INSTRUMENTATION MANIFOLDS
INTRODUCTION

Established in 1974, Fluid Controls® Private Limited is an ISO 0001:2015, ISO 14001 and ONGAS 18001 certified company. Fluid Controls® is involved in the manufacture of Valves, Manifolds, Double Ferrule Compression Tube Fittings and specialized accessories for use in instrumentation, hydraulics, pneumatics, and lubrication. The company has a wide range of products for the Oil and Gas Applications, Petrochemicals, Rotating Machinery, Power Generation, Cryogenic / Vacuum Applications and Railways.

The Valves Unit of Fluid Controls® Private Limited was founded in 1979 by Late Dr. Y. E. Moochhala, a Ph.D. in Mechanical Engineering from Northwestern University, USA. The unit was earlier known as Hyd-Air Engineering Works Lonavala and subsequently merged with Fluid Controls® Private Limited in 2013.

At Fluid Controls®, we draw our strength from our experience of over 40 years in the design, engineering, manufacturing and supply of range of high performance valves and manifolds. These precision products are used for instrumentation in the chemical, petrochemical and oil & gas industries, as well as for high pressure hydraulics, pneumatics and lubrication.

Fluid Controls® offers a series of Manifolds for compact piping and control in lines involving pressure and differential pressure instruments. Manifolds eliminate several parts used in the conventional method of piping (with individual valves and adaptors) resulting in cost saving. Their compact design reduces space requirements for operation and installation. The internal porting arrangement within the Manifold eliminates leakage points.

Fluid Controls® Manifolds are available in 2, 3 or 5 Valve construction.

Two Valve Manifolds are used in pressure instrument such as pressure gauges, pressure transmitters, pressure switches, etc.

Three Valve and Five Valve Manifolds are used in differential pressure instruments such as differential pressure transmitters, differential pressure switches, differential pressure gauges etc.

Three Valve Manifolds are the most commonly used manifolds. They may 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.

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

Fluid Controls® Manifolds are available in four designs:

**SEPARATELY MOUNTED MANIFOLDS** meant for installation from the instrument and are usually connected by means of pipes or tubes, pipes and pipe fittings/tubes and tube fittings.

**DIRECT MOUNTING "T" TYPE MANIFOLDS** for the direct mounting on the instrument and screwed process connections.

**DIRECT MOUNTING "H" TYPE** Manifold for stacked assembly between the instrument and flanged process connection.

**CO-PLANAR MANIFOLDS** mount directly on to the instrument eliminating the adapter plate.
At the heart of the Fluid Controls® Manifold is the design of the pressure sealing system for each of the valves, which has the following advantages:

- The stem threads are rolled to reduce friction
- Stem threads are coated with a silver teflon mixture to allow for smooth operation.
- The stem plug has swiveling design and is uniquely hardened to provide for wear and long life.
- The pipe sealing system prevents blowout of the stem and reduces gasket leakage.

Fluid Controls® Manifolds are available in variety of materials depending on the usage. The most common materials of construction are:

- Carbon Steel ASTM A 105
- Stainless Steel ASTM A 479/A182 F 304, F316, F304L and F318L, F321
- Cupro-Nickel: Monel
- Inconel
- Hastelloy
- Titanium

The choice of the materials is based on the working and the installation location where atmospheric conditions may vary and require materials to prevent corrosion and withstand vibration.

Manifolds in Stainless Steel and Monel are also available with conformity to NACE MR 01 75 for corrosion resistance.

Fluid Controls® Manifolds are available in three specific designs.

- The standard design is with a case hardened swiveling stem plug suitable for most applications in low, medium and high pressure range.
- Where gas at high pressure is encountered, a swiveling plug with soft seat is preferred. The standard seat materials are reinforced PTFE, Delrin and PEEK.
- The thread design is for a case hardened ball plug in 316 Stainless Steel. Alternatively, Hastelloy, Monel, Inconel and Titanium manifolds have Tungsten Carbide ball plugs.
- All these designs are available in standard thread above the seat design so that stem threads are not wetted by the fluid flowing in the system.

The gland sealing arrangements used in Fluid Controls® Manifolds vary with the temperature requirement. The most common material is RPTFE for temperatures up to 180°C. For temperatures in the range 100°C to 270°C graphited asbestos is a common gland seal material. Beyond 270°C and up to 540°C, graphoil is the standard use.
### ORDERING CODE FOR 2 VALVE MANIFOLD

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>FEATURE</th>
<th>SYMBOL</th>
</tr>
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<tbody>
<tr>
<td>Threaded Process</td>
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<td>4</td>
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<tr>
<td>Instrument Connections</td>
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<td></td>
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<td>of</td>
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<td></td>
<td>cartridges</td>
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</tr>
<tr>
<td>Series</td>
<td>With all threaded connection</td>
<td>2 MNV</td>
</tr>
<tr>
<td></td>
<td>With flanged instrument &amp; threaded process connection</td>
<td>2 FMNV</td>
</tr>
<tr>
<td></td>
<td>Offset</td>
<td></td>
</tr>
</tbody>
</table>

#### Type
- Line mounting type
  - Straight
  - Angle
- Surface mounting type with
  1. Vent valve on top & isolation valve on side
  2. Isolation & vent valve on opposed & drain on process side
  3. Isolation & vent valve on opposed-drain on top
  4. All valves on one side vent valve angled
  5. Both valves on top drain on process side
  6. Vent valve on side isolation valve on top angled-stem in front
  7. Screwed inlet & flanged outlet, isolation valve on top angled & vent on side
  8. Single isolate/vent block/direct mounting type
  9. On ASA-RF flange

#### Thread size of Drain Connection
- For 1/4" NPT
- For 1/2" NPT
- For 3/4" NPT

#### Drain plug
- Not required
- Required

### Seat
- Metallic seat
- Soft seat for isolation valves only
  - Soft seat material: PTFE, DELRIN, PEEK
- No symbol

### Stem packing Material
- Graphite & a cord
- Graphite
- PTFE
- Teflon
- No symbol

#### Body material
- SS 304/316L **
- SS 316/316L **
- Monel
- Hastelloy C
- No symbol

** For material conformity to NACE MR-01-75 USE SUFFIX "NACE", "SS/NACE", "SS/SS", "SL/SL"

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Note: Due to continuous improvement & customer interaction designs & specifications may be modified or upgraded without notice.
DESCRIPTION

Two valve manifold is designed in a single block, with female screwed inlet and outlet port combining isolation valve and calibration / vent valve. Generally used on static pressure transmitters, switches or gauges.

