

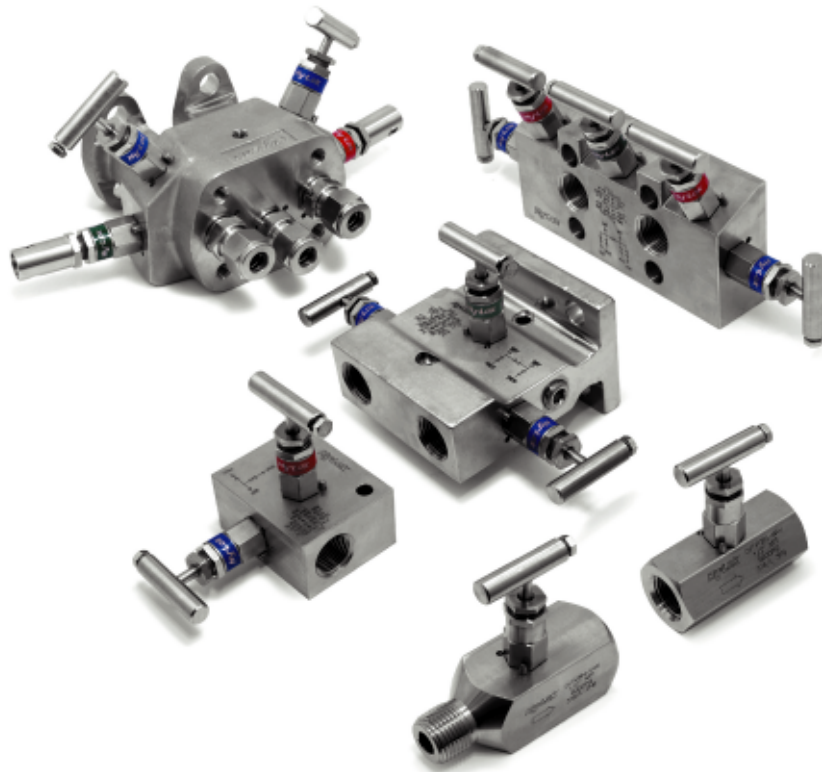


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Catalog No. H-120MV
Mar. 2023



Instrument Manifold Systems



Instrument, Manifolds and Modular Systems

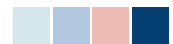
- GV Series Gauge & Root Valves
- M Series 2, 3, and 5-Valve Instrument Manifolds
- MS Series Modular Instrumentation Systems

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TOMORROW

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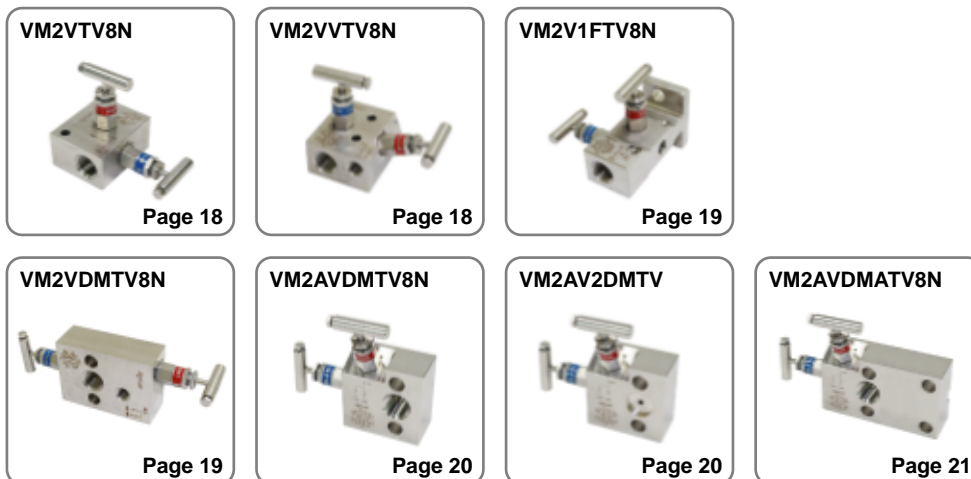
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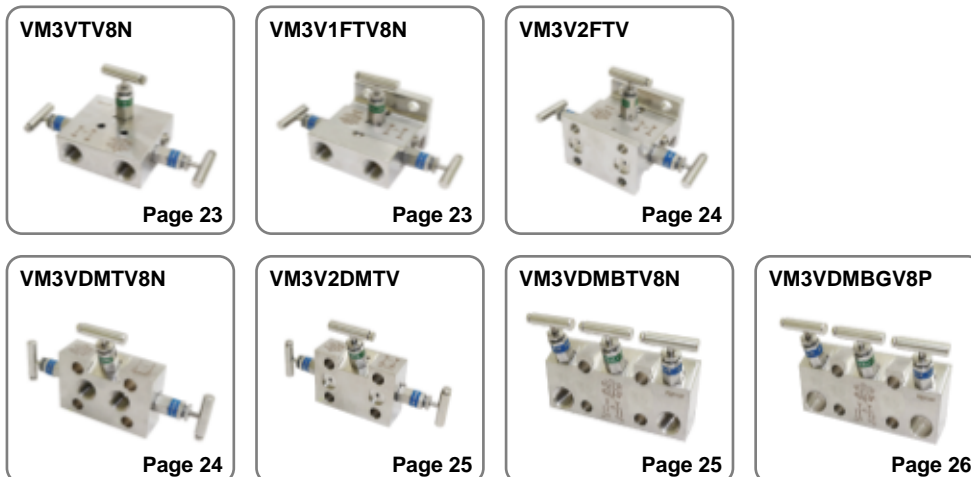
GV Series Gauge and Root Valves



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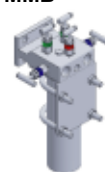
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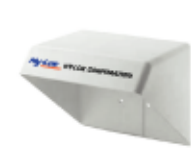
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AMSMP



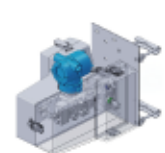
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INTRODUCTION

Hy-Lok offers a variety of gauge valve, 2, 3, 4 and 5-Valve instrument manifolds all available in a wide range of materials and fully compatible with the requirements of the Oil & Gas, Petro-Chemical and Power Plant industries.

The gauge valve and 2-Valve manifolds are designed for static pressure applications; the 3, 4 and 5-Valve manifolds are designed for differential pressure applications.

As a customer-focused company, Hy-Lok provides high-quality products and engineering solutions that address our customers' business and technical requirements.

GENERAL

■ Max. Pressure & Temperature

- Max allowable working pressure : 6000 psi (413 bar) at 100°F (38°C)
- Max allowable temperature :
 - 450°F (232°C) max with PTFE stem packing
 - 1000°F (537°C) max with Graphite stem packing and 316SS

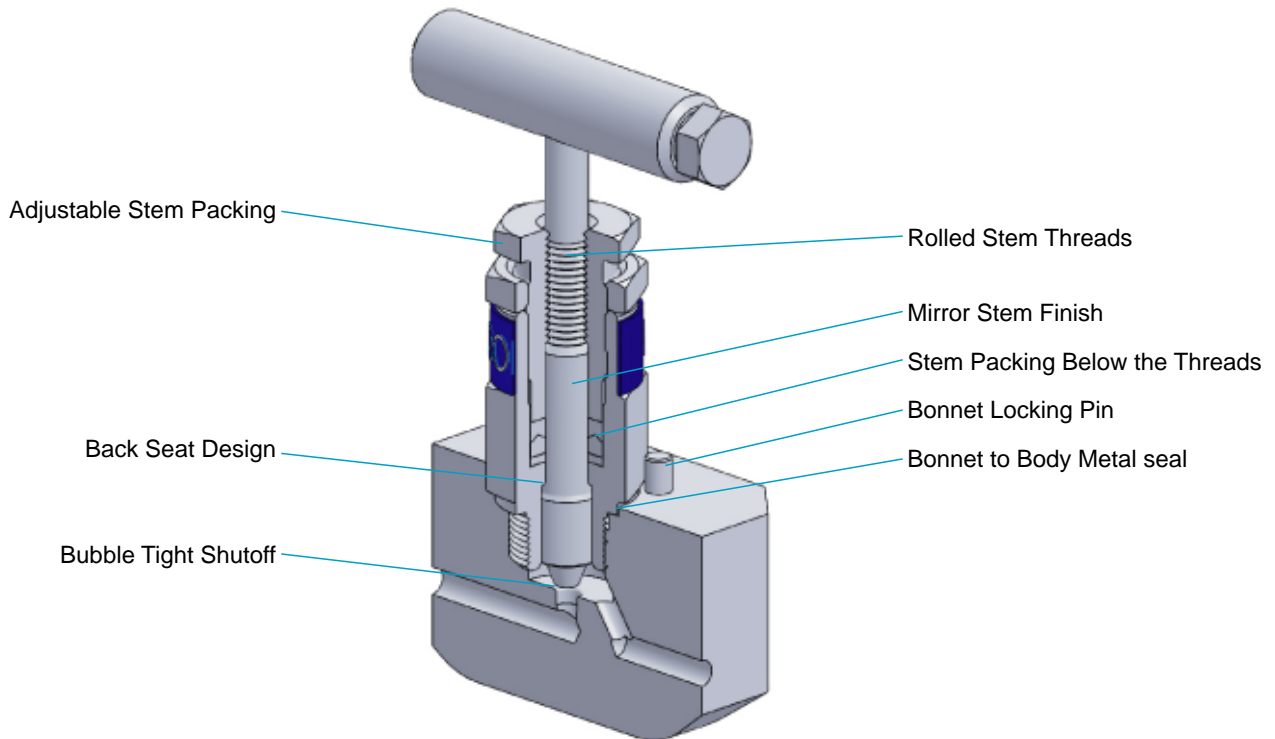
■ Materials

- Manifold bodys : 316/316L Stainless Steel, Monel Alloy 400, Hastelloy® C-276, Super Duplex available
- Fixing bolts of high tensile stainless steel, ASTM A193-B8M CL.1
- Gasket of flat PTFE or Graphite rings

■ Features

- Standard valve bonnet throughout manifold range.
- Integral back seat on stem for a secondary seal in the fully opened position.
- Non-rotating Tip & externally adjustable gland .
- Stem seals below stem threads.
- Stem threads are protected from process media (not-wetted)
 - Stem seals below stem threads for protect stem threads from process media.
- Stem with cold rolled threads.
- Blow-out proof stem.
- Back seat - Metal to metal secondary needle seal.
- Standard packing is PTFE and optional Graphite packing is available for high temperature.
- Anti-Tamper valve bonnets for Equalize and Vent valves.
- Bonnet locking pin to prevents bonnet loosening due to vibration.
- All Valves 100% factory tested.

BONNET TECHNOLOGY



Rolled Stem Threads

Stem threads are rolled for increased thread strength.
Prevents galling and adds years to the useful life of the valve.

Mirror Stem Finish

Burnished to a Ra 0.15 μ m finish in the packing area enabling smooth stem operation and extending packing life.

Stem Packing Below the Threads

Stem packing isolates the stem threads from process fluid.
Prevents lubricant washout, thread corrosion and galling of the stem threads.

Bonnet Locking Pin

Safety feature which prevents the accidental separation of the bonnet from the body while in service.

Bonnet to Body Metal Seal

Metal-to-metal in constant compression, isolating the bonnet threads from process fluid corrosion.

Adjustable Stem Packing

Simple and easily adjustable for gland wear compensation, increasing valve life.

Safety Back Seat Stem

Prevents stem blowout or accidental removal while in operation and provides a metal-to-metal secondary stem seal while in the full open position.

Bubble Tight Shutoff

Non-rotational tip gives successive positive bubble tight shut off assuring the user of leakage free performance and downstream functional safety.

TECHNICAL DATA

■ Pressure - Temperature Ratings

- 450°F (232°C) max with PTFE stem packing
- 1000°F (537°C) max with Graphite stem packing and 316SS, Hastelloy® C-276
- 500°F (260°C) max with Graphite stem packing and Alloy 400

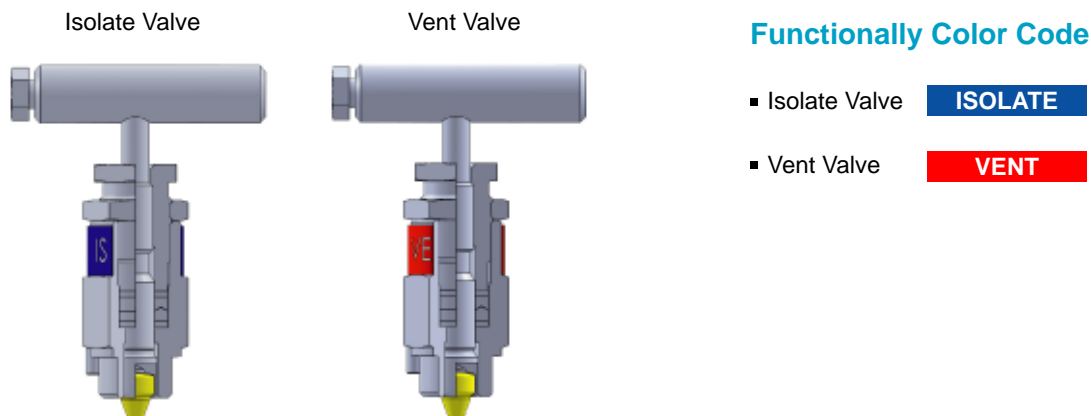
| ASME Class | 2500 | | N/A |
|-----------------------|------------------------------|------------|------------------|
| Material Group | 2.2 | 3.4 | N/A |
| Material Name | 316SS | Alloy 400 | Hastelloy® C-276 |
| Temperature, °F (°C) | Working Pressure, psig (bar) | | |
| -65 (-53) to 100 (38) | 6000 (413) | 5000 (344) | 6000 (413) |
| 200 (93) | 5160 (355) | 4400 (303) | 6000 (413) |
| 250 (121) | 4910 (338) | 4260 (293) | 6000 (413) |
| 300 (148) | 4660 (321) | 4120 (283) | 6000 (413) |
| 350 (176) | 4470 (308) | 4050 (279) | 5975 (412) |
| 400 (204) | 4280 (295) | 3980 (274) | 5880 (405) |
| 450 (232) | 4130 (284) | 3970 (273) | 5710 (393) |
| 500 (260) | 3980 (274) | 3960 (272) | 5540 (381) |
| 600 (315) | 3760 (259) | 3940 (271) | 5040 (347) |
| 650 (343) | 3680 (253) | 3940 (271) | 4905 (338) |
| 700 (371) | 3620 (249) | 3920 (270) | 4730 (326) |
| 750 (398) | 3560 (245) | 3880 (267) | 4430 (305) |
| 800 (426) | 3520 (242) | 3820 (263) | 4230 (291) |
| 850 (454) | 3480 (239) | 3145 (216) | 4060 (279) |
| 900 (482) | 3460 (238) | - | 3745 (258) |
| 950 (510) | 3220 (222) | - | 3220 (222) |
| 1000 (537) | 3030 (208) | - | 3030 (208) |

GV Series Gauge and Root Valves

- The GV Series Gauge valves are designed for static pressure gauge and instrument installation for isolation and venting.
- The Gauge 2-valves are designed to facilitate safe, compact, and economical gauge installation and operation.
- The Gauge root valves(multi port) allowing the versatile positioning of gauges or instruments without requiring additional perforation of the main piping.

■ Standard Valve Bonnets

Gauge 2-Valves are provided with 1-Isolate and 1-Vent
Each valve bonnet is fitted with a color coded stainless steel identification tag.



■ Valve Body

This is standard hexagon or square bar stock material.

■ Connections

Process Side Inlet Connections

- 1/4 to 3/4 in. NPT male or female threads are standard.
- Alternative thread forms, socket or butt weld connections are available.

Instrument Side Outlet Connections

- 1/4 to 3/4 in. NPT male or female threads are standard.

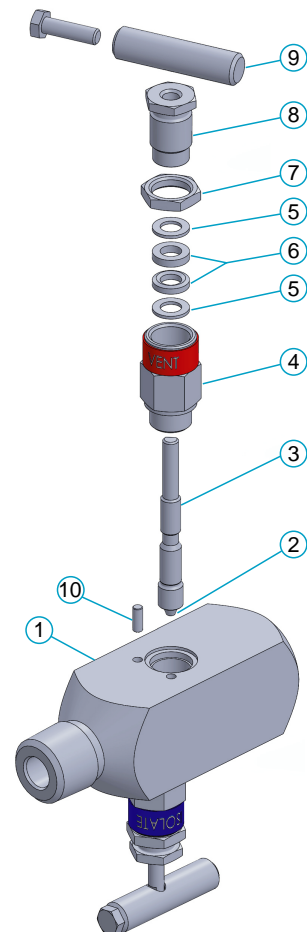
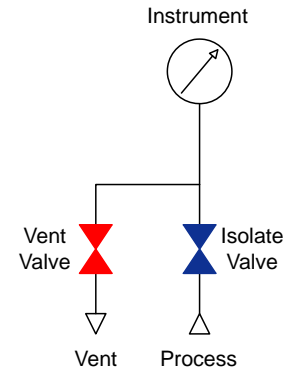
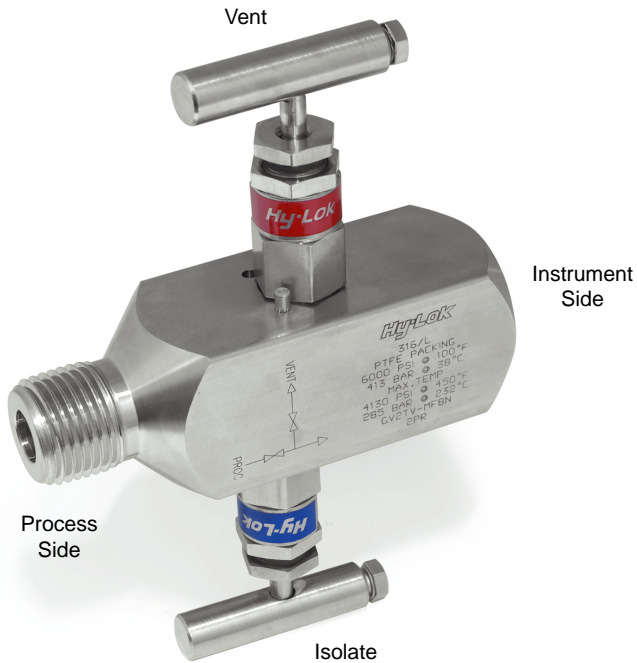
Vent/Bleed Connections

- The position depends upon valve design but are generally on the side or bottom face of the valve.
- 1/4 in. NPT female threads are standard.

GV Series Gauge and Root Valves

The Gauge valves are mainly used for static pressure gauges and instrument applications that include process isolation valve and vent valve for pressure removal.

- Consists of isolation valve and vent valve.
- Connections - 1/4 to 3/4 in. NPT male or female threads.



