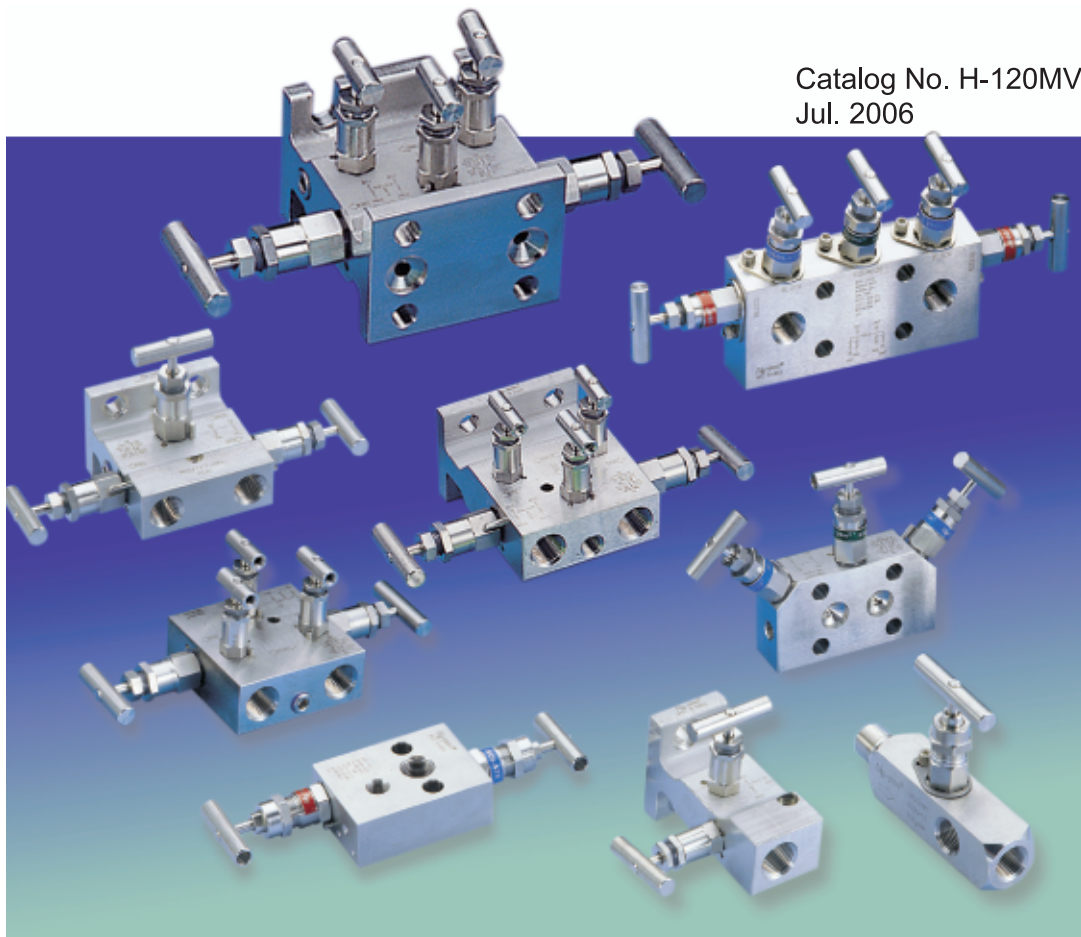


Hy-Lok M Series

Instrument Manifolds

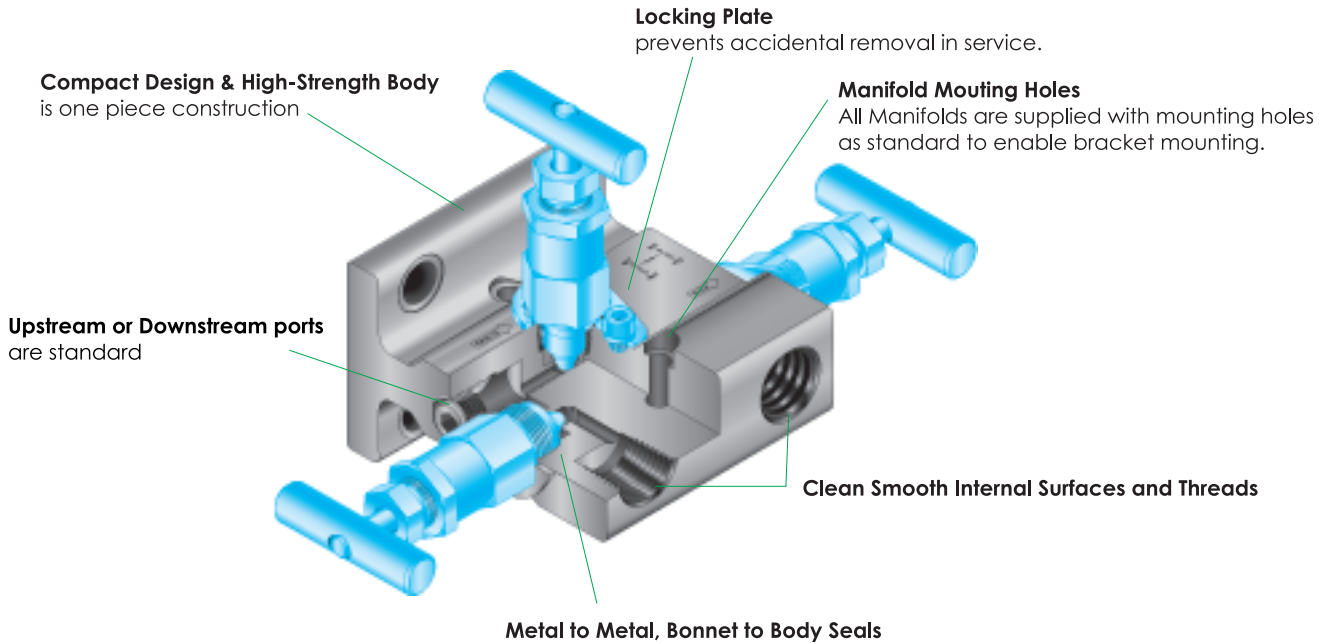
Catalog No. H-120MV
Jul. 2006



HY-LOK CORPORATION

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General



Features

- Pressure rating up to 6000psig (410 bar) @ 100 °F(38 °C)
- Temperature rating up to 1200 °F(648 °C) with optional Grafoil packing
- Flange seal grooves meet the design requirements of MSS-SP-99
- Body materials available in 316 stainless steel, carbon steel, alloy 400
- 100% factory tested

