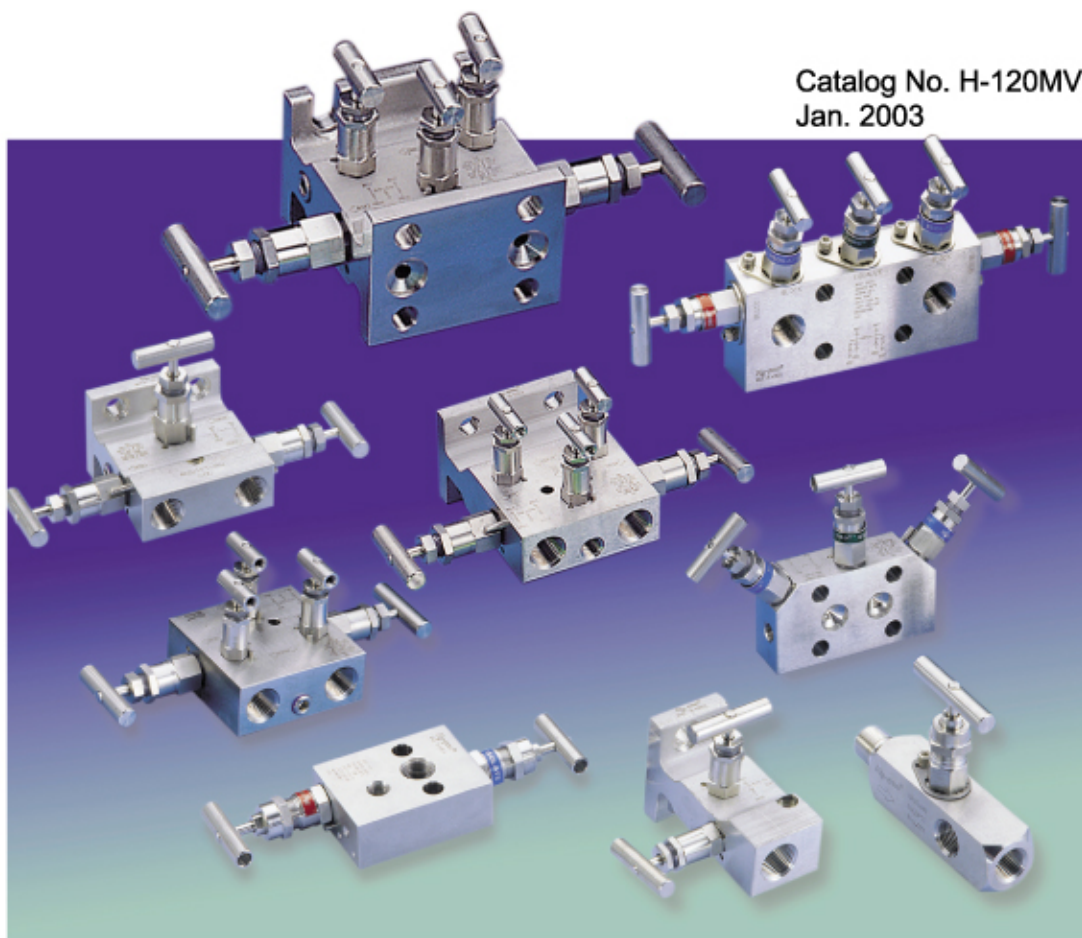


Hy-Lok M Series

Instrument Manifolds

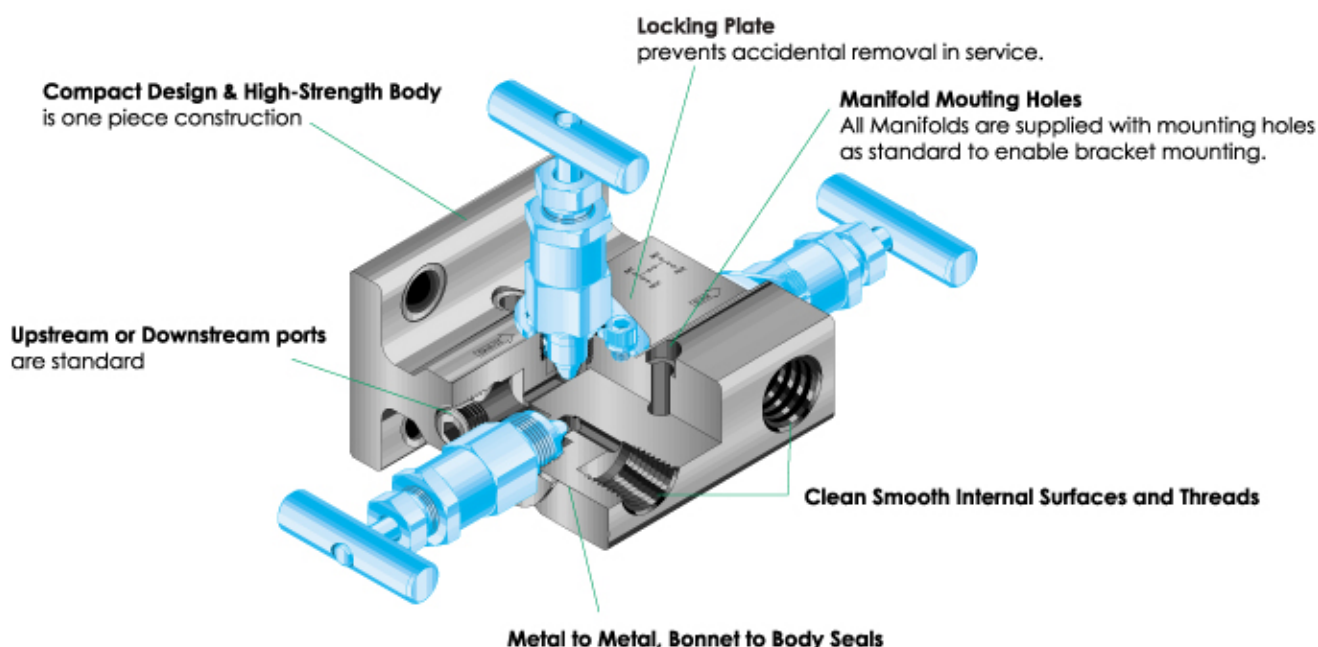
Catalog No. H-120MV
Jan. 2003



HY-LOK CORPORATION

©2002, 2003 HY-LOK CORPORATION all rights reserved

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)

