4N	3/4	1/4	27.4	11.4	26.9	-	-	-
P-SHB-12-6N	3/4	3/8	27.4	15.0	26.9	-	-	-
P-SHB-12-8N	3/4	1/2	41.4	15.7	26.9	-	-	-
P-SHB-16-4N	1	1/4	34.8	11.4	34.9	-	-	-
P-SHB-16-8N	1	1/2	34.8	18.5	34.9	-	-	-
P-SHB-16-12N	1	3/4	34.8	22.4	34.9	-	-	-

P-SCPipe Cap
(Female NPT)

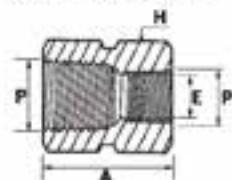
Part Number	P Pipe Size	A	H Hex
P-SC- 2N	1/8	19.1	14.2
P-SC- 4N	1/4	22.9	19.05
P-SC- 6N	3/8	26.2	22.2
P-SC- 8N	1/2	34.0	26.9
P-SC-12N	3/4	36.6	31.8
P-SC-16N	1	41.1	41.2

P-SPPipe Plug
(Male NPT)

Part Number	P Pipe Size	A	H Hex
P-SP- 2N	1/8	19.05	11.1
P-SP- 4N	1/4	24.1	14.2
P-SP- 6N	3/8	25	17.4
P-SP- 8N	1/2	30.5	22.2
P-SP-12N	3/4	30.5	26.9
P-SP-16N	1	38.1	34.9

P-SHCHex Coupling
(Female NPT both ends)

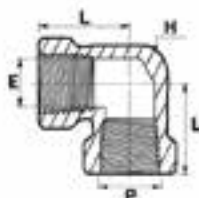
Part Number	P Pipe Size	A	E	H Wrench Flat
P-SHC- 2N	1/8	20.3	8.9	14.2
P-SHC- 4N	1/4	30.0	11.7	19.05
P-SHC- 6N	3/8	33.0	15.0	22.2
P-SHC- 8N	1/2	39.4	18.7	26.9
P-SHC-12N	3/4	41.0	23.5	31.8
P-SHC-16N	1	50.5	29.7	41.2

P-SHRCHex Reducing coupling
(Female NPT to reduced female NPT)

Part Number	P Pipe Size	P Reduced Pipe Size	A	E	H Hex
P-SHRC - 4 - 2N	1/4	1/8	31.2	8.9	19.05
P-SHRC - 6 - 4N	3/8	1/4	34.8	11.7	22.2
P-SHRC - 8 - 2N	1/2	1/8	39.4	8.7	26.9
P-SHRC - 8 - 4N	1/2	1/4	44.2	11.7	26.9
P-SHRC - 8 - 6N	1/2	3/8	45.0	15.0	26.9
P-SHRC-12 - 4N	3/4	1/4	45.7	11.7	31.8
P-SHRC-12 - 8N	3/4	1/2	52.0	18.7	31.8
P-SHRC-16 - 4N	1	1/4	50.8	11.7	41.2
P-SHRC-16 - 8N	1	1/2	55.4	18.7	41.2
P-SHRC-16-12N	1	3/4	57.0	23.5	41.2

P-SL**Elbow**

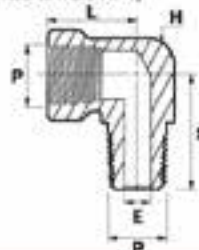
(Female NPT both ends)



Part Number	P Pipe Size	L	E	H Wrench Flat
P-SL- 2N	1/8	24.1	8.9	12.7
P-SL- 4N	1/4	29.0	11.7	17.5
P-SL- 6N	3/8	34.5	15.0	20.6
P-SL- 8N	1/2	37.0	18.7	25.4
P-SL-12N	3/4	46.5	23.5	31.8
P-SL-16N	1	48.8	29.7	42.9

P-SSL**Street Elbow**

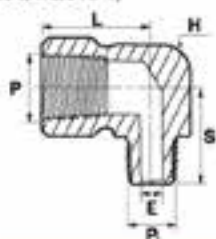
(Female to male NPT)



Part Number	P Pipe Size	L	S	E	H Wrench Flat
P-SSL- 2N	1/8	24.1	19.6	4.8	12.7
P-SSL- 4N	1/4	29.0	26.5	7.1	17.5
P-SSL- 6N	3/8	34.5	28.2	9.6	20.6
P-SSL- 8N	1/2	37.0	35.3	11.9	25.4
P-SSL-12N	3/4	46.5	39.6	15.7	31.8
P-SSL-16N	1	48.8	49.2	22.3	42.9

P-SRSL**Reducing Street Elbow**

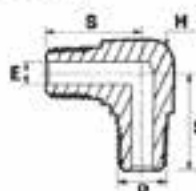
(Female to male NPT)



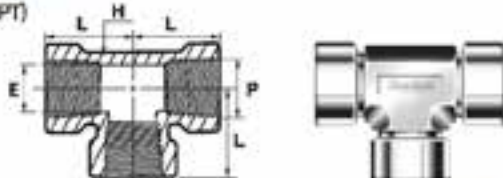
Part Number	P Pipe Size	P1 Male Pipe Size	L	S	E	H Wrench Flat
P-SRSL- 4-2N	1/4	1/8	29.0	22.4	4.8	17.5
P-SRSL- 6-4N	3/8	1/4	34.5	28.2	7.1	20.6
P-SRSL- 8-4N	1/2	1/4	37.0	30.5	7.1	25.4
P-SRSL- 8-6N	1/2	3/8	37.0	30.5	9.6	25.4
P-SRSL-12-8N	3/4	1/2	46.5	39.6	11.9	31.8
P-SRSL-16-8N	1	1/2	48.8	44.5	11.9	42.9

P-SML**Male Elbow**

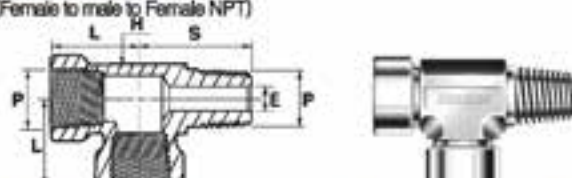
(Male NPT both ends)



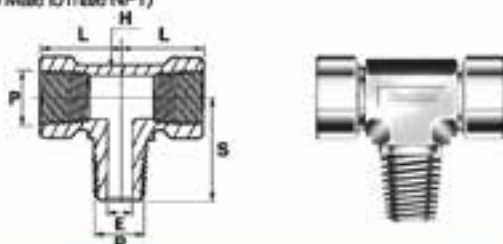
Part Number	P Pipe Size	S	E	H Wrench Flat
P-SML- 2N	1/8	19.05	4.8	12.7
P-SML- 4N	1/4	24.5	7.1	12.7
P-SML- 6N	3/8	26.9	9.6	17.5
P-SML- 8N	1/2	33.2	11.9	20.6
P-SML-12N	3/4	35.3	15.7	25.4
P-SML-16N	1	44.5	22.3	31.8

P-STTee
(Female NPT)

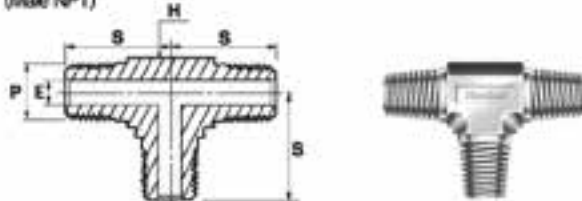
Part Number	P Pipe Size	L	E	H Wrench Flat
P-ST- 2N	1/8	24.1	8.9	12.7
P-ST- 4N	1/4	29.0	11.7	17.5
P-ST- 6N	3/8	34.5	15.0	20.6
P-ST- 8N	1/2	37.0	18.7	25.4
P-ST-12N	3/4	46.5	23.5	31.8
P-ST-16N	1	48.5	29.7	42.8

P-SRTRun Tee
(Female to male to Female NPT)

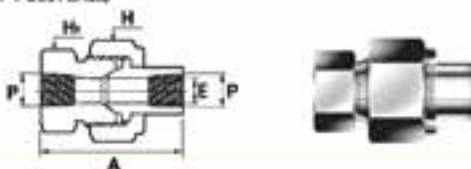
Part Number	P Pipe Size	L	S	E	H Wrench Flat
P-SRT- 2N	1/8	24.1	19.6	4.8	12.7
P-SRT- 4N	1/4	29.0	26.5	7.1	17.5
P-SRT- 6N	3/8	34.5	28.2	9.6	20.6
P-SRT- 8N	1/2	37.0	35.3	11.9	25.4
P-SRT-12N	3/4	46.5	39.6	15.7	31.8
P-SRT-16N	1	48.8	49.2	22.3	42.9

P-SBTBranch Tee
(Female to Male to male NPT)

Part Number	P Pipe Size	L	S	E	H Wrench Flat
P-SBT- 2N	1/8	24.1	19.6	4.8	12.7
P-SBT- 4N	1/4	29.0	26.5	7.1	17.5
P-SBT- 6N	3/8	34.5	28.2	9.6	20.6
P-SBT- 8N	1/2	37.0	35.3	11.9	25.4
P-SBT-12N	3/4	46.5	39.6	15.7	31.8
P-SBT-16N	1	48.8	49.2	22.3	42.9

P-SMTMale Tee
(Male NPT)

Part Number	P Pipe Size	S	E	H Wrench Flat
P-SMT- 2N	1/8	19.05	4.8	12.7
P-SMT- 4N	1/4	24.5	7.1	12.7
P-SMT- 6N	3/8	26.9	9.6	17.5
P-SMT- 8N	1/2	33.2	11.9	20.6
P-SMT-12N	3/4	35.3	15.7	25.4
P-SMT-16N	1	44.5	22.3	31.8

P-SUJUnion Ball Joint
(Female NPT both ends)

Part Number	P Pipe Size	A	E	H Hex	H _i Hex
P-SUJ-F- 2N	1/8	45.7	6.9	26.6	23.8
P-SUJ-F- 4N	1/4	59.4	9.1	34.9	30.2
P-SUJ-F- 6N	3/8	63.5	13.2	38.1	33.3
P-SUJ-F- 8N	1/2	68.6	15.7	44.5	41.3
P-SUJ-F-12N	3/4	79.2	22.4	50.8	47.6
P-SUJ-F-16N	1	90.4	26.2	63.5	60.3

SGC

Iso Parallel Gasket



Part Number	P Pipe Size	E	H	D
SGC- 2N	1/8	10.0	2.0	18.0
SGC- 4N	1/4	14.0	2.0	22.0
SGC- 6N	3/8	17.0	2.0	26.0
SGC- 8N	1/2	22.0	2.0	32.0
SGC-12N	3/4	27.0	2.0	38.0
SGC-16N	1	34.0	2.0	42.0

HANSUN Instrument Weld Fittings

Features

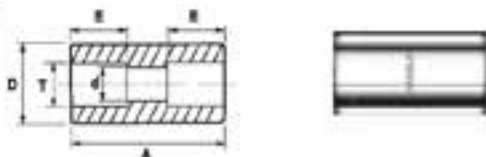
- **HANSUN** instrument weld fittings are designed in accordance with ASME B16.11 welding connections.
- All socket weld ports have a tapered shape at the end that hold tubing properly and consistent alignment.
- Pressure ratings for weld fittings are in accordance with ASME B31.3 and safety factor 4:1



Hansun

P-SWFC

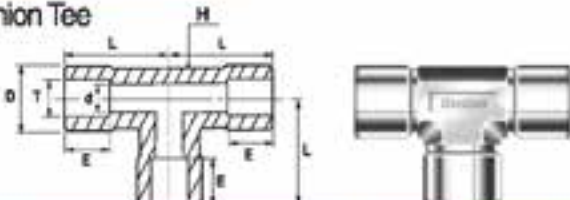
Union



Part Number	T Tube O.D	d	D	E	A	Working psig	Pressure bar
P-SWFC- 4T	1/4	4.6	13.0	7.1	19.0	10,000	689
P-SWFC- 6T	3/8	7.1	15.8	7.9	22.4	7,600	523
P-SWFC- 8T	1/2	10.2	19.0	9.7	26.9	6,200	427
P-SWFC-10T	5/8	12.7	24.0	10.4	30.2	6,400	440
P-SWFC-12T	3/4	15.7	26.9	11.2	33.3	5,500	378
P-SWFC-16T	1	22.1	35.0	15.7	36.6	5,200	358

P-SWTA

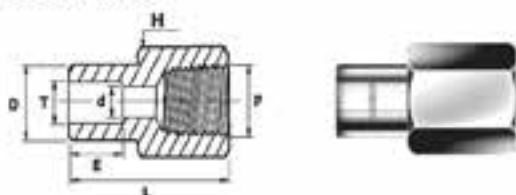
Union Tee



Part Number	T Tube O.D	d	D	E	H Wrench Flat	L	Working psig	Pressure bar
P-SWTA- 2T	1/8	2.3	13.4	2.5	12.7	15.0	11,800	813
P-SWTA- 4T	1/4	4.6	13.4	7.1	12.7	21.8	11,300	778
P-SWTA- 6T	3/8	7.1	15.8	7.9	12.7	24.5	8,400	578
P-SWTA- 8T	1/2	10.2	20.6	9.7	17.4	29.0	7,800	537
P-SWTA-10T	5/8	12.7	23.8	10.4	20.6	34.5	6,700	461
P-SWTA-12T	3/4	15.7	28.6	11.2	25.4	37.0	6,700	461
P-SWTA-16T	1	22.1	36.12	15.7	36.12	46.5	6,100	420

P-SSB

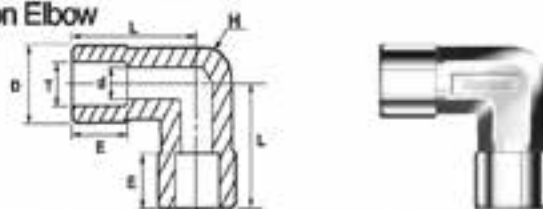
Female Connector



Part Number	T Tube O.D.	FAPT Femur Pin Size	d	D	E	H Hex	L	Working psig	Pressure bar
P-SSB-2T-2N	1/8	1/8	2.3	7.4	2.5	14.2	21.1	6,100	420
P-SSB-4T-2N	1/4	1/8	4.6	12.2	7.1	14.2	26.7	6,100	420
P-SSB-4T-4N	1/4	1/4	4.6	12.2	7.1	19.05	30.0	6,200	427
P-SSB-6T-4N	3/8	1/4	7.1	15.3	7.9	19.05	31.5	6,200	427
P-SSB-8T-6N	1/2	3/8	10.2	18.5	9.7	22.2	34.5	5,000	344
P-SSB-8T-8N	1/2	1/2	10.2	18.5	9.7	26.9	40.4	4,600	316
P-SSB-10T-8N	5/8	1/2	12.7	23.4	10.4	26.9	41.9	4,600	316
P-SSB-12T-12N	3/4	3/4	15.7	26.7	11.2	33.3	43.9	4,300	296

P-SWLA

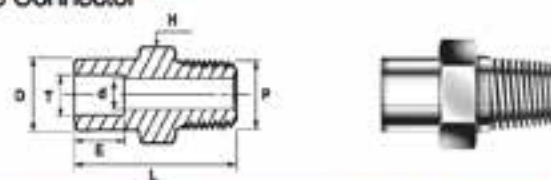
Union Elbow



Part Number	T Tube O.D.	d	D	E	H Wrench Flat	L	Working psig	Pressure bar
P-SWLA- 4T 1/4	4.6	13.4	7.1	12.7	21.8	11,300	778	
P-SWLA- 6T 3/8	7.1	15.8	7.9	12.7	24.5	8,400	578	
P-SWLA- 8T 1/2	10.2	20.6	9.7	17.4	29.0	7,800	537	
P-SWLA-10T 5/8	12.7	23.8	10.4	20.6	34.5	6,700	461	
P-SWLA-12T 3/4	15.7	28.6	11.2	25.4	37.0	6,700	461	
P-SWLA-16T 1	22.1	35.0	15.7	31.8	46.5	6,100	420	

P-SSA

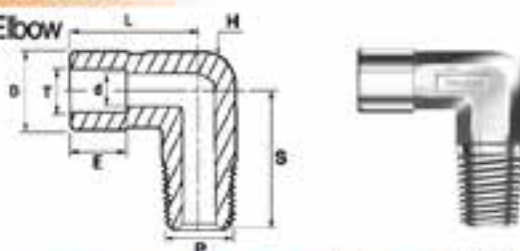
Male Connector



Part Number	T Tube O.D.	NPT	d	D	E	H Hex	L	Working psig	Pressure bar
P-SSA-4T-2N	1/4	1/4	4.8	12.2	7.1	14.2	29.2	7,500	516
P-SSA-6T-4N	3/8	1/4	7.1	15.3	7.9	15.8	31.8	7,500	516
P-SSA-6T-6N	3/8	3/8	7.1	15.3	7.9	17.4	31.8	7,300	502
P-SSA-6T-8N	3/8	1/2	7.1	15.3	7.9	22.2	37.3	7,200	496
P-SSA-6T-4N	1/2	1/4	7.1	18.5	9.7	19.05	33.3	6,200	427
P-SSA-6T-6N	1/2	3/8	9.4	18.5	9.7	19.05	33.3	6,200	427
P-SSA-6T-8N	1/2	1/2	10.2	18.5	9.7	22.2	38.9	6,200	427

P-SMLSW

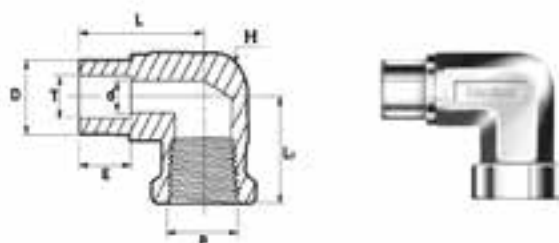
Male Elbow



Part Number	T Tube O.D.	PAFT	d	D	E	H Wrench Flat	L	S	Working psig	Pressure bar
P-SMISW-4T-4N	1/4	1/4	4.6	15.8	7.1	12.7	20.1	24.5	7,500	516
P-SMISW-6T-4N	3/8	1/4	7.1	15.8	7.9	12.7	24.1	24.5	7,500	516
P-SMISW-6T-6N	3/8	3/8	7.1	20.6	7.9	17.4	24.6	29.0	7,300	502
P-SMISW-6T-8N	3/8	1/2	7.1	23.8	7.9	20.6	25.9	34.5	7,200	496
P-SMISW-8T-8N	1/2	1/2	10.2	23.8	9.7	20.6	27.4	34.5	6,200	427
P-SMISW-12T-12N	3/4	3/4	15.7	28.6	11.2	25.4	37.0	37.0	6,700	461

P-SFLSW

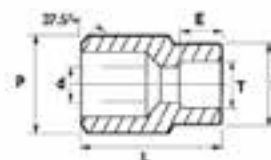
Female Elbow



Part Number	T Tube O.D.	P-NPT Female Pipe Size	d	D	E	H Weld Pat	L	L1	Working psig	Pressure bar
PSFLSW-4T-4N	1/4	1/4	4.6	12.2	7.1	17.4	22.9	29.7	6,200	427
PSFLSW-6T-4N	3/8	1/4	7.1	15.3	7.9	17.4	25.1	29.7	7,000	482
PSFLSW-6T-8N	3/8	1/2	7.1	15.3	7.9	25.4	28.7	37.0	5,400	372
PSFLSW-8T-8N	1/2	1/2	10.2	18.5	9.7	25.4	30.2	38.0	5,400	372

P-SWRM

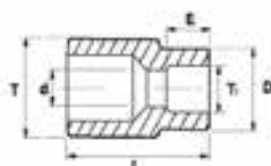
Pipe Weld to Tube Socket Weld



Part Number	P Pipe Size	T Tube Socket Size	d	D	E	L	Working psig	Pressure bar
P-SWRM-4P-4T	1/4	1/8	4.6	13.7	7.1	22.4	9,600	661
P-SWRM-6P-6T	3/8	3/8	7.1	15.3	7.9	26.2	7,600	523
P-SWRM-6P-8T	3/8	1/2	10.2	18.5	9.7	27.9	6,200	427
P-SWRM-8P-4T	1/2	1/4	4.6	12.2	7.1	28.4	7,300	502
P-SWRM-8P-6T	1/2	3/8	7.1	15.3	7.9	28.4	7,300	502
P-SWRM-8P-8T	1/2	1/2	10.2	18.5	9.7	30.2	6,200	427
P-SWRM-12P-6T	3/4	3/8	7.1	15.3	7.9	38.1	6,200	427
P-SWRM-12P-8T	3/4	1/2	10.2	18.5	9.7	38.1	6,200	427

P-SWRM

Tube Weld to Tube Socket Weld



Part Number	T Tube O.D.	T1 Tube Socket Size	d	D	E	L	Working Pressure psig	bar
P-SWRM - 4T-2T	1/4	1/8	2.3	7.4	2.5	14.2	11,800	813
P-SWRM - 6T-4T	3/8	1/4	4.6	12.2	7.1	19.1	7,700	530
P-SWRM - 8T-4T	1/2	1/4	4.6	18.2	7.1	22.4	7,000	482
P-SWRM - 8T-6T	1/2	3/8	8.1	15.7	7.9	22.4	7,000	482
P-SWRM - 12T-8T	3/4	1/2	10.2	18.5	9.7	28.4	5,900	406
P-SWRM - 16T-8T	1	1/2	10.2	18.5	9.7	35.1	5,600	344

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innovations of customers

Leak - Proof Flow & Control Solution Partner

The Best Partner
for Value Creation

S-LOK® Check & Relief Valves

HanSun

한선엔지니어링(주)
HANSUN ENGINEERING CO., LTD.



Check Valves

SCV, SCP, SCA, SCH SERIES

SCV30 Series		85
SCP30 Series		87
SCA30 Series		88
SCH60 Series		89

Relief Valves

SRV SERIES

SRV 30, 60 Series		92
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■ SCV30 Series For working pressure up to 3000 psig(206bar)

O-ring Seals

-Ensures Valve closes bubble tight

Fixed Cracking Pressures

-From 1/3psi to 25psi

Back stopped Poppet

-Minimize Spring stress

Various End Connections

-include S-LOK Tube Fittings
-NPT & ISO Male/Female Threads



Features

- Pressure rating up to 3,000psig (206bar) @ 70°F(21°C).
- Temperature rating up to 375°F (191°C) with Standard Viton O-ring.
- Choice of materials : Standard S316 and Brass.
- Cracking pressures include : 1/3, 1, 3, 10, 25, 50psi.
- Heat code traceability.
- Every valve is 100% factory tested for cracking and reseal.

Technical Data

Valve Series	SCV1, SCV2, SCV3, SCV4	SCV5, SCV6
Max. Working Pressure @70°F(21°C)	S316 and Brass 3000psi (206bar)	S316: 2000psi(137bar) Brass: 1500psi(103bar)
Operating Temperature Range	Viton : -10°F to 375°F (-23°C to 190°C) NBR : -4°F to 221°F (-20°C to 105°C)	
Nominal Cracking Pressure	1/3, 1, 3, 10, 25, 50psi	

Cracking, Reseal and Back Pressure

• Cracking Pressure

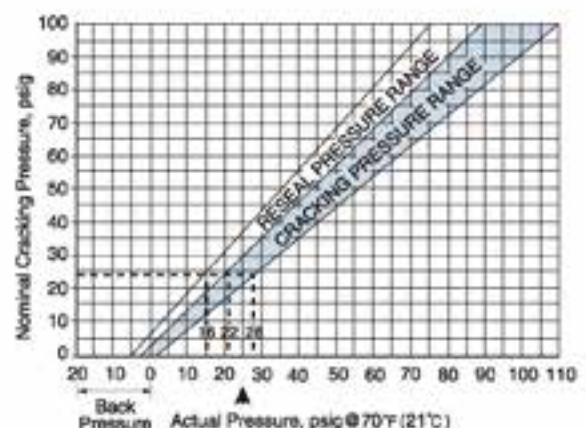
The upstream pressure at which a detectable flow is Measured. The Check valve is actuated when the pressure difference between the inlet and the outlet reaches the range of cracking pressure.

• Reseal Pressure

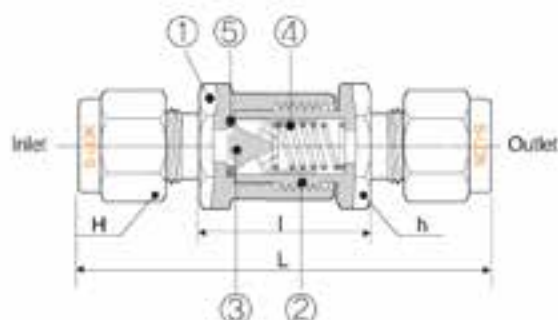
The downstream pressure at which the check valve closes bubble-tight. The Check valves that have higher cracking pressure can be resealed to bubble-tight by the spring force. The reseal pressure is the pressure at the same flow direction, but lower than the cracking pressure.

• Back Pressure

The Check valves that have cracking pressure 5psig(0.34bar) and lower may not be able to return to the bubble-tight seal. This may require back pressure to press the seal to form a bubble-tight contact in addition to the spring force.



Note -When the check valve is not actuated for a period of time, it may require initially crack at higher than the above cracking pressure ranges.
-Check valves are designed for directional flow control only. Therefore **HANSUN check valves** should never be used as code Safety relief devices.



Materials of Construction

Item	Description	Valve Body Materials	
		S316	Brass
1	Body	S316/A479, A276	Brass
2	Connector		Brass
3	Poppet	S316/A479, A276	Brass
4	Spring	S302	
5	O-ring	Viton	

* Silicone-based Lubricant for poppet.
Wetted parts are listed in orange color.

Ordering Information and Dimensions

Basic Ordering Number		Orifice mm(inch)	Cv	End Connections Inlet/Outlet	Dimensions (mm)			
					h	H	L	I
SCV1	S-2T	4.8 (0.19)	0.16	1/8" S-LOK	15.88(5/8)	11.11(7/16)	55.60(2.19)	25.00(0.98)
	M-2N		1/8" Male NPT	-		44.40(1.75)	-	
	F-2N		1/8" Female NPT	-		46.50(1.83)	-	
	S-4T		1/4" S-LOK	14.29(9/16)		60.00(2.36)	25.00(0.98)	
	S-6M		6mm S-LOK	14.00		60.00(2.36)	25.00(0.98)	
	MS-4N4T		1/4" Male NPT 1/4" S-LOK	14.29(9/16)		56.40(2.22)	-	
	M-4N		1/4" Male NPT	-		53.40(2.10)	-	
SCV2	F-4N	7.1 (0.28)	1.48	1/4" Female NPT	19.05(3/4)	-	56.80(2.24)	-
	S-6T			3/8" S-LOK		17.46(11/16)	65.50(2.58)	27.10(1.07)
	S-10M			10mm S-LOK		19.00	65.50(2.58)	27.10(1.07)
	M-6N			3/8" Male NPT		-	55.50(2.19)	-
SCV3	F-6N	10.0 (0.39)	1.7	3/8" Female NPT	22.22(7/8)	-	63.80(2.51)	-
	S-8T			1/2" S-LOK		22.22(7/8)	80.20(3.16)	36.20(1.43)
	S-12M			12mm S-LOK		22.00	80.20(3.16)	36.20(1.43)
	M-8N			1/2" Male NPT		-	74.40(2.93)	-
SCV4	F-8N	13.5 (0.53)	2.6	1/2" Female NPT	26.58(1-1/8)	-	84.70(3.33)	-
	S-10T			5/8" S-LOK		25.40(1)	91.80(3.61)	48.10(1.89)
SCV5	S-12T	16.0 (0.63)	5.2	3/4" S-LOK	31.75(1-1/4)	28.58(1-1/8)	110.70(4.35)	67.00(2.64)
	M-12N			3/4" Male NPT		-	105.30(4.15)	-
	F-12N			3/4" Female NPT		-	103.00(4.06)	-
SCV6	S-16T	18.0 (0.71)	8.0	1" S-LOK	34.93(1-3/8)	38.1(1-1/2)	121.10(4.77)	68.40(2.69)
	M-16N			1" Male NPT		-	116.20(4.57)	-
	F-16N			1" Female NPT		41.28(1-5/8)	111.40(4.39)	-

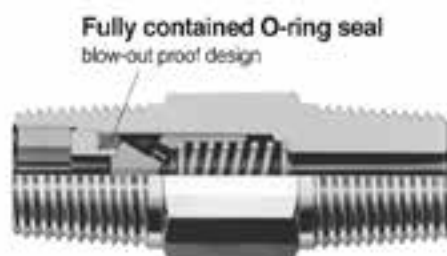
• Spring Cracking, Reseal and Back • Pressure-Temperature Ratings

Pressure at @70°F(21°C)

Ratings based on Viton O-ring in S316 stainless steel valves and NBR O-ring in brass valves.

