

TVI MANIFOLDS



Manifold Valves

TVI 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. 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. TVI reserve the right to make such changes at their discretion and without prior notification.

Manifold: 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)

Direct Mounting "H" Type Manifold (Flange to Flange)

Manifold Specifications & Features

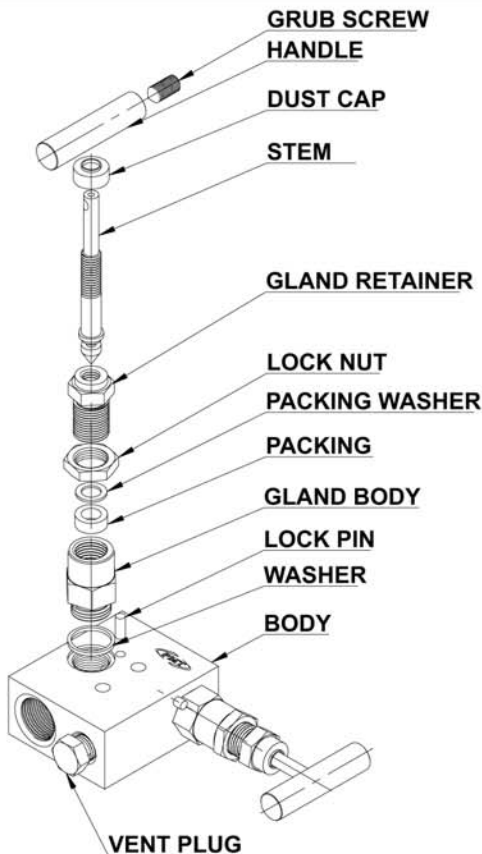
TVI offers a variety of 2-, 3-, and 5-valve instrument manifolds. The 2-valve manifolds are designed for static pressure and liquid level applications, the 3 and 5valve manifolds are designed for differential pressure applications. These manifolds are available in traditional and compact body designs. 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.

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

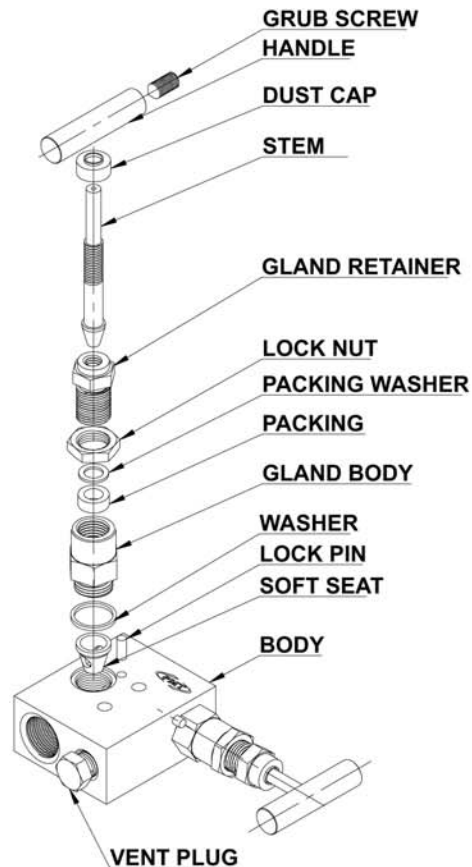
- 316/316L stainless steel construction for superior corrosion resistance.
- One-piece construction body provides strength.
- 316 stainless steel pin prevents detachment of the bonnet from the body due to vibration.
- Burr-free threads and internal surfaces reduce leaks, promoting accurate transmitter 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
- Orifice size - 4.8mm
- Combines isolating and venting in a single valve, eliminating the need for tubing and fittings
- Hard seat Manifold valves have 10,000 psi pressure rating @ 100 °F
- Soft seat valves Manifold have 6,000 psi pressure rating @ 100 °F
- Maximum standard pressure up to 6,000 psig @ 100° F (414 barg @ 38° C)
- 100% helium leak tested to 1×10^{-4} ml/s for guaranteed performance and reliability

Design & Nomenclature of Materials

HARD SEAT DESIGN



SOFT SEAT DESIGN



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

GLAND BODY: For maximum packing stability and performance.

GLAND RETAINER: Standard Construction For maximum pressure rating.

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

LOCK NUT: A secure anti vibration locking mechanism to prevent inadvertent gland adjuster loosening.

