MANIFOLDS VALVE

- 2-, 3- and 5-valves Instrument manifolds valves.
- Pressure Ratings: 6,000 PSI/10,000 PSI
- NPT, ISO/BSP, Threads
- Stainless Steel (316L, 316, 304, 304L), Carbon Steel, Monel, Inconel

Catalogue No.: PMT-MNV

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**Introduction:**

PMT range of Valve Manifolds offer a safe and economical method of installation to control and measure pressure of liquids and gaseous media. They are ruggedly manufactured and precision machined to the most exacting dimensional tolerance to ensure perfect installation and application. PMT Valve Manifolds are functionally installed to control, measure, isolate, equalize, calibrate, drain, vent or differentiate the pressure of liquids and gases.

Designed to reduce installation costs and improve safety performance, the consolidation of valves into one unit provides you with a combination of instrument isolation together with bleed/vent and test facilities.

Continuous product development may from time to time necessitate changes in the details contained in this catalogue. PMT Hannifin reserve the right to make such changes at their discretion and without prior notification.

**Manifolds : 2, 3, 5 valve construction:**

2- Valve Manifolds are used in pressure instruments such as pressure gauges, pressure transmitters, pressure switches, etc.

3-Valve And 5- Valve Manifolds are used in differential pressure instruments such as differential pressure transmitters, differential pressure switches, differential pressure gauges, etc.

3-Valve Manifolds are the most commonly used Manifolds. They could be provided with test ports on the process side and drain ports on the instrument side for drawing of the process and instrument lines respectively.

5-Valve Manifolds are normally used with differential pressure instruments where drain valves are required on the instrument side. They are also used for flushing of the system and for the prevention of loss of expensive fluid in the impulses.

**Options for Mounting:**

Remote mounting “R” Type Manifold (Pipe to Pipe)
Direct Mounting “T” Type Manifold (Pipe to flange, Flange to Pipe)
Direct Mounting “H” Type Manifold (Pipe to flange, Flange to Pipe)

**Manifold Specifications & Features**

PMT offers a variety of 2-, 3-, and 5-valve instrument manifolds. The 2-valve manifolds are designed for static pressure and liquid level applications, the 3 and 5-valve manifolds are designed for differential pressure applications. These manifolds are available in traditional and compact body designs. Manifold connections include female PMT tube fittings, pipe ends (NPT and ISO 228/1), and flanges (MSS SP-99) in 1/2 and 3/4 in. and 12 mm sizes.

PMT Manifolds valve have been designed to provide the safest possible connection and mounting of instruments. Standard features include:

- 316/316L stainless steel construction for superior corrosion resistance.
- One-piece construction body provides strength.
- 316 stainless steel pin prevents detachment of the bonnet from the body due to vibration.
- Burr-free threads and internal surfaces reduce leaks, promoting accurate transmitter readings.
- Compact design requires minimum space for operation and installation.
- Bonnet to body seals are metal to metal, No O-rings used.
- Mounting holes provided for self-supporting application.
- All valves 100% factory tested
- Dust cap prevents ingress of contaminants
- Standard seat diameter - 5mm Cv
- Maximum standard pressure up to 6000 psig @ 100° F (414 barg @ 38° C)
Design & Materials of Construction:

HANDLE: Removable T-bar handle aids low torque operation.

SPINDLE: Designed for low torque operating with high quality micro mirror stem finish for positive gland sealing.

GLAND RETAINER: Standard Construction For maximum pressure rating.

GLAND BODY: For maximum packing stability and performance.

BODY: Forged one piece body construction (no welding) for high strength.

LOCK PIN: Safety bonnet lock pin prevents accidental disassembly.

VEE TIP: Self centering, non-rotational VEE tip gives successive positive bubble tight shut off assuring the user of leakage free performance and downstream functional safety.