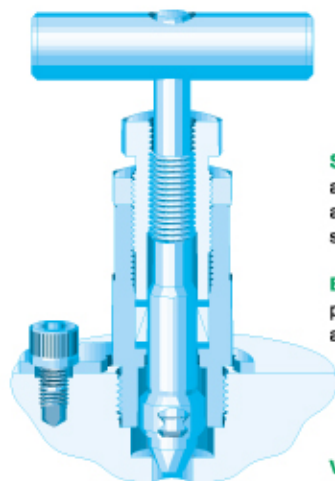
Testing

- 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

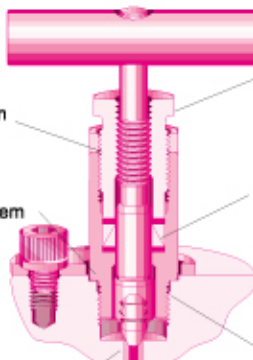
Valves are available in materials which comply with standard NACE MR-01-75 latest revision relating to metallic materials offering optimum resistance to sulfide stress cracking

Bonnet Features

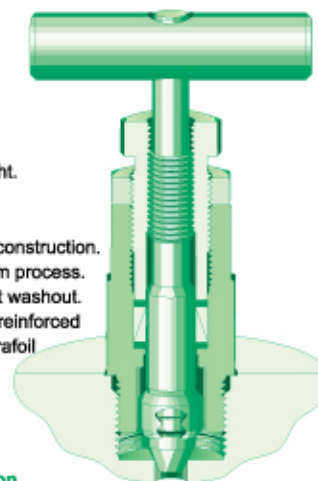


MBV
Orifice 6.4

Robust Stainless steel Bar Handle



MAV
Orifice 3.2



MCV
Orifice 5.0

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)

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

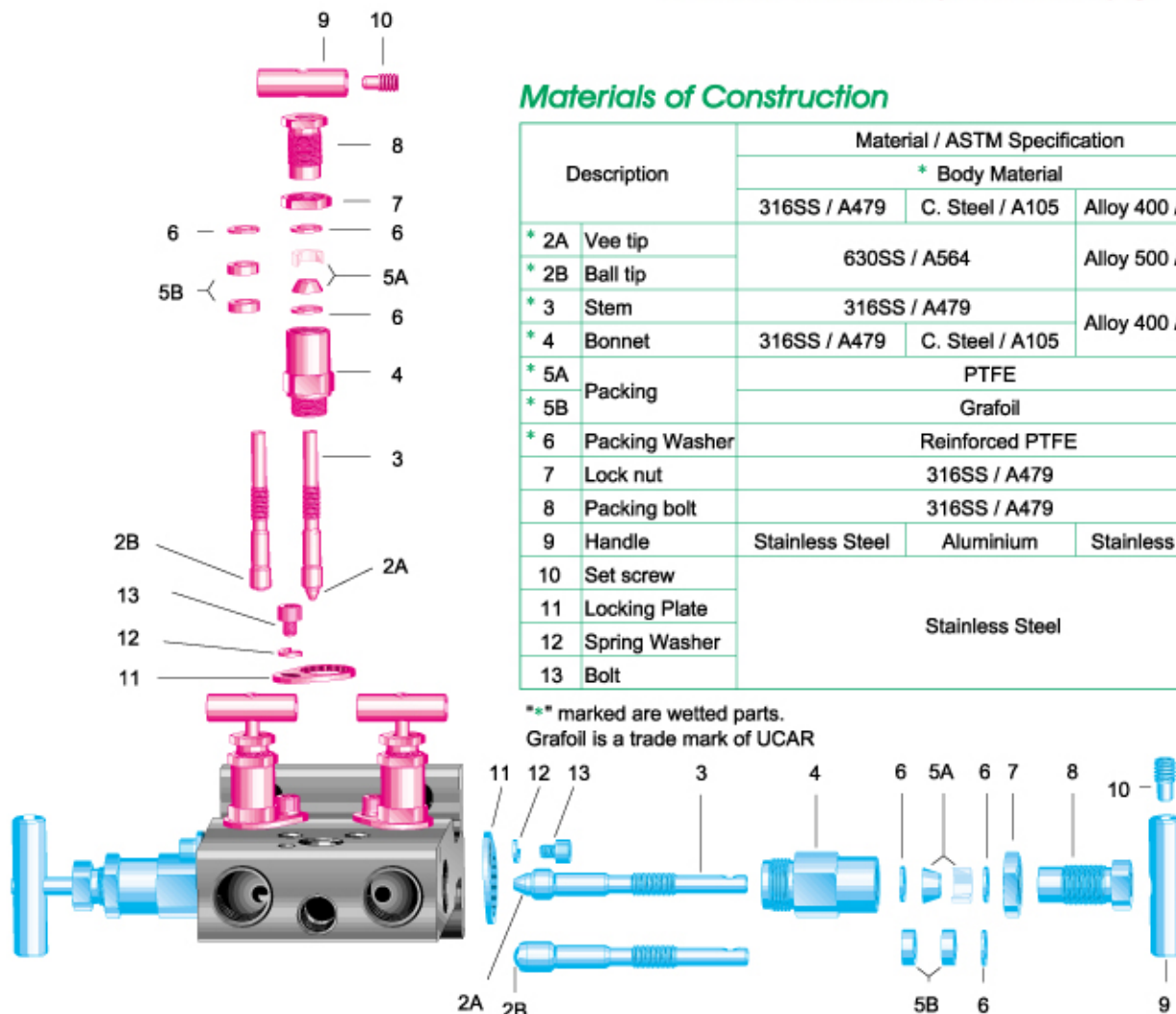
Metal Seal Construction
ensures safety

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

Materials of Construction

| Description | | Material / ASTM Specification | | |
|-------------|----------------|-------------------------------|-----------------|------------------|
| | | * Body Material | | |
| | | 316SS / A479 | C. Steel / A105 | Alloy 400 / B164 |
| * 2A | Vee tip | 630SS / A564 | | Alloy 500 / B865 |
| * 2B | Ball tip | | | |
| * 3 | Stem | 316SS / A479 | | Alloy 400 / B164 |
| * 4 | Bonnet | 316SS / A479 | C. Steel / A105 | |
| * 5A | Packing | PTFE | | |
| * 5B | | 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