<table>
<thead>
<tr>
<th>PROCESS PORT</th>
<th>GAUGE PORT</th>
<th>DRAIN PORT</th>
<th>A</th>
<th>L1</th>
<th>L2</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/2&quot; NPT(F)</td>
<td>1/2&quot; NPT(F)</td>
<td>1/4&quot; NPT(F)</td>
<td>70</td>
<td>98</td>
<td>110</td>
</tr>
<tr>
<td>1/2&quot; NPT(F)</td>
<td>1/2&quot; NPT(F)</td>
<td>1/2&quot; NPT(F)</td>
<td>70</td>
<td>98</td>
<td>110</td>
</tr>
<tr>
<td>3/4&quot; NPT(F)</td>
<td>3/4&quot; NPT(F)</td>
<td>3/4&quot; NPT(F)</td>
<td>70</td>
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<td>110</td>
</tr>
<tr>
<td>1/2&quot; BSP(F)</td>
<td>1/2&quot; BSP(F)</td>
<td>1/2&quot; BSP(F)</td>
<td>70</td>
<td>98</td>
<td>110</td>
</tr>
<tr>
<td>1/2&quot; NBSW</td>
<td>1/2&quot; NPT(F)</td>
<td>1/2&quot; NPT(F)</td>
<td>70</td>
<td>98</td>
<td>110</td>
</tr>
<tr>
<td>3/4&quot;NBSW</td>
<td>1/2&quot; NPT(F)</td>
<td>1/2&quot; NPT(F)</td>
<td>70</td>
<td>98</td>
<td>110</td>
</tr>
</tbody>
</table>

ANGLE TYPE I

GAUGE IN LINE WITH DRAIN / VENT AND PROCESS AT RIGHT ANGLE

<table>
<thead>
<tr>
<th>PROCESS PORT</th>
<th>GAUGE PORT</th>
<th>DRAIN PORT</th>
<th>A</th>
<th>L1</th>
<th>L2</th>
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</thead>
<tbody>
<tr>
<td>1/2&quot; BSP(F)</td>
<td>1/2&quot; NPT(F)</td>
<td>1/2&quot; NPT(F)</td>
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<td>110</td>
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<tr>
<td>3/4&quot; NPT(F)</td>
<td>3/4&quot; NPT(F)</td>
<td>3/4&quot; NPT(F)</td>
<td>70</td>
<td>98</td>
<td>110</td>
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<tr>
<td>1/2&quot; NBSW</td>
<td>1/2&quot; NPT(F)</td>
<td>1/2&quot; NPT(F)</td>
<td>70</td>
<td>98</td>
<td>110</td>
</tr>
<tr>
<td>3/4&quot;NBSW</td>
<td>1/2&quot; NPT(F)</td>
<td>1/2&quot; NPT(F)</td>
<td>70</td>
<td>98</td>
<td>110</td>
</tr>
</tbody>
</table>

Test Pressure : @ 25°C Room Temperature
Hydrostatic : Rod Y - 620 Kg/cm²
Seat - 413 Kg/cm²
Pneumatic : Seat - 40 Kg/cm²

Gland packing : FTFE : Standard
CFRP/IDIL : Temperatures above 100°C

Material : A 105, A 182 Gr F 304SS, A 182 Gr F 316SS, Monel, Hastelloy

Finish : 2E : Zinc Plated and Dichromated, 2E : Natural

Option : Drain plug. Three piece union for gauge positioning

Model No. 2 MNV
**TWO VALVE MANIFOLD-PTM 1**

**VENT VALVE ON TOP AND ISOLATION VALVE ON SIDE**

**DESCRIPTION**

Two valve manifold is designed in a single block with female screwed inlet and outlet port combining isolation valve and calibration / vent valve. Generally used on static pressure transmitters, switches or gauges.

**Connections**
- Process: 1/2" NPT (F)
- Instrument: 1/2" NPT (F)
- Drain / Vent: 1/4" NPT (F), 1/2"NPT (F)

**Test Pressure**
- @ 25°C Room Temperature
  - Hydrostatic: Body - 620 Kg/cm²
  - Seat - 413 Kg/cm²
  - Pneumatic: Seat - 40 Kg/cm²

**Gland packing**
- PTFE: Standard
- GRAPHOIL: Temperatures above 180°C

**Material**
- A 105, A 182 / A 479 Gr F 304SS, A 182 / A 479 Gr F316SS, Monel, Hastelloy

**Finish**
- CS: Zinc Plated and Dichromated; SS: Natural

**Option**
- Drain Plug. Three piece union for gauge positioning

**Accessory**
- Mounting Bolts - IS : 1364 - 1960 - 2 Nos

Model No. 2 PTM 1
DESCRIPTION

Two valve manifold is designed in a single block with female screwed inlet and outlet port combining isolation valve and vent / calibration valve. Generally used on static pressure transmitters, switches or gauges.

Connections : Process : 1/2" NPT (F)
Instrument : 1/2" NPT (F)
Drain / Vent : 1/4" NPT (F)

Test Pressure : @ 25°C Room Temperature
Hydrostatic : Body - 630 Kg/cm²
Seat - 413 Kg/cm²
Pneumatic : Seat - 40 Kg/cm²

Gland packing : PTFE : Standard
GRAPHOIL : Temperatures above 180°C

Material : A 105, A 182 / A 479 Gr F 304 SS, A 182 / A 479 Gr F316 SS,
Monel, Hastelloy

Finish : CS : Zinc Plated and Dichromated; SS : Natural

Option : Drain Plug, Three piece union for gauge positioning

Accessory : Mounting Bolts - IS : 1364 - 1960

Model No. 2 PTM 2
TWO VALVE MANIFOLD-PTM 3

DESCRIPTION

Two valve manifold is designed in a single block with female screwed inlet and outlet port combining isolation valve and vent / calibration valve. Generally used on static pressure transmitters, switches or gauges.