SPECIFICATION
- Stainless steel construction
- Stem packing : PTFE
- Maximum standard pressure up to 6,000 psig (414 barg)
- PTFE standard gland packing (Graphoil optional)
- Maximum temperature PTFE 260°C (500°F)
- Maximum temperature Graphoil 538°C (1000°F)

PTFE PACKING
Maximum pressure 10000 psi (690 bar) at 100°F (38°C)
Maximum pressure 6000 psi (413 bar) at 212°F (100°C)
Maximum pressure 4000 psi (275 bar) at 392°F (200°C)
(PTFE packing rated to maximum temperature of 392°F (200°C))

GRAFOIL® PACKING
Maximum pressure 10000 psi (690 bar) at 100°F (38°C)
Maximum pressure 6000 psi (413 bar) at 212°F (100°C)
Maximum pressure 3300 psi (230 bar) at 842°F (450°C)

PRESSURE TEMPERATURE CHART
PCTFE Soft Tip
Maximum pressure 6000 psi (413 bar) at 212°F (100°C)
Maximum pressure 5500 psi (380 bar) at 248°F (120°C)

Duplex / Super Duplex
Limited to 600°F (315°C)
Manifold Selection Information:
The pressure-temperature ratings are taken for ANSI B16.34 for standard class valves and are based on class 2500. Ratings for needle tip’s design is based on specific seat materials.

Testing:
Every valve is 100% factory tested with air and nitrogen at 1000psi(69bar) for shut off and at all seals. Each test is performed to a maximum allowable leak rate of 0.1scc/min. Other tests like Vibration, Temperature, Helium are available upon request.

Cleaning & Packaging:
All components are ultrasonically cleaned prior to assembly & testing.

Note: Different End connections and Material grades offered on request.

Ordering Multiple Options and Accessories:
Manifolds valves are available with a wide variety of options and accessories that enable valve configurations customized to meet specific requirements. Please select or add designators from the ordering combinations as shown below:

How To Order
Standard items in bold.

Typical Ordering Part Number

<table>
<thead>
<tr>
<th>No. of valves</th>
<th>Packing</th>
<th>Inlet size (Process Connection)</th>
<th>Materials</th>
<th>Options of mounting</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 = 2 Valves</td>
<td>P = PTFE</td>
<td>4 = ¼” NPT</td>
<td>SS = 316/316L</td>
<td>R = Pipe to Pipe</td>
</tr>
<tr>
<td>3 = 3 Valves</td>
<td>G = GRAFOIL</td>
<td>8 = ½” NPT</td>
<td>CS = Carbon steel</td>
<td>T = Pipe to Flange</td>
</tr>
<tr>
<td>5 = 5 Valves</td>
<td></td>
<td></td>
<td>M = MONEL</td>
<td>H = Flange to Flange</td>
</tr>
</tbody>
</table>

Options
<table>
<thead>
<tr>
<th>HP</th>
<th>AT</th>
<th>SG</th>
<th>PB</th>
</tr>
</thead>
<tbody>
<tr>
<td>10,000 PSI Rated</td>
<td>Anti Tamper Isolate</td>
<td>Sour Gas Service Conforms to NACE MR 01-75</td>
<td>Panel nut on bonnets</td>
</tr>
</tbody>
</table>

Note:
Please consult the factory for information on special connections, o-rings, operating pressures, special material grades, temperature ratings & custom design.

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**2V PIPE TO PIPE**

PMT 2 valve manifolds Pipe to pipe valves are designed in such a manner, which helps in connecting system impulse line & transmitters. Our range of manifold consist two valve configuration which allows for easy isolation, calibration, block and bleed for gauges, pressure switches and static pressure transmitting instruments.

**Features:**
- Withstand high pressures and temperatures.
- Bonnet lock prevents accidents disassembly.
- For a Higher Temperatures Grafoil Packing is used.
- Reduces number of fittings and space required for installation.