Spring Nominal Cracking Pressure		Cracking Pressure Ranges				Reseal Pressure		Series	SCV1, SCV2, SCV3, SCV4 SCA1, SCA2, SCA3 SCP1, SCP2		SCV5, SCV6		S316 SCH Series		
		Min. Pressure		Max. Pressure											
psig	bar	psig	bar	psig	bar	psig	bar		Working Pressure, psig (bar)				SCH1	SCH2	SCH3
1/3	0.02	0	0	3	0.21	Up to 6 back pressure	0.41	-10°F to 100°F (-23°C to 37°C)	S316	Brass	S316	Brass	6000(413)	5000(344)	
1	0.07	0	0	4	0.28	Up to 5 back pressure			3000(206)	3000(206)	2000(137)	1500(103)	5160(355)	4290(295)	
						250°F (121°C)	2450(168)		2405(165)	1630(112)	1250(86)	4910(338)	4080(281)		
						300°F (148°C)	2325(160)		-	1545(106)	-	4660(321)	3875(267)		
3	0.21	2	0.14	7	0.48	Up to 4 back pressure		375°F (190°C)	2185(150)	-	1450(99)	-	4375(301)	3640(250)	
10	0.69	7	0.48	15	1.03	3	0.21	400°F (204°C)					4280(294)	3560(245)	
25	1.72	20	1.38	30	2.07	17	1.17								
50	3.45	40	2.76	60	4.14	35	2.41								
75	5.17	60	4.14	90	6.2	53	3.65								
100	6.89	80	5.51	120	8.27	70	4.82								

SCP30 Series For working pressure up to 3000 psig(206bar)



Fully contained O-ring seal
blow-out proof design

Compact, one-piece body



Features

- Pressure rating up to 3,000psig (206bar) @ 70°F(21°C).
- Temperature rating up to 375°F(191°C) with Standard Viton O-ring.
- Choice of materials : Standard S316 and Brass.
- Cracking pressures include : 1/3, 1, 3, 10, 25, 50psi.
- Heat code traceability.
- Every valve is 100% factory tested for cracking and reseal.

Technical Data Spring Cracking, Reseal and Back Pressure @70°F(21°C)

Spring Nominal Cracking Pressure		Applied Working Pressures (psig(bar))				Reseal Pressure	
		Min. Pressure		Max. Pressure			
psig	bar	psig	bar	psig	bar	psig	bar
1/3	0.02	0	0	3	0.21	up to 6	0.41
						Back pressure	
1	0.07	0	0	4	0.28	up to 5	0.34
						Back pressure	
10	0.69	7	0.48	15	1.03	3	0.21
25	1.72	20	1.38	30	2.07	17	1.17

Materials of Construction

Item	Description	Valve Body Materials	
		S316	Brass
1	Body	S316 /A276, A479	Brass
2	Poppet		
3	Insert		
4	Locking Screw		
5	Spring	S302/A313	
6	O-ring	Viton	NBR

* Silicone-based Lubricant for poppet.
Wetted parts are listed in orange color.

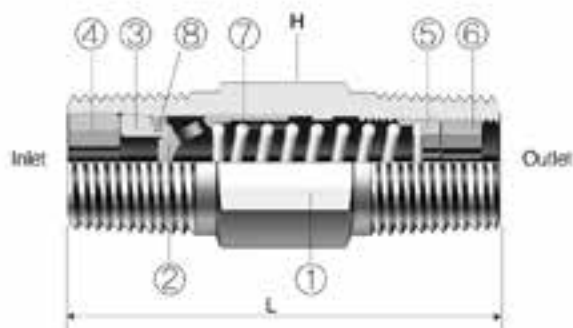


Ordering Information and Dimensions

Basic Ordering Number		Cv	End Connections			Dimensions: mm(inch)	
			Size	Inlet	Outlet	L	H
SCP1	M-4N	0.35	1/4"	Male NPT		41.1(1.62)	14.28(9/16)
	M-4R		1/4"	Male ISO			
	F-4N		1/4"	Female NPT		61.2(2.41)	
	F-4R		1/4"	Female ISO		64.5(2.54)	
	MF-4N		1/4"	Male / female NPT		44.4(1.75)	19.05(3/4)
	FM-4N		1/4"	Female / male NPT		58.2(2.29)	
SCP2	M-8N	1.20	1/2"	Male NPT		57.9(2.28)	22.22(7/8)
	F-8N		1/2"	Female NPT		94.2(3.71)	
	MF-8N		1/2"	Male / female NPT		71.9(2.83)	26.96(1-1/16)

All dimensions shown are for reference only and are subject to change.

■ SCA30 Series For working pressure up to 3000 psig(206bar)



Materials of Construction

Item	Description	Valve Body Materials	
		S316	Brass
1	Body	S316 /A276, A479	Brass
2	Poppet		
3	Insert		
4	Insert Lock Screw		
5	Adjusting Screw		
6	Locking Screw	S302/A313	NBR
7	Spring		
8	O-ring		
		Viton	NBR

* Silicone-based Lubricant for poppet.
Wetted parts are listed in orange color.



Features

- Pressure rating up to 3,000psig (206bar) @ 70°F (21°C)
- Temperature rating up to 375°F (191°C) with Standard Viton O-ring.
- Choice of materials : Standard S316 and Brass.
- Cracking pressure adjustable from 3 to 600psi (0.2 to 41.4 bar)
- Heat code traceability.
- Every valve is 100% factory tested for cracking and reseal.

• Spring Cracking PressureRange Designator

Designator	Cracking Pressure	
	psi	bar
3	3 to 50	0.21 to 3.5
5	50 to 150	3.5 to 10.4
150	150 to 350	10.4 to 24.2
350	350 to 600	24.2 to 41.4

Ordering Information and Dimensions

Basic Ordering Number		Cv	End Connections			Dimensions - mm(inch)	
			Size	Inlet	Outlet	L	H
SCA1	F-4N	0.35	1/4"	Female NPT		75.7(2.98)	3 / 4
	M-4N		1/4"	Male NPT		41.1(1.62)	9 / 16
	M-4R		1/4"	Male BSPT		41.1(1.62)	9 / 16
SCA2	M-8N	1.20	1/2"	Male NPT		65.0(2.56)	7 / 8
	M-8R		1/2"	Male BSPT		65.0(2.56)	7 / 8

To order, add a cracking pressure range designator to the basic ordering number and then specify valve material designator.

Example : SCA1-M-4N-3-S6

■ SCH60 Series For working pressure up to 6000 psig(413bar)

Poppet

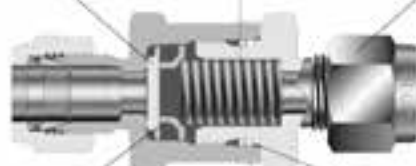
Provides leak tight shut-off with elastomer seal.

Springs

are available for the cracking pressure in the range from 1/3psi to 25psi.

Variety of end Connection

include S-LCK tube fittings, male and female NPT, ISO threads.



Poppet Stopper

Provides minimizes spring stress.

Indicator Ring

is easy identify the cracking pressure, available in replacement.

O-ring and Back Up Rings

are halves for ensures closure to the rated pressure.

Features

- Pressure rating up to 6000psi (413bar) @70°F (21°C).
- Temperature rating up to 375°F(191°C) with standard Viton O-ring.
- S316 Stainless steel body as standard.
- Suitable for gas and liquids.
- Cracking pressures include : 1/3, 1, 5, 10, 25psi.
- Heat code traceability.
- Every valve is 100% factory tested for cracking and reseal.



Technical Data

Description	S316		
Series	SCH1	SCH2	SCH3
Flow Coefficient (Cv)	0.67	1.8	4.7
Working Pressure and Back Pressure @ 70°F(21°C)	6000psi (413bar)		5000psi (344bar)
Operating Temperature Range	Viton : -10°F to 375°F (-23°C to 190°C)		
Nominal Cracking Pressure	1/3, 1, 5, 10, 25psig		

CNG / NGV Certifications

- CNG / NGV Check Valve Series with CNG / NGV Compatible HNBR O-ring are available with CNG / NGV Certifications

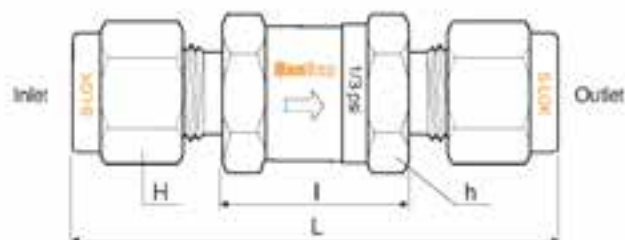
Certificates	ECE R110	ANSI/ISO 3.1 - 2012	ISO 15500
Certificate No.	110R-010335	126842AUT16	126842MECH105
Classification	Class 0	Manual valve	Manual valve
Temperature	-40 to 120°C (-40 to 248°F)	-40 to 120°C (-40 to 248°F)	-40 to 120°C (-40 to 248°F)
Working Pressure	260 bar @ 120°C	248 bar @ 120°C	260 bar @ 120°C

Materials of Construction



Item	Description	A479Valve Body Materials	
		Material Grade	ASTM Specification
1	Body	S316	A479 or A276
2	Connector		
3	Indicator Ring		
4	Poppet	Viton-bonded S316	
5	Poppet Stopper	S316	A313
6	Spring	S302	
7	O-ring	Viton	
8	Back Up Ring	PTFE	

* Silicone-based Lubricant for poppet. Witted parts are listed in orange color.



Ordering Information and Dimensions

Basic Ordering Number	Orifice mm	Cv max.	End Connections			Pressure Rating psig(bar)	Dimensions mm(inch)			
			Size	Inlet	Outlet		L	I	H	h
SCH1	4.8	0.67	1/8"	S-LOK		6000(413)	57.7(2.27)	26.4(1.04)	(7/16)	(11/16)
			1/4"	S-LOK			61.7(2.43)		(9/16)	
			6mm	S-LOK					14.0	
			1/4"	Female NPT			54.1(2.13)	26.4(1.04)		
			1/8"	Male NPT			45.5(1.79)			
			1/4"	Male NPT			55.1(2.17)			
SCH2	7.8	1.8	3/8"	S-LOK		6000(413)	69.9(2.75)	31.2(1.23)	(11/16)	(1)
			1/2"	S-LOK			75.2(2.96)		(7/8)	
			8mm	S-LOK			68.6(2.70)		16	
			10mm	S-LOK			71.1(2.80)		19	
			12mm	S-LOK			75.2(2.96)		22	
			3/8"	Female NPT		5000(344)	64.8(2.55)	31.2(1.23)		
			1/2"	Female NPT		4600(316)	77.0(3.03)			
			3/8"	Male NPT		6000(413)	59.9(2.36)			
			1/2"	Male NPT			69.3(2.73)			
			1/2"	Female ISO		4600(316)	83.6(3.29)			
			1/2"	Male ISO		6000(413)	69.3(2.73)	31.2(1.23)		(1)
SCH3	15.0	4.7	3/4"	S-LOK		5000(344)	89.4(3.52)	45.5(1.79)	(1-1/8)	(1-5/8)
			1"	S-LOK			98.6(3.88)		(1-1/2)	
			22mm	S-LOK			88.4(3.48)		32	
			25mm	S-LOK			98.6(3.88)		40	
			3/4"	Female NPT		4300(296)	82.0(3.23)	82.0(3.23)		
			1"	Female NPT		4100(282)	97.3(3.83)	97.3(3.83)		
			3/4"	Male NPT		5000(344)	83.6(3.29)	45.5(1.79)		
			1"	Male NPT			93.2(3.67)	45.7(1.80)		
			3/4"	Female ISO		4300(296)	90.2(3.55)	90.2(3.55)		
			1"	Female ISO		4100(282)	97.3(3.83)	97.3(3.83)		
			3/4"	Male ISO		5000(344)	85.1(3.35)	45.5(1.79)		
			1"	Male ISO			93.2(3.67)	45.7(1.80)		

Spring Cracking, Reseal and Back Pressure at @70°F(21°C)

Nominal Spring Cracking Pressure		Applied Working Pressures - psig(bar)				Reseal Pressure	
		Min. Pressure		Max. Pressure			
		psi	bar	psi	bar	psi	bar
1/3	0.02	0	0	3	0.21	up to 6	0.41
						Back pressure	
1	0.07	0	0	4	0.28	up to 5	0.34
						Back pressure	
5	0.34	3	0.21	9	0.62	up to 2	0.14
						Back pressure	
10	0.69	7	0.48	15	1.03	3	0.21
25	1.72	20	1.38	30	2.07	17	1.17

O-Ring Seal Materials

Material	Designator	Temperature Rating°C(°F)	Application
NBR	NB	-20°C to 105°C (-4°F to 221°F)	Petroleum-based hydraulic and lubricating oils, animals and vegetable oils, acetylene, alcohols, air, alkalis, fuel oils and many other media.
FKM (Viton)	VT	-23°C to 190°C (-10°F to 375°F)	High-quality compounds for high temperatures, Synthetic and hydraulic fluids; a wide range of chemicals, heavily oxidizing acids, suitable for vacuum.
EPDM	EP	-45°C to 148°C (-50°F to 300°F)	Chemical resistance : nonflammable hydraulic fluids (Skydrol, Pydraul, Lindol, Cellulube 150, phosphoric esters), pure aniline, fire extinguisher liquids (chlorobromo-methane), acid; excellent resistance to hot water and steam.
FFKM (*Kalrez)	KA	-23°C to 315°C (-10°F to 599°F)	Superior compounds for high temperature and most chemicals. This compound combines the chemical properties of PTFE with the mechanical properties of Viton.

Viton is standard for S316 valves and NBR is standard for Brass valves.

*Kalrez : TM Dupont

• Sour Gas Service

-for sour gas application, materials for wetted components are selected according to NACE MR 0175.

Pressure Rating at 70°F(21°C)	SCH1 and SCH2 Series : 5000psig(344bar) SCH3 Series : 4700psig(323bar)
Temperature Rating	-50°F to 300°F (-45°C to 148°C)
Nominal Cracking Pressure	1/3, 1, and 5psig(0.02, 0.07, 0.34bar)
End Connections	1/4, 3/8, 1/2, 3/4, and 1" S-LOK Tube Fittings
Material of Construction	Body, Poppet-Alloy 400 Poppet stopper-S316 Seals-ethylene propylene Spring-Alloy X750 Back up ring-PTFE Indicator ring-stainless steel

To order, add designator-SG as a suffix to the basic part number with cracking pressure.

Example : SCH1-S-4T-1/3-SG-S6

• Fluorocarbon-Free Service

-for system where, PTFE and fluorinated compounds can not be tolerated.

Pressure Rating at 70°F(21°C)	Same as standard product. See standard technical data.
Temperature Rating	-50°F to 300°F (-45°C to 148°C)
Nominal Cracking Pressure	Same as standard product. See standard technical data.
End Connections	All end connection type and sizes. See table of dimensions.
Material of Construction	Body, Poppet, Poppet stopper-S316 Seals-ethylene propylene Spring-S302 Back up ring-PEEK Indicator Ring-stainless steel Lubricant-hydrocarbon based

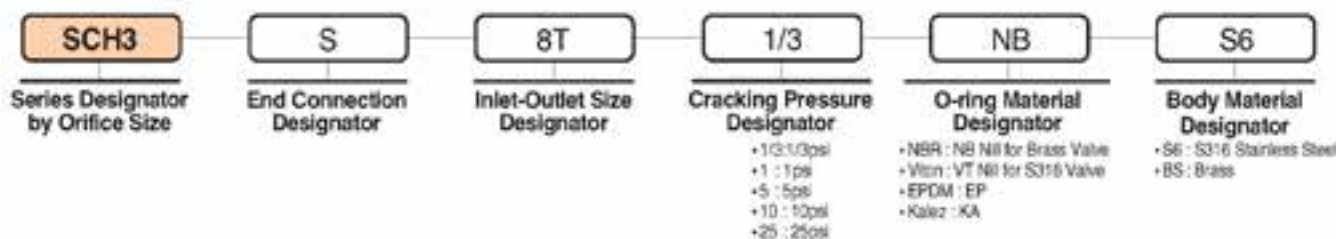
To order, add designator-FF as a suffix to the basic part number with cracking pressure.

Example : SCH1-S-4T-1/3-FF-S6

• Testing

-Every valve is factory tested for cracking and reseal performance.

• Ordering Information



※ CNG / NGV Service

- To order CNG / NGV Service, insert the designator "C" to the valve ordering number.
 - O-Ring Material's HNBR standard.
- ex) SCHC3-S-8T-S6

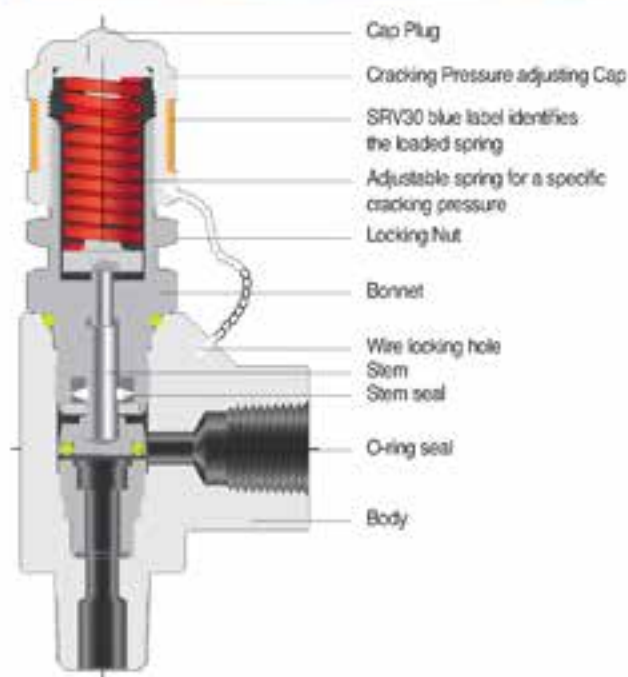
• Safety in Valve Selection

-When selecting a valve, the total system design must be considered to ensure safe, trouble-free performance. Valve function, materials compatibility, adequate ratings, proper installation, operation, and maintenance are the responsibility of the system designer and user.

SRV Series Relief Valves

Product Information

Relief Valve SRV30 Series for 300 psig(21 bar)



SRV Series Temperature Rating

Seal Material	Temperature Rating °C (°F)
FKM (Standard)	-28 ~ 204 (-20 ~ 400)
NBR	-20 ~ 105 (-68 ~ 221)
EPDM	-45 ~ 135 (-49 ~ 275)

SRV30 Series Technical Data

- Maximum working pressure : 300 psig (21 bar)
- Cracking pressure range : 10 to 250 psig (0.68 to 17.2 bar)

Spring Designator	Cracking Pressure		Color code
	psig	bar	
L	10 to 250	0.68 to 17.2	Red

- Cv= 0.60
- Orifice : 4.8 mm (0.19 in)

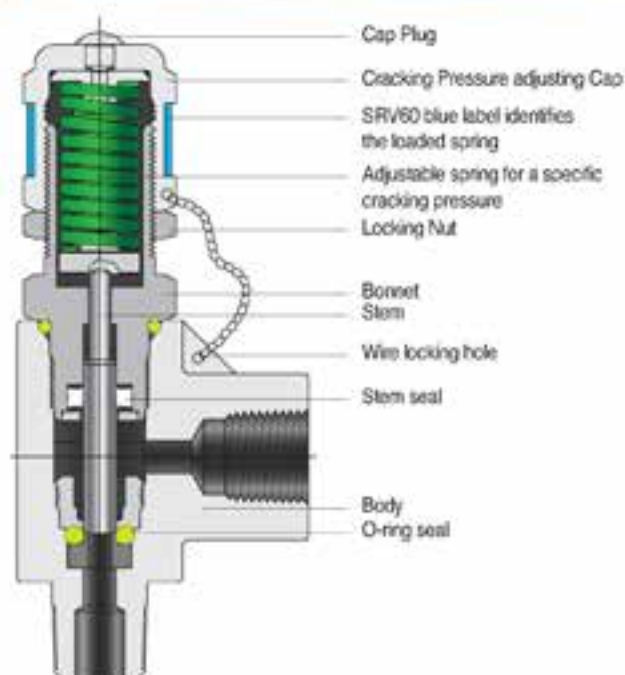
SRV60 Series Technical Data

- Maximum working pressure : 6,000 psig (413 bar)
- Orifice size : 3.2 mm (0.13 in)
- Cv= 0.41
- Cracking pressure range : 50 to 6000 psig (3.4 to 413 bar)

SRV60 Series Spring Designators

Spring Designator	Cracking Pressure		Color code
	psig	bar	
A	50 to 350	3.4 to 24	White
B	350 to 750	24 to 51.6	Blue
C	750 to 1500	51.6 to 103	Clear
D	1,500 to 2,250	103 to 155	Black
E	2,250 to 3,000	155 to 206	Green
F	3,000 to 4,000	206 to 275	Yellow
G	4,000 to 5,000	275 to 344	Brown
H	5,000 to 6,000	344 to 413	Orange

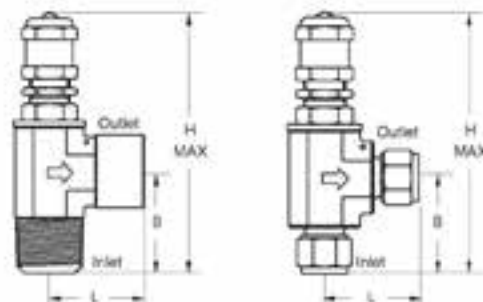
Relief Valve SRV60 Series for 6,000 psig(413 bar)



Product Information

Materials of Construction

Cap Plug	Polypropylene
Adjusting Cap	S316 / ASTM A276 or A479
Spring	17-4 PH SS / AMS 5678 D
Locking Nut	S316 ASTM A276 or A479
Bonnet	
Poppet	
Stem & O-ring seal	Standard Viton, optional EPDM and NBR
Body	F316 / ASTM A182



Ordering Information and Table of Dimensions

Basic Ordering NO.	End Connection		Orifice mm.(in.)	Dimensions mm (in.)		
	Inlet	Outlet		H	B	L
SRV30 and SRV60	S-4T	1/4 S-LOK	4.8 (0.19)	100 (3.93)	37 (1.45)	39 (1.53)
	S-6M	6mm S-LOK			38 (1.49)	40 (1.57)
	S-8M	8mm S-LOK				
	S-8T	1/2 S-LOK		105 (4.13)	44 (1.73)	42 (1.65)
	S-12M	12mm S-LOK				
	MS-8N8T	1/2 Male NPT		98 (3.85)	36 (1.41)	42 (1.65)
	MS-8N12M	1/2 Male NPT				
	MF-4N	1/4 Male NPT		94 (3.70)	32 (1.25)	30 (1.18)
	MF-4R	1/4 Male ISO 7/1				35 (1.37)
	MF-6N	3/8 Male NPT				
	MF-6R	3/8 Male ISO 7/1		98 (3.85)	36 (1.41)	38 (1.49)
	MF-8N	1/2 Male NPT				
	MF-8R	1/2 Male ISO 7/1				

All dimensions shown are for reference only and are subject to change. Dimensions with S-lok nuts are in finger-tighten position.

Ordering Information

Please select the desired valves basic ordering number, spring designator, the applicable seal and body material options from the table below.
Example : SRV60-S-4T-A-NBR-S6

Spring Designator	Seal Material designator	Body Material
Refer to spring Designator table1, 2	NIL : standard FKM	S6:S316
	NBR : NBR	
	EP : EPDM	

Factory pressure set valve

•To order, specify the set pressure in the valve ordering number

Example : SRV60-S-4T-C-EP-S6

Valve without spring installed

•To order, do not specify spring designator on the ordering number

Example : SRV60-S-8T-NBR-S6

NOTE : the valve with no spring installed with the label stated
"NO SPRING INSTALLED" on the adjusting cap

Safe Valve Selection

The selection of a valve for any application to system design must be considered to ensure performance. Valve function, valve rating material compatibility, proper installation, operation and maintenance remain the sole responsibility of the system designer and the user, S-LOK accepts no liability for any selection, installation, operation or maintenance.



We support the
innovations of customers

Leak - Proof Flow & Control Solution Partner

The Best Partner
for Value Creation

S-LOK® Needle Valves & 3way Test Cock Valves

HanSun

한선엔지니어링(주)
HANSUN ENGINEERING CO., LTD.



Needle Valves

SNV SERIES

SNV50
Series



97

SBNV60
Series



100

High Pressure Needle Valves

SHNV100 SERIES

SHNV100
Series



103

Union Bonnet Needle Valves

SUNV60 SERIES

SUNV60
Series



105

3way Test Cock Valves

STV SERIES

STV
Series



110

SNV50 Series 5000psi Integral Bonnet Needle Valves

Features

- Pressure rating up to 5000psi(344bar)@100°F(38°C).
- Temperature rating from -65°F(38°C) to 450°F(232°C) with standard PTFE packing, and up to 600°F(315°C) with optional PEEK packing.
- Choice of materials : Standard S316 and available in alloy 400 and Brass.
- Available sour Gas service per NACE MR0175.
- Every valve is 100% factory tested with the Nitrogen @1000psi.

Design

- Applications : General purpose gas, water and oil.
- Variety stem tips include Vee, Regulating and Soft-seat with Kel-F.
- Orifice sizes : from 0.08in(2.0mm) to 0.375in(9.5mm).
- Flow Coefficients(Cv) : from 0.09 to 1.8.
- Forged body with straight and angle patterns.
- Panel mounting : from 3.17mm to 6.35mm.
- Stem threads are rolled and hard chrome-plated for maximum service life.
- Packing materials : Standard PTFE and optional PEEK packing for high temperature.
- Packing nut enables easy external adjustments to ensure leak-free stem seal.
- Variety of End connections include S-LOK, NPT & ISO threads Male/Female.
- Standard Round handle is Black Phenolic Knop and optional Bar Handle with S316.

Technical Data

Temperature - Working Pressure

The class rating and rated working pressure are the way that ASME standards simplify the design process.

The pressure rating is governed by the allowable stress for each different material group, class rating and service temperature.

ASME Material Group	TABLE 2-2.2	N/A	TABLE 2-3.4
ASME CLASS Rating	2080	N/A	1500
Material Name	S316	Brass	Alloy 400
Temperature @pressure, °F(°C)	psig (bar)	psig (bar)	psig (bar)
-65°F (-54°C) up to	100°F (38°C)	5000 (344)	3000 (206)
	200°F (93°C)	4295 (295)	2640 (181)
	300°F (148°C)	3875 (266)	2470 (170)
	350°F (176°C)	3710 (255)	2430 (167)
	400°F (204°C)	3560 (245)	2390 (164)
	450°F (232°C)	3435 (236)	2380 (163)

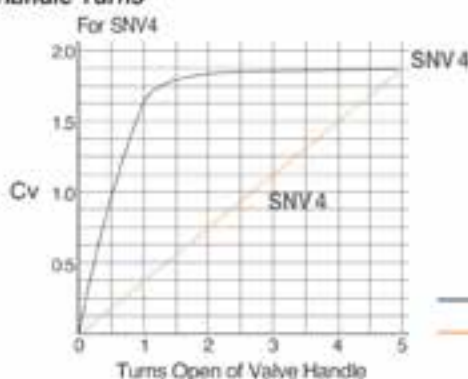
Pressure ratings of valves with S-LOK end connections are determined by the tubing material and wall thickness.

Pressure rating of valve is sometimes limited to the working pressure of pipe ends and the tubing connected.

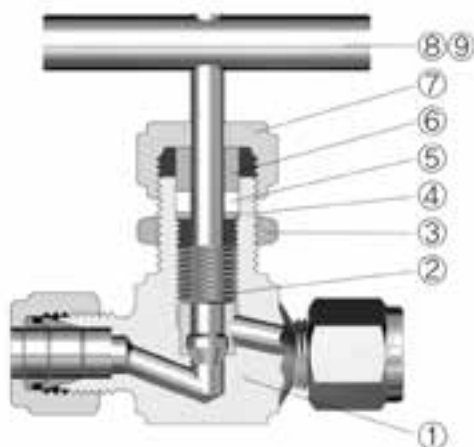
Temperature & Pressure Rating with Packing and Body Material

Valve Material	Stem	with PTFE packing (Standard)		with PEEK packing (Optional)	
		Temperature °F(°C)	Pressure Rating @100°F(37°C)	Temperature °F(°C)	Pressure @Temp. Rating psig (bar)
Stainless Steel S316	Metal to metal (Vee & Regulating)	-65°F to 450°F (-54°C to 232°C)	5000psig (344bar)	-65°F to 600°F (-54°C to 315°C)	3130psig (215bar)
	Soft Seat (Kel-F)	-65°F to 200°F (-54°C to 93°C)		-65°F to 200°F (-54°C to 93°C)	
Brass	Metal to metal (Vee & Regulating)	-65°F to 400°F (-54°C to 204°C)	3000psig (206bar)	-65°F to 400°F (-54°C to 204°C)	3000psig (206bar)
	Soft Seat (Kel-F)	-65°F to 200°F (-54°C to 93°C)		-65°F to 200°F (-54°C to 93°C)	
Alloy 400 (Monel)	Metal to metal (Vee & Regulating)	-65°F to 450°F (-54°C to 232°C)	3000psig (206bar)	-65°F to 500°F (-54°C to 260°C)	2370psig (162bar)
	Soft Seat (Kel-F)	-65°F to 200°F (-54°C to 93°C)		-65°F to 200°F (-54°C to 93°C)	

Flow Coefficient (Cv) with Number of Handle Turns



— Vee tip and soft seat
— Regulating stem



Materials of Construction

Item	Description	Material / ASTM Specification		
		S316	BRASS	Alloy 400
1	Body	S316	Brass	Alloy 400/B564
2	Stem	Chrome plated S316	S316	Alloy R-405/B164
	Vee Stem			
	Soft Seat Stem			
2a	Regulating Stem			
2a	Stem Tip (Soft Seat)	Kel-F (PCTFE)		
3	Panel Nut	S316	Brass	Alloy R-405/B164
4	Packing Ring	S316	Brass	Alloy R-405/B164
5	Packing	Standard PTFE, Optional PEEK		
6	Gland	S316	Brass	Alloy R-405/B164
7	Packing Nut	S316	Brass	S316
8	Knop Handle	Black phenolic knop		
	Bar Handle	S316		
9	Set screw	Stainless steel		

Wetted parts are listed in orange color.
Standard Lubrication : Fluorocarbon based.