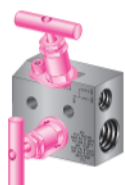
REMOTE MOUNTING

M2V8N**



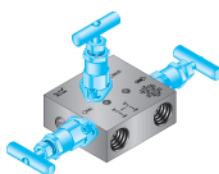
Page 5

M2VV8N**



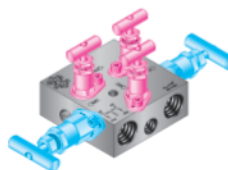
Page 5

M3V8N**



Page 5

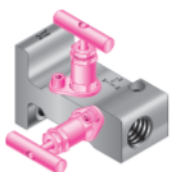
M5V8N**



Page 6

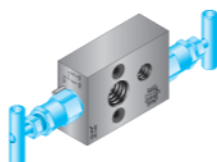
DIRECT MOUNTING

M2V1F8N**



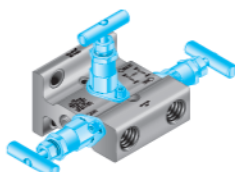
Page 6

M2VDM8N**



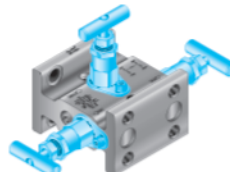
Page 6

M3V1F8N**



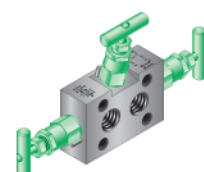
Page 7

M3V2F**



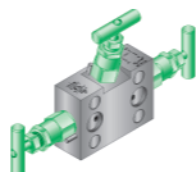
Page 7

M3VDM8N**



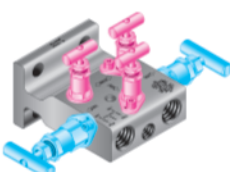
Page 8

M3V2DM**



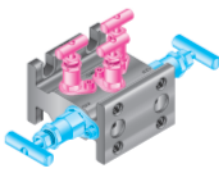
Page 8

M5V1F8N**



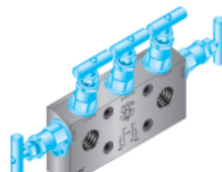
Page 9

M5V2F**



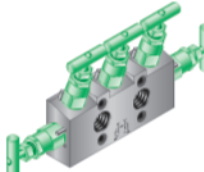
Page 9

M5VDM8N**



Page 10

M5VDMA8N**



Page 10

GAUGE / ROOT VALVE

GV



Page 11

GRV



Page 11

GV2-MF8N**



Page 11

ACCESSORIES & MAINTENANCE KITS



Page 12, 13

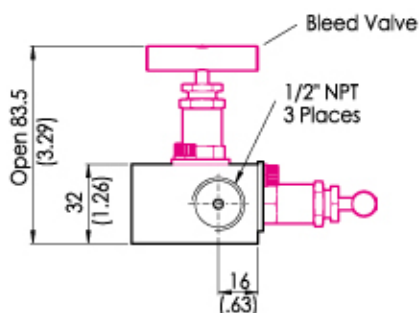
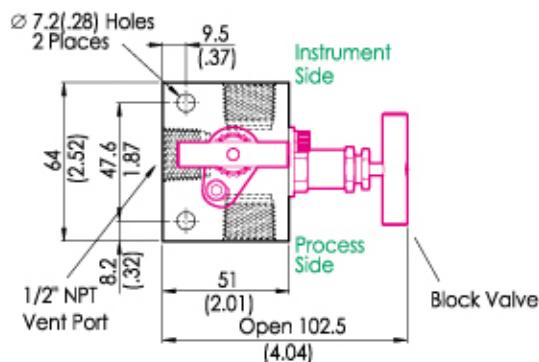
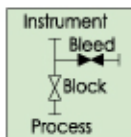
ORDERING INFORMATION

Page 13

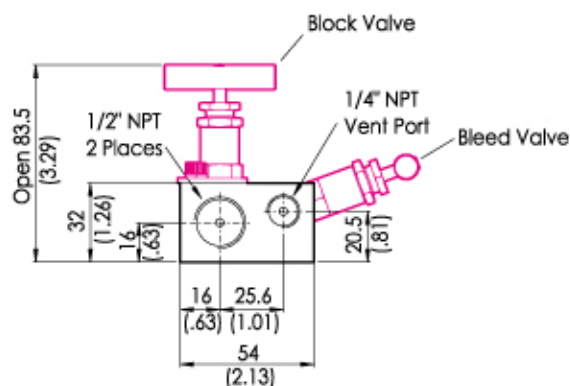
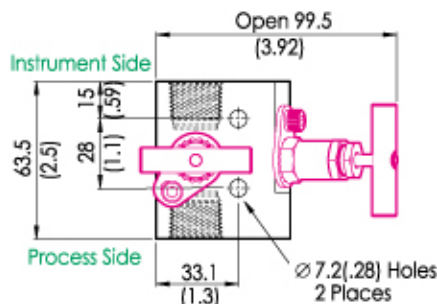
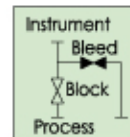
Remote Mounting

2-Valves Block**M2V ** 8N**

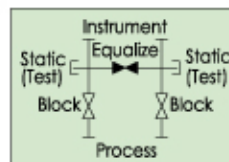
0.8 kg (1.8 lb)

**2-Valves Vertical****M2VV ** 8N**

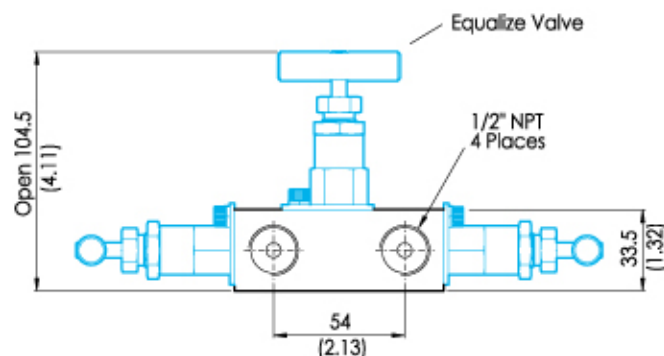
0.9 kg (2.0 lb)

**3-Valves Block****M3V ** 8N**

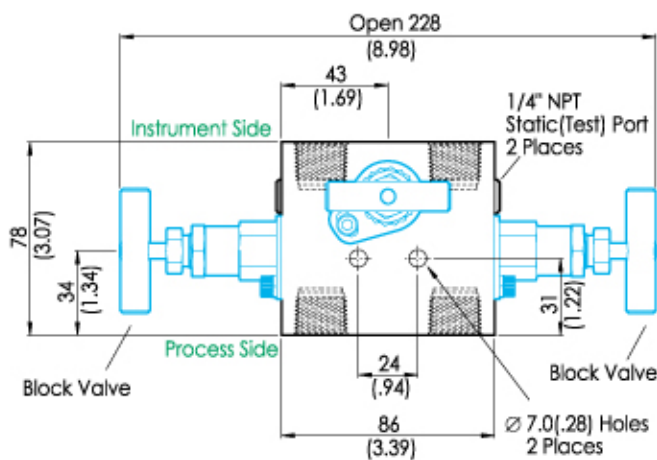
2.0 kg (4.4 lb)