Technical Data

Packing & Body Material vs Temperature and Pressure Rating

Packing Material	Body Material	Temperature Range	Pressure Rating @ 100 °F	Pressure Rating @ Max. Temperature
PTFE	Stainless Steel	-65 °F ~ 450 °F (-54 °C ~ 232 °C)	6000 psig	4130 psig @ 450 °F (285 bar @ 232 °C)
	Carbon Steel	-20 °F ~ 350 °F (-29 °C ~ 176 °C)	6000 psig	5230 psig @ 350 °F (360 bar @ 176 °C)
	Alloy 400	-65 °F ~ 450 °F (-54 °C ~ 232 °C)	5000 psig	3970 psig @ 450 °F (274 bar @ 232 °C)
Grafoil	Stainless Steel	-65 °F ~ 1200 °F (-54 °C ~ 648 °C)	6000 psig	1715 psig @ 1200 °F [Ⓐ] (118 bar @ 648 °C)
	Carbon Steel	-20 °F ~ 350 °F (-29 °C ~ 176 °C)	6000 psig	5230 psig @ 350 °F (360 bar @ 176 °C)
	Alloy 400	-65 °F ~ 500 °F (-54 °C ~ 260 °C)	5000 psig	3960 psig @ 500 °F [Ⓑ] (273 bar @ 260 °C)

Ⓐ 1715 psig @ 1200 °F(118 bar @ 648 °C) for female NPT to female NPT manifold
1715 psig @ 1000 °F(118 bar @ 537 °C) for flange connection manifold

Ⓑ Not applicable over 500 °F(260 °C)

Note - Optional viton[®] flange seals available, Minimum temperature -20 °F(29 °C)

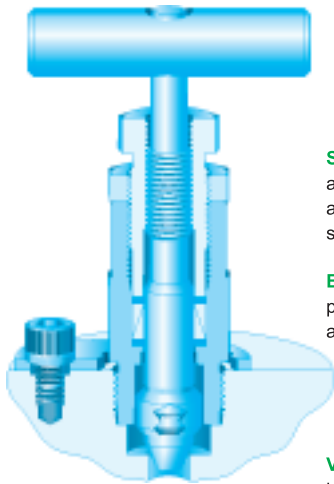
Testing

- Each instrument manifold is tested with nitrogen @ 1000 psig (69 bar) to max. leak rate of 0.1 SCCM.
- Hydrostatic shell test is performed at 1.5 times the working pressure as an option.
- Other tests are available upon request.

Sour Gas Service

Valves are available in materials which comply with standard NACE MR-01-75 latest revision relating to metallic materials offering optimum resistance to sulfide stress cracking

Bonnet Features



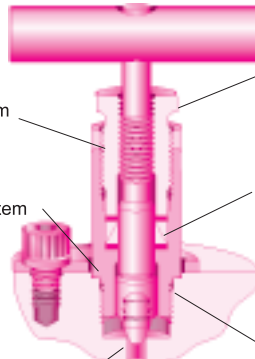
MBV
Orifice 6.4

Stem Threads
are hard chrome-plated and lubricated for maximum service life

Back Seating
provides anti-blow out of stem and secondary stem seal

Variety of Stem Tips
include non-rotating Vee (standard) and Ball tip (optional)

Robust Stainless steel Bar Handle



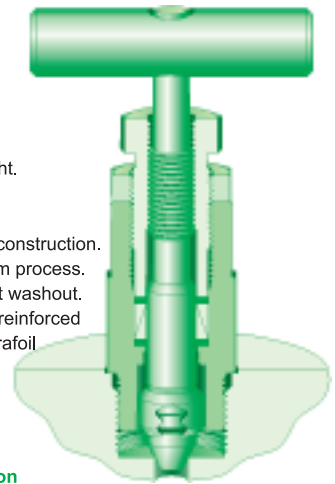
Packing Bolt
allows easy packing adjustment for leaktight.

Packing

- is below stem threads construction.
- isolate stem thread from process.
- prevents stem lubricant washout.
- is PTFE standard with reinforced packing washer and Grafoil available upon request

Metal Seal Construction
ensures safety

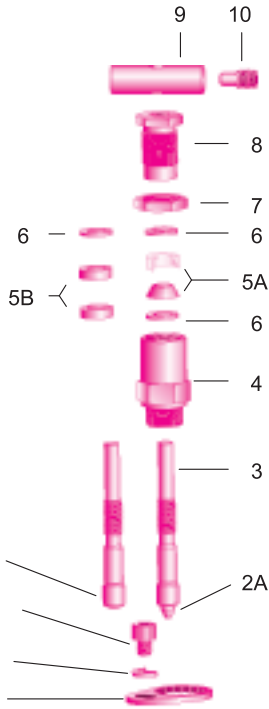
MAV
Orifice 3.2



MCV
Orifice 5.0

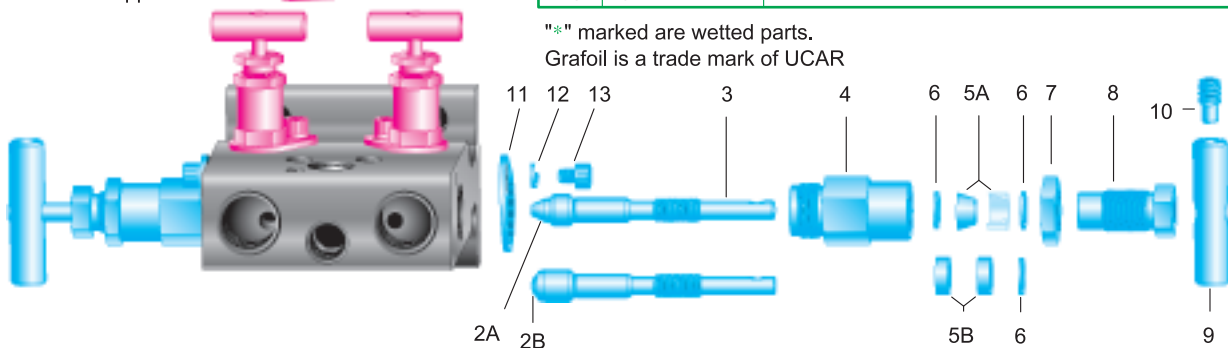
***Note :** Bonnet selection by color after this page

Materials of Construction



Description	Material / ASTM Specification		
	* Body Material		
	316SS / A479	C. Steel / A105	Alloy 400 / B564
* 2A Vee tip	630SS / A564		Alloy 500 / B865
* 2B Ball tip			
* 3 Stem	316SS / A479		Alloy 400 / B564
* 4 Bonnet	316SS / A479	C. Steel / A105	
* 5A Packing	PTFE		
* 5B Packing	Grafoil		
* 6 Packing Washer	Reinforced PTFE		
7 Lock nut	316SS / A479		
8 Packing bolt	316SS / A479		
9 Handle	Stainless Steel	Aluminium	Stainless Steel
10 Set screw	Stainless Steel		
11 Locking Plate			
12 Spring Washer			
13 Bolt			

