Tools and Accessories

Hand Tube Benders

HTB Series

- Can bend stainless steel or copper tubing, the outside diameter ranges from 1/4" to 1/2" and 6 mm to 12 mm.
- Roll dies reduce bending force and tube ovality, as compared to conventional slide block design.
- 1° to 180° bending range

Ordering Number	Tube O.D.	Bend Radius
HTB-4S	1/4"	0.56"
HTB-4	1/4"	0.75"
HTB-5	5/16"	0.94"
HTB-6	3/8"	
HTB-8	1/2"	1.5"
HTB-6M	6 mm	15 mm
HTB-8M	8 mm	24 mm
HTB-10M	10 mm	
HTB-12M	12 mm	38 mm
HTB-14M-L	14 mm	56 mm
HTB-16M-L	16 mm	

The hand tube bender can not be used for SAF 2507 tubing over 1/4" or for medium-pressure tubing.

Tube Cutters

Ordering Number: FTC-03,FTC-04,FTC-05

- For cutting stainless steel, copper, and aluminum tubing
- For cutting 1/8" to 2 5/8" and 3 mm to 65 mm outside diameter tubing

Tube Deburring Tools

Ordering Number: TDT-01,TDT-03,TDT-05

- For deburring tubing made from stainless steel, steel, and copper materials
- For deburring 1/8" to 1 1/4"and 3 mm to 32 mm outside diameter tubing

Hydraulic Presetting Tools

Ordering Numbers: HPT-03 (for 1/2" to 1"and 12 mm to 25 mm tubing)
HPT-05 (for 1 1/4" to 2" and 28 mm to 50 mm tubing)

- For installation of 1/2" to 2" and 12 mm to 50 mm tube fittings
- Used to install carbon steel, stainless steel, and alloy steel tube fittings
- Manually operated hydraulic pump, without requirement for power or compressed air
- Flexible hose connection between the pump and jig to assure easy and comfortable operation
- Sturdy plastic package for easy carrying
- Total weight of 6 kg
- Overall dimensions (without handle) of 320 mm x 250 mm x 150 mm

Manual Presetter Tools

MPT Series

For tube fitting installations in close quarters, the presetter tool is a convenient accessory cooperating with table vice, the presetter can make installation easier and more credible.

- For 1/2" to 1" and 12 mm to 25 mm tube fittings

Gap Inspection Gauges

GIG Series

On initial installation of tube fittings, installer or inspector can use gap inspection gauge to check whether a fitting has been sufficiently tightened and eliminate the latent danger of leakage for the system.

- For all metal fittings, sizes from 1/2" to 1" and 12 mm to 25 mm

Simple | Individual Sizes | Multiple Sizes

Universal Adapters Cases

- Carefully selected adapters, hoses, and gaskets in one case for convenience
- Customer specified adapters available

Ordering Numbers:
ZR45K-65P: 65 standard pieces inside
ZR45K-65PC: 65 customer specified pieces inside
ZR25K-30P: 30 standard pieces inside
ZR25K-30PC: 30 customer specified pieces inside

Other Elements

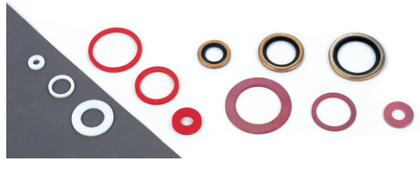
Stainless Steel Seamless Tubing

Material Standards

Grade	UNS Designation	ASTM	ASME
316/316L	S31600/S31603	A269 A213	SA213
304/304L	S31400/S31403		
321	S32100		

Example:
Fractional: 6L-ST8-049-12-MP-A269
Metric: 6L-ST12M-1.0-2M-MP-A269

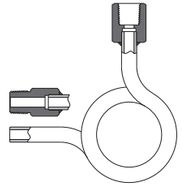
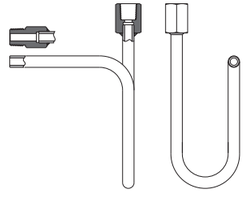
Gaskets and O-rings

Configuration	Gasket Type	Example
	RS Gasket	CSB-RS-8
	RP Gasket	CU-RP-6
	RG Gasket	CU-RG-4

Configuration	O-ring Type	Example
	70 durometer NBR	BN7-116
	90 durometer FKM	VI9-912

Syphons

- Working pressures up to 6000 psig (414 bar)
- Working temperatures up to 800°F (427°C)
- 316 SS, 304 SS, and 321 SS materials

Configuration	Type	Example
	WS Series	SS-WS-FNS8-MTB14
	LWS Series	S4-LWS-FNS8-MTB14
	UWS Series	S1-UWS-FNS8-MTB14

Pressure Gauge

All Stainless Steel Pressure Gauge

GA Series

- 63 mm and 100 mm dial sizes are available.
- The accuracy is according to ASME B40.1, EN 837-1, JIS B7505.
- High pressure measurement up to 100 Mpa.
- 14x1.5, 20x1.5 Male Metric Thread, 1/4", 1/2" Male NPT, 1/4", 3/8", 1/2", 6 mm, 10 mm, 12 mm tube adapter or other fitting types and sizes are availale.
- The degree of protection is IP65.
- Hermetically sealed construction.
- Tube adapter align the dial to the desired position.
- Lower Mount, Center-Back Mount and Lower-Back Mount are provided.
- Design is liquid fillable.

Note: Lower-Back Mount is applied only to 100 mm dial.

Solid-Front Stainless Steel Savety Gauge

GB Series

- 63 mm and 100 mm dial sizes are available.
- The accuracy is according to ASME B40.1, EN 837-1, JIS B7505.
- High pressure measurement up to 100 Mpa.
- 14x1.5, 20x1.5 Male Metric Thread, 1/4", 1/2" Male NPT, 1/4", 3/8", 1/2", 6 mm, 10 mm, 12 mm tube adapter or other fitting types and sizes are availale.
- The degree of protection is IP65.
- Solid front and blowout back for serere service.
- Tube adapter align the dial to the desired position.
- Lower Mount and Center-Back Mount are provided.
- Design is liquid fillable.

Stainless Steel Miniature Gauge

GC Series

- 40 mm and 50 mm dial sizes are available.
- The accuracy is according to ASME B40.1, EN 837-1, JIS B7505.
- 10x1, 14x1.5 Male Metric Thread, 1/8", 1/4" Male NPT, 1/4", 3/8", 6 mm, 10 mm tube adapter or other fitting types and sizes are availale.
- The degree of protection is IP65.
- Miniature size allows placement in compact spaces.
- Tube adapter align the dial to the desired position.
- Lower Mount and Center-Back Mount are provided.

Table of ranges

Dial Range, MPa		
Min	Max	Designator
Vacuum -0.1MPa	0	V0M
	0.06	V0.06M
	0.15	V0.15M
	0.3	V0.3M
	0.5	V0.5M
	0.9	V0.9M
	1.5	V1.5M
0	0.1	0.1M
	0.16	0.16M
	0.25	0.25M
	0.4	0.4M
	0.6	0.6M
	1	1M
	1.6	1.6M
	2.5	2.5M
	4	4M
	6	6M
	10	10M
	16	16M
	25	25M
	40	40M
	60	60M
	100	100M

Dial Range, bar		
Min	Max	Designator
Vacuum -1 bar	0	V0B
	0.6	V0.6B
	1.5	V1.5B
	3	V3B
	5	V5B
	9	V9B
	15	15B
0	1	1B
	1.6	1.6B
	2.5	2.5B
	4	4B
	6	6B
	10	10B
	16	16B
	25	25B
	40	40B
	60	60B
	100	100B
	160	160B
	250	250B
	400	400B
	600	600B
	1000	1000B

Dial Range, psi		
Min	Max	Designator
Vacuum -0.30 in.Hg	0	V0P
	15	V15P
	30	V30P
	60	V60P
	100	V100P
	160	V160P
	200	V200P
0	15	15P
	30	30P
	60	60P
	100	100P
	160	160P
	200	200P
	300	300P
	400	400P
	600	600P
	800	800P
	1000	1000P
	1500	1500P
	2000	2000P
	3000	3000P
	5000	5000P
	6000	6000P
	10000	10000P
	15000	15000P

Note: The maximum pressure value may be restricted to the end connection

Part Number Description

GA – A63 – FT4 – 6MP – SI

Series	Mount	Dial Size	Fitting Type	Fitting Size	Dial Range	Auxiliary Unit	Filled liquid
GA	Lower Mount	40 40 mm	MS Male Metric Thread	2 1/8"	See the Table of Ranges	No auxiliary	Unfilled
GB	A Lower-Back Mount	50 50 mm	NS Male NPT	4 1/4"		M The auxiliary unit is Mpa	GL Glycerin
GC	B Center-Back Mount	63 63 mm	FT Fractional Tube Adapter	6 6 mm or 3/8"		B The auxiliary unit is Bar	SI Silicone
		100 100 mm	MT Metruic Tube Adapter	8 1/2"		P The auxiliary unit is psi	
			Other fitting types are available	10 10 mm or 10x1			
				12 12 mm			
				14 14x1.5			
				20 20x1.5			
				Other fitting sizes are available			

Note: "Part Number Description" is used for composition rules of FITOK product model, Not suitable for specific product part number selection, not random combinations. If in doubt, please contact FITOK company or authorized agents.

Thermowells and Bosses

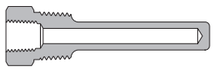
Thermowells

- FITOK thermowells provide reliable heat-transmission performance under high temperature, high pressure, and corrosive conditions.
- Rugged mechanical construction ensures resistance to distortion under sharp temperature fluctuation conditions.
- Straight, stepped, and tapered shank designs are available.
- Standard instrument connection is 1/2" NPT; other connections are available on request.
- Materials include 316 SS, 304 SS, 321 SS, carbon steel, brass, titanium, alloy C-276, and alloy 400/R-405.

TW Series

Example: SS-TW-FNS8-NS12-ST12-4-4

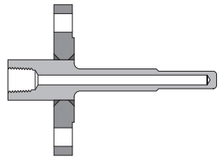
- Process connections: 1/2" to 1" NPT; other connections available on request
- Maximum working pressure: 6000 psig (414 bar)
- Temperature range: -65°F to 1200°F (-54°C to 649°C)



TF Series

Example: SS-TF-FNS8-RF16150-SP12-4-4.5

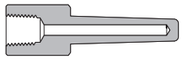
- Process connection: flange complying with ANSI B16.5
  Flange sizes: 1" to 2"
  Flange ratings: class 150 to 2500
  Flange types: raised face and flat face
- Welded flange-to-body construction



TS Series

Example: SS-TS-FNS8-TP-4-2.5

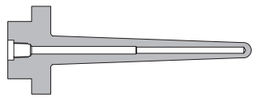
- Process connection: socket weld
- Maximum working pressure: 6000 psig (414 bar)
- Temperature range: -65°F to 1200°F (-54°C to 649°C)



TJ Series

Example: SS-TJ-FNS8-TP-4-11.8

- Process connection: flange
- Flange complying with ANSI B16.5
- Maximum working pressure: 6000 psig (414 bar)
- Temperature range: -65°F to 1200°F (-54°C to 649°C)



Part Number Description

SS – TW – FNS8 – RF12150 – ST10 – 6 – 4.5 – SF2

Material		Series		Instrument Connection Type		Instrument Connection Size		Process Connection Type		Process Connection Size		ANSI Class		Shank Style		Shank Diameter (ST&SP)		Bore Diameter		Insertion Length		Special Application		Cleaning and Packaging	
SS	316 SS	TW	Thread Thermowells	FNS	Female NPT	8	1/2	NS	Male NPT	8	1/2	150	Class 150	ST	Straight	8	0.5"	4	0.26"	2.5	2.5"				
S1	321 SS	TF	Flange Thermowells	FRT	Female BSPT			RT	Male BSP Tapered	12	3/4	300	Class 300	SP	Stepped	10	0.625"	5	0.335"	3	3"				
S4	304 SS	TS	Socket Weld Thermowells					RF	Raised Face Flange	16	1	600	Class 600	TP	Tapered	12	0.75"	6	0.385"	3.5	3.5"				
91	F91	TJ	Wafer Flanged Thermowells					FF	Flat Face Flange	20	1 1/4	900	Class 900			14	0.875"	7	0.437"	4	4"				
92	F92							RJ	Ring Type Joint Flange	24	1 1/2	1500	Class 1500			16	1.06"	8	0.515"	4.5	4.5"				
6H	316H SS							LJ	Wafer Type Joint Flange	32	2	2500	Class 2500			20	1.25"	10	0.656"	5	5"				
B	Brass															24	1.5"			5.5	5.5"				
CS	Carbon Steel																			6	6"				
TI	Titanium																			6.5	6.5"				
HC	Alloy C-276																			7	7"				
M	Alloy 400/ R-405																			7.5	7.5"				
904L	904L SS																			8	8"				
																				8.5	8.5"				
																				9	9"				
																				9.5	9.5"				
																				10	10"				
																				10.5	10.5"				
																				11	11"				
																				11.5	11.5"				
																				12	12"				
																				12.5	12.5"				
																						SF2	Special Packaging		
																						S	NACE MR0175	F2	FC-02

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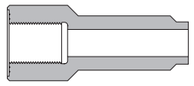
Bosses

BS Series

- Machined from solid bar stock
- Variety of process connection types and sizes available on request
- Maximum working pressure: 1500 psig (103 bar)
- Instrument connections: M12 x 1.5 to M33 x 2.0, and 1/2" to 1" thread
- Materials: 316 SS, 304 SS, 321 SS, carbon steel, brass, titanium, alloy C-276, and alloy 400/R-405



Example: SS-BS-FMS27-17-40-120

Part Number Description

SS – BS – FNS12 – 7 – 27 – 60 – SF2

Material	Series	Instrument Connection Type	Instrument Connection Size	Bore Diameter	Wrench Allowance	Overall Length	Special Application	Cleaning and Packaging
SS 316 SS	BS	FNS Female NPT	8 1/2"	7 7 mm	20 20 mm	60 60 mm	NO	FC-01
S1 321 SS		FMS Female Metric thread	12 12 mm or 3/4"	9 9 mm	27 27 mm	80 80 mm	S NACE MR0175	F2 FC-02
S4 304 SS		FRP Female BSPT	16 16 mm or 1"	16 16 mm	35 35 mm	120 120 mm		
D5 2205			27 27 mm	17 17 mm	40 40 mm	140 140 mm		
			33 33 mm	20 20 mm	45 45 mm			
				24 24 mm				

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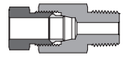
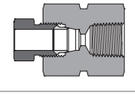
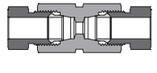
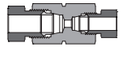
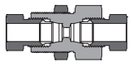
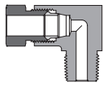
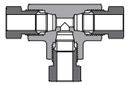
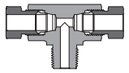
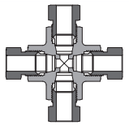
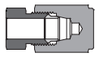
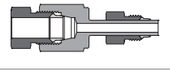
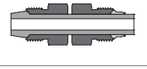
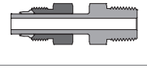
High Pressure Fittings

15 Series Tube Fittings

- Pressures up to 15000 psig (1034 bar).
- Fittings are easy to disconnect and retighten.
- Every fitting is stamped with size, material and heat code.
- Radius junction design with elbows provides smooth flow path.
- Male nut threads are molybdenum disulfide-based lubricant to minimize the friction.
- Hardened threads and smoothed surface finishes extend fitting life and prevent sticking of the matching threads.