Connections:
- Process: 1/2"NPT (F)
- Instrument: 1/2"NPT (F)
- Drain / Vent: 1/4" NPT (F)

Test Pressure:
- @ 25°C Room Temperature
  - Hydrostatic: Body - 630 Kg/cm²
  - Seat - 413 Kg/cm²
  - Pneumatic: Seat - 40 Kg/cm²

Gland packing:
- PTFE: Standard
- UREAPLAS: Temperatures above 180°C

Material:
- A 105, A 182 / A 479 Gr F 304SS, A 182 / A 479 Gr F 316SS, Monel, Hastelloy

Finish:
- CS : Zinc Plated and Dichromated; SS : Natural

Option:
- Drain Plug, Three piece union for gauge positioning

Accessory:
- Mounting Bolts - IS : 1364 - 1960 - 2 Nos

Model No. 2 PTM 3
DESCRIPTION

Two valve manifold is designed in a single bulk with female screwed inlet and outlet port combining isolation valve and vent / calibration valve. Generally used on static pressure transmitter, switches or gauges.

Connections:
- Process: 1/2”NPT (F), 1/4”NPT (F)
- Instrument: 1/2”NPT (F), 1/4” NPT (F)
- Drain / Vent: 1/4” NPT (F)

Test Pressure:
- @ 25°C Room Temperature
  - Hydrostatic: Body - 620 Kg/cm²
  - Seat - 413 Kg/cm²
  - Pneumatic: Seat - 40 Kg/cm²

Gland packing:
- PTFE: Standard
- GRAPHOIL: Temperatures above 180°C

Material:
- A 105, A 182 / A 479 Gr F 304SS, A 182 / A 479 Gr F316SS, Monel, Hastelloy

Finish:
- CS : Zinc Plated and Dichromated; SS : Natural

Option:
- Drain Plug, Three piece union for gauge positioning

Accessory:
- Mounting Bolts - IS : 1364 - 1960 - 2 Nos

Model No. 2 PTM 4
DESCRIPTION

Two valve manifold is designed in a single block with female screwed inlet and outlet port combining isolation valve and vent/calibration valve. Generally used on static pressure transmitters, switches or gauges.

Connections:
- Process: 1/2”NPT (F)
- Instrument: 1/2”NPT (F)
- Drain / Vent: 1/4” NPT (F)

Test Pressure:
- @ 25°C Room Temperature
  - Hydrostatic: Body - 630 Kg/cm²
  - Seating: Seat - 413 Kg/cm²
  - Pneumatic: Seat - 40 Kg/cm²

Gland packing:
- PTFE: Standard
- GRAPHOIL: Temperatures above 180°C

Material:
- A 105, A 182 / A 479 Gr F 304SS, A 182 / A 479 Gr F316SS, Monel, Hastelloy

Finish:
- CS: Zinc Plated and Dichromated; SS: Natural

Option:
- Drain Plug, Three piece union for gauge positioning

Accessory:
- Mounting Bolts - IS: 1364 - 1960 - 2 Nos

Model No. 2 PTM 5
DESCRIPTION

Two valve manifold is designed in a single block with female screwed inlet and outlet port combining isolation valve and vent/calibration valve. Generally used on static pressure transmitters, switches or gauges.

Connections:
- Process: 1/2"NPT (F)
- Instrument: 1/2"NPT (F)
- Drain / Vent: 1/4" NPT (F)

Test Pressure:
- @ 25°C Room Temperature
  - Hydrostatic: Body - 620 Kg/cm²
  - Seat - 413 Kg/cm²
  - Pneumatic: Seat - 40 Kg/cm²

Gland packing:
- PTFE: Standard
- GRAPHOIL: Temperatures above 180°C

Material:
- A 105, A 182 / A 479 Gr F 304SS, A 182 / A 479 Gr F316SS, Monel, Hastelloy

Finish:
- CS: Zinc Plated and Dichromated; SS: Natural

Option:
- Drain Plug

Accessory:
- Mounting Bolts - IS: 1364 - 1960 - 2 Nos

Model No. 2 PTM 6
DESCRIPTION

Two valve manifold is designed in a single block with female screwed inlet and outlet port combining isolation valve and vent / calibration valve. Generally used on static pressure transmitters, switches or gauges.

Connections:
- Process: 1/2" NPT (F)
- Instrument: Flanged
- Drain / Vent: Standard - 1/4" NPT (F)
  Optional - 1/2" NPT (F)

Test Pressure:
- @ 25°C Room Temperature
  Hydrostatic: Body - 620 Kg/cm²
  Seat - 413 Kg/cm²
  Pneumatic: Seat - 40 Kg/cm²

Gland packing:
- PTFE: Standard
  - GRAPHOIL: Temperatures above 180°C

Material:
- A 105, A 182 / A 479 Gr F 304SS, A 182 / A 479 Gr F316SS,
  Monel, Hastelloy

Finish:
- CS: Zinc Plated and Dichromated; SS: Natural

Option:
- Drain Plug

Accessory:
- Mounting Bolts - IS: 1364 - 1960 - 2 Nos
  Interface seal - PTFE / VITON - 1 Nos

Model No. 2 PTM 7
**DESCRIPTION**

Two valve manifold is designed in a single block with female screwed inlet and outlet port combining isolation valve and vent / calibration valve. Generally used on static pressure transmitters, switches or gauges.

- **Connections**: Process 1/2"NPT (F); Instrument Flanged; Drain / Vent 1/4" NPT (F)
- **Test Pressure**: @ 25°C Room Temperature
  - Hydrostatic: Body 620 Kg/cm²; Seat 413 Kg/cm²
  - Pneumatic: Seat 40 Kg/cm²
- **Gland packing**: PTFE Standard; GRAPHOIL Temperatures above 180°C
- **Material**: A 105, A 182 Gr F 304SS, A 182 Gr F 316SS, Monel, Hastelloy
- **Finish**: C3 - Zinc Plated and Chromated; C2 - Natural
- **Option**: Drain Plug
- **Accessory**: Mounting Bolts IS: 1384 1960 2 Nos; Interface seal - PTFE / VITON - 1 Nos

Model No. 2 TM 1
DESCRIPTION

Designed for low pressure applications and level measurement on atmospheric tanks with differential pressure transmitters.

Isolate valve with 7-bar handle
Vent valve with anti tamper handle.