Mounting as standard

Body Size	SNV 1	SNV 2	SNV 3	SNV 4
Panel Hole	13.5mm		19.8mm	26.0mm
Panel Mount Thickness	Min	3.17mm		
	Max	6.35mm		

Caution: Packing adjustments may be required during the valve is mounted.

• Sour Gas Service

-Sour Gas Service is provided to meet NACE Standard MR 0175.

• Handle

-Black phenolic knop is standard all body valves.
-Stainless Steel bar is available as an option.

Choice of Stem Tip's available

Vee Stem	Regulating Stem	Soft Seat(3 PCS)
For pressure tightness even at elevated temperatures	For flow rate control	For repetitive shut-off
		

• Testing

-Every valve is factory tested for bubble-tight leakage at both seat and stem packing with nitrogen at 1000psi(69bar).
-Seats have a maximum allowable leak rate of 0.1sccm **Hydrostatic Shell tests** is performed optional with water at 1.5 times the working pressure.

• Safety in Valve Selection

-When selecting a valve, the total system design must be considered to ensure safe, trouble-free performance. Valve function, materials compatibility, adequate ratings, proper installation, operation, and maintenance are the responsibility of the system designer and user.

Caution: Packing adjustments may be required during the valve's service life.
Extreme Temperature fluctuations may require packing nut adjustment.

Ordering Information and Table of Dimensions



Valve Ordering Number		Orifice (mm)	Cv	End Connection		Dimensions (mm)									
				Inlet	Outlet	A	B	L	L ₁	L ₂	E	D	H	H ₁	
SNV1	F-2N	2.0	0.09	1/8" Female NPT		61	21	42	21	21	9.5	11	35	32	
	1/8" Male NPT			42	21			21							
	1/8" Male NPT			1/8" S-LOK	47			21	26						
	1/8" S-LOK			26	52			26	26						
	3mm S-LOK														
SNV2	F-2N	4.4	0.37	1/8" Female NPT		61	21	42	21	21	9.5	11	35	45	
	1/8" Male NPT			50	25			25	28.8						
	M-4N									1/4" Male NPT					54
	MS-4N4T			1/4" Male NPT	1/4" S-LOK		29	57.6	28.8	28.8					
	6mm S-LOK														
	1/4" S-LOK														
	8mm S-LOK			30	59.2										29.6
SNV3	F-4N	6.4	0.73	1/4" Female NPT		77	28	56	28	28	13	13.5	47	64	
	1/4" Female ISO Tapered			61.2				33.2							
	MF-4N								1/4" Male NPT	1/4" Female NPT					
	MS-4N6T			1/4" Male NPT	3/8" S-LOK		29	62.2	29	33.2					36
	M-6N			3/8" Male NPT	3/8" S-LOK										
	MS-6N6T			3/8" Male NPT	3/8" S-LOK										
	MS-6N8T			3/8" Male NPT	1/2" S-LOK		33	66.4	33.2	33.2					
	10mm S-LOK														
	3/8" S-LOK														
	12mm S-LOK			36	72										36
	S-8T						1/2" S-LOK								
SNV4	F-6N	9.5	1.80	3/8" Female NPT		99	38	76	38	38	19	19	63	76	
	3/8" Female ISO Tapered														
	1/2" Female NPT														
	1/2" Female ISO Tapered														
	1/2" Male NPT														
	MF-8N			1/2" Male NPT	1/2" Female NPT										
	S-8T			1/2" S-LOK			49	97	48.5	48.5					
	S-12T			3/4" S-LOK											

All dimensions shown are for reference only and are subject to change. Dimensions with S-LOK nuts are in finger-tight position.
Patterns : To order angle pattern, use-A as a suffix to the valve ordering number. Example : SNV1-F-2N-A

• Ordering Information

SNV3	S	8T	A	R	BH	SG	S6
Series Designator by Orifice Size	End Connection Designator	Inlet-Outlet Size Designator	Flow Designator • Nil : Straight • A : Angle Pattern	Stem Designator • Nil : Vee Stem • R : Regulating • K : Soft Tip with Kai-F	Handle Designator • Nil : Standard black phenolic Knop • BH: Stainless Round Bar Handle	Sour Gas Designator • Nil : Standard • SG: Sour Gas Service	Body Material Designator • S6 : 316 Stainless Steel • B6 : Brass • M6 : Alloy 400

■ SBNV60 Series 6000psi Integral Bonnet Bar Stock Needle Valves

Features

- Pressure rating up to 6000psi(413bar)@100°F(38°C).
- Temperature rating from -65°F(-53°C) to 450°F(232°C) with standard PTFE packing, and up to 600°F(315°C) with optional PEEK packing.
- Choice of materials : Standard S316 and available in alloy 400.
- Available Sour Gas service per NACE MR 0175.
- Every valve is 100% factory tested with the Nitrogen @1000psi (69bar).

Design

- Applications : General purpose gas, water and oil.
- Two-piece chevron-style PTFE stem packing design with compensating disc springs.
- Compact and rugged design.
- Variety stem tips include Vee, and Soft-seat with Kel-F.
- Orifice sizes : from 0.17in(4.3mm) to 0.25in(6.3mm).
- Flow Coefficients(Cv) : from 0.37 to 0.73.
- Bar stock body with straight and angle patterns.
- Stem threads are hard chrome-plated for maximum service life.
- Packing materials : Standard PTFE and optional PEEK packing for high temperature.
- Packing nut enables easy external adjustments to ensure leak-free stem seal.
- Variety of End connections include S-LOK, NPT & ISO threads Male/Female.
- Standard Bar Handle with S316.



Technical Data

• Temperature - Working Pressure

Description	Pressure (psig) @ Temperature Rating		
	ANSI Group	2.2	3.4
	ANSI Class	2500	2500
	Materials	S316	Alloy 400
-65°F (-54°C) 100°F (38°C)		6000	5000
200°F (93°C)		5160	4400
300°F (148°C)		4660	4120
350°F (176°C)		4470	4060
400°F (204°C)		4260	3980
450°F (232°C)		4130	3970

- Pressure ratings of valves with S-LOK end connections are determined by the tubing material and wall thickness. For more information about pressure ratings of valves with tube fitting end connections.

Note: Pressure rating of valve is sometimes limited to the working pressure of pipe ends and the tubing connected.

• Temperature and Pressure Ratings

Body Material	Stem Tip	Temperature Rating	Pressure Rating @ -65°F to 100°F (-54°C to 38°C)
316 Stainless Steel	Vee	-65°F to 450°F (-54°C to 232°C)	6000psig
	Soft Seat (Kel-F)	-65°F to 200°F (-54°C to 93°C)	
Alloy 400 (Monel)	Vee	-65°F to 450°F (-54°C to 232°C)	5000psig
	Soft Seat (Kel-F)	-65°F to 200°F (-54°C to 93°C)	

- The above ratings are for standard valve with PTFE packing. For optional packing materials, refer to the table shown below.
- Extreme temperature fluctuations may require packing adjustment.

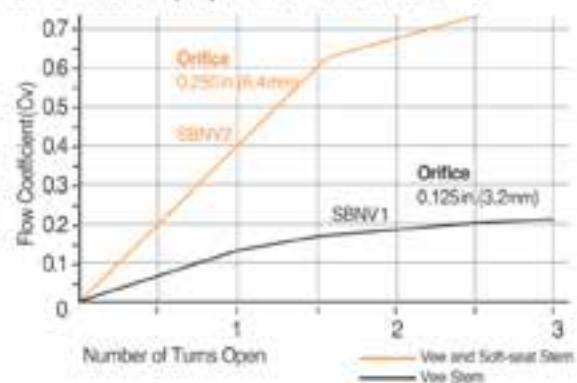
• Temperature-Pressure Rating with Packing and Body Materials

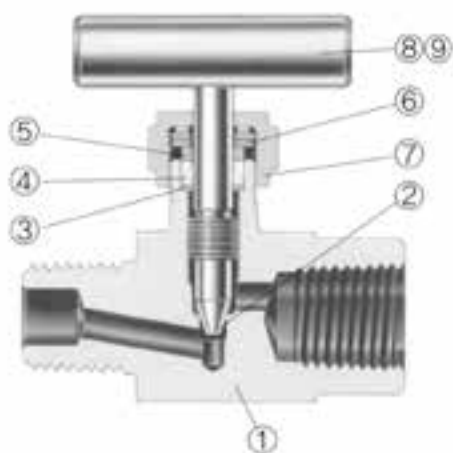
Packing Material	Body Material	Temperature Rating	Pressure Rating Max. Temp.
PTFE (Standard)	316 Stainless Steel	-65°F to 450°F (-54°C to 232°C)	4130psig
	Alloy 400 [*]		3970psig
PEEK	316 Stainless Steel	-65°F to 600°F (-54°C to 315°C)	3760psig
	Alloy 400 [*]	-65°F to 500°F (-54°C to 260°C)	3960psig

^{*} Not applicable over 500°F (260°C). PEEK is not recommended for service with aromatic heat transfer fluids or concentrated sulfuric and nitric acids.

- Other limitations may apply.

• Flow Coefficient (Cv)-Number of Handle Turns

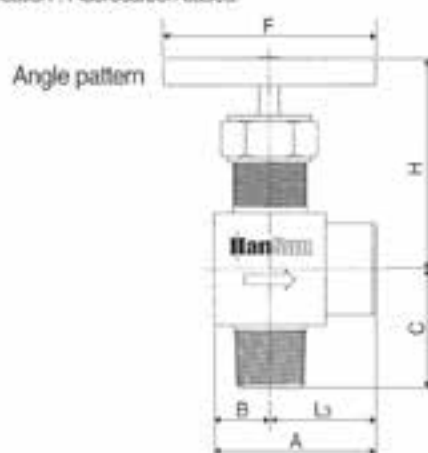
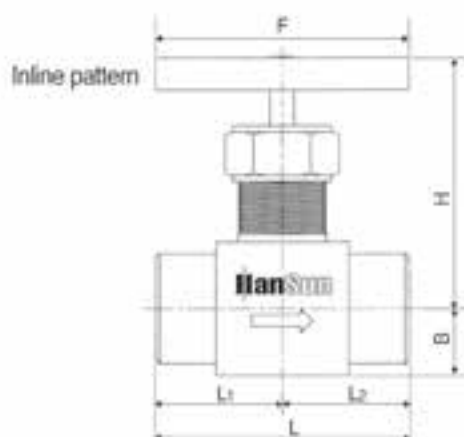




Materials of Construction

Item	Description		Material / ASTM Specification	
			S316	Alloy 400
1	Body		S316	Alloy 400/B564
2	Stem	Vee Stem	Chrome plated S316	Alloy R-405/B164
		Soft Seat Stem		
2a	Stem Tip (Soft Set)		Kel-F (PCTFE)	
3	Packing Ring		S316	Alloy R-405/B164
4	Packing		Standard PTFE, Optional PEEK	
5	Gland		S316	Alloy R-405/B164
6	Packing Spring		17-7PH	
7	Packing Nut		S316	
8	Bar Handle		S316	Alloy R-405/B164
9	Set screw		Stainless Steel	

Wetted parts are listed in orange color.
Standard Lubrication : Fluorocarbon based.



Ordering Information and Table of Dimensions

Valve Ordering Number		Orifice (mm)	Cv	End Connection		Dimensions (mm)												
				Inlet	Outlet	L	L ₁	L ₂	L ₃	A	B	C	H	F				
SBNV1	F-4N	3.2	0.21	1/4" Female NPT		47.8	23.9	23.9	25.4	36.6	11.2	25.4	42.2	44.5				
	F-4R			1/4" Male NPT														
	M-4N			1/4" Male NPT		49.3	24.6	24.6	-	-		-						
	MF-4N			1/4" Male NPT	1/4" Female NPT	48.5	24.6	23.9	25.4	36.6		26.2						
	MS-4N4T			1/4" Male NPT		55.8	24.6	31.2	26.7	39.9		26.2						
	S-4T			1/4" S-LOK	1/4" S-LOK	62.5	31.2	31.2	26.7	39.9		29.5						
SBNV2	F-6N	6.4	0.73	3/8" Female NPT		63.5	31.8	31.8	31.8	48.6	16.8	31.8	58.7	64				
	F-8N			1/2" Female NPT														
	F-8R			1/2" Female ISO														
	MF-6N			3/8" Male NPT	3/8" Female NPT													31.0
	MF-8N			1/2" Male NPT	1/2" Female NPT	64.8	33.0					35.8						
	MF-12N8N			3/4" Male NPT	1/2" Female NPT	63.5	31.8		-	-		-						
	S-6T			3/8" S-LOK		78.2	39.1	39.1	-	-		-						
	S-8T			1/2" S-LOK		83.8	41.9	41.9	-	-		-						

Dimension shown are for reference only, subject to change.

• Sour Gas Service

-Sour Gas Service is provided to meet NACE Standard MR 0175.

• Handle

-Stainless Steel bar handle is standard all body valves.
-Black phenolic knob is standard for soft seat stem valves.

• Testing

-Every valve is factory tested for bubble-tight leakage at both seat and stem packing with nitrogen at 1000psi(69bar).
-Seats have a maximum allowable leak rate of 0.1 sccm **Hydrostatic Shell tests** is performed optional with water at 1.5 times the working Pressure.

• Safety in Valve Selection

-When selecting a valve, the total system design must be considered to ensure safe, trouble-free performance. Valve function, materials compatibility, adequate ratings, proper installation, operation, and maintenance are the responsibility of the system designer and user.

• Ordering Information



SHNV100 Series 10000psi High Pressure Needle Valves

Product Information

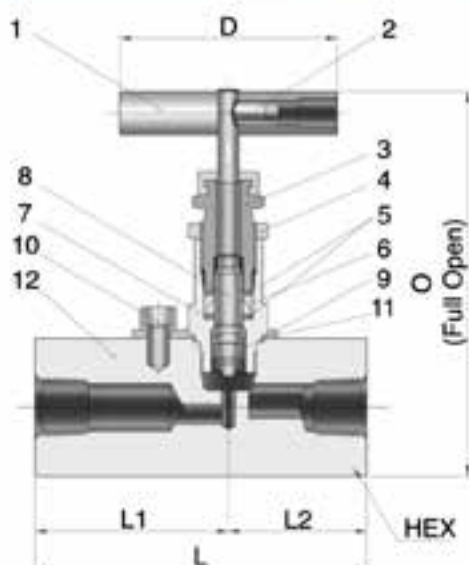
Features

- Packing bolt allows external packing adjustment.
- Chevron PTFE packing design provides highly qualified sealing maintainability.
- Packing under the stem threads is to isolate threads from system fluid and lubricant washout.
- non-rotating stem tip at closure is used for long-life and leak-tight shutoff.
- Lock plate ensures the valve to be fastened to the body.
- NACE MR0175/ISO 15156-3 are applicable.

Pressure-Temperature Ratings

Body material	Packing material	Temperature Rating	Pressure Rating @38° C (100 F)	Pressure Rating @ Max. Temp
Stainless steel	PTFE	-54 to 232°C (-65 to 450°F)	689 bar (10,000 psig)	285 bar@232°C 4,130 psig@450°F
	Graphite	-54 to 648°C (-65 to 1200°F)		118 bar@648°C 1,715 psig@1,200°F
Carbon steel	PTFE	-29 to 176°C (-20 to 350°F)	689 bar (10,000 psig)	360bar@176 °C (5,230psig@350°F)
	Graphite	-29 to 176°C (-20 to 350°F)		

Material of Construction



Component		Valve Body Materials	
		Stainless Steel	Carbon steel
		Grade/ASTM Specification	
1	Handle	Stainless Steel	Carbon steel
2	Set screw	S316/A276 or A479	Carbon steel
3	Packing bolt		C. Steel/JIS G4051
4	Lock nut		
5	Packing Ring	Reinforced PTFE	
6	Packing	Standard chevron PTFE packing, Optional Graphite	
7	Bonnet	S316/A276 or A479	C.STEEL/JIS G4051
8	Stem		S316/A276 or A479
9	Non-rotating stem disc	S630/A564	
10	Lock bolt	Stainless steel	
11	Lock plate		
12	Body	S316/A276 or A479	C.STEEL/JIS G4051 White zinc galvanized

Ordering Information and Dimensions

Basic Ordering NO.		End Connection		Orifice	Dimensions					in(mm)
		Inlet	Outlet	in(mm)	L	L1	L2	Hex.	D	O
SHNV1	F-4N	1/4 Female NPT		0.126 (3.2)	3 (76.2)	1.75 (44.4)	1.25 (31.8)	1.25 (31.8)	1.77 (45)	2.86 (72.7)
	F-6N	3/8 Female NPT								
SHNV2	F-8N	1/2 Female NPT		0.197 (5.0)	3 (76.2)	1.5 (38.1)	1.5 (38.1)	1.5 (38.1)	2.52 (64)	3.73 (94.8)
	MF-8N	1/2 Male NPT	1/2 Female NPT							
	MF-12N	3/4 Male NPT	3/4 Female NPT							

Product Information

How to Order

- To complete ordering number, add material designator S6 for 316 stainless steel or CS for carbon steel.
Example SHNV2-F-8N-S6
- To order an optional, Graphite packing, insert GF to the ordering number. Example SHNV2-F-8N-GF-S6
- To order NACE applicable valve, insert SG to the ordering number. Example SHNV2-F-8N-GF-SG-S6



Factory Test

- Every valve is factory tested with nitrogen at 69 bar (1,000 psig) for the leakage from the seat to a maximum allowable leak rate of 0.1 Standard Cubic Centimeter per minute (SCCM).
- Stem packing is tested for the detection of no leakage.

Packing Adjustment and Actuation Torque

- Extreme or rapid temperature cycle while valve in service may require packing adjustment.
- Valves that have not been actuated for a period of time may have a higher initial actuation torque.

Safety in Valve Selection

- In selection of a valve, the design of the total system must be considered to ensure safe and trouble-free performance. The system designer and the user are responsible for valve function, material's compatibility, adequate ratings, proper installation, operation, and maintenance.



■ SUNV60 Series 6000psi Union Bonnet Needle Valves

Product Information

Features

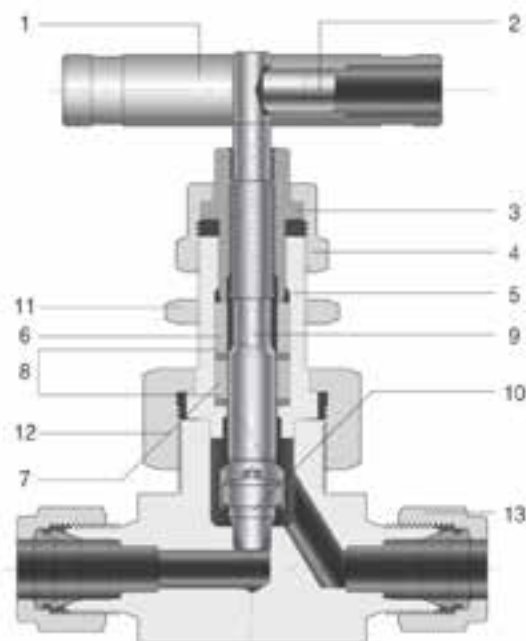
- Pressure up to 6,000 psig(413 bar) @ 100°F(38 °C).
- High Temperatures up to 449°F(232 °C) with standard PTFE packing; up to 1,200°F(648°C) with Grafoil packing.
- Standard 316 stainless steel, optional Alloy 20, and Alloy C276 construction.
- Valve stem back seating against the bevelled edge of bonnet in fully open position prevents maximum leakage through bonnet when packing fails.
- Standard non-rotating stem disc and stem packing below the threads design.



- Handle- Standard S316 bar handle.
- External Packing Bolt- allows packing adjustment without disassembling the valve.
- Roll threaded and hard chrome plated stem- is for extended valve's lifespan.
- Panel Mounting Nut- is standard and permits the access of the valve to panel or actuator.
- Union Nut- prevents accidental disassembly of the valve in its service.
- Stem Packing below the threads- prevents media contamination and thread lubricant washout.
- Non-Rotating Stem Disc at Closure- is to maximize the lifespan of the metal seat and complete sealing.

Materials of Construction

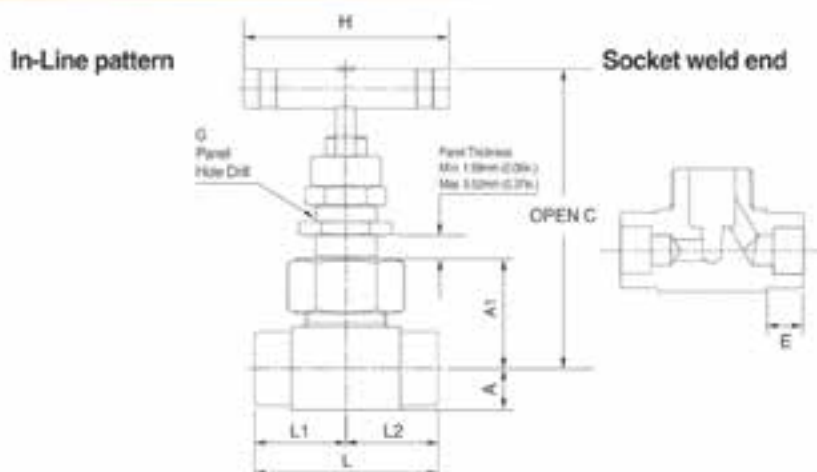
Component	Valve Body Materials		
	S316	Alloy 20	Alloy C276
	Material Grade/ASTM Specification		
1. Bar handle	S316/A276, optional anodized aluminum handle		
2. Set screw	Grade B8 TYPE 304/A193		
3. Packing bolt	S316/A276 or A479		
4. Cap nut	S316/A276 or A479		
5. Bonnet *	S316/A276 or A479	Alloy 20/B473	C276/B574
6. Gland	S316/A276 or A479	Alloy 20/B473	C276/B574
7. Packing *	PTFE/D1710, optional PEEK & Graphite		
8. Packing supports	Reinforced PTFE		
9. Stem	Hard Chrome-plated S316/A276 or A479	Alloy 20/B473	C276/B574
10. Standard : Globe disc Optional : Ball disc, Regulating disc.	TYPE630/A564	Alloy 20/B473	C276/B574
11. Panel nut	S316/A276 or A479		
12. Union nut	S316/A276 or A479		
13. Body *	S316/A276 or A479	Alloy 20/B473	C276/B574



Note: * marked are wetted parts

Product Information

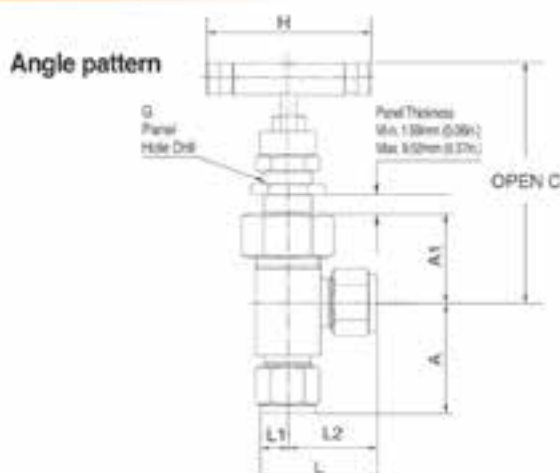
Table of Dimensions



Basic Ordering Number			End Connections		Orifice mm	Cv	Dimensions mm						
			Inlet	Outlet			L	L1	A1	A	H	G	C
SUNV1-	F	2N	1/8 F NPT	4.0	0.35	50.8	25.4	27.7	9.7	44.4	15.1	77.2	-
	F	4N	1/4 F NPT			52.3	26.2	27.7	9.9	44.4	15.1	77.2	-
	M	4N	1/4 M NPT			50.8	25.4	27.7	9.7	44.4	15.1	77.2	-
	MF	4N	1/4 M / F NPT			51.6	26.2	27.7	9.9	44.4	15.1	77.2	-
	S	6M	6 mm S-LOK			61.0	30.5	27.7	9.7	44.4	15.1	77.2	-
	S	4T	1/4 S-LOK			61.0	30.5	27.7	9.7	44.4	15.1	77.2	-
	SW	4T	1/4 TSW			46.2	23.1	27.7	9.7	44.4	15.1	77.2	7.1
	S	8M	8 mm S-LOK			61.0	30.5	27.7	9.7	44.4	15.1	77.2	-
SUNV2-	F	4N	1/4 F NPT	6.4	0.86	57.2	28.4	34.0	12.7	63.5	19.8	94.0	-
	F	6N	3/8 F NPT			57.2	28.4	34.0	12.7	63.5	19.8	94.0	-
	S	10M	10 mm S-LOK			72.4	36.1	34.0	12.7	63.5	19.8	93.7	-
	S	6T	3/8 S-LOK			71.9	35.8	34.0	12.7	63.5	19.8	94.0	-
	S	12M	12 mm S-LOK			77.2	38.6	34.0	12.7	63.5	19.8	94.0	-
	S	8T	1/2 S-LOK			77.2	38.6	34.0	12.7	63.5	19.8	94.0	-
	SW	4P	1/4 PSW			57.2	28.4	34.0	12.7	63.5	19.8	94.0	9.7
	SW	6T	3/8 TSW			57.2	28.4	34.0	12.7	63.5	19.8	94.0	7.9
SUNV3-	SW	8T	1/2 TSW	57.2	28.4	34.0	12.7	63.5	19.8	94.0	9.7		
	F	8N	1/2 F NPT	11.1	2.20	79.2	39.6	46.2	15.7	88.9	26.2	121	-
	F	12N	3/4 F NPT			82.6	41.1	48.5	19.8	88.9	26.2	124	-
	F	16N	1 F NPT			91.9	46.0	54.1	25.4	88.9	26.2	129	-
	MF	8N	1/2 M / F NPT			79.2	39.6	46.2	15.7	88.9	26.2	121	-
	MF	12N	3/4 M / F NPT			82.6	41.1	48.5	19.8	88.9	26.2	124	-
	MF	16N	1 M / F NPT			91.9	46.0	54.1	25.4	88.9	26.2	129	-
	S	12M	12 mm S-LOK			99.6	49.8	46.2	15.7	88.9	26.2	121	-
	S	8T	1/2 S-LOK			99.6	49.8	46.2	15.7	88.9	26.2	121	-
	S	12T	3/4 S-LOK			99.6	49.8	46.2	15.7	88.9	26.2	121	-
	S	16T	1 S-LOK			104	51.8	47.8	17.5	88.9	26.2	121	-
	SW	8P	1/2 PSW			79.2	39.6	47.8	17.5	88.9	26.2	123	9.7
	SW	8T	1/2 TSW			79.2	39.6	46.2	15.7	88.9	26.2	121	9.7
	SW	12T	3/4 TSW			79.2	39.6	46.2	15.7	88.9	26.2	121	11.2

Product Information

Table of Dimensions



Basic Ordering Number			End Connections		Orifice mm	Cv	Dimensions mm							
			Inlet	Outlet			L2	A	L	A2	L1	H	G	C
SUNV1-	F	2N	1/8 F NPT	4.0	0.35	22.6	25.4	32.3	32.5	9.7	44.4	15.1	82.0	
	F	4N	1/4 F NPT			22.6	25.4	32.3	32.5	9.7	44.4	15.1	82.0	
	M	4N	1/4 M NPT			25.4	25.4	35.1	27.7	9.7	44.4	15.1	77.2	
	MF	4N	1/4 M / F NPT			22.6	25.4	32.3	32.5	9.7	44.4	15.1	82.0	
	S	6M	6 mm S-LOK			29.5	37.6	39.1	27.7	9.7	44.4	15.1	77.2	
	S	4T	1/4 S-LOK			29.5	37.6	39.1	27.7	9.7	44.4	15.1	77.2	
	SW	4T	1/4 TSW			22.4	30.2	31.8	27.7	9.7	44.4	15.1	77.2	
	S	8M	8 mm S-LOK			-	-	-	-	-	44.4	15.1	-	
SUNV2-	F	4N	1/4 F NPT	6.4	0.86	25.4	28.4	38.1	37.3	12.7	63.5	19.8	97.0	
	F	6N	3/8 F NPT			25.4	28.4	38.1	37.3	12.7	63.5	19.8	97.0	
	S	10M	10 mm S-LOK			33.0	39.4	45.7	34.3	12.7	63.5	19.8	94.2	
	S	6T	3/8 S-LOK			32.8	42.2	45.5	31.0	12.7	63.5	19.8	90.7	
	S	12M	12 mm S-LOK			35.6	41.9	48.3	34.0	12.7	63.5	19.8	94.0	
	S	8T	1/2 S-LOK			35.6	41.9	48.3	34.0	12.7	63.5	19.8	94.0	
	SW	4P	1/4 PSW			25.4	28.4	38.1	37.3	12.7	63.5	19.8	97.0	
	SW	6T	3/8 TSW			25.4	31.8	38.1	34.0	12.7	63.5	19.8	94.0	
SUNV3-	SW	8T	1/2 TSW	11.1	2.20	25.4	25.4	38.1	35.6	12.7	63.5	19.8	95.5	
	F	8N	1/2 F NPT			33.3	39.6	50.8	50.8	17.5	88.9	26.2	126	
	F	12N	3/4 F NPT			-	-	-	-	-	88.9	26.2	-	
	F	16N	1 F NPT			-	-	-	-	-	88.9	26.2	-	
	MF	8N	1/2 M / F NPT			33.3	39.6	50.8	50.8	17.5	88.9	26.2	126	
	MF	12N	3/4 M / F NPT			-	-	-	-	-	88.9	26.2	-	
	MF	16N	1 M / F NPT			-	-	-	-	-	88.9	26.2	-	
	S	12M	12 mm S-LOK			42.7	52.8	60.2	47.8	17.5	88.9	26.2	123	
	S	8T	1/2 S-LOK			42.7	52.8	60.2	47.8	17.5	88.9	26.2	123	
	S	12T	3/4 S-LOK			42.7	52.8	60.2	47.8	17.5	88.9	26.2	123	
	S	16T	1 S-LOK			-	-	-	-	-	88.9	26.2	123	
	SW	8P	1/2 PSW			33.3	39.6	50.8	50.8	17.5	88.9	26.2	126	
	SW	8T	1/2 TSW			33.3	42.9	50.8	47.8	17.5	88.9	26.2	123	
	SW	12T	3/4 TSW			-	-	-	-	-	88.9	26.2	-	

Product Information

Technical Data

Valve Material	Stem Disc Designator	Temperature Rating °F(°C)	Pressure Rating @ -65 to 100°F (-53 to 38°C)
- S316 - Alloy 20 - Alloy C276	- Globe: Nil - Regulating: R - Ball: B	-65 to 449 (-53 to 232)	6,000 psig (413 barg)

Globe Disc



Ball Disc



Regulating Disc



- The above ratings are for a standard valve with PTFE packing. For optional packing materials, refer to the table show below.
- Extreme temperature fluctuations may require packing adjustment accordingly.

