



### VMD Series Direct Mount Manifolds

EN 61518: IEC 61518 standard is applicable to different pressure measuring instruments with a manifold directly bolted on to them.

The standard specifies the dimensions of manifold flange for a maximum allowable working pressure of 413 bar at 38 °C and maximum allowable temperature 120 °C. However VM Series manifolds can be applicable up to 550 °C with Graphite stem packing, and up to 232 °C with standard PTFE packing.

In accordance with EN 61518, three types of manifolds flange connections are available as shown below.

IEC 61518	Manifold Flange Connection				Unit: mm
Manifold Flange Connection	Type A with Spigot		Type B without spigot		
Seal Ring	Flat ring		O-ring	Flat ring	
	PTFE	Graphite	S-FPM90	PTFE	Graphite
	OD: 24.0 +0.0/-0.1 ID: 17.7 +0.1/-0.0 Thick: 2.7 +0.1/-0.0	OD: 25.1 +0.0/-0.1 ID: 18.0 +0.1/-0.0 Thick: 2.9 +0.2/-0.1	20 x 2.65 ISO 3601-1	OD: 25.4 +0.0/-0.1 ID: 20.0 +0.1/-0.0 Thick: 2.7 +0.1/-0.0	OD: 25.4 +0.0/-0.1 ID: 19.9 +0.1/-0.0 Thick: 2.9 +0.2/-0.1
Temperature range, °C	- 10 to +80	-40 to +120	-15 to +120	- 10 to +80	-40 to +120
Max. allowable working pressure	420 bar			420 bar	

Manifold IEC Flange Connection	Flanged Manifold Assembly with Transmitter	
	Type A with Spigot	Type B without spigot

**Flange marking:** With min. letter height of 5 mm, "IEC" is marked on the outside of the manifold that is visible after manifold installation.

### Dimensions

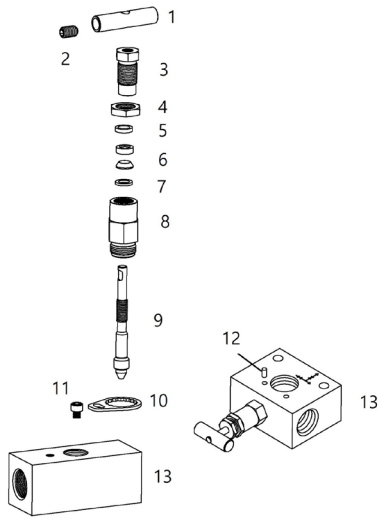
Dimensions in this catalog are millimeter unless otherwise specified.

### Factory Test and Cleaning

- Every manifold and gauge valve are factory tested with nitrogen @ 1000 psig (69 bar) for leakage at the seat to a maximum allowable leak rate of 0.1 std cm<sup>3</sup>/min.
- Every valve is cleaned and packaged in accordance with HSME cleaning standard CS-01. Special cleaning standard CS-11 in compliance with ASTM G93 Level C is for option.

# Direct Mount Manifolds

## Bonnet Valve on Manifolds & Gauge Valves



### Features

#### Stem Back Seating

- Provides positive back stop and back sealing in the valve full open position.
- Prevents stem blowout.
- Prevents a leakage through the bonnet if packing fails.

#### Packing Below Stem Threads

Isolates stem threads from system fluid and lubricant washout.

**Chevron PTFE Packing** provides maximum sealing over stem.

#### Non-Rotating Vee Stem Tip

- Ensures repetitive leak-tight shutoff.
- Protects the valve seat from damage.

#### Packing Bolt

Permits external packing adjustment maintaining the valve in-line.

#### Sturdy Locking Plate

- Holds the bonnet valve to the body at the factory-fastened level.
- Standard for Gauge Valves
- Applicable to Manifolds where the installation space is not limited. Otherwise stop pin is used on the manifold valve.

## Materials of Construction

Components		Valve Body Material
		Material Grade / ASTM Standard
1	Bar Handle	SS304 / A276
2	Set Screw	Stainless
3	Packing Bolt	SS316 / A276 or A479
4	Locking Nut	
5	Upper Gland	
6	<b>Chevron Packing (2)</b>	PTFE / D1710 Optional Graphite Packing
7	<b>Lower Gland</b>	SS316/A276 or A479
8	<b>Bonnet</b>	
9	<b>Non-Rotating Stem</b>	Hard Chrome plated SS316/A276 or A479
10	Locking Plate	Stainless Steel
11	Locking Bolt	
12	Stop Pin	
13	<b>Body</b>	SS316 / A276 or A479