PACKING: PTFE stem packing seals the system fluid to atmosphere.

WASHER PACKING (OPTIONAL): Annealed sealing washer to ensure complete atmospheric leakage and allowing on site retro-fit of bonnet with 100% re-sealing assurance.

WASHER (OPTIONAL): Metal to metal seal with body suitable for high pressure temperature applications.

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

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.

LOCK PIN: Safety bonnet lock pin prevents accidental disassembly.

DUST CAP: Prevents contamination and lubricant washout of bonnet assembly.

SOFT SEAT: PTFE & Delrin Seat to ensure a tight-shut off even in abrasive process conditions.

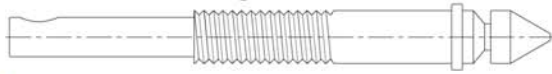
GRUB SCREW: For locking the handle.

Materials of Construction

ITEM NO.	PART NAME	MATERIALS	QTY.
1	BODY	A479-316L/A-105	1
2	GLAND BODY	A479-316L/A-105	1
3	GLAND RETAINER	A479-316L/A-105	1
4	STEM	A79-316L/304L	1
5	WASHER	A479-316L/304L	1
6	PACKING	PTFE/GRAPHOIL	3
7	PACKING WASHER	SS 316/304	1
8	LOCK NUT	A479-316L/A-105	1
9	HANDLE	SS 304/CS	1
10	GRUB SCREW	STEEL	1
11	DUST CAP	PLASTIC LD	1
12	VEE TIP	A564-630	1
13	LOCK PIN	SS 304/CS	1
14	VENT PLUG	A479-316L/A-105	1
15	SOFT SEAT (OPTIONAL)	POM/DELIRIN	1

Stem Designs

Hard seat Stem Design :-



Soft seat Stem Design :-

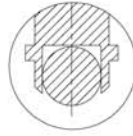


- Stem is standard for pressure tightness even at elevated temperatures. Regulating Stem & Soft-seat Stem



Non-rotating Metal Vee Tip :-

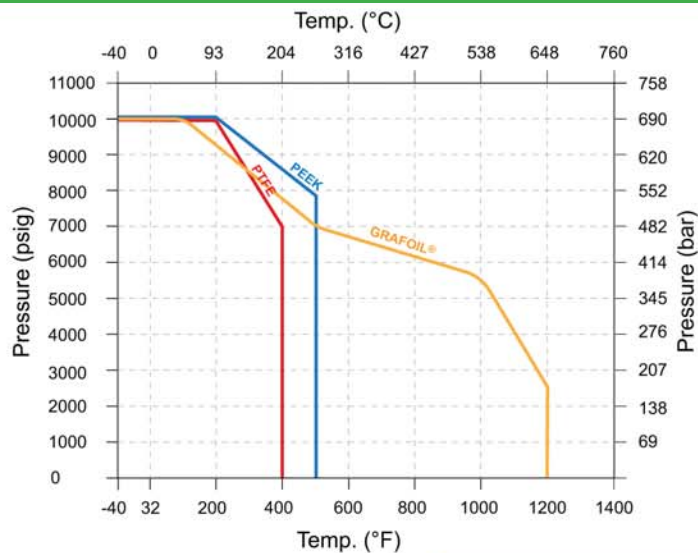
A non-rotating Vee tip is typically used in high cycle applications to extend the service life of the valve. When the valve is closed, the Vee tip contacts the valve seat, and is driven straight into it without rotating.



Non-rotating Metal Ball Tip:-

A non-rotating Ball tip operates in the same fashion as the non-rotating metal Vee tip but requires less seating torque.

Pressure - Temperature Rating



Body Material	Packing Material	Temperature Rating	Pressure Rating @37° C (100°F)
Stainless steel	PTFE	-54 to 232° C (-65 to 450° F)	413 bar (6,000 psig)
	Grafoil	-54 to 648° C (-65 to 1200° F)	690 bar (10,000 psig)
Carbon steel	PTFE	-29 to 176° C (-20 to 350° F)	413 bar (6,000 psig)
	Grafoil	-29 to 176° C (-20 to 350° F)	690 bar (10,000 psig)

Sour Gas Service

For use valve in sour gas, materials for wetted components are selected accordance with NACE MR0175 latest revision.

Packaging

All exposed threads of the product s are Protected with plastic caps to prevent damage and each assembly is packed in sealed and clear polyethylene bag for cleanliness and carefully packed in cardboard boxes to prevent transit damage. Each and every package is labeled for proper and easy identification.