Packing and Body Materials & Temperature and Pressure Rating

Packing Material	Body Material	Temperature	Pressure @ Temp Rating
PTFE (Standard)	S316	-65°F ~ 450°F (-54°C ~ 232°C)	4,130 psig
	Alloy20		3,970 psig
PEEK	S316	-65°F ~ 600°F (-54°C ~ 315°C)	3,760 psig
	Alloy20	-65°F ~ 500°F (-54°C ~ 260°C)	3,960 psig
Graphite	S316	-65°F ~ 1,200°F (-54°C ~ 648°C)	1,715 psig
	Carbon Steel	-20°F ~ 350°F (-29°C ~ 176°C)	5,230 psig
	Alloy20	-65°F ~ 500°F (-54°C ~ 260°C)	3,960 psig

Note :

Applicable over 500 °F (260 °C).

PEEK is not recommended for service with aromatic heat transfer fluids or concentrated sulfuric and nitric acids.

Other limitations may apply.

Pressure-Temperature Ratings

Temperature	Pressure (psig) @ Temperature Rating			
	ANSI Group	2.2	NA	3.4
	Materials	S316	Carbon Steel *	ALLY20
	ANSI Class	2,500	NA	2,500
-65°F(-54°C)	100°F(38°C)	6,000	6,000	5,000
	200°F(93°C)	5,160	5,420	4,400
	300°F(148°C)	4,660	5,320	4,120
	350°F(176°C)	4,770	5,230	4,050
	400°F(204°C)	4,280	-	3,960
	450°F(232°C)	4,130	-	3,970

- Rated at a low temperature of -20°F (-29°C)

- To determine kPa, multiply psig by 6.89 and multiply barg by 100

- When valves with S-lok fitting's end connections are connected to tubing, the working pressure of tubing must be considered in the calculation of total system working pressure

Product Information

Sour Gas Service

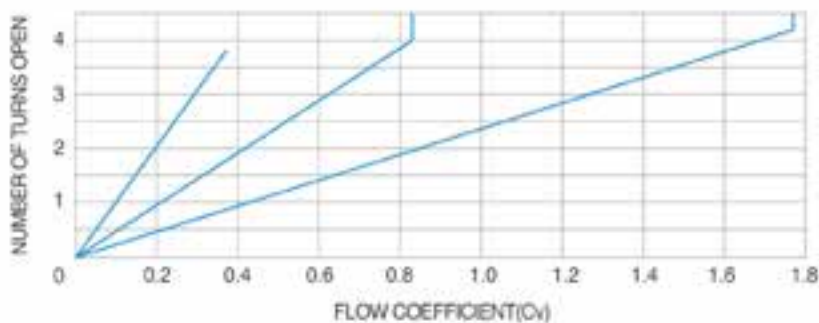
- Valves for use in sour gas are available. Valves' wetted components are selected to the requirements of NACE MR0175 for sulfide stress cracking resistant materials. To order, insert -SG in the basic ordering number.

Handles

- S316 bar handle is standard. Optionally, anodized black aluminum bar handle is available.
- To order handle for field assembly, select desired handle ordering number from the table.

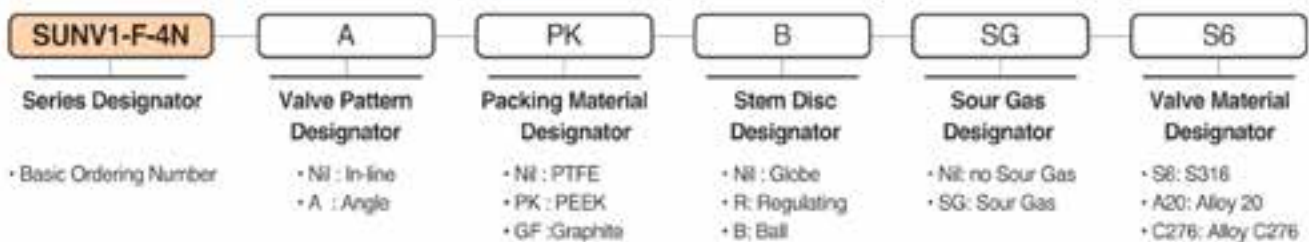
Testing

Flow Data @ 100°F (38°C) for valves with regulating disc



- Valve with standard globe and ball disc is designed to be used in a fully open or fully closed position.

Testing



Safe Valve Selection

The selection of a valve for any application or system design must be considered to ensure safe performance.

Valve function, valve rating, material compatibility, proper installation, operation and maintenance remain the sole responsibility of the system designer and the user. S-LOK accepts no liability for any improper selection, installation, operation or maintenance.

STV Series

Features

- Pressure rating up to 5000psig(344bar)@100°F(38°C).
- Temperature rating from -65°F(-54°C) to 450°F(232°C) with standard PTFE packing, and up to 600°F (315°C) with optional PEEK packing.
- Choice of materials : Standard S316 and Brass.

Pressure & Temperature Ratings

Valve Material	Stem	with PTFE packing (Standard)		with PEEK packing (Optional)	
		Temperature Rating	Pressure Rating @100°F (38 °C)	Temperature Rating	Pressure Rating @100°F (38 °C)
Stainless steel	Metal to metal	-65 to 450°F (-54 to 232°C)	5,000psig (344bar)	-65 to 600°F (-54 to 315°C)	3,130psig (215bar)
Brass	Metal to metal	-65°F to 400°F (-54°C to 204°C)	3,000psig (206bar)	-65°F to 400°F (-54°C to 204°C)	3,000psig (206bar)

Testing

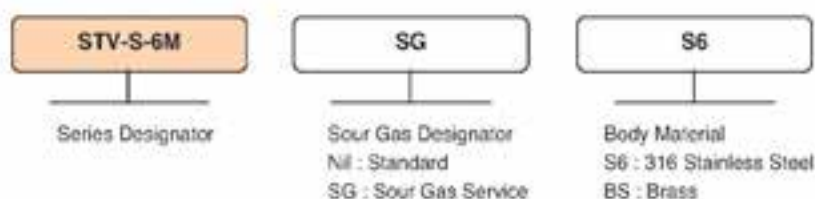
- Every Test Cock valve is factory tested with Nitrogen@ 1,000psig(69bar) for leakage at the seat to a maximum allowable leak rate of 0.1 SCCM.

Sour Gas Service

- For use valve in sour gas, materials for wetted components are selected in accordance with NACE MR0175 latest revision.

Ordering Information

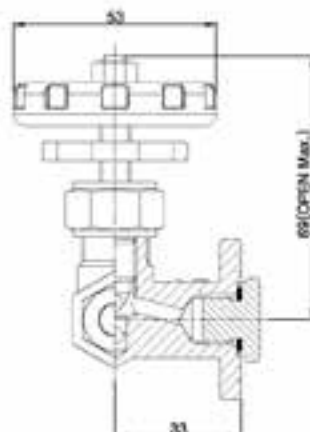
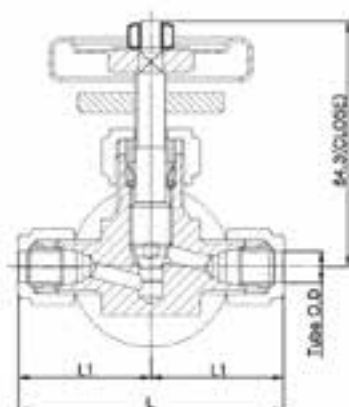
- Selection the applicable options from designators listed below.



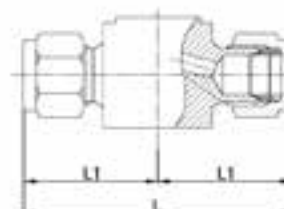
Product Information

Product Variations

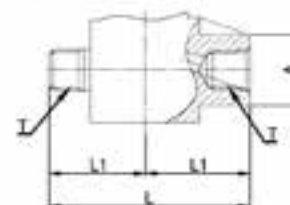
BITE TYPE



LOK TYPE



THREAD TYPE



BITE-JIS Type Tube Fittings

(Unit : mm)

Designations	Tube O.D	L1	L	Max. Pressure(bar)	
				S316	Brass
STV-B-06M	6	32.8	65.6	340	40
STV-B-08M	8	35.8	71.6	340	40
STV-B-10M	10	36.8	73.6	340	40
STV-B-12M	12	37.8	75.6	340	40

Male Thread Type Tube Fittings

(Unit : mm)

Designations	T	L1	L	Max. Pressure(bar)	
				S316	Brass
STV-M-02R	PT 1/4"	28	56	450	40
STV-M-03R	PT 3/8"	29	58	450	40

LOK Type Tube Fittings

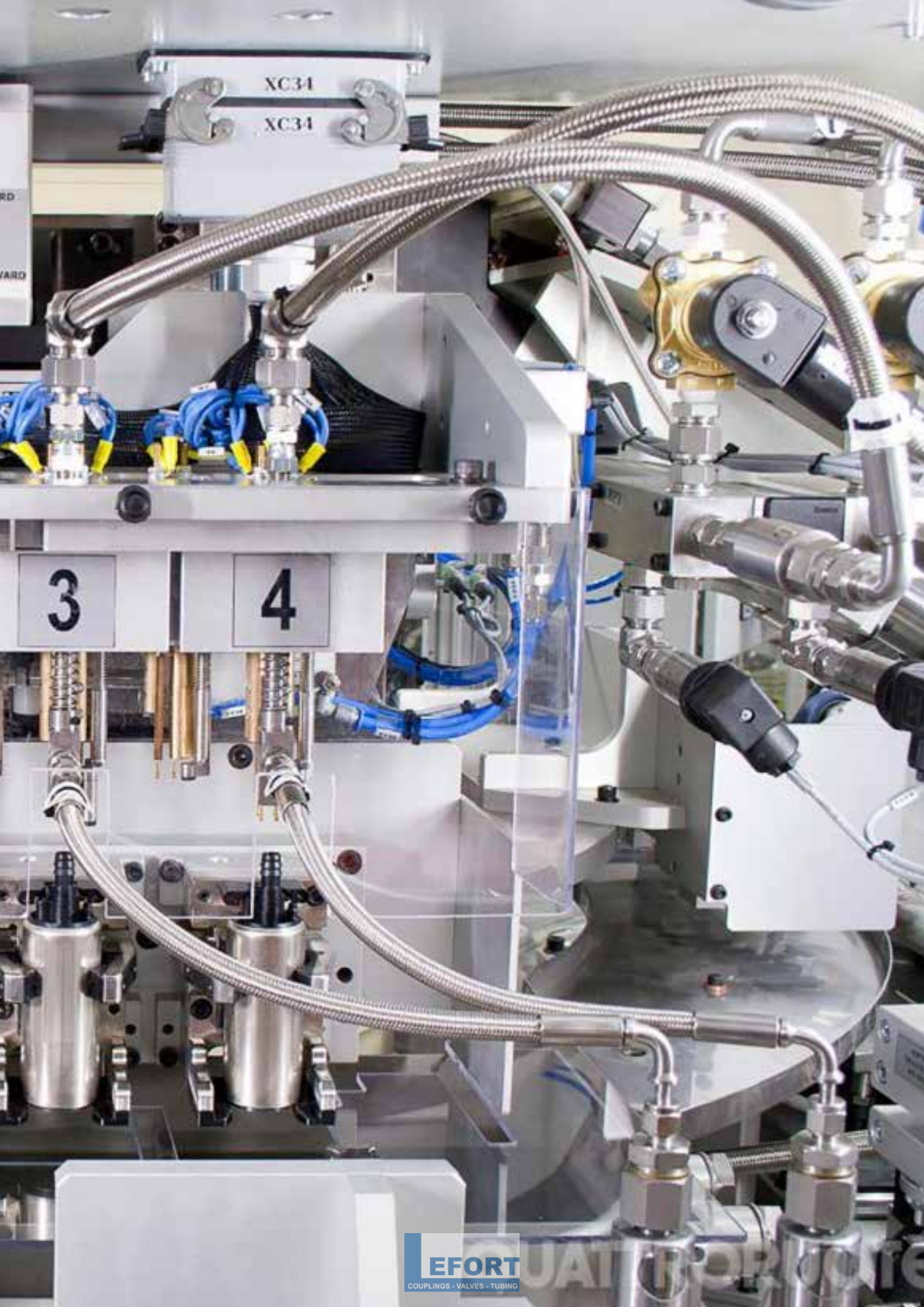
(Unit : mm)

Designations	Tube O.D	L1	L	Max. Pressure(bar)	
				S316	Brass
STV-S-6M	6	31.7	63.4	450	40
STV-S-8M	8	32.6	65.2	450	40
STV-S-10M	10	33.5	67	450	40
STV-S-12M	12	36	72	450	40
STV-S-2T	1/8"	29.2	58.4	450	40
STV-S-4T	1/4"	31.7	63.4	450	40
STV-S-6T	3/8"	33.2	66.4	450	40
STV-S-8T	1/2"	36	72	450	40

Female Thread Type Tube Fittings

(Unit : mm)

Designations	T	A	L1	L	Max. Pressure(bar)	
					S316	Brass
STV-F-02R	PT 1/4"	17	25	50	450	40
STV-F-03R	PT 3/8"	22	32	64	450	40



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S-LOK® Ball & Plug Valves

HanSun

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HANSUN ENGINEERING CO., LTD.



Ball Valves

SBV, SFBV SERIES

SBV10 Series  115

SBV30 Series  117

SBV60 Series  122

SFBV60 Series  126

Trunnion Ball Valves

STBV SERIES

STBV Series  130

Ball Valves for DIN Standard

SDBV SERIES

SDBV Series  134

Plug Valves

SPV SERIES

SPV Series  137

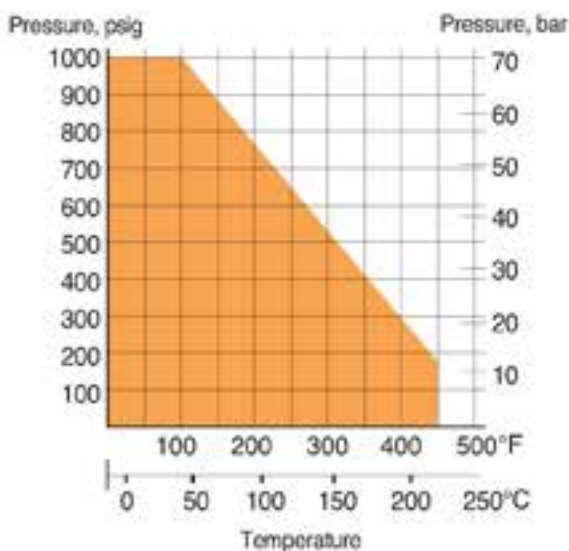
■ SBV10 Series For working pressure up to 1000 psig(69bar)



Features

- Compact design with hexagon bar-stock for high integrity.
- Working pressure up to 1000psig (69bar) at 100°F (38°C).
- Low torque quarter turn actuation.
- Size range of from 1/4" to 1" tubing and piping.
- Various end connections : reliable S-LOK, NPT & ISO male & female.
- Butterfly handle is available as option.

Pressure-Temperature Ratings

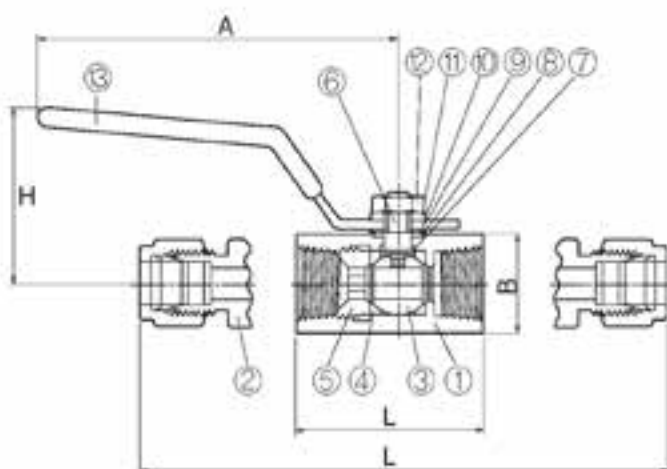


Applications

- Water, Oil, Gas.
- Petrochemical Plants.
- Steel mills.
- Heavy Vehicles.

Factory Test

- Every valve is factory tested with Nitrogen @ 1000psig (69bar) for leakage at the seat to a maximum allowable leak of 0.1sccm.
- The stem packing is tested for no detectable leakage.



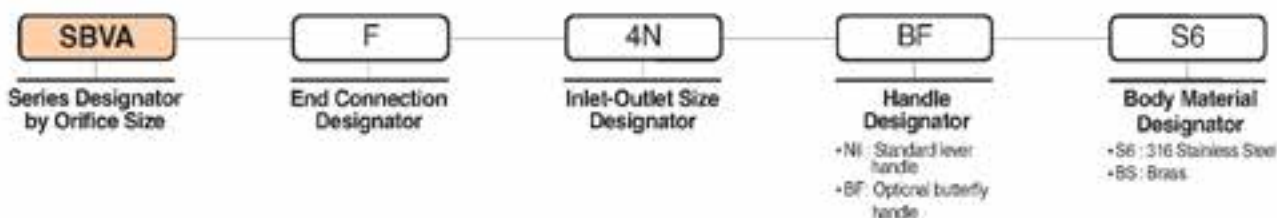
Item	Description	Material/ASTM Specification	
		S316	Brass
1	Body	S316/A479, A276	Brass/B16
2	End Connector	S316/A479, A276	Brass/B16
3	Ball	S316/A479, A276	
4	Seat	Reinforced PTFE	
5	Insert	S316/A479, A276	
6	Stem	S316/A479, A276	
7	Lower Packing	Reinforced PTFE	
8	Upper Packing	Reinforced PTFE	
9	Grand	S304	
10	Grand Washer	S304	
11	Spring Washer	S304	
12	Lock Nut	S304	
13	Handle	S304 with PVC Coating	

Ordering Information and Dimensions

Basic Ordering Number		Orifice mm(in)	Cv	End Connections Inlet/Outlet	Dimensions (mm)			
					L	H	A	B
SBVA	S-6M	5.0	1.25	6mm S-LOK	79	31	55	17
	S-4T		1.25	1/4" S-LOK	79			
	F-4N		1.35	1/4" Female NPT	42			
SBVB	S-10M	7.5	2.60	10mm S-LOK	90	40	78	22
	S-6T		2.50	3/8" S-LOK	90			
	F-6N		2.60	3/8" Female NPT	45			
SBVC	S-12M	9.0	9.25	12mm S-LOK	98	42	78	27
	S-8T		9.25	1/2" S-LOK	98			
	F-8N		9.25	1/2" Female NPT	54			
SBVD	S-16M	12.5	10.60	16mm S-LOK	108	51	96	32
	S-10T		10.60	5/8" S-LOK	108			
	F-12N		12.65	3/4" Female NPT	63			
	S-12T		12.65	3/4" S-LOK	107			
SBVE	S-16T	16.0	17.35	1" S-LOK	133	55	96	38
	F-16N		17.35	1" Female NPT	74			

Ordering Information

Select valve ordering number, and applicable options.

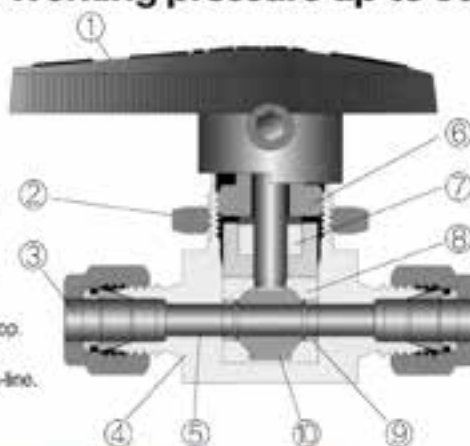


SAFETY in VALVE SELECTION

The selection of a valve for any application or system design must be considered to ensure safe performance. Valve function, valve rating, material compatibility, proper installation, operation and maintenance remain the sole responsibility of the system designer and the user. HANSUN ENGINEERING accepts no liability for any improper selection, installation, operation or maintenance.

SBV30 Series For working pressure up to 3000 psig(206bar)

1. Handle with Arrow
 - indicates flow direction.
 - allows quick operation to open and close.
2. Panel Mounting Nut
 - allow easy installation.
3. Variety of End Connections
 - include fractional/metric S-LOK tube fittings, NPT female, ISO female threads.
4. One-piece body
 - reduces the number of potential leak points.
5. Orifice
 - is optimized design for minimum pressure drop.
6. Packing Bolt
 - allows easy packing adjustment with valve in-line.



7. PTFE Packing
 - is supported by top and bottom glands.
8. Encapsulating Ball Seats
 - virtually allow no dead volume.
 - are uniformly forced to form tight seals against ball and body cavity.
9. Support rings and discs
 - retains the capsule packing and prevent cold flow.
10. Integral Ball-Stem
 - is machined from one piece bar stock.
 - is best suited to encapsulate ball seats.



Features

- Pressure rating up to 3000psig(206bar) @70°F(21°C).
- Temperature rating from 50°F(10°C) to 150°F(65°C) with standard PTFE seat and packing.
- Choice of materials : Standard S316 and available in alloy 400 and Brass.
- Vent to atmosphere available.
- Every valve is 100% factory tested with the Nitrogen @1000psi (69bar).

Technical Data



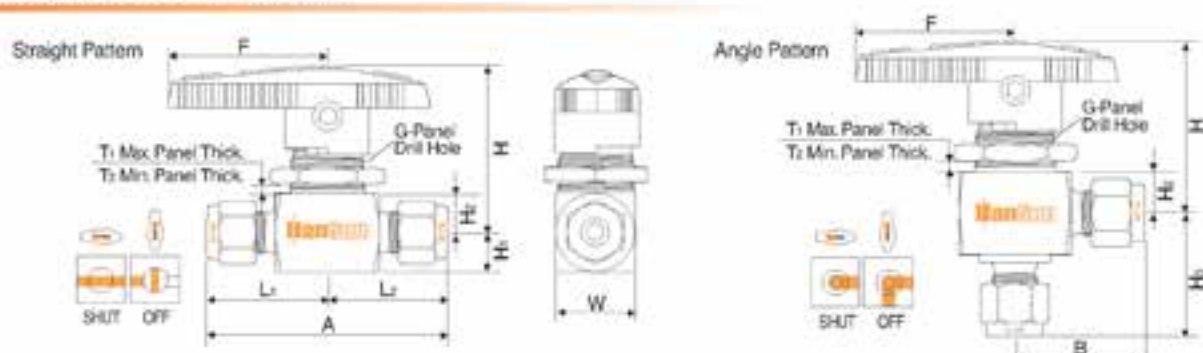
Materials of construction

Description	Grade / ASTM Specification	
	Valve Body Materials	
	S316	Brass
1 Handle	Black Nylon	
2 Set screw	17-4PH/A584	
3 Packing bolt	S316/A479, A276	Brass/B16
4 Upper grand	S316/A479, A276	
5 Packing	PTFE/D1710	
6 Lower grand	S316/A479, A276	Brass/B16
7 & 7-a Upper&Lower Ball seat	PTFE/D1710 (standard) PFA (Option)	
8 Ball stem	S316/A479, A276	
9 Support rings	S316 (Fluorocarbon-coated)	
10 Side discs		
11 Panel nut	S316 /A479, A276	Brass/B16
12 Body		
13 Packing spring	17-4PH / A693	
14 Packing grand	S316 / A276	

• Pressure Rating with standard PTFE & PFA seat

Valve Designator	Straight 2-way	Angle 2-way	Switching 3-way	Temperature Range	
				PTFE	PFA
SBV 1		2500psig (172bar)			
SBV 2	3000psig (206bar)	2500psig (172bar)		50°F to 150°F (10°C to 65°C)	-65°F to 150°F (-54°C to 65°C)
SBV 3	2500psig (172bar)	1500psig (103bar)			
SBV 4					

2-Way (Shut-Off Valve)



Ordering Information and Dimensions

Basic Ordering Number	Orifice		Cv		End Connections		Dimensions (mm)											
	mm	inch	Inline	Angle	Inlet	Outlet	A	L ₁	L ₂	H ₃	H ₂	H ₁	F	T ₁	T ₂	G	H	W
SBV1	S-1T	1.3	0.052	0.1	-	1/16"	S-LOK	42.7	21.3	-	8.6	7.1	28.4	6.4	2.0	15.1	34.5	14.7
	S-2T	2.4	0.093	0.2	0.15	1/8"	S-LOK	51.1	25.6	24.6								
	S-3M			0.2	0.15	3mm	S-LOK	51.1	25.6	24.6								
	S-4T			0.6	0.35	1/4"	S-LOK	56.1	28.1	27.2								
	S-6M	3.2	0.125	0.6	0.35	6mm	S-LOK	56.1	28.1	27.2								
	F-2N			0.5	0.3	1/8"	Female NPT	41.1	20.6	20.6								
SBV2	S-4T	4.8	0.187	1.4	0.9	1/4"	S-LOK	59.9	30.0	29.7	11.2	9.7	38.9	4.8	2.5	19.8	39.6	19.8
	S-6T			1.5	0.9	3/8"	S-LOK	65.5	32.8	32.8								
	S-6M			1.4	0.9	6mm	S-LOK	60.7	30.4	29.7								
	S-8M			1.5	0.9	8mm	S-LOK	62.5	31.2	30.5								
	F-2N			1.2	0.7	1/8"	Female NPT	50.8	25.4	25.4								
	F-4N			0.9	0.75	1/4"	Female NPT	52.3	26.2	26.2								
	M-4N			1.2	0.75	1/4"	Male NPT	50.8	25.4	26.2								
	F-4R			0.9	0.75	1/4"	ISO Female Tapered	52.3	26.2	-								
SBV3	S-6T	7.1	0.281	6.0	2.0	3/8"	S-LOK	77.5	38.8	36.3	14.2	14.2	50.8	9.5	3.0	28.6	52.6	28.4
	S-10M			6.0	2.0	10mm	S-LOK	78.0	38.9	36.9								
	F-4N			3.0	1.7	1/4"	Female NPT	63.5	31.8	31.8								
	F-6N			2.6	1.5	3/8"	Female NPT	63.5	31.8	31.8								
	F-6R			2.6	1.5	3/8"	ISO Female Tapered	63.5	31.8	-								
SBV4	S-8T	10.3	0.406	12.0	4.6	1/2"	S-LOK	99.6	49.8	44.2	17.5	17.5	76.2	9.5	3.0	38.1	61.7	38.1
	S-12T	6.4	3.8	3/4"	S-LOK	99.6	49.8	44.2										
	S-12M	9.5	0.375	12.0	4.6	12mm	S-LOK	99.6	49.8	44.2								
	F-8N	10.3	0.406	6.3	3.5	1/2"	Female NPT	79.2	39.6	39.6								
	F-8R			6.3	3.5	1/2"	ISO Female Tapered	79.2	39.6	-								

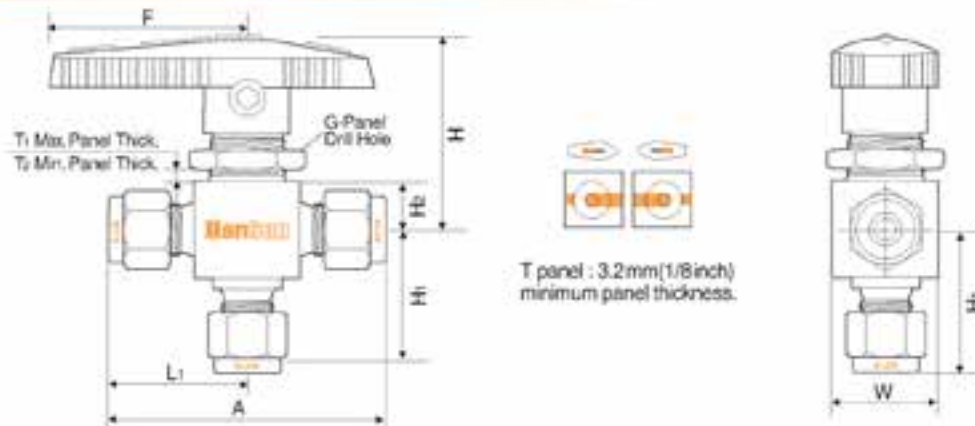
All dimensions shown are for reference only and are subject to change. Dimensions with S-LOK nuts are in finger-tight position.
 Patterns : To order angle pattern, use-A as a suffix to the basic ordering number. Example : SBV1-S-4T-A-S6

• Flow Rate

Pressure Drop to Atmosphere (Δp) in psi		Cv															
		0.1	0.2	0.5	0.6	0.9	1.2	1.5	1.6	2.4	2.6	3.0	6.0	6.3	6.4	12.0	
Air SCFM @70°F(21°C)	10	1.1	2.7	6.9	8.3	12.0	17.0	21.0	22.0	33.0	36.0	41.5	83.0	87.2	88.6	166.0	
	50	3.0	7.6	19.1	23.0	34.0	46.0	57.0	61.0	92.0	99.5	115.0	230.0	241.0	245.0	459.0	
	100	5.3	14.0	33.9	40.7	61.0	81.0	100.0	110.0	160.0	176.0	203.0	407.0	427.0	434.0	814.0	
Water US GPM @70°F(21°C)	10	0.3	0.6	1.6	1.9	2.8	3.7	4.7	5.0	7.5	8.2	9.5	19.0	19.9	20.2	37.9	
	50	0.7	1.4	3.5	4.2	6.3	8.4	11.0	11.0	17.0	18.4	21.2	42.3	44.5	45.3	84.9	
	100	1.0	2.0	5.0	6.0	9.0	12.0	15.0	16.0	24.0	26.0	30.0	60.0	63.0	64.0	120.0	

The Cv is for the straight pattern valves. Cvs of angle pattern valves are the same as those of 3-way valves.

