

Instrumentation Manifold Valves

SM2V / SM3V / SM5V Series



Ordering Information

Example : **SM2 V - F 8N - M40**

1
2
3
4
5

1. Valve Series

SM2 : 2-Valve Manifolds
SM3 : 3-Valve Manifolds
SM5 : 5-Valve Manifolds

2. Mounting Type

V : Horizontal Style (Remote Mounting)
VF : Horizontal Single Flange Style (Direct Mounting)
VDF : Horizontal Dual Flange Style (Direct Mounting)
VD : Vertical Style (Direct Mounting)

3. End Connection Type

S : Superlok Female Tube Fitting
F : Female Pipe Thread

4. End Connection Size

Tube O.D Designation

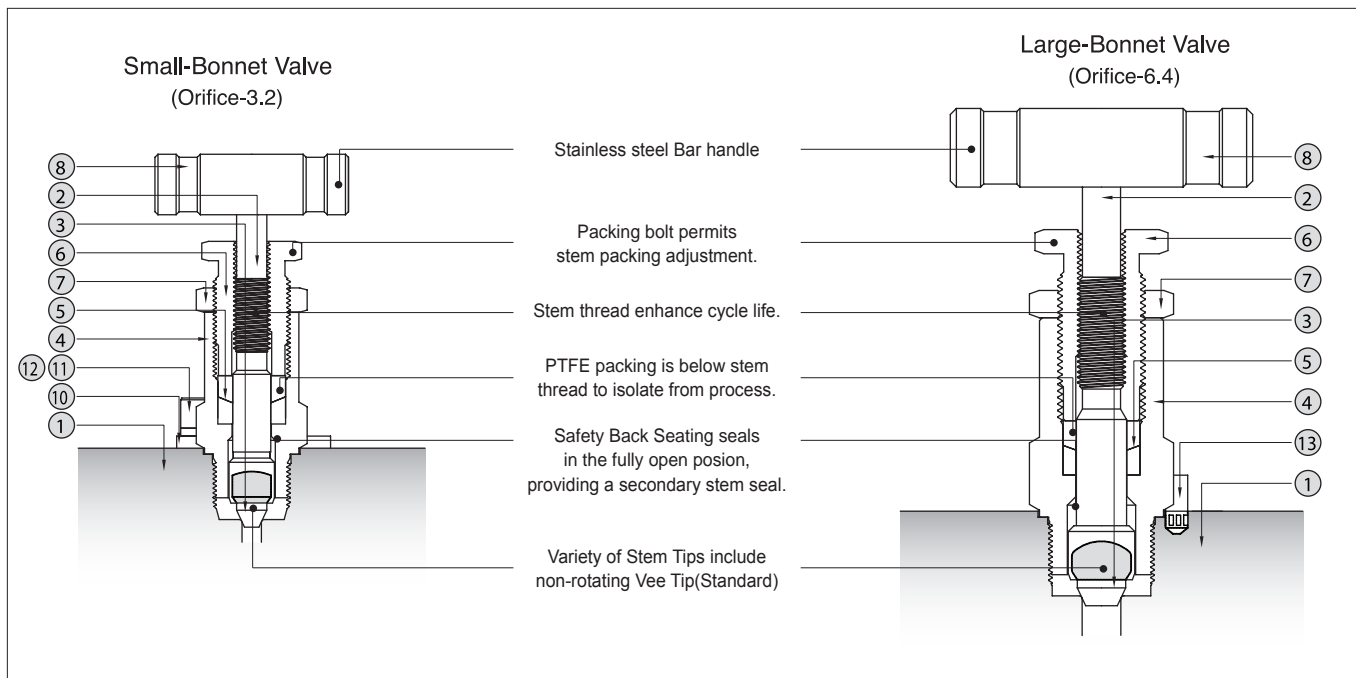
Size (inch)	1/2
Designation	8

Pipe Thread Designation

Size (inch)	1/2
Screwed NPT	8N

5. Body Material

SS : 316 Stainless Steel
M40 : Alloy 400 (Monel)



Technical Data

Material of Construction

Component	Material Grade	
1	Body	SS316 / A276 or A479
2	Stem	SS316 / A276 or A479
3	Vee Tip	SS316 / A479
4	Bonnet	SS316 / A276 / or A479
5	Packing	PTFE
		Grafoil (optional)
6	Packing Bolt	SS316 / A276 / or A479
7	Lock Nut	SS316 / A276 / or A479
8	Handle	Stainless Steel
9	Set Screw	Stainless Steel
10	Locking Plate	Stainless Steel
11	Wrench Bolt	Stainless Steel
12	Spring Washer	Stainless Steel
13	Stop Pin	Stainless Steel