"*" marked are wetted parts.
Grafoil is a trade mark of UCAR



GENERAL

Page 2,3

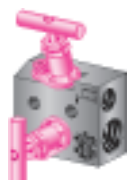
REMOTE MOUNTING

M2V**8N



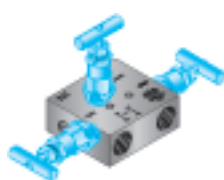
Page 5

M2VV**8N



Page 5

M3V**8N



Page 5

M5V**8N



Page 6

DIRECT MOUNTING

M2V1F**8N



Page 6

M2VDM**8N



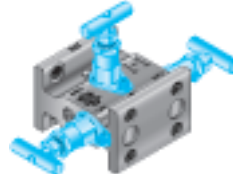
Page 6

M3V1F**8N



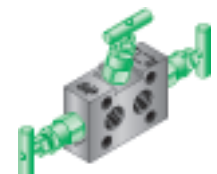
Page 7

M3V2F**



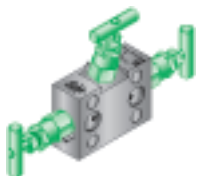
Page 7

M3VDM**8N



Page 8

M3V2DM**



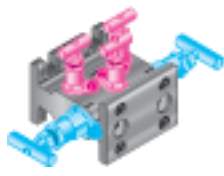
Page 8

M5V1F**8N



Page 9

M5V2F**



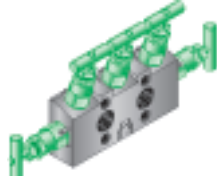
Page 9

M5VDM**8N



Page 10

M5VDMA**8N



Page 10

GAUGE / ROOT VALVE

GV



Page 11

GRV



Page 11

GV2**-MF8N



Page 11

ACCESSORIES & MAINTENANCE KITS



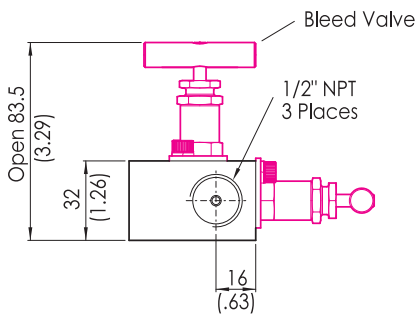
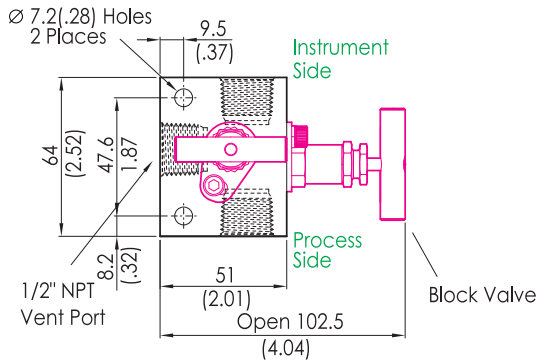
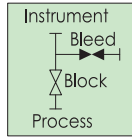
Page 12, 13

ORDERING INFORMATION

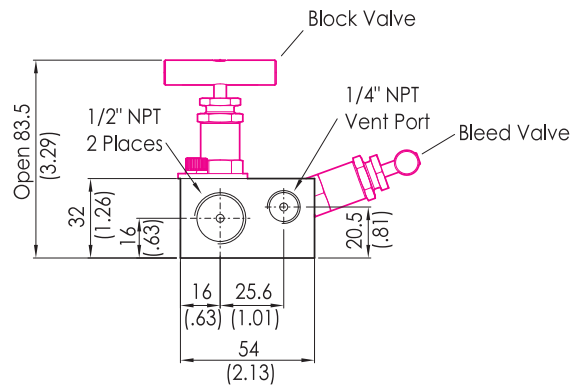
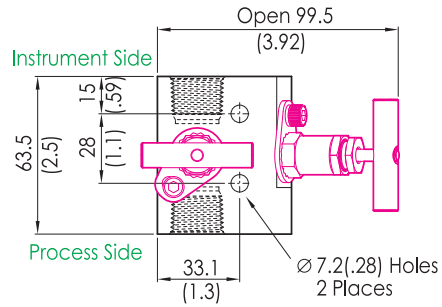
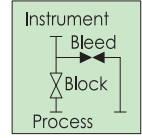
Page 13

Remote Mounting

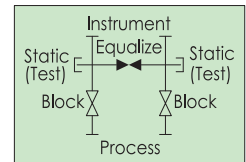
2-Valves Block
M2V ** 8N
 0.8 kg (1.8 lb)



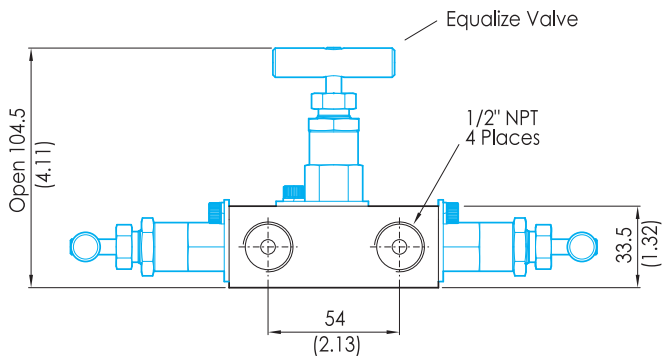
2-Valves Vertical
M2VV ** 8N
 0.9 kg (2.0 lb)



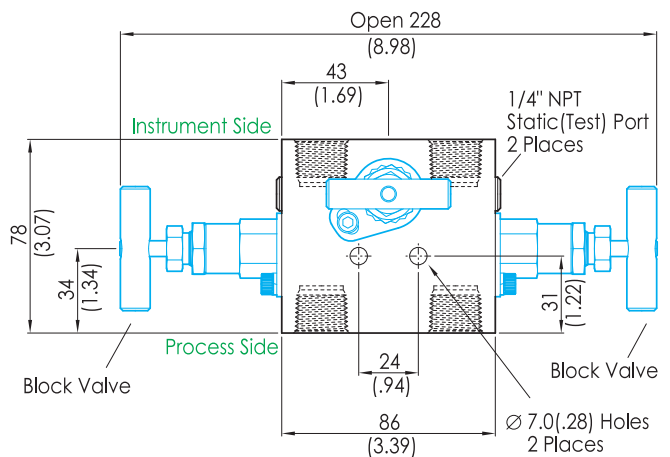
3-Valves Block
M3V ** 8N
 2.0 kg (4.4 lb)



Side View

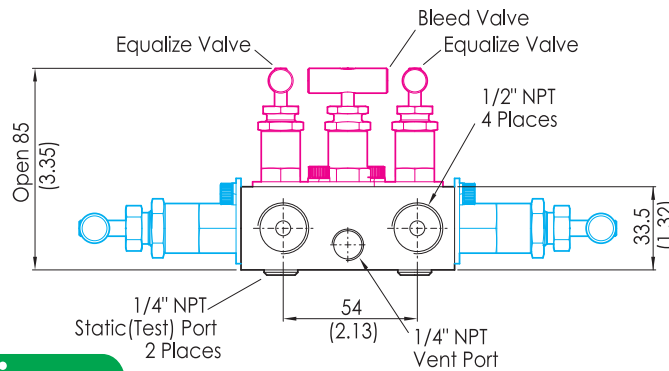
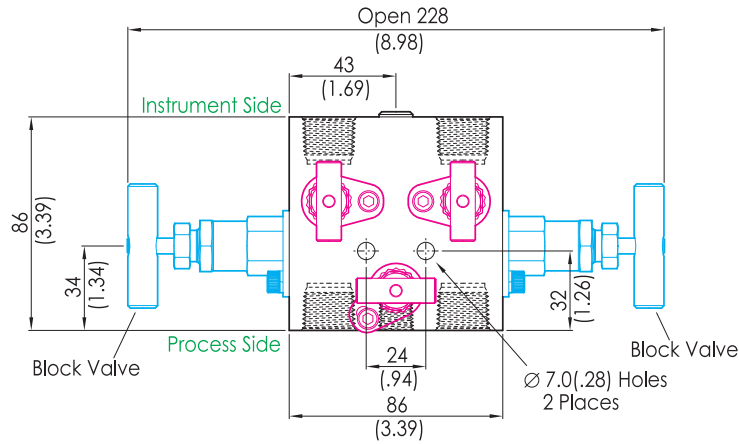
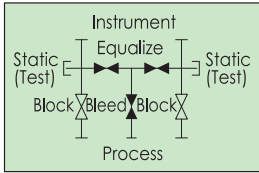