Side View

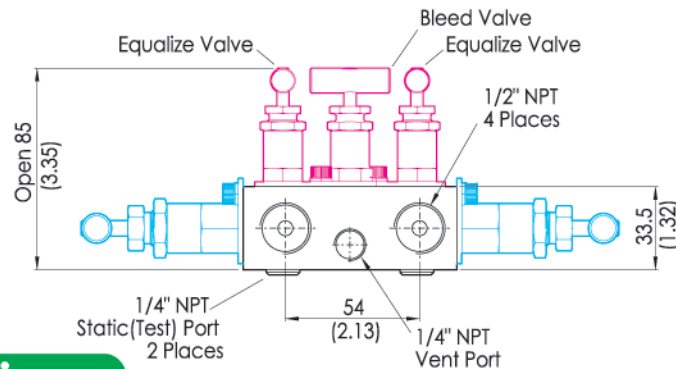
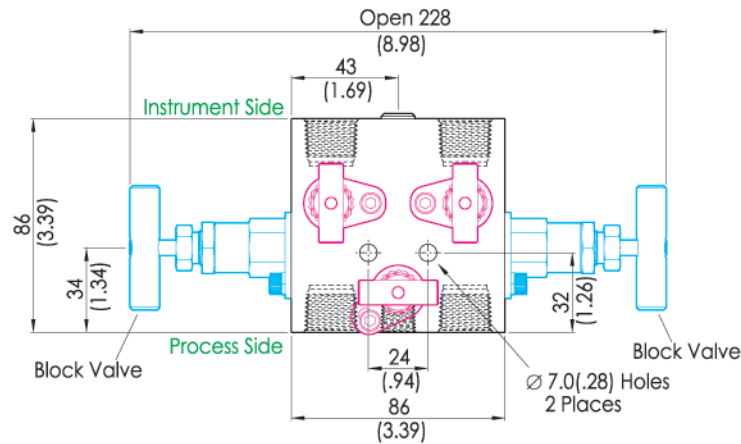
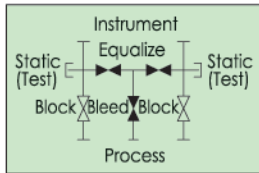


Top View



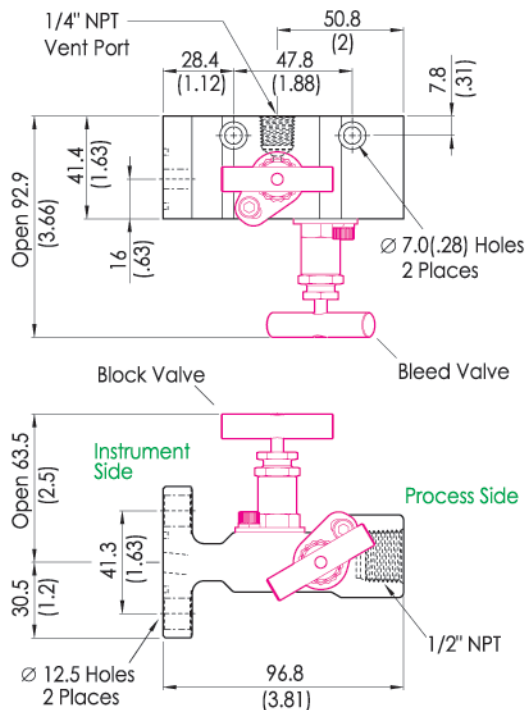
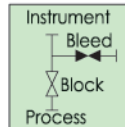
All dimensions are in millimeters (inches) reference only, subject to change.

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

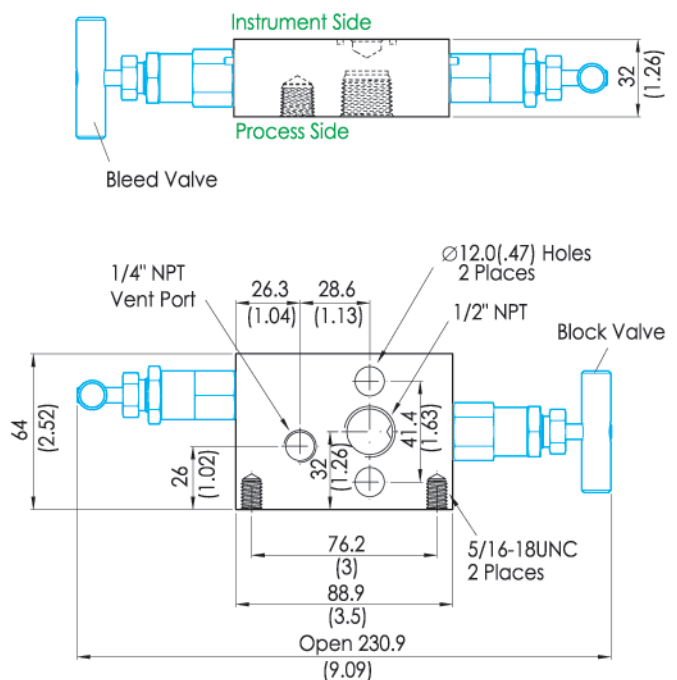
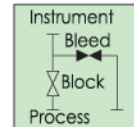


Direct Mounting

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)

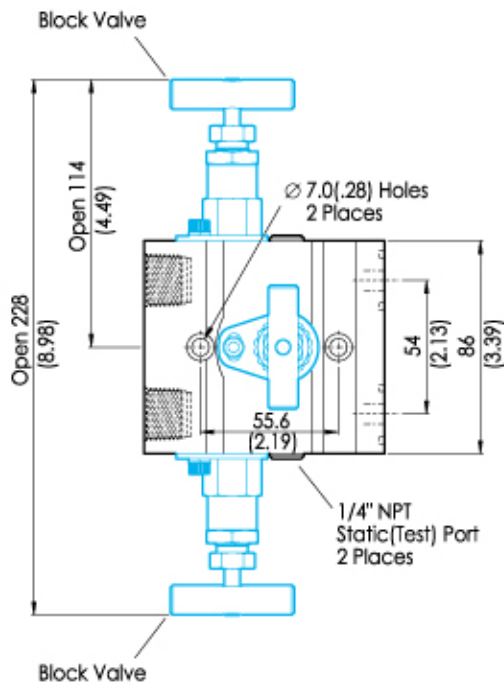


All dimensions are in millimeters (inches) reference only, subject to change.