Orifice

3.2mm (0.125 in.)	2-Valve Manifolds Block, Bleed Valve 5-Valve Manifolds Equalizer, Bleed Valve
6.4mm (0.250 in.)	3-Valve Manifolds Block, Equalizer Valve 5-Valve Manifolds Block Valve

Features

- 2-,3-,and 5-valves Instrument manifolds valves.
- Pressure Rating up to 6000psig (413bar) @ 100 °F (37°C)
- Temperature up to 1200 °F (648°C) with optional Grafoil packing
- All 316 stainless steel construction with PTFE packing

Testing

Each valve on every manifold is factory tested with nitrogen gas. The test is performed to a maximum allowable leak rate of 0.1scc/min.

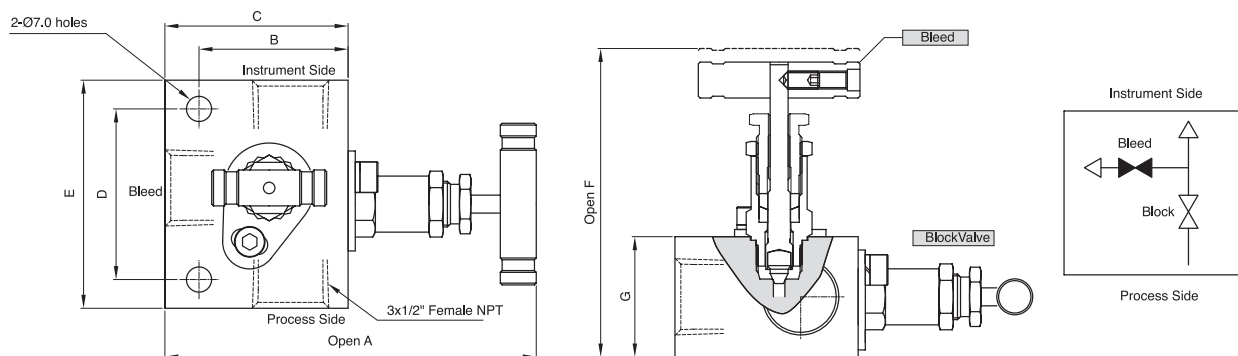
Pressure-Temperature Rating

Component	SS 316	
	Packing Material	
	PTFE	Grafoil
Temperature(°C)	Working Pressure psig(bar)	
-65 (-53) to 100(37)	6000 (413)	6000 (413)
200 (93)	5160 (355)	5160 (355)
250 (121)	4910 (338)	4910 (338)
300 (148)	4660 (321)	4660 (321)
350 (176)	4470 (307)	4470 (307)
400 (204)	4280 (294)	4280 (294)
450 (232)	4130 (284)	4130 (284)
500 (260)	-	3980 (274)
550 (287)	-	3870 (266)
600 (315)	-	3760 (259)
650 (343)	-	3700 (254)
700 (371)	-	3600 (248)
750 (398)	-	3520 (242)
800 (426)	-	3460 (235)
850 (454)	-	3380 (232)
900 (482)	-	3280 (225)
950 (510)	-	3220 (221)
1000 (537)	-	3030 (208)
1050 (565)	-	3000 (206)
1100 (593)	-	2685 (184)
1150 (621)	-	2285 (157)
1200 (648)	-	1715 (118)

* Note
450 °F (232°C) with standard PTFE packing.
1200 °F (648°C) with Optional Grafoil packing.