## Pressure – Temperature Ratings

Body Material		SS316	
ASME Material Group		TABLE 2-2.2	
ASME CLASS Rating		2500	
Packing Material		Graphite	PTFE
Temperature		Working Pressure, psig (bar)	
°F	°C		
- 65 to -20	-53 to -28	6000 (413)	6000 (413)
-20 to 100	-28 to 37	6000 (413)	6000 (413)
200	93	5160 (355)	5160 (355)
300	148	4660 (321)	4660 (321)
350	176	4470 (307)	4470 (307)
400	204	4280 (294)	4280 (294)
450	232	4130 (284)	4130 (284)
500	260	3980 (274)	-
600	315	3760 (259)	-
700	371	3620 (249)	-
800	426	3520 (242)	-
900	482	3460 (238)	-
1000	537	3030 (208)	-
1022	550	3010 (207)	-

**Graphite Packing :** Graphite is a high temperature packing material that requires a load to seal and rated to the maximum of 973 °F (523 °C ) for air service.

### Valve Packing Adjustment

- Packing adjustment may be periodically required to prevent leakage and to increase service life.
- Packing bolt permits external packing adjustment maintaining the valve in-line.
  1. Depressurize the system.
  2. Cycle and purge the valve.
  3. Turn the packing bolt clockwise in 1/16 turn increment until the valve achieves the leak-tight performance.

## VMD Series Direct Mount Manifolds

Female x Flanged

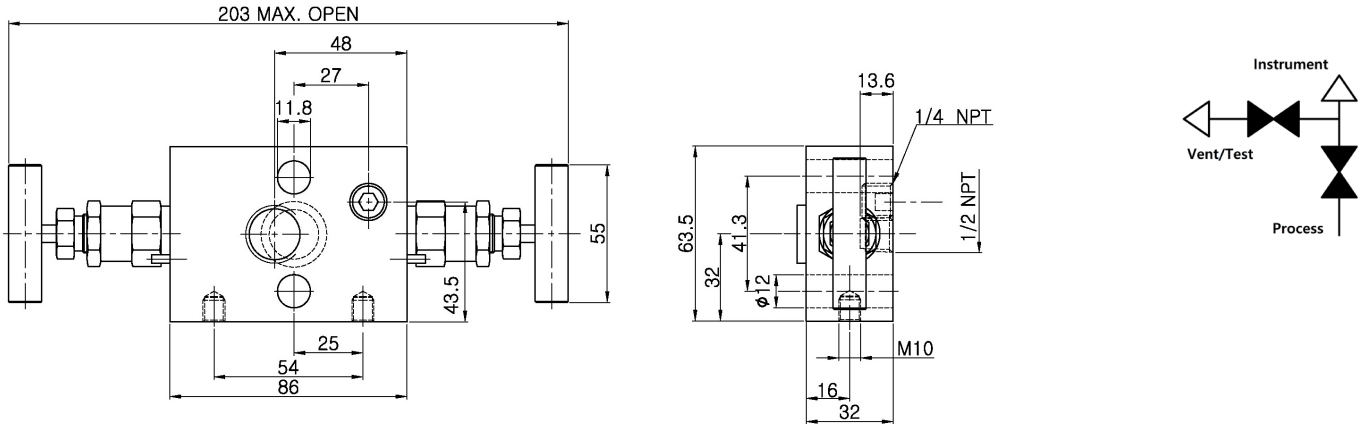
Direct mount manifolds are designed for direct mounting to pressure and differential pressure transmitters. Manifolds are supplied either with IEC 61518 Type A or Type B flange connection. Accordingly direct mount manifold valve bears "IEC" marking.

### Features

- Standard Inlet x Outlet: 1/2 in. Female NPT x Flanged.
- Standard Vent Port: 1/4 in. Female NPT.

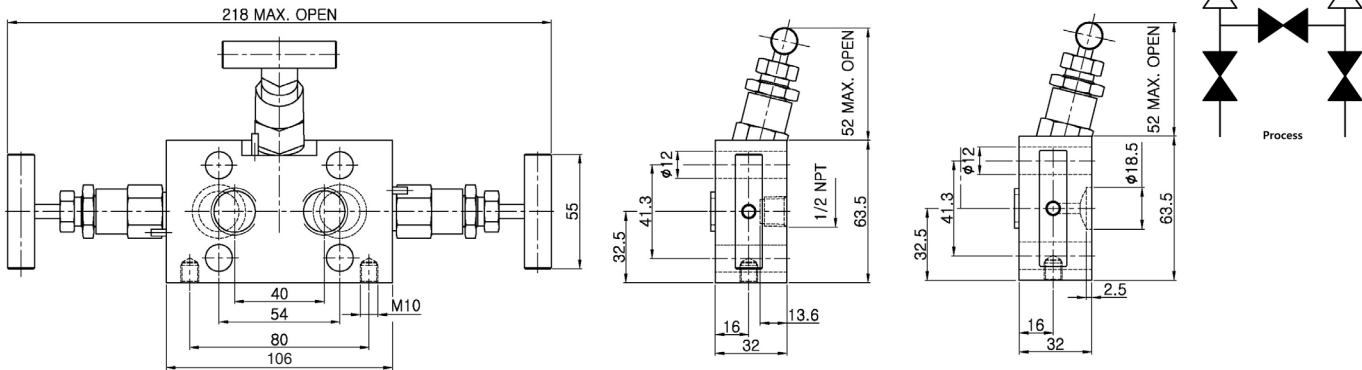
**Stainless Direct Mount 2 Valve Manifolds – Standard Shape**