Configuration	Fitting Type	Example
	Male Connector	SS-CM-FH4-NS8
	Female Connector	SS-CF-FH6-NS4
	Union	SS-U-FH6
	Reducing Union	SS-U-FH8-FH6

Configuration	Fitting Type	Example
	Bulkhead Union	SS-BU-FH12
	Union Elbow	SS-LU-FH4
	Union Reducing Elbow	SS-LU-FH8-FH6
	Male Elbow	SS-LM-FH8-NS8
	Union Tee	SS-TTT-FH8
	Male Branch Tee	SS-TTM-FH12-NS12
	Union Cross	SS-C-FH4
	Cap	SS-TC-FH8
	Plug	SS-TP-FH6
	Nut	SS-N-FH2
	Ferrule	SS-FE-FH2
	Reducer	SS-R-FH6-FM8
	Port Connector	SS-P-FH8
	Adapter	SS-AM-FM8-NS4

Part Number Description

SS – U – FH8 – FH6 – □ – □

Material		
SS	316 SS	

Fitting Type		
CM	Male Connector	
CF	Female Connector	
U	Union	
U	Reducing Union	
BU	Bulkhead Union	
LU	Union Elbow	
LU	Union Reducing Elbow	
LM	Male Elbow	
TTT	Union Tee	
TTM	Male Branch Tee	
C	Union Cross	
TC	Cap	
TP	Plug	
N	Nut	
FE	Ferrule	
R	Reducer	
P	Port Connector	
AM	Adapter	

P1 Connection Type	
FH	Ferrule
FM	Fractional Tube

P1 Size	
2	1/8"
4	1/4"
6	3/8"
8	1/2"
9	9/16"
12	3/4"

P2 Connection Type	
NS	NPT Thread
SH	SAE/MS Straight Thread

Except the same as the P1, the other type follows:

P2 Size	
7	7/16-20
9	9/16-18
16	1"

Except the same as the P1, the other size follows:

P3 and P4
Specify in the same way as the P2

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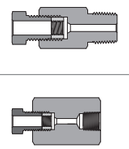
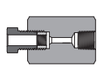
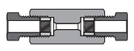
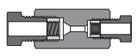
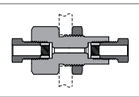
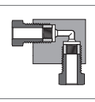
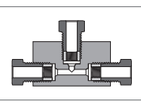
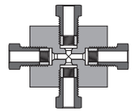
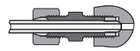
P1, P2, P3 and P4 shall be described in the following orders:

- Ferrule - Tube - Others
- Describe in descending order as per size if the end connection types are the same
- Describe the end of P1 if all end connections are the same

20 Series Tube Fittings

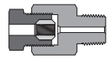
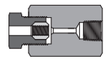
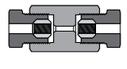
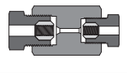
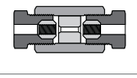
- Pressures up to 20000 psig (1379 bar).
- Coned-and-Threaded Connection.
- Metal-to-metal seal provides perfect leak-tight service from critical vacuum to high pressure.
- Anti-vibration connection components available.
- Fittings are easy to disconnect and retighten.
- Every fitting is stamped with size, material, and heat code.

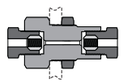
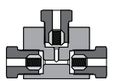
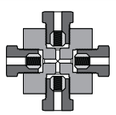
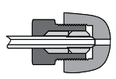
Configuration	Fitting Type	Example
	Gland	SS-G-2FH4
	Collar	SS-CO-2FH6
	Plug	SS-TP-2FH9
	Male Connector	SS-CM-2FH4-NS6
	Female Connector	SS-CF-2FH4-NS6
	Union Coupling	SS-U-2FH12
	Reducing Union Coupling	SS-U-2FH6-2FH4
	Union Coupling (Slip Type)	SS-SU-2FH16
	Bulkhead Coupling	SS-BU-2FH6
	Cap	SS-TC-2FH6
	Elbow	SS-LU-2FH9
	Tee	SS-TTT-2FH12

Configuration	Fitting Type	Example
	Cross	SS-C-2FH4
	Anti-Vibration Gland Assembly	SS-AVGA-2FH9
	Coned and Threaded Nipple	SS-CTN-2FH6-8

60 Series Tube Fittings

- Pressures up to 60000 psig (4137 bar).
- Coned-and-Threaded Connection.
- Metal-to-metal seal provides perfect leak-tight service from critical vacuum to high pressure.
- Anti-vibration connection components available.
- Fittings are easy to disconnect and retighten.
- Every fitting is stamped with size, material, and heat code.

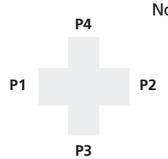
Configuration	Fitting Type	Example
	Gland	SS-G-6FH4
	Collar	SS-CO-6FH6
	Plug	SS-TP-6FH9
	Male Connector	SS-CM-6FH4-NS6
	Female Connector	SS-CF-6FH4-NS6
	Union Coupling	SS-U-6FH4
	Reducing Union Coupling	SS-U-6FH6-6FH4
	Union Coupling (Slip Type)	SS-SU-6FH6

Configuration	Fitting Type	Example
	Bulkhead Coupling	SS-BU-6FH6
	Cap	SS-TC-6FH6
	Elbow	SS-LU-6FH9
	Tee	SS-TTT-6FH6
	Cross	SS-C-6FH4
	Anti-Vibration Gland Assembly	SS-AVGA-6FH9
	Coned and Threaded Nipple	SS-CTN-6FH6-10

20 Series and 60 Series Tube Fittings Part Number Description

SS – SU – 2FH16 – □ – □ – □

Material		Fitting Type		P1 Connection Type		P1 Size		P2, P3 and P4
SS	316 SS	G	Gland	2FH	20 Series Fractional Tube	4	1/4"	Specify in the same way as the P1
		CO	Collar	6FH	60 Series Fractional Tube	6	3/8"	
		TP	Plug			9	9/16"	
		CM	Male Connector			12	3/4"	
		CF	Female Connector			16	1"	
		U	Union Coupling					
		U	Reducing Union Coupling					
		SU	Union Coupling (Slip Type)					
		BU	Bulkhead Coupling					
		TC	Cap					
		LU	Elbow					
		TTT	Tee					
		C	Cross					
		AVGA	Anti-Vibration Gland Assembly					
		CTN	Coned and Threaded Nippe					



Note: "Part Number Description" is used for composition rules of FITOK product model, Not suitable for specific product part number selection, not random combinations. If in doubt, please contact FITOK company or authorized agents.

P1, P2, P3 and P4 shall be described in the following orders:

◎ Describe in descending order as per size if the end connection types are the same

◎ Describe the end of P1 if all end connections are the same

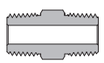
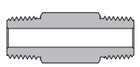
High Pressure Pipe Fittings

◎ The hardened threads with smooth surface avoid galling and help to extend the fitting service life.

◎ Radius junction design with elbows provides smooth flow path.

◎ Every fitting is stamped with size, material, and heat code.

◎ 316 stainless steel standard material. Other materials are available upon request.

Configuration	Fitting Type	Example
	Pipe Plug	SS-HPP-NS4
	Hex Nipple	SS-HPHN-NS4
	Hex Long Nipple	SS-HPLN-NS4-50.8
	Pipe Cap	SS-HPC-NS4
	Hex Coupling	SS-HPCG-NS4

Configuration	Fitting Type	Example
	Zero-Clearance Union	SS-HPZC-NS4
	Adapter	SS-HPA-NS4
	Male Elbow	SS-HPME-NS4
	Street Elbow	SS-HPSE-NS4
	Female Elbow	SS-HPE-NS4
	Male Tee	SS-HPMT-NS4
	Male Street Tee	SS-HPST-NS4
	Male Branch Tee	SS-HPBT-NS4
	Female Tee	SS-HPT-NS4
	Female Crosse	SS-HPCR-NS4

Part Number Description

SS – HPHN – NS6 – RT4 – □ – □ – □

Material

SS	316 SS

Fitting Type

HPP	Pipe Plugs
HPHN	Hex Nipples
HPLN	Hex Long Nipples
HPC	Pipe Caps
HPCG	Hex Couplings
HPZC	Zero-Clearance Unions
HPA	Adapters
HPME	Male Elbows
HPSE	Street Elbows
HPE	Female Elbows
HPMT	Male Tees
HPST	Male Street Tees
HPBT	Male Branch Tees
HPT	Female Tees
HPCR	Female Crosses

P1 Connection Type

NS	NPT
RT	ISO Tapered
SH	Heavy-Duty SAE/MS (Accordance with SAE J1926-2)
AN	JIC (37° Flare)

P1 Size

NS and RT Size	
2	1/8"
4	1/4"
6	3/8"
8	1/2"
12	3/4"
16	1"
SH Size	
7	7/16-20
9	9/16-18
12	3/4-16
AN Size	
4	7/16-20
6	9/16-18
8	3/4-16
10	7/8-14
12	1 1/16-12
16	1 5/16-12

P2 Connection Type

Specify in the same way as the P1

P2 Size

Except the same as the P1, the other type follows:

SH Size	
7	7/16-20

P3 and P4

Specify in the same way as the P1

Note: "Part Number Description" is used for composition rules of FITOK product model, Not suitable for specific product part number selection, not random combinations. If in doubt, please contact FITOK company or authorized agents.

P1,P2,P3 and P4 shall be described in the following orders:

- The first female thread after male thread
- NPT-ISO Tapered-Heavy Duty SAE/MS -JIC (37° Flare)
- Describe the descending order as per size if the end connection types are the same
- Describe the end of P1 if all end connection are the same

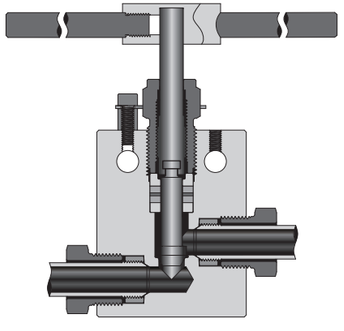
High Pressure Valves

High Pressure Needle Valves

- Non-rotating stem and bar stock body design.
- Easy to assemble and replace packing.
- Metal-to-metal seating achieves ideal shutoff, longer stem/seat service lifetime for abrasive flow, excellent corrosion resistance and greater durability for repeated on/off cycles.
- The standard packing material for 60N Series is Nylon, the other Series is PTFE. RPTFE glass, Graphite and extend stuffing box valve with Graphite are also available.
- Extend stuffing box valve with of Graphite can be operated to 1200°F (649°C).
- The location of packing is under the thread of upper stem.
- The material of packing gland and lower stem have been selected to achieve reduced handle torque and extended thread cycle life.
- Options for Vee or Regulating stem tips.
- Five flow patterns are available.

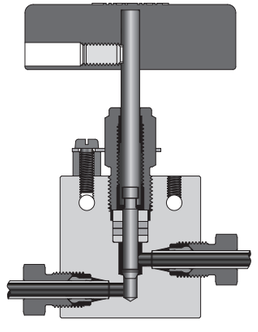
10N Series Needle Valves

- End connections: 9/16", 3/4", 1" tube fittings and 3/4 NPT, 3/4 BSPT, 1 NPT, 1 BSPT
- Body material: 316 SS
- Orifice sizes: 0.359", 0.516", 0.688", 0.438" and 0.562"
- Maximum working Pressure: 10000 psig (690 bar)
- Working temperature: -100°F to 1200°F (-73°C to 649°C)



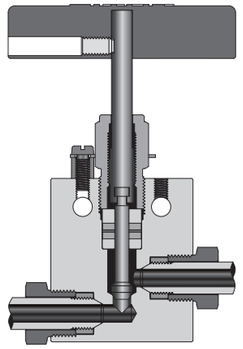
15N Series Needle Valves

- End connections: 1/8", 1/4", 3/8", 1/2" tube fittings and 1/8 NPT, 1/8 BSPT, 1/4 NPT, 1/4 BSPT, 3/8 NPT, 3/8 BSPT, 1/2 NPT, 1/2 BSPT
- Body material: 316 SS
- Orifice sizes: 0.094", 0.188", 0.250", 0.375", 0.078", 0.203", 0.219" and 0.312"
- Maximum working Pressure: 15000 psig (1034 bar)
- Working temperature: -100°F to 800°F (-73°C to 427°C)



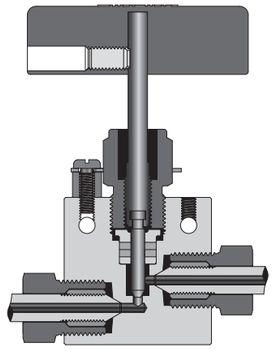
20N Series Needle Valves

- End connections: 1/4", 3/8", 9/16", 3/4" and 1" tube fittings
- Body material: 316 SS
- Orifice sizes: 0.125", 0.219", 0.312", 0.438" and 0.562"
- Maximum working Pressure: 20000 psig (1379 bar)
- Working temperature: -100°F to 1200°F (-73°C to 649°C)



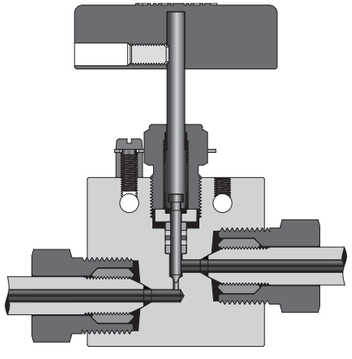
30N Series Needle Valves

- End connections: 1/4", 3/8" and 9/16" tube fittings
- Body material: 316 SS
- Orifice sizes: 0.094" and 0.125"
- Maximum working Pressure: 30000 psig (2068 bar)
- Working temperature: -100°F to 1200°F (-73°C to 649°C)



60N Series Needle Valves

- End connections: 1/4", 3/8", 9/16" tube fittings
- Body material: 316 SS
- Orifice sizes: 0.062" and 0.078"
- Maximum working Pressure: 60000 psig (4137 bar)
- Working temperature: -100°F to 1200°F (-73°C to 649°C)



Part Number Description

15NSS – FH4 – RG2

Series	Body Material	Connectors Sizes	Stem Tips	Packing	Flow Patterns
10N	SS 316 SS	FH2 1/8"	Vee	PTFE	1 Straight
15N		FH4 1/4"	R Regulating	Nylon (60N Only)	2 Angle
20N		FH6 3/8"		TG RPTFE Glass	3 Angle(replaceable seat)
30N		FH8 1/2"		G Graphite	4 3-way/2 on pressure
60N		FH9 9/16"		HT Extend stuffing box valve with Graphite	5 3-way/1 on pressure
		FH12 3/4"			6 3-way/2 stem manifold
		FH16 1"			
		FNS2 1/8"			
		FNS4 1/4"			
		FNS6 3/8"			
		FNS8 1/2"			
		FNS12 3/4"			
		FNS16 1"			
		FRT2 1/8"			
		FRT4 1/4"			
		FRT6 3/8"			
		FRT8 1/2"			
		FRT12 3/4"			
		FRT16 1"			

Note: "Part Number Description" is used for composition rules of FITOK product model, Not suitable for specific product part number selection, not random combinations. If in doubt, please contact FITOK company or authorized agents.