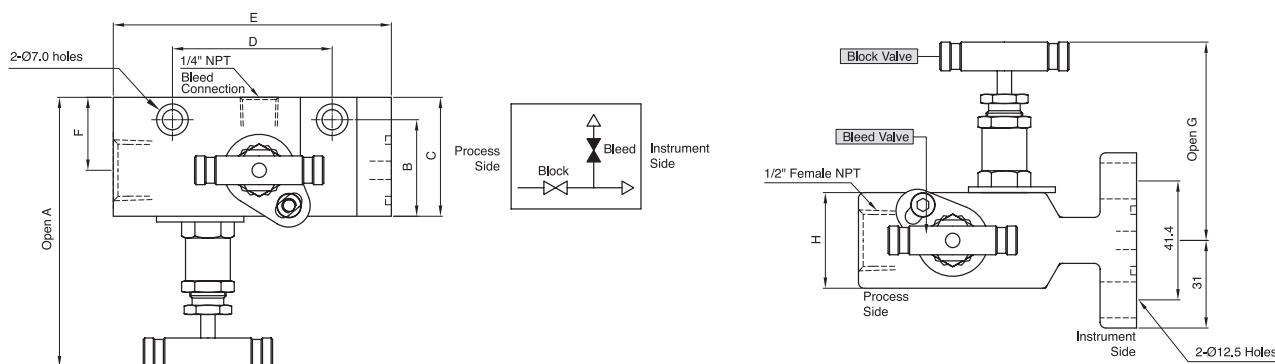
2-Valve Manifolds

Horizontal Style (Remote Mounting)



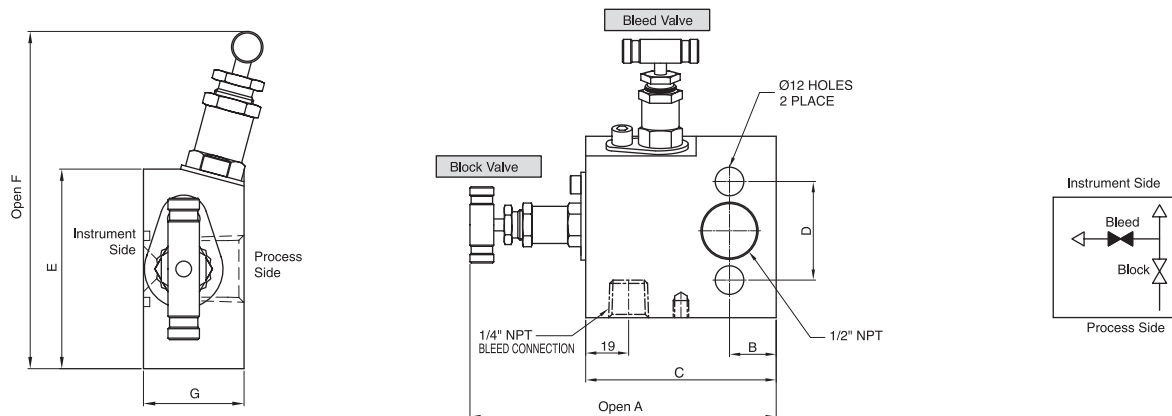
Part Number	End Connections			Weight Dimensions						
	Process	Instrument	Bleed	A	B	C	D	E	F	G
SM2V-F8N	1/2" Female NPT			103.5	41.5	51	47.5	63.5	85.9	33.5

Horizontal Single Flange Style (Direct Mounting)



Part Number	End Connections			Weight Dimensions							
	Process	Instrument	Bleed	A	B	C	D	E	F	G	H
SM2VF-F8N	1/2" Female NPT	Flange	1/4" Female NPT	93.8	33.6	41.4	47.8	97.0	25.4	69.0	31.8

Vertical Style (Direct Mounting)

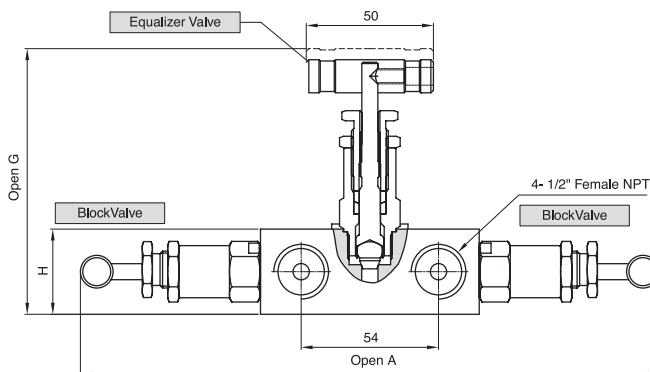
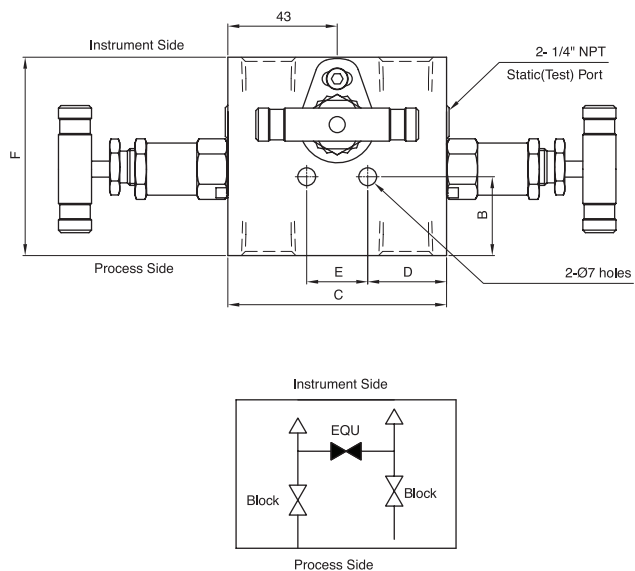