**VMD-2S8N-A-4NP-SS** : Female x Flanged, Inlet 1/2 in. FNPT, Outlet Flange IEC 61518 Type A, Plugged Vent Port 1/4 in. FNPT.  
**VMD-2S8N-B-4NP-SS** : Female x Flanged, Inlet 1/2 in. FNPT, Outlet Flange IEC 61518 Type B, Plugged Vent Port 1/4 in. FNPT.  
 Applicable Mounting Bracket: **MBL** for vertical, **MBH** for horizontal



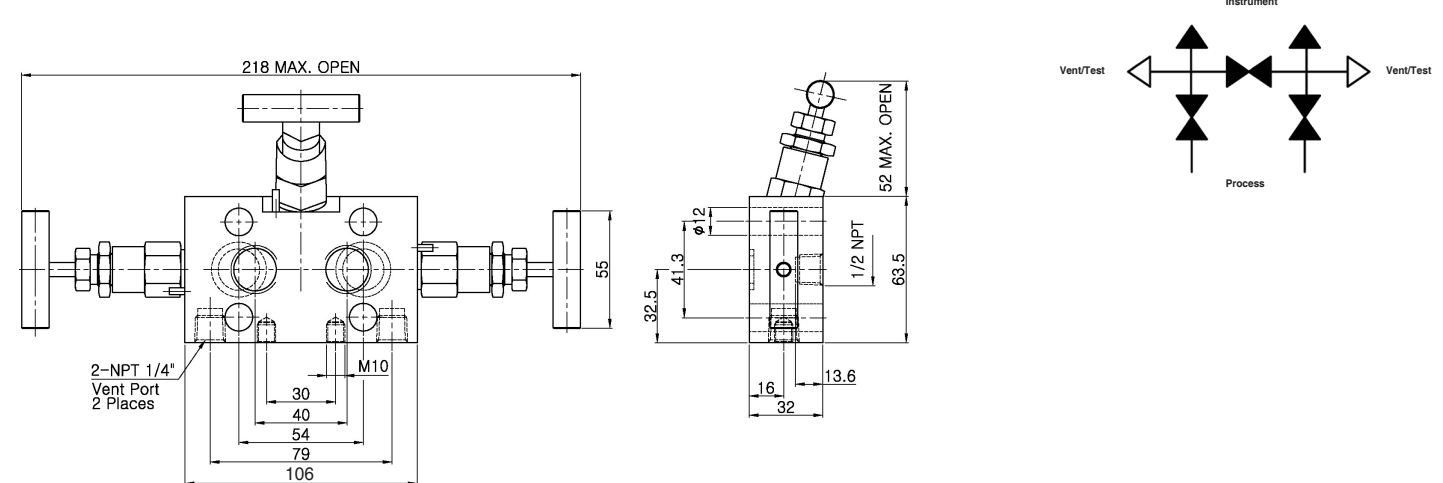
**Stainless Direct Mount 3 Valve Manifolds – A shape**

**VMD-3A8N-A-SS** : Female x Flanged, Inlet 1/2 in. FNPT, Outlet Flange IEC 61518 Type A, and no Vent Port provided.  
**VMD-3A8N-B-SS** : Female x Flanged, Inlet 1/2 in. FNPT, Outlet Flange IEC 61518 Type B, and no Vent Port provided.  
**VMD-3AIEC-A-SS** :  $\varnothing$  18.5mm x Flanged, Inlet turned groove IEC  $\varnothing$  18.5, Outlet Flange IEC 61518 Type A, and no Vent Port provided.  
 Applicable Mounting Bracket: **MBL** for vertical, **MBH** for horizontal