High Pressure Ball Valves

- One-piece, trunnion mounted style, ideal for severe duty applications.
- Two-way and three-way valve configurations.
- PEEK seats offer excellent resistance to chemicals, heat, and wear/abrasion.
- Full-port flow path minimizes pressure drop.
- Optional o-rings available for high-temperature applications.

10B Series Ball Valves

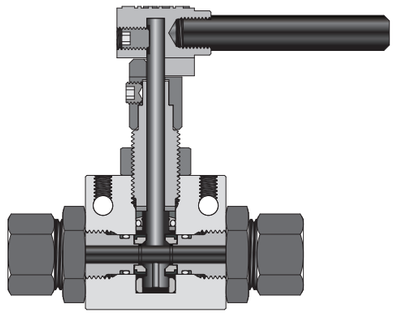
- End connections:
  3/4" and 1" tube fittings
  3/4 and 1 NPT threads
- Body material: 316 SS
- Orifice sizes:
  2-way: 0.5"
  3-way: 0.5"
- Maximum working Pressures: 10000 psig (690 bar)
- Working temperature: -50°F to 500°F (-45°C to 260°C)

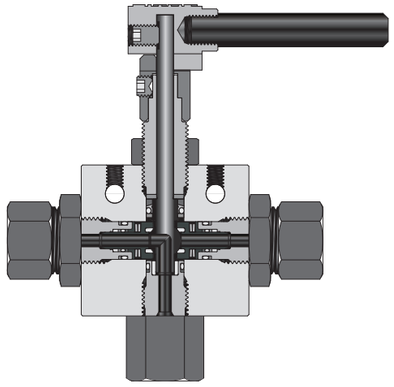
15B Series Ball Valves

- End connections:
  1/8", 1/4", 3/8", 1/2", 9/16" and 3/4" tube fittings
  1/8, 1/4, 3/8 and 1/2 NPT threads
- Body material: 316 SS
- Orifice sizes:
  2-way: 0.094" to 0.375"
  3-way: 0.094" to 0.328"
- Maximum working Pressures: 15000 psig (1034 bar)
- Working temperature: -50°F to 500°F (-45°C to 260°C)

20B Series Ball Valves

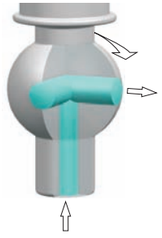
- End connections: 1/4", 3/8" , 9/16" and 3/4" tube fittings
- Body material: 316 SS
- Orifice sizes:
  2-way: 0.109" to 0.328"
  3-way: 0.109" to 0.188"
- Maximum working Pressures: 20000 psig (1379 bar)
- Working temperature: -50°F to 500°F (-45°C to 260°C)





Shut-Off

Switching
180° Turn



Drverting
90° Turn

Note: Maximum side connection inlet pressure 15,000 psig (1034 bar) for 3-Way Valves.

Part Number Description

15BSS – 2FH6 – 6 – 2

Series	Body Material	Connection	Size	Orifice No.	Body Style
10B	SS 316 SS	For 10B Series	2 1/8"	For 2-way	1 2-Way Straight Valves
15B		FH 15 Series	4 1/4"	1/4"	2 3-Way Valves, 180° Turn
20B		2FH 20 Series	6 3/8"	6 3/8"	2D 3-Way Valves, 90° Turn
		FNS NPT(Female)	8 1/2"	8 1/2"	
		For 15B Series	9 9/16"	For 3-way	
		FH 15 Series	12 3/4"	3/16"	
		2FH 20 Series	16 1"	6 3/8"	
		FNS NPT(Female)		8 1/2"	
		For 20B Series			
		FH 20 Series			
		6FH 60 Series			

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Options: O-ring
Fluorocarbon FKM is standard. For other materials, add a material code to the valve ordering number.
Example: 15BSS-2FH6-6-2-K

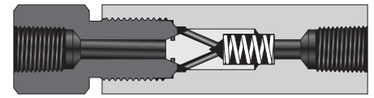
Code	O-ring Material	Temperature Range
	Fluorocarbon FKM	0 to 400°F (-17.8 to 204°C)
N	NBR	-40 to 250°F (-40 to 121°C)
K	Kalrez	-40 to 500°F (-40 to 260°C)
E	EPDM	-50 to 300°F (-45 to 148°C)

High Pressure Check Valves

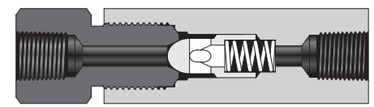
- Provides unidirectional flow and tight shut-off for liquid and gas with high reliability. When differential drops below cracking pressure, valve shuts off (Not for use as relief valve).
- Body material: 316 SS
- Resilient O-ring seat design for noise-free closing leakage-free.
- Optional o-rings available for high-temperature applications.
- Cracking pressure:
  10C, 15C, 20C and 60C Series Check Valves: 14 psig~26 psig (0.966 bar~1.794 bar).

10C, 10CO Series Check Valves

- End connections: 3/4" NPT and 1"
- Orifice sizes: 0.52" and 0.69"
- Maximum working pressures: 10000 psig (689 bar)
- Working temperature:
  10C Series (Pipe O-Ring Check Valves): -50°F (-45°C) to 500°F (260°C)
  10CO Series (Ball Check Valves): -325°F (-198°C) to 400°F (204°C)



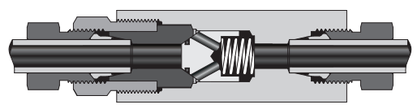
10C Series (Pipe O-Ring Check Valves)



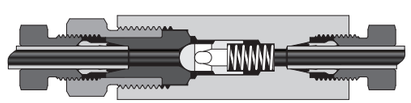
10CO Series (Pipe Ball Check Valves)

15C, 15CO Series Check Valves

- End connections:
  O-Ring Check Valves and Ball Check Valves:
  1/4", 3/8", 1/2" tube fittings
  Pipe O-Ring Check Valves and Pipe Ball Check Valves:
  1/4", 3/8", 1/2" NPT threads
- Orifice sizes:
  O-Ring Check Valves and Ball Check Valves:
  0.188", 0.25" and 0.375"
  Pipe O-Ring Check Valves and Pipe Ball Check Valves:
  0.12", 0.22" and 0.36"
- Maximum working pressures: 15000 psig (1034 bar)
- Working temperature:
  15C Series (O-Ring Check Valves): -50°F (-45°C) to 500°F (260°C)
  15C Series (Pipe O-Ring Check Valves): -50°F (-45°C) to 500°F (260°C)
  15CO Series (Ball Check Valves): -325°F (-198°C) to 800°F (427°C)
  15CO Series (Pipe Ball Check Valves): -325°F (-198°C) to 400°F (204°C)



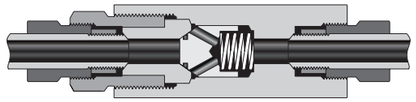
15C Series (O-Ring Check Valves)



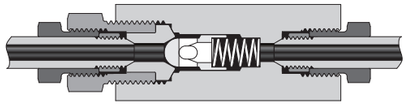
15CO Series (Ball Check Valves)

20C, 20CO Series Check Valves

- End connections: 1/4", 3/8", 9/16", 3/4" and 1" tube fittings
- Orifice sizes: 0.125", 0.218", 0.359", 0.516" and 0.688"
- Maximum working pressures: 20000 psig (1379 bar)
- Working temperature:
  20C Series Check Valves (O-Ring Check Valves): -50°F (-45°C) to 500°F (260°C)
  20CO Series Check Valves (Ball Check Valves): -423°F (-252°C) to 1200°F (649°C)



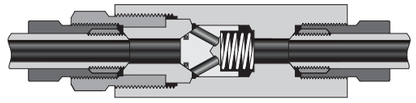
20C Series (O-Ring Check Valves)



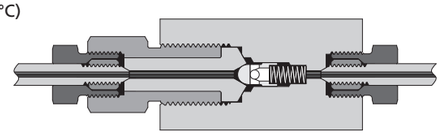
20CO Series (Ball Check Valves)

60C, 60CO Series Check Valves

- End connections: 1/4", 3/8" and 9/16" tube fittings
- Orifice sizes: 0.094", 0.125" and 0.187"
- Maximum working pressures: 60000 psig (4137 bar)
- Working temperature:
  60C Series Check Valves (O-Ring Check Valves): -50°F (-45°C) to 500°F (260°C)
  60CO Series Check Valves (Ball Check Valves): -423°F (-252°C) to 1200°F (649°C)

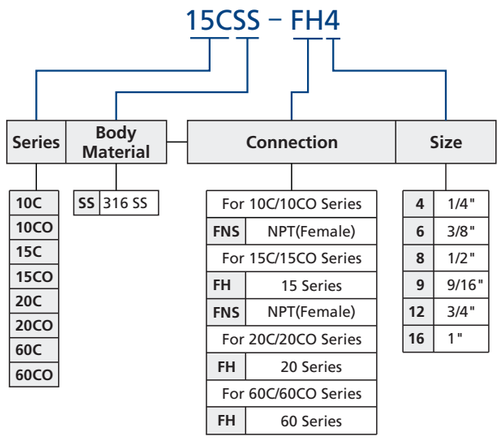


60C Series (O-Ring Check Valves)



60CO Series (Ball Check Valves)

Part Number Description



Note: "Part Number Description" is used for composition rules of FITOK product model, Not suitable for specific product part number selection, not random combinations. If in doubt, please contact FITOK company or authorized agents.

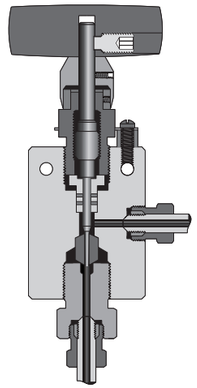
Options: O-ring
Fluorocarbon FKM is standard. For other materials, add a material code to the valve ordering number.
Example: 20CSS-FH6-K

Code	O-ring Material	Temperature Range
	Fluorocarbon FKM	0 to 400°F (-17.8 to 204°C)
N	NBR	-40 to 250°F (-40 to 121°C)
K	Kalrez	-40 to 500°F (-40 to 260°C)
E	EPDM	-50 to 300°F (-45 to 148°C)

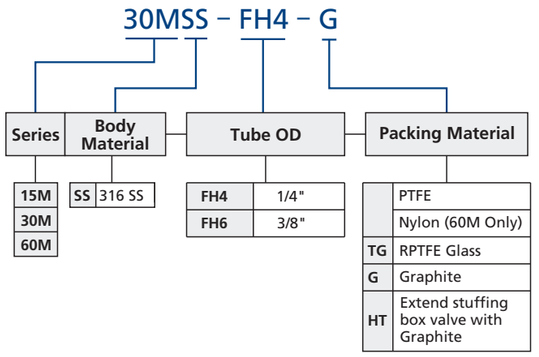
High Pressure Precise Metering Valves

- The design of Barrel and Thimble micrometer permits repeatable settings.
  Each division of barrel equal to 0.025".
  Thimble is divided into 25 divisions, each division of thimble equal to 0.001" stem travel.
  One revolution equal to valve stem 0.025" travel.
- Precise Metering valves are not intended for use as shut-off valves.
- The minimum flow rate is factory set at "0"position. The valve will be damaged when the valve operated below "0" position. When shutoff is required, a correlated shutoff valve from 15B, 20B, 15N, 20N, 30N and 60N series valve should be installed series with the Precise Metering Valves.
- The location of packing is under the thread of valve stem.
- Reliable locking device of packing gland design.
- Extend stuffing box valve with of Graphite can be operated to 1200°F (649°C).

- End connections:
  15M series: 1/4" tube fitting
  30M series: 1/4" tube fitting
  60M series: 1/4" and 3/8" tube fittings
- Body material: 316 SS
- Orifice sizes: 0.062"
- Flow coefficient (Cv): 0.04
- Maximum working Pressures:
  15M series: 15000 psig (1034 bar)
  30M series: 30000 psig (2068 bar)
  60M series: 60000 psig (4137 bar)
- Working temperature: -100°F to 1200°F (-73°C to 649°C)



Part Number Description



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High Pressure Relief Valves

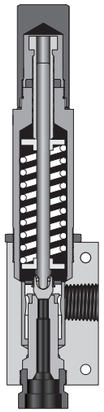
- Maximum back pressure: 500 psig (34.47 bar).
- Liquid or gas service.
- Pressure settings are made at the factory and valves are tagged accordingly. State the required set pressure with the order please.
- Lock wired secure cap to maintain set pressure.
- Easily exchangeable replaceable seat.
- Free assembly positions.

HSR Series Relief Valves

- Inlet connection: 9/16" of 20 series tube fittings
- Outlet connection: 3/4 NPT thread
- Body material: 316 SS
- Orifice sizes: 0.156" to 0.312"
- Soft seat relief valves
- Set pressure: 1500 to 20,000 psig
- Working temperature: 32°F to 400°F (0°C to 204°C)

HMR Series Relief Valves

- Inlet connection: 9/16" of 20 series tube fittings 3/8" of 60 series tube fittings
- Outlet connection: 3/4 NPT thread
- Body material: 316 SS
- Orifice sizes: 0.078" to 0.312"
- Metal seat relief valves
- Set pressure: 1500 to 60,000 psig
- Working temperature: -423°F to 750°F (-252°C to 399°C)



Part Number Description

HMRSS – FH6 – FNS12 – 2

Series	Body Material	Inlet Tube OD	Outlet Connection Type	Grade
HSR	SS 316 SS	FH6 3/8"	FNS12 3/4" NPT (Female)	1 1500~5000 psig
HMR		FH9 9/16"		2 5000~10000 psig
				3 10000~15000 psig
				4 15000~20000 psig
				5 20000~30000 psig
				6 25000~45000 psig
				7 30000~60000 psig

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High Pressure Line Filters

Dual-disc Line Filters

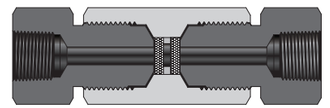
- Dual-disc Line Filters are utilized in chemical processing, aerospace, nuclear and other applications.
- The large contaminations particles are filtrated by upstream element. The rest of contaminations particles are filtrate by downstream element.
- Easy to replace filter element.
- Standard size of downstream/upstream nominal pore is 5/10,10/35 and 35/65 μm. Other element combinations also available on special order.
- Pressure differential not to exceed 1,000 psig (69 bar) in a flowing condition.