Part Number	End Connections			Weight Dimensions						
	Process	Instrument	Bleed	A	B	C	D	E	F	G
SM2VD-F8N	1/2" Female NPT	Flange	1/4" Female NPT	116.0	17.0	63.5	41.4	63.5	115.0	28.6

• All dimensions in millimeters unless specified as "inch". Dimension are for reference only and are subject to change.
 • To order a manifold with optional Grafoil packing, add-G to the manifold ordering number.

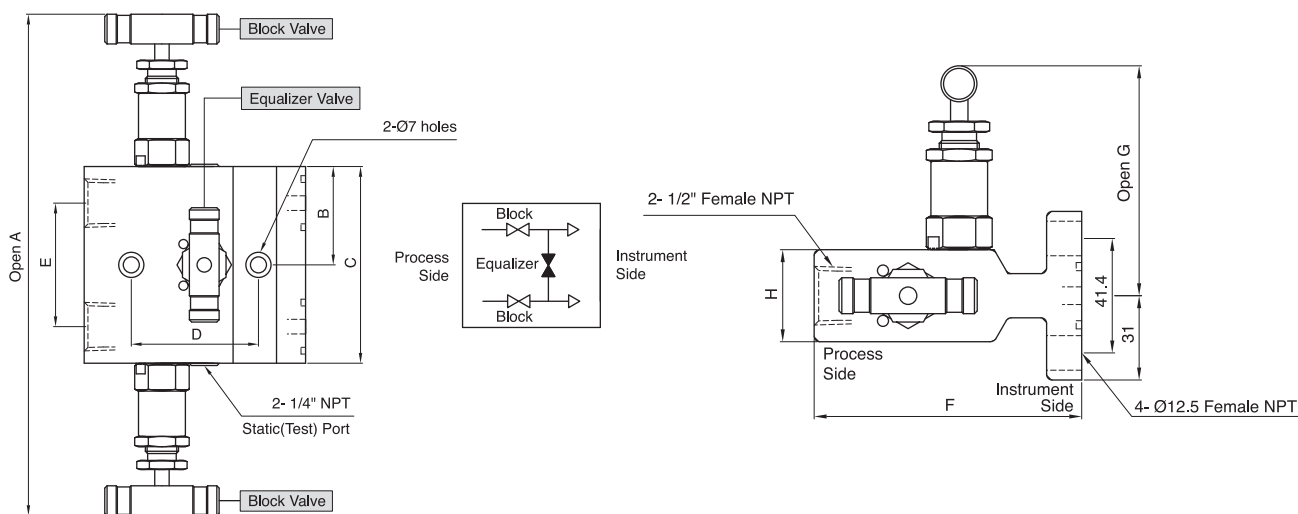
3-Valve Manifolds

Horizontal Style (Remote Mounting)



Part Number	End Connections		Weight Dimensions							
	Process	Instrument	A	B	C	D	E	F	G	H
SM3V-F8N	1/2" Female NPT		228.0	31.0	86.0	31.0	24.0	78.0	106.0	33.5

Horizontal Single Flange Style (Direct Mounting)