Top View



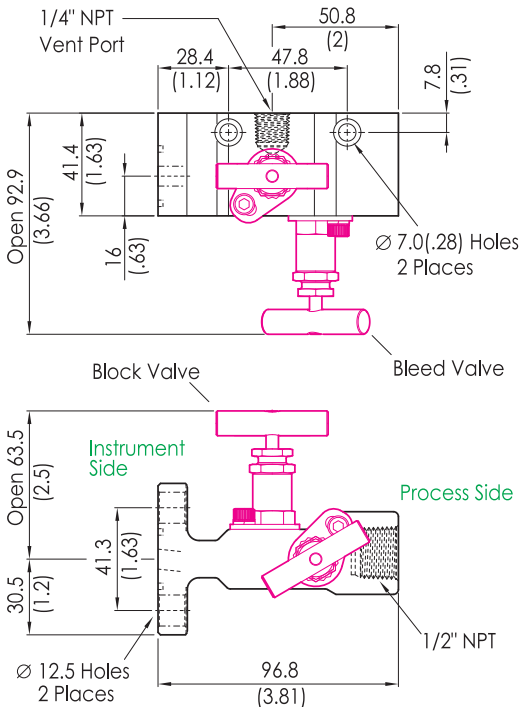
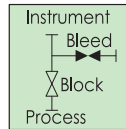
All dimensions are in millimeters (inches) reference only, subject to change.

5-Valves Block
M5V ** 8N
 2.2 kg (4.9 lb)

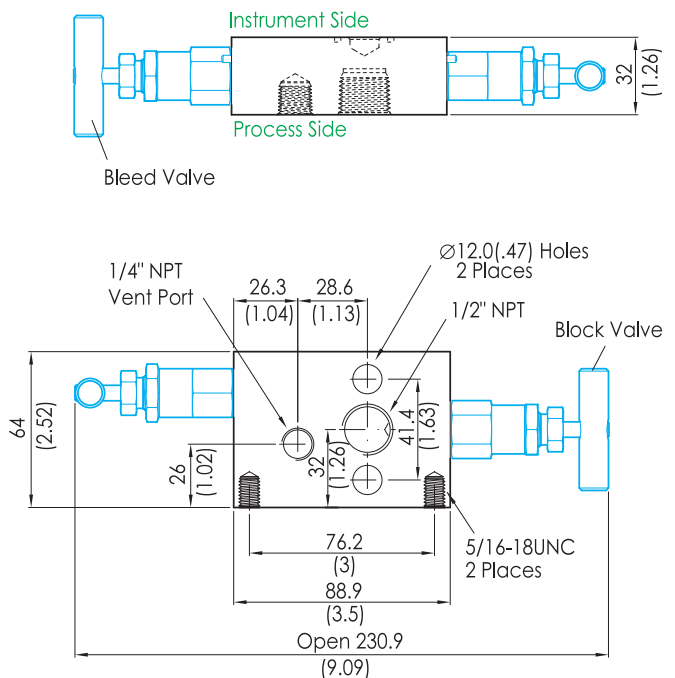
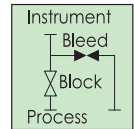


Direct Mounting

2-Valves Single Flange
M2V1F ** 8N
 1.0 kg (2.2 lb)



2-Valves Single Block Flange
M2VDM ** 8N
 1.6 kg (3.5 lb)

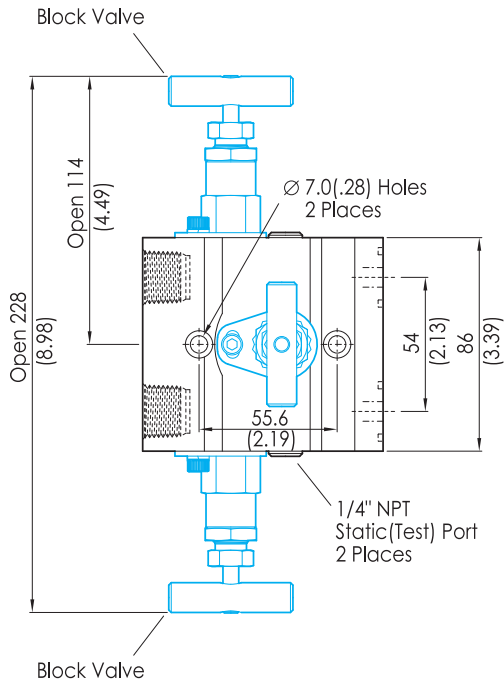


All dimensions are in millimeters (inches) reference only, subject to change.