3-Valves Single Flange

M3V1F ** 8N

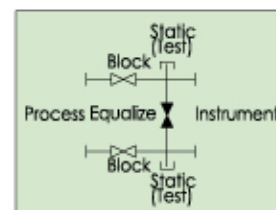
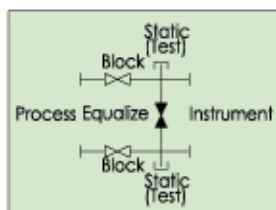
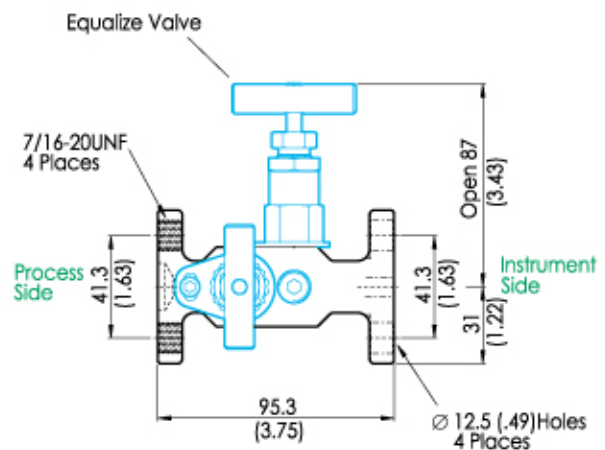
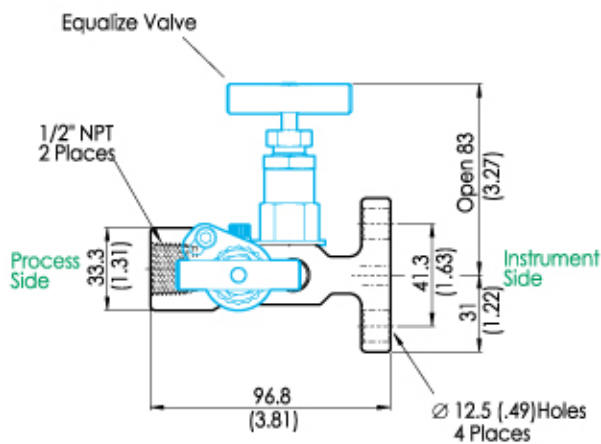
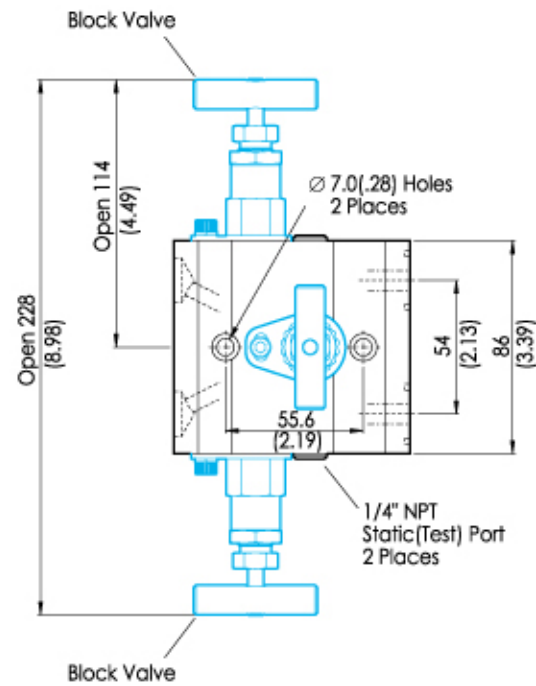
2.2 kg (4.9 lb)



3-Valves Dual Flange

M3V2F ** 8N

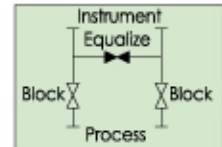
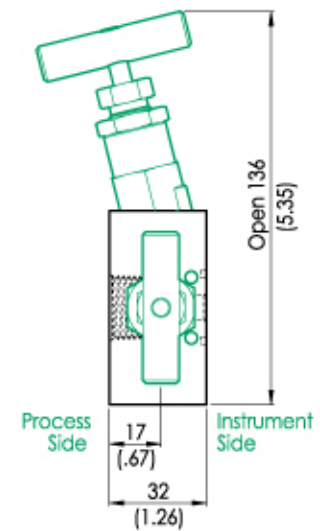
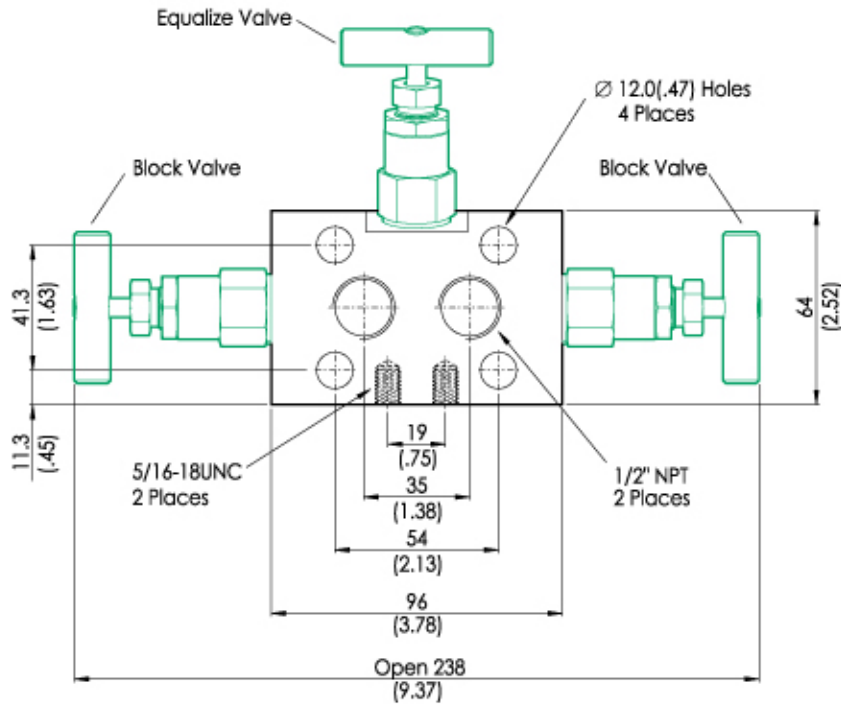
2.5 kg (5.5 lb)