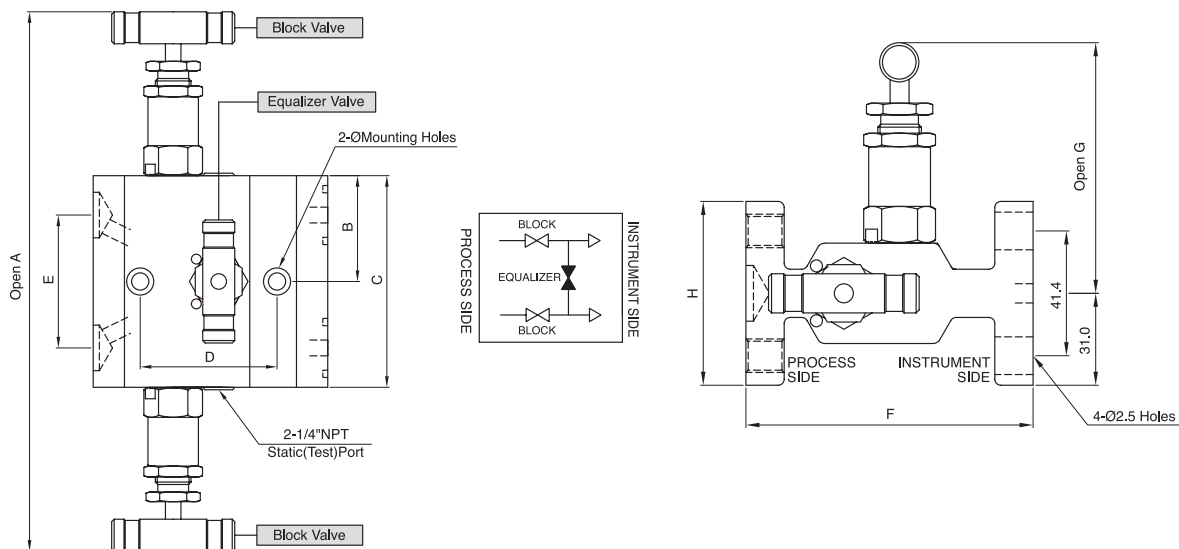


Part Number	End Connections		Weight Dimensions							
	Process	Instrument	A	B	C	D	E	F	G	H
SM3VF-F8N	1/2" Female NPT	Flange	228.0	43.0	86.0	55.6	54.0	97.0	87.7	31.8

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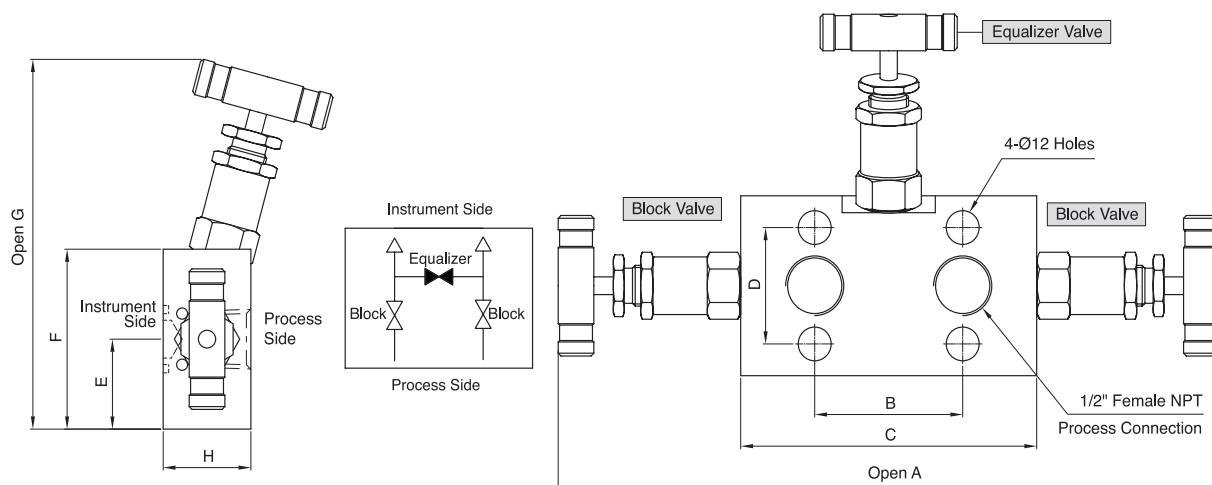
3-Valve Manifolds

Horizontal Dual Flange Style (Direct Mounting)



Part Number	End Connections		Weight Dimensions							
	Process	Instrument	A	B	C	D	E	F	G	H
SM3VDF	Flange	Flange	228.0	43.0	86.0	55.6	54.0	96.4	87.7	62.0

Vertical Style (Direct Mounting)