3-Valves Single Flange

M3V1F ** 8N

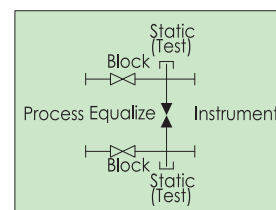
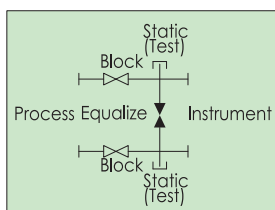
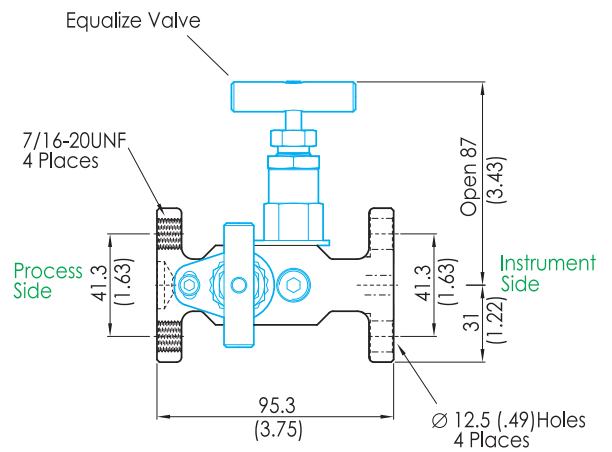
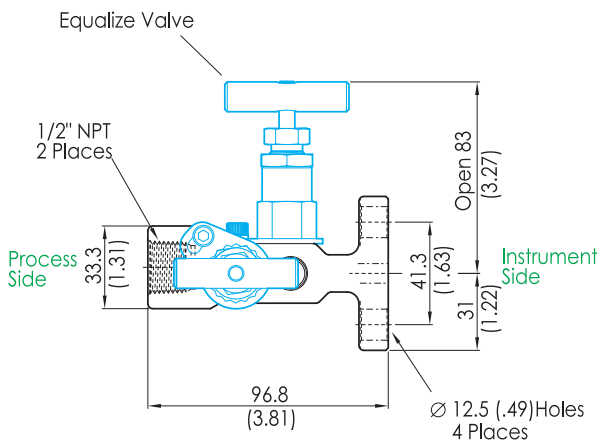
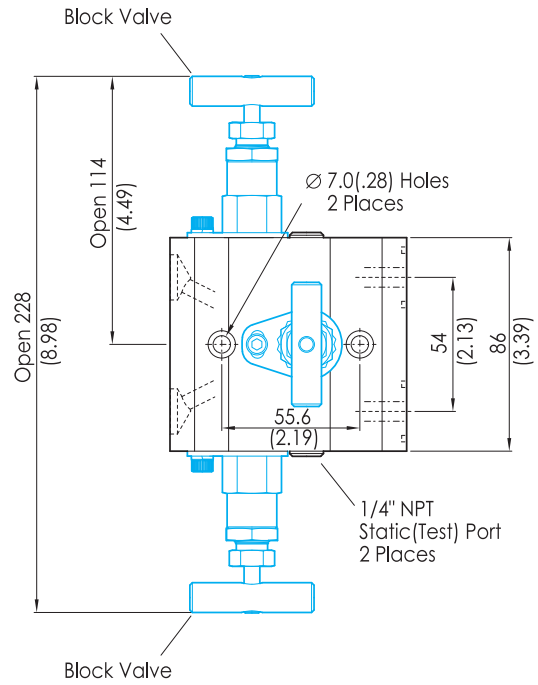
2.2 kg (4.9 lb)



3-Valves Dual Flange

M3V2F **

2.5 kg (5.5 lb)

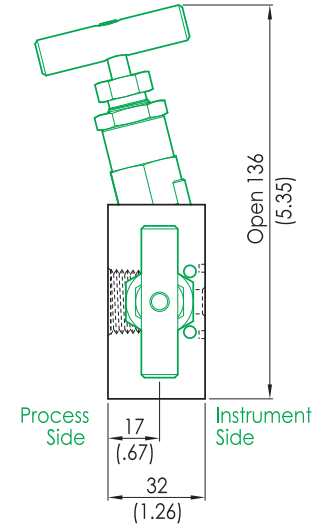
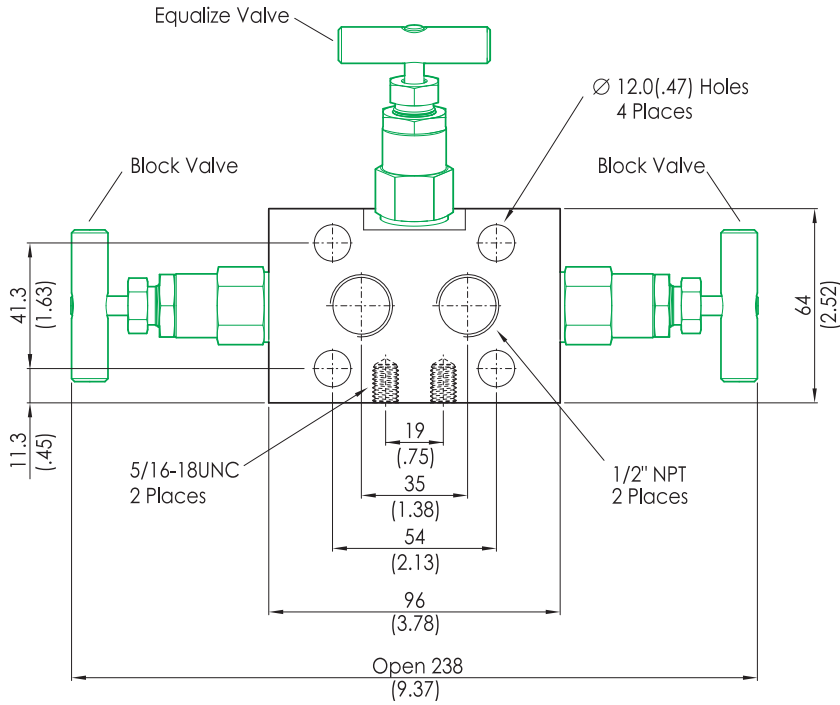
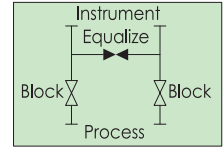


All dimensions are in millimeters (inches) reference only, subject to change.

3-Valves Single Block Flange

M3VDM ** 8N

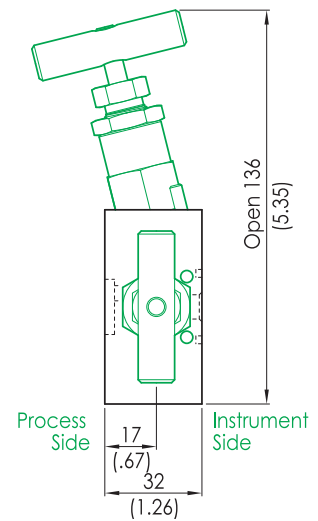
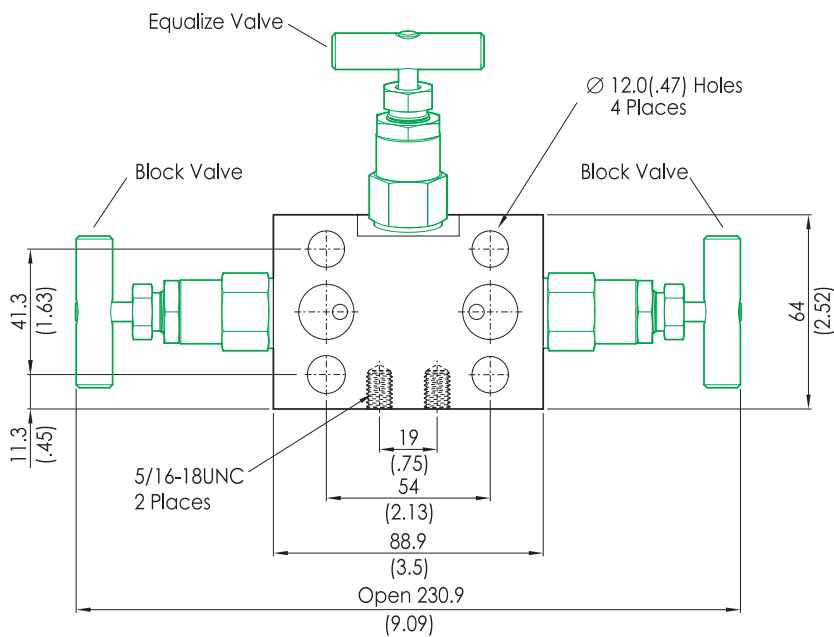
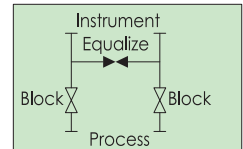
1.7 kg (3.8 lb)