**Stainless Direct Mount 3 Valve Manifolds – A shape**

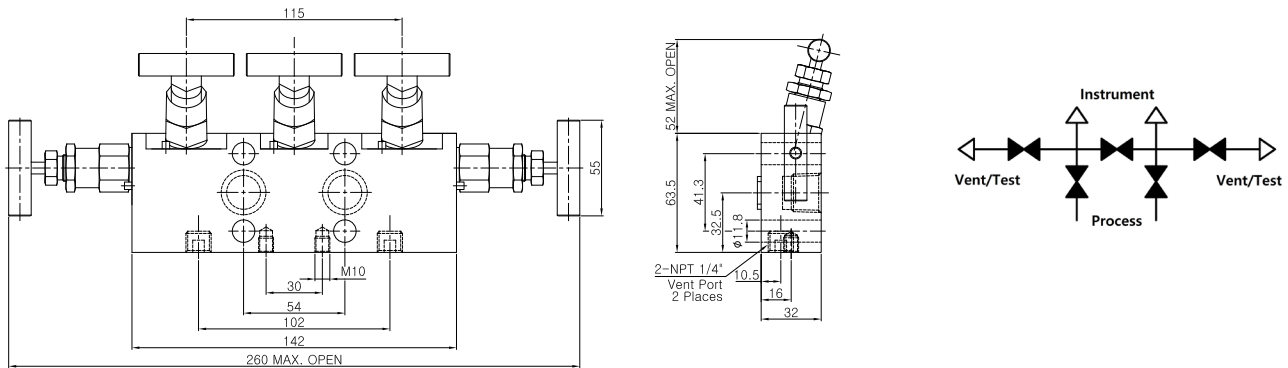
**VMD-3A8N-B-4NP-SS** : Female x Flanged, Inlet 1/2 in. FNPT, Outlet Flange IEC 61518 Type B, Plugged Vent Port 1/4 in. FNPT.  
 Applicable Mounting Bracket: **MBL** for vertical, **MBH** for horizontal



# Direct Mount Manifolds

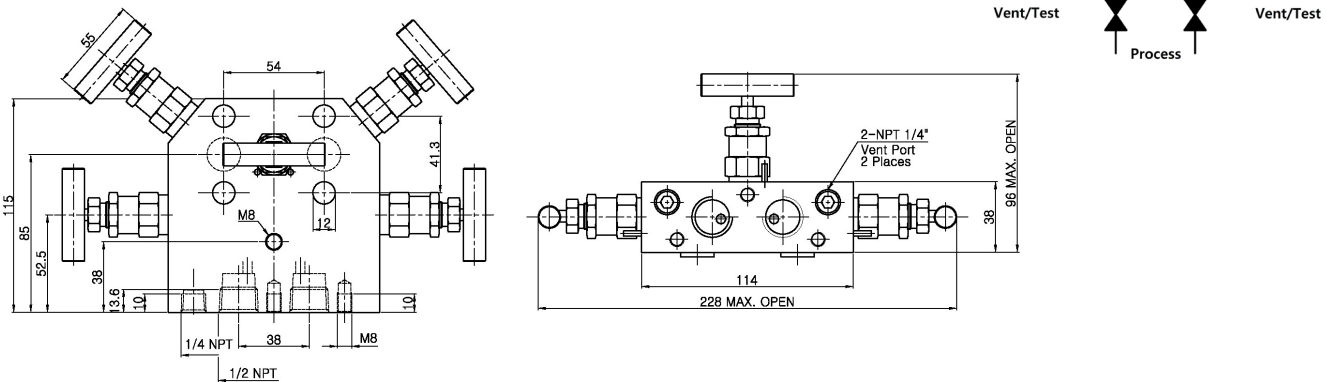
## Stainless Direct Mount 5 Valve Manifolds – A shape

**VMD-5A8N-A-4NP-SS** : Female x Flanged, Inlet 1/2 in. FNPT, Outlet Flange IEC 61518 Type A, Plugged Vent Port 1/4 in. FNPT.  
**VMD-5A8N-B-4NP-SS** : Female x Flanged, Inlet 1/2 in. FNPT, Outlet Flange IEC 61518 Type B, Plugged Vent Port 1/4 in. FNPT..  
 Applicable Mounting Bracket: **MBL** for vertical, **MBH** for horizontal



## Stainless Direct Mount 5 Valve Manifolds – W shape

**VMD-5W8N-A-4N-SS**  
 Female x Flanged, Inlet 1/2 in. FNPT, Outlet Flange IEC 61518 Type A, Vent Port 1/4 in. FNPT.  
 Applicable Mounting Bracket: Direct mount to a backplate or a baseplate of enclosure.