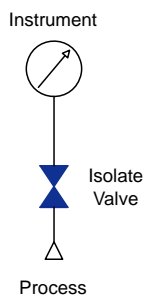
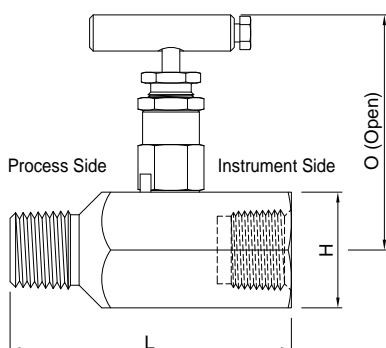
| Component | | Material Grade / ASTM Specification |
|-----------|----------------|-------------------------------------|
| 1 | Body | 316 SS/A479 or A182 |
| 2 | Disc | 630 SS/A564 |
| 3 | Stem | 316 SS/A479 |
| 4 | Bonnet | 316 SS/A479 |
| 5 | Packing Washer | Reinforced PTFE |
| 6 | Stem Packing | PTFE |
| 7 | Lock Nut | 316 SS/A479 |
| 8 | Packing Bolt | 316 SS/A479 |
| 9 | Handle | 316 Stainless Steel |
| 10 | Stop Pin | 316 Stainless Steel |

GV Series Gauge Valves

VGTVMF (Male to Female)

T : PTFE Packing

G : Graphite Packing

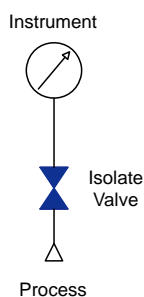
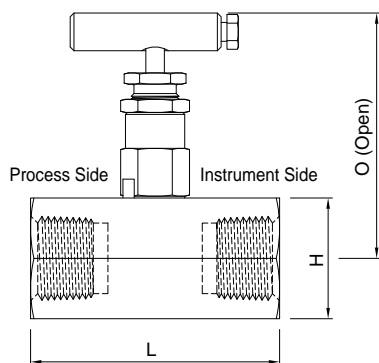


| Part No. | End Connection | | Dimensions in. (mm) | | |
|-------------|------------------|--------------------|---------------------|------------|------------|
| | Process | Instrument | L | O(open) | H(Hex) |
| VGTVMF4N | 1/4 in. NPT Male | 1/4 in. NPT Female | 2.62(67.0) | 2.62(67.0) | 1.06(27.0) |
| VGTVMF8N | 1/2 in. NPT Male | 1/2 in. NPT Female | 3.06(78.0) | 2.72(69.0) | 1.26(32.0) |
| VGTVMF12N8N | 3/4 in. NPT Male | 1/2 in. NPT Female | 3.06(78.0) | 2.72(69.0) | 1.26(32.0) |
| VGTVMF12N | 3/4 in. NPT Male | 3/4 in. NPT Female | 3.06(78.0) | 2.83(72.0) | 1.50(38.0) |

VGTVF (Female to Female)

T : PTFE Packing

G : Graphite Packing



| Part No. | End Connection | | Dimensions in. (mm) | | |
|----------|--------------------|------------|---------------------|------------|------------|
| | Process | Instrument | L | O(open) | H(Hex) |
| VGTVF4N | 1/4 in. NPT Female | | 2.06(52.5) | 2.62(67.0) | 1.06(27.0) |
| VGTVF8N | 1/2 in. NPT Female | | 2.63(67.0) | 2.72(69.0) | 1.26(32.0) |
| VGTVF12N | 3/4 in. NPT Female | | 2.63(67.0) | 2.83(72.0) | 1.50(38.0) |

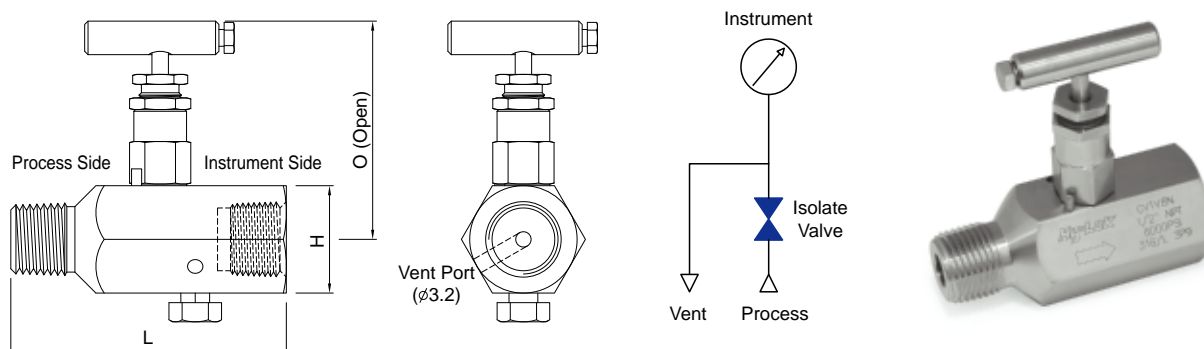
All dimensions are in millimeters(inches) reference only, subject to change.

GV Series Gauge Valves

VGVTVMF(Male to Female with Vent Port)

I : PTFE Packing

G : Graphite Packing

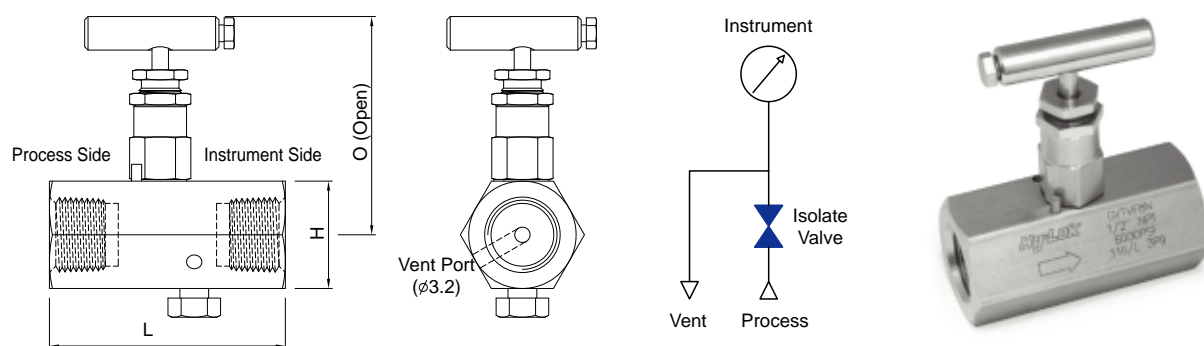


| Part No. | End Connection | | Dimensions in. (mm) | | |
|-----------------|------------------|--------------------|---------------------|------------|------------|
| | Process | Instrument | L | O(open) | H(Hex.) |
| VGVTVMF4N-VP | 1/4 in. NPT Male | 1/4 in. NPT Female | 2.83(72.0) | 2.63(67.0) | 1.06(26.9) |
| VGVTVMF8N-VP | 1/2 in. NPT Male | 1/2 in. NPT Female | 3.05(78.0) | 2.72(69.0) | 1.26(32.0) |
| VGVTVMF12N8N-VP | 3/4 in. NPT Male | 1/2 in. NPT Female | 3.05(78.0) | 2.72(69.0) | 1.26(32.0) |
| VGVTVMF12N-VP | 3/4 in. NPT Male | 3/4 in. NPT Female | 3.38(86.0) | 2.83(72.0) | 1.50(38.0) |

VGVTVF(Female to Female with Vent Port)

I : PTFE Packing

G : Graphite Packing



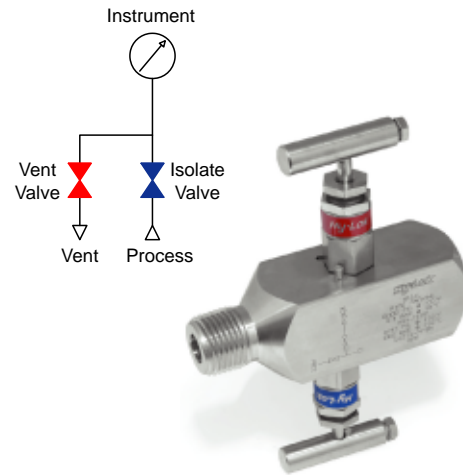
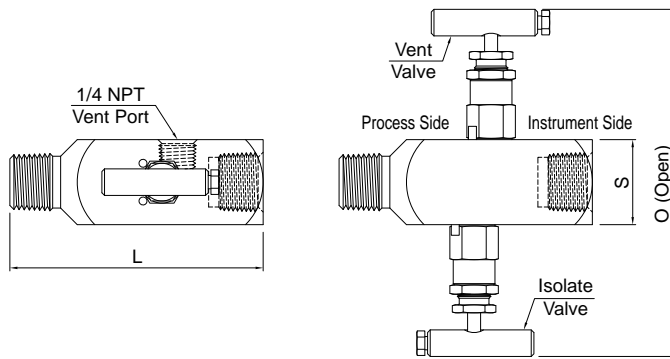
| Part No. | End Connection | | Dimensions in. (mm) | | |
|-------------|--------------------|------------|---------------------|------------|------------|
| | Process | Instrument | L | O(open) | H(Hex.) |
| VGTVF4N-VP | 1/4 in. NPT Female | | 2.25(57.5) | 2.63(67.0) | 1.06(26.9) |
| VGTVF8N-VP | 1/2 in. NPT Female | | 2.60(66.0) | 2.72(69.0) | 1.26(32.0) |
| VGTVF12N-VP | 3/4 in. NPT Female | | 2.93(75.0) | 2.83(72.0) | 1.50(38.0) |

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

GV Series Gauge 2-Valves

VG2TV-MF (Male to Female with 1/4 in. NPT Vent Port)

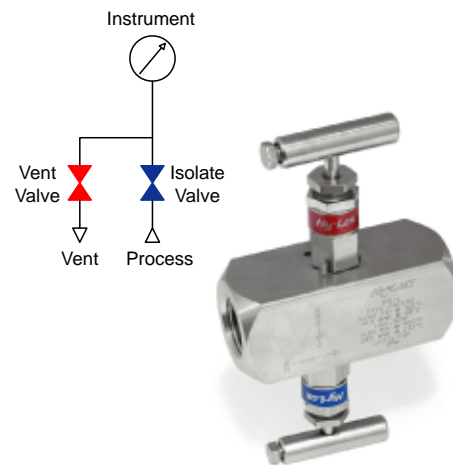
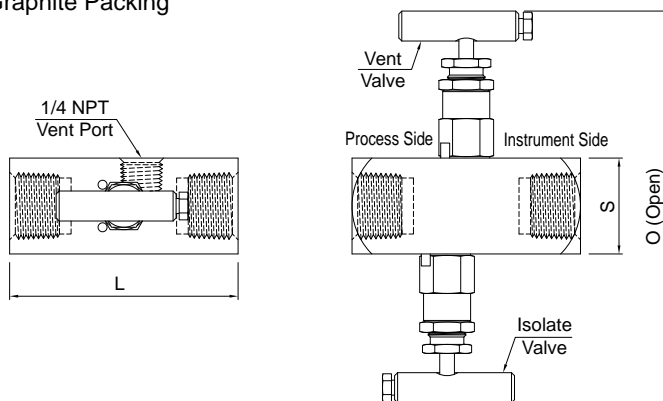
T : PTFE Packing
G : Graphite Packing



| Part No. | End Connection | | Dimensions in. (mm) | | |
|---------------|------------------|--------------------|---------------------|-------------|------------|
| | Process | Instrument | L | O(open) | S(Square) |
| VG2TV-MF4N | 1/4 in. NPT Male | 1/4 in. NPT Female | 3.19(81.0) | 5.36(136.0) | 1.18(30.0) |
| VG2TV-MF8N | 1/2 in. NPT Male | 1/2 in. NPT Female | 3.75(95.5) | 5.43(138.0) | 1.26(32.0) |
| VG2TV-MF12N8N | 3/4 in. NPT Male | 1/2 in. NPT Female | 3.75(95.5) | 5.43(138.0) | 1.26(32.0) |
| VG2TV-MF12N | 3/4 in. NPT Male | 3/4 in. NPT Female | 3.75(95.5) | 5.67(144.0) | 1.50(38.0) |

VG2TV-F (Female to Female with 1/4 in. NPT Vent Port)

T : PTFE Packing
G : Graphite Packing



| Part No. | End Connection | | Dimensions in. (mm) | | |
|--------------|--------------------|--------------------|---------------------|-------------|------------|
| | Process | Instrument | L | O(open) | S(Square) |
| VG2TV-F4N | 1/4 in. NPT Female | | 2.50(63.5) | 5.36(136.0) | 1.18(30.0) |
| VG2TV-F8N | 1/2 in. NPT Female | | 3.06(78.0) | 5.43(138.0) | 1.26(32.0) |
| VG2TV-F12N8N | 3/4 in. NPT Female | 1/2 in. NPT Female | 3.06(78.0) | 5.67(144.0) | 1.50(38.0) |
| VG2TV-F12N | 3/4 in. NPT Female | | 3.06(78.0) | 5.67(144.0) | 1.50(38.0) |

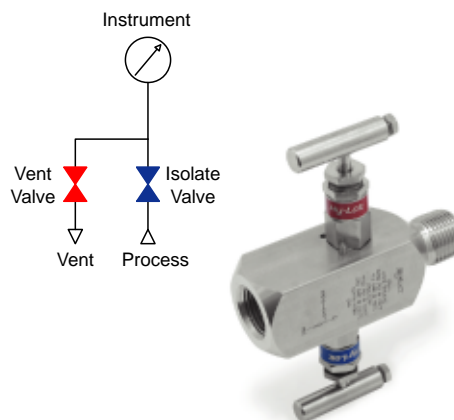
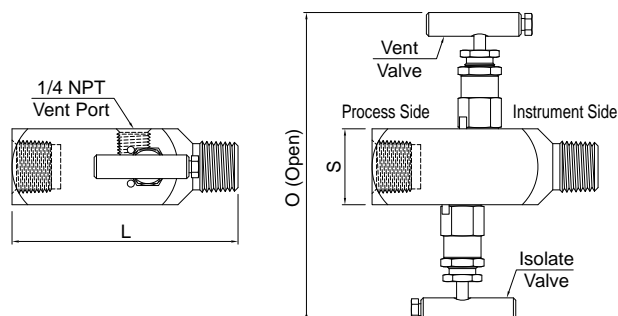
All dimensions are in millimeters(inchs) reference only, subject to change.

GV Series Gauge 2-Valves

VG2TV-FM(Female to Male with 1/4 in. NPT Vent Port)

T : PTFE Packing

G : Graphite Packing



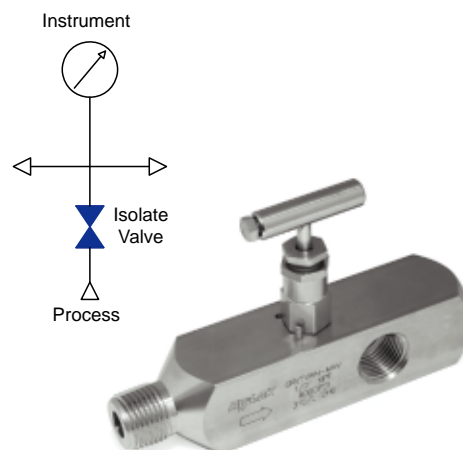
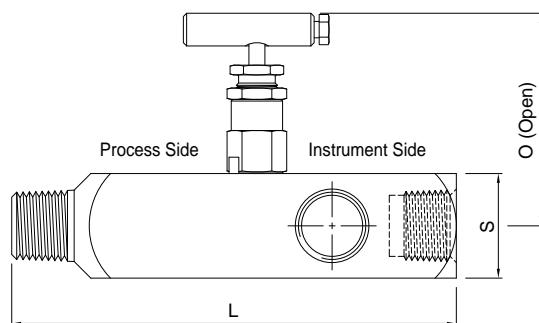
| Part No. | End Connection | | Dimensions in. (mm) | | |
|---------------|--------------------|------------------|---------------------|-------------|------------|
| | Process | Instrument | L | O(open) | S(Square) |
| VG2TV-FM4N | 1/4 in. NPT Female | 1/4 in. NPT Male | 3.19(81.0) | 5.36(136.0) | 1.18(30.0) |
| VG2TV-FM8N | 1/2 in. NPT Female | 1/2 in. NPT Male | 3.75(95.5) | 5.43(138.0) | 1.26(32.0) |
| VG2TV-FM12N8N | 3/4 in. NPT Female | 1/2 in. NPT Male | 3.75(95.5) | 5.67(144.0) | 1.50(38.0) |
| VG2TV-FM12N | 3/4 in. NPT Female | 3/4 in. NPT Male | 3.75(95.5) | 5.67(144.0) | 1.50(38.0) |

GV Series Gauge Root Valves

VGRVTVMF(Male to Female with Multi Port)

T : PTFE Packing

G : Graphite Packing



| Part No. | End Connection | | Dimensions in. (mm) | | |
|---------------|--------------------|--------------------|---------------------|------------|------------|
| | Process | Instrument | L | O(open) | S(Square) |
| VGRVTVMF8N | 1/2 in. NPT Male | 1/2 in. NPT Female | 5.35(136.0) | 2.72(69.0) | 1.26(32.0) |
| VGRVTVMF12N8N | 3/4 in. NPT Male | 1/2 in. NPT Female | 5.35(136.0) | 2.72(69.0) | 1.26(32.0) |
| VGRVTVF8N | 1/2 in. NPT Female | | 5.35(136.0) | 2.72(69.0) | 1.26(32.0) |
| VGRVTVF12N8N | 3/4 in. NPT Female | 1/2 in. NPT Female | 4.02(102.0) | 2.78(70.5) | 1.38(35.0) |

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

Options

■ High temperature Packing

Graphite valve packing material for high-temperature service. See Pressure-Temperature Ratings, page 8.

To order a manifold with an optional Graphite packing material, replace **T** with **G** in the manifold ordering number.

Example : VGV2**T**V-MF8N → VGV2**G**V-MF8N

Maintenance kits

■ Bonnet Assembly Kits

Select a Kit ordering number from the tables below based on the packing material.

| Packing Material | Kit Ordering Number | | Material Designator |
|------------------|-----------------------|-----------------------|---------------------|
| | Isolate | Vent | |
| Graphite | XMAVBNTS- G -I | XMAVBNTS- G -V | G |
| PTFE | XMAVBNTS- T -I | XMAVBNTS- T -V | T |



Accessories

■ Vent Plugs & Bleed Valves

Bleed & Vent plug valves are designed for use with gauge 2-valves or gauge root valves.

Can be used to vent to atmosphere before removal of an instrument.

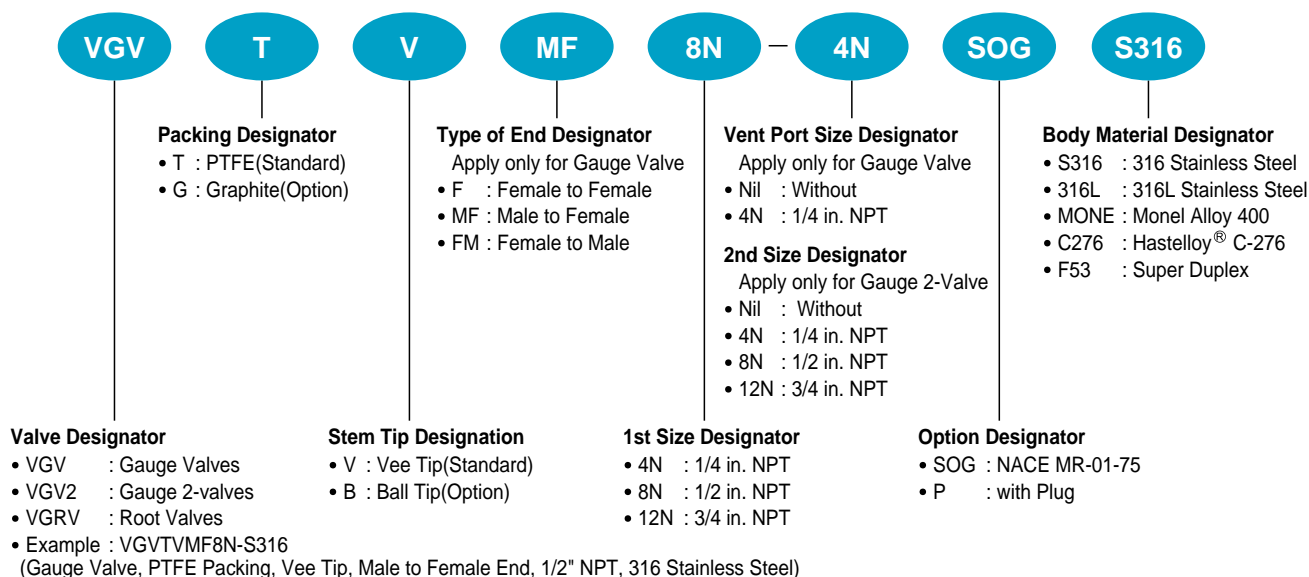
Selection of Bleed & Vent plug valve with 1/4 in. NPT or 1/2 in. NPT, depending on the vent port size.

Are available in 316 stainless steel material.

| Vent Port Size | Kit Ordering Number | | Thread Designator | |
|----------------|---------------------|------------|-------------------|-------------|
| | BLV Series | VPM Series | | |
| 1/4 in. | VBLV-4N | VPM-4N | 4N | 1/4 in. NPT |
| 1/2 in. | VBLV-8N | VPM-8N | 8N | 1/2 in. NPT |



Ordering Information



M Series Instrument Manifolds

The M Series instrument manifolds are designed for all types of instruments from static pressure gauge to differential pressure transmitters.

Available for direct or remote mounting, the pressure manifolds enable isolation, calibration and venting in a single unit.

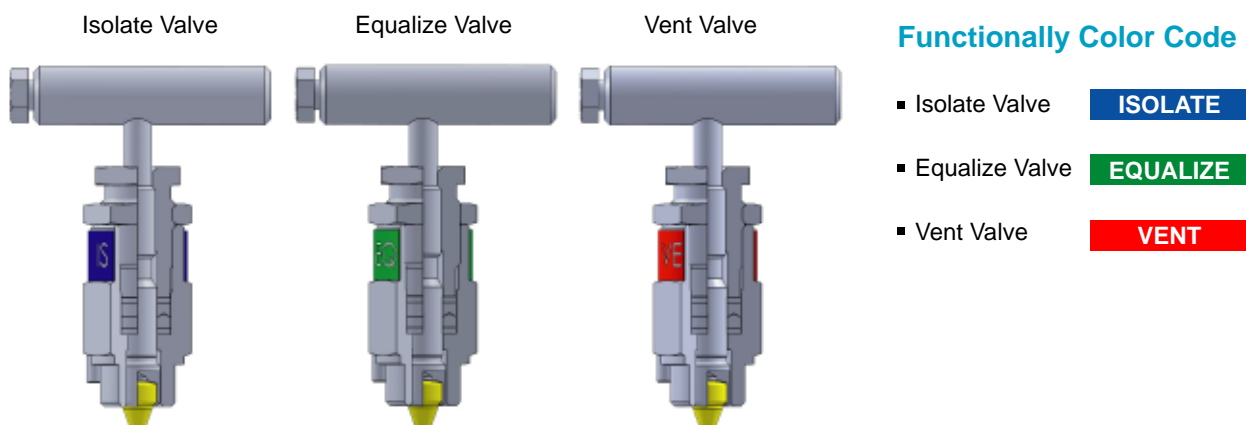
Standard Valve Bonnets

2-Valve manifolds are provided with 1-Isolate and 1-Vent.