3-Way switching Valves



Ordering Information and Dimensions

Basic Ordering Number		Orifice		Cv	End Connections	Dimensions (mm)									
		mm	inch			A	L ₁	H ₁	H ₂	F	T ₁	T ₂	G	H	W
SBV1-3B	S-1T	1.3	0.052	0.08	1/16" S-LOK	42.7	21.3	20.6	8.6	28.7	6.4	2.0	15.1	34.5	14.7
	S-2T	2.4	0.093	0.15	1/8" S-LOK	51.1	25.6	24.6							
	S-4T	3.2	0.125	0.35	1/4" S-LOK	58.1	28.1	27.2							
	S-3M	2.4	0.093	0.15	3mm S-LOK	51.1	25.6	24.6							
	S-6M	3.2	0.125	0.35	6mm S-LOK	58.1	28.1	27.2							
	F-2N	3.2	0.125	0.3	1/8" Female NPT	41.1	20.6	20.6							
SBV2-3B	S-4T	4.8	0.187	0.90	1/4" S-LOK	60.7	30.4	29.7	11.2	38.9	4.8	2.5	19.8	39.6	19.8
	S-6M			0.90	6mm S-LOK	60.7	30.4	29.7							
	S-8M			0.90	8mm S-LOK	62.5	31.2	30.5							
	F-4N			0.75	1/4" Female NPT	52.3	26.2	26.2							
	F-4R			0.75	1/4" ISO Female Tapered	52.3	26.2	26.2							
SBV3-3B	S-6T	7.1	0.281	2.0	3/8" S-LOK	73.4	36.7	36.3	14.2	50.8	9.5	3.0	28.6	52.6	28.4
	S-10M			2.0	10mm S-LOK	73.4	36.7	36.3							
	F-4N			1.7	1/4" Female NPT	63.5	31.8	31.8							
	F-6N			1.5	3/8" Female NPT	63.5	31.8	31.8							
	F-6R			1.5	3/8" ISO Female Tapered	63.5	31.8	31.8							
SBV4-3B	S-8T	10.3	0.406	4.6	1/2" S-LOK	88.4	44.2	44.2	17.5	76.2	9.5	3.0	38.1	61.7	38.1
	S-12T	10.3	0.406	3.8	3/4" S-LOK	88.4	44.2	44.2							
	S-12M	9.5	0.375	4.6	12mm S-LOK	88.4	44.2	44.2							
	F-8N	10.3	0.406	3.5	1/2" Female NPT	79.5	39.8	39.6							
	F-8R	10.3	0.406	3.5	1/2" ISO Female Tapered	79.5	39.8	39.6							

All dimensions shown are for reference only and are subject to change. Dimensions with S-LOK nuts are in finger-tight position.

• Flow Rate

Pressure Drop to Atmosphere (Δp) in psi		Cv													
		0.08	0.15	0.30	0.35	0.75	0.8	0.9	1.5	1.7	2.0	3.5	3.8	4.6	
Air SCFM @70°F (21°C)	10	0.9	2.0	4.2	4.8	10.0	11.0	12.0	20.8	23.5	27.7	48.4	52.6	63.7	
	50	2.4	5.7	11.5	13.4	29.0	31.0	34.0	57.4	65.0	76.5	134.0	145.0	176.0	
	100	4.3	10.1	20.3	23.7	51.0	54.0	61.0	102.0	115.0	136.0	237.0	258.0	312.0	
Water US GPM @70°F (21°C)	10	0.3	0.4	0.9	1.1	2.3	2.5	2.8	4.7	5.4	6.3	11.1	12.0	14.5	
	50	0.6	1.0	2.1	2.5	5.3	5.6	6.3	10.6	12.0	14.1	24.7	26.9	32.5	
	100	0.8	1.5	3.0	3.5	7.5	8.0	9.0	15.0	17.0	20.0	35.0	38.0	46.0	

ISBV2-4W, 4way Series Ball Valves

Features

- Crossover of two streams
- Machined stops provide positive port positioning.

Technical Data

Ordering Number	Seat Material	Pressure Rating psig	bar	Temperature Range
SBV2-4W-F-2N	PTFE	2500	172	10°C to 65°C (50°F to 150°F)
SBV2-4W-F-8N		1500	103	
SBV2-6W-S-1T/2T		500	34.4	
SBV2-4W-F-2N-PFA	PFA	2500	172	-54°C to 65°C (-65°F to 150 °F)
SBV2-4W-F-8N-PFA		1500	103	
SBV2-6W-1T-PFA/2T-PFA		500	34.4	



Ordering Number	End Connection	Cv	Orifice		Dimensions, mm(in.)						
			mm	in.	L	L1	H	H1	A	T	D
SBV2-4W-F-2N	1/8 Female NPT	0.08	1.6	0.062	39.4 (1.55)	19.8 (0.78)	43 (1.69)	11.1 (0.44)	38.8 (1.53)	4.8 (0.19)	23.0 (0.91)
SBV2-4W-F-8N	1/2 Female NPT	1.6	7.1	0.281	79.5 (3.13)	39.6 (1.56)	61.7 (2.43)	17.5 (0.69)	76.2 (3.0)	9.7 (0.38)	38.1 (1.5)
SBV2-6W-S-1T	1/16 S-LOK Tube Fitting	0.06	1.3	0.052	49.3 (1.94)	24.6 (0.97)	42.7 (1.68)	11.2 (0.44)	38.9 (1.53)	4.8 (0.16)	23.1 (0.92)
SBV2-6W-S-2T	1/8 S-LOK Tube Fitting	0.08	1.6	0.062							

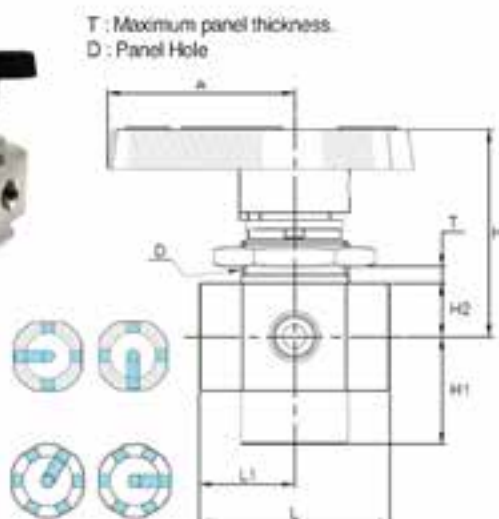
SBV2-5W/7W Series Ball Valves

Features

- Flow can be switched from a single port to multiple ports or from multiple ports to a single port.
- 5way series valves have a spring-loaded detent for exact port positioning.

Technical Data

Ordering Number	Seat Material	Pressure Rating psig	bar	Temperature Range
SBV2-5W-F-2N	PTFE	2500	172	10°C to 65°C (50°F to 150°F)
SBV2-5W-F-2G		1500	103	
SBV2-5W-F-8N		500	34.3	
SBV2-7W-S-1T/2T	PFA	2500	172	-54°C to 65°C (-65°F to 150 °F)
SBV2-5W-F-2N-PFA		1500	103	
SBV2-5W-F-2G-PFA		1500	103	
SBV2-5W-F-8N-PFA		500	34.3	



Ordering Number	End Connection	Cv	Orifice		Dimensions, mm(in.)							
			mm	in.	L	L1	H	H1	H2	A	T	D
SBV2-4W-F-2N SBV2-4W-F-2G	1/8 F NPT 1/8 F.P.F	0.07	1.6	0.062	39.4 (1.55)	19.8 (0.78)	43 (1.69)	22.3 (0.88)	11.1 (0.44)	38.8 (1.53)	4.1 (0.16)	23.0 (0.91)
SBV2-4W-F-8N	1/2 Female NPT	3.5	10.3	0.406	79.5 (3.13)	39.6 (1.56)	61.7 (2.43)	17.5 (0.69)	76.2 (3.0)	76.2 (3.0)	9.7 (0.38)	38.1 (1.5)
SBV2-7W-S-1T	1/16 S-LOK Tube Fitting	0.05	1.3	0.052	49.3 (1.94)	24.6 (0.97)	42.9 (1.69)	24.6 (0.97)	11.2 (0.44)	38.9 (1.53)	4.1 (0.16)	23.1 (0.92)
SBV2-7W-S-2T	1/8 S-LOK Tube Fitting	0.07	1.6	0.062								

Packing Adjustment

- SBV30 valves are designed to control fluid in full open and closed position ; using SBV30 valves to throttle the flow may reduce the valve life.
- Every valves are factory adjusted for 1000psig service at 70°F (21°C).
- For use in higher pressure, the packing must be readjusted.
- Exposure of valves to varying temperature can affect the initial packing load. You may need check leak and readjust packing bolt.
- Packing adjustment may be required during the valve in service.

Vent Hole Option

: Downstream vent hole is open used with instrument or gauges. When the valve is in the on position, pressure is applied to the Gauge or instrument.
When the valve is turned off, the instrument or gauge is vented to atmosphere through a hole in the side of the valve body and upstream port is closed to fluid flow. The maximum working pressure of the valve with the vented hole option is limited to 500psig (34bar).

Testing

- Every valve is factory tested for bubble-tight leakage at both seat and stem packing with nitrogen at 1000psi (69bar).
- Seats have a maximum allowable leak rate of 0.1sccm. Optional tests are available upon request.

• Ordering Information

SBV1	S	4T	PFA	A	VH	G	S6
Series Designator by Orifice Size	End Connection Designator	Inlet-Outlet Size Designator	Seat Material	Pattern Designator	Vent Hole	Handle Color Designator	Body Material
			• NI : Standard PTFE • PFA : PFA	• NI : 2-way straight • A : 2-way angle	• NI : Standard • VH : Vent Hole	• NI : Standard Black Nylon • B : Blue • G : Green • R : Red • Y : Yellow	• S6 : 316 Stainless Steel • SS : Brass

SAFETY in VALVE SELECTION

When selecting a valve, the total system design must be considered to ensure safe, trouble-free performance. Valve function, materials compatibility, adequate ratings, proper installation, operation, and maintenance are the responsibility of the system designer and user.

SBV60 Series High Pressure Ball Valves

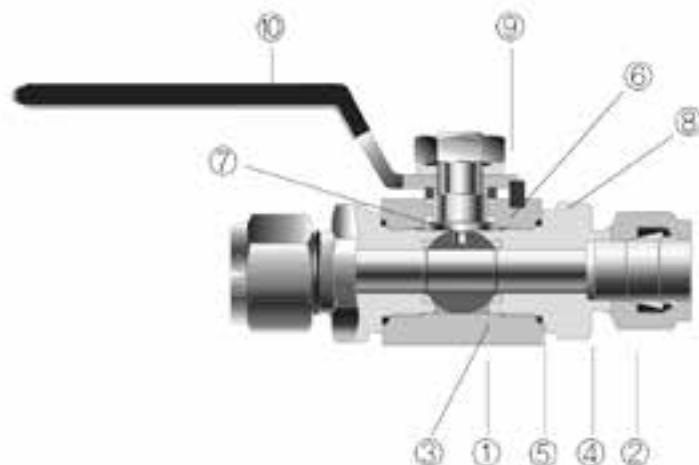
Features

- Pressure rating up to 10,000psig (689bar) @ 70°F (21°C).
- Temperature rating from -22°F (-30°C) to 265°F (130°C) with PVDF seat or from -65°F (-54°C) to 500°F (260°C) with PEEK seat.
- Robust body is best suited for high pressure application and allows various pattern including : 2-way straight pattern, 3-way side port inlet, 3-way bottom port inlet.
- Panel mounting and locking devices are available as options.
- Blow out proof design with internally loaded stem.
- Floating ball design ensures leak proof shut-off at high pressure.
- Straight through flow path for minimum pressure drop.
- Variety of end connections include reliable S-LOK tube fittings, male/female NPT & ISO/BSP threads.
- Handle with PVC Color coated allows easy and quick operation with low torque.
- 90 degree actuation.
- Every valve is 100% factory tested with the nitrogen @ 1000psi (69bar).
- Optional sour gas service to NACE MR 0175.



Operation

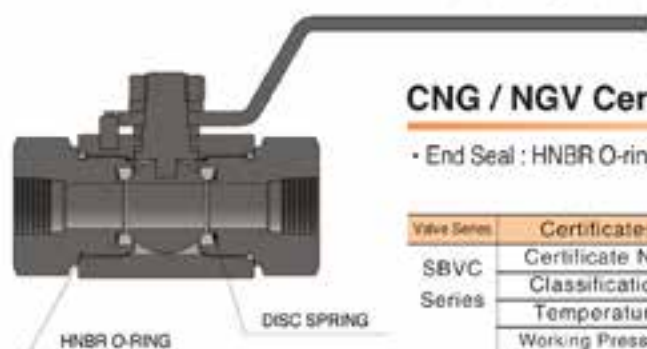
- HANSUN SBV60 Series ball valves provide quick 1/4 turn on-off control of fluids in process, power and instrumentation applications.
- All ports are suitable as inlets in full operation pressure of the valve.
- A broad selection of valve body, seat, and seal materials provide a wide range of pressure and temperatures at which the valve may be used.
- Valves that have not been actuated for a period of time may have a higher actuation torque.



Materials of Construction

Item	Description	Grade /ASTM Specification
1	Body	S316/A276, A479
2	End Connector	S316/A276, A479
3	Ball	S316/A276, A479
4	End Seals	Fluorocarbon FKM O-ring
5	Seals	PCTFE, optional PEEK
6	Stem	S316/A276, A479
7	Stem Packing	PTFE/D1710
8	Pin	Stainless Steel
9	Lock Nut	Stainless Steel with Washer
10	Handle	S304 with PVC Coating

* Note : wetted parts are listed in orange color.
Lubricant is Fluorocarbon based.

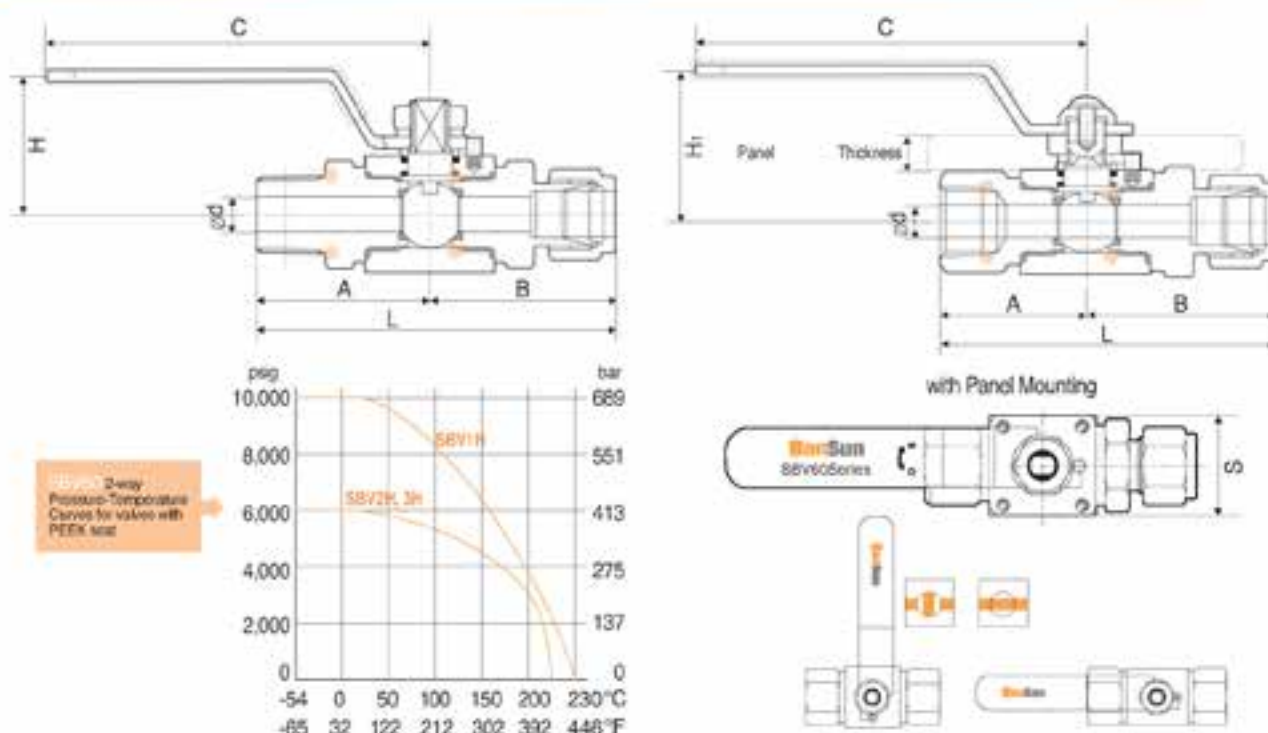


CNG / NGV Certifications

- End Seal : HNBR O-ring
- Added Disc Spring
- Seat : PEEK

Valve Series	Certificates	ECE R110	ANSI/NGV 3.1 - 2012	ISO 15500
SBVC Series	Certificate No.	110R-010333	126840AUT14	126840MECH103
	Classification	Class 0	Manual valve	Manual valve
	Temperature	-40 to 120°C (-40 to 248°F)	-40 to 120°C (-40 to 248°F)	-40 to 120°C (-40 to 248°F)
	Working Pressure	260 bar @ 120°C	248 bar @ 120°C	260 bar @ 120°C

2-Way



Ordering Information and Dimensions

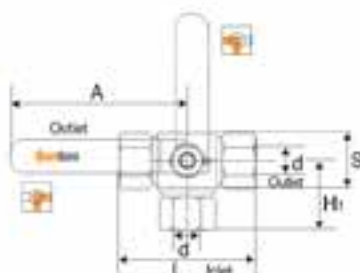
Basic Ordering Number	Orifice mm (inch)	Cv	End Connections	d mm	Dimensions (mm)						
					A	B	L	H	H ₁	C	S
SBV1H	S-4T	1.2	1/4" S-LOK	4.8	46	46	92	39	46.7	101	32
	S-6T	3.7	3/8" S-LOK	7.1	47.5	47.5	95				
	S-8T	7.5	1/2" S-LOK	10.0	50	50	100				
	F-4N		1/4" Female NPT		32.5	32.5	65				
	F-6N		3/8" Female NPT		36	36	72				
	F-8N	3.7	1/2" Female NPT	7.1	43	43	86				
	M-4N		1/4" Male NPT		42	42	84				
	M-6N		3/8" Male NPT		42	42	84				
	M-8N	7.5	1/2" Male NPT	10.0	47.5	47.5	95				
SBV2H	F-8N	10.1	1/2" Female NPT	12.7	45.5	45.5	91	51	60.6	135	40
	F-12N		3/4" Female NPT		47.5	47.5	95				
	M-12N		3/4" Male NPT		54.5	54.5	109				
	S-10T		5/8" S-LOK		55.5	55.5	111				
	S-12T		3/4" S-LOK		55.5	55.5	111				
SBV3H	F-12N	30.0	3/4" Female NPT	20.0	48	48	96	56	65.6	135	50
	F-16N		1" Female NPT		50	50	100				
	S-12T	19.0	3/4" S-LOK	15.8	58.5	58.5	117				
	S-16T	30.0	1" S-LOK	20.0	65	65	130				
	M-12N	19.0	3/4" Male NPT	15.8	58	58	116				
	M-16N	30.0	1" Male NPT	20.0	62.5	62.5	125				

All dimensions shown are for reference only and are subject to change. Dimensions with S-LOK nuts are in finger-tight position.

3-Way

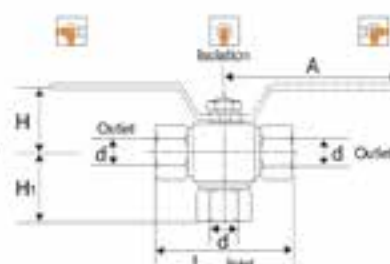
SIDE PORT INLET

1/4 turn handle
For flow switching



BOTTOM PORT INLET

1/2 turn handle
For flow switching and isolation



Ordering Information and Dimensions

Basic Ordering Number		End Connections Inlet & Outlet	Orifice mm (inch)	d mm	Dimensions mm				
					A	H	H _i	L	S
SBV1H-3*	S-4T	1/4" S-LOK	10.0(0.39)	4.8	101	39	51.5	92	32
	S-6T	3/8" S-LOK		7.1			53.0	95	
	S-8T	1/2" S-LOK		10.0			55.8	100	
	F-4N	1/4" Female NPT					38.7	65	
	F-6N	3/8" Female NPT					40.2	72	
	F-8N	1/2" Female NPT					45.5	86	
SBV2H-3*	F-8N	1/2" Female NPT	12.7(0.50)	12.7	135	51	49.7	91	40
	F-12N	3/4" Female NPT					55.2	95	
	S-10T	5/8" S-LOK					65.5	111	
	S-12T	3/4" S-LOK					65.5	111	
SBV3H-3*	S-12T	3/4" S-LOK	19.0(0.75)	15.8	135	56	70.0	117	50
	S-16T	1" S-LOK		20.0			76.6	130	
	F-12N	3/4" Female NPT					56.7	116	
	F-16N	1" Female NPT					60.8	125	

All dimensions shown are for reference only and are subject to change. Dimensions with S-LOK nuts are in finger-tight position.

Ordering information: * "S" for side entry 3-way ordering i.e., SBV1H-3S-S-8T, * "B" for bottom entry 3-way ordering i.e., SBV1H-3B-S-8T

Handle Turn torque Table (N-m)

Valve Series	Applied Working Pressures ¹ psig(bar)						
	0(0)	69(1000)	137(2000)	206(3000)	275(4000)	344(5000)	413(6000)
SBV1H	0.30(0.22)	0.35(0.25)	0.40(0.29)	0.40(0.29)	0.40(0.29)	0.40(0.29)	0.45(0.33)
SBV2H	1.20(0.88)	1.50(1.10)	1.70(1.25)	1.70(1.25)	1.80(1.32)	1.90(1.40)	2.00(1.47)
SBV3H	1.70(1.25)	1.80(1.32)	1.90(1.40)	2.00(1.47)	2.10(1.55)	2.20(1.62)	2.30(1.69)

Technical Data-Pressure and Temperature Rating

2-way

Valve Series	Sealing Materials			Pressure Rating @ -54°C to 21°C (-65°F to 70°F)	Temperature Rating
	Seat	Stem Packing	End Seal		
SBV1H	PCTFE	PTFE	FKM	6,000psig (413bar)	-30°C to 180°C (-22°F to 355°F)
	PEEK			10,000psig (689bar)	-54°C to 230°C (-65°F to 446°F)
SBV2H	PCTFE	PTFE	FKM	5,000psig (344bar)	-23°C to 160°C (-9°F to 320°F)
SBV3H	PEEK			6,000psig (413bar)	-35°C to 210°C (-31°F to 410°F)

3-way

Valve Series	Sealing Materials			Pressure Rating @ -54°C to 21°C (-65°F to 70°F)	Temperature Rating
	Seat	Stem Packing	End Seal		
SBV1H	PCTFE	PTFE	FKM	4,000psig (275bar)	-30°C to 180°C (-22°F to 355°F)
	PEEK			6,000psig (413bar)	-54°C to 230°C (-65°F to 446°F)
SBV2H	PCTFE	PTFE	FKM	3,000psig (206bar)	-23°C to 160°C (-9°F to 320°F)
SBV3H	PEEK			4,000psig (275bar)	-35°C to 210°C (-31°F to 410°F)

* The above pressure rating is for 2-way in-line pattern valves. 80% of the above rating shall be applicable to 2-way angle pattern valves and 3-way valves.

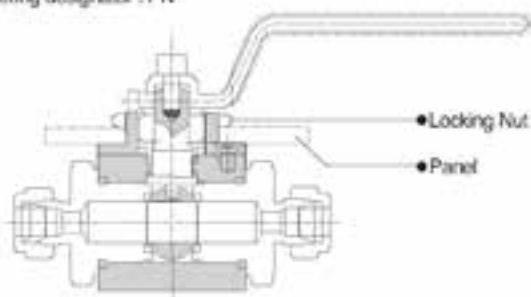
* The rated pressure shown above is the maximum allowable pressure to the seat. If the system requires higher pressure to test, the valve must be in open position before and during test so as not to damage the seat.

* Pressure ratings of valves are sometimes limited to the maximum working pressure of pipe ends and tubing connected. The working pressure of tubing must be considered in the calculation of total system working pressure.

Panel Mounting

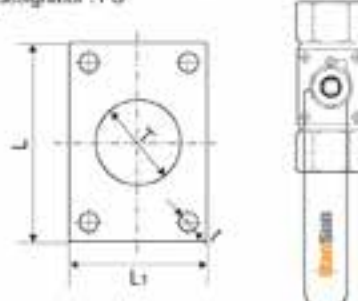
Locking nut panel mounting

Ordering designator : PN



Screw hole panel mounting

Ordering designator : PS



• PN-Panel Mount Information Unit:mm(inch)

Valve Series	Panel Hole Drill	Panel Thickness
SBV1H	30.0(1.18)	Max. 4.0(0.157)
SBV2H	38.0(1.50)	Max. 4.0(0.157)
SBV3H	38.0(1.50)	Max. 4.0(0.157)

• PS-Panel Mount Information Unit:mm(inch)

Valve Series	L	L ₁	t	T
SBV1H	34.0(1.33)	23.0(0.91)	4.0(0.15)	30.0(1.18)
SBV2H	36.0(1.42)	29.0(1.14)	5.0(0.20)	38.0(1.50)
SBV3H	40.0(1.57)	35.0(1.37)	6.0(0.23)	38.0(1.50)

• Sour Gas Service

Is provided to meet NACE Standard MR 0175.

Testing

- Every valve is factory tested for bubble-tight leakage at both seat and stem packing with nitrogen at 1000psi(69bar).
 - Hydraulic shell test is performed at 1.5 times the working pressure.
 - Seats have a maximum allowable leak rate of 0.1sccm.
- optional tests are available upon request.

• Ordering Information

Selection the applicable options from designators listed below.

SBV1H	S	4T	PK	PN	LD	OH	SG	S6
Series Designator by Orifice Size	End Connection Designator	Inlet-Outlet Size Designator	Seat Material Designator	Panel Mounting	Locking Device	Handle	Sour Gas Designator	Body Material
			• Nil : Standard PCTFE • PK : PEEK	• PN : Lock nut panel mounting • PS : Screw hole panel mounting	• LD : Locking Device	• Nil : Standard lever handle • OH: Oval Handle (Applicable only for SBV1H)	• Nil : Without(Standard) • SG: Sour Gas Service	• S6 : 316 Stainless Steel

※ CNG / NGV Service

- To order CNG / NGV Service, insert the designator "C" to the valve ordering number.
 - Material's PEEK standard.
- ex) SBVC1H-S-4T-S6

SAFETY in VALVE SELECTION

When selecting a valve, the total system design must be considered to ensure safe, trouble-free performance. Valve function, materials compatibility, adequate ratings, proper installation, operation, and maintenance are the responsibility of the system designer and user.