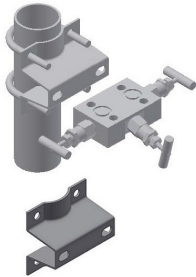
## Mounting Kits

<p>For direct mount to transmitter. Kit contains bolt, flat ring or O-ring.</p>	<p><b>Flat ring or O-ring</b>                  PTFE flat ring to IEC 61518 (Designator: TE)                  S-FPM90 Viton O-ring to IEC 61518 (Designator: VT)</p> <p><b>Bolt 7/16-20 UNF</b>                  Stainless Bolt (Designator: SS)                  Dimensions to ASME B18.2.1                  Material to ASTM A193 B8 Class 2</p> <p><b>Carbon Steel Bolt</b> (Designator: C)                  Dimensions to ASME B18.2.1                  Material to ASTM A449 Type 1</p>	<p><b>Ordering Number</b></p> <p><b>2 Valve Direct Mount</b> (2 x Bolt, 1 x ring)                  MK-VMD2-TE-SS (Bolt length 1 3/4 in.)                  MK-VMD2-VT-SS (Bolt length 1 3/4 in.)</p> <p><b>3 &amp; 5 Valve Direct Mount</b> (4 x Bolt, 2 x ring)                  MK-VMD3-TE-SS (Bolt length: 1 3/4 in.)                  MK-VMD3-VT-SS (Bolt length: 1 3/4 in.)</p> <p><b>VMD-5W8N-A-4N-SS</b> (4 x Bolt, 2 x ring)                  MK-VMD5E-TE-C (Bolt length: 2 in.)                  MK-VMD5E-VT-C (Bolt length: 2 in.)</p> <p><b>Kidney Flange</b> (2 x Bolt, 1 x ring)                  MK-KF-TE-C (Bolt length: 1 1/2 in.)                  MK-KF-VT-C (Bolt length: 1 1/2 in.)</p>
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## Kidney Flanges

<p><b>Transmitter Interface Kidney Flanges</b>                  Dimensions to EN61518</p> <p>KFA: EN61518-A                  KFC: EN61518</p> <p>Construction either from forging or flat bar.</p>	<p><b>KFA</b></p>	<p><b>KFC</b></p>
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## Mounting Bracket Kit

<b>MBL</b> For vertical mount	<b>MBH</b> For Horizontal mount	<b>MBL and MBH mounting bracket kit contains;</b> <ul style="list-style-type: none"> <li>• 2 sets of 2 in. pipe U bolt.</li> <li>• 4 sets of M8 nuts &amp; washers.</li> <li>• 2 sets of washers &amp; M10 bolt.</li> </ul>  <p>To order stainless steel mounting bracket, add "SS", to order carbon steel mounting bracket, add "C" to the kit ordering number. Examples: MBL-SS, MBL-C.</p>
		

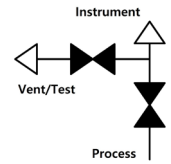
## VMR Series Remote Mount Manifolds

Female x Female

Remote mount manifolds are designed for mounting to pressure gauges, pressure switches, and pressure transmitters.

### Features

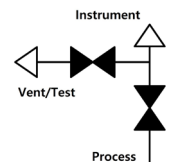
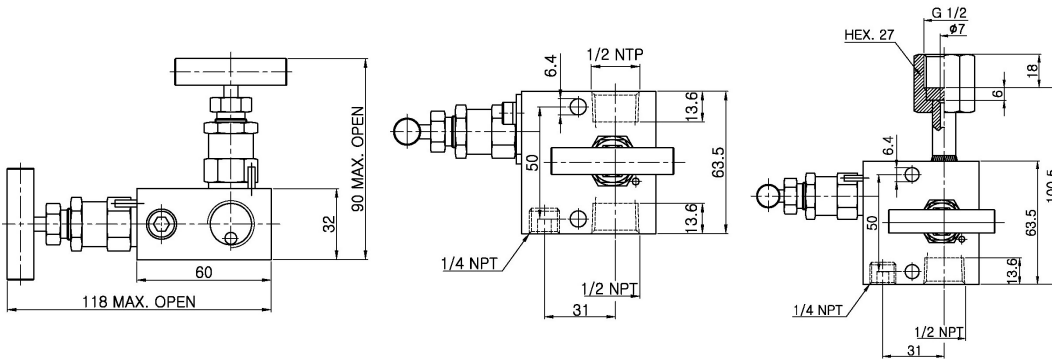
- Standard Inlet x Outlet: 1/2 in. Female NPT.
- Standard Vent Port: 1/4 in. Female NPT.
- Swivel Gauge Adapter on outlet port: G1/2 (Designator: G8) and M20 x 1.5 (Designator: M20) are available.