3-Valve manifolds are provided with 2-Isolate and 1-Equalize.

5-Valve manifolds are provided with 2-Isolate, 1- Vent and 2-Equalize. : GAS

5-Valve manifolds are provided with 2-Isolate, 2- Vent and 1-Equalize. : OIL



Manifold Body

This is standard compact square bar stock style suitable for enclosure installation.

Forged forms are also available as standard.

Connections

Process Side Inlet Connections :

- 1/2"NPT Female threads or Kidney Flange(oval) are standard.
- Alternative thread forms, socket or butt weld connections are available.
- Inlet connections are positioned on 2-1/4 in.(54mm).

Instrument Side Outlet Connections :

- Remote style manifolds are provided as standard with 1/2 in. NPT female threads.
- Direct style manifolds are provided as standard Flange face with DIN 19213 Part 2, DIN EN 61518 Type B
- Alternative thread forms, socket or butt weld connections are available.
- Outlet connections are positioned on 2-1/4 in.(54mm).

Vent/Bleed Connections :

- The position depends upon manifold design but are generally on the bottom face of the manifold.
- 2-Valve manifolds are provided as standard 1/4 in. or 1/2 in. NPT female threads.
- 3, 5-Valve manifolds are provided as standard 1/4 in. NPT female threads.

Manifold Mountings

All direct mount manifolds are provided with 4 of 7/16 in.-20 thread Stainless Steel Bolts.

Bolt holes are positioned on 2-1/4 in.(54mm).

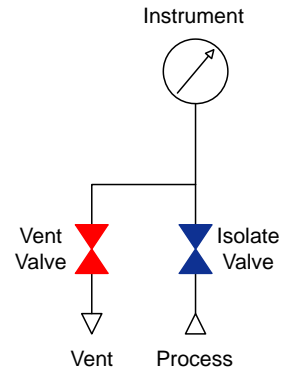
Manifold Bracket Mountings

All manifolds are provided with bracket mounting holes.

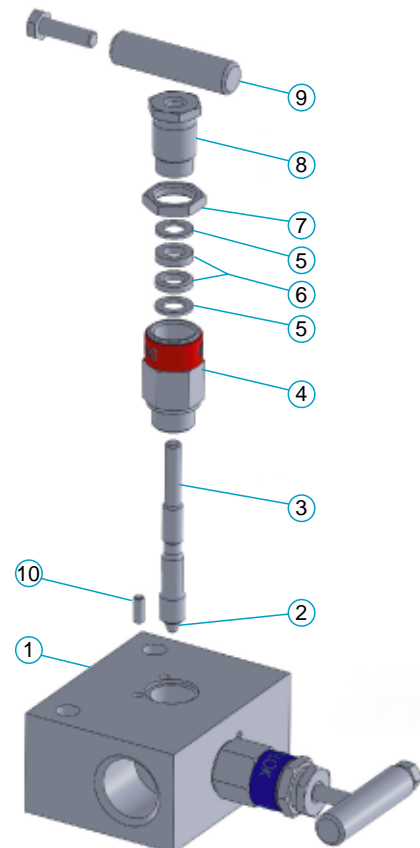
M Series 2-Valve Manifolds

The 2-Valve manifold used mainly in static pressure gauge and instrument applications such as pressure transmitters has process isolation valve and vent valve for pressure removal.

- Consists of one isolation valve and one vent valve.
- Connections - Female pipe (NPT) threads, Flange (IEC).
- Direct instrument mount and remote mount.
- Mounting holes as standard.



| Component | | Material Grade / ASTM Specification |
|-----------|----------------|--|
| 1 | Body | 316 SS/A479 or A182 |
| 2 | Disc | 630 SS/A564 |
| 3 | Stem | 316 SS/A479 |
| 4 | Bonnet | 316 SS/A479 |
| 5 | Packing Washer | Reinforced PTFE |
| 6 | Stem Packing | PTFE |
| 7 | Lock Nut | 316 SS/A479 |
| 8 | Packing Bolt | 316 SS/A479 |
| 9 | Handle | 316 Stainless Steel |
| 10 | Stop Pin | 316 Stainless Steel |



M Series 2-Valve Manifolds

Remote Mount Manifolds (Female to Female)

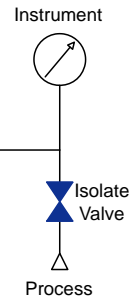
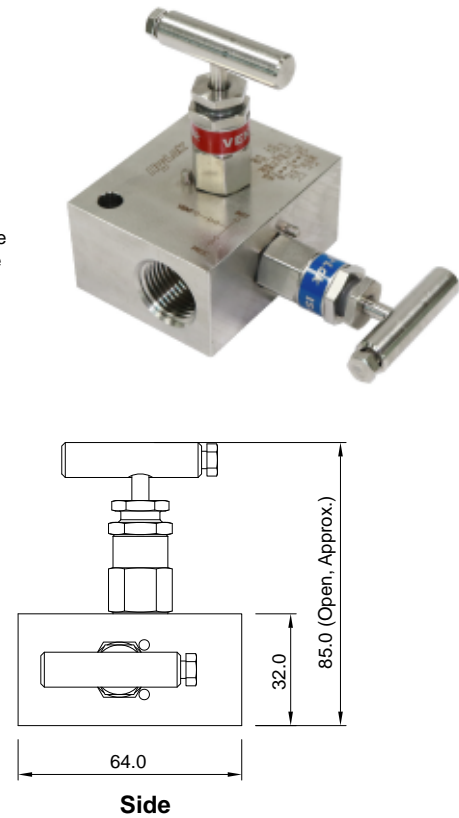
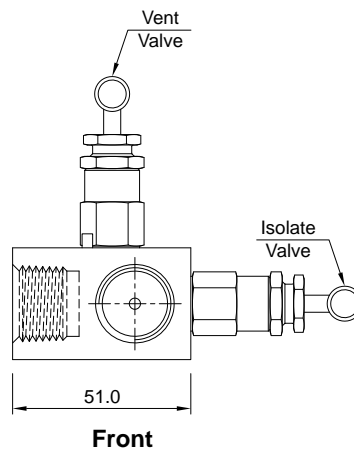
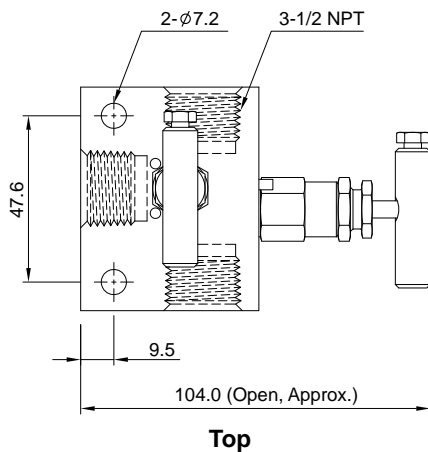
Pressure Manifolds

VM2VTV8N

0.8 Kg (1.8 lb)

T : PTFE Packing

G : Graphite Packing



Remote Mount Manifolds / Vertical Vent (Female to Female)

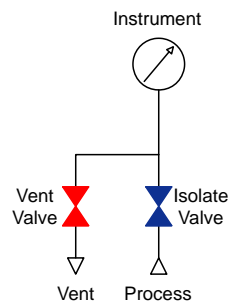
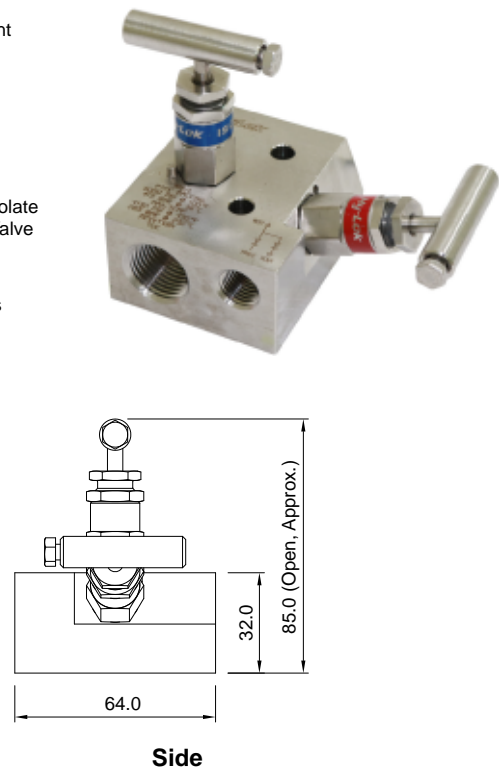
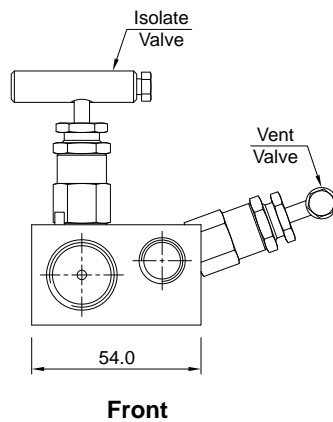
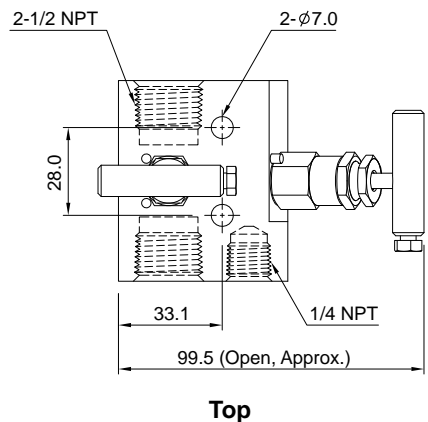
Pressure Manifolds

VM2VTV8N

0.9kg (2.0lb)

T : PTFE Packing

G : Graphite Packing



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

M Series 2-Valve Manifolds

Direct Mount Manifolds / 1-Flange (Female to Flange)

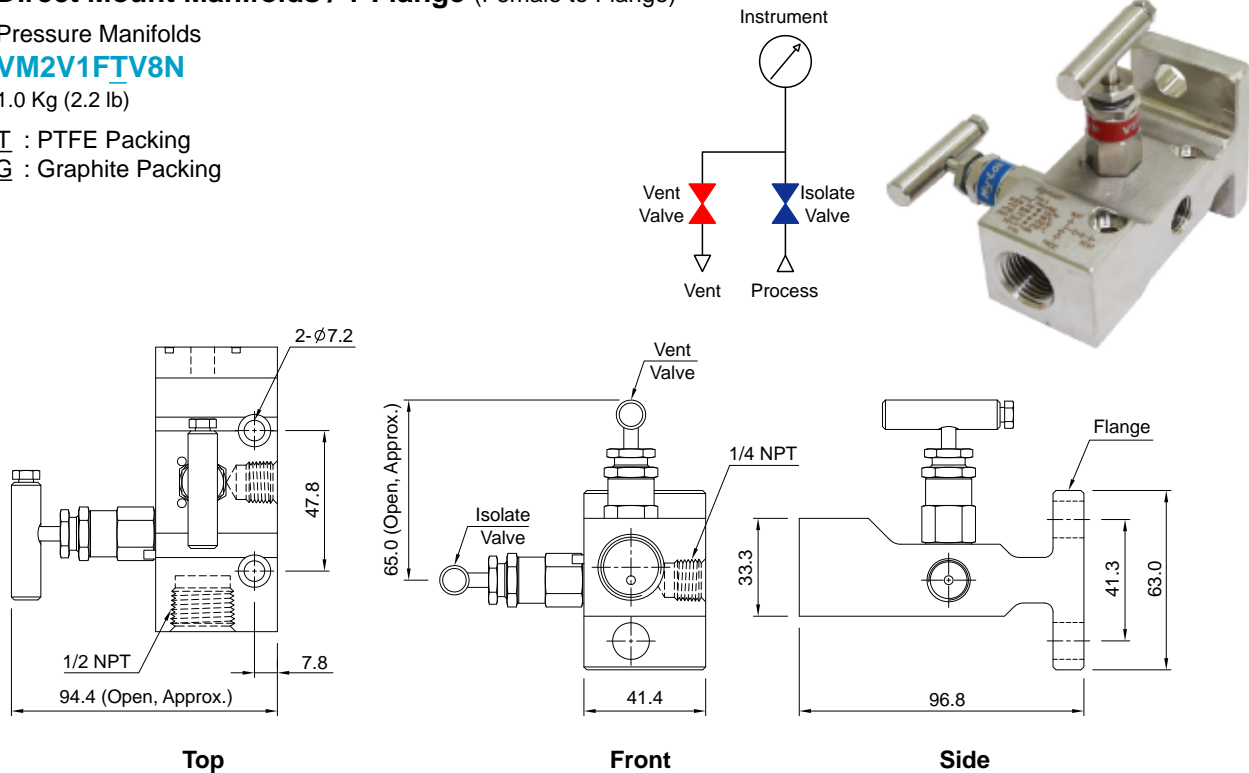
Pressure Manifolds

VM2V1FTV8N

1.0 Kg (2.2 lb)

T : PTFE Packing

G : Graphite Packing



Direct Mount Manifolds (Female to Flange)

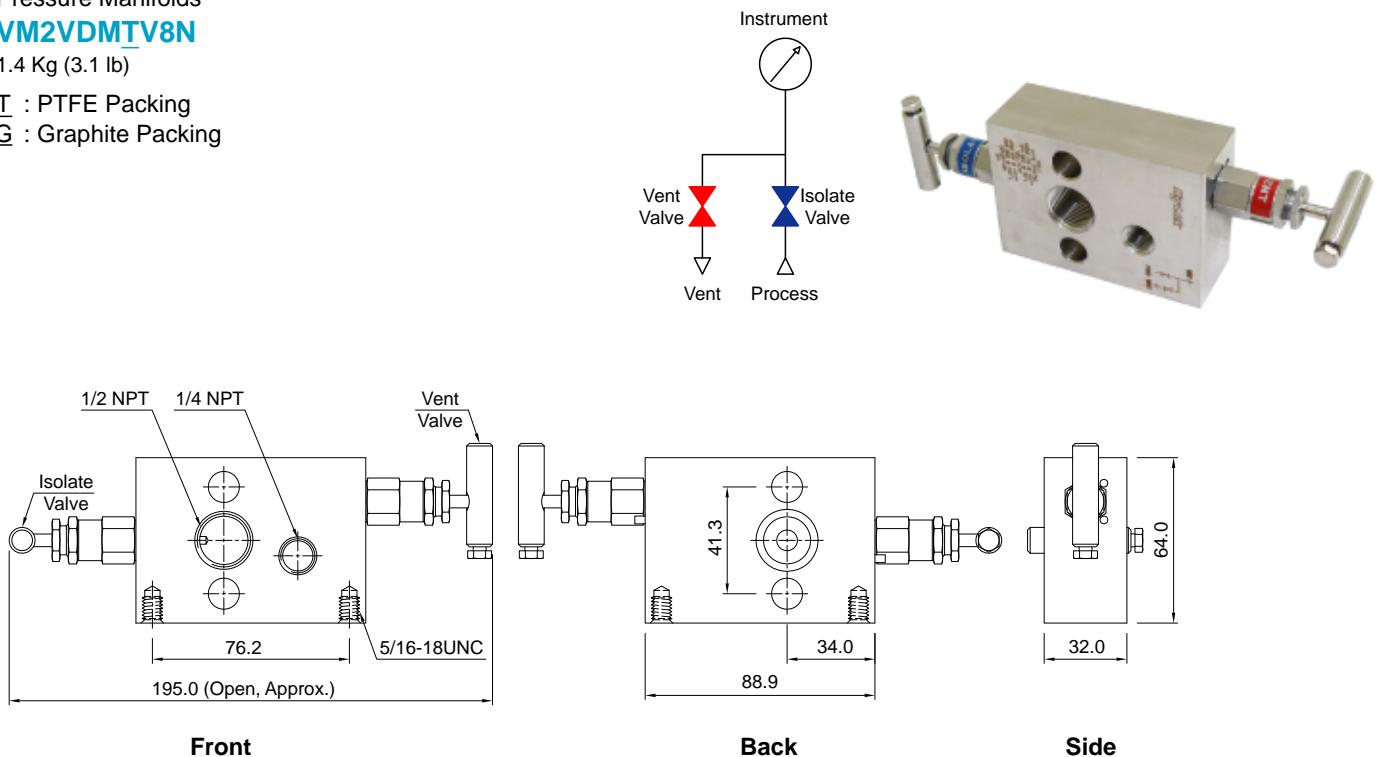
Pressure Manifolds

VM2VDMTV8N

1.4 Kg (3.1 lb)

T : PTFE Packing

G : Graphite Packing



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

M Series 2-Valve Manifolds

Direct Mount Manifolds / A Type (Female to Flange)

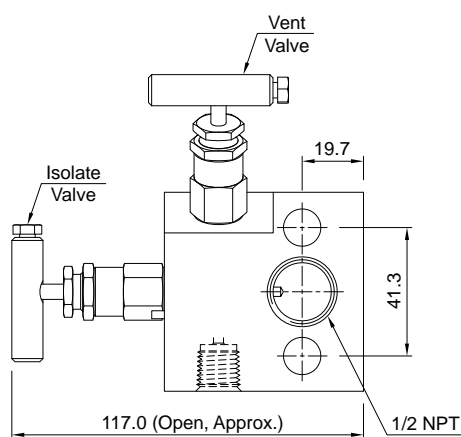
Pressure Manifolds

VM2AVDMTV8N

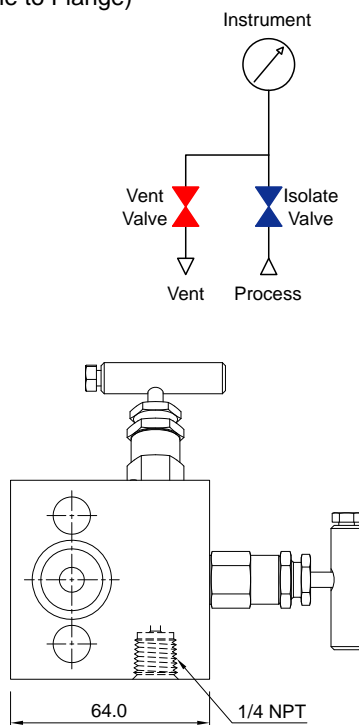
0.9 Kg (2.0 lb)

I : PTFE Packing

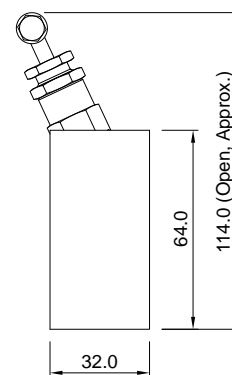
G : Graphite Packing



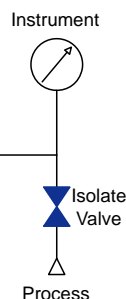
Front



Back



Side



Double Direct Mount Manifolds / A Type (Flange to Flange)

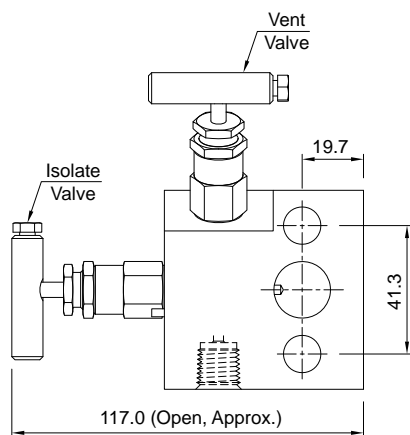
Pressure Manifolds

VM2AV2DMTV

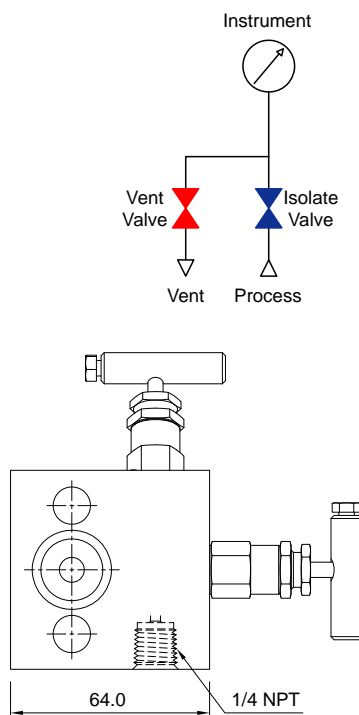
0.9 Kg (2.0 lb)

I : PTFE Packing

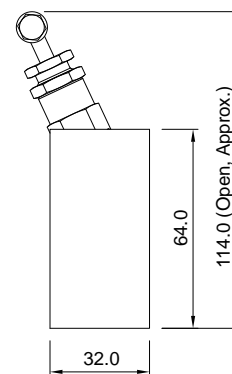
G : Graphite Packing



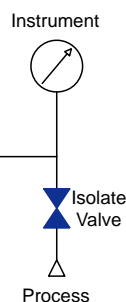
Front



Back



Side



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

M Series 2-Valve Manifolds

Direct Mount Manifolds / A-A Type (Female to Flange)