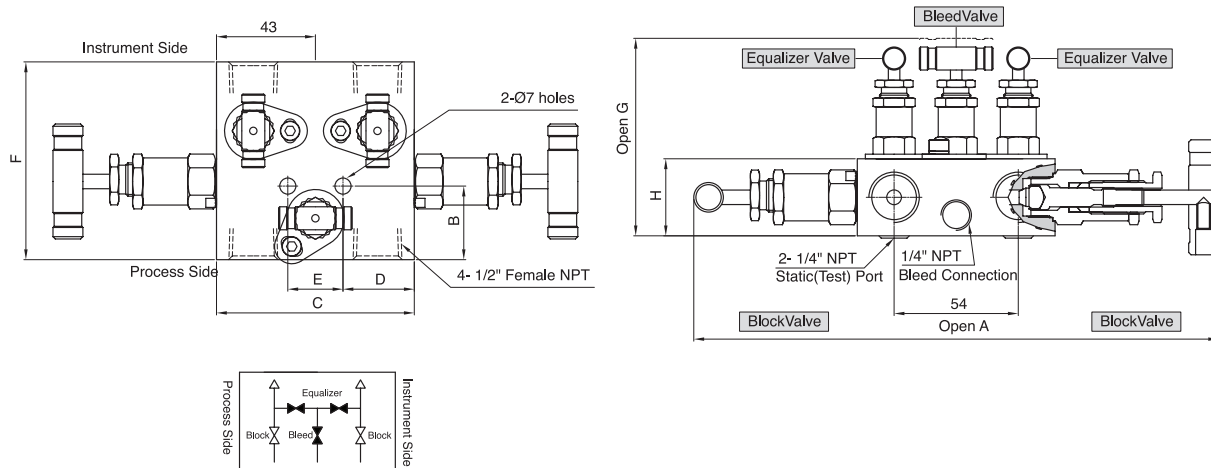


Part Number	End Connections		Weight Dimensions							
	Process	Instrument	A	B	C	D	E	F	G	H
SM3VD-F8N	1/2" Female NPT	Flange	250.0	54.0	108.0	41.4	32.0	64.0	136.0	32.0

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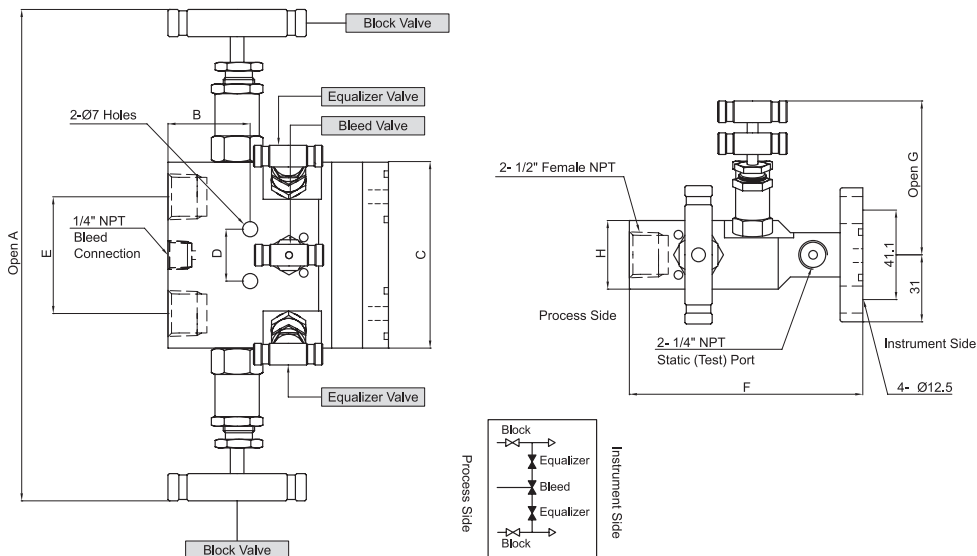
5-Valve Manifolds

Horizontal Style (Remote Mounting)



Part Number	End Connections			Weight Dimensions							
	Process	Instrument	Bleed	A	B	C	D	E	F	G	H
SM5V-F8N	1/2" Female NPT		1/4" Female NPT	228.0	32.0	86.0	31.0	24.0	86.0	85.9	33.5

Horizontal Single Flange Style (Direct Mounting)