3-Valves Dual Block Flange

M3V2DM **

1.8 kg (4.0 lb)

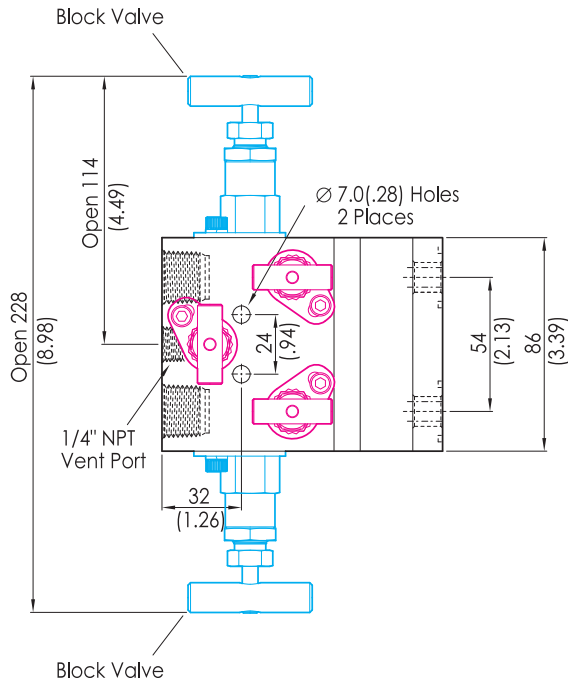


All dimensions are in millimeters (inches) reference only, subject to change.

5-Valves Single Flange

M5V1F ** 8N

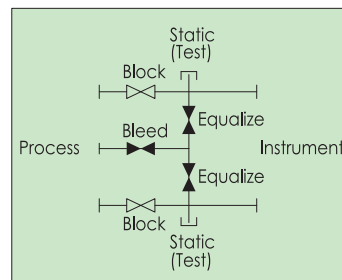
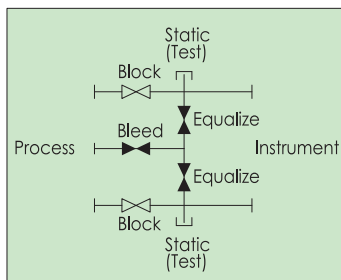
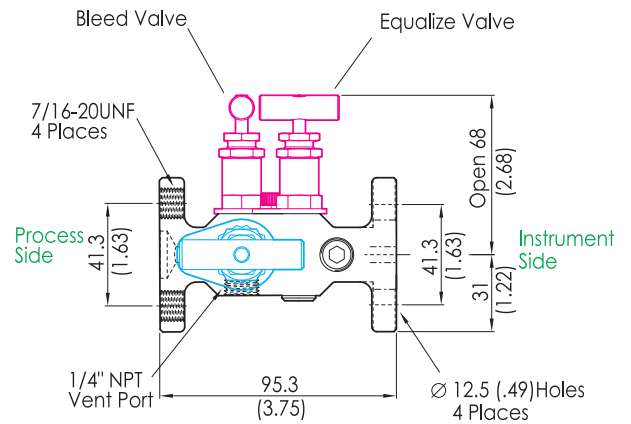
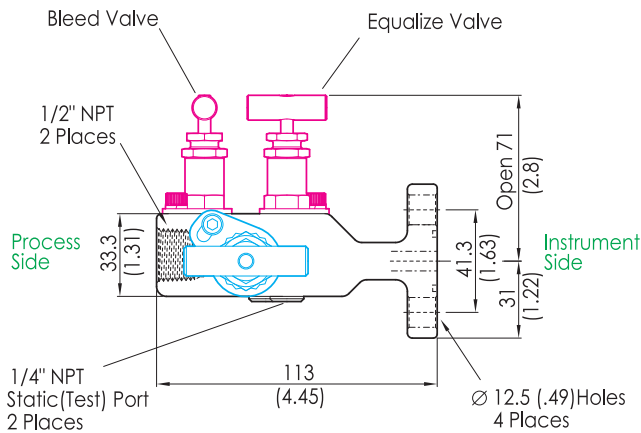
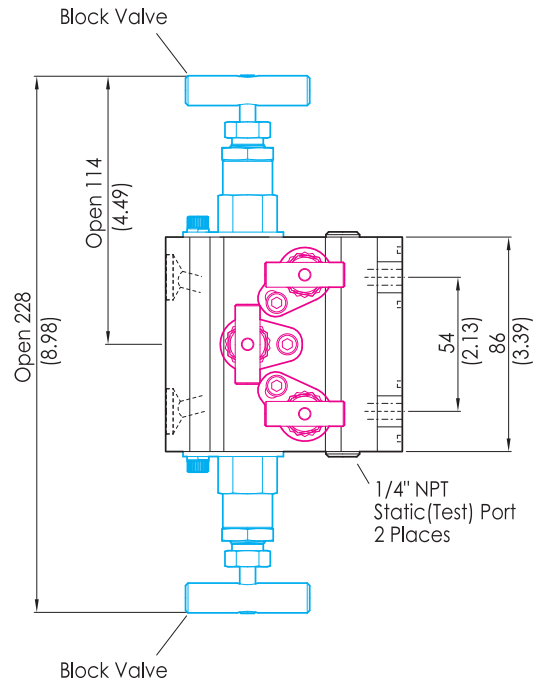
2.7 kg (6.0 lb)



5-Valves Dual Flange

M5V2F ** *

2.7 kg (6.0 lb)

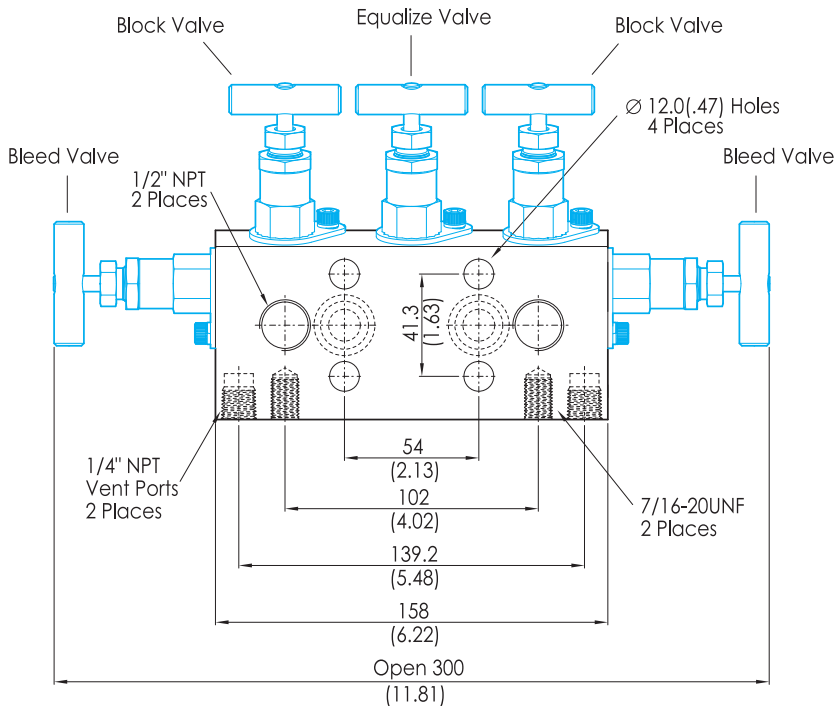
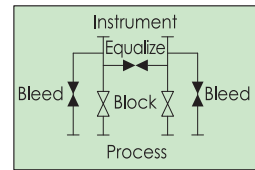


All dimensions are in millimeters (inches) reference only, subject to change.