## Stainless Remote Mount 2 Valve Manifolds – L Shape

**VMR-2L8N-4NP-SS:** Female x Female, Inlet & Outlet 1/2 in. FNPT, Plugged Vent Port 1/4 in. FNPT

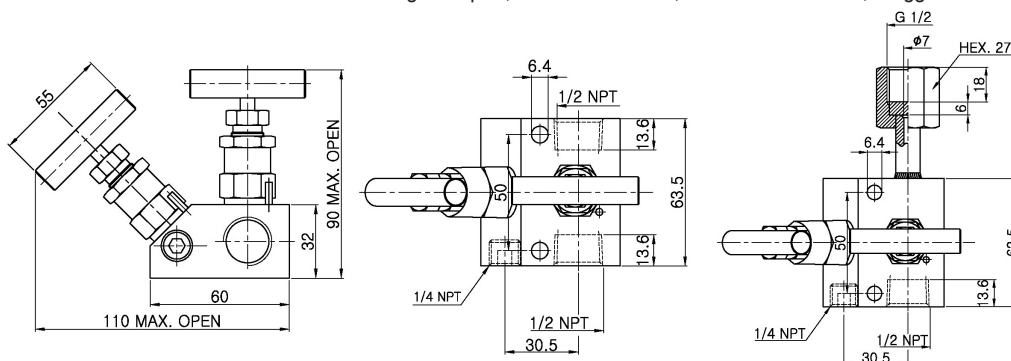
**VMR-2L8NG8-4NP-SS:** Female x Swivel Gauge Adapter, Inlet 1/2 in. FNPT, Outlet G1/2 Female, Plugged Vent Port 1/4 in. FNPT



## Stainless Remote Mount 2 Valve Manifolds – Y Shape

**VMR-2Y8N-4NP-SS:** Female x Female, Inlet & Outlet 1/2 in. FNPT, Plugged Vent Port 1/4 in. FNPT

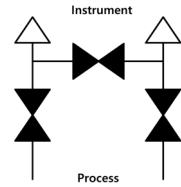
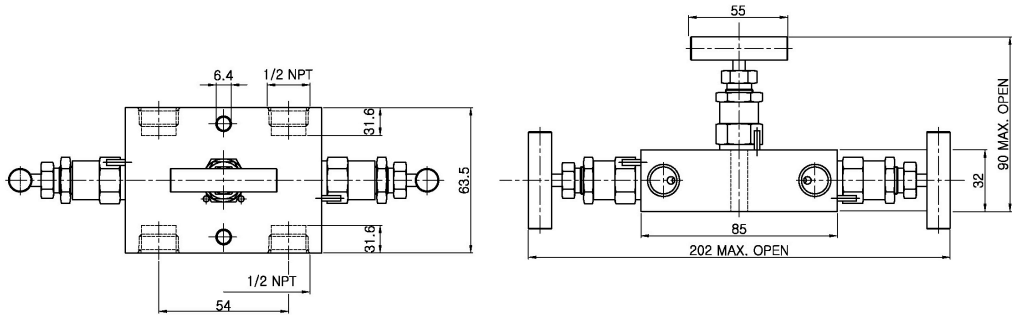
**VMR-2Y8NG8-4NP-SS:** Female x Swivel Gauge Adapter, Inlet 1/2 in. FNPT, Outlet G1/2 Female, Plugged Vent Port 1/4 in. FNPT



# Remote Mount Manifolds

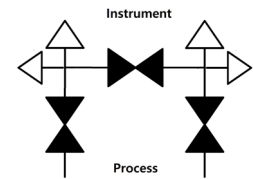
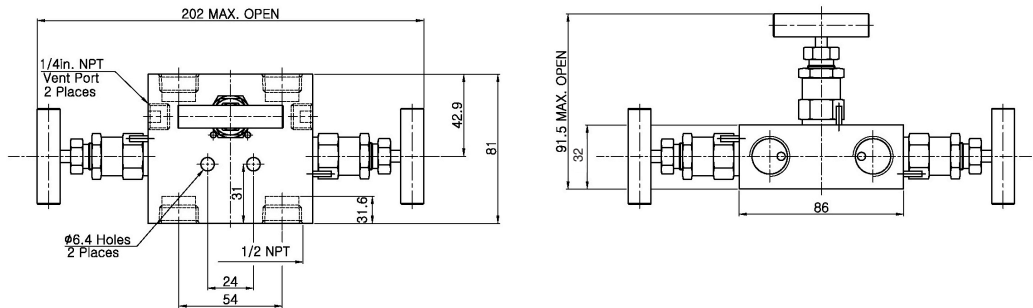
## Stainless Remote Mount 3 Valve Manifolds – Standard Shape

VMR-3S8N-SS : Female x Female, Inlet & Outlet 1/2 in. FNPT, No Vent Port provided



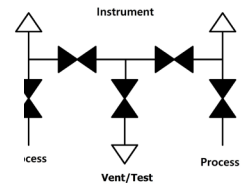
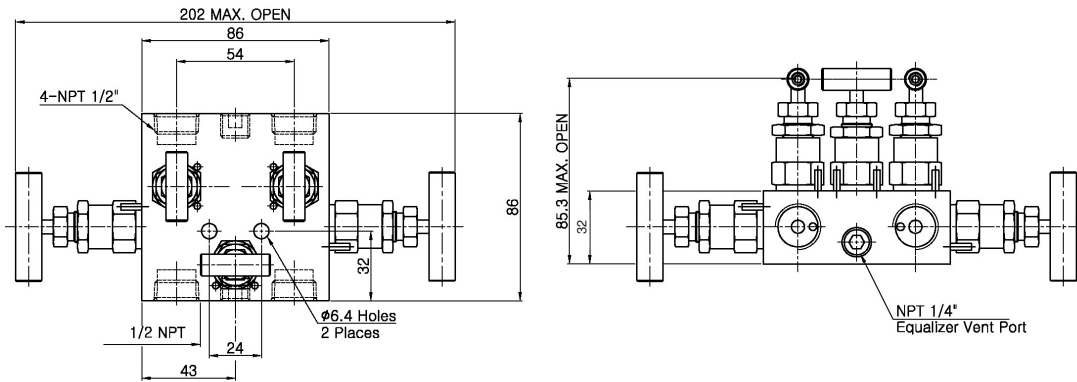
## Stainless Remote Mount 3 Valve Manifolds – Standard Shape