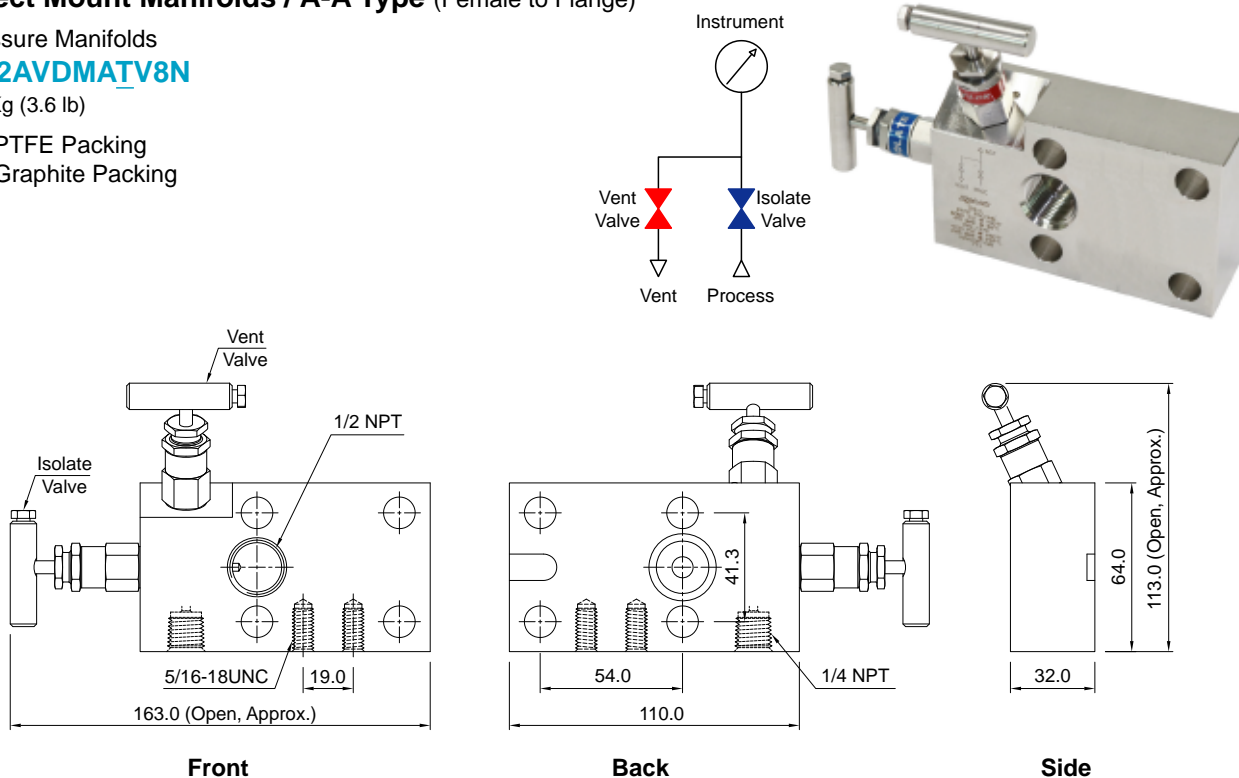
Pressure Manifolds

VM2AVDMATV8N

1.6 Kg (3.6 lb)

T : PTFE Packing

G : Graphite Packing

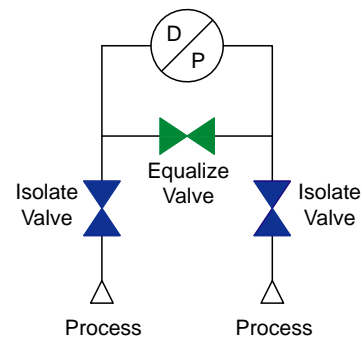
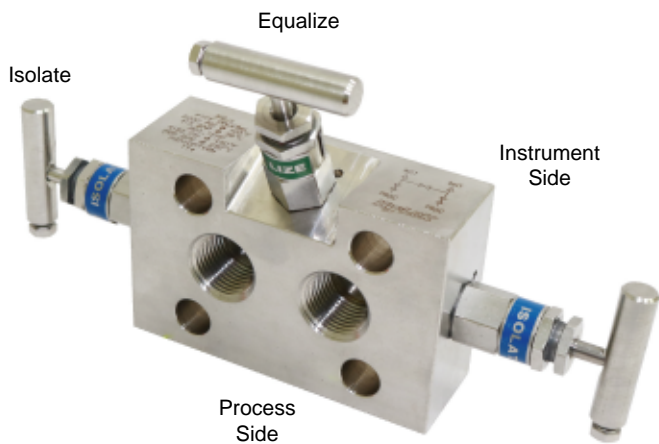


All dimensions are in millimeters(inchs) reference only, subject to change.

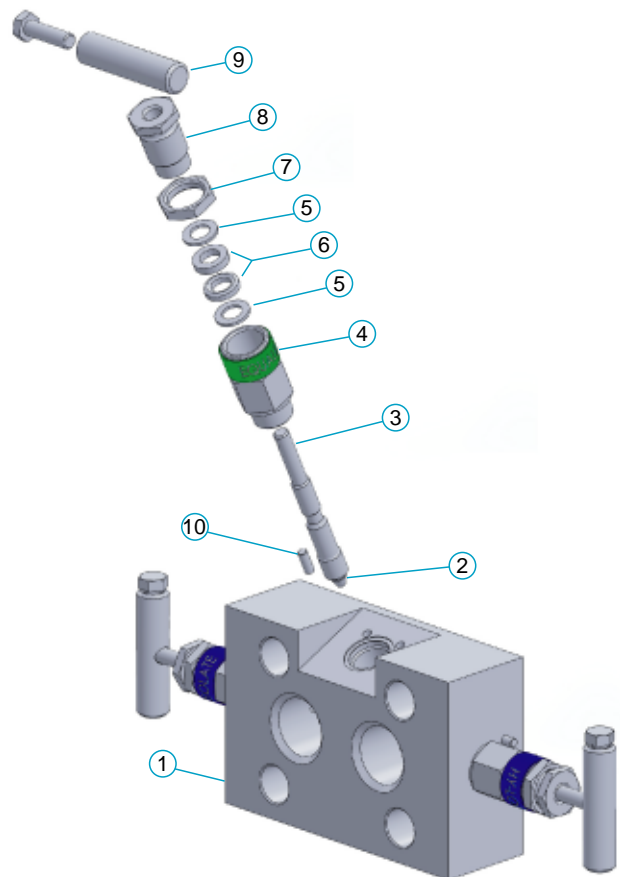
M Series 3-Valve Manifolds

The 3-Valve manifold used mainly in differential pressure transmitters applications has two process isolation valves and one equalize valve for differential pressure.

- Consists of two isolation valve and one equalization valve.
- Connections - Female pipe (NPT) threads, Flange (IEC).
- Direct instrument mount and remote mount.
- Mounting holes as standard.



| Component | | Material Grade / ASTM Specification |
|-----------|----------------|-------------------------------------|
| 1 | Body | 316 SS/A479 or A182 |
| 2 | Disc | 630 SS/A564 |
| 3 | Stem | 316 SS/A479 |
| 4 | Bonnet | 316 SS/A479 |
| 5 | Packing Washer | Reinforced PTFE |
| 6 | Stem Packing | PTFE |
| 7 | Lock Nut | 316 SS/A479 |
| 8 | Packing Bolt | 316 SS/A479 |
| 9 | Handle | 316 Stainless Steel |
| 10 | Stop Pin | 316 Stainless Steel |



M Series 3-Valve Manifolds

Remote Mount Manifolds (Female to Female)

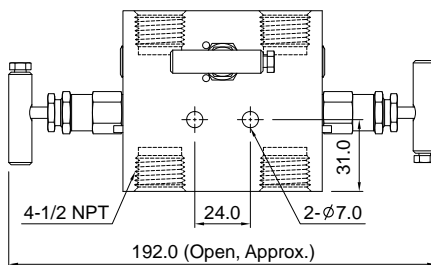
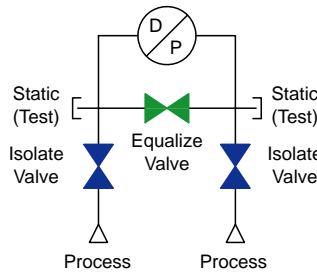
Differential Pressure Manifolds

VM3VTV8N

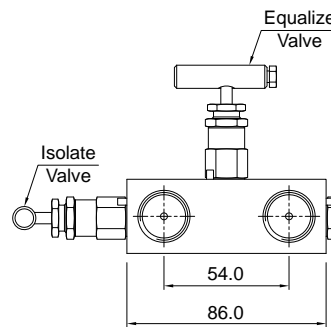
1.7 Kg (3.7 lb)

T : PTFE Packing

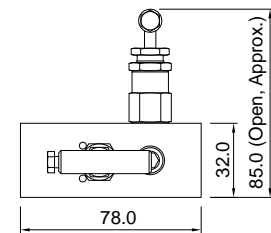
G : Graphite Packing



Top



Front



Side

Direct Mount Manifolds / 1-Flange (Female to Flange)

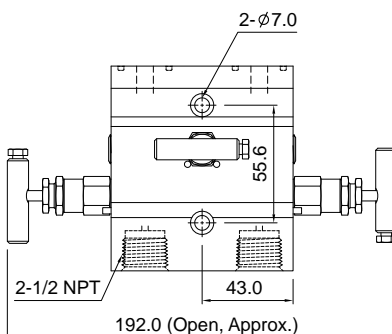
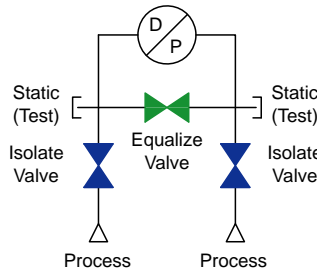
Differential Pressure Manifolds

VM3V1FTV8N

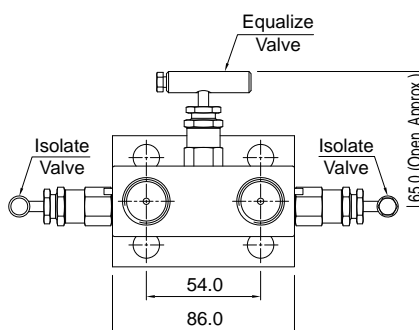
2.0 Kg (4.4 lb)

T : PTFE Packing

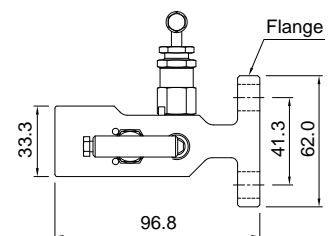
G : Graphite Packing



Top



Front



Side

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

M Series 3-Valve Manifolds

Direct Mount Manifolds / 2-Flange (Flange to Flange)

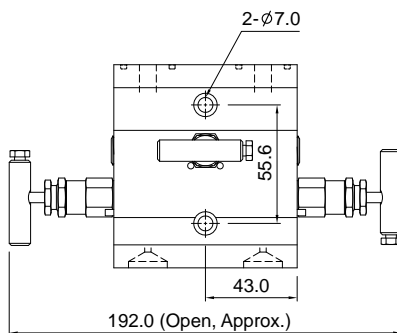
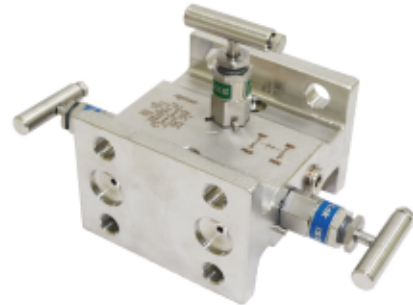
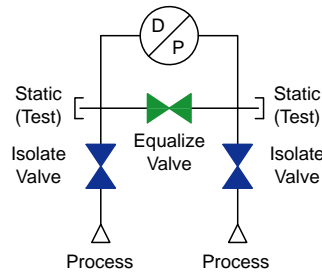
Differential Pressure Manifolds

VM3V2FTV

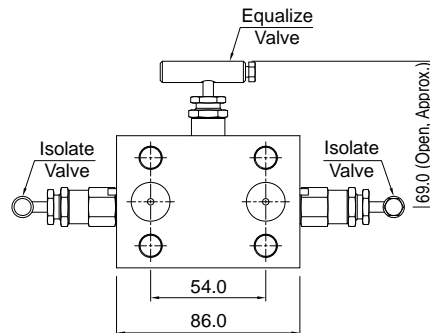
2.3 Kg (5.1 lb)

T : PTFE Packing

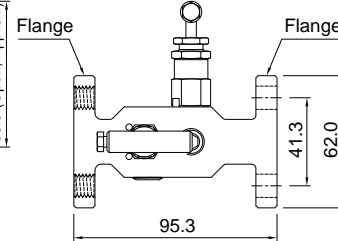
G : Graphite Packing



Top



Front



Side

Direct Mount Manifolds (Female to Flange)

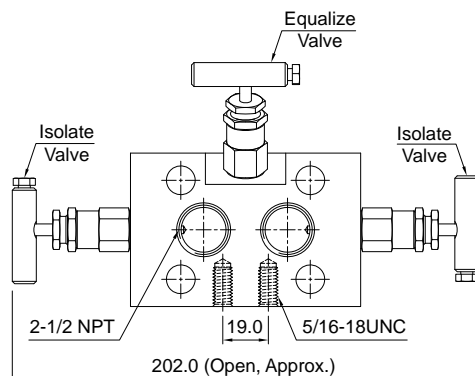
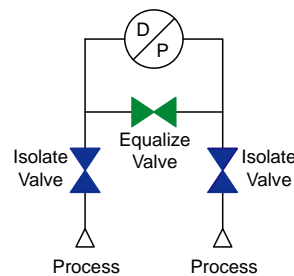
Differential Pressure Manifolds

VM3VDMTV8N

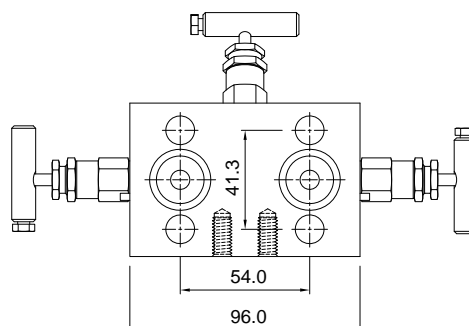
1.5 Kg (3.3 lb)

T : PTFE Packing

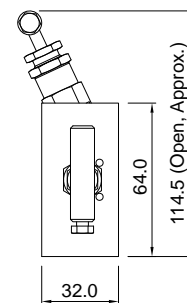
G : Graphite Packing



Front



Back



Side

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

M Series 3-Valve Manifolds

Double Direct Mount Manifolds (Flange to Flange)

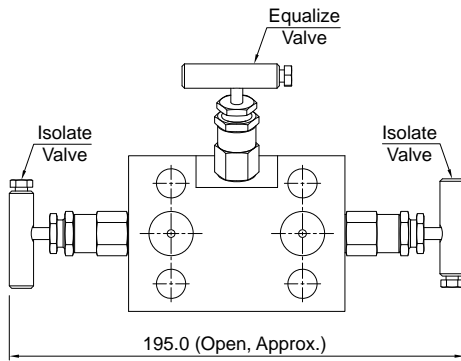
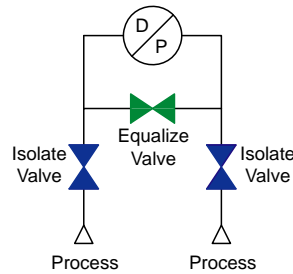
Differential Pressure Manifolds

VM3V2DMTV

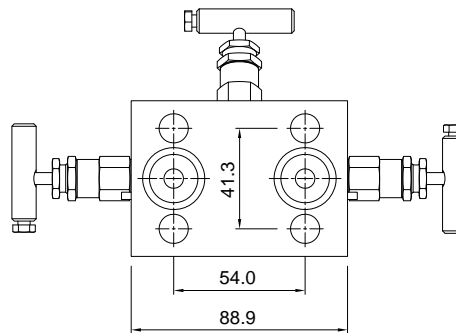
1.4 Kg (3.1 lb)

T : PTFE Packing

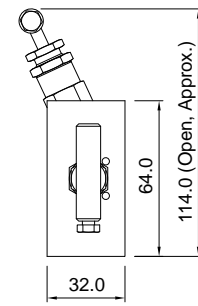
G : Graphite Packing



Front



Back



Side

Direct Mount Manifolds / B Port (Female to Flange)

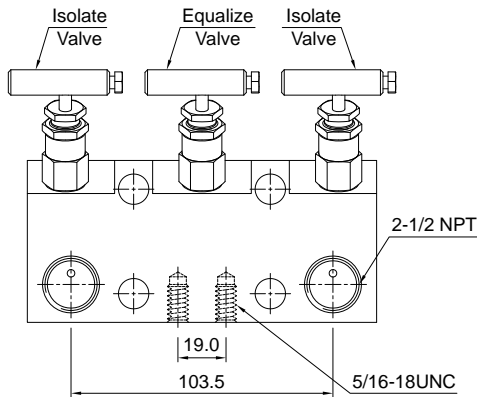
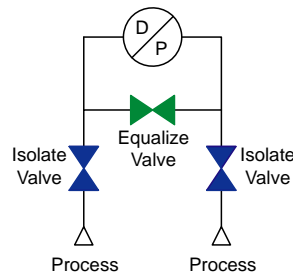
Differential Pressure Manifolds

VM3VDMBTV8N

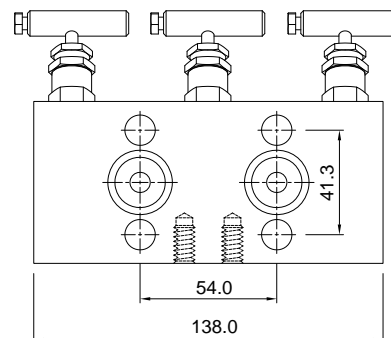
1.8 Kg (4.0 lb)

T : PTFE Packing

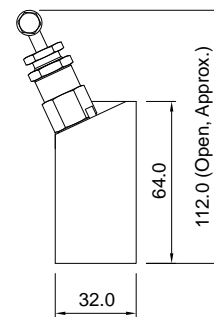
G : Graphite Packing



Front



Back



Side

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

M Series 3-Valve Manifolds

Direct Mount Manifolds / B Port (Socket Weld to Flange)

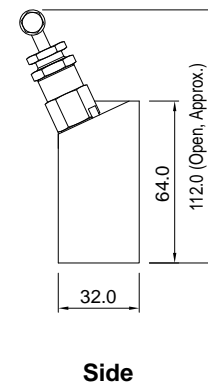
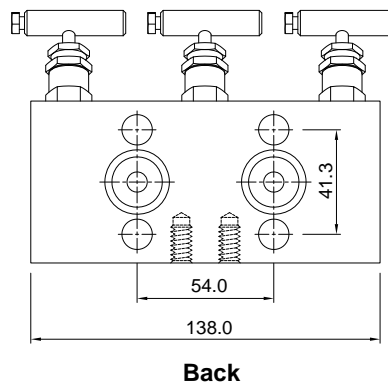
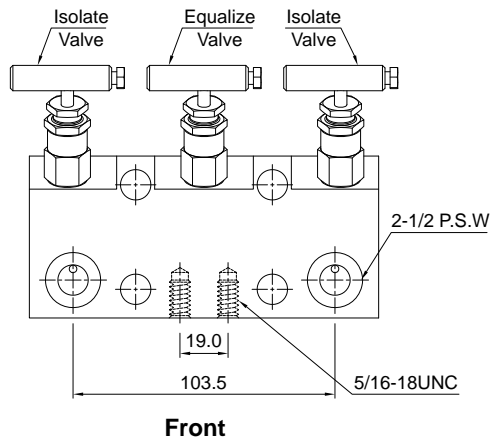
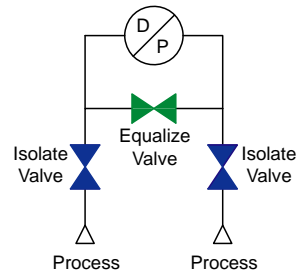
Differential Pressure Manifolds

VM3VDMBGV8P

1.8 Kg (4.0 lb)

I : PTFE Packing

G : Graphite Packing

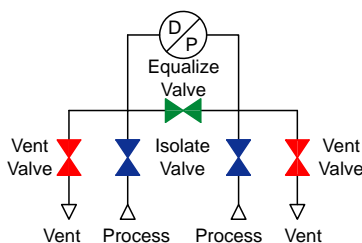
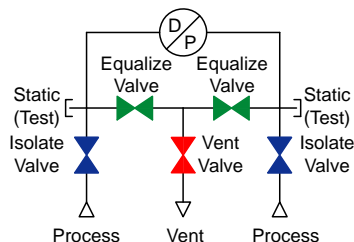
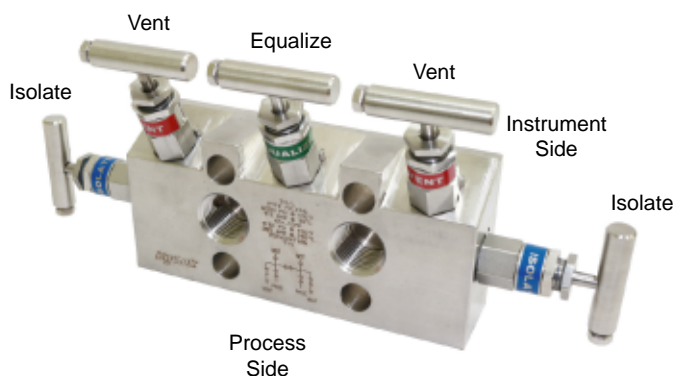


All dimensions are in millimeters(inchs) reference only, subject to change.