5-Valves Single Block Flange

M5VDM ** 8N

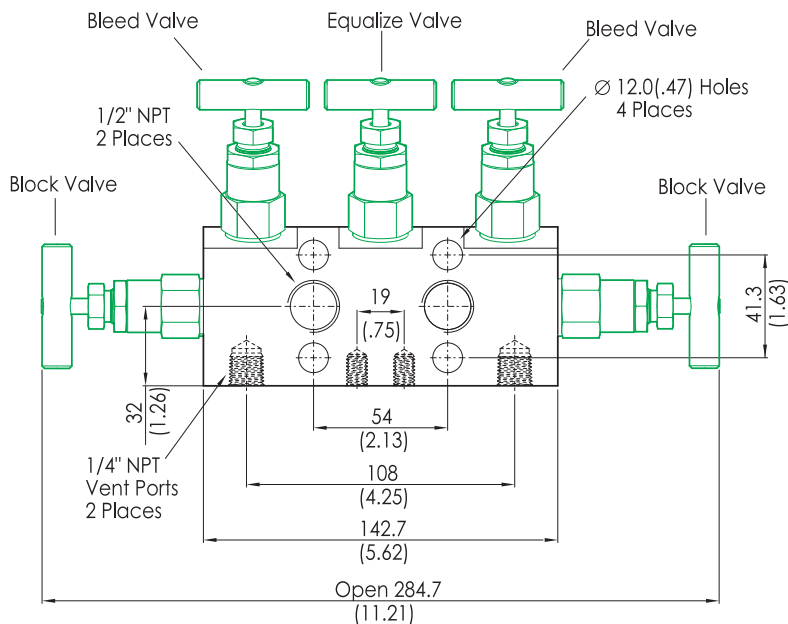
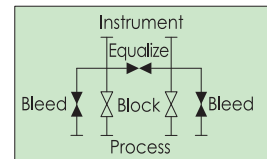
3.3 kg (7.3 lb)



5-Valves Single Block Flange "A" style

M5VDMA ** 8N

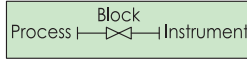
2.7 kg (6.0 lb)



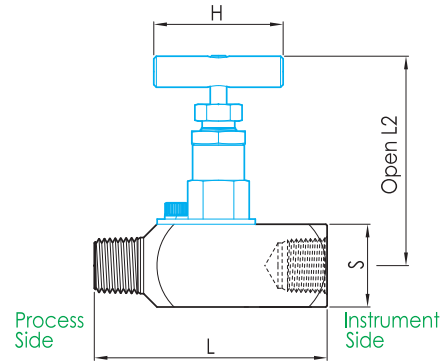
All dimensions are in millimeters (inches) reference only, subject to change.

Gage / Root Valve

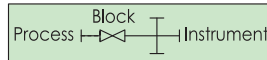
Gauge Valves GV



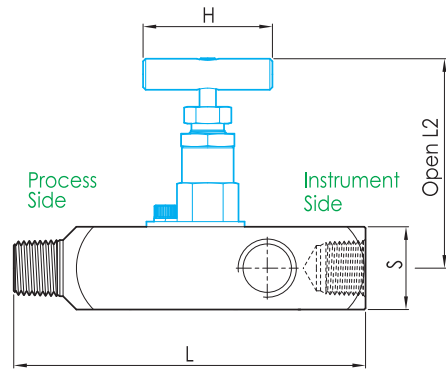
Part No.	End Connection		Dimensions				Weight (kg / lb)
	Process	Instrument	L	L2	H	S	
GV**MF8N	Male NPT 1/2"	Female NPT 1/2"	90	87(3.43)	50	32(1.26)	0.6 / 1.3
GV**MF12N8N	Male NPT 3/4"	Female NPT 1/2"	(3.54)				0.7 / 1.5
GV**MF8N12N	Male NPT 1/2"	Female NPT 3/4"	104.5(4.11)		(1.97)	35(1.38)	0.7 / 1.5
GV**F8N	Female NPT 1/2"	Female NPT 1/2"	84(3.3)	87(3.43)		32(1.26)	0.7 / 1.5



Root Valves GRV

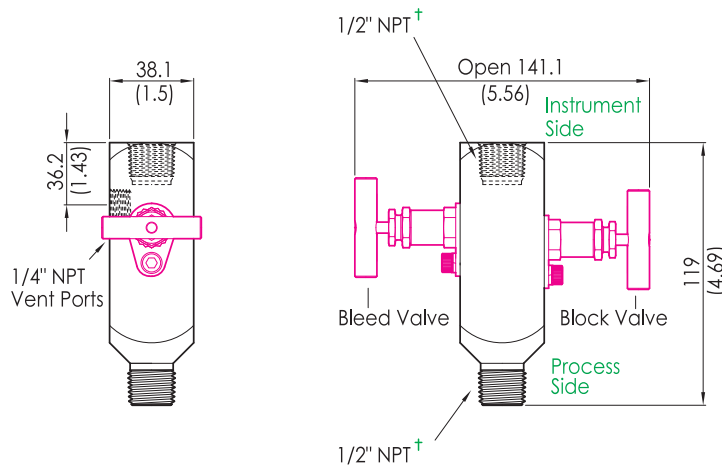
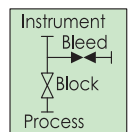


Part No.	End Connection		Dimensions				Weight (kg / lb)
	Process	Instrument	L	L2	H	S	
GRV**MF8N	Male NPT 1/2"	Female NPT 1/2"	136	87(3.43)	50	32(1.26)	0.9 / 2.0
GRV**MF12N8N	Male NPT 3/4"	Female NPT 1/2"	(5.35)				1.0 / 2.2
GRV**MF8N12N	Male NPT 1/2"	Female NPT 3/4"	104.5(4.11)		(1.97)	35(1.38)	1.0 / 2.2
GRV**F8N	Female NPT 1/2"	Female NPT 1/2"	102(4.02)	87(3.43)		32(1.26)	0.8 / 1.8



Gauge 2-Valves GV2** - MF8N

1.2 kg (2.6 lb)



Note : "+" available in other size upon request.

All dimensions are in millimeters (inches) reference only, subject to change.