VMR-3S8N-4NP-SS : Female x Female, Inlet & Outlet 1/2 in. FNPT, Plugged Vent Port 1/4 in. FNPT



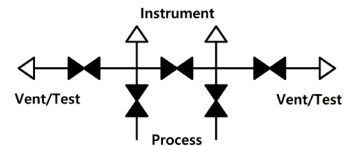
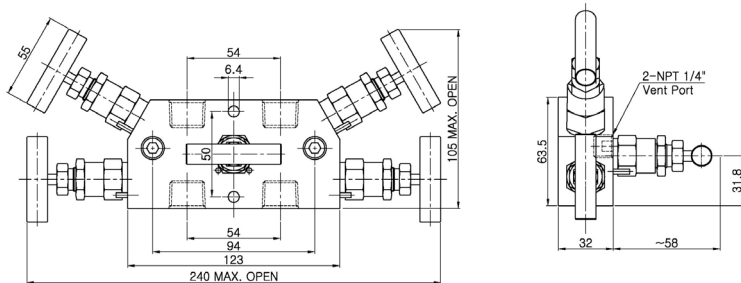
## Stainless Remote Mount 5 Valve Manifolds – Standard Shape

VMR-5S8N-4NP-SS : Female x Female, Inlet & Outlet 1/2 in. FNPT, Plugged Vent Port 1/4 in. FNPT.



## Stainless Remote Mount 5 Valve Manifolds – W Shape

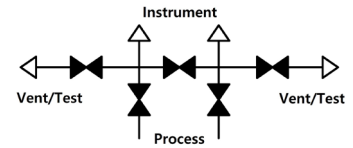
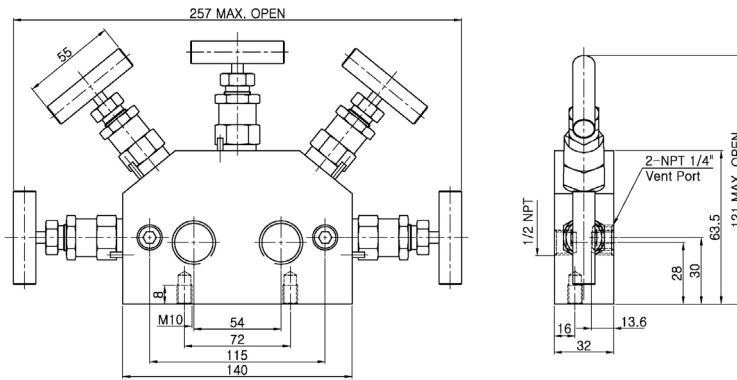
VMR-5W8N-4NP-SS : Female x Female, Inlet & Outlet 1/2 in. FNPT, Plugged Vent Port 1/4 in. FNPT.





## Stainless Remote Mount 5 Valve Manifolds – Y Shape

VMR-5Y8N-4NP-SS : Female x Female, Inlet & Outlet 1/2 in. FNPT, Plugged Vent Port 1/4 in. FNPT.



### Ordering Information

- To order valve with Graphite stem packing, insert "GF" in the ordering number. VMR-2L8NG8-4NP-GF-SS
- To order valve with M20 x 1.5 Swivel Gauge Adapter, replace "G8" with "M20" in the ordering number. VMR-2L8NM20-4NP-GF-SS
- To order valve for sour gas service, insert "SG" in the ordering number. VMR-2L8NM20-4NP-GF-SG-SS
- To order valve with VV4N-SS on vent port, replace "4NP" with "V4N" in the ordering number (Refer to Vent Port Options on page 8). VMR-2L8NM20-V4N-GF-SG-SS

### VMG6 Series Gauge Valves

Working Pressure: 6 000 psig (413 bar) @ 100° F (37° C)

VMG6 Series	VMG6 Series with Vent Port	VMG6L Series with Vent Port
VMG6LL Series with Vent Port	VMG6V2 Series Block & Bleed	VMG6V2A Series Block & Bleed