Cup-type Line Filters

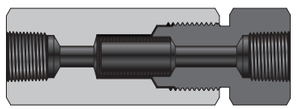
- The filter elements can be quickly and easily replaced.
- Cup-type Line Filters are recommended in high pressure systems requiring both maximum filter surface area and high flow rates. Cup-type Line Filters are widely used in chemical processing and industrial fields. The cup design of this filter offers about six times the effective filter area as compared to disc-type units.
- Nominal pore sizes for filter element: 5, 35 and 65 μm.
- Pressure differential not to exceed 1,000 psig (69 bar) in a flowing condition.

10FD, 10FC Series Line Filters

- End connections: 3/4 NPT and 1 NPT
- Body material: 316 SS
- Orifice sizes: 10FD Series: 0.438" and 0.562" 10FC Series: 0.438" and 0.562"
- Maximum working Pressures: 10000 psig (689 bar)
- Working temperature: -60°F to 400°F (-50°C to 204°C)



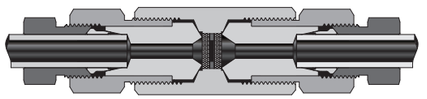
10FD Series (Dual-disc)



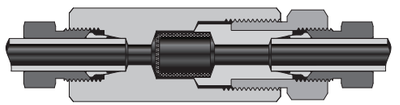
10FC Series (Cup-type)

15FD, 15FC Series Line Filters

- End connections: 1/4", 3/8", 1/2" tube fittings and 1/8 NPT, 1/4 NPT, 3/8 NPT, 1/2 NPT
- Body material: 316 SS
- Orifice sizes: 15FD Series: 0.094", 0.125" and 0.188" 15FC Series: 0.094", 0.125", 0.312" and 0.438"
- Maximum working Pressures: 15000 psig (1034 bar)
- Working temperature: -60°F to 660°F (-50°C to 350°C)



15FD Series (Dual-disc)



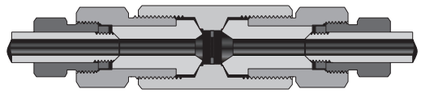
15FC Series (Cup-type)

20FD, 20FC Series Line Filters

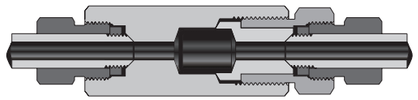
- End connections:
  20FD Series: 9/16" tube fitting
  20FC Series: 1/4", 3/8", 9/16", 3/4" and 1" tube fittings
- Body material: 316 SS
- Orifice sizes:
  20FD Series: 0.312"
  20FC Series: 0.125", 0.218", 0.359", 0.516" and 0.688"
- Maximum working Pressures: 20000 psig (1379 bar)
- Working temperature: -60°F to 660°F (-50°C to 350°C)

60FD, 60FC Series Line Filters

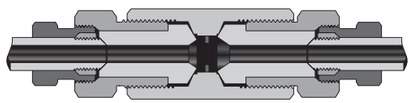
- End connections: 1/4", 3/8" and 9/16" tube fittings
- Body material: 316 SS
- Orifice sizes:
  60FD Series: 0.094", 0.125" and 0.187"
  60FC Series: 0.094", 0.125" and 0.187"
- Maximum working Pressures: 60000 psig (4137 bar)
- Working temperature: -60°F to 660°F (-50°C to 350°C)



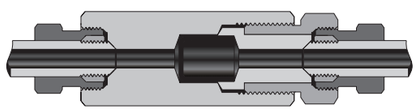
20FD Series (Dual-disc)



20FC Series (Cup-type)



60FD Series (Dual-disc)



60FC Series (Cup-type)

Part Number Description

15FDSS – FH4 – 1035

Series	Body Material	Connection Size	Norminal Pore Size
10FD	SS 316 SS	FH2 1/8"	For 15FD/20FD/60FD Series
10FC		FH4 1/4"	0510 5/10 μm
15FC		FH6 3/8"	1035 10/35 μm
20FD		FH8 1/2"	3565 35/65 μm
20FC		FH12 3/4"	For 15FC/20FC/60FC Series
60FD		FH16 1"	5 5 μm
60FC		FNS2 1/8"	35 35 μm
		FNS4 1/4"	65 65 μm
		FNS6 3/8"	
		FNS8 1/2"	
		FNS12 3/4"	
		FNS16 1"	

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High Pressure Tubings

15 Series Tubing

- Working pressures up to 15 000 psig (1034 bar).
- 316 and 304 stainless steel are standard material. Other materials are available upon request.
- Example:
  316 SS: SS-15T4-083-6M
  304 SS: S4-15T8-156-5

20 Series Tubing

- Working pressures up to 20000 psig (1379 bar).
- 316 and 304 stainless steel are standard material. Other materials are available upon request.
- Example:
  316 SS: SS-MT-2FH6-10
  304 SS: S4-MT-2FH9-3M

60 Series Tubing

- Working pressures up to 60000 psig (4137 bar).
- 316 and 304 stainless steel are standard material. Other materials are available upon request.
- Example:
  316 SS: SS-HT-6FH4-5
  304 SS: S4-HT-6FH9-3M

High Pressure Tools

Coning Tools

◎ For preparing a "cone" on the 20 and 60 series tubing ends.

Tube O.D. x I.D. in.	Ordering Number
1/4 × 0.109	HCT-M4
3/8 × 0.203	HCT-M6
9/16 × 0.312	HCT-M9
1/4 × 0.083	HCT-H4
3/8 × 0.125	HCT-H6
9/16 × 0.188	HCT-H9

Threading Tools

◎ For preparing a left hand thread on the 20 and 60 series tubing ends.

Tube O.D. in.	Ordering Number	Thread Size (Left Hand)
1/4	HTT-4	1/4-28 UNF
3/8	HTT-6	3/8-24 UNF
9/16	HTT-9	9/16-18 UNF

Reseating Tools

◎ For repairing the old or damaged tube connector seats in 20 and 60 series tube fittings and valves.

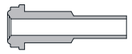
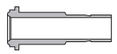
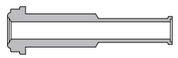
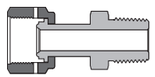
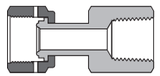
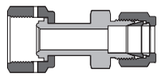
Connection Size in.	Connection Type	Ordering Number
1/4	2FH4	HRT-M4
3/8	2FH6	HRT-M6
9/16	2FH9	HRT-M9
3/4	2FH12	HRT-M12
1	2FH16	HRT-M16
1/4	6FH4	HRT-H4
3/8	6FH6	HRT-H6
9/16	6FH9	HRT-H9

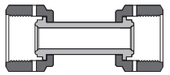
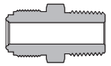
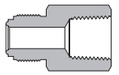
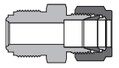
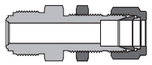
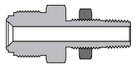
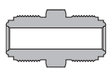
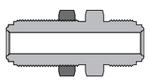
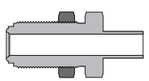
Fittings

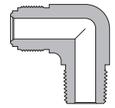
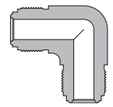
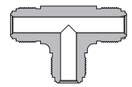
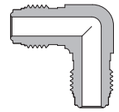
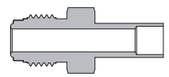
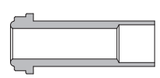
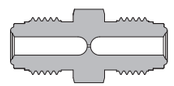
Metal Gasket Face Seal Fittings

FR Series

◎ Sizes range from 1/16" to 1" and 6 mm to 25 mm.
◎ 316, 316L, and 316L VAR stainless steel materials are available.
◎ Metal-to-metal seal provides perfect leak-tight service from vacuum to high pressure.
◎ Standard wetted surface finish is average 10 µin. (0.25 µm) Ra.
◎ Glands and bodies are stamped with size, material, and heat code.
◎ All seal faces and male threads are protected with plastic caps.
◎ FR female threads are silver plated.

Configuration	Fitting Type	Example
	FR Gland to Short Tube Butt Weld	6LV-G-FR8-TB8-6S
	FR Gland to long Butt Weld	6LV-G-FR8-TB8-6
	FR Gland to Male Weld	6L-G-FR8-TB4
	FR Gland to Tube Socket Weld	SS-G-FR8-TS6
	FR Gland to Short Tube Socket Weld	SS-G-FR4-TS4-0.75
	FR Gland to Tube Port	SS-G-FR8-FT6
	Short Fractional Automatic Tube Butt Weld	SS-AG-FR4-TB4-12S
	Long Fractional Automatic Tube Butt Weld	SS-AG-FR4-TB4-12
	Blind Gland	SS-G-FR8-B
	FR Welded Gland to Male NPT	SS-WG-FR8-NS6
	FR Welded Gland to Female NPT	SS-WG-FR8-FNS6
	FR Welded Gland to Tube Fitting	SS-WG-FR8-FL8

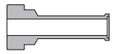
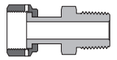
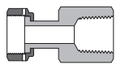
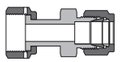
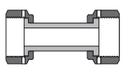
Configuration	Fitting Type	Example
	FR Welded Gland Union	SS-WG-FR4
	Female Nut	SS-N-FR4
	Male Nut	SS-MN-FR8
	FR Body to Male NPT	SS-CM-FR8-NS4
	FR Body to Female NPT	SS-CF-FR8-NS4
	FR Body to Tube Fitting	SS-U-FR8-FL6
	FR Body to Bulkhead Tube Fitting Union	SS-UB-FR8-FL8
	FR Body to Bulkhead Male Connector	SS-CMB-FR8-NS4
	Union Body	SS-U-FR8
	Bulkhead Union Body	SS-BU-FR8
	FR Bulkhead Body to Tube Butt Weld	SS-BW-FR4-TB4
	Coupling	SS-BC-FR8
	Female Reducing Union	SS-RU-FR8-FR4
	Reducing Adapter	SS-RA-FR8-FR4

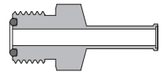
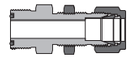
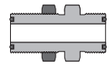
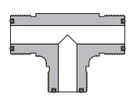
Configuration	Fitting Type	Example
	Reducing Bushing	SS-RB-FR8-FR4
	FR Body to Male NPT Elbow	SS-LM-FR8-NS6
	FR Body Union Elbow	SS-LU-FR8
	FR Body Union Tee	SS-TTT-FR8
	FR Body Union Cross	SS-C-FR6
	"H" Type Union Elbow	SS-LU-HFR4
	"H" Type Tube Butt Weld	SS-CW-HFR4-TB6
	"H" Type Tube Butt Weld	SS-G-HFR4-TB6-30.2
	Flow Restrictors	6LV-R-FR4-020
	Plug	SS-PG-FR4
	Cap	SS-CP-FR4
	Gasket	6L-GT-FR8

O-ring Face Seal Fittings

FO Series

- Sizes range from 1/8" to 1" and 6 mm to 25 mm.
- 316 and 316L stainless steel materials are available.
- O-ring seal provides perfect leak-tight service from vacuum to high pressure.
- Glands and bodies are stamped with size, material, and heat code.
- Fittings are easy to install and maintain.
- FO female threads are silver plated.

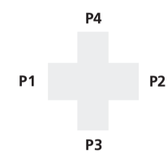
Configuration	Fitting Type	Example
	FO Gland to Tube Butt Weld	6LV-G-FO8-TB6
	FO Gland to Tube Socket Weld	6L-G-FO8-TS8
	FO Gland to Tube Port	SS-G-FO8-FT8
	FO Gland to Automatic Tube Weld	6L-G-FO4-TB4A
	FO Welded Gland to Male NPT	SS-WG-FO4-NS4
	FO Welded Gland to Female NPT	SS-WG-FO4-FNS4
	FO Welded Gland to Tube Fitting	SS-WG-FO8-FL6
	FO Welded Gland Union	SS-WG-FO4
	Female Nut	SS-N-FO8
	Blind Nut	SS-N-FO4-B
	FO Body to Male NPT	SS-CM-FO8-NS8
	FO Body to Female NPT	SS-CF-FO8-NS6

Configuration	Fitting Type	Example
	FO Body to Tube Fitting	SS-U-FO8-FL6
	FO Body to Automatic Tube Weld	6L-CW-FO4-TB4A
	FO Body to Bulkhead Tube Fitting Union	SS-UB-FO8-FL8
	Blind Body	SS-BY-FO8
	Union Body	SS-U-FO4
	Bulkhead Union Body	SS-BU-FO8
	FO Body to Tube Socket Weld	SS-CW-FO8-TS8
	FO Body to Male NPT Elbow	SS-LM-FO8-NS6
	FO Body to Tube Fitting Elbow	SS-LU-FO8-FL8
	FO Body Union Elbow	SS-LU-FO8
	FO Body Union Tee	SS-TTT-FO4

Part Number Description

SS — LM — FR8 — NS6 — □ — □ — E3F3

Material		Fitting Type		P1 Type		P1 Size		P2 Type		P2 Size		P3 and P4	Wetted suface finish		Cleaning and Packaging	
SS	316 SS	G	Gland	FR	Metal Gasket Face Seal	FR Size		FR	Metal Gasket Face Seal	Except the same as the P1, the other size follows:		Specify in the same way as the P2	FR Series		FR Series	
6L	316L SS	WG	Weld Gland	FO	O-ring Face Seal	2	1/8"	FO	O-ring Face Seal	1	1/16"			0.4 μm Ra		FC-01
6LV	316L VAR SS	N	Female Nut			4	1/4"	FL	Fractional Double Ferrule	2	1/8"		E3	0.2 μm Ra	F2	FC-02
		MN	Male Nut			8	1/2" or 3/8"	FT	Fractional Tube	4	1/4"				F3	FC-03
		CM	Male Connector Body			12	3/4"	TS	Fractional Tube Socket Weld	6	3/8" or 6 mm					
		CF	Female Connector Body			16	1"	TB	Fractional Tube Butt Weld	7	7/16-20					
		U	Union Body			FO Size		MTB	Metric Tube Butt Weld	8	8 mm					
		UB	Body to Bulkhead Tube Fitting Union			4	1/4" or 1/8"	NS	NPT Thread	9	9/16-18					
		CMB	Body to Bulkhead Male Connector			8	1/2" or 3/8"	FNS	Female NPT Thread	10	10 mm					
		BY	Blind Body			12	3/4"	ST	SAE/MS Straight Thread	12	3/4" or 3/4-16 or 12 mm					
		BU	Bulkhead Union Body			16	1"			17	1 1/16-12					
		BW	Bulkhead Body to Tube Butt Weld							18	18 mm					
		BC	Coupling							21	1 5/16-12					
		CW	Body to Tube Socket Weld													
		RU	Female Reducing Union													
		RA	Reducing Adapter													
		RB	Reducing Bushing													
		LM	Male Elbow													
		LU	Union Elbow													
		TTT	Union Tee													
		C	Union Cross													
		PG	Plug													
		CP	Cap													
		GT	Gasket													



Note: "Part Number Description" is used for composition rules of FITOK product model, Not suitable for specific product part number selection, not random combinations. If in doubt, please contact FITOK company or authorized agents.