**Model:**

2-VM-P-8-SS-R

**Dimensions are for reference only and are subjected to change.**
PMT 2 valve manifolds Pipe to Flange valves are designed in such a manner, which helps in connecting system impulse line & transmitters. Our range of manifold consist two valve configuration which allows for easy isolation, calibration, block and bleed for gauges, pressure switches and static pressure transmitting instruments.

**Features:**
- Withstand high pressures and temperatures.
- Bonnet lock prevents accidents disassembly.
- For a Higher Temperatures Graphoil Packing is used.
- Reduces number of fittings and space required for installation.

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**Dimensions are for reference only and are subjected to change.**

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PMT 2 valve manifolds are designed in such a manner, which helps in connecting system impulse line & transmitters. Our range of manifold consists of two valve configuration which allows for easy isolation, calibration, block and bleed for gauges, pressure switches and static pressure transmitting instruments.

**Features:**
- Withstand high pressures and temperatures.
- Bonnet lock prevents accidents disassembly.
- For a Higher Temperatures Grafoil Packing is used.
- Reduces number of fittings and space required for installation.

**Model:**
2-VM-P-8-SS-H

**Dimensions are for reference only and are subjected to change.**
PMT 2 valve manifolds are designed in such a manner, which helps in connecting system impulse line & transmitters. Our range of manifolds consist of two valve configurations which allow for easy isolation, calibration, block and bleed for gauges, pressure switches and static pressure transmitting instruments.

**Features:**
- Withstand high pressures and temperatures.
- Bonnet lock prevents accidents disassembly.
- For higher temperatures, Grafoil Packing is used.
- Reduces number of fittings and space required for installation.
- Packing below stem threads prevents stem lubrication washout and isolates threads from system fluids.

**Model:** 2-VM-P-8-SS-RM

**Dimensions are for reference only and are subjected to change.**

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PMT 2 valve manifolds Pipe to pipe valves are designed in such a manner, which helps in connecting system impulse line & transmitters. Our range of manifold consist two valve configuration which allows for easy isolation, calibration, block and bleed for gauges, pressure switches and static pressure transmitting instruments.

Features:
- Withstand high pressures and temperatures.
- Bonnet lock prevents accidents disassembly.
- For a Higher Temperatures Graphoil Packing is used.
- Reduces number of fittings and space required for installation.

Dimensions are for reference only and are subjected to change.
PMT 3 Valve Manifold, Remote Mounting Type. Two Isolation Valves & One Equalizer Valve Threaded on both Instrument, Process Side 1/2" NPT(F). Two mounting Holes are provided for 1/4" bolts used with DP Gauges, Pressure Transmitters & Pressure Switches.

Features:

- Stem threads rolled and hard plated provides maximum service life.
- For a Higher Temperatures Graphoil Packing is used.
- Bonnet lock prevents accidents disassembly.
- Hard seat designed to reduce packing friction giving very low torque operation.
- Packing below stem threads prevents stem lubrication washout and isolate threads from system fluids.

Model:

3-VM-P-8-SS-R

Dimensions are for reference only and are subjected to change.
3V PIPE TO FLANGE

PMT 3 Valve Manifold, Direct Mounting Type. Two Isolation Valves & One Equalizer Valve Threaded on Instrument Side 1/2" NPT(F) & Flanged on Process Side. Can be mounted directly on DP Gauges, Pressure Transmitter & Pressure Switches having 54mm C/C connection with centre bolting, supplied with four 7/16" Bolts & two PTFE Seals.

Features:
- Stem threads rolled and hard plated provides maximum service life.
- For a Higher Temperatures Graphoil Packing is used.
- Bonnet lock prevents accidents disassembly.
- Hard seat designed to reduce packing friction giving very low torque operation.

Dimensions are for reference only and are subjected to change.