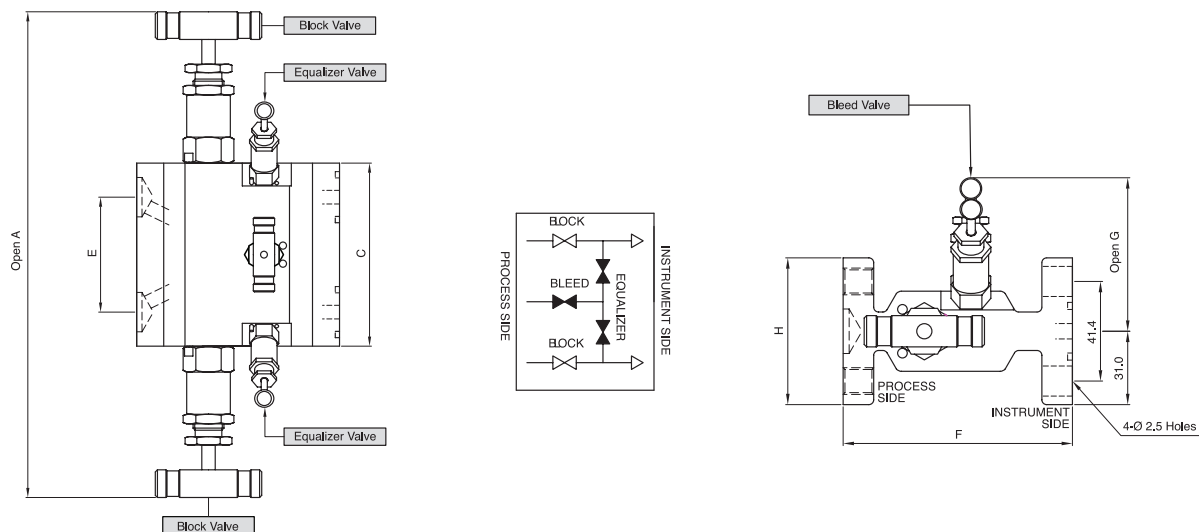


Part Number	End Connections			Weight Dimensions							
	Process	Instrument	Bleed	A	B	C	D	E	F	G	H
SM5VF-F8N	1/2" Female NPT	Flange	1/4" Female NPT	228.0	38.0	86.0	24.0	54.0	108.0	69.0	31.8

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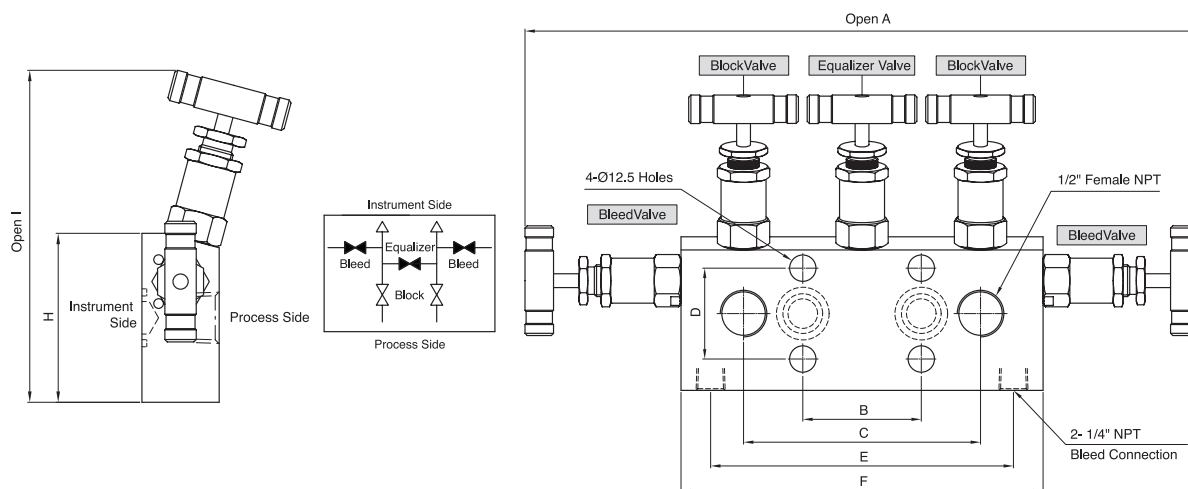
5-Valve Manifolds

Horizontal Dual Flange Style (Direct Mounting)



Part Number	End Connections			Weight Dimensions (mm)							
	Process	Instrument	Bleed	A	B	C	D	E	F	G	H
SM5VDF	Flange	Flange	1/4" Female NPT	228.0	32.0	86.0	24.0	54.0	96.4	69.0	61.0

Vertical Style (Direct Mounting)



Part Number	End Connections			Weight Dimensions (mm)								
	Process	Instrument	Bleed	A	B	C	D	E	F	G	H	I
SM5VD-F8N	1/2" Female NPT	Flange	1/4" Female NPT	312.0	54.0	102.0	41.4	138.0	158.0	148.0	76.2	32.0

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 • To order a manifold with optional Grafoil packing, add-G to the manifold ordering number.