P1,P2,P3 and P4 shall be described in the following orders:

- Describe in descending order as per size if the end connection types are the same
- Describe the end of P1 if all end connections are the same

Cleaning and Packaging:

FC-01: Standard cleaning and packaging for general industrial procedures

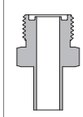
FC-02: Special cleaning and packaging for wetted system components to ensure compliance with product cleanliness requirement as stated in ASTM G93 Level C

FC-03: Ultrahigh-purity cleaning and packaging

L-ring Face Seal Fittings

TFO Series

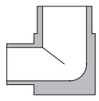
- Sizes range from 1/4" to 1".
- Materials:
  Body, gland: 316L stainless steel
  Nut: 316 stainless steel.
- Reduced internal entrapment.
- Lubricant-free L-ring seal.
- Tube butt end connections.
- Controlled L-ring extrusion, no overtightening.

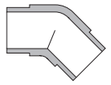
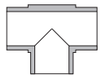
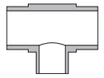
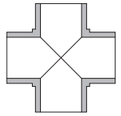
Configuration	Fitting Type	Example
	Gland	6L-G-TFO8-TB8
	Tube Butt Weld Body	6L-CW-TFO8-TB8
	Nut	SS-N-TFO8
	L-ring Seal	GT-TFO8

Weld Fittings

M Series

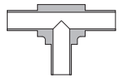
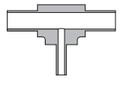
- Sizes range from 1/8" to 1/2" and 6 mm to 12 mm.
- 316, 316L, 316L VAR and 316L VIM/VAR stainless steel materials are available.
- Butt weld connection allows for a smooth transition.
- Radius junction design with elbows provides smooth flow path.
- Maximum working temperature is 850°F (454°C).
- Standard wetted surface finish is average 10 μin. (0.25 μm) Ra.
- Every fitting is stamped with size, material, and heat code.

Configuration	Fitting Type	Example
	Reducing Union	6LV-WU1-TB8-TB4
	90° Union Elbow	6LW-WL1-MTB10
	Reducing Union Elbow	6LW-WL1-MTB12-MTB6

Configuration	Fitting Type	Example
	45° Union Elbow	6LW-WV1-TB4
	Tribow	6LW-WB1-TB4
	Union Tee	6LW-WT1-MTB12
	Reducing Tee	6LW-WT1-TB8-TB8-TB4
	Union Cross	6LW-WC1-TB6

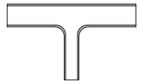
L Series

- Sizes range from 1/4" to 1" and 6 mm to 18 mm.
- 316L stainless steel materials are standard.
- Butt weld connection allows for a smooth transition.
- Radius junction design with elbows provides smooth flow path.
- Maximum working temperature is 850°F (454°C).
- Standard wetted surface finish is average 10 µin. (0.25 µm) Ra.
- Every fitting is stamped with size, material, and heat code.

Configuration	Fitting Type	Example
	Reducing Union	6L-WU2-TB8-TB4
	Union Elbow	6L-WL2-MTB10
	Union Tee	6L-WT2-MTB10
	Reducing Tee	6L-WT2-TB8-TB8-TB4
	Union Cross	6L-WC2-TB8

T Series

- Sizes range from 1/4" to 2", NPS 1/2 to 2.
- 316L stainless steel materials are standard.
- Butt weld connection allows for a smooth transition.
- Radius junction with elbows provides smooth flow path.
- Maximum working temperature is 850°F (454°C).
- Standard wetted surface finish is average 10 µin. (0.25µm) Ra.
- Every fitting is stamped with size, material, and heat code.

Configuration	Fitting Type	Example
	Concentric Reducing	6L-WU3-TB6-TB4
	90° Union Elbow	6L-WL3-TB4
	45° Union Elbow	6L-WV3-TB4
	Union Tee	6L-WT3-TB4
	Reducing Tee	6L-WT3-TB6-TB6-TB4
	End Cap	6L-CW3-TB4

M, L and T Series Weld Fitting Part Number Description

6L – WU2 – TB8 – TB4 – □ – □ – E3F3

Material		Fitting Type		Fitting Series		P1 Type		P1 Size		P2,P3 and P4	Wetted suface finish		Cleaning and Packaging	
SS	316 SS	WU	Reducing Union	1	M Series	TB	Fractional Tube Butt Weld	2	1/8"	Specify in the same way as the P1		0.4 µm Ra		FC-01
6L	316L SS	WL	Union Elbow	2	L Series	MTB	Metric Tube Butt Weld	4	1/4"		E3	0.2 µm Ra	F2	FC-02
6LV	316L VAR SS	WT	Union Tee	3	T Series			6	3/8" or 6 mm				F3	FC-03
6LW	316L VIM/VAR SS	WV	45°Union Elbow					8	1/2" or 8 mm					
		WC	Union Cross					10	10 mm					
		WB	Tribow					12	3/4" or 12 mm					
		CW	End cap					16	1" or 16 mm					
								18	18 mm					
								24	1 1/2"					
								32	2"					

P4 / P1 / P2 / P3

P1,P2,P3 and P4 shall be described in the following orders:

- Describe in descending order as per size if the end connection types are the same
- Describe the end of P1 if all end connections are the same

Cleaning and Packaging:

FC-01: Standard cleaning and packaging for general industrial procedures

FC-02: Special cleaning and packaging for wetted system components to ensure compliance with product cleanliness requirement as stated in ASTM G93 Level C

FC-03: Ultrahigh-purity cleaning and packaging

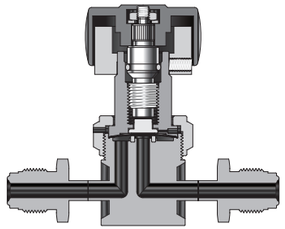
Note: "Part Number Description" is used for composition rules of FITOK product model, Not suitable for specific product part number selection, not random combinations. If in doubt, please contact FITOK company or authorized agents.

Valves

Diaphragm Valves

DQ Series

- 316L VIM-VAR stainless steel body.
- Suitable for ultrahigh-purity applications.
- Elgiloy material for strength and corrosion resistance for long cycle life.
- Fully contained PCTFE seat design provides excellent resistance to swelling and contamination.
- Wetted Surface Electropolished, Roughness Ra finished up to 0.2 µm.
- Helium leak tested, maximum leak rate of $1x10^{-9}$ std cm^3/s.
- Low-pressure and high-pressure models.
- Manual or pneumatic actuation.
- Aluminum piston accelerated open/close speed.
- Handle types and colors are available.



Manual Actuators

Round

- Quick, quarter-turn actuation
- Handle with window provides visual indication of open andclosed positions
- Available on high-and lowpressure models

Directional

- Quick, quarter-turn actuation
- Handle shape provides visual indication of open and closed position
- Available on high-and low-pressure models

Integral Lockout

- Quick, quarter-turn actuation
- Lockable in the CLOSED position for safety
- Handle shape and window indicator provides visual indication of OPEN and CLOSE position
- Available on high-and lowpressure models

Toggle

- Spring-loaded toggle design quick actuation
- Lockable in the CLOSED position for safety
- Handle position provides visual indication of OPEN and CLOSED positions
- Narrow handle profile allows close parallel mounting of valves
- Available on low-pressure models with PCTFE seats

Pneumatic Actuators

High-pressure Pneumatic Actuator

- Normally open
- Normally close

Low-pressure Pneumatic Actuator

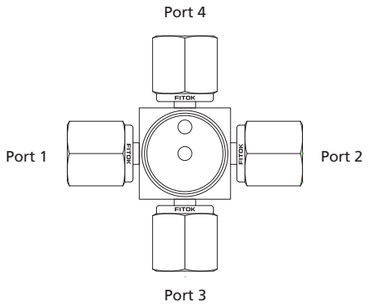
- Normally open
- Normally close

Multiport and Elbow Valves

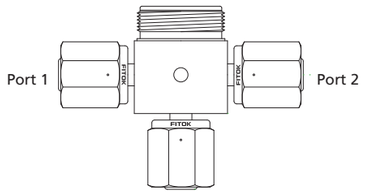
Designator	Schematic	Flow Path		Designator	Schematic	Flow Path	
		Closed	Open			Closed	Open
2A				3D			
2B				3E			
2C				3F			
4M				3G			
4N				3K			

End Connections

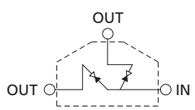
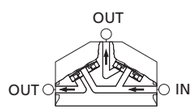
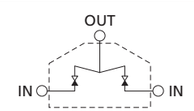
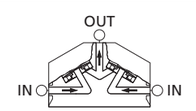
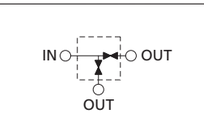
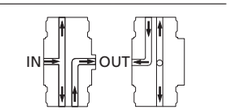
Top



Side



Multivalve Manifolds

Designator	Schematic	Flow Path
V		
W		
D		

V and W Multivalve Manifolds

D Multivalve Manifold

IGS Modular Suface-mount Valves

Directional and Roud Handles

Toggle Handle

Integral Lockout Handle

Pneumatic Actuator

Part Number Description

DQ6LW – TB4 – TB4 – MTB6 – H3KZY – SE3F3

Series	Body Materials	Port 1 Type	Port 1 Size	Port 2/3/4/5 Type	Port 2/3/4/5 Size	Pressure Type	Flow Path	Actuator/Handle	Colour	NACE MR0175	Wetted Surface finish	Cleaning and Packaging
DQ	SS 316 SS 6L 316L SS 6LW 316L VIM/VAR	FL Fractional Tube Fitting ML Metric Tube Fitting TB Fractional Tube Butt Weld MTB Metric Tube Butt Weld FR Male FR Fitting FFR Female FR Fitting RFR Rotatable Male FR Fitting	4 1/4" 6 6 mm	Same as port 1 Specify in the same way as port 1 type and port 1 size	Same as port 1 Specify in the same way as port 1 type and port 1 size	H High-Pressure Valves L Low-Pressure Valves	IGS Modular Suface-mount D Multivalve Manifolds W Multivalve Manifolds V Multivalve Manifolds 4N 4 ports 4M 4 ports 3K 3 ports 3G 3 ports 3F 3 ports 3E 3 ports 3D 3 ports 2C 2 ports 2B 2 ports 2A 2 ports Union	Z Directional Handle U Integral Lockout Handle T Toggle Handle C Pneumatic, Normally closed O Pneumatic, Normally open Round Handle	K Black W White Y Yellow B Blue R Red Green	S YES NO	E2 0.4 µm Ra E3 0.2 µm Ra 0.8 µm Ra	F2 FC-02 F3 FC-03 FC-01

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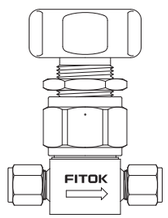
Cleaning and Packaging :
FC-01: Standard cleaning and packaging for general industrial procedures
FC-02: Special cleaning and packaging for wetted system components to ensure compliance with product cleanliness requirement as stated in ASTM G93 Level C
FC-03: Ultrahigh-purity cleaning and packaging

DM Series

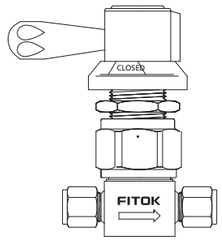
- All-metal containment, packless.
- Repetitive shutoff with fully contained softseat stem tip.
- Working pressures from vacuum to 3500 psig (241 bar).
- Temperatures from -100 to 250°F (-73 to 121°C).
- Round handle, approximately one and one-half turns to operate from fully open to closed.
- Lever handle, just one-quarter turn of the handle to actuate the valve from fully open to closed.

Straight Patterns

Round handle

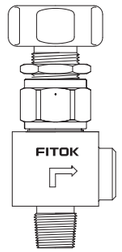


Lever handle

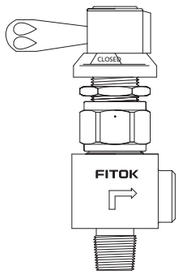


Angle Patterns

Round handle



Lever handle

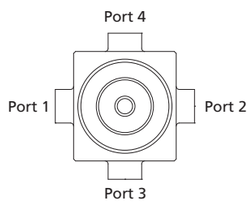


Multiport and Elbow Valves

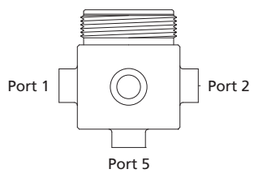
Designator	Schematic	Flow Path		Designator	Schematic	Flow Path	
		Closed	Open			Closed	Open
2A				3D			
2B				3E			
2C				3F			
4M				3G			
4N				3K			

End Connections

Top



Side



Part Number Description

DM6L – FL4 – NS4 – T – ALR – SE2F2

Series	Body Material	Inlet Type	Inlet Size	Outlet Type	Outlet Size	Stem Tip Material	Handle Type	Flow Pattern	Handle Colour	NACE MR0175	Wetted Surface Roughness	Cleaning and Packing
DM	6L 316L SS	FL Fractional Tube Fitting	4 1/4"	Same as inlet	PCTFE	Union	Round Handle	Blank Standard	Blue	NO	0.8 µm Ra	FC-01
	SS 316 SS	ML Metric Tube Fitting	6 6 mm	Specify in the same way as inlet type and inlet size	T PTFE	2A	Level Handle	L	R Red	S YES	E2 0.4 µm Ra	F2 FC-02
		TB Fractional Tube Butt Weld	8 1/2"		V Polyimide	2B 2 ports			G Green		E3 0.2 µm Ra	F3 FC-03
		MTB Metric Tube Butt Weld				2C			Y Yellow			
		TS Fractional Tube Socket Weld				3D 3 ports			W White (for ultra-hight purity valve)			
		MTS Metric Tube Socket Weld				3E						
		FR Male FR Fitting				3F						
		FFR Female FR Fitting				3G						
		NS Male NPT				3K						
		FNS Female NPT				4M 4 ports						
						4N						

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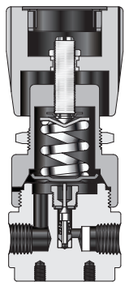
Cleaning and Packaging:
FC-01: Standard cleaning and packaging for general industrial procedures
FC-02: Special cleaning and packaging for wetted system components to ensure compliance with product cleanliness requirement in ASTM G93 Level C
FC-03: Ultrahigh-purity cleaning and packaging