Connections:
- Process: 1/4"NPT (F) / 1/4" BSPT (F) / 10 mm OD
- Instrument: Flanged
- Drain / Vent: 1/4"NPT (F) / 1/4" BSPT (F) / 10 mm OD

Test Pressure:
- @ 25°C Room Temperature
  - Hydrostatic: Body - 620 Kg/cm²
  - Seat: 413 Kg/cm²
  - Pneumatic: Seat - 40 Kg/cm²

Gland packing: PTFE
- GRAPHOIL: Standard
- Temperatures above 180°C

Material:
- AISI 10K, & 10F for 100°C, & 10F for 210°C, Monel, Hastelloy

Finish:
- CS: Zinc Plated and Dichromated
- SS: Natural

Accessories:
- Mounting Bolts - IS : 1364 - 1960 - 4 Nrs
- Interface seal - PTFE / VITON - 2 Nrs

Model No. 2 DM 1
DESCRIPTION

Designed for one piece blank and blind assemblies for primary isolation of pressure take-offs, where the valve is directly mounted to the vessel or process pipe. Instruments may be directly mounted to the valve outlet or alternatively remotely mounted with gauge lines/impulse pipework.

Test Pressure: @ 25°C Room Temperature
   Hydrostatic: Body - 620 Kg/cm²
   Pneumatic: Seat - 413 Kg/cm²
   Seat - 60 Kg/cm²

Gland packing: PTFE: Standard
   GRAPHOIL: Temperatures above 180°C

Material: A 105, A 192 Cr F 3046S, A 192 Cr F 316G, Monel, Hastelloy
Finish: CS: Zinc Plated and Dichromated; SS: Natural
Accessory: Mounting Bolts - IS : 1364 - 1960 - 4 Nos

<table>
<thead>
<tr>
<th>Size Inches</th>
<th>Rating lb</th>
<th>A-RF</th>
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<td>96</td>
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<td>⅜&quot;</td>
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<td>61</td>
<td>96</td>
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<td>900/1500</td>
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<tr>
<td>⅞&quot;</td>
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<tr>
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<td>2500</td>
<td>67</td>
<td>159</td>
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Model No. 2 FL 1
**DESCRIPTION**

Designed as a new series of pressure instrument manifold for particular transmitter models. This integral manifold when assembled to transmitter has the advantage of compact size with ease for operation in minimum space, thereby eliminating several components in integrating the manifold to the transmitter. This manifold has one isolating valve and vent valve.

**Connections**
- Process: 1/4" NPT (F)
- Instrument: Flanged
- Drain / Vent: 1/4" NPT (F)

**Test Pressure**
- @ 25°C Room Temperature
  - Hydrostatic: Body - 620 Kg/cm²
  - Seat - 413 Kg/cm²
  - Pneumatic: Seat - 40 Kg/cm²

**Gland packing**
- PTFE: Standard
- GRAPHOIL: Temperatures above 180°C

**Material**
- A 105, A 182 / A 479 Gr F 304SS, A 182 / A 479 Gr F316SS, Monel, Hastelloy

**Finish**
- CS : Zinc Plated and Dichromated; SS : Natural

**Optional**
- Drain plug

**Accessory**
- Mounting Bolts - IS : 1364 - 1960 - 4 Nos

**Model No. 2 CPL**
## ORDERING CODE FOR 3 VALVE MANIFOLD

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>FEATURE</th>
<th>SYMBOL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Threaded process-instrument connections</td>
<td>1/4&quot;</td>
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</tr>
<tr>
<td></td>
<td>1/2&quot;</td>
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<tr>
<td>Valve body material</td>
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<tr>
<td>Series</td>
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<td></td>
</tr>
<tr>
<td>(1) with all threaded connection</td>
<td></td>
<td>3 MNV</td>
</tr>
<tr>
<td>(2) Direct mounting &quot;T&quot; type with flanged instrument &amp; threaded process connections</td>
<td></td>
<td>3 FNVV</td>
</tr>
<tr>
<td>(3) With flanged process connection</td>
<td></td>
<td>3 FFMNV</td>
</tr>
<tr>
<td>(4) Coplanar</td>
<td></td>
<td>3 CPL</td>
</tr>
</tbody>
</table>

### Type

#### All threaded connections
- Remote mounting type with isolation valve sides and equalizing valve on top: No symbol
- Direct mounting "I" type: No symbol

#### For flanged instrument and threaded process connections
- Direct mounting block type with all valves on top: DM 1
- Direct mounting block type with only equalizing valve on top: DM 2
- Coplanar: No symbol

#### For flange to flange connections
- Flanged instrument connection for direct mounting & flanged process for oval flange connection: No symbol

### Main plug
- Not required: No symbol
- Required: D

### Thread specification
- NPT to ASA B 2.1 - 1980: N
- ISO parallel to ISO - 228/1: R

### Note: not applicable for manifolds with flange to flange end connections.

### Seat
- Metallic seat: No symbol
- Soft seat for isolation valves only: SFT
- Graphite:
  - DEURIN
  - PEEK
- Teflon: SFP

### Stem packing material
- Teflon (standard): No symbol
- Graphite:
  - Graphite
  - Graphite asbestos
- Glass:
  - Glass
  - Glass asbestos
- Stainless steel:
  - Stainless steel
  - Stainless steel
- Hastelloy C: HAC

** for material conformity to NACE MR-01-75 USE SUFFIX "NACE" AS S/NACE, SS/NACE, SS/LNACE

Note: Due to continuous improvement & customer interaction designs & specifications may be modified or upgraded without notice.
THREE-VALVE MANIFOLD, REMOTE MOUNTING

VALVE ON THREE SIDES WITH SCREWED CONNECTIONS

DESCRIPTION

Designed for applications to facilitate remote mounting of differential pressure instruments. Dimensions shown above are for the standard 54 mm or 2 1/8 inch instrument connection. Centre distance bund in majority of instruments. The manifold is also available for instruments with other centre distances for instrument connections (as 55 mm, 56 mm and 57 mm) but dimensions shown will vary. Please consult us for these dimensions. Useful for installations in remote fields eliminating conventional method of piping.

Connections :
- Process : ½" NPT (F)
- Instrument : ½" NPT (F)
- Drain / Vent : ¼" NPT (F)

Test Pressure :
- @ 25°C Room Temperature
  - Hydrostatic : Body - 620 Kg/cm²
  - Seat - 413 Kg/cm²
  - Pneumatic : Seat - 40 Kg/cm²

Gland packing : PTFE

Material : A 105, A 182 Gr F 304SS, A 182 Gr F 316SS, Monel, Hastelloy

Finish : C3 : Zinc Plated and Dichromated, SS : Natural

Option :
- Drain Port on instrument side with drain plug (Dimension 64 becomes 82)
- Test Port on process side with plug.