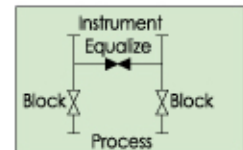
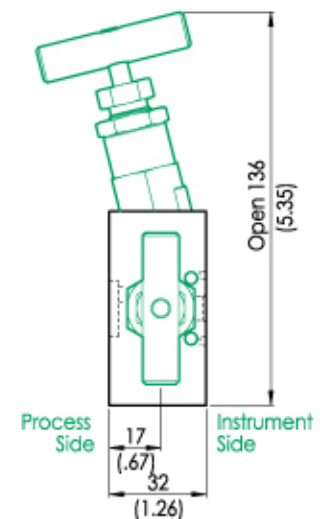
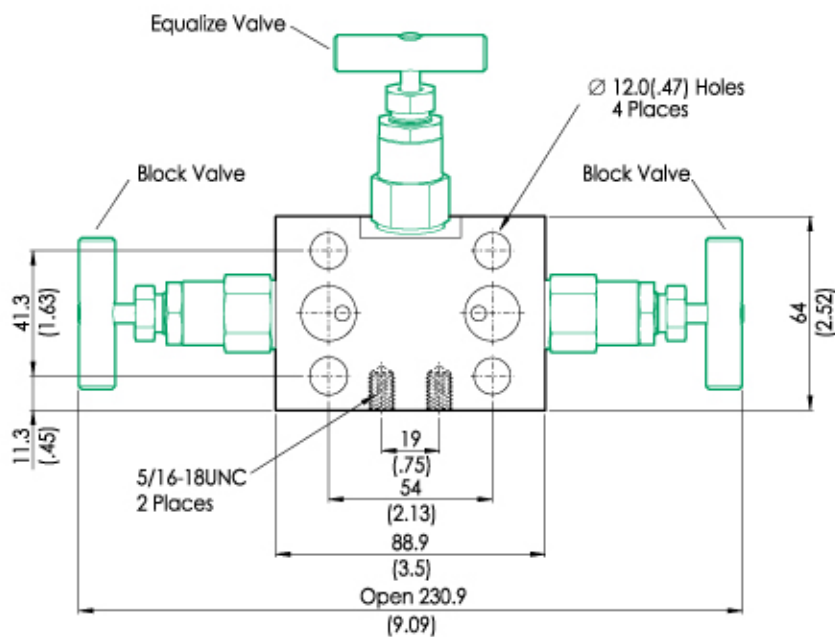
All dimensions are in millimeters (inches) reference only, subject to change.

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)

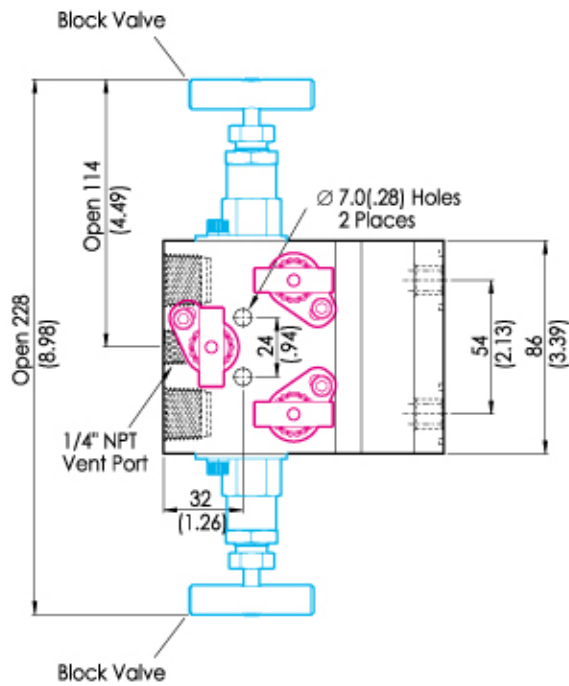


All dimensions are in millimeters(inchs) reference only, subject to change.

5-Valves Single Flange

M5V1F ** 8N

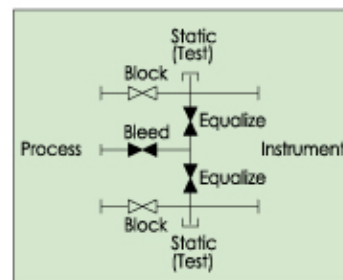
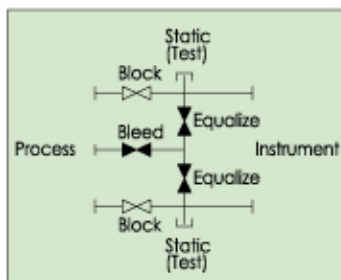
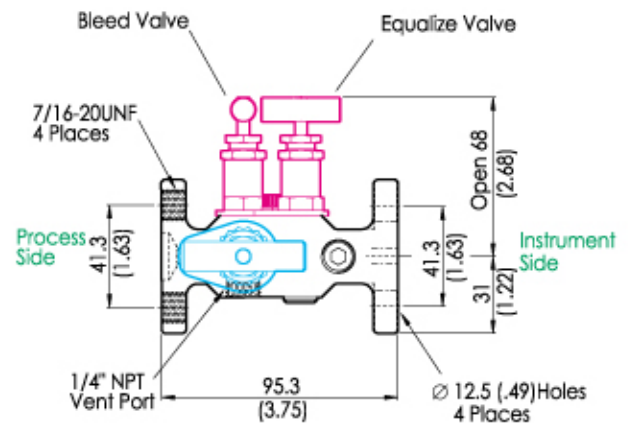
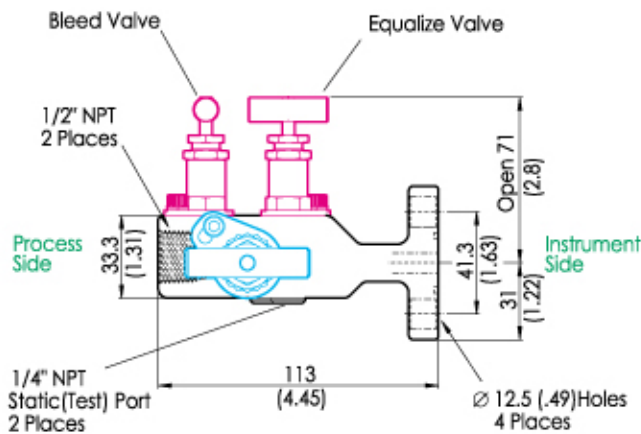
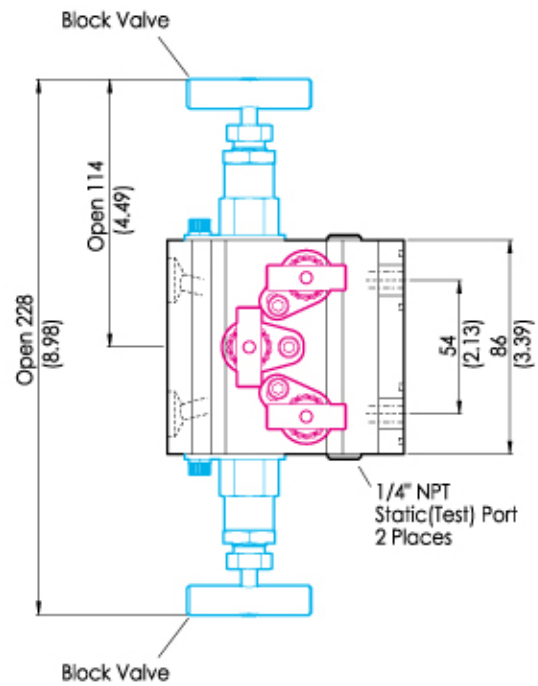
2.7 kg (6.0 lb)