Pressure Reducing Regulator

Compact Pressure Reducing Regulator

PR Series

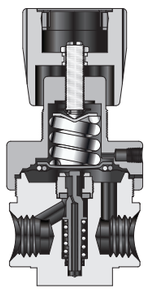
- Maximum inlet pressure: 3000, 500 psig
- Outlet pressure ranges: 0 ~ 25, 0 ~ 50, 0 ~ 100, 0 ~ 250, 0 ~ 500 psig
- Flow coefficient (Cv): 0.06
- Operating temperature: -40°F~+165°F (-40°C~+74°C)
- Maximum inboard leak rate: $2x10^{-8}$ atm · cc/sec He
- Convoluted diaphragm provides accurate pressure reducing
- Metal to metal diaphragm to body seal
- Spring loaded pressure reducing regulator
- A filter installed in inlet
- Panel mounting available



Medium Flow Pressure Reducing Regulator

PM Series

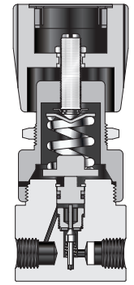
- Maximum inlet pressure: 3000, 500 psig
- Outlet pressure ranges: 0 ~ 25, 0 ~ 50, 0 ~ 100, 0 ~ 150, 0 ~ 200 psig
- Flow coefficient (Cv): 1.0
- Operating temperature: -40°F~+165°F (-40°C~+74°C)
- Maximum inboard leak rate: $2x10^{-8}$ atm · cc/sec He
- Large diameter convoluted diaphragm for increased pressure sensitivity
- Metal to metal diaphragm to body seal
- Large flow, minimal droop
- Panel mounting available



General High Pressure Reducing Regulator

PH Series

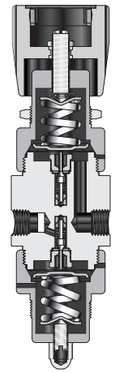
- Maximum inlet pressure: 6000, 3000 psig
- Pressure control range: 0 ~ 250, 0 ~ 500, 0 ~ 1500, 0 ~ 2500 psig
- Flow coefficient (Cv): 0.06
- Operating temperature: -15°F~+165°F (-26°C~+74°C)
- Maximum inboard leak rate: Bubble-tight
- Robust piston sensed design
- A filter installed in inlet
- Panel mounting available



Two Stage Pressure Reducing Regulator

PD Series

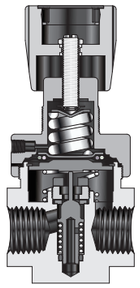
- Maximum inlet pressure: 3000, 500 psig
- Outlet pressure ranges: 0 ~ 25, 0 ~ 50, 0 ~ 100, 0 ~ 250 psig
- Flow coefficient (Cv): 0.06
- Operating temperature: -40°F~+165°F (-40°C~+74°C)
- Maximum inboard leak rate: $2x10^{-8}$ atm · cc/sec He
- Accurate and stable outlet pressure
- Two-stage pressure reducing construction
- Diaphragms are convoluted for greater accuracy and sensitivity
- A Filter installed in inlet
- Panel mounting available



High Flow Pressure Reducing Regulator

PL Series

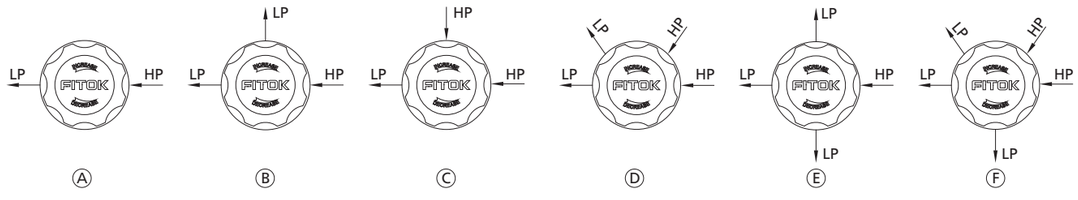
- Maximum inlet pressure: 500 psig
- Outlet pressure ranges: 0 ~ 15, 0 ~ 25, 0 ~ 75, 0 ~ 125 psig
- Flow coefficient (Cv): 1.8
- Operating temperature: -40°F~+165°F (-40°C~+74°C)
- Maximum inboard leak rate: $2x10^{-8}$ atm · cc/sec He
- Large diameter convoluted diaphragm for increased pressure sensitivity
- Metal to metal diaphragm to body seal
- Large flow, minimal droop
- Panel mounting available



Porting configurations

(View from the knob handle)

six configuration: A, B, C, D, E, F
HP: High pressure inlet LP: Low pressure outlet



Part Number Description

PR6L – E52WP – ML6 – FNS4 – VZR – F2

Series	Body Materials	Ports	Inlet Pressure	Outlet Pressure	Inlet Gauge	Outlet Gauge	Inlet Type	Inlet Size	Outlet Type	Outlet Size	Seat material	Panel	Relief Valve	Cleaning and Packing
PR	6L 316L SS	A 1 In 1 Out	PR	5 0-500 psig	M With Gauge (Mpa)	M With Gauge (Mpa)	FNS Female NPT	2 1/8"	Same as inlet type and size		PCTFE	NO	NO	FC-01
PM	SS 316 SS	B 1 In 2 Out	6 3000 psig	4 0-250 psig	P With Gauge (psig)	P With Gauge (psig)	NS Male NPT	4 1/4"			V Vespel	Z YES	R YES	F2 FC-02
PD	B Brass	C 2 In 1 Out	5 500 psig	3 0-100 psig	B With Gauge (bar)	B With Gauge (bar)	FL Fractional Tube Fitting	6 3/8" or 6 mm						
PH	HC Alloy C-276	D 2 In 2 Out	PM	2 0-50 psig	W Without Gauge	W Without Gauge	ML Metric Tube Fitting	8 1/2" or 8 mm						
PL	M Alloy 400	E 1 In 3 Out	6 3000 psig	1 0-25 psig			Other type available	10 10 mm						
		F 2 In 3 Out	5 500 psig	5 0-200 psig				12 3/4" or 12 mm						
			PD	4 0-150 psig				Other size available						
			6 3000 psig	3 0-100 psig										
			5 500 psig	2 0-50 psig										
			PH	1 0-25 psig										
			6 6000 psig	4 0-250 psig										
			5 3000 psig	3 0-100 psig										
			PL	2 0-50 psig										
			5 500 psig	1 0-25 psig										
				4 0-2500 psig										
				3 0-1500 psig										
				2 0-500 psig										
				1 0-250 psig										
				4 0-125 psig										
				3 0-75 psig										
				2 0-25 psig										
				1 0-15 psig										

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Back Pressure Regulator

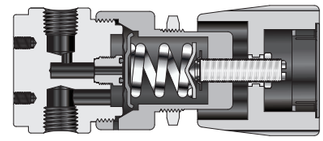
General Purpose Back Pressure Regulator

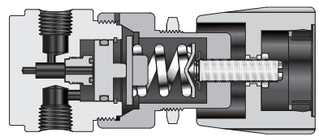
BPR Series

- Maximum control pressure: 250 psig
- Pressure control range: 0 ~ 25, 0 ~ 50, 0 ~ 100, 0 ~ 250 psig
- Flow coefficient (Cv): 0.3
- Operating temperature: -15°F~+165°F (-26°C~+74°C)
- Maximum inboard leak rate: Bubble-tight
- Low internal volume
- Convoluted diaphragm provides accurate pressure reducing
- Metal to metal diaphragm to body seal
- Panel mounting available

BPH Series

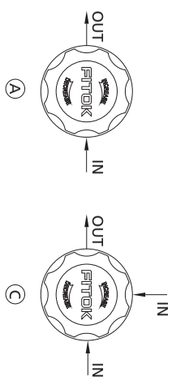
- Maximum control pressure: 500 psig
- Pressure control range: 0 ~ 50, 0 ~ 100, 0 ~ 250, 0 ~ 500 psig
- Flow coefficient (Cv): 0.3
- Operating temperature: -15°F~+200°F (-26°C~+93°C)
- Maximum inboard leak rate: bubble-tight
- Reliable piston sensed design
- Low hand knob torque
- Panel mounting available





Porting configurations

(View from the knob handle)



Part Number Description

BPR6L – A2W – ML6 – FNS4 – KZ – F2

Series	Body Material	Ports	Control Pressure	Inlet Gauge	Inlet Type	Inlet Size	Outlet Type	Outlet Size	Seat Material	Panel	Cleaning and Packing

Series	
BPR	
BPH	

Body Material	
6L	316L SS
SS	316 SS
B	Brass
HC	Alloy C-276
M	Alloy 400

Ports	
A	1 In 1 Out
C	2 In 1 Out

Control Pressure		
4	0-250 psig	BPR
3	0-100 psig	BPR
2	0-50 psig	BPR
1	0-25 psig	BPR
5	0-500 psig	BPH
4	0-250 psig	BPH
3	0-100 psig	BPH
2	0-50 psig	BPH

Inlet Gauge	
M	With Gauge (Mpa)
P	With Gauge (psig)
B	With Gauge (bar)
W	Without Gauge

Inlet Type	
FNS	Female NPT
NS	Male NPT
FL	Fractional Tube Fitting
ML	Metric Tube Fitting
Other type available	

Inlet Size	
2	1/8"
4	1/4"
6	3/8" or 6 mm
8	1/2" or 8 mm
Other size available	

Outlet Type	Outlet Size
Same as inlet type and size	

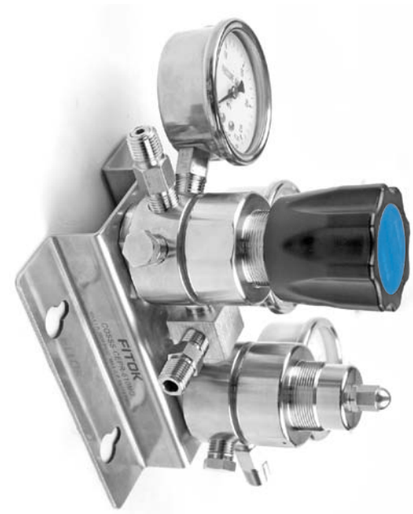
Seat Material	
	Viton®
K	Kalrez®

Panel	
	NO
Z	YES

Cleaning and Packing	
	FC-01
F2	FC-02

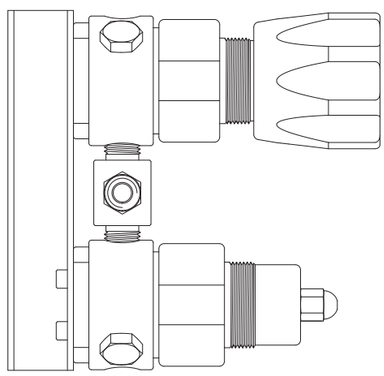
Note: "Part Number Description" is used for composition rules of FITOK product model, Not suitable for specific product part number selection, not random combinations. If in doubt, please contact FITOK company or authorized agents.

Changeover System



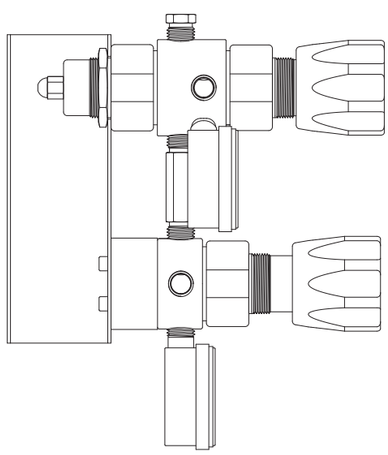
CEPR Series

- Maximum inlet pressure: 3000, 500 psig
- Pressure control range: 0 ~ 100, 0 ~ 150, 0 ~ 200, 0~250 psig
- Flow coefficient (Cv): 0.06
- Operating temperature: -40°F~+165°F (-40°C~+74°C)
- Maximum inboard leak rate: $2x10^{-8}$ atm·cc/sec He
- Based on FITOK's PR series regulator
- Mounting bracket standard



DPPR Series

- Maximum inlet pressure: 3000, 500 psig
- Pressure control range: 0 ~ 25, 0 ~ 50, 0 ~ 100, 0 ~ 150 psig
- Flow coefficient(Cv): 0.06
- Operating temperature: -40°F~+165°F (-40°C~+74°C)
- Maximum inboard leak rate: $2x10^{-8}$ atm·cc/sec He
- Based on FITOK's PR series regulator
- Mounting bracket standard



Part Number Description

COSSS – CEPR – 610P – FNS4 – NS4 – O

Base Series	Body Material	Embodied Series	Inlet Pressure	Pressure Settings	Gauge	Inlet Type	Inlet Size	Outlet Type	Outlet Size	Check valve
COS	6L 316L SS SS 316 SS B Brass HC Alloy C-276 M Alloy 400	CEPR DPPR	6 3000 psig 5 500 psig	10 85~115 psig 15 135~165 psig 20 185~215 psig 25 235~265 psig (CEPR) 02 0~25 psig 05 0~50 psig 10 0~100 psig 15 0~150 psig (DPPR)	M With Gauge (Mpa) P With Gauge (psig) B With Gauge (bar) W Without Gauge	FNS Female NPT NS Male NPT FL Fractional Tube Fitting ML Metric Tube Fitting Other type available	2 1/8" 4 1/4" 6 3/8" or 6 mm 8 1/2" or 8 mm Other size available	Same as inlet type and size	See check valve catalog for the detail	NO O CO Series A COA Series

Note: "Part Number Description" is used for composition rules of FITOK product model, Not suitable for specific product part number selection, not random combinations. If in doubt, please contact FITOK company or authorized agents.

Closed Sampling Systems

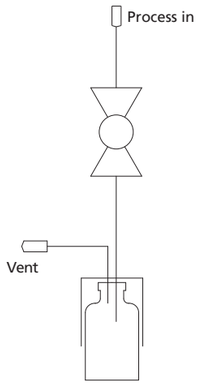
- Two kinds of optional sampling containers: Bottles and Cylinders.
- System main body material: 316 SS, 316L SS, 304L SS etc (Can be customized)
- Connection: 1/4" Tube fitting, 1/2" NPT Thread or NPS 1/2" Flange (Can be customized).
- Maximum working pressure: 10 Mpa
- Working temperature: -18°C to -232°C
- Applicable working conditions: High temperature, high pressure, high viscosity, strong corrosive, strong toxicity and hazardous liquid bane to the environment.
- Various mounting way.