■ SFBV60 Series Forged High pressure Ball Valves

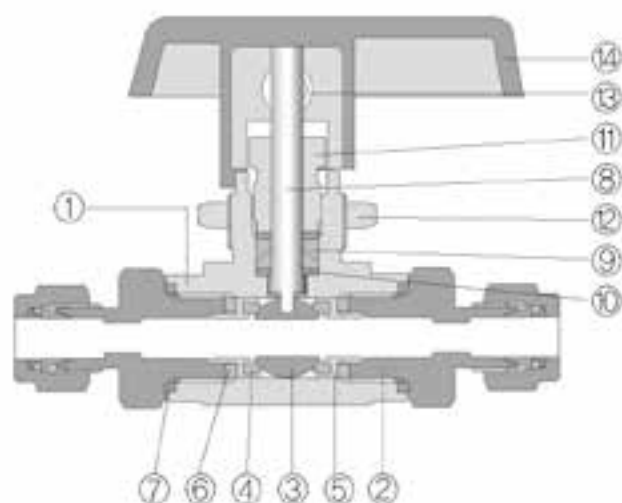
Features

- Pressure rating up to 6,000psig (413bar) @70°F(21°C).
- Temperature rating from -65°F(-54°C) to 350°F(177°C) with Standard PCTFE seat.
- Free floating ball design provides seat wear compensation, therefore ensures leak proof shut-off at high pressure.
- High flow in a compact design.
- Panel mountable as standard.
- Blow out proof design with internally loaded stem.
- Micro-finished ball provides a positive seal.
- Low operating torques and positive handle stops.
- Handle indicates flow direction.
- Straight through flow path for minimum pressure drop.
- Bi-Directional flow.
- Chevron packing standard for positive leak tight.
- 90 degree actuation.
- Every valve is 100% factory tested with the nitrogen @1000psi (69bar).
- Variety of end connections include reliable S-LOK tube fittings, Male/Female NPT & ISO/BSP threads.



Applications

- Water
- Oil
- Gas
- Petrochemical



CNG / NGV Certifications

- CNG / NGV Valves added HNBR o-ring and added disc spring.
- Seat Material's PEEK standard

Testing

- Every valve is factory tested for bubble-tight leakage at both seat and stem packing with nitrogen at 1000psi (69bar).
- Seats have a maximum allowable leak rate of 0.1sccm.
- Optional tests are available upon request.

Materials of Construction

Item	Description	Grade /ASTM Specification
1	Body	S316/A276, A479
2	End Connector	S316/A276, A479
3	Ball	S316/A276, A479
4	Seats	PCTFE, optional PTFE, PEEK
5	Retainer	S316/A276, A479
6	Retainer Seal	PTFE
7	End Seals	PTFE
8	Stem	S316/A276, A479
9	Stem Packing	PTFE
10	Stem Washer	S316
11	Packing Bolt ①	S316/A276, A479
12	Lock Nut	S316/A276, A479
13	Set Screw	Stainless Steel
14	Handle	Black Nylon standard

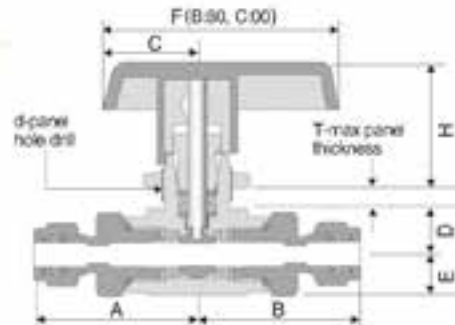
① Molybdenum disulfide with hydrocarbon coating.

② Note : wetted parts are listed in orange color.
Lubricant is Fluorocarbon based.

Valve Series	Certificates	ECE R110	ANSI NGV 3.1 - 2012	ISO 15500
SFBVC Series	Certificate No.	110R-010333	126840AUT14	126840MECH103
	Classification	Class 0	Manual valve	Manual valve
	Temperature	-40 to 120°C (-40 to 248°F)	-40 to 120°C (-40 to 248°F)	-40 to 120°C (-40 to 248°F)
	Working Pressure	260 bar @ 120°C	248 bar @ 120°C	260 bar @ 120°C

2-Way (Shut-Off Valve)

In-line pattern



Ordering Information and Dimensions

Basic Ordering Number	End Connections		Orifice mm (in.)	Cv	Dimensions mm (in.)										
	Inlet	Outlet			A	B	D	E	H	C	F	d	T		
SFBV1	S-1T	1/16" S-LOK		1.3(0.052)	0.06	33.0(1.30)	33.0(1.30)								
	S-2T	1/8" S-LOK		2.4(0.093)	0.21	34.5(1.36)	34.5(1.36)								
	F-2N	1/8" Female NPT				27.2(1.07)	27.2(1.07)								
	M-2N	1/8" Male NPT		4.2(0.165)	0.93	29.9(1.18)	29.9(1.18)	9.4 (0.37)	10.0 (0.39)	23.2 (0.91)	19 (0.75)	47.0 (1.85)	16.3 (0.64)	3.3 (0.13)	
	S-4T	1/4" S-LOK				37.6(1.48)	37.6(1.48)								
	M-4N	1/4" Male				34.3(1.35)	34.3(1.35)								
	S-3M	3mm S-LOK		2.2(0.086)	0.18	34.8(1.37)	34.8(1.37)								
SFBV2	S-2T	1/8" S-LOK		2.4(0.093)	0.26	41.9(1.65)	41.9(1.65)								
	S-4T	1/4" S-LOK					44.2(1.74)								
	MS-4N4T	1/4" Male NPT	1/4" S-LOK	4.8(0.189)	1.04	44.2(1.74)	41.1(1.62)								
	FS-4N6T	1/4" Female NPT	1/4" S-LOK												
	F-4N	1/4" Female NPT				38.4(1.51)	38.4(1.51)								
	M-4N	1/4" Male NPT				41.1(1.62)									
	MF-4N	1/4" Male NPT	1/4" Female NPT			38.4(1.51)	41.1(1.62)	11.9 (0.47)	10.7 (0.42)	38.9 (1.53)	25.6 (1.01)	78 (3.07)	19.6 (0.77)	6.4 (0.25)	
	MS-4N6T	1/4" Male NPT	3/8" S-LOK	6.4(0.250)	2.34										
	FS-4F6T	1/4" Female NPT	3/8" S-LOK			45.7(1.80)	38.4(1.51)								
	S-6T	3/8" S-LOK					45.7(1.80)								
	M-6N	3/8" Male NPT				41.1(1.62)	41.1(1.62)								
	S-6M	6mm S-LOK		4.8(0.189)	1.04	44.5(1.75)	44.5(1.75)								
	S-8M	8mm S-LOK		6.4(0.250)	2.34	45.2(1.78)	45.2(1.78)								
	S-10M	10mm S-LOK				46.0(1.81)	46.0(1.81)								
SFBV3	F-6N	3/8" Female NPT				49.5(1.95)	49.5(1.95)								
	F-8N	1/2" Female NPT				54.6(2.15)	54.6(2.15)								
	S-8T	1/2" S-LOK		10.3(0.406)	6.42	59.4(2.34)	59.4(2.34)	17.8 (0.70)	17.5 (0.69)	44.2 (1.74)	38.1 (1.50)	99 (3.9)	22.9 (0.90)	9.7 (0.38)	
	M-8N	1/2" Male NPT				56.4(2.22)	56.4(2.22)								
	S-12T	3/4" S-LOK													
	S-12M	12mm S-LOK		9.5(0.375)	5.57	59.2(2.33)	59.2(2.33)								
	S-16M	16mm S-LOK		10.3(0.406)	6.42										

Dimensions are for reference only and are subject to change. Dimensions with S-LOK nuts are in finger-tight position.

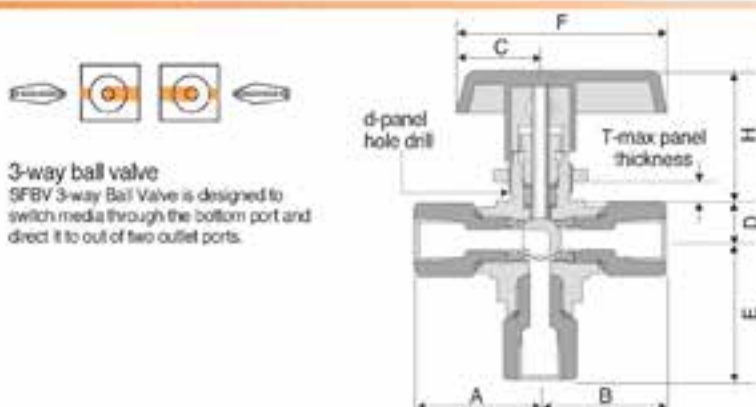
• Flow Rate

Pressure Drop to Atmosphere (Δp) in psi		Cv								
		0.06	0.18	0.21	0.26	0.93	1.04	2.34	5.57	6.42
Air SCFM @70°F (21°C)	10	5.9	17.7	20.7	25.6	91.5	102.4	230.3	548.2	631.9
	50	13.2	39.6	46.2	57.2	204.7	228.9	515.0	1225.9	1413.0
	100	18.7	56.0	65.4	80.9	289.5	323.7	728.3	1733.7	1998.3
Water US GPM @60°F (16°C)	10	0.2	0.6	0.7	0.8	2.9	3.3	7.4	17.6	20.3
	50	0.4	1.3	1.5	1.8	6.6	7.4	16.5	39.4	45.4
	100	0.6	1.8	2.1	2.6	9.3	10.4	23.4	55.7	64.2

* Flow rate calculated with 1000psig (69bar) inlet pressure.

* To determine m³/hr multiply GPM by 0.227 and SCFM by 1.69

3-Way (Switching Valve)



Ordering Information and Dimensions

Basic Ordering Number	End Connections		Orifice mm(in.)	Cv	Dimensions mm(inch)								
	Inlet	Outlet			A	B	E	D	H	C	F	d	T
SFBV1-3B	S-1T	1/16" S-LOK	1.3(0.052)	0.06	33.0(1.30)	33.7(1.30)							
	S-2T	1/8" S-LOK	2.4(0.093)	0.21	34.5(1.36)	36.4(1.36)							
	F-2N	1/8" Female NPT			27.2(1.07)	29.9(1.18)							
	M-2N	1/8" Male NPT			29.9(1.18)	29.9(1.18)							
	S-4T	1/4" S-LOK	4.2(0.165)	0.63	37.6(1.48)	37.2(1.48)							
	M-4N	1/4" Male			34.3(1.35)	29.9(1.18)							
SFBV2-3B	S-3M	3mm S-LOK	2.2(0.086)	0.18	34.8(1.37)	36.4(1.36)							
	S-2T	1/8" S-LOK	2.4(0.093)	0.21	41.9(1.65)	45.5(1.79)							
	S-4T	1/4" S-LOK	4.8(0.189)	0.70	44.2(1.74)	47.8(1.88)							
	F-4N	1/4" Female NPT	5.0(0.196)	0.87	38.4(1.51)	41.9(1.65)							
	M-4N	1/4" Male NPT			41.1(1.62)	44.7(1.76)							
	S-6T	3/8" S-LOK	5.0(0.196)	0.87	45.7(1.80)	49.3(1.94)							
	M-6N	3/8" Male NPT			41.1(1.62)	44.7(1.76)							
	S-6M	6mm S-LOK	4.8(0.189)	0.70	44.5(1.75)	47.8(1.88)							
SFBV3-3B	S-8M	8mm S-LOK			45.2(1.78)	48.5(1.91)							
	S-10M	10mm S-LOK	5.0(0.196)	0.87	46.0(1.81)	49.5(1.95)							
	F-6N	3/8" Female NPT			49.5(1.95)	58.2(2.29)							
	F-8N	1/2" Female NPT			54.6(2.15)	63.2(2.49)							
	S-8T	1/2" S-LOK	10.3(0.406)	3.62	59.4(2.34)	68.1(2.68)							
	M-8N	1/2" Male NPT			56.4(2.22)	65.8(2.59)							
	S-12T	3/4" S-LOK				68.1(2.68)							
	S-12M	12mm S-LOK	9.5(0.375)	3.46	59.2(2.33)	67.8(2.67)							
SFBV3-3B	S-16M	16mm S-LOK	10.3(0.406)	3.62	56.9(2.33)	65.5(2.67)							

Dimensions are for reference only and are subject to change. Dimensions with S-LOK nuts are in finger-tight position.

• Flow Rate

Pressure Drop to Atmosphere (Δp) in psi		Cv										
		0.06	0.18	0.21	0.63	0.7	0.87	0.93	2.34	3.46	3.62	6.42
Air SCFM @70°F (21°C)	10	5.9	17.7	20.7	62.0	68.9	85.6	91.5	230.3	340.6	356.3	631.9
	50	13.2	39.6	46.2	138.7	154.1	191.5	204.7	515.0	781.5	796.7	1413.0
	100	18.7	56.0	65.4	196.1	217.9	270.8	289.5	728.3	1077.0	1126.8	1998.3
Water US GPM @60°F (16°C)	10	0.2	0.6	0.7	2.0	2.2	2.8	2.9	7.4	10.9	11.4	20.3
	50	0.4	1.3	1.5	4.5	4.9	6.2	6.6	16.5	24.5	25.6	45.4
	100	0.6	1.8	2.1	6.3	7.0	8.7	9.3	23.4	34.6	36.2	64.2

* Flow rate calculated with 1000psig (69bar) inlet pressure.

* To determine m³/hr multiply GPM by 0.227 and SCFM by 1.69

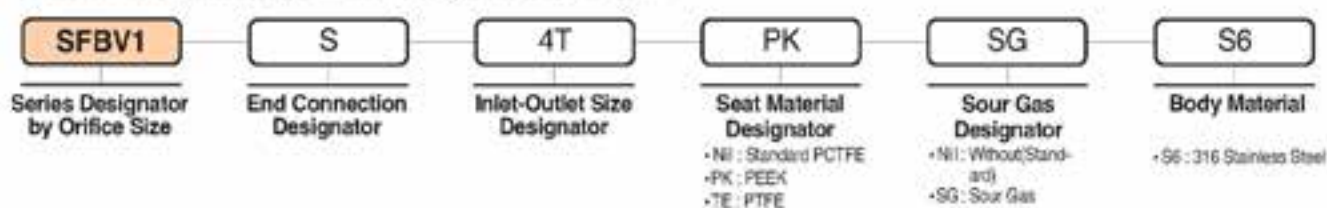
Technical Data-Pressure and Temperature Rating

Seat Materials	Pressure Rating @ 100°F (70°C)	Temperature Rating	Pressure Rating @ Max Temperature
PCTFE	6,000psig (413bar)	-54°C to 177°C (-65°F to 350°F)	1,000psig @ 350°F (69bar @ 177°C)
PEEK	6,000psig (413bar)	-54°C to 232°C (-65°F to 450°F)	700psig @ 450°F (48bar @ 232°C)
PTFE	1,500psig (103bar)	-54°C to 177°C (-65°F to 350°F)	250psig @ 350°F (17.2bar @ 177°C)

Caution: Pressure Rating with 3-way side ports of as inlet : 150psig (10bar)

Ordering Information

Selection the applicable options from designators listed below.



※ CNG / NGV Service

- To order CNG / NGV Service, insert the designator "C" to the valve ordering number.
 - Seat Material's PEEK standard.
- ex) SFBVC1-S-4T-S6

SAFETY in VALVE SELECTION

When selecting a valve, the total system design must be considered to ensure safe, trouble-free performance. Valve function, materials compatibility, adequate ratings, proper installation, operation, and maintenance are the responsibility of the system designer and user.

■ STBV60 Series up to 6000 psi

■ STBVC Series CNG/NGV Valves up to 3770 psi

Features

- Working pressure up to 6,000psi(413bar)@100°F(38°C).
- Compact, maximum flow design.
- Panel mountable as standard.
- Handle indicates flow direction.
- Low torque actuation.
- 2-way "Shut-up" and 3-way "Switching" type.
- Various end connections : include S-LOK Tube Fittings, NPT / ISO male & female.
- Optional sour gas service to NACE MR 0175.
- Every valve is 100% factory tested.



Technical Data

Valve Series	Seat Material	Temperature Rating °C (°F)	Pressure Rating @38°C (100°F)
STBV60	PCTFE	-17 to 121 (0 to 250)	6,000psig (413bar)
	PEEK	-17 to 232 (0 to 450)	6,000psig (413bar)
	PTFE		1,500psig (103bar)

Testing

- The rated pressure shown above is the maximum allowable pressure to the seat. If the system requires higher pressure to test, the valve must be in open position before and during test so as not to damage the seat.
- Every valve is factory tested for bubble - tight leakage at both seat and stem packing with nitrogen at 1000psi(69bar).
- Hydraulic shell test is performed at 1.5times the working pressure.
- Seats have a maximum allowable leak rate of 0.1 SCCM.
- Optional tests are available upon request.

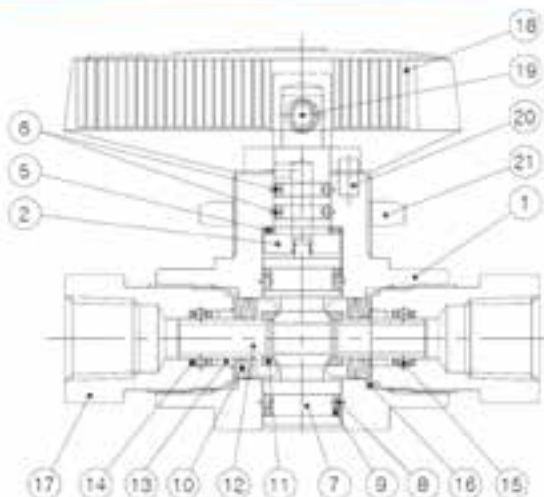
CNG / NGV Information

- STBVC Series valve provides leak - tight integrity in both low and high pressure systems in CNG and NGV applications. Valves with peek seat and HNBR O-ring are compatible with CNG fluid.

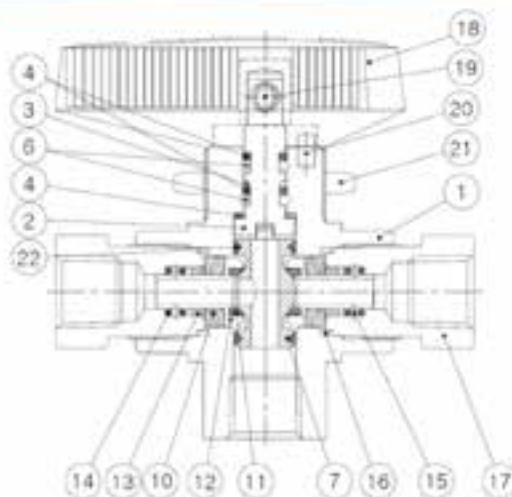
Valve Series	Certificates	ECE R110	ANSI NGV 3.1-2012	ISO 15500
STBVC Series 2-Way	Certificate No.	110R-010333	126840AUT14	126840MECH103
	Classification	Class 0	Manual valve	Manual valve
	Temperature	-40 to 120 °C (-40 to 248 °F)	-40 to 120 °C (-40 to 248 °F)	-40 to 120 °C (-40 to 248 °F)
	Working Pressure	260 bar @ 120°C	248 bar @ 120°C	260 bar @ 120°C
STBVC Series 3-Way	Certificate No.	110R-000184	110R-000184	110R-000184
	Classification	Class 0	Manual valve	Manual valve
	Temperature	-40 to -120°C (-40 to 248 °F)	-40 to -120°C (-40 to 248 °F)	-40 to -120°C (-40 to 248 °F)
	Working Pressure	260 bar @ 38°C	260 bar @ 38°C	260 bar @ 38°C

Materials of Construction

STBV60 & STBVC 2-Way



STBV60 & STBVC 3-Way

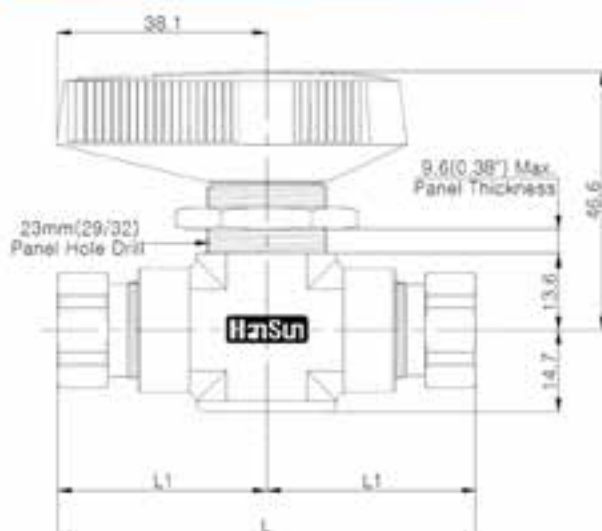


Item	Description	STBV60 Series		STBVC Series	
		2-Way	3-Way	2-Way	3-Way
		Grade/ASTM Specification			
1	Body	S316 / A276 or A479			
2	Stem*	S316 / A276 or A479			
3	Stem Support Ring*	-	PEEK	-	PEEK
4	Stem Backup Ring*	-	PTFE	-	PTFE
5	Stem Bearing*	PEEK			
6	Stem O-Ring*	FKM		HNBR	
7	Trunnion Ball*	S316 / A276 or A479			
8	Ball O-Ring*	FKM	-	HNBR	-
9	Ball Backup Ring*	PTFE	-	PTFE	-
10	Disc Spring*	Alloy X-750 / AMS 5542			
11	Seat*	PCTFE, optional PTFE, PEEK		PEEK	
12	Seat Carrier*	S316 / A276 or A479			
13	Seat Carrier Guide*	S316 / A276 or A479			
14	Seat Carrier Backup Ring*	PTFE			
15	Seat Carrier O-Ring*	FKM		HNBR	
16	End Connector Packing*	PTFE / D1710, Type1			
17	End Connector	S316 / A276 or A479			
18	Handle*	Phenolic with brass insert			
19	Set Screw*	S316			
20	Stop Pin	S316			
21	Lock Nut	S316 / A276 or A479			
22	Slip Ring*	-	PTFE	-	PTFE

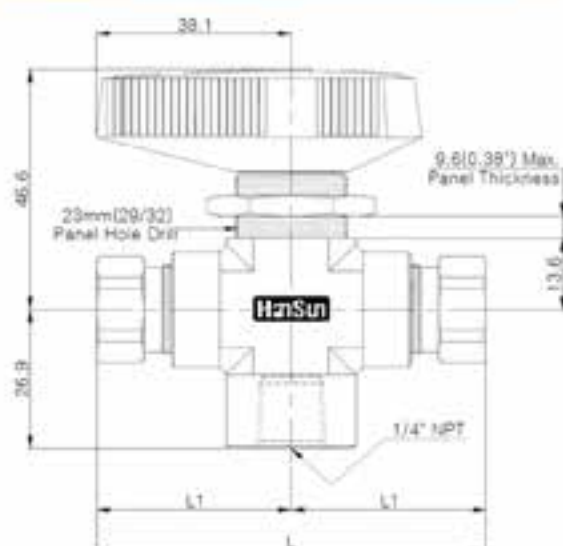
*Service kits contain part

Table of Dimensions

STBV60 & STBVC 2-Way



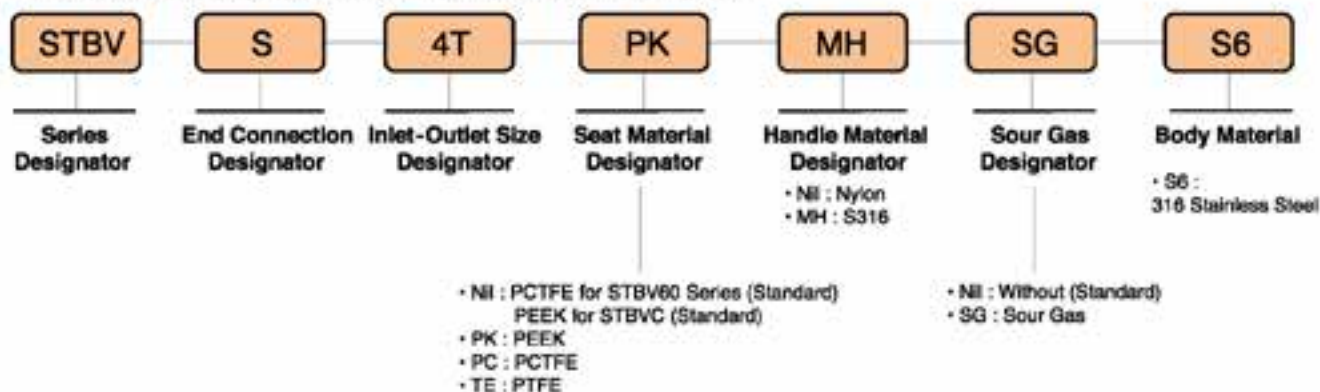
STBV60 & STBVC 3-Way



2-Way Valve Orifice 4.75mm (0.187 in.)					
STBV60 Series Ordering Numbers	End Connection		Cv	Dimensions mm (in.)	
	Inlet	Outlet		L	L1
STBV /STBVC	F-2N	1/8" Female NPT	1.2	76.2 (3)	38.1 (1.5)
	F-4N	1/4" Female NPT	1	76.2 (3)	38.1 (1.5)
	-	1/4" Female NPT	1	99.8 (3.93)	50 (1.97)
	F-8N	1/2" Female NPT	1.2	108 (4.25)	54.1 (2.13)
	S-4T	1/4" S-LOK	1.6	105 (4.14)	52.6 (2.07)
	S-6T	3/8" S-LOK	1.4	112 (4.41)	55.6 (2.19)
	S-8T	1/2" S-LOK	1	117 (4.6)	58.4 (2.3)
	S-6M	6mm S-LOK	1.6	105 (4.14)	52.6 (2.07)
	S-8M	8mm S-LOK	1.5	105 (4.14)	52.6 (2.07)
	S-10M	10mm S-LOK	1.3	112 (4.41)	55.9 (2.2)
	S-12M	12mm S-LOK	1	117 (4.6)	58.4 (2.3)
3-Way Valve Orifice 4.75mm (0.187 in.)					
STBV-3B /STBVC-3B	F-2N	1/8" Female NPT	0.75	76.2 (3)	38.1 (1.5)
	F-4N	1/4" Female NPT		76.2 (3)	38.1 (1.5)
	-	1/4" Female NPT		99.8 (3.93)	50 (1.97)
	S-4T	1/4" S-LOK		105 (4.14)	52.6 (2.07)
	S-6T	3/8" S-LOK		112 (4.41)	55.6 (2.19)
	S-8T	1/2" S-LOK		117 (4.6)	58.4 (2.3)
	S-6M	6mm S-LOK		105 (4.14)	52.6 (2.07)
	S-8M	8mm S-LOK		105 (4.14)	52.6 (2.07)
	S-10M	10mm S-LOK		112 (4.41)	55.9 (2.2)
	S-12M	12mm S-LOK		117 (4.6)	58.4 (2.3)

Ordering Information

• Selection of the applicable options from the designators are listed below.



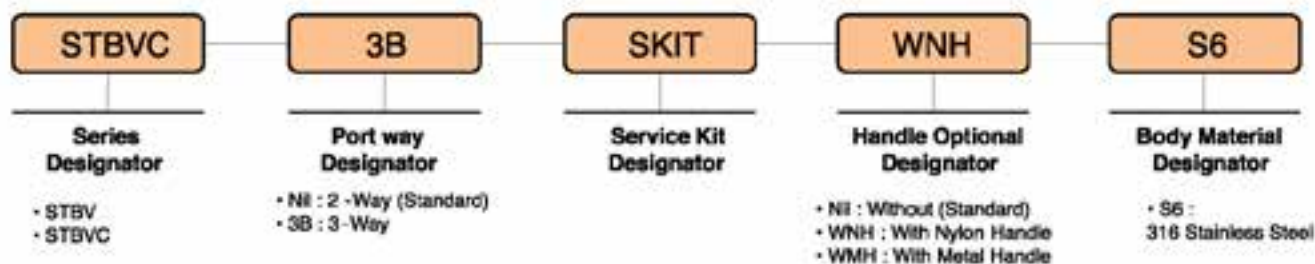
Safety in Valve Selection

- When selecting a valve, the total system design must be considered to ensure safe, trouble - free performance.
- Valve function, materials compatibility, adequate ratings, proper installation, operation, and maintenance are the responsibility of the system designer and user.

Service Kit

Service kits contain components of the same materials as new components.

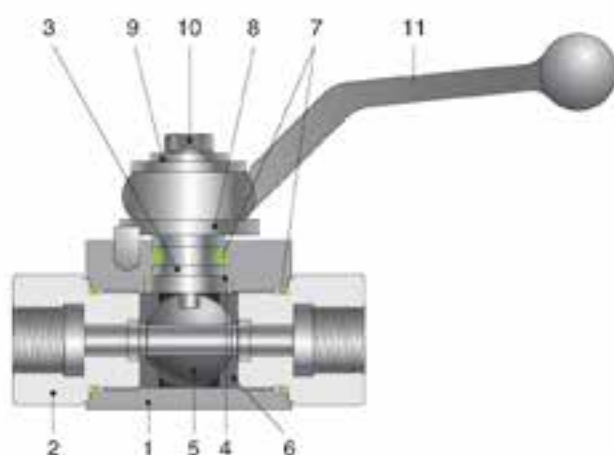
To order the service kit, selection of the applicable options from the designators are listed mark(*) of 3page.