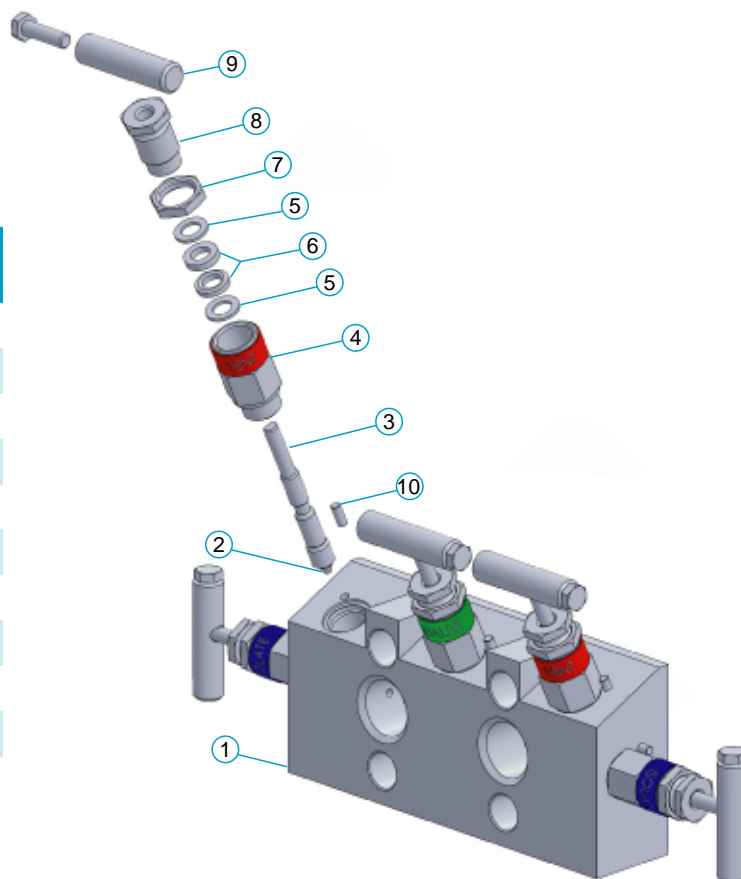
M Series 5-Valve Manifolds

The 5-Valve manifold used mainly in differential pressure transmitters applications has two process isolation valves, one equalize valve for differential pressure and two vent valves for pressure removal.

- Consists of two isolation valves, one equalization valves and two vent valve for Oil.
- Consists of two isolation valves, two equalization valves and one vent valves for GAS.
- Connections - Female pipe (NPT) threads, Flange (IEC).
- Direct instrument mount and remote mount.
- Mounting holes as standard.



| Component | | Material Grade / ASTM Specification |
|-----------|----------------|-------------------------------------|
| 1 | Body | 316 SS/A479 or A182 |
| 2 | Disc | 630 SS/A564 |
| 3 | Stem | 316 SS/A479 |
| 4 | Bonnet | 316 SS/A479 |
| 5 | Packing Washer | Reinforced PTFE |
| 6 | Stem Packing | PTFE |
| 7 | Lock Nut | 316 SS/A479 |
| 8 | Packing Bolt | 316 SS/A479 |
| 9 | Handle | 316 Stainless Steel |
| 10 | Stop Pin | 316 Stainless Steel |



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

M Series 5-Valve Manifolds

Remote Mount Manifolds (Female to Female)

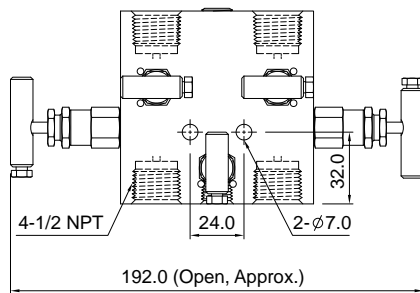
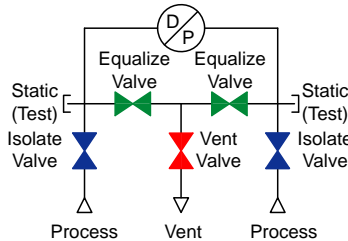
Differential Pressure Manifolds

VM5VT8N

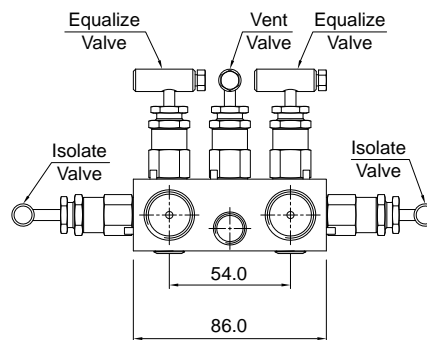
1.9 Kg (4.2 lb)

T : PTFE Packing

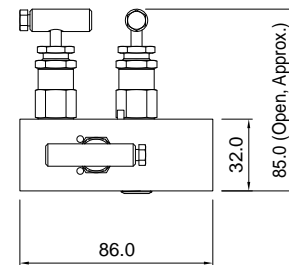
G : Graphite Packing



Top



Front



Side

Direct Mount Manifolds / 1-Flange (Female to Flange)

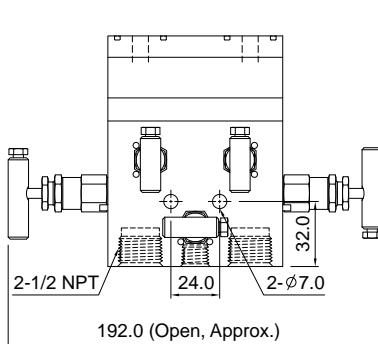
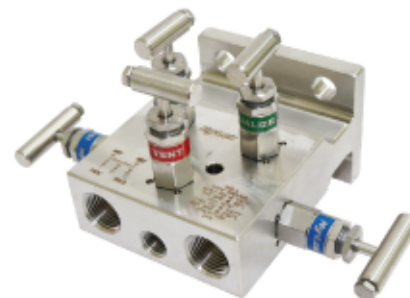
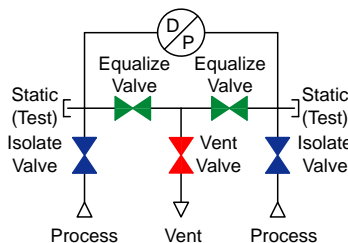
Differential Pressure Manifolds

VM5V1FT8N

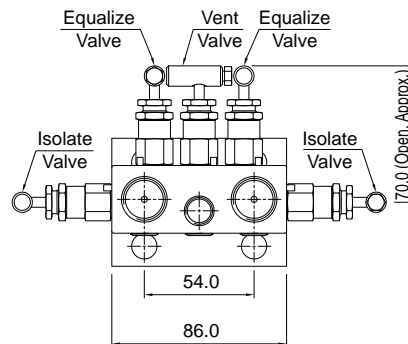
2.6 Kg (5.7 lb)

T : PTFE Packing

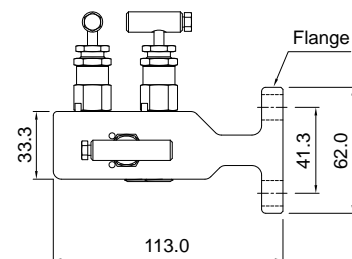
G : Graphite Packing



Top



Front



Side

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

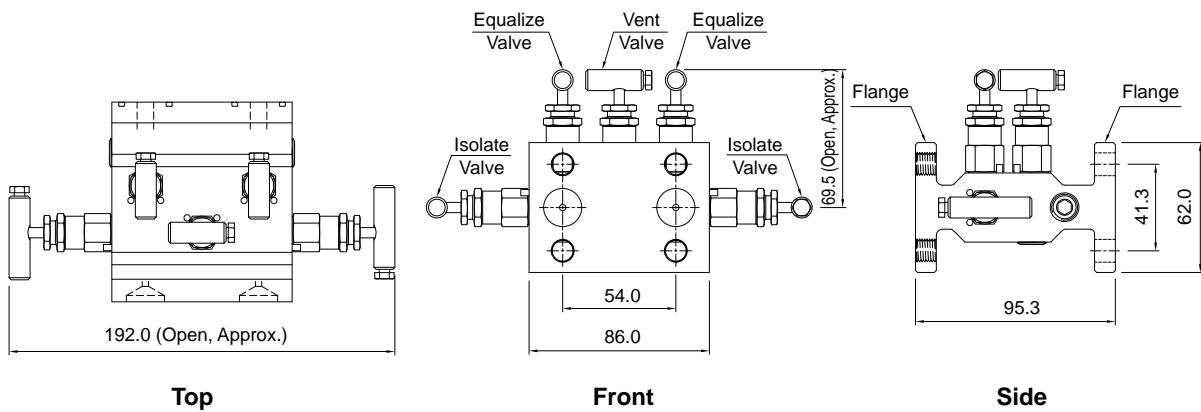
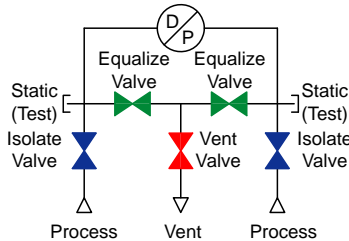
M Series 5-Valve Manifolds

Direct Mount Manifolds / 2-Flange (Flange to Flange)

Differential Pressure Manifolds

VM5V2FTV

2.5 Kg (5.5 lb)

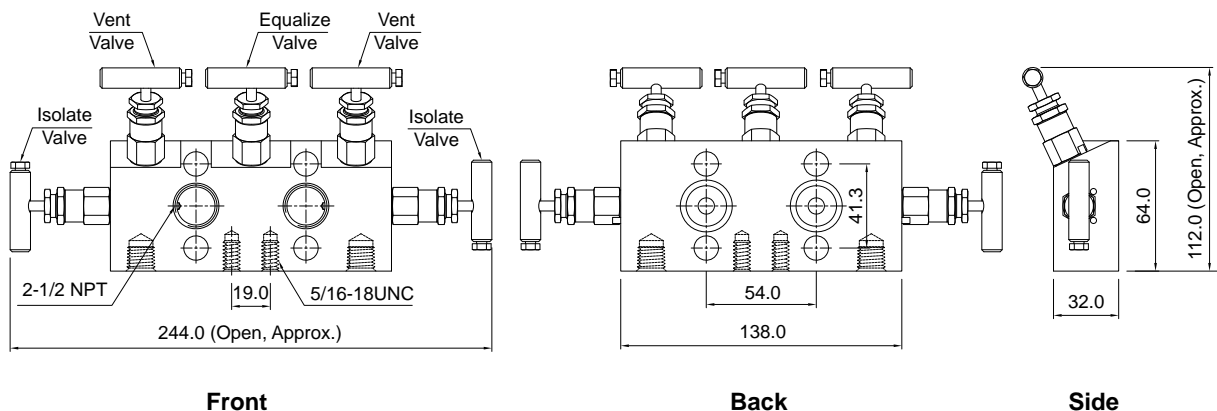
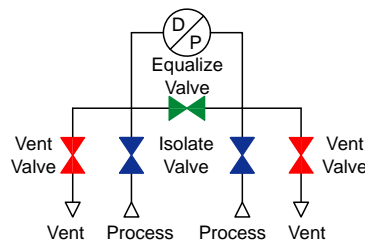
T : PTFE PackingG : Graphite Packing

Direct Mount Manifolds / A Port (Female to Flange)

Differential Pressure Manifolds

VM5VDMATV8N

2.6 Kg (5.8 lb)

T : PTFE PackingG : Graphite Packing

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

M Series 5-Valve Manifolds

Double Direct Mount Manifolds (Flange to Flange)

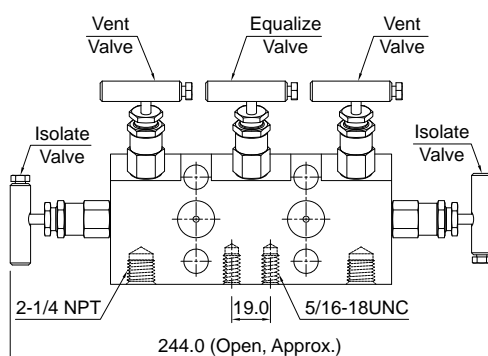
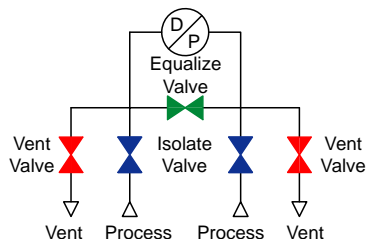
Differential Pressure Manifolds

VM5V2DMTV

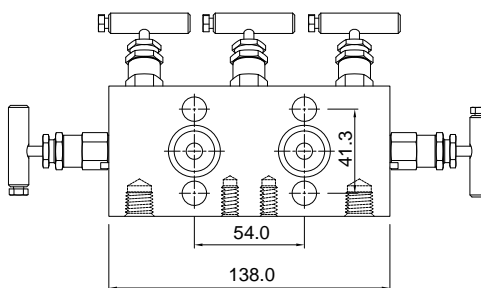
2.6 Kg (5.8 lb)

I : PTFE Packing

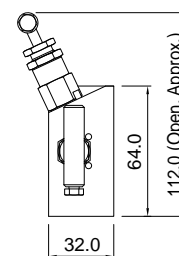
G : Graphite Packing



Front



Back



Side

Direct Mount Manifolds / B Port (Female to Flange)

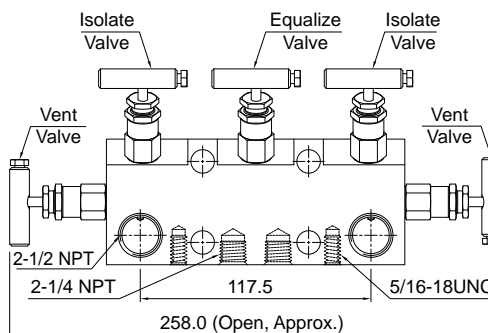
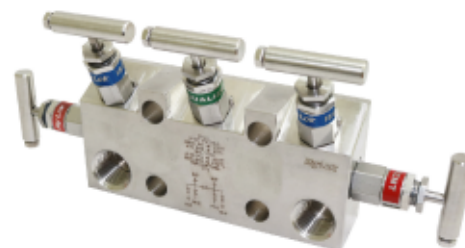
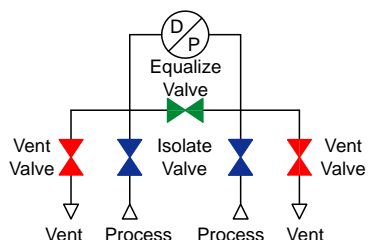
Differential Pressure Manifolds

VM5VDMBTV8N

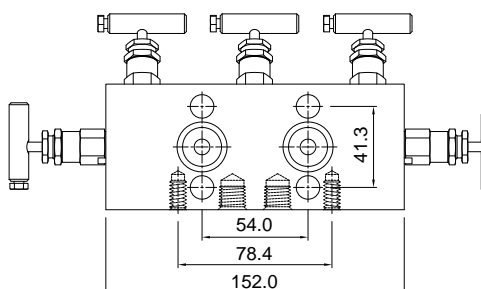
3.0 Kg (6.62 lb)

I : PTFE Packing

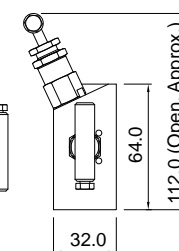
G : Graphite Packing



Front



Back



Side

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

M Series 5-Valve Manifolds

Direct Mount Manifolds / B Port (Socket Weld to Flange)

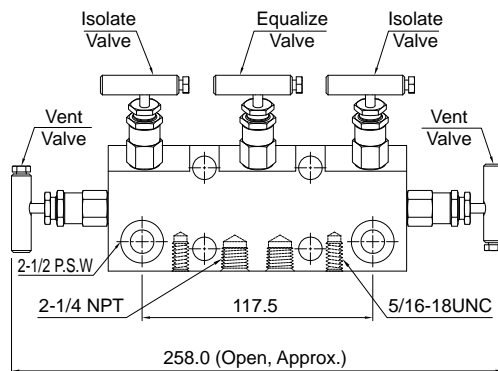
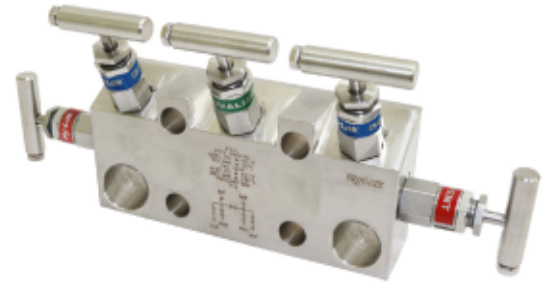
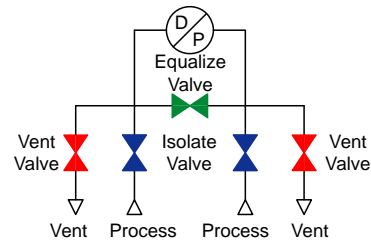
Differential Pressure Manifolds

VM5VDMBGV8P

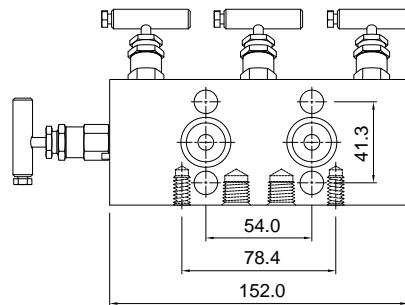
3.0 Kg (6.62 lb)

T : PTFE Packing

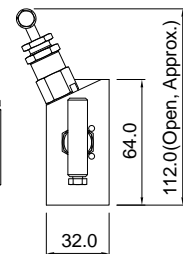
G : Graphite Packing



Front



Back



Side

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

Mounting kits

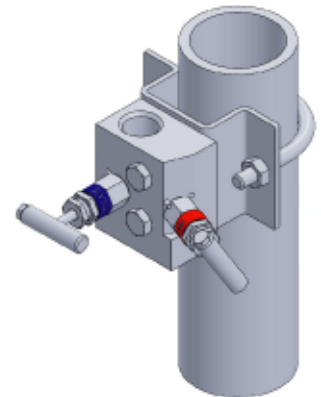
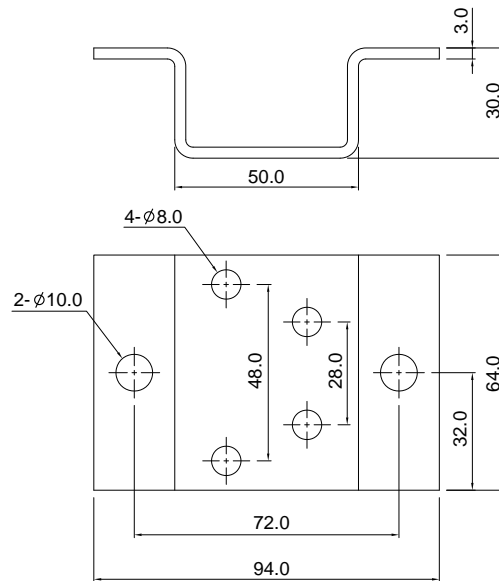
It is essential to fully support impulse/pressure measurement tubing lines, manifolds and instruments. All Hy-Lok manifolds are designed to accommodate bracket mounting and support, a full range of brackets with additional U-Bolt are available. Brackets are designed for panel and wall mounting and give full clearance for ease of handle operation. They are also suitable for vertical and horizontal positioning on 2 in. Pipe.