B-Sampling system in bottles

L Series - Liquid Sampler

SBLA1 on-off configuration

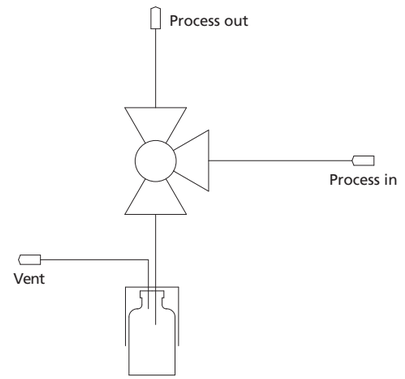
- Direct sampling from the equipment or pipelines, Low pressure application
- Pressure range 0~1 MPa
- Closed Sampling



Schematic diagram

SBLA2 Circulation loop configuration

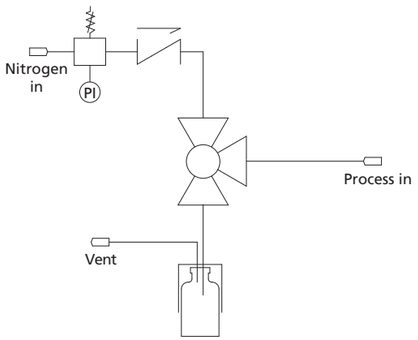
- Direct sampling from the equipment or pipelines, Low pressure application
- Pressure range 0~1 MPa
- Closed Sampling
- With recirculation function
- Representatively sampling



Schematic diagram

SBLA3 Backflow configuration

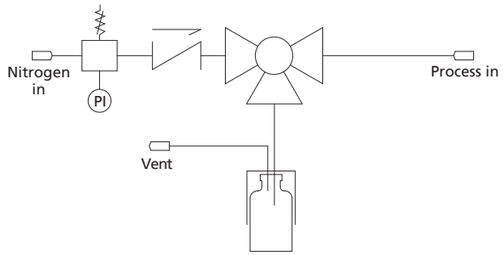
- Direct sampling from the equipment or pipelines, Low pressure application
- Pressure range 0~1 MPa
- Closed Sampling
- Backflow
- Representative sampling



Schematic diagram

SBLA4 Displacement configuration I

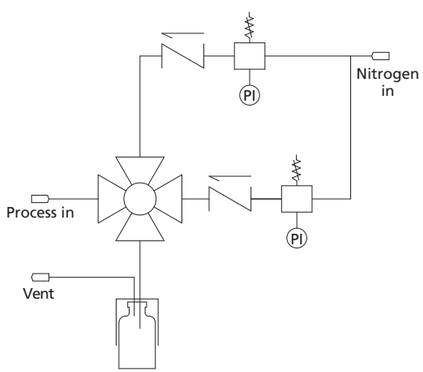
- Direct sampling from the equipment or pipelines, Low pressure application
- Pressure range 0~1 MPa
- Closed Sampling
- No residual liquid in needle assembly
- Purge and displace the bottle with Nitrogen
- Representative sampling



Schematic diagram

SBLA5 Backflow displacement configuration

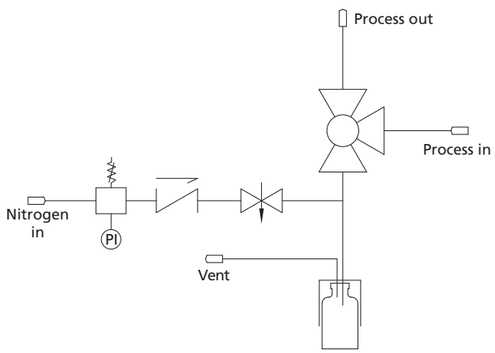
- Direct sampling from the equipment or pipelines, Low pressure application
- Pressure range 0~1 MPa
- Closed Sampling
- No residual liquid in needle assembly
- With backflow and displacement function
- Representative sampling



Schematic diagram

SBLA6 Loop & Displacement configuration

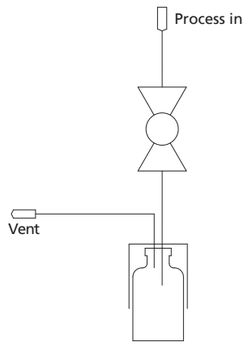
- Direct sampling from the equipment or pipelines, Low pressure application
- Pressure range 0~1 MPa
- Closed Sampling
- No residual liquid in needle assembly
- With recirculation and displacement function
- Representative sampling



Schematic diagram

SBLB1 Flange on-off configuration

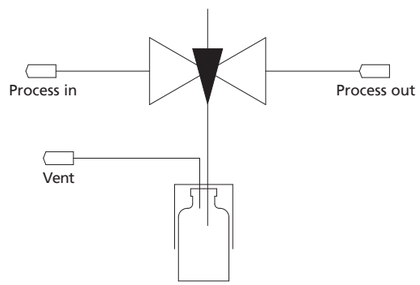
- Only applicable for sampling from process or container
- Pressure range 0~1 MPa
- Closed Sampling
- Representative sampling
- Direct sampling from process or container via a probe



Schematic diagram

SBLB2 On line circulation configuration

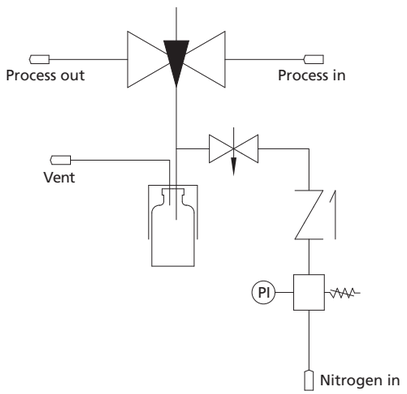
- On line sampling
- Pressure range 0~1 MPa
- Closed Sampling
- With recirculation function
- Representative sampling
- Applicable to viscous liquid or solids-laden fluid



Schematic diagram

SBLB3 On line Displacement configuration

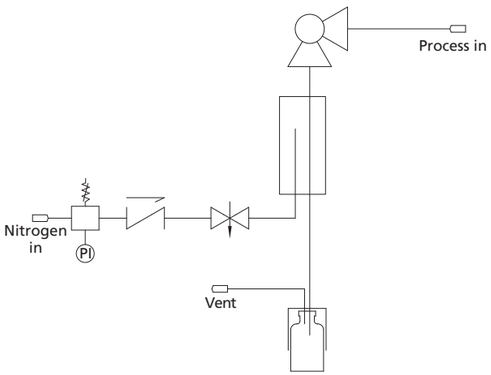
- On line sampling
- Pressure range 0~1 MPa
- Closed Sampling
- With displacement function
- Representative sampling
- Applicable to viscous liquid or solids-laden fluid



Schematic diagram

SBLC1 Displacement configuration II

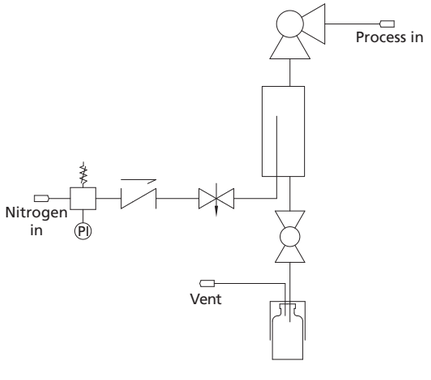
- Direct sampling from the equipment or pipelines
- Pressure range 0~1 MPa
- Closed Sampling
- With displacement function
- Representative sampling
- Applicable to high viscosity liquid sampling



Schematic diagram

SBLC2 Fixed-volume & Displacement configuration I

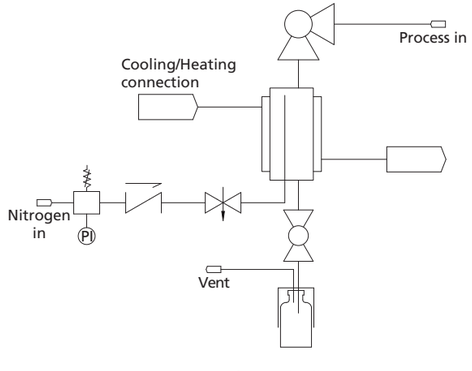
- Direct sampling from the equipment or pipelines
- Pressure range 0~10 MPa
- Closed Sampling
- Representative sampling
- Applicable to high viscosity liquid sampling
- Fixed volume sampling



Schematic diagram

SBLC3 Heating/cooling, Fixed-volume & Displacement configuration

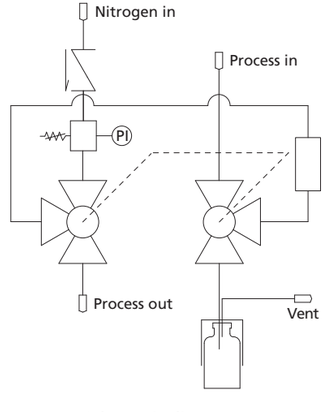
- Direct sampling from the equipment or pipelines
- Pressure range 0~10 MPa
- Closed Sampling
- With displacement function
- Representative sampling
- Applicable to high viscous liquid sampling
- Cooling/heating jacket ensure sampling at a certain temperature
- Fixed volume sampling



Schematic diagram

SBLD2 Fixed-volume configuration II

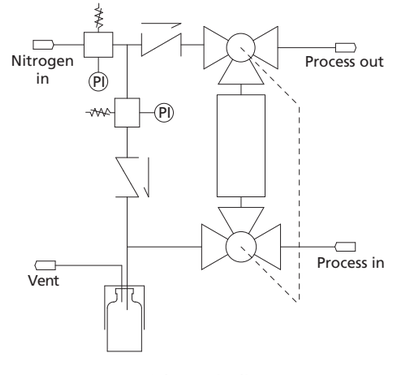
- Direct sampling from the equipment or pipelines
- Pressure range 0~10 MPa
- Closed Sampling
- Fixed volume sampling
- Purge the system with Nitrogen
- Representative sampling
- Unique linkage ball valve design, easy operation



Schematic diagram

SBLD3 Fixed-volume & Displacement configuration II

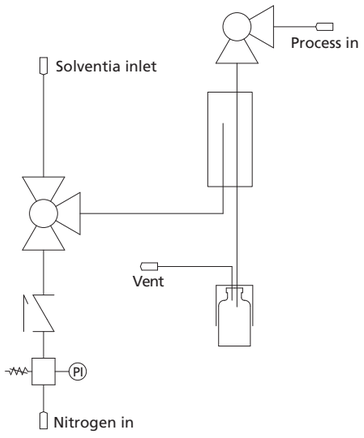
- Direct sampling from the equipment or pipelines
- Pressure range 0~10 MPa
- Closed Sampling
- Fixed volume sampling
- Purge the system and displace the bottle with Nitrogen
- Representative sampling
- Unique linkage ball valve design, easy operation



Schematic diagram

SBLC4 Purge & Displacement configuration I

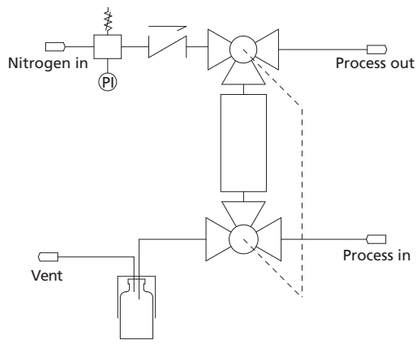
- Direct sampling from the equipment or pipelines
- Pressure range 0~1 MPa
- Closed Sampling
- Displace the bottle with Nitrogen and purge the system with solventia
- Representative sampling
- Applicable to high viscous liquid sampling



Schematic diagram

SBLD1 Fixed-volum configuration I

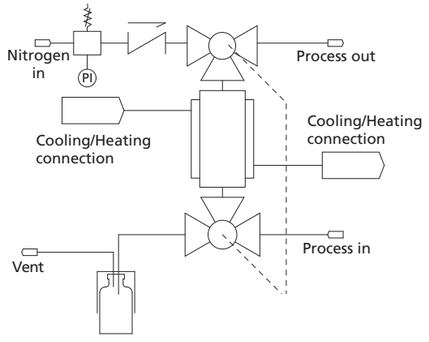
- Direct sampling from the equipment or pipelines
- Pressure range 0~10 MPa
- Closed Sampling
- Fixed volume sampling
- Purge the system with Nitrogen
- Representative sampling
- Unique linkage ball valve design, easy operation



Schematic diagram

SBLD4 Cooling/Heating Fixed-volume configuration

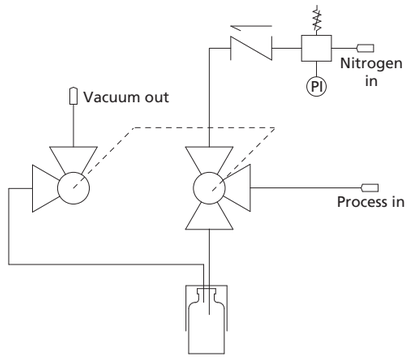
- Direct sampling from the equipment or pipelines
- Pressure range 0~10 MPa
- Closed Sampling
- Fixed volume sampling
- Purge the system with Nitrogen
- Representative sampling
- Cooling/heating jacket ensure sampling at a certain temperature
- Unique linkage ball valve design, easy operation



Schematic diagram

SBLE1 Backfill & Vacuum configuration

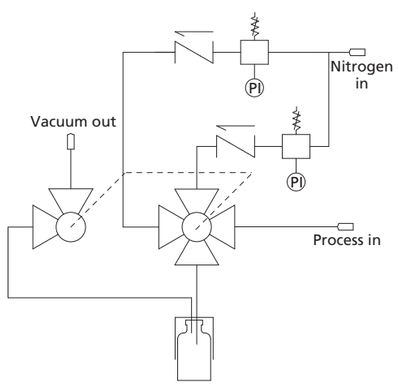
- Direct sampling from process
- Applicable for zero-pressure or vacuum process
- Closed Sampling
- Vacuum backflow function
- Representative sampling
- Unique linkage ball valve design, easy operation



Schematic diagram

SBLE2 Backflow/Displacement/Vacuum configuration

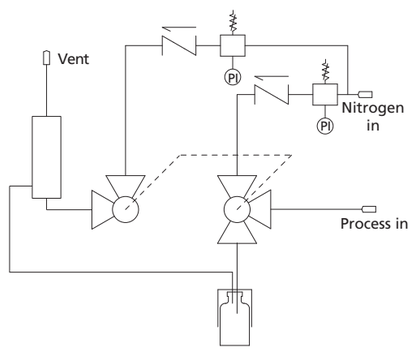
- Direct sampling from process
- Applicable for zero-pressure or vacuum process
- Closed Sampling
- Backflow/Displacement configuration
- Representative sampling
- Unique linkage ball valve design, easy operation



Schematic diagram

SBLE3 Reflux venturi tube type

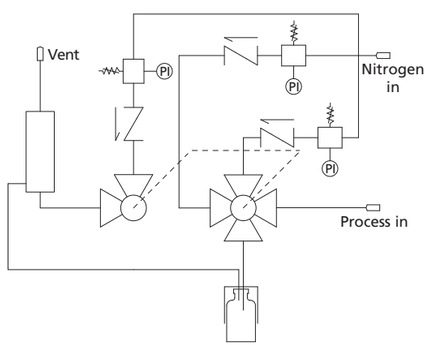
- Direct sampling from process
- Applicable for zero-pressure or vacuum process
- Closed Sampling
- Backflow configuration
- Representative sampling
- Unique linkage ball valve design, easy operation