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PMT 3 Way Manifolds Valves, pipe to flange, designed for connecting system impulse lines & transmitters. These manifolds consist of 1/2” NPT(F), pipe to flange or flange to flange connections on 54mm (2-1/8”) centers, and of one equalizer valve, 2 block valves and 2 nos 1/4” NPT(F) purge (VENT) connections. 1/4” NPT (F) Purge connections (2) optional.

**Features:**
- Stem threads rolled and hard plated provides maximum service life.
- For a Higher Temperatures Graphoil Packing is used.
- Bonnet lock prevents accidents disassembly.
- Stem threads rolled and hard plated provides maximum service life.

**Model:**

3-VM-P-8-SS-H

**Dimensions are for reference only and are subjected to change.**

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PMT 3 Valve Manifold, Direct Mounting Type. Two Isolation Valves & One Equalizer Valve Threaded on Process Side & Flanged on Instrument Side. Can be mounted directly on DP Gauges, Pressure Transmitter & Pressure Switches having 54mm C/C connection with centre bolting, supplied with four 7/16” Bolts & two PTFE Seals. It can also be mounted with Oval flange to connect the process line with 1/2” pipe or tube connections.

Features:
- Stem threads rolled and hard plated provides maximum service life.
- For a Higher Temperatures Graphoil Packing is used.
- Bonnet lock prevents accidents disassembly.
- Stem threads rolled and hard plated provides maximum service life.

Model:
3-VM-P-8-SS-DM

Dimensions are for reference only and are subjected to change.
PMT 5 Valve Manifold, Remote Mounting Type. Two Isolation Valves, One Equalizer Valve & Two Drain Valves. Threaded on all Instrument, Process & Drain Side 1/2” NPT(F). Two mounting holes are provided for 1/4” bolts used with DP Gauges, Pressure Transmitters & Pressure Switches.

Features:
- One Piece Bar stock Forged Body for high strength and fully safety.
- Bonnet lock prevents accidents disassembly.
- Two Part Stem tip, stellited and hardened provides excellent flow control and ensures bubble-tight shutt off.
- Packing material – PTFE / Graphoil.
- Packing below stem threads prevents stem lubrication washout and isolate threads from system fluids.

Model:
5-VM-P-8-SS-R

Dimensions are for reference only and are subjected to change.

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5V PIPE TO FLANGE

PMT 5 Valve Manifold, Direct Mounting Type. Two Isolation Valves, One Equalizer Valve & Two Drain Valves Threaded on Instrument Side (1/2" NPT(F)), Flanged on Process Side & Threaded on Drain Side (1/4" NPT(F)). Can be mounted directly on DP Gauges, Pressure Transmitter & Pressure Switches having 54mm C/C connection with centre bolting, supplied with four 7/16" Bolts & two PTFE Seals.

Features:
- One Piece Bar stock Forged Body for high strength and fully safety.
- Bonnet lock prevents accidents disassembly.
- Two Part Stem tip, stellited and hardened provides excellent flow control and ensures bubbles-tight shut off.
- Packing material – PTFE / Graphoil.

Model:
5-VM-P-8-SS-T

Dimensions are for reference only and are subject to change.

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PMT 5 Valve Manifold, Direct Mounting Type. Two Isolation Valves, One Equalizer Valve & Two Drain Valves Threaded on Instrument Side (1/2" NPT(F)), Flanged on Process Side & Threaded on Drain Side (1/4" NPT). Can be mounted directly on DP Gauges, Pressure Transmitter & Pressure Switches having 54mm C/C connection with centre bolting, supplied with four 7/16" Bolts & two PTFE Seals.

Features:
- One Piece Bar stock Forged Body for high strength and fully safety.
- Bonnet lock prevents accidents disassembly.
- Two Part Stem tip, stellited and hardened provides excellent flow control and ensures bubble-tight shut off.
- Packing material – PTFE / Graphoil.