Accessory :
- Mounting Bolts - IS : 1364 - 1960 - 2 Nos

Model No. 3 RM 1
THREE VALVE MANIFOLD, DIRECT MOUNTING - TYPE DM 1

ALL VALVE ON TOP, SCREWED PROCESS CONNECTIONS

Model No. 3 DM 1

DESCRIPTION

Designed for direct mounting on to standard differential pressure transmitters. This manifold block incorporates three valves, two main process isolation valves and one equalising valve.

This design is suitable where the straight valve may foul with the instrument and to provide ease of operation.

Dimensions shown above are for the standard 54 mm or 2 1/8 inch instrument connection. Centre distance found in majority of instruments. The manifold is also available for instruments with other centre distances for instrument connections (as 55 mm, 56 mm and 57 mm) but dimensions shown will vary. Please consult us for these dimensions.

Connections:
- Process: ½” NPT (F)
- Instrument: Flanged
- Drain / Vent: ½” NPT (F)

Test Pressure:
- @ 25°C Room Temperature
  - Hydrostatic: Body - 620 Kg/cm², Seat - 413 Kg/cm²
  - Pneumatic: Seat - 40 Kg/cm²

Gland packing:
- PTFE: Standard
- GRAPHOIL: Temperatures above 180°C

Material:
- A 105, A 182 / A 479 Qs F 30433, A 182 / A 479 Qs F31033, Monel, Hastelloy

Finish:
- CS: Zinc Plated and Dichromated; SS: Natural

Option:
- Drain Port on instrument side with drain plug.
- Test Port on process side with plug.

Accessory:
- Mounting Bolts - IS: 1364 - 1960 - 4 Nos
  Interface seal - PTFE / VITON - 2 Nos
THREE VALVE MANIFOLD, DIRECT MOUNTING TYPE DM 2
FLANGED BODY WITH VALVES ON THREE SIDES, SCREWED PROCESS CONNECTION

Model No. 3 DM 2

DESCRIPTION

Designed for direct mounting on to standard differential pressure transmitters. This manifold block incorporates three valves, two main process isolation valves and one equalising valve.

This design is suitable where the straight valve may foul with the instrument and to provide ease of operation.

Dimensions shown above are for the standard 54 mm or 2 1/8 inch instrument connection Centre distance found in majority of instruments. The manifold is also available for instruments with other centre distances for instrument connections (as 55 mm, 56 mm and 57 mm) but dimensions shown will vary. Please consult us for these dimensions.

Connections : Process : 1/2” NPT (F)
Instrument : Flanged

Test Pressure : @ 25°C Room Temperature
Hydrostatic : Body : 620 Kg/cm²
Seat : 413 Kg/cm²
Pneumatic : Seat : 40 Kg/cm²

Gland packing : PTFE : Standard
GRAPHOIL : Temperatures above 180°C


Finish : CS : Zinc Plated and Dichromated; SS : Natural

Optional : Drain Port on instrument side with drain plug.
Test Port on process side with plug.

Accessory : Mounting Bolts - IS : 1364 - 1960 - 4 Nos
Interface seal - PTFE / VITON - 2 Nos
THREE VALVE MANIFOLD, DIRECT MOUNTING - "T" TYPE
SCREWED PROCESS AND FLANGED INSTRUMENTS CONNECTION

Model No. 3 TM 1

DESCRIPTION

Designed for direct mounting on to standard differential pressure transmitters. This manifold block incorporates three valves, two main process isolation valves and one equalising valve.

Dimensions shown above are for the standard 54 mm or 2 1/8 inch instrument connection Centre distance found in majority of instruments. The manifold is also available for instruments with other centre distances for instrument connections (as 55 mm, 56 mm and 57 mm) but dimensions shown will vary. Please consult us for these dimensions.

Connections : Process : ½” NPT (F)
               Instrument : Direct on instrument
               Drain / Vent : ¼” NPT (F)

Test Pressure : @ 25°C Room Temperature
                Hydrostatic : Body - 620 Kg/cm²
                              Seat - 413 Kg/cm²
                Pneumatic : Seat - 40 Kg/cm²

Gland packing : PTFE : Standard
                GRAPHOIL : Temperatures above 180°C

Material : A 105, A 182 Gr F 304SS, A 182 Gr F 316SS, Monel, Hastelloy

Finish : CS : Zinc Plated and Dichromated; SS : Natural

Accessories : Two PTFE seal ring and four 7/16" UNF Hl. Steel mounting bolts available on request.

Mounting kit : Mounting bracket with U bolts and necessary kits for fitting on 2"NB stanchion pipe stand or wall mount. (to be ordered separately)

Option : Drain Port on instrument side with drain plug.
         Test Port on process side with plug.

Accessory : Mounting Bolts - IS : 1364 - 1960 - 4 Nos
            Interface seal - PTFE / VITON - 2 Nos
THREE VALVE MANIFOLD, DIRECT MOUNTING - "H" TYPE

DESCRIPTION

Designed for direct or remote mounting of differential pressure transmitter. For remote mounting two oval / kidney flanges are used for connecting process pipe to manifold block. These manifold block incorporate these valves, two main valve for process isolation and one valve for equalizing.

Dimensions shown above are for the standard 54 mm or 2 1/8 inch instrument connection. Centre distance found in majority of instruments. The manifold is also available for instruments with other centre distances for instrument connections (as 55 mm, 56 mm and 57 mm) but dimensions shown will vary. Please consult us for these dimensions.

Connections : Process : Flanged
Instrument : Flanged
Drain / Vent : 1/4" NPT (F)

Test Pressure : @ 25°C Room Temperature
Hydrostatic : Body - 620 Kg/cm²
Seat - 413 Kg/cm²
Pneumatic : Seat - 40 Kg/cm²

Gland packing : PTFE : Standard
GRAPHOIL : Temperatures above 180°C

Material : A 105, A 102 Cr 1040SS, A 102 Cr 316SS, Monel, Hastelloy

Finish : CS : Zinc Plated and Dichromated; SS : Natural

Accessories : Two PTFE seal ring and four 7/16" UNF H. Steel mounting bolts available on request.

Mounting kit : Mounting bracket with U bolts and necessary kits for fitting on 2"NB stanchion pipe stand or wall mount. (to be ordered separately)

Option : Drain Port on instrument side with drain plug.
Test Port on process side with plug.