Accessories

• Seals Kit



contains flange seal and stainless steel bolts

• Oval Flange kits

(Concentric / Eccentric)



contains oval flanges, seals & bolts

• Eccentric and Concentric Pipe Nipples



Kit Ordering Number

Basic Ordering Number	Seal Material	Temperature Range
KIT- * -V	Viton	-20°F ~ 250°F (-28°C ~ 121°C)
KIT- * -G	Grafoil	-65°F ~ 1000°F (65°C ~ 537°C)
KIT- * -P	PTFE	-65°F ~ 450°F (-53°C ~ 232°C)

*For a complete ordering number, add the desired valve and body shape designator to the basic ordering number. (See index and ordering information)
e.g KIT-M3V1F-V (3-Valve, Single flange, viton seals)

Oval flanges used to connect flange to flange manifold.

Standard connection is female NPT 1/2".

The center of eccentric flange is offset 1.6mm(1/16") from the centerline of bolt holes.

They are available in stainless steel only.

Basic Ordering Number

KIT-OCF-8N*/ S316 - Concentric Flange female NPT 1/2"

KIT-OEF-8N*/ S316 - Eccentric Flange female NPT 1/2"

*For a complete ordering number, add the desired seal material designator to the basic ordering number. e.g KIT-OCF-8NG / S316

Concentric and Eccentric pipe nipples have 1/2" male NPT and 76mm(3") length.

The ends of eccentric pipe nipples are offset 1.6mm(1/16") from centerline.

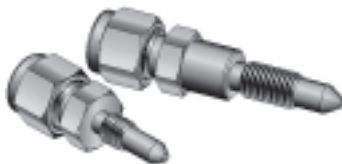
They are available in 316 stainless steel and carbon steel.

Ordering number

H-SCNL-8N / S316 - Concentric pipe nipple male NPT 1/2", Stainless Steel

H-SENL-8N / STEL - Eccentric pipe nipple male NPT 1/2", Carbon Steel

• Calibration Fittings



Calibration fittings connect directly to the bleed port of differential pressure transmitter. They are available in 316 stainless steel only.

Ordering number

CCF4-1U / S316 - Hy-Lok 1/4" - 1/4-28UNF thread

CCF4-2U / S316 - Hy-Lok 1/4" - 5/16-24UNF thread

• Gauge Adapter



Gauge adapters connect to gauge for calibration.

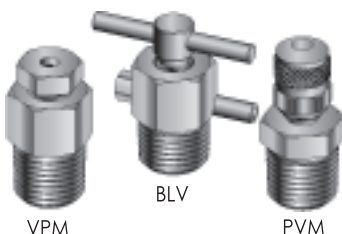
They are available in 316 stainless steel and carbon steel.

Ordering number

H-MFAH8N-6G-G / S316 - Male NPT 1/2" - Female ISO 228/1 3/8", Stainless steel

H-MFAH-4NG-G / STEL - Male NPT 1/4" - Female ISO 228/1 1/4", Carbon steel

• Vent plugs, Bleed & Purge Valves



Bleed & Purge valves used to vent to atmosphere and to assist in calibration

They are available in 316 stainless steel only

Ordering number

VPM -* / S316 - Vent plug Male NPT Pipe Thread

BLV -* BT / S316 - Bleed valve Male NPT Pipe Thread

PVM -* / S316 - Purge valve Male NPT Pipe Thread

* For a complete ordering number, add the desired size designator 8N(1/2"NPT) or 4N(1/4"NPT)
e.g VPM - 4N/S316 Vent plug Male 1/4"NPT

Mounting Kit

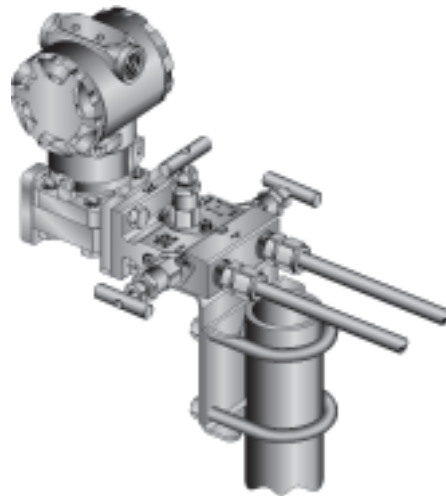


Mounting kit consist of Brackets, U-bolts, Bolt, Nut & Washer.
Mounting bracket can be vertically or horizontally mounted.
Kit material is available stainless steel and zinc plated carbon steel.

Kit Ordering Number

KIT-MMB / S304 (in case of carbon steel, KIT-MMB/ STEL)

Mounting kit & Accessories Application



Maintenance Kits (See page 3)

Basic Ordering No.	Bonnet Type	Component
KIT-MAV-SET- **	MAV	Bonnet, Stem tip, Stem, Packing, Packing Washer, Packing bolt, Handle, Lock nut, Set screw, Loking plate (pin)
KIT-MBV-SET- **	MBV	
KIT-MCV-SET- **	MCV	

Stem Tip Shape	Designator
Vee	V
Ball	B

Packing Mat'l	Designator
PTFE	T
Grafoil®	G

*For a complete ordering number, add the desired stem tip shape & packing material designator as a suffix to the maintenance kit basic ordering number

e.g : KIT-MBV-SET-VT (Vee tip, PTFE stem packing)

Ordering Infomation

M5V1F

Valve Designator

- M2V - 2-Valves Block
- M2VV - 2-Valves Vertical
- M2V1F - 2-Valves Single Flange
- M2VDM - 2-Valves Single Block Flange
- M3V - 3-Valves Block
- M3V1F - 3-Valves Single Flange
- M3V2F - 3-Valves Dual Flange
- M3VDM - 3-Valves Single Block Flange
- M3V2DM - 3-Valves Dual Block Flange
- M5V - 5-Valves Block
- M5V1F - 5-Valves Single Flange
- M5V2F - 5-Valves Dual Flange
- M5VDM - 5-Valves Single Block Flange
- M5VDMA - 5-Valves Single Block Flange "A" style
- GV - Gauge Valves
- GRV - Root Valves
- GV2 - Gauge 2-Valves

T

Packing Designator

- T - PTFE (Standard)
- G - Grafoil

V

Stem Tip Designator

- V - Vee tip (Standard)
- B - Ball tip

MF

End Connection Designator
(Application only for gage valve (See page 11))

- MF - Male to Female
- F - Female to Female
- FM - Female to Male

8N

Connection Size Designator

- Nil - Both flanged
- 8N - NPT 1/2"
- 8T - Hy-Lok 1/2"

SOG

Option Designator*

- SOG- NACE MR-01-75
- P - with Plug

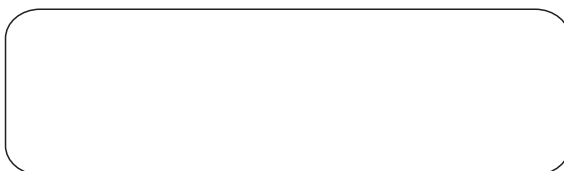
S316

Body Material Designator

- S316 - Stainless Steel Type 316
- 316L - Stainless Steel Type 316L
- MONE - Alloy 400
- STEL - Carbon Steel A105

SAFETY in VALVE SELECTION

Proper installation, materials compatibility, operation and maintenance of these valves are the responsibility of the user. The total system design must be taken into consideration to ensure optimal performance and safety



*Note : No designator is required for standard items, e.g. M5V1FGB8N-S316