Manifolds Accessories

Flange Bolts & Seals

Flange Bolts

Flange Bolt	Part Number	Hex Size mm (in.)	Length mm (in.)	Threads	Bolt Material Designator
Standard Hex Head Bolt	SM-FB	15.87 (5/8)	25.0 (1.0)	7/16 - 20	Stainless Steel : -S Carbon Steel : -C
Long Stud with Hex Nut	SM-LFB		58.0 (2.28)		
Short Hex Head Bolt	SM-SFB		22.2 (0.875)		

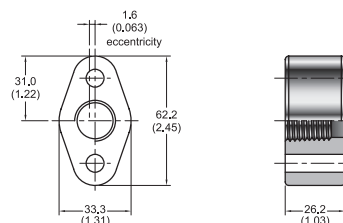


Flange Seals

Seal Material	Ordering No.	Temperature Rating
Viton	SM - FS - V	-20°F ~ 450°F (-28°C ~ 232°C)
PTFE	SM - FS	-65°F ~ 250°F (-53°C ~ 121°C)
Grafoil	SM - FS - GR	-65°F ~ 1000°F (-53°C ~ 537°C)

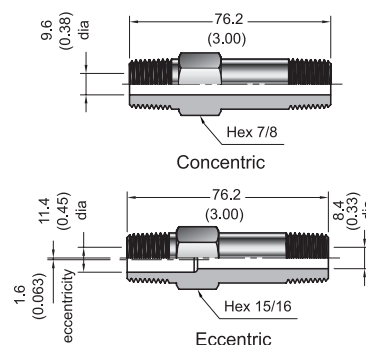
Concentric & Eccentric Oval Flange

- Eccentric Flanges and Pipe Nipple allow connections of flange - to - flange manifolds to process flange taps or process root valves.
- Standard connection is female NPT 1/2".
- Concentric & eccentric oval flange ordering number : Concentric oval flange female NPT 1/2" : SM - COF - F8N
Eccentric oval flange female NPT 1/2" : SM - EOF - F8N
- Dimensions, in millimeters (inches), are for reference only and are subject to change.



Concentric & Eccentric Pipe Nipple

Type	Part Number	Material	Pressure Rating @70°F (20°C) psig (bar)	Temperature Rating F (°C)	Pressure Rating @Max. temperature
Concentric	SM - CPN - S	SS316 / A276	10000 (689)	-65 to 1200 (-53 to 648)	2850 psig @ 1200°F (196 bar @ 648°C)
	SM - CPN - C	Carbon Steel / A108	8000 (551)	-20 to 350 (-28 to 176)	6970 psig @ 350°F (480 bar @ 176°C)
Eccentric	SM - EPN - S	SS316 / A276	7500 (516)	-65 to 1200 (-53 to 648)	2140 psig @ 1200°F (147 bar @ 648°C)
	SM - EPN - C	Carbon Steel / A108	6000 (413)	-20 to 350 (-28 to 176)	5230 psig @ 350°F (360 bar @ 176°C)



* Dimensions, in millimeters (inches), are for reference only and are subject to change.

Calibration Fittings



Calibration fittings connect directly to the bleed port of differential pressure transmitter.

Material	Part Number	SUPERLOK O.D.	Stright Male Thread
Stainless Steel / A276	SCAL4 - 1U	1/4"	1/4 - 28UNF
	SCAL4 - 2U		5/16 - 24UNF

Vent plugs, Bleed & Purge Valves

- Bleed & Purge valves used to vent to atmosphere and to assist in calibration.
- Are offered in 1/4, 3/8, and 1/2 in. male NPT sizes.
- For more information, see the SUPERLOK BLEED & PURGE VALVE catalog. (BMT CBPV)
- Dimensions, in millimeters (inches), are for reference only and are subject to change.