Ordering Number : KIT-MMB-M2V

1. Applicable Manifolds

- VM2VTV8N
- VM2VVTV8N

2. Bracket, U-Bolts & Nuts

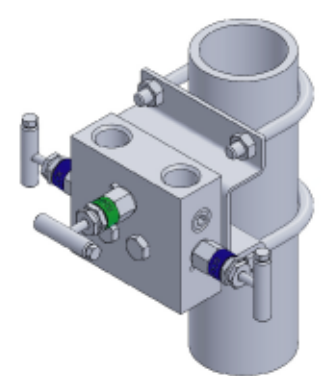
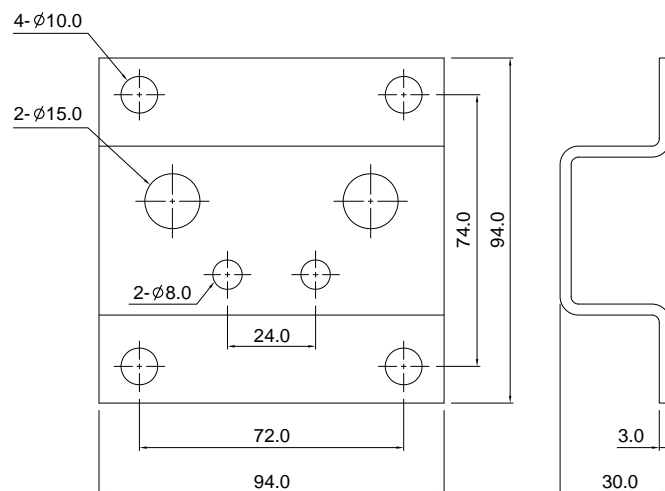


Ordering Number : KIT-MMB-M35V

1. Applicable Manifolds

- VM3VTV8N
- VM5VTV8N

2. Bracket, U-Bolts & Nuts



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

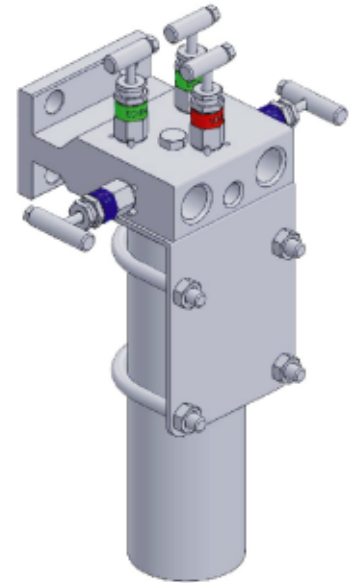
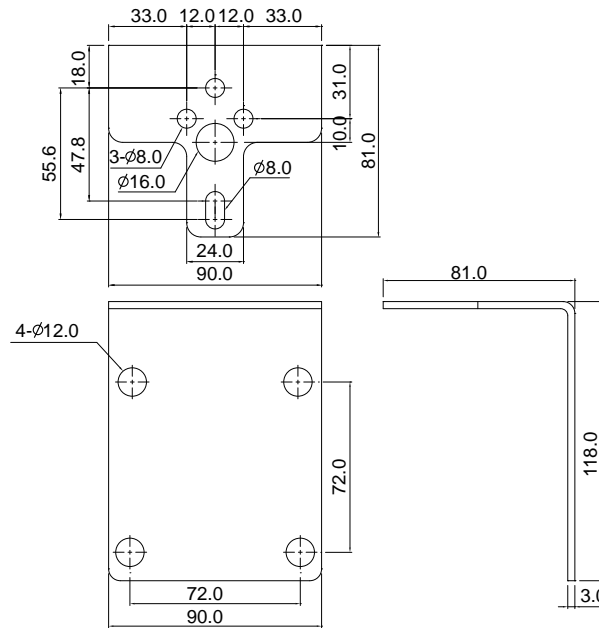
Mounting kits

Ordering Number : KIT-MMB-MVF

1. Applicable Manifolds

- VM2V1FTV8N
- VM3V1FTV8N
- VM5V1FTV8N

2. Bracket, U-Bolts & Nuts

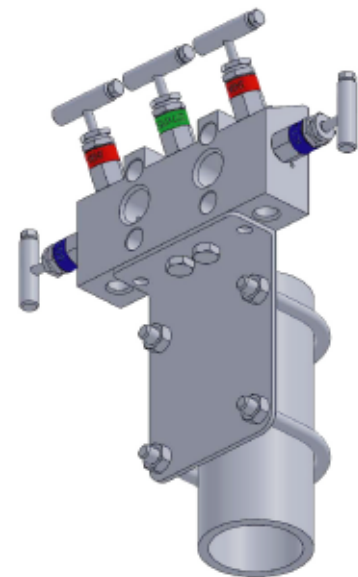
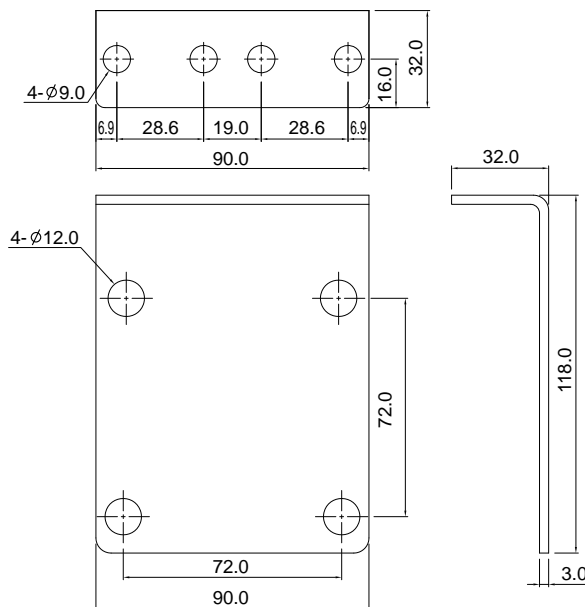


Ordering Number : KIT-MMB-MVD

1. Applicable Manifolds

- VM2VDMTV8N
- VM2AVDMATV8N
- VM3VDMTV8N
- VM3VDMBTV8N
- VM3VDMBGV8P
- VM5VDMATV8N
- VM5V2DMTV

2. Bracket, U-Bolts & Nuts



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

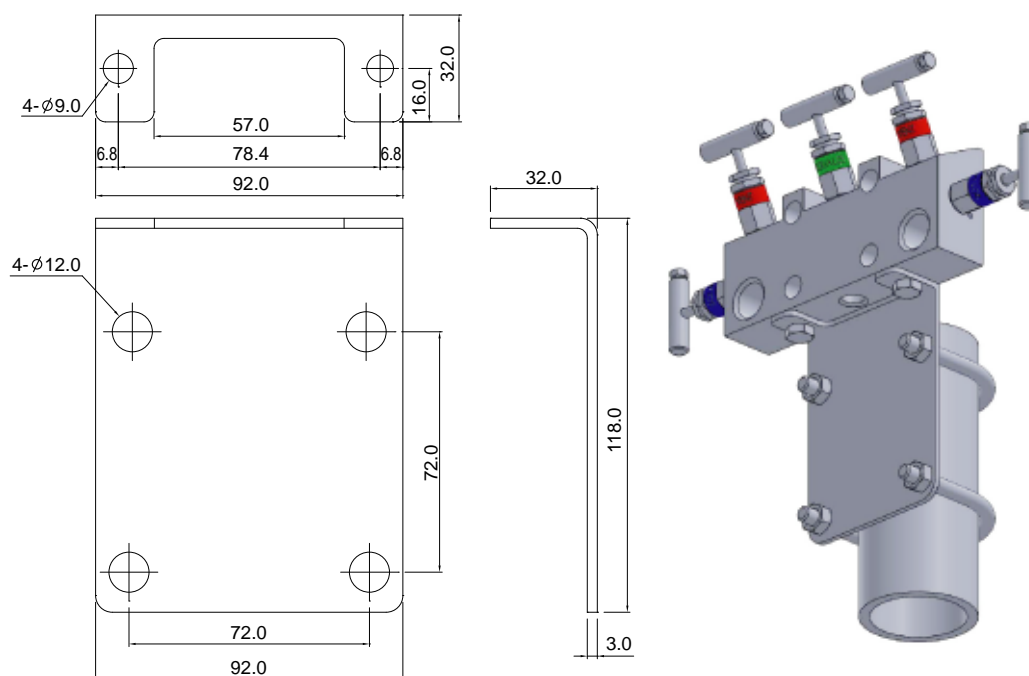
Mounting kits

Ordering Number : KIT-MMB-MVD2

1. Applicable Manifolds

- VM5VDMBTV8N
- VM5VDMBGV8P

2. Bracket, U-Bolts & Nuts



Options

■ High Temperature Packing

Graphite valve packing material for high-temperature service. See Pressure-Temperature Ratings, page 8.

Includes Graphite flange seals on DIN/IEC 61518 Type B flanges.

To order a manifold with an optional Graphite packing material, replace **T** with **G** in the manifold ordering number.

Example : VM3V1F**T**V8N → VM3V1F**G**V8N

■ Flange Seal Materials

Flange seals are available in Graphite and PTFE for system compatibility.

Temperature ratings are included in the table below.

To order a manifold with an optional Graphite packing material, replace **T** with **G** in the manifold ordering number.

Example : VM3V1F**T**V8N → VM3V1F**G**V8N

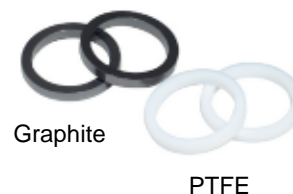
| Packing or Flange Seal Material | Temperature Rating °F (°C) | Material Designator |
|---------------------------------|----------------------------------|---------------------|
| Graphite | -65°F to 1000°F (-53°C to 537°C) | G |
| PTFE | -65°F to 450°F (-53°C to 232°C) | T |

Maintenance kits

■ Flange Seal Kits

Select a Kit ordering number from the tables below based on the manifold series and seal material.

| Flange Seal Material | Kit Ordering Number | | Material Designator |
|----------------------|---------------------|-------------------------|---------------------|
| | 2-Valve (one seal) | 3 & 5-Valve (two seals) | |
| Graphite | KIT-M2VFS- <u>G</u> | KIT-M3VFS- <u>G</u> | G |
| PTFE | KIT-M2VFS- <u>T</u> | KIT-M3VFS- <u>T</u> | T |



■ Transmitter Fixing Bolt Kits

Select a Kit ordering number from the tables below based on the manifold series and bolt length.

All Bolts are stainless steel(A193 B8M) with 7/16in.-20 threads.

| Bolt Length | Kit Ordering Number | |
|-------------|---------------------|-------------------------|
| | 2-Valve(two bolts) | 3 & 5-Valve(four bolts) |
| L22 | KIT-M2VBT-L22 | KIT-M3VBT-L22 |
| L45 | KIT-M2VBT-L45 | KIT-M3VBT-L45 |



■ Valve Bonnet Assembly Kits

Select a Kit ordering number from the tables below based on the valve bonnets and packing material.

| Packing Material | Kit Ordering Number | | | Packing Designator |
|------------------|-----------------------|-----------------------|-----------------------|--------------------|
| | Isolate | Vent | Equalize | |
| Graphite | XMAVBNTS- <u>G</u> -I | XMAVBNTS- <u>G</u> -V | XMAVBNTS- <u>G</u> -E | G |
| PTFE | XMAVBNTS- <u>T</u> -I | XMAVBNTS- <u>T</u> -V | XMAVBNTS- <u>T</u> -E | T |



Accessories

■ Oval Flange Kits

Used with flange-to-flange manifolds to allow the connection of process flange taps or process root valves.

Kit includes two (2) flanges, two (2) flange seals, four (4) 7/16 in.-20 thread hex bolts.

Standard Connection is female NPT 1/2 in.

Are available in 316 stainless steel material.

Select a Kit ordering number from the tables below based on the oval flanges and seal material.

| Flange Seal Material | Kit Ordering Number | | Material Designator |
|----------------------|---------------------|------------------|---------------------|
| | Concentric Flange | Eccentric Flange | |
| Graphite | KIT-OCF-8NG | KIT-OEF-8NG | G |
| PTFE | KIT-OCF-8NT | KIT-OEF-8NT | T |



■ Calibration Fittings

Calibration tube fittings directly connect into vent port fittings of transmitter plug.

Selection of fitting with 1/4 in. O.D x 1/4 in.-28 or 1/4 in. O.D x 5/16 in.-24, depends on the vent port size of the transmitter.

Are available in 316 stainless steel material.

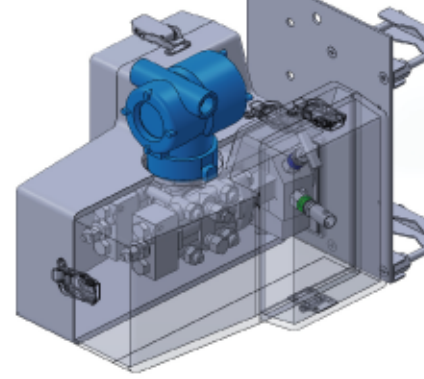
| Tubing O.D | Kit Ordering Number | Thread Designator | |
|------------|---------------------|-------------------|-------------|
| 1/4 in. | CCF4-1U | 1U | 1/4 in.-28 |
| 1/4 in. | CCF4-2U | 2U | 5/16 in.-24 |



Ordering Information

| VM2V | T | V | 8N | SOG | S316 |
|--|---|---|----|-----|------|
| Valve Designator <ul style="list-style-type: none"> VM2V : 2-Valves, Remote Mount VM2VV : 2-Valves, Remote Mount / Vertical Vent VM2V1F : 2-Valves, Direct Mount / 1-Flange VM2VDM : 2-Valves, Direct Mount VM2AVDM : 2-Valves, Direct Mount / A Type VM2AV2DM : 2-Valves, Double Direct Mount / A Type VM2AVDMA : 2-Valves, Direct Mount / A-A Type VM3V : 3-Valves, Remote Mount VM3V1F : 3-Valves, Direct Mount / 1-Flange VM3V2F : 3-Valves, Direct Mount / 2-Flange VM3VDM : 3-Valves, Direct Mount VM3V2DM : 3-Valves, Double Direct Mount VM3AVDM : 3-Valves, Direct Mount / B Port VM3VDMB : 3-Valves, Direct Mount / B Port VM5V : 5-Valves, Remote Mount VM5V1F : 5-Valves, Direct Mount / 1-Flange VM5V2F : 5-Valves, Direct Mount / 2-Flange VM5V2DM : 5-Valves, Double Direct Mount VM5VDMA : 5-Valves, Direct Flange / A Port VM5VDMB : 5-Valves, Direct Flange / B Port <p>Example : VM5V1FGV8N-S316 (5-Valves, Direct Mount 1-Flange, Graphite Packing, Vee Tip, 1/2" NPT, 316 Stainless Steel)</p> | | | | | |
| Packing Designator <ul style="list-style-type: none"> T : PTFE(Standard) G : Graphite(Optional) | | | | | |
| Connection Size Designator <ul style="list-style-type: none"> Nil : Both Flanged 8N : 1/2 in. NPT 8T : 1/2 in. Hy-Lok 8P : 1/2 in. S.W | | | | | |
| Stem Tip Designation <ul style="list-style-type: none"> V : Vee Tip(Standard) B : Ball Tip(Optional) | | | | | |
| Option Designator <ul style="list-style-type: none"> SOG : NACE MR-01-75 P : with Plug | | | | | |
| Body Material Designator <ul style="list-style-type: none"> S316 : 316 Stainless Steel 316L : 316L Stainless Steel MONE : Monel Alloy 400 C276 : Hastelloy® C-276 F53 : Super Duplex | | | | | |

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



Modular Instrumentation Systems



MS Series Modular Instrumentation Systems

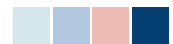
- 2 & 4-Valve Pressure and Differential Pressure Manifolds
- Instrument Mono Flange Valves and Seal Pots
- Self venting Purge Blocks and Steam Tracing Blocks
- Filling Connector and Mounting Plates, Protective Sgade

HY-LOK CORPORATION

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All Your Solution Provider “HY-LOK”



TOMORROW

MS Series Modular Instrumentation Systems

The MS Series Modular Instrumentation Systems are designed in accordance with the Shell® MESC specification for process instrumentation, and provides substantial advantages by the simplest and most effective means to install Transmitters and Gauges.

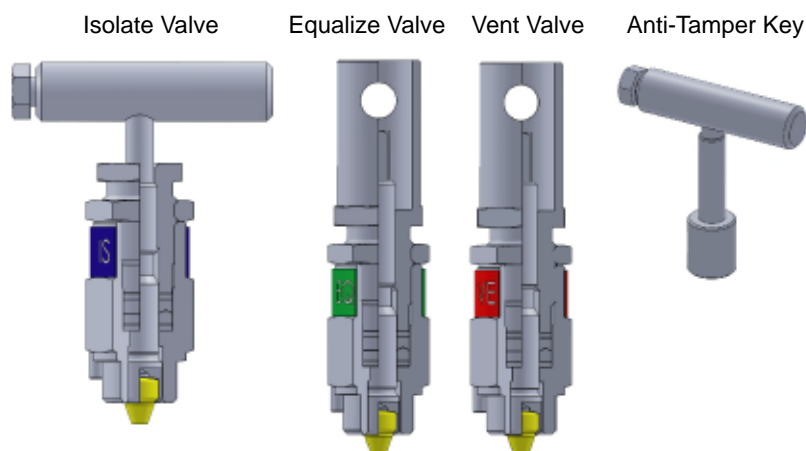
Based on a standard Mounting Plate, it allows components to be either pre-assembled in the workshop or assembled at a later stage, providing maximum flexibility without compromising quality and safety.

The Modular Instrumentation System has a full range of manifolds for differential pressure, pressure and gauge applications and accessories including GRP Enclosures, Steam Tracing Blocks, Seal Pots, Self Venting Purge Blocks.



■ Standard Valve Bonnets

- 4-Valve manifolds : 2-Isolate / 1-Equalize / 1-Vent Type A
 4-Valve manifolds : 2-Isolate / 2-Vent Type B
 2-Valve manifolds : 1-Isolate / 1-Vent / atmospheric hole Type C
 2-Valve manifolds : 1-Isolate / 1-Vent Type D, E, F, G
 Equalize and Vent valves are equipped with an Anti-Temper valve bonnet.



Functionally Color Code

- Isolate Valve ISOLATE
- Equalize Valve EQUALIZE
- Vent Valve VENT

■ Manifold Body

This is standard is a forging or machined from bar stock material.

■ Connections

Connections can be assembled with Tube Fittings.

Process and Vent Connections

- G1/4 in. female port with either 10mm or 3/8 in. or 1/2 in. Tube Fittings.

Instrument Connections

- Flange connection according to DIN 19213 Part 2, DIN EN 61518 Type A

■ Mountings

The manifold suitable for direct bolting to the Type A or type B mounting plate.

Plate fixing bolt criteria dimensions (center to center) as follows;

- Horizontal: 54.0 mm
- Vertical: 41.3 mm
- Plate fixing bolt size: M8 thread.
- Transmitter fixing bolt size: 7/16 in.-20 thread

MS Series 4-Valve Manifolds

4-Valve manifold used mainly in differential pressure transmitters applications.

Type A : Consists of two isolation valves, one equalization valves and one vent valves.

- Equalize valve is opened to can be vent of the both sides.

Type B : Consists of two isolation valves and two vent valves.

- Vent valve is opened independently to prevent contamination of the two process streams.

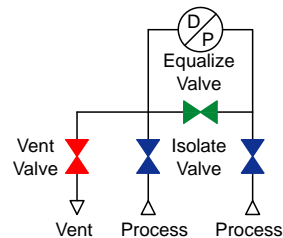
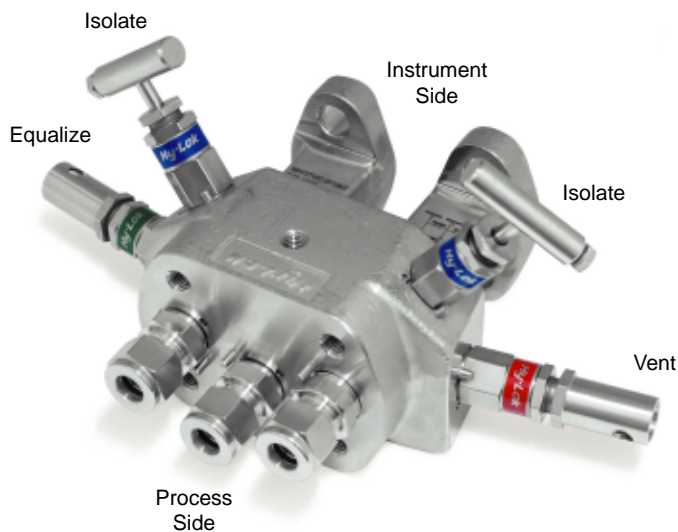
The isolation valves have a Tee bar handle, the vent and equalize valve each have anti tamper head units.

■ Process and Vent/Drain Connections

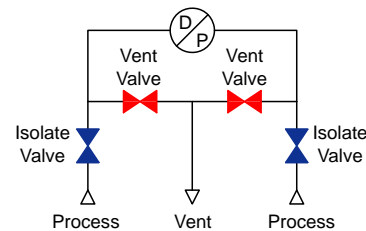
- G1/4 female port with either 10mm or 3/8 in. or 1/2 in. tube fittings.

■ Instrument Connections

- Flange connection according to DIN 19213 Part 2, DIN EN 61518 Type A.