Dimensions are for reference only and are subjected to change.
5V DIRECT MOUNT

PMT 5 Valve Manifold, Direct Mounting Type. Two Isolation Valves, One Equalizer Valve & Two Drain Valves. Threaded on Instrument Side, Flanged on Process Side & Bleeder Plug on Drain Side. Can be mounted directly on DP Gauges, Pressure Transmitter & Pressure Switches having 54mm C/C connection with center bolting, supplied with four 7/16” Bolts & two PTFE Seals.

Features:
- One Piece Bar stock Forged Body for high strength and fully safety.
- Bonnet lock prevents accidents disassembly.
- Two Part Stem tip, stellited and hardened provides excellent flow control and ensures bubble-tight shut off.
- Packing material – PTFE / Graphoil.

Model:
5-VM-P-8-SS-DM

Dimensions are for reference only and are subjected to change.

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Other PMT Product Families

**Tube Fittings**
- **PMT** Tube Fittings are fully interchangeable with Swagelok and Parker A-Lok
- **Sizes**: Fractional: 1/16” - 1”
- **Materials**: Stainless Steel (316L,316,304,304L), Brass, Carbon Steel, Monel, Inconel
- **Pressure Ratings**: 6000 PSI

**Pipe Fittings**
- **PMT** Pipe Fittings are fully interchangeable with Swagelok and Parker A-Lok
- **Sizes**: Fractional: 1/16” - 2”
- **Materials**: Stainless Steel (316L,316,304,304L), Brass, Carbon Steel, Monel, Inconel
- **Pressure Ratings**: 6000 PSI, 15000 PSI

**Needle valves**
- **Types**: Straight, Angle, Block and Bleed types.
- **Pressure Ratings**: 6000 PSI, 10000 PSI, 15000 PSI
- **Sizes**: 1/8” - 1”
- **Materials**: Stainless Steel(316L,316,304,304L), Brass, Carbon Steel, Monel, Hastelloy, Inconel
- **Pattern**: Square Body, Hex Body

**Manifold Valve**
- **Pressure Ratings**: 6000 PSI, 10000 PSI
- **Pattern**: ”R” Type- Remote types (Pipe to Pipe), “T” Type- (Pipe to Flange), “H” Type- (Flange to Flange)
- **Types**: 2 Way, 3 Way, 5 Way,
- **Materials**: Stainless Steel(316L,316,304,304L), Brass, Carbon Steel, Monel, Hastelloy, Inconel

**Mono Flange Valve**
- **Pressure Ratings**: 150#, 300#, 600#, 900#, 1500#
- **Types**: Process Monoflange, Instrument Monoflange
- **Pattern**: Flanged RF/RTJ
- **Sizes**: 1/2” - 2”
- **Materials**: Stainless Steel(316L,316,304,304L), Steel Brass, Carbon Steel, Monel, Hastelloy, Inconel

**Instrument Ball Valve**
- **Pressure Ratings**: 3000 PSI, 6000 PSI
- **Sizes**: 1/4” - 1”
- **Materials**: Stainless Steel (316L,316,304,304L), Steel, Brass, Carbon Steel, Monel, Hastelloy, Inconel
- **Types**: 2 Way, 3 Way, 5 Way,
- **Pattern**: Round Body, Square Body, Hex Body

**Instrument Accessories**
- **Airheader**
- **Thermowell**
- **Syphon**
- **Tube Clamps**
- **Condensate pot**
- **Orifice Plate Assembly**
- **Instrument Enclosure**
- **Syphon**

**Industrial Valves**

**Forged Steel valves**
- **Valve Types**: Gate, Globe, Check, Ball, Needle,
- **Sizes**: 1/2” - 2”
- **Materials**: A105,F304,F316,F11,F22
- **Pressure Ratings**: 800#, 1500#, 2500#

**Cast Steel Valves**
- **Valve Types**: Gate, Globe, Check, Ball, Butterfly
- **Sizes**: 2” - 12”
- **Materials**: WCB, LCB, CF8, CF8M, ALLOY
- **Pressure Ratings**: 150#, 300#, 600#