Accessory : Mounting Bolts - IS : 1364 - 1960 - 4 Nos
Interface seal - PTFE / VITON 'N' - 2 Nos

Model No. 3 HM 1
COPLANAR MOUNTING THREE VALVE MANIFOLD

DESCRIPTION

Designed as a new series of process instrument manifold for particular transmitter models. The coplanar manifold when assembled as transmitter has the advantage of compact size with ease for operation in minimum space, thereby eliminating several components in integrating the manifold to the transmitter. The coplanar manifold has two isolating valves, one equalizer valve and two vent ports duly plugged. The manifold dimensions illustrated are for standard 54 mm or 2 1/8 inch instrument centres but available for other centres. The direct mounting facility to the base of the differential pressure transmitter results in lesser leakage points and more accurate measurements.

Connections:  
- Process: 1/4" NPT (F)  
- Instrument: Flanged  
- Drain / Vent: 1/2" NPT (F)

Test Pressure:  
- @ 25°C Room Temperature  
  - Hydrostatic: Body - 620 Kg/cm²  
  - Pneumatic: Seat - 413 Kg/cm²

O-Ring Packing:  
- PTFE  
- Graphoil: Temperatures above 180°C

Material:  
- A 105, A 182 / A 479 Gr F 304SS, A 182 / A 479 Gr F316SS, 
  - Mured, Hastelloy

Finish:  
- CS : Zinc Plated and Dichromated; SS : Natural

Optional:  
- Test Port on process side with plug

Accessory:  
- Mounting Bolts - IS : 1364 - 1960 - 4 Nos

Model No. 3 CPL
DESCRIPTION

A fabricated manifold for use with steam and conforming to power generation regulations, usually mounted on panels in power station control room.

Connections: Process 13.5 X 2.6 BW
Instrument: Flanged
Drain ½" BSP (F)

Test Pressure: @ 25°C Room Temperature
Hydrostatic: Body - 620 Kg/cm²
Seat - 413 Kg/cm²
Pneumatic: Seat - 60 Kg/cm²

Gland packing: PTFE Standard
GRAPHOIL Temperatures above 180°C

Material: A 105, A 182 / A 479 Gr F 304SS, A 182 / A 479 Gr F316SS

Finish: CS zinc plated and dichromated. SS natural finish

Accessory: Mounting Bolts - IS: 1364 - 1960 - 4 Nos
Interface seal - PTFE / VITON - 2 Nos

Model No. VCM
DESCRIPTION

A manifold very popular with power generating equipment, especially with superheated steam conforming to boiler regulations.

Connections: Process 13.5 X 2.6 BW
Instrument: Flanged
Drain M20 x 1.5 (M)

Test Pressure:
- @ 25°C Room Temperature
- Hydrostatic: Body - 620 Kg/cm²
- Seat - 413 Kg/cm²
- Pneumatic: Seat - 60 Kg/cm²

Gland packing: PTFE: Standard
GRAPHOIL: Temperatures above 180°C

Material: A 105, A 182 / A 479 Gr F 304SS, A 182 / A 479 Gr F316SS

Finish: C: Zinc Plated and Dichromated; SS: Natural

Accessory: Mounting Bolts - IS: 1364 - 1960 - 4 Nos
Interface seal - PTFE, VITON - 2 Nos

Model No.3 DM 5
DESCRIPTION

Designed for where process HYD AIR must not be contaminated, using differential pressure instruments.

Dimensions shown above are for the standard 54 mm or 2 1/8 inch instrument connection. Centre distance found in majority of instruments. The manifold is also available for instruments with other centre distances for instrument connections (as 55 mm, 56 mm and 57 mm) but dimensions shown will vary. Please consult us for these dimensions.

The essential feature of this design is a vent/drain valve which is provided with a tamper-proof handle to be removed after operation. This arrangement is especially suitable for applications with hazardous HYD-AIR.

Isolation valve with 'T' bar handle vent valve with anti tamper handle

Connections : Process : 1/4"NPT (F) / 1/4" BSPT (F) / 10 mm OD
              Instrument : Flanged
              Drain / Vent : 1/4"NPT (F) / 1/4" BSPT (F) / 10 mm OD

Test Pressure : @ 25°C Room Temperature
               Hydraulic : 8000 - 1500 kg/cm²
               Seat : 413 Kg/cm²
               Pneumatic : Seat : 40 Kg/cm²

Gland packing : PTFE : Standard
                GRAPHOIL : Temperatures above 180°C

Material : A 105, A 182 Gr F 304SS, A 182 Gr F 316SS, Monel, Hastelloy

Finish : CS : Zinc Plated and Dichromated; SS : Natural

Accessory : Mounting Bolts - IS : 1364 - 1960 - 4 Nos
            Interface seal - PTFE / VITON - 2 Nos

Model No. 4 DM 1
FLUID CONTROLS

FOUR VALVE MANIFOLD - DOUBLE ISOLATE / EQUALIZE / VENT BLOCK - DIRECT MOUNTING TYPE

DESCRIPTION

Designed for general liquid and gas measurement applications for differential pressure instruments with a common drain.

The essential feature of this design is a vent/drain valve which is provided with a tamper-proof handle to be removed after operation. This arrangement is especially suitable for applications with hazardous HYD-AIR.

Isolation valve with 'T' bar handle vent valve with anti tamper handle

Connections:
- Process: 1/4"NPT (F) / 1/4" BSPT (F) / 10 mm OD
- Instrument: Flanged
- Drain / Vent: 1/4"NPT (F) / 1/4" BSPT (F) / 10 mm OD

Test Pressure:
- @ 25°C Room Temperature
  - Hydrostatic: Body - 620 Kg/cm²
  - Pneumatic: Seat - 413 Kg/cm²

Gland packing:
- H"H"T: Standard
- GRAPHIOL: Temperatures above 180°C

Material:
- A 105, A 182 Gr F 304SS, A 182 Gr F 316SS, Monel, Hastelloy

Finish:
- CS: Zinc Plated and Dichromated; SS: Natural

Accessory:
- Mounting Bolts - IS: 1364 - 1960 - 4 Nos
- Interface seal - PTFE / VITON - 2Nos

Model No. 4 DM 2
# Ordering Code for 5 Valve Manifold

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<thead>
<tr>
<th>DESCRIPTION</th>
<th>FEATURE</th>
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**Note:** 1/2" used in [temperature] range