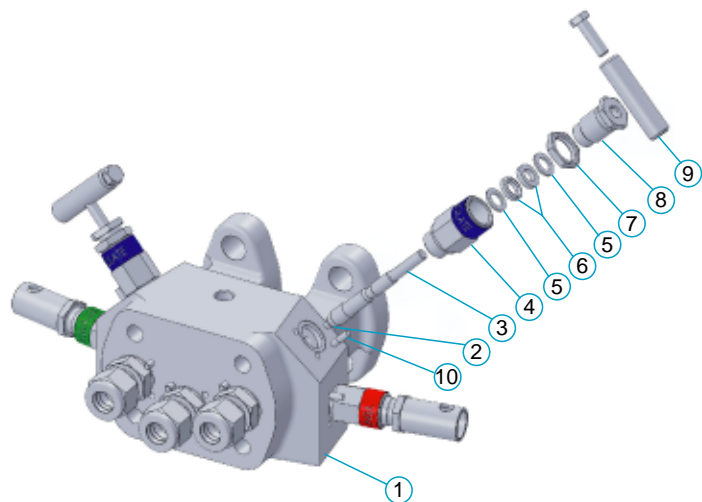


Manifold Type A



Manifold Type B

| Component | | Material Grade / ASTM Specification |
|-----------|----------------|-------------------------------------|
| 1 | Body | 316SS / A479 or A182 |
| 2 | Disc | 630SS / A564 |
| 3 | Stem | 316SS / A479 |
| 4 | Bonnet | 316SS / A479 |
| 5 | Packing Washer | Reinforced PTFE |
| 6 | Stem Packing | PTFE |
| 7 | Lock Nut | 316SS / A479 |
| 8 | Packing Bolt | 316SS / A479 |
| 9 | Handle | 316 Stainless Steel |
| 10 | Stop Pin | 316 Stainless Steel |



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

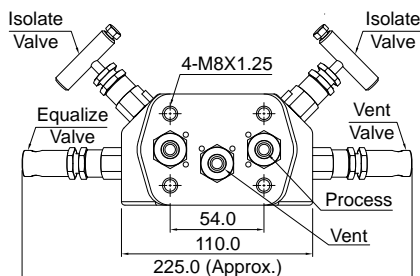
MS Series 4-Valve Manifolds

Type A, 2-Isolate/1-Equalize/1-Vent Valve

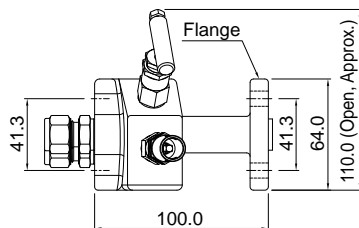
Differential Pressure Manifolds

VMS41VTV

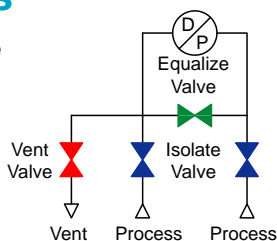
3.3 Kg (7.3 lb)

T : PTFE PackingG : Graphite Packing

Front



Side



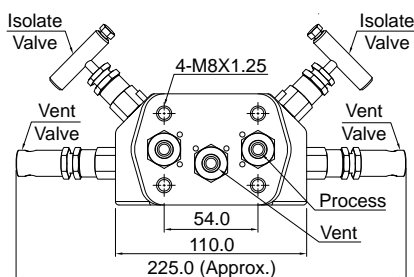
| Type | MESC Code | Process | Instrument | Vent | Hy-Lok Part Number |
|------|--------------|-------------|-------------|-------------|--------------------|
| A | - | G1/4 Female | Flange(DIN) | G1/4 Female | VMS41VTV4G |
| A | 609856.205.1 | 10 mm | Flange(DIN) | 10 mm | VMS41VTV4G-10M |
| A | 609856.207.1 | 3/8 in. | Flange(DIN) | 3/8 in. | VMS41VTV4G-6T |
| A | 609856.209.1 | 1/2 in. | Flange(DIN) | 1/2 in. | VMS41VTV4G-8T |

Type B, 2-Isolate/2-Vent Valve

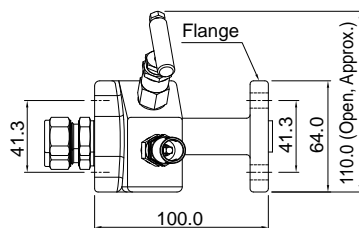
Differential Pressure Manifolds

VMS42VTV

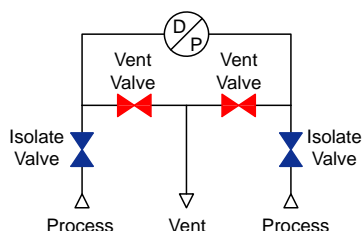
3.3 Kg (7.3 lb)

T : PTFE PackingG : Graphite Packing

Front



Side



| Type | MESC Code | Process | Instrument | Vent | Hy-Lok Part Number |
|------|--------------|-------------|-------------|-------------|--------------------|
| B | - | G1/4 Female | Flange(DIN) | G1/4 Female | VMS42VTV4G |
| B | 609856.215.1 | 10 mm | Flange(DIN) | 10 mm | VMS42VTV4G-10M |
| B | 609856.217.1 | 3/8 in. | Flange(DIN) | 3/8 in. | VMS42VTV4G-6T |
| B | 609856.219.1 | 1/2 in. | Flange(DIN) | 1/2 in. | VMS42VTV4G-8T |

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

MS Series 2-Valve Manifolds

2-Valve manifold used mainly in pressure transmitters applications.

Type C : Consists of one isolation valve, one vent valve and atmospheric hole.

- Used for measure the level of atmospheric tank with differential pressure transmitter.

Type D : Consists of one isolation valve and one vent valve.

- Used for the Pressure Transmitter with oval flanged mounting.

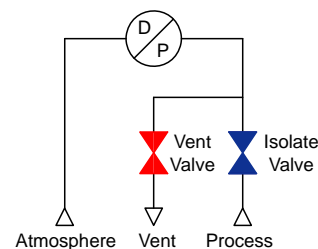
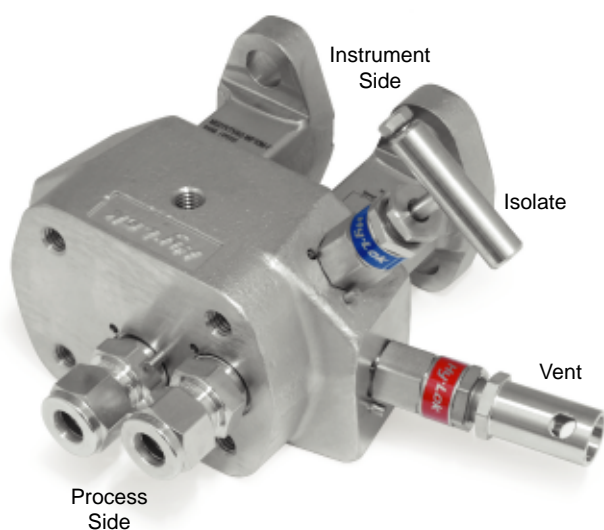
The isolation valves have a Tee bar handle, the vent valve have anti tamper head unit.

■ Process and Vent/Drain Connections

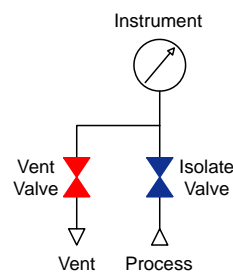
- G1/4 female port with either 10mm or 3/8 in. or 1/2 in. tube fittings.

■ Instrument Connections

- Flange connection according to DIN 19213 Part 2, DIN EN 61518 Type A.

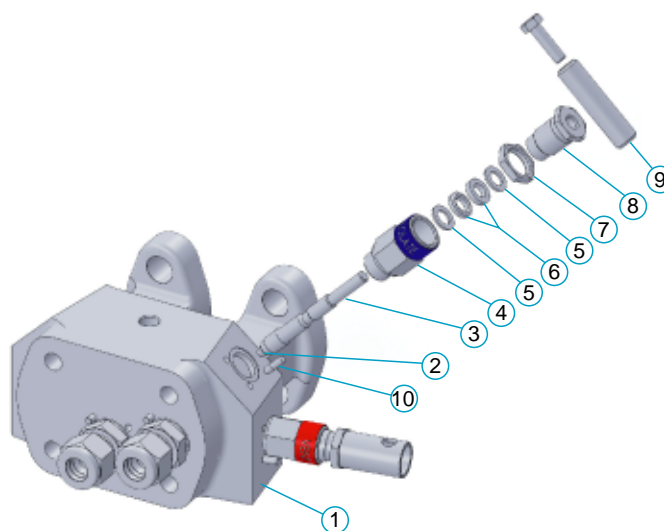


Manifold Type C



Manifold Type D

| Component | | Material Grade / ASTM Specification |
|-----------|----------------|-------------------------------------|
| 1 | Body | 316SS / A479 or A182 |
| 2 | Disc | 630SS / A564 |
| 3 | Stem | 316SS / A479 |
| 4 | Bonnet | 316SS / A479 |
| 5 | Packing Washer | Reinforced PTFE |
| 6 | Stem Packing | PTFE |
| 7 | Lock Nut | 316SS / A479 |
| 8 | Packing Bolt | 316SS / A479 |
| 9 | Handle | 316 Stainless Steel |
| 10 | Stop Pin | 316 Stainless Steel |



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

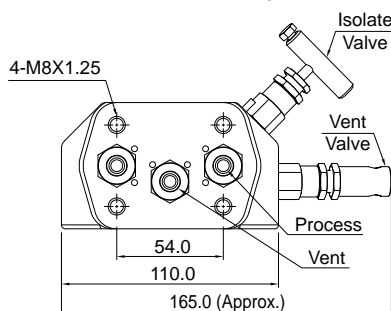
MS Series 2-Valve Manifolds

Type C, 1-Isolate/1-Vent Valve with Atmospheric Hole

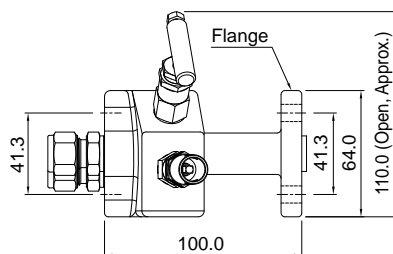
Differential Pressure Manifolds

VMS22VTV

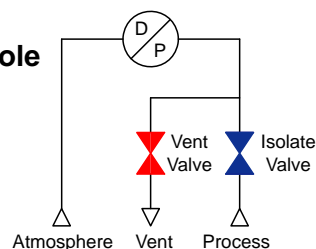
3.2 Kg (7.1 lb)

T : PTFE PackingG : Graphite Packing

Front



Side



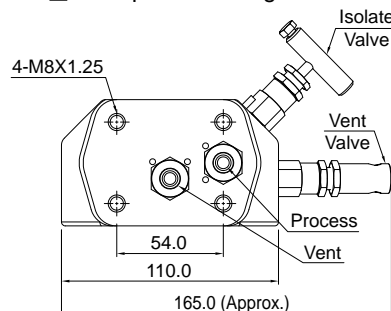
| Type | MESC Code | Process | Instrument | Vent | Hy-Lok Part Number |
|------|--------------|-------------|-------------|-------------|--------------------|
| C | - | G1/4 Female | Flange(DIN) | G1/4 Female | VMS22VTV4G |
| C | 609856.225.1 | 10 mm | Flange(DIN) | 10 mm | VMS22VTV4G-10M |
| C | 609856.227.1 | 3/8 in. | Flange(DIN) | 3/8 in. | VMS22VTV4G-6T |
| C | 609856.229.1 | 1/2 in. | Flange(DIN) | 1/2 in. | VMS22VTV4G-8T |

Type D, 1-Isolate/1-Vent Valve

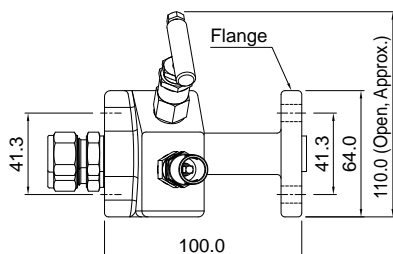
Pressure Manifolds

VMS21VTV

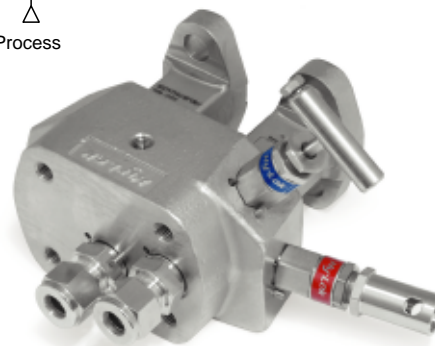
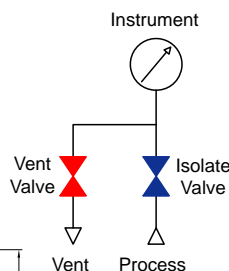
3.1 Kg (6.8 lb)

T : PTFE PackingG : Graphite Packing

Front



Side



| Type | MESC Code | Process | Instrument | Vent | Hy-Lok Part Number |
|------|--------------|-------------|-------------|-------------|--------------------|
| D | - | G1/4 Female | Flange(DIN) | G1/4 Female | VMS21VTV4G |
| D | 609856.235.1 | 10 mm | Flange(DIN) | 10 mm | VMS21VTV4G-10M |
| D | 609856.237.1 | 3/8 in. | Flange(DIN) | 3/8 in. | VMS21VTV4G-6T |
| D | 609856.239.1 | 1/2 in. | Flange(DIN) | 1/2 in. | VMS21VTV4G-8T |

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

MS Series 2-Valve Manifolds

2-Valve manifold is mainly used for pressure transmitters with screw connection.

Consists of one isolation valve and one vent valve.

Type E : 1/2 in. NPT male.

Type F : 1/2 in. NPT female.

Type G : G1/2 female.

The isolation valves have a Tee bar handle, the vent valve have anti tamper head unit.

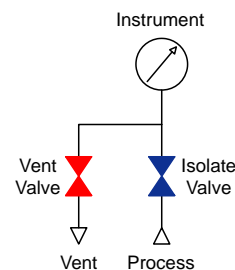
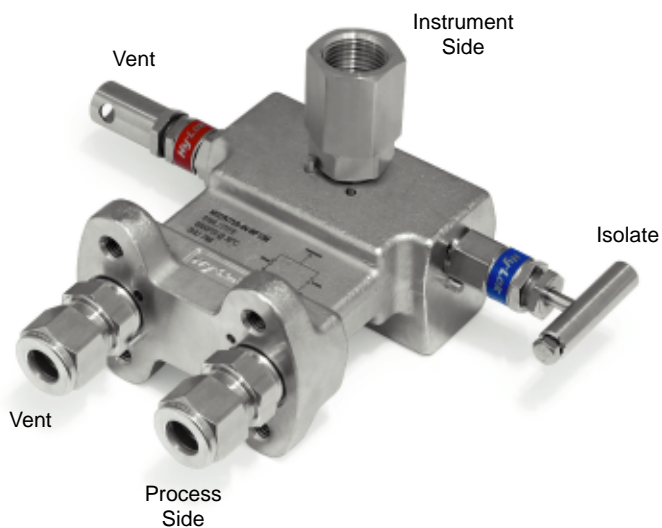
■ Process and Vent/Drain Connections

- G1/4 female port with either 10mm or 3/8 in. or 1/2 in. tube fittings.

■ Instrument Connections

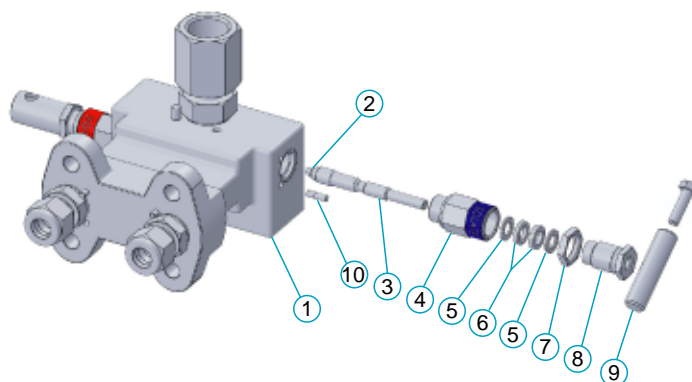
- G1/2 female port with or 1/2 in. NPT or G1/2 gauge adapter for 360° positioning.

■ Filling Connector Connections-Options



Manifold Type E/F/G

| Component | | Material Grade / ASTM Specification |
|-----------|----------------|-------------------------------------|
| 1 | Body | 316SS / A479 or A182 |
| 2 | Disc | 630SS / A564 |
| 3 | Stem | 316SS / A479 |
| 4 | Bonnet | 316SS / A479 |
| 5 | Packing Washer | Reinforced PTFE |
| 6 | Stem Packing | PTFE |
| 7 | Lock Nut | 316SS / A479 |
| 8 | Packing Bolt | 316SS / A479 |
| 9 | Handle | 316 Stainless Steel |
| 10 | Stop Pin | 316 Stainless Steel |



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

MS Series 2-Valve Manifolds

Type E, F & G : 1-Isolate/1-Vent Valve with Gauge Adapter

Pressure Manifolds

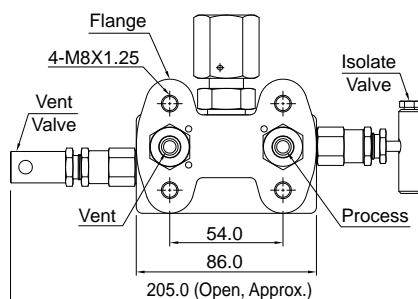
VMS23VTV

2.7 Kg (5.9 lb)

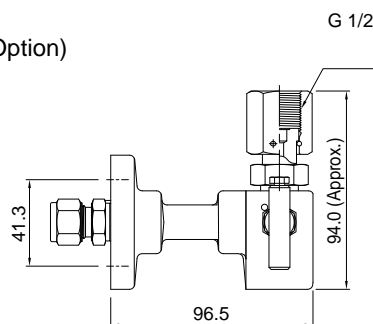
T : PTFE Packing

G : Graphite Packing

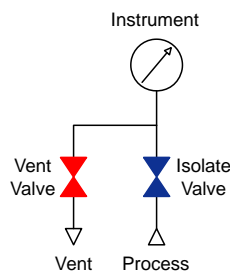
FC : Filling Connector Mounting Face (Option)



Front



Side



| Type | MESC Code | Process | Instrument | Vent | Hy-Lok Part Number |
|------|--------------|---------|--------------------|---------|--------------------|
| E | 609856.305.1 | 10mm | 1/2 in. NPT Male | 10mm | VMS23VTV4GE-10M-FC |
| E | 609856.325.1 | 3/8 in. | 1/2 in. NPT Male | 3/8 in. | VMS23VTV4GE-6T-FC |
| E | 609856.345.1 | 1/2 in. | 1/2 in. NPT Male | 1/2 in. | VMS23VTV4GE-8T-FC |
| F | 609856.315.1 | 10mm | 1/2 in. NPT Female | 10mm | VMS23VTV4GF-10M-FC |
| F | 609856.335.1 | 3/8 in. | 1/2 in. NPT Female | 3/8 in. | VMS23VTV4GF-6T-FC |
| F | 609856.355.1 | 1/2 in. | 1/2 in. NPT Female | 1/2 in. | VMS23VTV4GF-8T-FC |
| G | 609856.317.1 | 10mm | G1/2 Female | 10mm | VMS23VTV4GG-10M-FC |
| G | 609856.337.1 | 3/8 in. | G1/2 Female | 3/8 in. | VMS23VTV4GG-6T-FC |
| G | 609856.357.1 | 1/2 in. | G1/2 Female | 1/2 in. | VMS23VTV4GG-8T-FC |

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

Mono Flange Valves

VMNM

■ **Application** : Used for isolate and vent for remove the pressure in the pressure gauge or transmitter.

■ **Process**

According to 1/2 in. ASME B16.5 Flanges

Slotted bolt holes which cover the ranges between : CL.150 through to CL.2500 ASME B16.5

LPR-Low Pressure Rating : CL.150 ~ 600 ASME B16.5

1440 psi(99 bar) @ 100°F (38°C)

1030 psi(71 bar) @ 400°F (204°C)

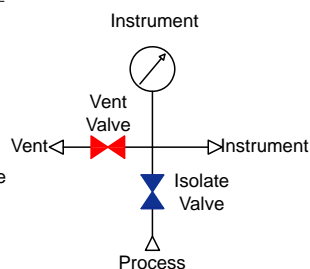
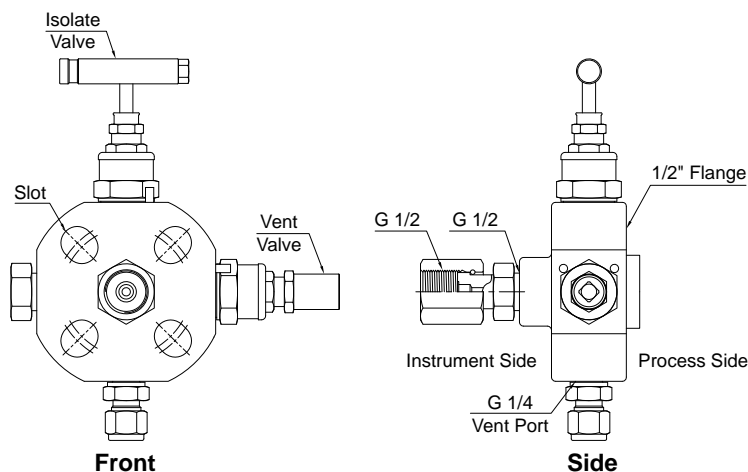
HPR-High Pressure Rating : CL.900 ~ 2500 ASME B16.5

6000 psi(413 bar) @ 100°F (38°C)

4280 psi(295 bar) @ 400°F (204°C)

■ **Instrument**

Supplied Swivel Gauge Adapter or Integral Syphon with 1/2 in. NPT or G1/2 female for 360° positioning.