### Ordering Information and Dimensions

Complete Ordering Number	End Connection		Vent Port	Dimensions, mm							
	Inlet	Outlet		A	SQ	H	L	L1	G	L2	
VMG6-	F8N-SS	1/2 in. Female NPT		-	50	30	74	84	-	-	-
	MF8N-4NP-SS	1/2 in. Male NPT	1/2 in. Female NPT	1/4 in. Female NPT Plugged				90	50	-	-
	M8N-4NP-SS	1/2 in. Male NPT						96	50	60.5	-
VMG6L-	MF8N-8N-SS	1/2 in. Male NPT	1/2 in. Female NPT	1/2 in. Female NPT on 2 places				136	50	35	-
	F8N-8N-SS	1/2 in. Female NPT						123	33	35	-
VMG6LL-	MF8N-SS	1/2 in. Male NPT	1/2 in. Female NPT					184	123	38	-
	MF8N-4NP-SS	1/2 in. Male NPT	1/2 in. Female NPT	1/4 in. Female NPT Plugged				120	50	32	44
VMG6V2- VMG6V2A-	F8N-4NP-SS	1/2 in. Female NPT						120	36	32	44
	FM8N-4NP-SS	1/2 in. Female NPT	1/2 in. Male NPT					120	36	38	50
	M8N-4NP-SS	1/2 in. Male NPT			120	50	38	50			

## How to order

**Step 1.** Select the desired valve ordering number:

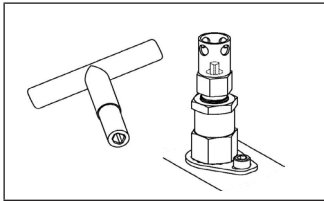
To complete your ordering number, insert the designator of applicable option into the ordering number.

Step 1	Step 2	Step 3	Step 4
VMG6-F8N-SS	VMG6-F8N-GF-SS	-	-
VMG6L-MF8N-8N-SS	-	VMG6L-MF8N-8NP-SS	VMG6L-MF8N-8NP-AK-SS

Step 5	Step 6
-	VMG6-F8N-GF-BM-SG-SS
VMG6L-MF8N-8NP-AK-V8N-SS	VMG6L-MF8N-8NP-AK-V8N-SG-SS

## Options

Step 2. Packing Material	Step 3 Plugged Vent Port	Step 4 Anti-Tamper	Step 5 Vent Port Option	Step 5 Sour Gas Service
<ul style="list-style-type: none"> <li>Nil: PTFE</li> <li>GF-: Graphite</li> </ul>	<ul style="list-style-type: none"> <li>P</li> </ul>	<ul style="list-style-type: none"> <li>AK-</li> </ul>	Refer to Vent Port Options below.	<ul style="list-style-type: none"> <li>SG</li> </ul>

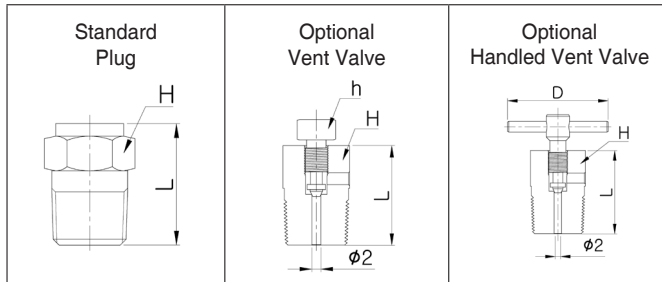


### Anti-Tamper Bonnet Valve and Key

For the valve with this option to be functional, the operator must obtain the separate key. For additional security, valve is designed to enable padlocking in open or close position to the 6mm (0.236 in.) holes drilled on the bonnet valve.

The lockable anti-tamper bonnet valve prevents unauthorized actuation of the valve. Alternatively the key can be chained to the valve. To order, add "AK" to the valve ordering number.

## Vent Port Options



## Ordering Number and Dimensions


Valve	Ordering Number	NPT	H	L	h	D	Designator
Standard Plug	MPP-4N-SS	1/4	9/16	24.4	-	-	4NP
	MPP-8N-SS	1/2	7/8	30.7	-	-	8NP
Vent Valve	VV4N-SS	1/4	14	28	12	-	V4N
	VV8N-SS	1/2	22	32	12	-	V8N
Handled Vent Valve	VVH4N-SS	1/4	19	34	-	40	VH4N
	VVH8N-SS	1/2	22	34	-	40	VH8N

## Sour Gas Service

Wetted components including stem and lower gland are selected in accordance with NACE MR0175/ISO 15156-2/3 or NACE MR0103 depending on the application. To order, add "SG" to the valve ordering number.

## Safe Valve Selection

The selection of a valve for any application or system must be considered to ensure safe performance. Valve rating, valve function, material compatibility, proper installation, operation and maintenance remain the sole responsibility of the system designer and the user. HSME Corporation accepts no liability for any improper selection, compatibility, installation, operation or maintenance.

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