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<tr>
<td>With flanged instrument &amp; threaded process connection</td>
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<td>With flanged process connection</td>
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<tr>
<td>Curiplar</td>
<td>5 CPL</td>
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<table>
<thead>
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<tr>
<td>All threaded connections</td>
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<tr>
<td>Screwed process and instrument connection in side</td>
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<td></td>
</tr>
<tr>
<td>Screwed process and instrument connection in front</td>
<td>5 RM 2</td>
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<tr>
<td>Screwed process and instrument connection in bottom</td>
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<tr>
<td>For flanged instrument and threaded process connections</td>
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<tr>
<td>Vent valves on side and rest on top, screwed process connection</td>
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<td>Screwed process and flanged instrument connection</td>
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<tr>
<td>Curiplar - drain connections adjacent to drain valve</td>
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<tr>
<td>Curiplar - drain connections at process side</td>
<td>5 CPL 2</td>
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| For flange to flange                             |         |        |
| Flanged mounting type                            |         |        |
| Flanged instrument and process connection, drain on one side optional test port at bottom | 5DM3   |        |

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<th>Thread specification</th>
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<tr>
<td>Graphol</td>
<td>GOIL</td>
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<td>SS 304/3030L **</td>
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<td>SS 316 / SS316L **</td>
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<td>MNL</td>
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<td>Hastelloy C</td>
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**Note:** For material conformity to NACE MR-01-75 USE SUFFIX *"NACE" AS S/NACE, SS/NACE, SS/SL/NACE

**Note:** Due to continuous improvement & customer interaction designs & specifications may be modified or upgraded without notice.
**DESCRIPTION**

Five Valve Manifold 5 RM1 incorporates two process isolation valves, one equaliser valve and two drain/vent valves with separate connections in a compact manifold block. The Model 5 RM1 is designed for remote mounting away from the differential pressure instrument and joined by tube or pipe impulse lines. They have threaded connections of which the most popular are detailed below but also available to suit other sizes and standards.

Dimensions shown above are for the standard 54 mm or 2 1/8 inch instrument connection. Centre distance found in majority of instruments. The manifold is also available for instruments with other centre distances for instrument connections (as 55 mm, 56 mm and 57 mm) but dimensions shown will vary. Please consult us for these dimensions.

**Connections**
- Process: 1/4" NPT (F)
- Instrument: 1/4" NPT (F)
- Drain / Vent: 1/4" NPT (F)

**Test Pressure**
- @ 25°C Room Temperature
- Hydrostatic: Body - 620 Kg/cm²
- Pneumatic: Seat - 413 Kg/cm²
  - 40 Kg/cm²

**Gland packing**
- PTFE: Standard
- GRAPHILOIL: Temperatures above 180°C

**Material**
- A 105, A 182 / A 479 Gr F 304SS, A 182 / A 479 Gr F316SS,
  - Monel, Hastelloy

**Finish**
- CS: Zinc Plated and Dichromated; SS: Natural

**Option**
- Test Port on precess side with plug.

**Accessory**
- Mounting Bolts - IS: 1364 - 1960 - 2 Nos

Model No. 5 RM 1
**DESCRIPTION**

Five Valve Manifold 5 RM2 incorporate two process isolation valves, one equaliser valve and two drain/vent valves with a common drain connection in a compact manifold block. The Model 5 RM2 is designed for remote mounting away from the differential pressure instrument and joined by tube or pipe impulse lines. They have threaded connections of which the most popular are detailed below but also available to suit other sizes and standards.

Dimensions shown above are for the standard 54 mm or 2 1/8 inch instrument connection Centre distance found in majority of instruments. The manifold is also available for instruments with other centre distances for instrument connections (as 55 mm, 56 mm and 57 mm) but dimensions shown will vary. Please consult us for these dimensions.

**Connections**
- Process : ¼" NPT (F)
- Instrument : ¼" NPT (F)
- Drain / Vent : ¼" NPT (F)

**Test Pressure**
- @ 25°C Room Temperature
  - Hydrostatic : Body - 620 Kg/cm²
  - Pneumatic : Seat - 413 Kg/cm²
  - Seat - 40 Kg/cm²

**Gland packing**
- PTFE : Standard
- GRAPHOIL : Temperatures above 180°C

**Material**
- A 1105, A 182 / A 479 Gr F 304SS, A 182 / A 479 Gr F316SS, Monel, Hastelloy

**Finish**
- CS : Zinc Plated and Dichromated, SS : Natural

**Option**
- Test Port on process side with plug,

**Accessories**
- Mounting Bolts - IS : 1364 - 1960 - 2 Nos

Model No. 5 RM 2
DESCRIPTION

Five Valve Manifold 5 RM3 incorporates two process isolation valves, one equalizer valve and two drain/vent valves with separate connections in a compact manifold block. The Model 5 RM3 is designed for remote mounting away from the differential pressure instrument and joined by tube or pipe impulse lines. They have threaded connections of which the most popular are detailed below but also available to suit other sizes and standards.

Dimensions shown above are for the standard 54 mm or 2 1/8 inch instrument connection Centre distance found in majority of instruments. The manifold is also available for instruments with other centre distances for instrument connections (as 55 mm, 56 mm and 57 mm) but dimensions shown will vary. Please consult us for these dimensions.

Connections:
- Process: ¼" NPT (F)
- Instrument: ¼" NPT (F)
- Drain/Vent: ¼" NPT (F)

Test Pressure:
- @ 25°C Room Temperature
  - Hydrostatic: Body - 620 Kg/cm²
  - Pneumatic: Seat - 413 Kg/cm²

Gland packing:
- PTFE: Standard
- GRAPHOIL: Temperatures above 180°C

Material:
- A 105, A 182 / A 479 Gr F 304SS, A 182 / A 479 Gr F316SS, Monel, Hastelloy

Finish:
- CS: Zinc Plated and Dichromated; SS: Natural

Option:
- Test Port on process side with plug

Accessory:
- Mounting Bolts - IS: 1364 - 1960 - 2 Nos

Model No. 5 RM3
FIVE VALVE MANIFOLD, DIRECT MOUNTING - TYPE DM 1

VENT VALVES ON SIDE & REST ON TOP, SCREWED PROCESS CONNECTION

DESCRIPTION

Five Valve Manifold Model 5DM1 is designed for direct mounting on differential pressure instruments. The manifold incorporates two process isolation valves, one equalizer valve and two drain/vent valves with separate connections. The process connection is through threaded connections for tube or pipe assembly. The valves are suitably angled to prevent fouling with the instrument. Dimensions shown are for the standard 54 mm or 2 1/8 inch instrument connection centres but also available for other centres on request.