SDBV Series Ball Valves for DIN Standard

Features

- Pressure rating up to 500barg @ 21°C
- Temperature rating from -20°C to 100°C with POM and FKM(Viton) standard.
- Conforms to DIN standard.
- Compact design with maximum orifice.
- Variety of end connections such as DIN 2353 "L" & "S" series, Male & Female DIN / ISO/ BSP and NPT threads.
- Handle is only available in cast stainless steel standard.
- Every valve is 100% factory tested with the Nitrogen @ 1,000psig (68barg)



Materials of Construction

Description		Grade / Specification
1	Body	S316/A479 or A276 DIN 17440/14571
2	End Connector	
3	Stem	
4	Stem Bearing	PTFE
5	Ball	S316/A479 or A276 DIN 17440/14571
6	Ball Seats	POM – MoS2 (Standard)
7	Stem & End Seals	Fluorocarbon FKM O-ring
8	Locking Device	Stainless Steel
9	Upper Washer	Stainless Steel
10	Bolt	Stainless Steel
11	Handle	S316

Temperature Rating

Seals

Materials	Temperature Rating
NBR	-23 °C to 121 °C
FKM	-23 °C to 200 °C
EPDM	-46 °C to 149 °C

Ball Seats

Materials	Temperature Rating
POM – MoS2	-30 °C to 100 °C
PTFE	-54 °C to 65 °C

Test

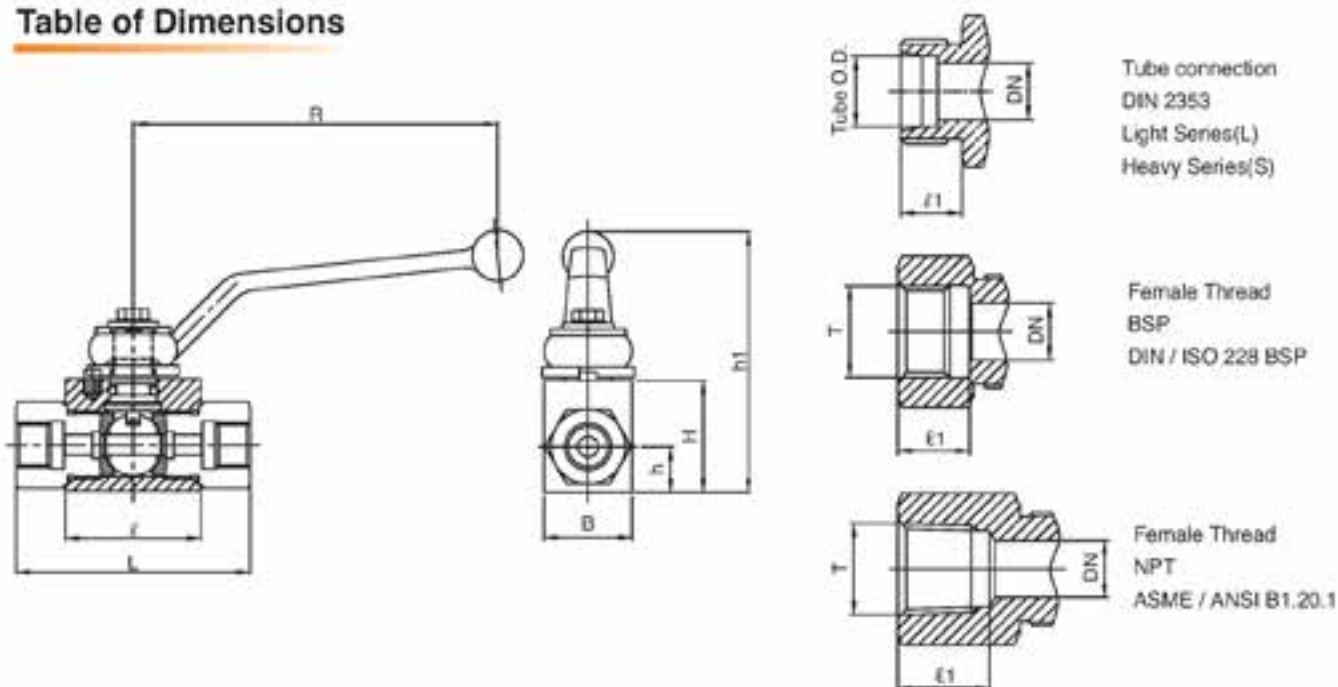
- Every valve is factory tested with bubble-tight leakage test at both seat and stem packing with nitrogen at 1,000psig (69barg)
- Hydraulic shell test is performed at 1.5 times the working pressure.
- Seats have a maximum allowable leakage rate of 0.1 SCCM Optional tests are available upon request

Safety in Valve Selection

When selecting a valve, the total system design must be considered to ensure safe, trouble-free performance. Valve function, materials compatibility, adequate ratings, proper installation, operation, and maintenance are the responsibility of the system designer and user.

Product Information

Table of Dimensions



DIN 2353 Light(L) Tube Series

Basic Ordering Number	End Connections Inlet & Outlet	DN	PB	Dimensions (mm)								Weight (kg)
				B	H	h	h1	L	q	q1	R	
SDBV1 - 6L	6MM	4	315	26	33	13.5	82	67	40	10	115	0.4
SDBV1 - 8L	8MM	6	315	26	33	13.5	82	67	40	10	115	0.4
SDBV1 - 10L	10MM	6	315	26	33	13.5	82	74	40	11	115	0.5
SDBV2 - 12L	12MM	10	315	32	38	17.5	87	74	43	11	115	0.6
SDBV3 - 15L	15MM	13	315	35	40	19	89	82	48	12	115	0.7
SDBV3 - 18L	18MM	13	315	35	40	19	89	82	48	12	115	0.8
SDBV4 - 22L	22MM	20	160	49	57	24.5	114	101	62	14	159	2.1
SDBV5 - 28L	28MM	25	160	58	65	29.5	122	108	66.2	14	159	2.3
SDBV5 - 35L	35MM	25	160	58	65	29.5	122	112	66.2	16	159	2.3

DIN 2353 Heavy (S) Tube Series

Basic Ordering Number	End Connections Inlet & Outlet	DN	PB	Dimensions (mm)								Weight (kg)
				B	H	h	h1	L	q	q1	R	
SDBV1 - 8S	8MM	4	500	26	33	13.5	82	73	40	12	115	0.4
SDBV1 - 10S	10MM	6	500	26	33	13.5	82	73	40	12	115	0.4
SDBV2 - 12S	12MM	6	500	32	38	13.5	82	76	43	12	115	0.5
SDBV2 - 14S	14MM	10	500	32	38	17.5	87	80	43	14	115	0.6
SDBV3 - 16S	16MM	13	400	35	40	19	89	86	48	14	115	0.7
SDBV3 - 20S	20MM	13	400	35	40	19	89	90	48	16	115	0.8
SDBV4 - 25S	25MM	20	315	49	57	24.5	114	109	62	18	159	2.1
SDBV5 - 30S	30MM	25	315	58	65	29.5	122	120	66.2	20	159	2.3
SDBV5 - 38S	38MM	25	315	58	65	29.5	122	124	66.2	22	159	2.3

Product Information

Female DIN / ISO 228 / BSP

Basic Ordering Number	End Connections	DN	PB	Dimensions (mm)								Weight (kg)
	Inlet & Outlet			B	H	h	h1	L	q	q1	R	
SDBV1-F-2G	PF 1/8	6	500	26	33	13.5	82	68.8	40	10	115	0.4
SDBV1-F-4G	PF 1/4	6	500	26	33	13.5	82	68.8	40	14	115	0.4
SDBV2-F-6G	PF 3/8	10	500	32	38	17.5	87	71.9	43	14	115	0.6
SDBV3-F-8G	PF 1/2	13	500	35	40	19	89	82.3	48	16.5	115	0.7
SDBV4-F-12G	PF 3/4	20	315	49	57	24.5	114	95.4	62	18	159	1.6
SDBV5-F-16G	PF 1	25	315	58	65	29.5	122	112.7	66.2	20	159	2.3
SDBV6-F-20G	PF 1 1/4	32	315	75	82	37.5	165	121.6	68	22	260	4.36
SDBV7-F-24G	PF 1 1/2	38	315	95	99.1	47.5	182	130.2	85	24	260	6.8
SDBV8-F-32G	PF 2	50	315	115	115.2	57.5	198	140	100	26	260	9.44

Female NPT (ANSI/ASME B1.20.1)

Basic Ordering Number	End Connections	DN	PB	Dimensions (mm)								Weight (kg)
	Inlet & Outlet			B	H	h	h1	L	q	q1	R	
SDBV1-F-4N	NPT 1/4	6	500	26	33	13.5	82	68.8	40	15	115	0.4
SDBV2-F-6N	NPT 3/8	10	500	32	38	17.5	87	78	43	15	115	0.6
SDBV3-F-8N	NPT 1/2	13	500	35	40	19	89	104	48	20.5	115	0.7
SDBV4-F-12N	NPT 3/4	20	315	49	57	24.5	114	102	62	21.5	159	1.6
SDBV5-F-16N	NPT 1	25	315	58	65	29.5	122	119	66.2	25.4	159	2.3
SDBV6-F-20N	NPT 1 1/4	32	315	75	82	37.5	165	-	68	-	260	-
SDBV7-F-24N	NPT 1 1/2	38	315	95	99.1	47.5	182	-	85	-	260	-
SDBV8-F-32N	NPT 2	50	315	115	115.2	57.5	198	-	100	-	260	-

Applications

- Hydraulic fluids, compressed air, lubricants, and fuel oil system.

Sour Gas Service

- Is provided to meet NACE Standard MR0175.

Ordering Information

- Selection of the applicable options from the designators are listed below.

SDBV3	F	4G	TE	NB	LD	SG	S6
Basic Ordering Number	End Connection Designator	Size Designator	Ball Seat Material Designator	Stem & End Seal Material Designator	Locking Device Designator	Sour Gas Designator	Material Designator
	- F : Female Thread - M : Male Thread - T : Tube Connection		- NI : Standard POM-MoS2 - TE : PTFE	- NI : Standard FKM - NB : NBR - EP : EPDM	- NI : Without (Standard) - LD : With	- NI : Without (Standard) - SG : Sour Gas	- S6 : S316 - CS : Carbon Steel

■ SPV Series Plug Valves

Features

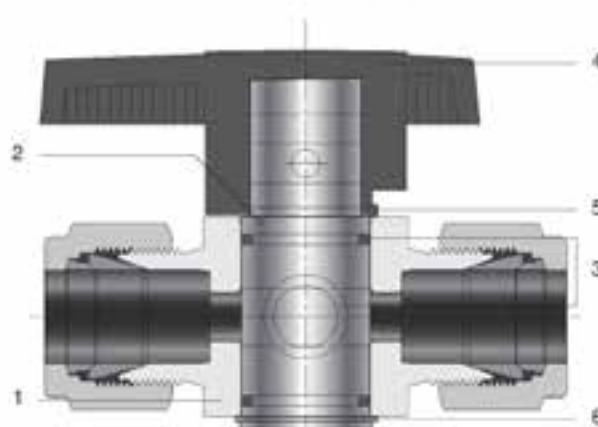
- Pressure rating up to 3,000psig(206barg) @70°F(21°C)
- Temperature rating from -10 °F to 400°F(-23°C to 204°C) with PTFE coated Viton Seal
- Small and compact design
- Easy maintenance and cleaning
- Sizes available up to 1/2" tube and pipe
- Body materials available in 316 stainless steel and brass



Material of Construction

Component	Valve Body Materials	
	Stainless Steel	Brass
	Grade/ASTM Specification	
1. Body	S316/ A479 or A276	Brass / B16
2. Plug	PTFE-coated S316/ A479 or A276	PTFE-coated Brass / B16
3. O-ring	PTFE-coated Viton Standard	
4. Handle	Nylon	
5. Pin	S316/A276	
6. Snap ring	Stainless Steel	

- Wetted parts and lubricants listed in Red.



Pressure-Temperature Rating

Series	Valve Material	Pressure Rating		Temperature Rating	Plug Orifice mm (in.)
		Psig	Barg		
SPV1	S316	3,000	206	-10 to 400 °F (-23 to 204 °C)	4.4 (.17)
	Brass				
SPV2	S316	2,000	137		7.2 (.28)
	Brass				

- Differential pressure is limited to maximum 150 psig (10.3barg) when reverse flow occurs.
- Throttling reverse flow may damage O-ring.

Testing

- Every valve is factory tested for shut off at 600psig (41barg)

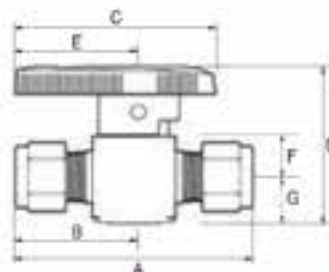
Optional O-ring Material

O-ring material	Temperature Range
Standard PTFE - coated Viton	-20 to 400°F(-28 to 204°C)
PTFE - coated NBR	-68 to 221°F(-20 to 105°C)
PTFE - coated EPDM	-49 to 275°F(-45 to 135°C)

- PTFE - coated Viton is standard. Choose optional O-ring material for fluid compatibility and system temperatures.

Product Information

Ordering Information and Dimensions



Basic Ordering Number	End Connections		Dimensions mm (inches)							
	Inlet	Outlet	A	B	C	D	E	F	G	H
SPV1	S-2T	1/8 S-Lok	50.5 (1.99)	19.8 (0.78)	47.8 (1.88)	38.6 (1.52)	29.0 (1.14)	9.4 (0.37)	11.7 (0.46)	19.1 (0.75)
	S-4T	1/4 S-Lok	55.1 (2.17)							
	S-6T	3/8 S-Lok	58.2 (2.29)							
	S-6M	6mm S-Lok	55.1 (2.17)							
	M-2N	1/8 M NPT	38.9 (1.53)							
	M-4N	1/4 M NPT	48.3 (1.90)							
	MS-4N4T	1/4 M NPT 1/4 S-Lok	51.2 (2.03)							
	MF-4N	1/4 M NPT 1/4 F NPT	50.8 (2.00)							
	F-2N	1/8 F NPT	45.2 (1.78)							
	F-4N	1/4 F NPT	53.1 (2.09)							
SPV2	F-4R	1/4 F ISO tapered	56.1 (2.21)	29.0 (1.14)	63.2 (2.49)	54.1 (2.13)	38.1 (1.50)	14.2 (0.56)	16.8 (0.66)	28.4 (1.12)
	S-6T	3/8 S-Lok	67.6 (2.66)							
	S-8T	1/2 S-Lok	73.2 (2.88)							
	S-8M	8mm S-Lok	67.6 (2.66)							
	S-10M	10mm S-Lok	68.1 (2.68)							
	S-12M	12mm S-Lok	75.2 (2.96)							
	M-8N	1/2 M NPT	67.1 (2.64)							
	F-6N	3/8 F NPT	60.5 (2.38)							
	F-8N	1/2 F NPT	73.2 (2.88)							
	F-8R	1/2 ISO F Tapered	79.8 (3.14)							

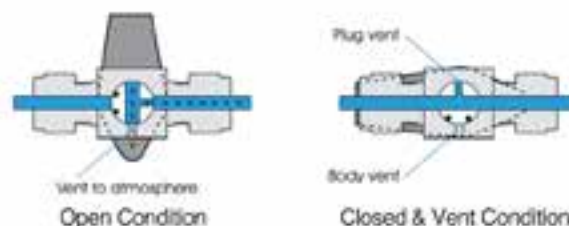
Operation

- S-LOK plug valves provide positive shut-off, high flow capacity, and quick quarter-turn operation.
- S-LOK plug valve provides flow throttling capability.



Downstream Vent

- S-LOK plug valves provide positive shut-off, high flow capacity, and quick quarter-turn operation.
- S-LOK plug valve provides flow throttling capability.



Product Information

Flow Rate

Basic Ordering Number		End Connections		Cv	Pressure Drop in the Atmosphere, psi (bar)					
		Inlet	Outlet		Air Flow, std ft3/min (L/min)			Water Flow, US gal/min(L/min)		
					@70 °F (21 °C)					
					1 (0.068)	5 (0.34)	10 (0.68)	1 (0.068)	5 (0.34)	10 (0.68)
SPV1	S-2T	1/8 S-Lok		0.1	0.3 (8.4)	0.8 (22)	1.1 (31)	0.1 (0.37)	0.2 (0.75)	0.3 (1.1)
	S-4T	1/4 S-Lok		1.6	6.0 (169)	13 (368)	18 (509)	1.6 (6.0)	3.6 (13.6)	5.1 (19.3)
	S-6T	3/8 S-Lok		1.1	4.1 (116)	8.9 (252)	12.4 (351)	1.1 (4.1)	2.5 (9.4)	3.5 (13.2)
	S-6M	6mm S-Lok		1.6	6.0 (169)	13 (368)	18 (509)	1.6 (6.0)	3.6 (13.6)	5.1 (9.3)
	M-2N	1/8 M NPT		1.0	3.7 (104)	8.1 (229)	11.3 (320)	1.0 (3.7)	2.2 (8.3)	3.2 (12.1)
	M-4N	1/4 M NPT								
	MS-4N4T	1/4 M NPT	1/4 S-Lok	0.9	3.3 (93)	7.3 (206)	10.1 (286)	0.9 (3.4)	2.0 (7.5)	2.8 (10.8)
	MF-4N	1/4 M NPT	1/4 F NPT	1.0	3.7 (104)	8.1 (229)	11.3 (320)	1.0 (3.7)	2.2 (8.3)	3.2 (12.1)
	F-2N	1/8 F NPT		1.2	4.4 (124)	9.7 (274)	13.5 (382)	1.2 (4.5)	2.7 (10.2)	3.8 (14.3)
	F-4N	1/4 F NPT		0.9	3.3 (93)	7.3 (206)	10.1 (286)	0.9 (3.4)	2.0 (7.5)	2.8 (10.8)
F-4R	1/4 F ISO tapered									
SPV2	S-6T	3/8 S-Lok		6.4	23.9 (676)	52.0 (1,470)	72.3 (3,040)	6.4 (24.2)	14.3 (54.1)	20.2 (76.4)
	S-8T	1/2 S-Lok		4.4	16.4 (464)	35.7 (1,010)	49.7 (1,400)	4.4 (16.6)	9.8 (37.0)	13.9 (52.6)
	S-8M	8mm S-Lok		6.4	23.9 (676)	52.0 (1,470)	72.3 (2,040)	6.4 (24.2)	14.3 (54.1)	20.2 (76.4)
	S-10M	10mm S-Lok								
	S-12M	12mm S-LOK		4.8	17.9 (506)	39.0 (1,100)	54.2 (1,530)	4.8 (18.1)	10.7 (40.4)	15.2 (57.5)
	M-8N	1/2 M NPT		2.4	9.0 (254)	19.5 (552)	27.1 (767)	2.4 (9.0)	5.4 (20.4)	7.6 (28.7)
	F-6N	3/8 F NPT		4.3	16.0 (453)	34.9 (988)	48.6 (1,370)	4.3 (16.2)	9.6 (36.3)	13.6 (51.4)
	F-8N	1/2 F NPT		2.7	10.1 (286)	21.9 (620)	30.5 (863)	2.7 (10.2)	6.0 (22.7)	8.5 (32.1)
	F-8R	1/2 ISO F Tapered								

Ordering Information

- Select the desired valve's basic ordering number, option and body material.

SPV1-M-4N

Series
Designator

- Basic Ordering Number

EP

O-ring Material
Designator

- Nil : PTFE-coated Viton
- NB : PTFE-coated NBR
- EP : PTFE-coated EPDM

VH

Downstream Vent
Option

- Nil : no vent
- VH : Vent

S6

Body Material
Designator

- S6, S316
- BS: Brass

Safe Valve Selection

- The selection of a valve for any application or system design must be considered to ensure safe performance. Valve function, valve rating, material compatibility, proper installation, operation and maintenance remain the sole responsibility of the system designer and the user. S-LOK accepts no liability for any improper selection, installation, operation or maintenance.



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The Best Partner
for Value Creation

S-LOK® Filters

HanSun

한선엔지니어링(주)
HANSUN ENGINEERING CO., LTD.



Product Information

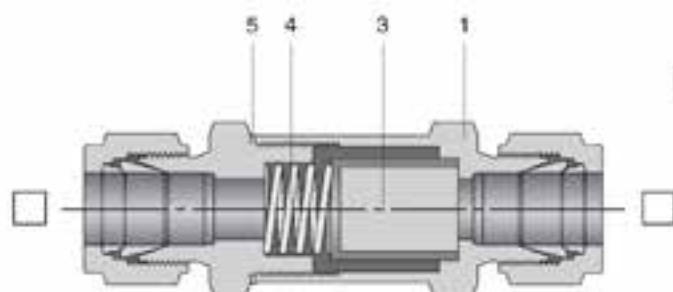
SFI30 In-Line Filters, SFT60 Tee Filters

Features

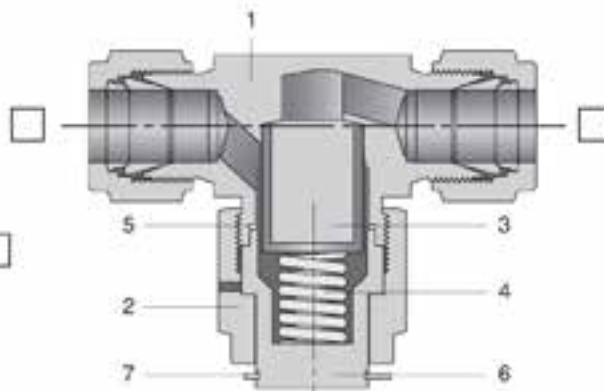
- Trapping fine contamination to maintain system purity
- Gas and liquid filtration
- Standard micron filtering ranges : 0.5, 2, 7, 15, 60 and 90 microns
- Replaceable S316 sintered elements
- S316 and Brass body construction
- Choice of reliable S-Lok, NPT & ISO pipe end connections
- Heat Code Traceability



SFI30 In-Line Filters	SFT60 Tee Filters
• In-line filters are applicable where space is limited and elements don't have to be replaced often. • Compact in-line design with large filtration area • Maximum working pressure 3,000 psig @100°F (206 bar @38°C)	• Filter Element replaceable with the valve in-line. • Safety union bonnet design for high pressure rating • Optional Bypass for sampling or purging of process fluid. • Maximum working pressure 6,000 psig@100°F (413 bar @38°C)



SFI30 In-Line Filters



SFT60 Tee Filters

Materials of Construction

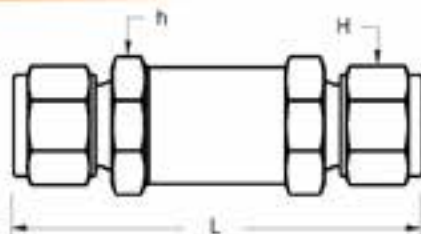
Component		SFI30		SFT60	
		Grade/ASTM/Specification			
1	Body	S316/A276	Brass/B16	S316/A276	Brass/B16
2	Nut	-	-	S316/A276	Brass/B16
3	Sintered Element	S316			
4	Spring	S302			
5	Gasket	S316/A240 silver plated			
6	Cap	-	-	S316/A276	Brass/B16
7	Retainer Ring	-	-	Stainless Steel	

Filtration & Terminology

- **Filter Element** : The component within the Filter which traps media contamination.
- **Filtration Area** : The actual surface area of the filter element available to trap contamination.
- **Micron** : A unit of measure to describe the mean pore diameter of the filter element or the mean particle diameter of media contamination.
One micron = 0.001mm or 0.00004 inch

Product Information

SFI Series In-Line Filter



Basic Ordering Number	End Connections Inlet and Outlet	Orifice inch (mm)	Dimensions mm (in.)		
			L	H	h
SFI1	S-2T- 1/8 in. S-LOK	0.09 (2.4)	59.7(2.35)	7/16	9/16
	F-2N- 1/8 in. Female NPT		54.9(2.16)	-	
	S-3M- 3mm S-LOK		60.5(2.38)	12 mm	
SFI2	S-4T- 1/4 in. S-LOK	0.19 (4.7)	74.9(2.95)	9/16	3/4
	M-4N- 1/4 in. Male NPT		68.3(2.69)	-	
	F-4N- 1/4 in. Female NPT		72.9(2.87)	-	
	S-6M- 6mm S-LOK		75.2(2.96)	14mm	
SFI3	M-8N- 1/2 in. Male NPT	0.28 (7.1)	81.3(3.20)	1-1/16	1
	S-8T- 3/8 in. S-LOK		81.5(3.21)		
SFI4	S-8T- 1/2 in. S-LOK	0.41 (10.3)	88.6(3.49)	7/8	1

All dimensions shown are for reference only and are subject to change.
Dimensions with S-Lok nuts are in finger-tight position.

Flow Capacities

Filter Series	Nominal Pore Micron	P		
		20 psig	60 psig	120 psig
SFI1 Series	05	0.01	0.44	0.13
	2	0.11	0.26	0.14
	7	0.14	0.33	0.53
	15	0.17	0.39	0.64
	60	0.21	0.55	0.77
	90	0.28	0.55	0.66
SFI2 Series	05	0.06	0.19	0.32
	2	0.34	0.94	1.42
	7	0.57	1.42	2.19
	15	0.71	1.42	2.30
	60	1.27	3.61	5.04
	90	1.70	4.60	6.68
SFI3 Series	05	0.13	0.44	0.83
	2	0.37	1.20	1.75
	7	0.91	2.41	3.83
SFI4 Series	15	1.19	2.85	4.49
	60	2.83	7.34	10.95
	90	3.25	8.32	12.05

Technical Information of Sintered Elements

- Stainless steel 316 sintered
- High heat resistance and thermal stability up to 1,500°F (815°C).
- High permeability with low-pressure drop.
- Shape-stability with self-supporting structural elements.
- Suitable for compression, vibration, and high impulse pressure.
- Precise filtration due to the exact and uniform pore size and distribution.
- Chemical resistance against acids and caustic solutions in various ranges of pH.

Element Designator	Nominal Pore Size, μ m	Pore Size Range, μ m	Element Porosity	Cv Factor	Max. Pressure Differential Across Clean Filters at 70°F (21°C)
05	0.5	0.5-2	17%	0.046	1160 psig (80 bar)
2	2	1-4	22%	0.056	
7	7	5-10	27%	0.12	
15	15	11-25	36%	0.13	
60	60	50-75	44%	0.38	
90	90	75-110	45%	0.50	

Element Replacement

- The sintered elements don't permit the contaminants in the gas and liquid to pass through the elements when they are bigger than the pore size of micron.
- Contaminants are trapped by element pores and it results in pressure buildup.
- Contamination comes earlier when flow volume is high and media is not clean.
- The filtering elements need to be replaced for the pressure drop as well as its system purity.

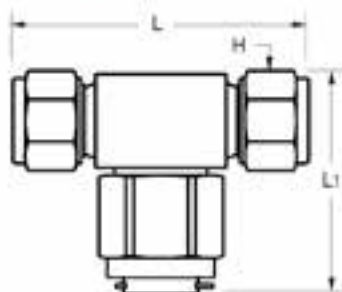
Note: Clean filter valve components whenever the element is replaced.

Product Information

Technical Information

Filter Series	Pressure Rating @100 °F(38 °C) psig (bar)		Temperature Rating °F(°C)		Filtration Area with Sintered Element inch ² (mm ²)
Body Material	S316	Brass	S316	Brass	
SFI1	3,000(206)	3,000(206)	-20 to 900 (-28 to 482)	-20 to 300 (-28 to 148)	0.55(350)
SFI2					1.30(830)
SFI3,SFI4	2,500(172)	2,000(137)			1.98(1280)

SFT Series Tee Filters



Ordering Information and Dimensions

Basic Ordering Number	End Connections Inlet and Outlet	Orifice inch (mm)	Dimensions,mm (in.)		
			L	L ₁	H
SFT1	F-2N 1/8 in. Female NPT	0.17 (4.4)	50.8(2.00)	47.5 (1.87)	-
	S-2T 1/8 in. S-LOK		27.7(2.27)		7/16
	S-4T 1/4 S-LOK		62.7(2.47)		9/16
	M-4N 1/4 Male NPT		54.1(2.13)		-
	F-4N 1/4 Female NPT		54.1(2.13)		-
SFT2	S-6M 6mm S-LOK	0.21 (5.4)	62.5(2.46)	56 (2.20)	14mm
	S-6T 3/8 S-LOK		72.1(2.84)		11/16
	S-8M 8mm S-LOK		72.1(2.84)		16mm
	M-6N 3/8 Male NPT		60.5(2.38)		-
SFT3	S-10M 10mm S-LOK	0.25 (6.4)	72.6(2.86)	56 (2.20)	19mm
	S-12M 12mm S-LOK		77.2(3.04)		22mm
	S-8T 1/2 S-LOK		77.2(3.04)		7/8
	M-8N 1/2 in. Male NPT		68.9(2.75)		-

All dimensions shown are for reference only and are subject to change.
Dimensions with S-Lok nuts are in finger-tight position.