Schematic diagram

SBLE4 Backflow/Displacement/Venturi configuration

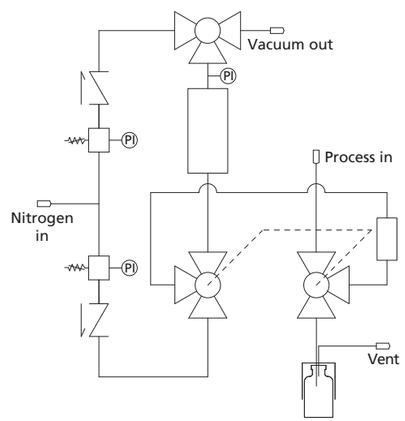
- Direct sampling from process
- Applicable for zero-pressure or vacuum process
- Closed Sampling
- With Backflow/Displacement function
- Representative sampling
- Unique linkage ball valve design, easy operation



Schematic diagram

SBLE5 Overflow/Backflow/Vacuum configuration

- Direct sampling from process
- Applicable for zero-pressure or vacuum process
- Closed Sampling
- Fixed volume sampling
- Backflow configuration
- Representative sampling
- Unique linkage ball valve design, easy operation



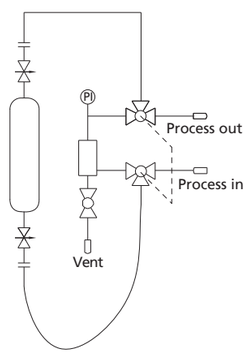
Schematic diagram

C-Cylinder sampling system

S Series - Liquefied gas Sampler

Type SCSF1: Expansion chamber type

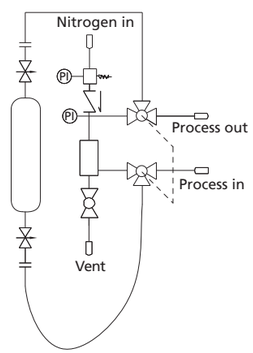
- Direct sampling from the equipment or pipelines
- Pressure range 0~10 Mpa
- Closed Sampling
- Representative sampling
- Circulation loop configuration
- Equipped with pressure relief system, safer for sampling
- Unique linkage ball valve design, easy operation



Schematic diagram

Type SCSF2: Expansion chamber & vent to flare configuration

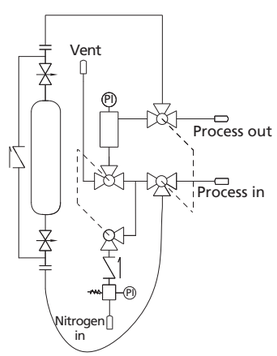
- Direct sampling from the equipment or pipelines
- Pressure range 0~10 Mpa
- Closed Sampling
- Representative sampling
- Circulation loop and sampler purge configuration
- Equipped with pressure relief system, safer for sampling
- Unique linkage ball valve design, easy operation



Schematic diagram

Type SCSF3: Expansion chamber side purge type

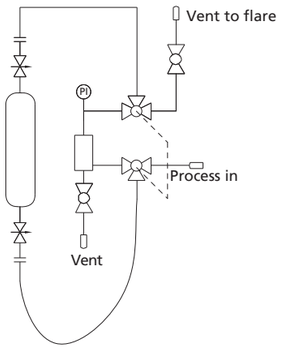
- Direct sampling from the equipment or pipelines
- Pressure range 0~10 Mpa
- Closed Sampling
- Representative sampling
- Circulation loop and sampler purge configuration
- Equipped with pressure relief system, safer for sampling
- Unique linkage ball valve design, easy operation



Schematic diagram

Type SCSF4: Expansion chamber connect with Burning tower tpye

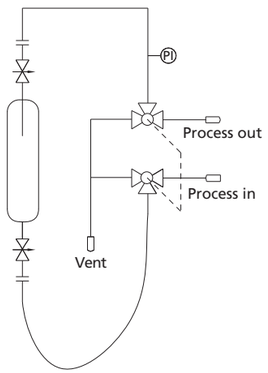
- Direct sampling from the equipment or pipelines
- Pressure range 0~10 Mpa
- Closed Sampling
- Representative sampling
- No circulation loop sampler and sampling in process pipeline
- Equipped with pressure relief system, safer for sampling
- Unique linkage ball valve design, easy operation



Schematic diagram

Type SCSF5: Outlet-tube tpye

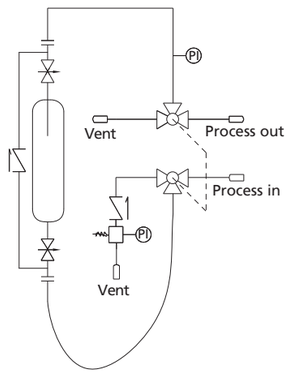
- Direct sampling from the equipment or pipelines
- Pressure range 0~10 MPa
- Closed Sampling
- Representative sampling
- Circulation loop and sampler purge configuration
- Outage tube is used to keep the safety of cylinder
- Unique linkage ball valve design, easy operation



Schematic diagram

Type SCSF6: Outlet-tube side purge type

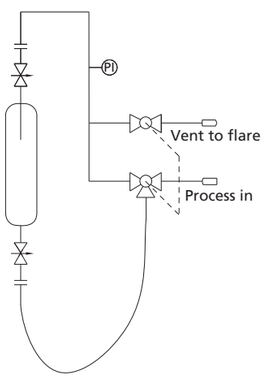
- Direct sampling from the equipment or pipelines
- Pressure range 0~10 MPa
- Closed Sampling
- Representative sampling
- Circulation loop and sampler purge configuration
- Outage tube is used to keep the safety of cylinder
- Unique linkage ball valve design, easy operation



Schematic diagram

Type SCSF7: Outlet end Connection with Burning Tower Configuration

- Direct sampling from the equipment or pipelines
- Pressure range 0~10 MPa
- Closed Sampling
- Representatively sampling
- No circulation loop sampler and sampling in process pipeline
- Outage tube is used to keep the safety of cylinder
- Unique linkage ball valve design, easy operation

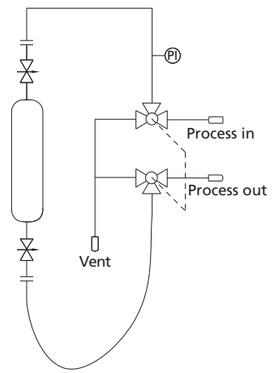


Schematic diagram

G Series - Gas Sampler

Type SCGG1: Circulation loop configuration

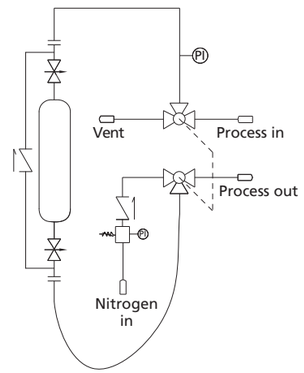
- Direct sampling from the equipment or pipelines
- Pressure range 0~10 MPa
- Closed Sampling
- Circulation loop configuration
- Representatively sampling
- Unique linkage ball valve design, easy operation



Schematic diagram

Type SCGG2: Side purge type

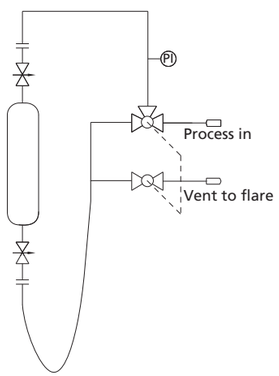
- Direct sampling from the equipment or pipelines
- Pressure range 0~10 MPa
- Closed Sampling
- Representatively sampling
- Circulation loop and sampler purge configuration
- Unique linkage ball valve design, easy operation



Schematic diagram

Type SCGG3: Burning tower connection type

- Direct sampling from the equipment or pipelines
- Pressure range 0~10 MPa
- Closed Sampling
- Representatively sampling
- No circulation loop sampler and sampling in process pipeline
- Unique linkage ball valve design, easy operation



Schematic diagram

L Series Part Number Description

SBLA1SS – L – FM8A – FL4 – FNS4 – NS4 – WP – N1

Series	Body Material	Sample Cylinder volume	Inlet Type	Inlet Size	Flange Class	Outlet Type	Outet Size	Nitrogen Port Type	Nitrogen Port Size	Vent Type	Vent Size	Installation Type	Optional Function	Needle Type

SBLA1	on-off configuration
SBLA2	Circulation loop configuration
SBLA3	Backflow configuration
SBLA4	Displacement configuration I
SBLA5	Backflow displacement configuration
SBLA6	Loop & Displacement configuration
SBLB1	Flange on-off configuration
SBLB2	On line circulation configuration
SBLB3	On line Displacement configuration
SBLC1	Displacement configuration II
SBLC2	Fixed-volume & Displacement configuration I
SBLC3	Heating/cooling, Fixed-volume & Displacement configuration
SBLC4	Purge & Displacement configuration I
SBLD1	Fixed-volum configuration I
SBLD2	Fixed-volume configuration II
SBLD3	Fixed-volume & Displacement configuration II
SBLD4	Cooling/Heating Fixed-volume configuration
SBLE1	Backfill & Vacuum configuration
SBLE2	Backflow/Displacement/Vacuum configuration
SBLE3	Reflux venturi tube type
SBLE4	Backflow/Displacement/Venturi configuration
SBLE5	Overflow/Backflow/Vacuum configuration

SS	316 SS
4L	304L SS
6L	316L SS

H	2ml
I	50ml
K	100ml
L	300ml
M	500ml
N	1000ml

FL	Fractional Ferrule
ML	Metric Ferrule
FNS	NPT Female Thread
NS	NPT Thread
FRT	ISO Female Tapered Thread
RT	ISO Tapered Thread
RG	ISO Parallel Thread (With RG gasket)
BP	ISO Straight Thread (With RG gasket)
FMS	Female Metric Thread (With RG gasket)
MS	Metric Thread (With RG gasket)
FM	Flange

4	1/4"
8	1/2"
12	3/4"

A	150 Class
B	300 Class
C	600 Class

	The same as the Inlet

Same identification as Inlet

	The same as the Inlet

Same identification as Inlet

	The same as the Inlet

Same identification as Inlet

D	Directly
W	Wall Mount
S	Scaffolding
I	Slot-type
R	Rail

	NO
T	Cool
B	304 SS Protective box
E	Electric Heater
H	Stem Heater
F	Inlet Filter
A	Vent Carbon Adsorption
P	Pressure Reduce
G	Visible Protective box
L	Lockable Protective box
O	Lockable Handle

	1.5×1.5
N1	0.85×0.85
N2	2×1.5
N3	2×2
N4	3×1.5
N5	3×3
N6	4×1.5
N7	6×1.5

Note: "Part Number Description" is used for composition rules of FITOK product model, Not suitable for specific product part number selection, not random combinations. If in doubt, please contact FITOK company or authorized agents.

- Multiple Options of Optional Functions, and it's follow above table to installation.
- Only Inlet type and specification will be descriped, if the outlet same as the inlet, or all the informaiton will be descriped.
- RF sealing type will be chose if the connector is flange and in accordance with ASME B16.5.
- In Needle systems the units for process needle I.D. x Vent needle are millimeter.

S, G Series Part Number Description

SCSF1SS – M – FM8A – FL4 – FNS4 – NS4 – WP

Series	Body Material	Cylinder volume	Inlet Type	Inlet Size	Flange Class	Outlet Type	Outet Size	Nitrogen Port Type	Nitrogen Port Size	Vent Type	Vent Size	Installation Type	Optional Function

SCSF1	Expansion chamber type
SCSF2	Expansion chamber & ventto flare configuration
SCSF3	Expansion chamber side purge type
SCSF4	Expansion chamber connect with Burning tower tpye
SCSF5	Outlet-tube tpye
SCSF6	Outlet-tube side purge type
SCSF7	Outlet end Connection with Burning Tower Configuration
SCGG1	Circulation loop configuration
SCGG2	Side purge type
SCGG3	Burning tower connection type

6L	316L SS
4L	304L SS
SS	316 SS

I	50ml
J	75ml
K	100ml
L	300ml
M	500ml
N	1000ml

FL	Fractional Ferrule
ML	Metric Ferrule
FNS	NPT Female Thread
NS	NPT Thread
FRT	ISO Female Tapered Thread
RT	ISO Tapered Thread
RG	ISO Parallel Thread (With RG gasket)
BP	ISO Straight Thread (With RG gasket)
FMS	Female Metric Thread (With RG gasket)
MS	Metric Thread (With RG gasket)
FM	Flange

4	1/4"
8	1/2"
12	3/4"

A	150 Class
B	300 Class
C	600 Class

	The same as the Inlet

Same identification as Inlet

	The same as the Inlet

Same identification as Inlet

	The same as the Inlet

Same identification as Inlet

D	Directly
W	Wall Mount
S	Scaffolding
I	Slot-type
R	Rail

	NO
T	Cool
B	304 SS Protective box
E	Electric Heater
H	Stem Heater
F	Inlet Filter
A	Vent Carbon Adsorption
P	Pressure Reduce
G	Visible Protective box
L	Lockable Protective box
O	Lockable Handle

Note: "Part Number Description" is used for composition rules of FITOK product model, Not suitable for specific product part number selection, not random combinations. If in doubt, please contact FITOK company or authorized agents.

- Multiple Options of Optional Functions, and it's follow above table to installation.
- Only Inlet type and specification will be descriped, if the outlet same as the inlet, or all the informaiton will be descriped.
- Default cylinder Material 316L pressure 1800 Psig. Customizeable for other needs.
- RF sealing type will be chose if the connector is flange and in accordance with ASME B16.5.

UGC Process Valves and Fittings

Forged Steel Globe Valves

- SL Series
- SY Series

Forged Steel Gate Valves

- GT Series

Forged Steel Check Valves

- CT Series

Forged Metal-seated Ball Valves

- BM Series

Factory-made Wrought Butt-welding Fittings

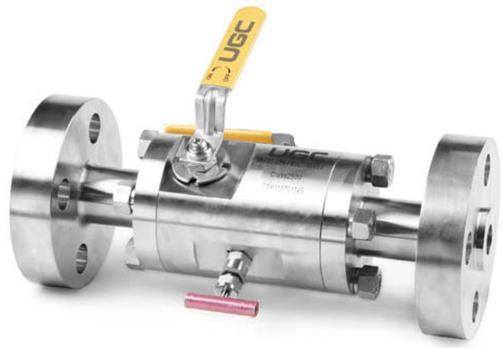
- B Series

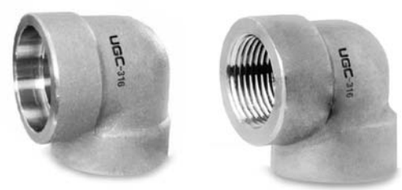
Outlet Fittings

- BWE, SWE, TDE Series

Double Block & Bleed Valves

- DBB Series



Forged Fittings Socket-welding and Threaded

- F Series