5-Valves Dual Flange

M5V2F ** 8N

2.7 kg (6.0 lb)

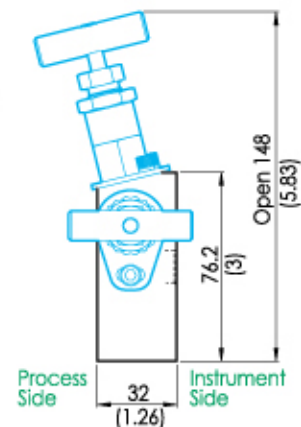
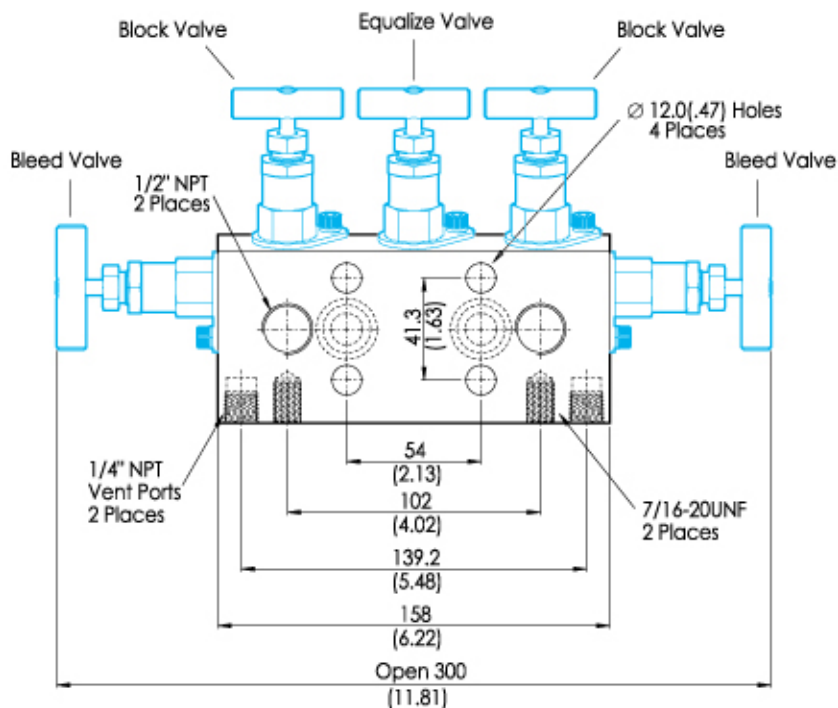
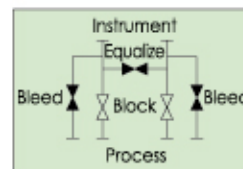


All dimensions are in millimeters(inchs) reference only, subject to change.

5-Valves Single Block Flange

M5VDM ** 8N

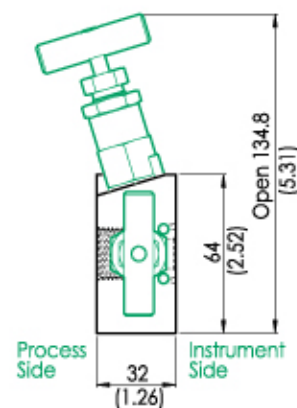
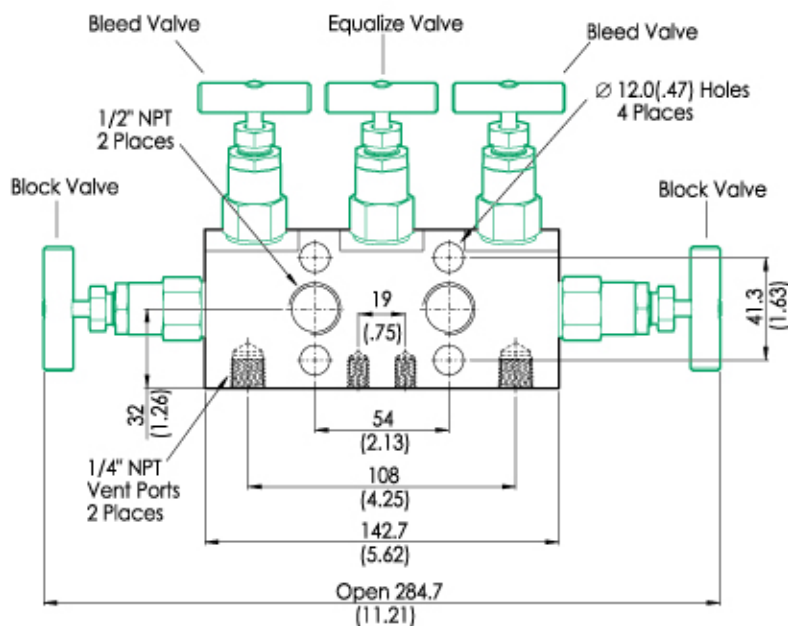
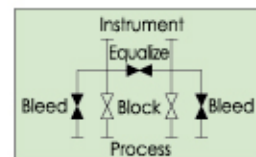
3.3 kg (7.3 lb)



5-Valves Single Block Flange "A" style

M5VDMA ** 8N

2.7 kg (6.0 lb)



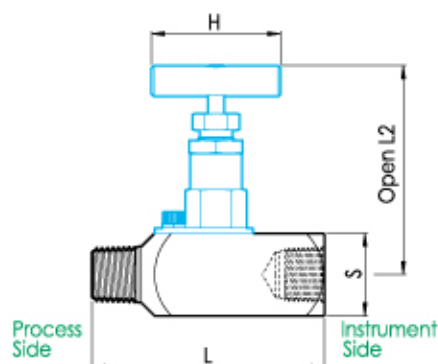
All dimensions are in millimeters(inchs) reference only, subject to change.