Connections:
- Process: 1/2" NPT (F)
- Instrument: Flanged
- Drain / Vent: 1/4" NPT (F)

Test Pressure:
- @ 25°C Room Temperature
  - Hydrostatic: Body - 620 Kg/cm²
  - Seat: 413 Kg/cm²
  - Pneumatic: Seat - 40 Kg/cm²

Gland packing:
- PTFE: Standard
- GRAPHOIL: Temperatures above 180°C

Material:
- A 105, A 182 / A 479 Gr F 304SS, A 182 / A 479 Gr F316SS, Monel, Hastelloy

Finish:
- CS: Zinc Plated and Dichromated, 33: Natural

Option:
- Test Port on process side with plug.

Accessories:
- Mounting Bolts - IS: 1364 - 1960 - 4 Nos
- Interface seal - PTFE, VITON - 2 Nos

Model No. 5 DM 1
FLUID CONTROLS

DESCRIPTION

Five Valve Manifold Model "T" type Model ETM1 is designed for direct mounting on differential pressure instruments. The manifold incorporates two process isolation valves, one equalizer valve and two drain/vent valves in a compact block. The process connection is threaded for connections by tube or pipe fittings. Dimensions shown are for the standard 54 mm or 2 1/8 inch centres for instrument and process connections but are available for other centres on request. Thread details shown are for standard popular sizes and available to suit other thread standards.

Connections:
- Process: 1/8" NPT (F)
- Instrument: Flanged
- Drain / Vent: 1/8" NPT (F)

Test Pressure:
- @ 25°C Room Temperature
  - Hydrostatic: Body - 620 Kg/cm²
  - Seat: 413 Kg/cm²
  - Pneumatic: Seat - 40 Kg/cm²

Seal packing:
- O-ring: Graphoil: Temperatures above 180°C

Material:
- A 105, A 182 Gr F 304SS, A 182 Gr F 316SS, Monel, Hastelloy

Finish:
- CS: Zinc Plated and Dichromated; SS: Natural

Mounting kit:
- Mounting bracket with U bolts and necessary kits for fitting on 2"NB stanchion pipe stand or wall mount. (to be ordered separately)

Option:
- Test Port on process side with plug.

Accessory:
- Mounting Bolts - S: 1364 - 1960 - 4 Nos
- Interface seal - PTFE / VITON - 2 Nos

Model No. 5 TM 1
DESCRIPTION

Designed for direct or remote mounting of differential pressure transmitters. For remote mounting, two oval/kidney flanges are used for connecting process pipe to manifold block. These manifold blocks incorporate five valves, two main valves for process isolation valve for vent, two valves for equalization.

Dimensions shown are for the standard 54 mm or 2 1/8 inch instrument connection Centre distance found in majority of instruments. The manifold is also available for instruments with other centre distances for instrument connections (as 55 mm, 56 mm and 57 mm) but dimensions shown will vary. Please consult us for these dimensions.

Connections: Process: Flanged Instrument: Flanged Drain/Vent: ¼ NPT (F)

Test Pressure: @ 25°C Room Temperature
Hydrostatic: Body: 620 Kg/cm² Seat: 413 Kg/cm²
Pneumatic: Seat: 40 Kg/cm²

Gland packing: PTFE: Standard
: GRAPHOIL: Temperature above 180°C

Material: A 105, A 182 Cr F 20460, A 182 Cr F 316DS, Monel, Hastelloy

Finish: CS: Zinc Plated and Dichromated; SS: Natural

Mounting kit: Mounting bracket with U bolts and necessary kits for fitting on 2”NB stanchion pipe stand or wall mount. (to be ordered separately)

Option: Test Port on process side with plug.

Accessory: Mounting Bolts: IS: 1261 - 1860 - 4 Nos
: Interface seal - PTFE/VITON - 2 Nos

Model No. 5 HM 1
DESCRIPTION

Designed as a new series of process instrument manifold for particular transmitter models. The coplanar manifold when assembled to transmitter has the advantage of compact size with ease for operation in minimum space, thereby eliminating several components in integrating the manifold to the transmitter. The coplanar manifold has two isolating valves, one equalizer valve and two vent valves and two bottom test ports duly plugged. The manifold dimensions illustrated are for standard 54 mm or 2 1/8 inch instrument centres but available for other centres. The direct mounting facility to the base of the differential pressure transmitter results in lesser leakage points and more accurate measurements.

Connections
- Process: ½" NPT (F)
- Instrument: Flanged
- Drain / Vent: ½" NPT (F)

Test Pressure:
- at 25°C Room Temperature
  - Hydrostatic: Body - 620 Kg/cm²
  - Seat - 413 Kg/cm²
  - Pneumatic: Seat - 40 Kg/cm²

Sealing Packing:
- PTFE: Standard
- GRAPHOIL: Temperatures above 180°C

Material:
- A 105, A 182 / A 478 Gr F 304SS, A 182 / A 478 Gr F316SS, Monel, Hastelloy

Finish:
- CS: Zinc Plated and Dichromated; SS: Natural

Optional:
- Test Port on process side with plug.

Accessory:
- Mounting Bolts - IS : 1364 - 1960 - 4 Nos

Model No. 5 CPL 2
CoPlanar Mounting
Five Valve Manifold

Description
Designed as a new series of process instrument manifold for particular transmitter models. The coplanar manifold when assembled to transmitter has the advantage of compact size with ease for operation in minimum space, thereby eliminating several components in integrating the manifold to the transmitter. The coplanar manifold has two isolating valves, one equalizer valve and two vent valves and two bottom test ports duly plugged. The manifold dimensions illustrated are for standard 54 mm or 1 1/8 inch instrument centres but available for other centres. The direct mounting facility to the base of the differential pressure transmitter results in lesser leakage points and more accurate measurements.

Connections:
- Process: 1/2" NPT (F)
- Instrument: Flanged
- Drain / Vent: 1/4" NPT (F)

Test Pressure:
- @ 25°C Room Temperature
  - Hydrostatic: Body - 620 Kg/cm²
  - Seat - 413 Kg/cm²
  - Pneumatic: Seat - 45 Kg/cm²

Seals packing:
- PTFE: Standard
- GRAPHOil: Temperatures above 180°C

Material:
- A 105, A 182 / A 479 Gr F 304SS, A 182 / A 479 Gr F 316SS,
  Monel, Hastelloy

Finish:
- CS : Zinc Plated and Dichromated, SS : Natural

Optional:
- Test Port on process side with plug

Accessory:
- Mounting Bolts - IS : 1364 - 1960 - 4 Nos

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