T : PTFE Packing
G : Graphite Packing
A : Gauge Adapter
S : Syphon

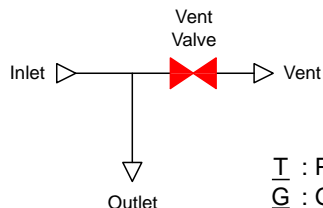
| MESC Code | Process | Instrument | Vent | Hy-Lok Part Number |
|--------------|-------------------------|------------------------------|----------|--------------------|
| 609855.200.1 | 1/2 in. LPR CL.150-600 | 1/2 in. NPT(F) Gauge Adapter | 10mm | VMNMTV8SL8N-10M-A |
| 609855.200.1 | 1/2 in. LPR CL.150-600 | 1/2 in. NPT(F) Gauge Adapter | 3/8 in. | VMNMTV8SL8N-6T-A |
| 609855.210.1 | 1/2 in. HPR CL.900-2500 | 1/2 in. NPT(F) Gauge Adapter | 10mm | VMNMTV8SH8N-10M-A |
| 609855.210.1 | 1/2 in. HPR CL.900-2500 | 1/2 in. NPT(F) Gauge Adapter | 3/8 in. | VMNMTV8SH8N-6T-A |
| 609855.220.1 | 1/2 in. LPR CL.150-600 | G1/2(F) Gauge Adapter | 10mm | VMNMTV8SL8G-10M-A |
| 609855.220.1 | 1/2 in. LPR CL.150-600 | G1/2(F) Gauge Adapter | 13/8 in. | VMNMTV8SL8G-6T-A |
| 609855.230.1 | 1/2 in. HPR CL.900-2500 | G1/2(F) Gauge Adapter | 10mm | VMNMTV8SH8G-10M-A |
| 609855.230.1 | 1/2 in. HPR CL.900-2500 | G1/2(F) Gauge Adapter | 3/8 in. | VMNMTV8SH8G-6T-A |
| 609855.300.1 | 1/2 in. LPR CL.150-600 | 1/2 in. NPT(F) Syphon | 10mm | VMNMTV8SL8N-10M-S |
| 609855.300.1 | 1/2 in. LPR CL.150-600 | 1/2 in. NPT(F) Syphon | 3/8 in. | VMNMTV8SL8N-6T-S |
| 609855.310.1 | 1/2 in. HPR CL.900-2500 | 1/2 in. NPT(F) Syphon | 10mm | VMNMTV8SH8N-10M-S |
| 609855.310.1 | 1/2 in. HPR CL.900-2500 | 1/2 in. NPT(F) Syphon | 3/8 in. | VMNMTV8SH8N-6T-S |
| 609855.320.1 | 1/2 in. LPR CL.150-600 | G1/2(F) Syphon | 10mm | VMNMTV8SL8G-10M-S |
| 609855.320.1 | 1/2 in. LPR CL.150-600 | G1/2(F) Syphon | 3/8 in. | VMNMTV8SL8G-6T-S |
| 609855.330.1 | 1/2 in. HPR CL.900-2500 | G1/2(F) Syphon | 10mm | VMNMTV8SH8G-10M-S |
| 609855.330.1 | 1/2 in. HPR CL.900-2500 | G1/2(F) Syphon | 3/8 in. | VMNMTV8SH8G-6T-S |

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

Seal Pots

VSPH

- Application : Used for protect measuring instruments from high-density and corrosive media.
- Complete with Vent Valve
- Liquid chamber volume : 50 cm³
- Connection : 10mm or 3/8 & 1/2 in. Tube Fitting
- Pressure - Temperature Rating
 - 6000 psi (413 bar) @ 100°F (38°C)
 - 3000 psi (206 bar) @ 842°F (450°C)



T : PTFE Packing
G : Graphite Packing



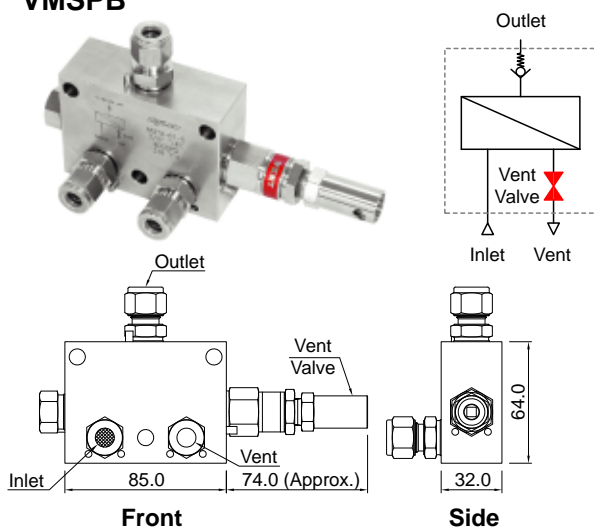
| MESC Code | Inlet | Outlet | Vent | Hy-Lok Part Number |
|--------------|---------|---------|---------|--------------------|
| 609870.510.1 | 10mm | 10mm | 10mm | VSPHT10M4G-50CC |
| 609870.610.1 | 3/8 in. | 3/8 in. | 3/8 in. | VSPHT6T4G-50CC |
| 609870.600.1 | 1/2 in. | 1/2 in. | 1/2 in. | VSPHT8T4G-50CC |

Self Venting Purge Blocks

- Application : Used for measure the level of tank by measure air purge pressure.
- Complete with Vent Valve, Filter, Check Valve
- Filter Screen : 750 μm
- Connection : 10mm or 3/8 in. tube fitting
- Pressure - Temperature Rating
 - 6000 psi (413 bar) @ 100°F (38°C)
 - 4000 psi (275 bar) @ 400°F (204°C)

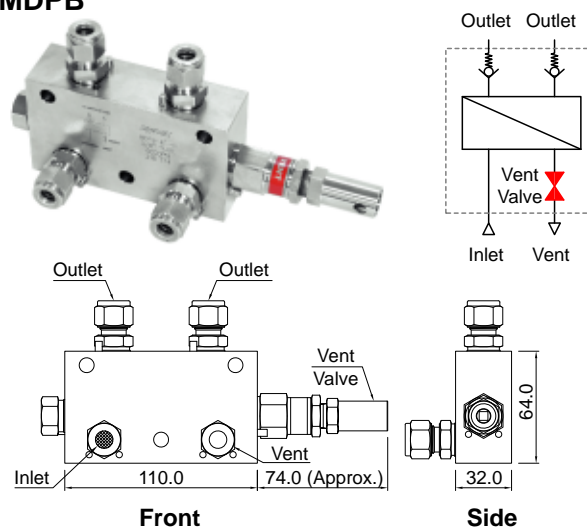
Single Self Venting Purge Block

VMSPB



Double Self Venting Purge Block

VMDPB



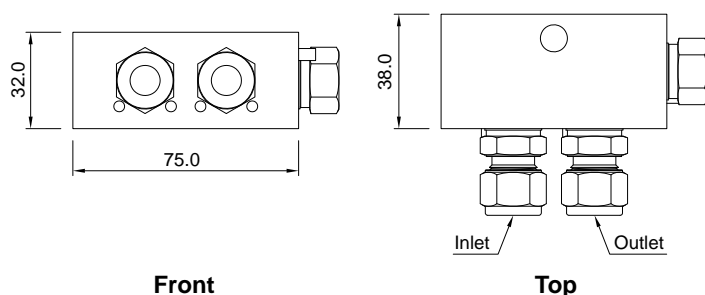
| MESC Code | Description | Inlet | Outlet | Vent | Hy-Lok Part Number |
|--------------|---------------------------------|---------|---------|---------|--------------------|
| 609870.210.1 | Single Self Venting Purge Block | 10mm | 10mm | 10mm | VMSPB-10M-G |
| 609870.310.1 | Single Self Venting Purge Block | 3/8 in. | 3/8 in. | 3/8 in. | VMSPB-6T-G |
| 609870.220.1 | Double Self Venting Purge Block | 10mm | 10mm | 10mm | VMDPB-10M-G |
| 609870.320.1 | Double Self Venting Purge Block | 3/8 in. | 3/8 in. | 3/8 in. | VMDPB-6T-G |

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

Steam Tracing Blocks

VMSSTB

- Application : Used for maintain process temperature given that the steam tracing blocks are mounted directly to the manifold valve
- Connection : 10mm or 3/8 in. tube fitting
- Pressure - Temperature Rating
290 psi (20 bar) @ 410°F (210°C)

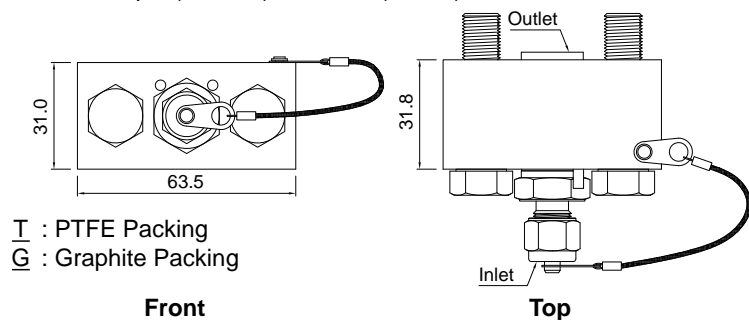


| MESC Code | Inlet | Outlet | Hy-Lok Part Number |
|-------------------|---------|---------|--------------------|
| MESC 609870.010.1 | 10mm | 10mm | VMSSTB10M-4G-P |
| MESC 609870.110.1 | 3/8 in. | 3/8 in. | VMSSTB6T-4G-P |

Filling Connectors

KIT-MVFC

- Application : Used for filling of the instrumentation line through the differential pressure transmitter.
- Integral with check valve.
- Connection : 6mm or 1/4 in. tube fitting with retained cap
- Supplied complete with 2 X 7/16 in.-20 bolts, PTFE or Graphite gasket
- Pressure - Temperature Rating
6000 psi (413 bar) @ 100°F (38°C)
4000 psi (275 bar) @ 400°F (204°C)

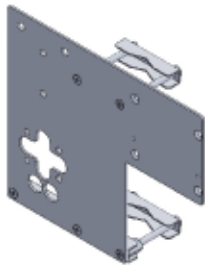


| MESC Code | Description | Inlet | Outlet | Gasket | Hy-Lok Part Number |
|--------------|-------------------|---------|-------------|----------|--------------------|
| 609890.106.1 | Filling Connector | 6mm | Flange(DIN) | PTFE | KIT-MVFC6M-T |
| 609890.107.1 | Filling Connector | 1/4 in. | Flange(DIN) | PTFE | KIT-MVFC4T-T |
| 609890.307.1 | Blind Flange | | Flange(DIN) | PTFE | KIT-BOFC-T |
| 609890.406.1 | Filling Connector | 6mm | Flange(DIN) | Graphite | KIT-MVFC6M-G |
| 609890.407.1 | Filling Connector | 1/4 in. | Flange(DIN) | Graphite | KIT-MVFC4T-G |
| 609890.507.1 | Blind Flange | | Flange(DIN) | Graphite | KIT-BOFC-G |

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

Mounting Plates

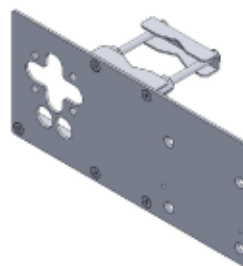
- Application : Used for mounting of the Manifold, Protective Shade and Junction Box.
- Drilled to fit the manifold mounting surface, process connection and steam tracer tubing.
- Type A : Installation option of instruments with the need for a Protective Shade.
- Type B : Installation option of instruments without the need for a Protective Shade.
- Supplied complete with 2 in. Pipe clamp.
- All materials are 316 Stainless Steel.



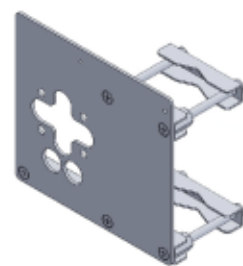
Type A1



Type A2



Type B1



Type B2

| MESC Code | Type | Description | Hy-Lok Part Number |
|--------------|---------|---|--------------------|
| 609891.105.1 | Type A1 | For Protective Shade and Junction Box | AMSMP-330X280X3T-A |
| 609891.110.1 | Type A2 | For Protective Shade without Junction Box | AMSMP-200X280X3T-A |
| 609891.118.1 | Type B1 | For Junction Box without Protective Shade | AMSMP-330X150X3T-B |
| 609891.120.1 | Type B2 | Without Protective Shade and Junction Box | AMSMP-200X185X3T-B |

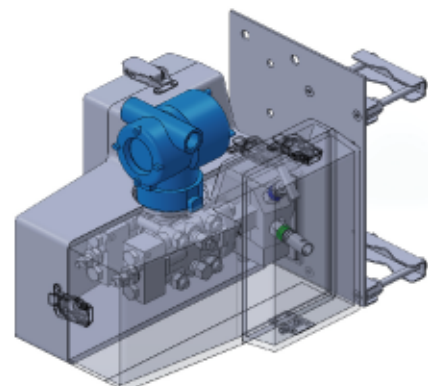
Protective Shade

- Application : Used for protection of instruments against direct sunlight
- GRP with UV resistant and flame retardant synthetic material.
- Ordering Number : **YMSPS-300X130X300**



Enclosure

- Application : Used for maintain process temperature.
- GRP with UV resistant and flame retardant synthetic material.
- Ordering Number : **AINS-BOX-MESC**



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

Options

■ High Temperature Packing

Graphite valve packing material for high-temperature service. See Pressure-Temperature Ratings, page 8.

Includes Graphite flange seals on DIN/IEC 61518 Type A flanges.

To order a manifold with an optional Graphite packing material, replace **T** with **G** in the manifold ordering number.

Example : VMS41VTV4G-10M → VMS41VGV4G-10M

■ Flange Seal Materials

Flange seals are available in Graphite and PTFE for system compatibility.

Temperature ratings are included in the table below.

To order a manifold with an optional Graphite packing material, replace **T** with **G** in the manifold ordering number.

Example : VMS41VTV4G-10M → VMS41VGV4G-10M

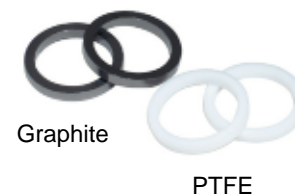
| Packing or Flange Seal Material | Temperature Rating °F (°C) | Material Designator |
|---------------------------------|----------------------------------|---------------------|
| Graphite | -65°F to 1000°F (-53°C to 537°C) | G |
| PTFE | -65°F to 450°F (-53°C to 232°C) | T |

Maintenance kits

■ Flange Seal Kits

Select a Kit ordering number from the tables below based on the manifold series and seal material.

| Flange Seal Material | Kit Ordering Number | | Material Designator |
|----------------------|---------------------|---------------------|---------------------|
| | 2-Valve (one seal) | 4-Valve (two seals) | |
| Graphite | KIT-MS2FS- <u>G</u> | KIT-MS4FS- <u>G</u> | G |
| PTFE | KIT-MS2FS- <u>T</u> | KIT-MS4FS- <u>T</u> | T |



■ Transmitter Fixing Bolt Kits

Select a Kit ordering number from the tables below based on the manifold series and bolt length.

All Bolts are stainless steel(A193 B8M) with 7/16 in.-20 threads.

| Bolt Size | Kit Ordering Number |
|-----------|---------------------|
| M8 | KIT-B-HHBM8-L12 |
| 7/16 | KIT-MVBT-04U-L22 |



■ Valve Bonnet Assembly Kits

Select a Kit ordering number from the tables below based on the valve bonnets and packing material.

| Packing Material | Kit Ordering Number | | | Packing Designator |
|------------------|-----------------------|--------------------------|--------------------------|--------------------|
| | Isolate | Vent | Equalize | |
| Graphite | XMAVBNTS- <u>G</u> -I | XMAVBNTS- <u>G</u> -V-AT | XMAVBNTS- <u>G</u> -E-AT | G |
| PTFE | XMAVBNTS- <u>T</u> -I | XMAVBNTS- <u>T</u> -V-AT | XMAVBNTS- <u>T</u> -E-AT | T |



Accessories

Port Protector

- Application : Used for protected ingress of vermin, insects or dirt.
- Filter Screen : 750 μ m
- Connection : G 1/4 in.
- Ordering Number : **AH-SBS-4G-G-750**



Anti-Temper Key

- Application : use for security of valve operation.
- Ordering Number : **KIT-MSVHRD-3.2**



Purge Orifice Plates

- Application : Use for restricted flow device for the purge block.
- Supplied complete with orifice plate, orifice tag plate.
- 0.5mm Orifice size as standard.

Ordering Information

| Tubing O.D x thickness | Ordering Number | Orifice Size |
|---------------------------|-----------------|-----------------|
| 6 x 1.0mm | ACPO-6M-OR0.5 | 0.5 |
| 10 x 1.5 mm | ACPO-10M-OR0.5 | 0.5 |
| 3/8 x 0.065 in | ACPO-6T-OR0.5 | 0.5 |

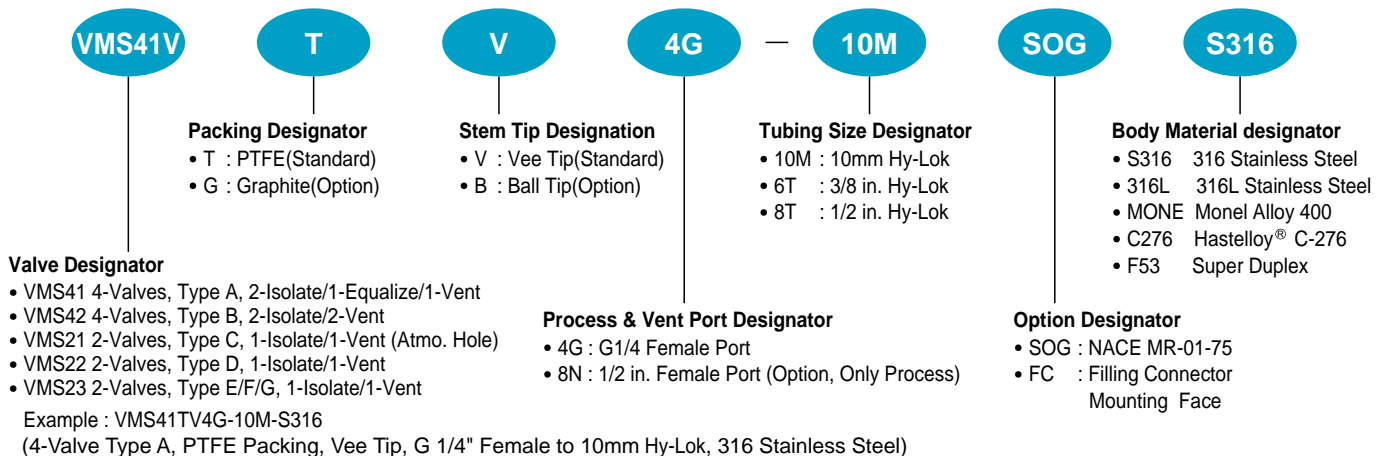


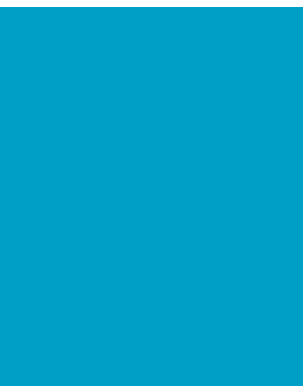
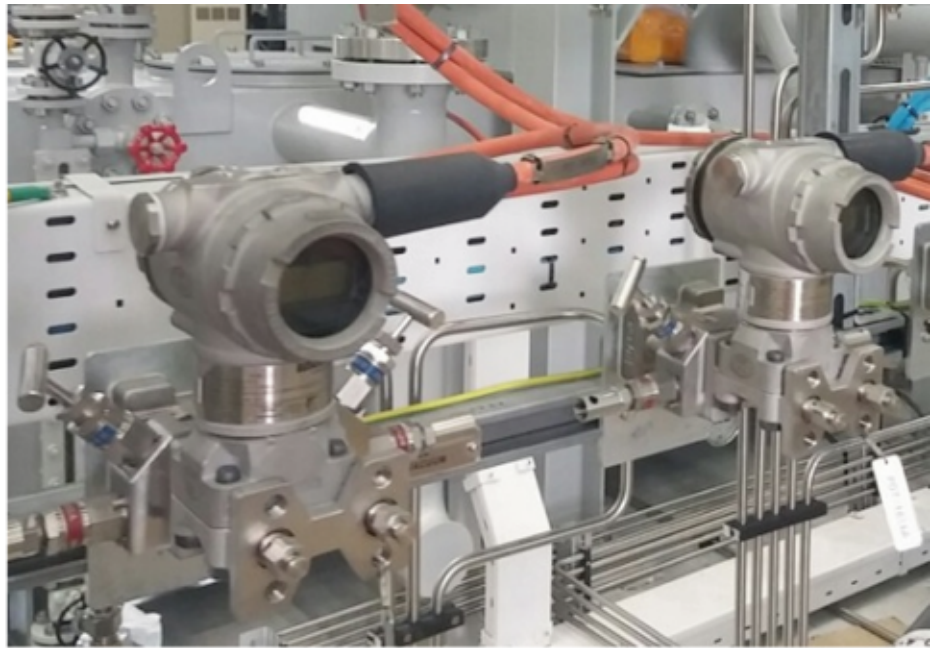
Swivel Gauge Adapters

- Application : Used for orientation of pressure gauges.
- G 1/2 in. female or 1/2 in. NPT female for 360° positioning.
- Ordering Number for G 1/2 in. : **AGU04MN-04GN-S**
- Ordering Number for 1/2 in. NPT : **AGU04MN-04FN**



Ordering Information





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