Gage / Root Valve

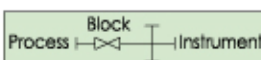
Gauge Valves GV



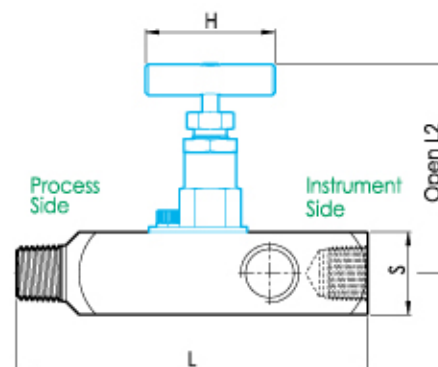
| Part No. | End Connection | | Dimensions | | | | Weight (kg / lb) |
|-------------|-----------------|-----------------|---------------|----------|----|----------|---------------------|
| | Process | Instrument | L | L2 | H | S | |
| GV**MF8N | Male NPT 1/2" | Female NPT 1/2" | 90 | 87(3.43) | 50 | 32(1.26) | 0.6 / 1.3 |
| GV**MF12N8N | Male NPT 3/4" | Female NPT 1/2" | 136 (5.35) | 87(3.43) | 50 | 32(1.26) | 0.7 / 1.5 |
| GV**MF8N12N | Male NPT 1/2" | Female NPT 3/4" | 104.5(4.11) | 87(3.43) | 50 | 35(1.38) | 0.7 / 1.5 |
| GV**F8N | Female NPT 1/2" | Female NPT 1/2" | 84(3.3) | 87(3.43) | 50 | 32(1.26) | 0.7 / 1.5 |



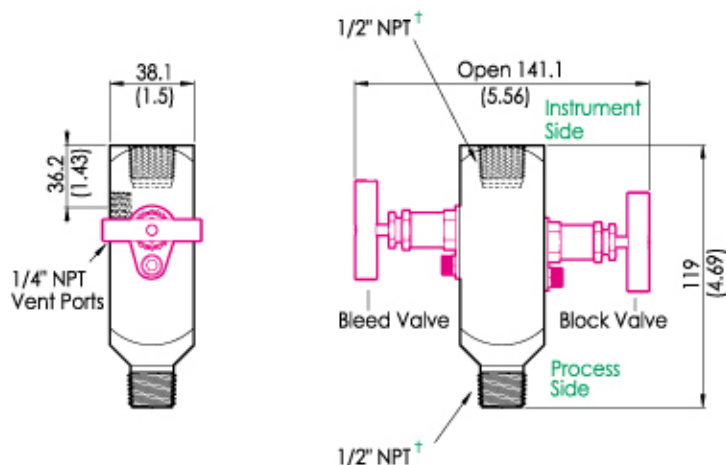
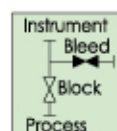
Root Valves GRV



| 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" | 136 (5.35) | 87(3.43) | 50 | 32(1.26) | 1.0 / 2.2 |
| GRV**MF8N12N | Male NPT 1/2" | Female NPT 3/4" | 104.5(4.11) | 87(3.43) | 50 | 35(1.38) | 1.0 / 2.2 |
| GRV**F8N | Female NPT 1/2" | Female NPT 1/2" | 102(4.02) | 87(3.43) | 50 | 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



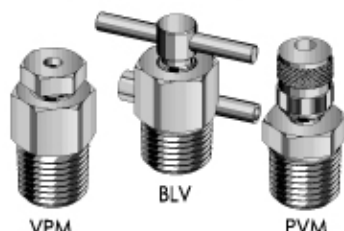
Gauge adapters connect to gauge for calibration.
They are available in 316 stainless steel and carbon steel.

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

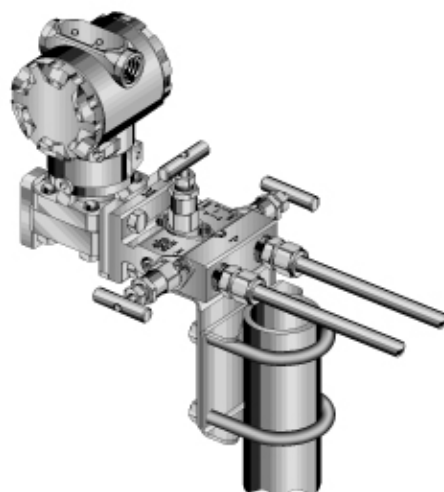


Mounting kit consist of Brackets, U-bolts, Bolt, Nut & Washer.
Mounting bracket can be vertically or horizontally mounted.
Kit material is available stainless steel and zinc plated carbon steel.

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, Locking plate (pin) |
| KIT-MBV-SET- ** | MBV | |
| KIT-MCV-SET- ** | MCV | |

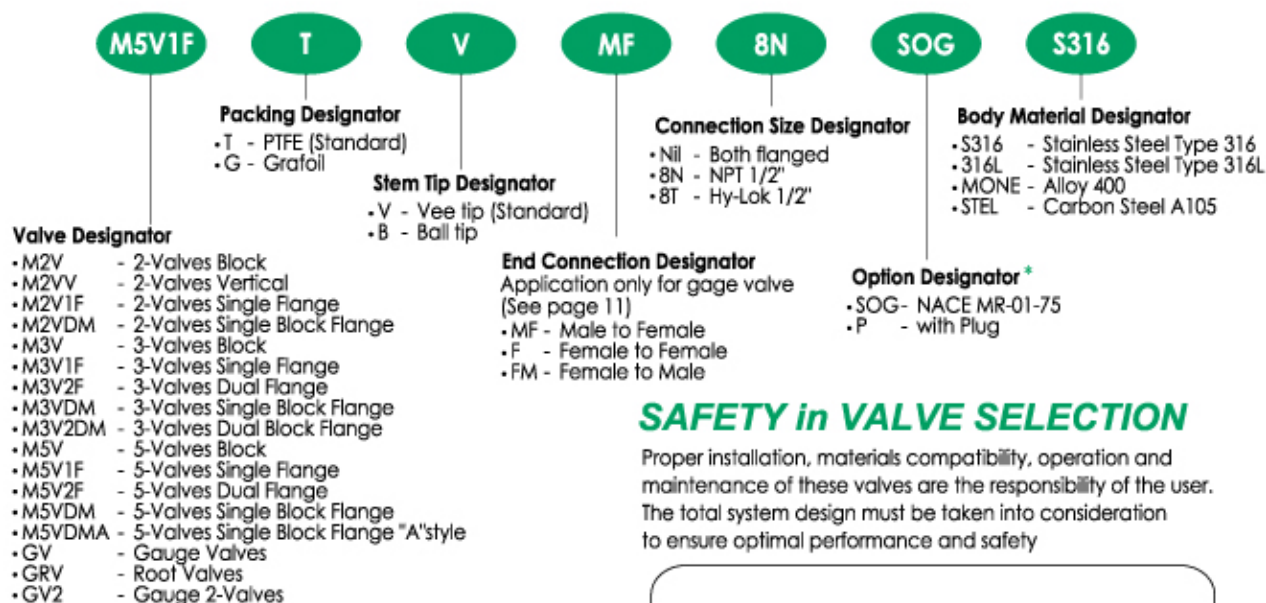
| Stem Tip Shape | Designator |
|----------------|------------|
| Vee | V |
| Ball | B |

| 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 Information



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