Technical Information

Filter Series	Pressure Rating @100 °F(38 °C) psig (bar)		Temperature Rating °F(°C)		Filtration Area with Sintered Element inch ² (mm ²)
Valve Material	S316	Brass	S316	Brass	
SFT1,SFT2	6,000(413)	2,000(137)	-20 to 900 (-28 to 482)	-20 to 300 (-28 to 148)	1.3(830)
SFT3	6,000(413)	2,000(137)	-20 to 900 (-28 to 482)	-20 to 300 (-28 to 148)	1.98(1280)

Flow Capacities

Filter Series	Nominal Pore Micron	P		
		20 psig Water GPM @ 70°F (21°C)	60 psig	120 psig
SFT1-F-2N	05	0.01	0.44	0.13
	2	0.11	0.26	0.14
	7	0.14	0.33	0.53
	15	0.17	0.39	0.64
	60	0.21	0.55	0.77
SFT1-S-2T	90	0.28	0.55	0.66
	05	0.06	0.19	0.32
	2	0.34	0.94	1.42
	7	0.57	1.42	2.19
	15	0.71	1.42	2.30
SFT1-S-4T	60	1.27	3.61	5.04
	90	1.70	4.60	6.68
	05	0.13	0.44	0.83
SFT1-M-4N	2	0.37	1.20	1.75
	7	0.91	2.41	3.83
	15	1.19	2.85	4.49
SFT1-F-4N	60	2.83	7.34	10.95
	90	3.25	8.32	12.05

Ordering Information

- Select desired basic ordering number, element designator, option and body material listed below.

SFI1-S-4T
SFT1-S-6T

7

BF2N

S6

Series Designator	Sintered Element		By-pass	Body Material
Basic Ordering Number	Element Designator	Nominal Micron	- Nil: No By-pass option - BF2N: 1/8 in. Female NPT - BF4N: 1/4 in. Female NPT	- S6 : S316 - BS : Brass
	05	0.5		
	2	2		
	7	7		
	15	15		
	60	60		
	90	90		
	NE	Filter with no element		

SFT Series Tee Filter CNG / NGV Certifications

Certificates	ECE R110	ANSI NGV 3.1 - 2012	ISO 15500
Certificate No.	110R-010334	126841AUT15	126841MECH104
Classification	Class 0	Manual valve	Manual valve
Temperature	-40 to 120°C (-40 to 248°F)	-40 to 120°C (-40 to 248°F)	-40 to 120°C (-40 to 248°F)
Working Pressure	260 bar @ 120°C	248 bar @ 120°C	260 bar @ 120°C





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S-LOK® Bleed & Purge Valves

HanSun

한선엔지니어링(주)
HANSUN ENGINEERING CO., LTD.



SBLV Series 10000psi Bleed Valves

Features

- Pressure rating up to 10,000psi(689bar)@100°F(38°C).
- Back stop screw prevents from the accidental removal of stem.
- Stem is Hard Chrome Plated for maximum service life.
- Size range from 1/8" to 1/2" Tubing and piping system.
- Variety of End connections include S-LOK, NPT & ISO pipe threads Male/ Female

Applications

- S-LOK bleed valve is designed to use on instrumental fluidhandling apparatus such as manifolds and gauge root valves in order to vent signal line pressure to atmosphere before disassemble of an instrument or to facilitate in calibration of control device.



Material of construction

Description	Body Materials/ASTM and JIS Spec.		
	S316	Carbon Steel	Alloy 400
Body	S316 A276 or A479	S45C	Monel 400 / B164
Stem		S316 A276 or A479	
Back Stop Screw			
Vent Tube	S316 A213 or A269		Monel 400 / B165

Technical Data

Material	Temperature Rating	Pressure Rating
S316	-65 to 850°F (-54 to 454°C)	10,000psi(689bar) At 100°F(38°C)
Carbon Steel	-20 to 450°F (-29 to 232°C)	
Alloy 400	-65 to 500°F (-54 to 260°C)	

CNG / NGV Certifications

Valve Series	Certificates	ECE R110	ANSI/NGV 3.1-2012	ISO 15500
SBLV Series	Certificate No.	110R-126838	126838AUT13	126838MECH102
	Classification	Class 0	Manual valve	Manual valve
	Temperature	-40 to 120°C (-40 to 248°F)	-40 to 120°C (-40 to 248°F)	-40 to 120°C (-40 to 248°F)
	Working Pressure	260 bar @ 120°C	248 bar @ 120°C	260 bar @ 120°C

Ordering Information

Description	End Connection	Orifice mm. (Cv)	Dimensions inch(mm)				
			A	B	L1	H	F
SBLV-M-2N	1/8" Male NPT	3.2 (0.25)	0.31(7.9)	0.75(19.1)	0.91(23.0)	5/8(15.87)	2.0 (50.8)
SBLV-M-4N	1/4" Male NPT						
SBLV-M-6N	3/8" Male NPT						
SBLV-M-8N	1/2" Male NPT		0.44(11.1)	0.88(22.5)	1.03(26.2)	7/8(22.2)	

• Dimensions are for reference only, subject to change

Testing

- Every Bleed valve is factory tested with Nitrogen@1,000psig(69bar) for leakage at the seat to a maximum allowable leak rate of 0.1 SCCM.



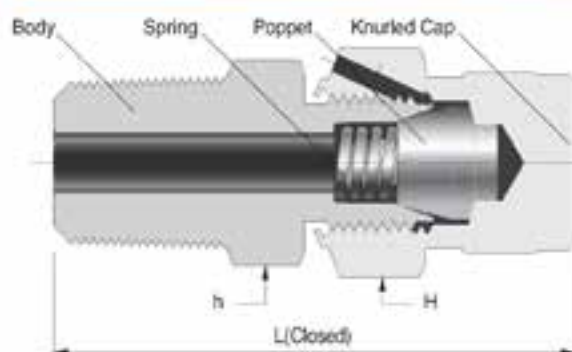
SPUV Series Purge Valves

Features

- Pressure rating up to 4,000psig(275bar) for 316 stainless steel and up to 3,000 psig(206bar) for Carbon Steel and Brass at 100°F(38°C)
- Temperature rating from -65°F to 600°F(-54°C to 315°C) with Stainless Steel, from -65°F to 400°F(-54°C to 204°C) with carbon steel, from -20°F to 350°F(-29°C to 177°C) with brass.
- Vent hole bleeds excessive liquid or gas from the system lines.
- Knurled cap is crimped to valve body to prevent an accidental removal of the body.
- Size range from 1/8" thru 1/2" tubing and piping system.
- Variety of end connections including S-LOK tube fittings, male/female NPT and ISO, SAE threads.



Material of Construction



Description	Body Materials		
	Grade/ ASTM Specification		
	S316	Carbon Steel	Brass
Body	S316 A276 or A479	Carbon Steel	Brass
Knurled Cap			
Poppet	S316 A276 or A479		
Spring	S302		

Table of Dimension

Basic Part Number	Inlet End Connection	Dimensions			
		L		h	H
		in.	mm	in.	mm
SPUV	F -2N 1/8 Female NPT	1.56	35.3	9/16	14.28
	F -4N 1/4 Female NPT	1.75	39.8	3/4	19.05
	F -6N 3/8 Female NPT	1.81	41.6	7/8	22.22
	F -8N 1/2 Female NPT	1.98	46.5	1-1/16	26.98
	M -2N 1/8 Male NPT	1.62	36.8	1/2	12.7
	M -4N 1/4 Male NPT	1.81	41.9	9/16	14.28
	M -6N 3/8 Male NPT	1.84	42.4	11/16	17.46
	M -8N 1/2 Male NPT	2.09	48.7	7/8	22.22
	M -4U 1/4in, 7/16-20	1.69	38.0	9/16	14.28
	M -8U 1/2in, 3/4-16	1.81	41.6	7/8	22.22
	S -2T 1/8 S-LOK	1.84	42.6	1/2	12.7
	S -4T 1/4 S-LOK	1.94	44.9	1/2	12.7
	S -6T 3/8 S-LOK	2.03	47.2	5/8	15.87
	S -8T 1/2 S-LOK	2.19	51.0	13/16	20.64
	S -6M 6mm S-LOK	1.94	45.0	-	14.0
	S -8M 8mm S-LOK	2.0	46.3	-	15.0
	T -4T 1/4 Tube Stub	1.87	43.2	1/2	12.7
	T -6T 3/8 Tube Stub	1.94	44.6	1/2	12.7
	T -8T 1/2 Tube Stub	2.15	50.3	9/16	14.28

CNG / NGV Certifications

Valve Series	Certificates	ECE R110	ANSI NGV 3.1 - 2012	ISO 15500
SPUV Series	Certificate No.	110R-126838	126838AUT13	126838MECH102
	Classification	Class 0	Manual valve	Manual valve
	Temperature	-40 to 120°C (-40 to 248°F)	-40 to 120°C (-40 to 248°F)	-40 to 120°C (-40 to 248°F)
	Working Pressure	260 bar @ 120°C	248 bar @ 120°C	260 bar @ 120°C

Option

- PTFE Poppet
PTFE poppet provides leak tight shut-off with finger Pressure rating up to 200 psig (13.7bar) at 100°F (37°C) Temperature rating up to 300°F (176°C)
To order, add designator-P as a suffix to the basic part number.
Example : SPUV-S-2N-P-S6
Caution: When installing a S-LOK purge valves, the vent hole should be positioned not to influence the system fluid on operators. As the vent hole turns with the cap, discharging the valve is executed by turning the cap and be sure that purge valves should be always opened slowly in order to protect operators from exposure to hazardous system fluids.

Applications

S-LOK Purge valves are for bleed, vent or drain purpose annually. The knurled cap is not separable from the valve body for safety purpose. 1/4 turns of wrench pull-up from finger tight gives leak-free closure on first make-up. Proper tightening with a wrench secures for the closer rate to the desired pressure rate with sufficient make-ups.

How to Order

Use S6 for 316 stainless steel, CS for carbon steel, or BS for brass as a suffix to the basic part number. Example: SPUV-S-2T-S6



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for Value Creation

S-LOK® Quick Connectors

HanSun

한선엔지니어링(주)
HANSUN ENGINEERING CO., LTD.

NEW RANGE



Product Information

SQCT Series

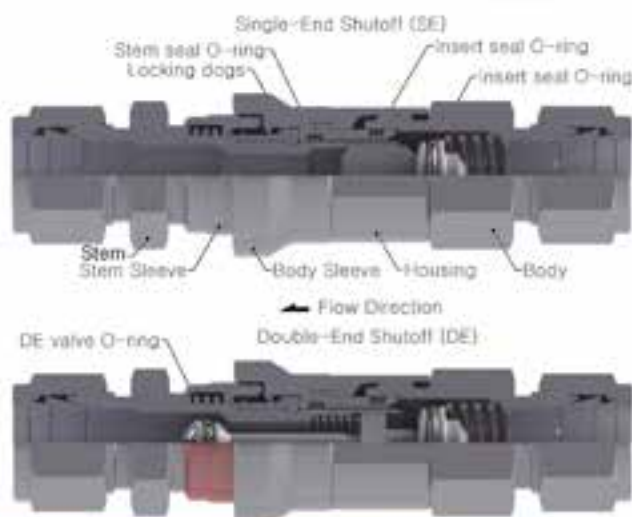
Features

- Quick and easy operation
- Coupling and Uncoupling without tools.
- The stems are connected to the body of the same series and size.
- When coupled, the valve opens automatically.
- When uncoupled, the valve automatically closes.
- Single-End Shut-off (SE) stems are open while separated from the body.
- Double-End Shut-off (DE) stems shut off while separated from the body.



Operation

- Coupling : After aligning the stem and body, push the stem into the body.
- Uncoupling : Pull the body sleeve toward stem and remove the stem from the body.
- Couple and uncouple the quick connectors at room temperature.
- Relubricate stem seal O-rings periodically.



Materials of Construction

Component	Material	
	S316	Brass
Body, Body insert, Body sleeve Housing, Stem, Valve	S316	Brass
DE stem sleeve	Polyurethane enamel-coated S316	Polyurethane enamel-coated Brass
SE stem sleeve	S316	Brass
O-rings	FKM, FFKM, EPDM	NBR
Locking dogs	PTFE coated powdered S316	
Springs	Stainless Steel	
Snap rings	Stainless Steel	

Product Information

SQCT Series

Pressure – Temperature Ratings

Material	S316			BRASS		
Series	SQCT1	SQCT2	SQCT3	SQCT1	SQCT2	SQCT3
Temperature °F(°C)	Pressure Rating, psig (bar)					
Coupled						
70 (20)	3000 (206)	1500 (103)	750 (51.6)	2000 (137)	1000 (68.9)	500 (34.4)
250 (121)	1850 (127)	970 (66.8)	520 (35.8)	300 (20.6)	300 (20.6)	300 (20.6)
300 (148)	1400 (96.4)	750 (51.6)	440 (30.3)	-	-	-
400 (204)	500 (34.4)	400 (27.5)	300 (20.6)	-	-	-
500 (260)	150 (10.3)	150 (10.3)	150 (10.3)	-	-	-
Uncoupled and When Coupling and Uncoupling						
70 (20)	250 (17.2)					

O-ring Materials & Temperature Ratings

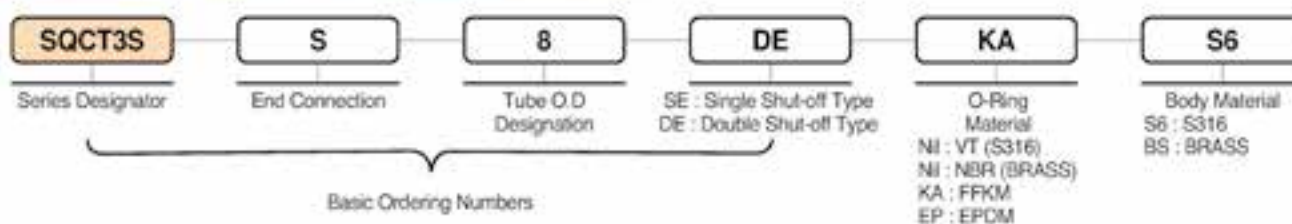
Designator	Material	Temperature Rating
VT	FKM	10°F (-23°C) to 400°F (204°C)
KA	FFKM	60°F (15°C) to 500°F (260°C)
EP	EPDM	-50°F (-45°C) to 300°F (148°C)
NBR	NBR	0°F (-17°C) to 250°F (121°C)

Spillage, Air Inclusion and Maximum Flow Rate @ 70°F (20°C)

Series	Spillage cm ³	Air Inclusion cm ³	Water Flow L/min
SQCT1	0.3	0.3	15
SQCT2	1.0	1.0	22
SQCT3	3.0	3.0	37

- Spillage is the amount of system fluid that escapes when a quick connector is uncoupled (DE only).
- Air inclusion is the amount of air trapped between the body and stem that enters the system when a quick connector is coupled (DE only).

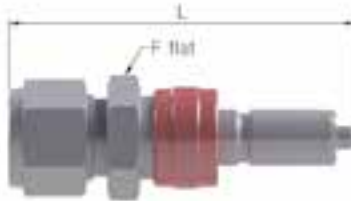
Ordering Information



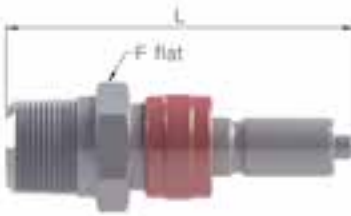
Ordering Information and Dimensions

SQCT Series

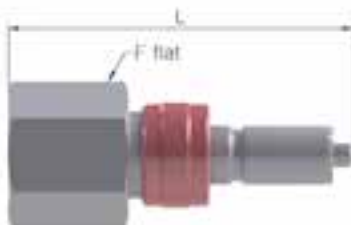
► Stems



Fitting Size	Basic Ordering Numbers		Series	Flow Coefficient (Cv)			Dimensions		
	SE	DE		SE	DE	Full Flow	L, in. (mm)		F, in.
							SE	DE	
1/8	SQCT1S-S-2-SE	SQCT1S-S-2-DE	SQCT1	0.08	0.08	0.08	2.32 (58.9)	2.77 (70.4)	5/8
1/4	SQCT1S-S-4-SE	SQCT1S-S-4-DE	SQCT1	0.3	0.2	0.4	2.36 (59.9)	2.42 (61.5)	5/8
3/8	SQCT2S-S-6-SE	SQCT2S-S-6-DE	SQCT2	1.0	0.5	1.5	2.52 (64.0)	2.64 (67.1)	3/4
1/2	SQCT3S-S-8-SE	SQCT3S-S-8-DE	SQCT3	2.4	1.5	3.3	2.96 (75.2)	3.16 (80.3)	15/16
6mm	SQCT1S-S-6M-SE	SQCT1S-S-6M-DE	SQCT1	0.3	0.2	0.4	2.36 (59.9)	2.42 (61.5)	5/8
10mm	SQCT2S-S-10M-SE	SQCT2S-S-10M-DE	SQCT2	1.0	0.5	1.5	2.66 (67.3)	2.77 (70.4)	3/4
12mm	SQCT3S-S-12M-SE	SQCT3S-S-12M-DE	SQCT3	2.4	1.5	3.3	2.96 (75.2)	3.16 (80.3)	15/16



Fitting Size	Basic Ordering Numbers		Series	Flow Coefficient (Cv)			Dimensions		
	SE	DE		SE	DE	Full Flow	L, in. (mm)		F, in.
							SE	DE	
1/8 NPT	SQCT1S-M-2N-SE	SQCT1S-M-2N-DE	SQCT1	0.3	0.2	0.4	2.07 (52.6)	2.13 (54.1)	5/8
1/4 NPT	SQCT1S-M-4N-SE	SQCT1S-M-4N-DE	SQCT1	0.3	0.2	0.4	2.22 (56.4)	2.28 (57.9)	5/8
1/4 NPT	SQCT2S-M-4N-SE	SQCT2S-M-4N-DE	SQCT2	0.9	0.5	1.5	2.32 (58.9)	2.44 (61.9)	3/4
3/8 NPT	SQCT2S-M-6N-SE	SQCT2S-M-6N-DE	SQCT2	0.8	0.5	1.6	2.35 (59.7)	2.47 (62.7)	3/4
1/2 NPT	SQCT3S-M-8N-SE	SQCT3S-M-8N-DE	SQCT3	2.0	1.3	3.1	2.84 (72.1)	3.04 (77.2)	15/16
1/4 PT	SQCT1S-M-4R-SE	SQCT1S-M-4R-DE	SQCT1	0.3	0.2	0.4	2.22 (56.4)	2.28 (57.9)	5/8
3/8 PT	SQCT2S-M-6R-SE	SQCT2S-M-6R-DE	SQCT2	0.8	0.5	1.6	2.35 (59.7)	2.47 (62.7)	3/4
1/2 PT	SQCT3S-M-8R-SE	SQCT3S-M-8R-DE	SQCT3	2.0	1.3	3.1	2.84 (72.1)	3.04 (77.2)	15/16

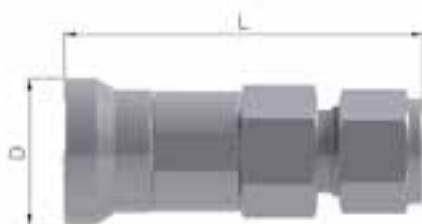


Fitting Size	Basic Ordering Numbers		Series	Flow Coefficient (Cv)			Dimensions		
	SE	DE		SE	DE	Full Flow	L. in. (mm)		F. in.
							SE	DE	
1/8 NPT	SQCT1S-F-2N-SE	SQCT1S-F-2N-DE	SQCT1	0.3	0.2	0.4	2.01 (51.1)	2.07 (52.6)	5/8
1/4 NPT	SQCT1S-F-4N-SE	SQCT1S-F-4N-DE	SQCT1	0.3	0.2	0.4	2.26 (57.4)	2.32 (58.9)	3/4
1/4 NPT	SQCT2S-F-4N-SE	SQCT2S-F-4N-DE	SQCT2	0.9	0.5	1.5	2.35 (59.7)	2.47 (62.7)	3/4
3/8 NPT	SQCT2S-F-6N-SE	SQCT2S-F-6N-DE	SQCT2	0.8	0.5	1.6	2.35 (59.7)	2.47 (62.7)	7/8
1/2 NPT	SQCT3S-F-8N-SE	SQCT3S-F-8N-DE	SQCT3	2.0	1.3	3.1	2.82 (71.6)	3.02 (76.7)	1 1/16
1/4 PT	SQCT1S-F-4R-SE	SQCT1S-F-4R-DE	SQCT1	0.3	0.2	0.4	2.26 (57.4)	2.32 (58.9)	3/4
3/8 PT	SQCT2S-F-6R-SE	SQCT2S-F-6R-DE	SQCT2	0.8	0.5	1.6	2.35 (59.7)	2.47 (62.7)	7/8
1/2 PT	SQCT3S-F-8R-SE	SQCT3S-F-8R-DE	SQCT3	2.0	1.3	3.1	2.82 (71.6)	3.02 (76.7)	1 1/16

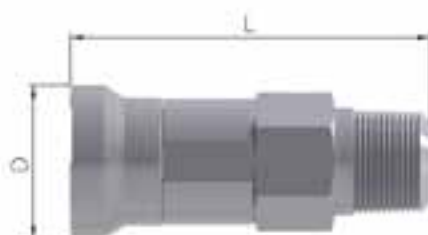
Ordering Information and Dimensions

SQCT Series

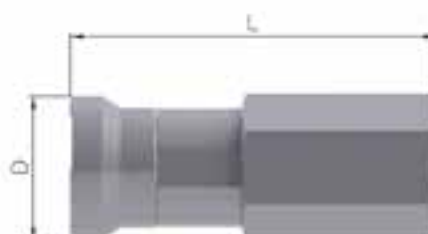
► Bodies



Fitting Size	Basic Ordering Numbers	Series	Dimensions, in. (mm)	
			L	D
1/8	SQCT1B-S-2	SQCT1	2.26 (57.4)	0.91 (23.1)
1/4	SQCT1B-S-4	SQCT1	2.30 (58.4)	0.91 (23.1)
3/8	SQCT2B-S-6	SQCT2	2.58 (65.5)	1.03 (26.2)
1/2	SQCT3B-S-8	SQCT3	3.09 (78.5)	1.21 (30.7)
6mm	SQCT1B-S-6M	SQCT1	2.30 (58.4)	0.91 (23.1)
10mm	SQCT2B-S-10M	SQCT2	2.68 (68.1)	26.2 (1.03)
12mm	SQCT3B-S-12M	SQCT3	3.09 (78.5)	1.21 (30.7)



Fitting Size	Basic Ordering Numbers	Series	Dimensions, in. (mm)	
			L	D
1/8 NPT	SQCT1B-M-2N	SQCT1	2.01 (51.1)	0.91 (23.1)
1/4 NPT	SQCT1B-M-4N	SQCT1	2.16 (54.9)	0.91 (23.1)
1/4 NPT	SQCT2B-M-4N	SQCT2	2.38 (60.5)	1.03 (26.2)
3/8 NPT	SQCT2B-M-6N	SQCT2	2.38 (60.5)	1.03 (26.2)
1/2 NPT	SQCT3B-M-8N	SQCT3	2.97 (75.4)	1.21 (30.7)
1/4 PT	SQCT1B-M-4R	SQCT1	2.16 (54.9)	0.91 (23.1)
3/8 PT	SQCT2B-M-6R	SQCT2	2.38 (60.5)	1.03 (26.2)
1/2 PT	SQCT3B-M-8R	SQCT3	2.97 (75.4)	1.21 (30.7)

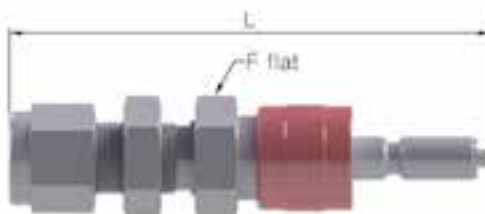


Fitting Size	Basic Ordering Numbers	Series	Dimensions, in. (mm)	
			L	D
1/8 NPT	SQCT1B-F-2N	SQCT1	2.16 (54.9)	0.91 (23.1)
1/4 NPT	SQCT1B-F-4N	SQCT1	2.42 (61.5)	0.91 (23.1)
1/4 NPT	SQCT2B-F-4N	SQCT2	2.54 (64.5)	1.03 (26.2)
3/8 NPT	SQCT2B-F-6N	SQCT2	2.57 (65.3)	1.03 (26.2)
1/2 NPT	SQCT3B-F-8N	SQCT3	3.22 (81.8)	1.21 (30.7)
1/4 PT	SQCT1B-F-4R	SQCT1	2.42 (61.5)	0.91 (23.1)
3/8 PT	SQCT2B-F-6R	SQCT2	2.57 (65.3)	1.03 (26.2)
1/2 PT	SQCT3B-F-8R	SQCT3	3.22 (81.8)	1.21 (30.7)

Ordering Information and Dimensions

SQCT Series

► Bulkhead Stems & Bodies



Fitting Size	Basic Ordering Numbers		Series	Dimensions, in. (mm)				
	SE	DE		L		F, in.	Max. Panel Thickness	Min. Panel Hole Dia.
				SE	DE			
1/4	SQCT1S-BH-S-4-SE	SQCT1S-BH-S-4-DE	SQCT1	2.74 (69.6)	2.80 (71.1)	5/8	0.25 (6.4)	15/32 (11.9)
3/8	SQCT2S-BH-S-6-SE	SQCT2S-BH-S-6-DE	SQCT2	2.92 (74.2)	3.07 (78.0)	3/4	0.27 (6.9)	19/32 (15.1)
1/2	SQCT3S-BH-S-8-SE	SQCT3S-BH-S-8-DE	SQCT3	3.43 (87.1)	3.63 (92.2)	15/16	0.26 (6.6)	25/32 (19.8)
6mm	SQCT1S-BH-S-6M-SE	SQCT1S-BH-S-6M-DE	SQCT1	2.74 (69.6)	2.80 (71.1)	5/8	0.25 (6.4)	15/32 (11.9)
10mm	SQCT2S-BH-S-10M-SE	SQCT2S-BH-S-10M-DE	SQCT2	3.06 (77.7)	3.10 (78.7)	3/4	0.27 (6.9)	21/32 (16.7)
12mm	SQCT3S-BH-S-12M-SE	SQCT3S-BH-S-12M-DE	SQCT3	3.43 (87.1)	3.63 (92.2)	15/16	0.26 (6.6)	49/64 (19.6)



Fitting Size	Basic Ordering Numbers	Series	Dimensions, in. (mm)			
			L	D	Max. Panel Thickness	Min. Panel Hole Dia.
1/4	SQCT1B-BH-S-4	SQCT1	2.67 (67.8)	0.91 (23.1)	0.25 (6.4)	15/32 (11.9)
3/8	SQCT2B-BH-S-6	SQCT2	2.98 (75.7)	1.03 (26.2)	0.27 (6.9)	19/32 (15.1)
1/2	SQCT3B-BH-S-8	SQCT3	3.56 (90.4)	1.21 (30.7)	0.26 (6.6)	25/32 (19.8)
6mm	SQCT1B-BH-S-6M	SQCT1	2.67 (67.8)	0.91 (23.1)	0.25 (6.4)	15/32 (11.9)
10mm	SQCT2B-BH-S-10M	SQCT2	2.99 (75.9)	26.2 (1.03)	0.27 (6.9)	21/32 (16.7)
12mm	SQCT3B-BH-S-12M	SQCT3	3.56 (90.4)	1.21 (30.7)	0.26 (6.6)	49/64 (19.6)

Color coded “Keyed” Quick Connector

SQCT Series

Features

- Keyed Quick Connectors prevents accidental mixing of other lines in a system using multiple liquids or pressures.
- When coupling unlike keyed quick connector, it is not coupled.
- Stems and bodies are categorized by color and number so that they can be easily identified.



SQCT Series Key Numbers and Sleeve Outside Diameter

Key Color	Key Number And Designator	Dimensions, in. (mm)					
		SQCT1		SQCT2		SQCT3	
		Body	Stem	Body	Stem	Body	Stem
Black	K1	0.96 (24.4)	0.82 (20.8)	1.13 (28.7)	0.99 (25.1)	1.26 (32.0)	1.10 (27.9)
Orange	K2	0.99 (25.1)	0.85 (21.6)	1.16 (29.5)	1.02 (25.9)	1.29 (32.8)	1.14 (29.0)
Green	K3	1.02 (25.9)	0.88 (22.4)	1.19 (30.2)	1.05 (26.7)	1.32 (33.5)	1.17 (29.7)
Yellow	K4	1.05 (26.7)	0.91 (23.1)	1.22 (31.0)	1.08 (27.4)	1.3 (35.1)	1.23 (31.2)
Blue	K5	1.08 (27.4)	0.94 (23.9)	1.24 (31.5)	1.11 (28.2)	1.38 (35.1)	1.23 (31.2)
White	K6	1.11 (28.2)	0.97 (24.6)	1.28 (32.5)	1.14 (29.0)	1.41 (35.8)	1.26 (32.0)
Purple	K7	1.14 (29.0)	1.00 (25.4)	1.31 (33.3)	1.17 (29.7)	1.44 (36.6)	1.29 (32.8)
Brown	K8	1.17 (29.7)	1.03 (26.2)	1.34 (34.0)	1.20 (30.5)	1.47 (37.3)	1.32 (33.5)

How to Order

- Add the Key number as a suffix to the SQCT series ordering number. Examples: SQCT1B-S-4T-K1-S6.