Material Selection

The pressure-temperature ratings are taken for ANSI B16.34 for standard class valves and are based on class 2,500. Ratings for needle tip's design is based on specific seat materials.

Factory Testing

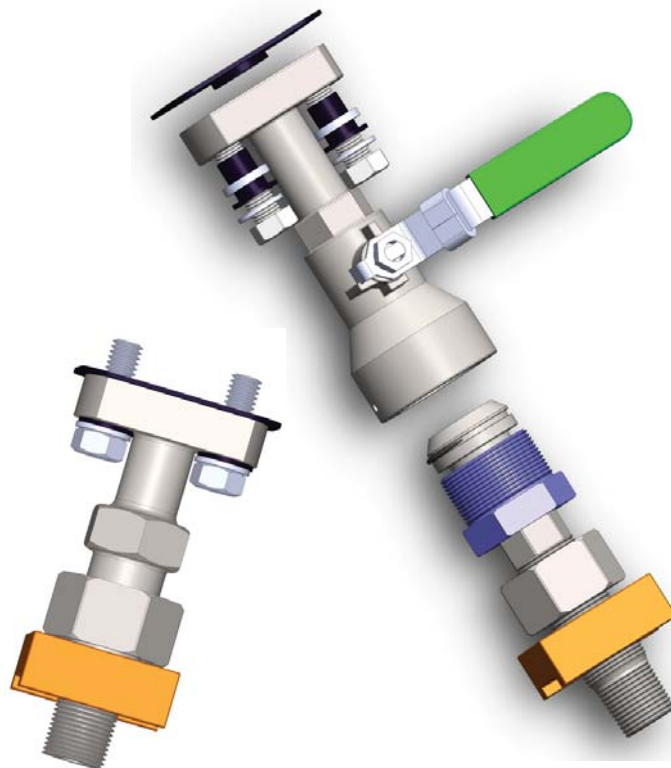
Standard Test : Each valve is factory tested with nitrogen at 1000 psig (69 bar) for leakage at the seat and packing, the maximum allowable leak rate of 0.1 SCCM.

• **Optional Hydrostatic test :** This test is performed with de ionised water at 1.5 time the working pressure. Other tests like vibration, temperatures, helium etc are available upon requests.

STABLIZED DIRECT MOUNT TAPS

Characteristics

- Stabilized taps provide a means of transferring the radial load away from NPT type threads. This results in a much stronger joint between the pipe thread and the orifice fitting.
- Eliminates the tendency for a leak to occur between the pipe thread and the orifice fitting.
- These taps come with all the parts necessary to fit both orifice fittings and orifice unions.
- The shoe is employed to create a larger flat footprint for the stabilizer nut when used on the curved surface of orifice flange unions.
- A dielectric kit composed of a spacer and bolt bushings is included to provide a non-conductive barrier between a flow computer and meter run.

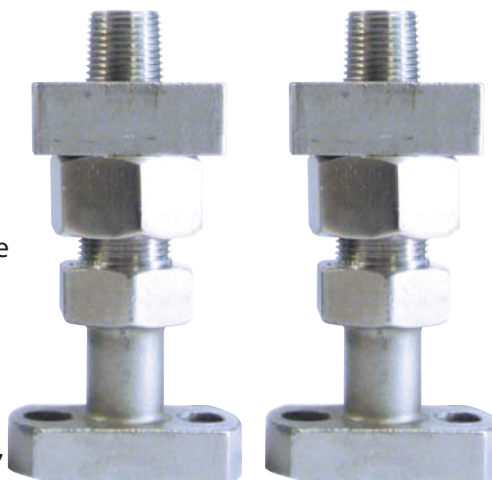


TM-SBVT-AA-Exploded Rendering

Features

- Standard Material is 316 SS
- Stabilized instrument tap
- Designed to provide a rigid mount for transmitters and flow computers
- Fits all applications on 2 1/8" centers
- Can be installed without removing the handles
- Lock-out handles are standard
- Dielectric kits are standard and made of Delrin

TM-ST-L8MSS Rendering



Sold in Pairs



Sold in Pairs

Specifications

- Ball valve is rated Fire Safe to API 607
- 3/8" bore for unrestricted passage of process gas
- Can be used as a 1/4 turn root valve

TVI MANIFOLDS

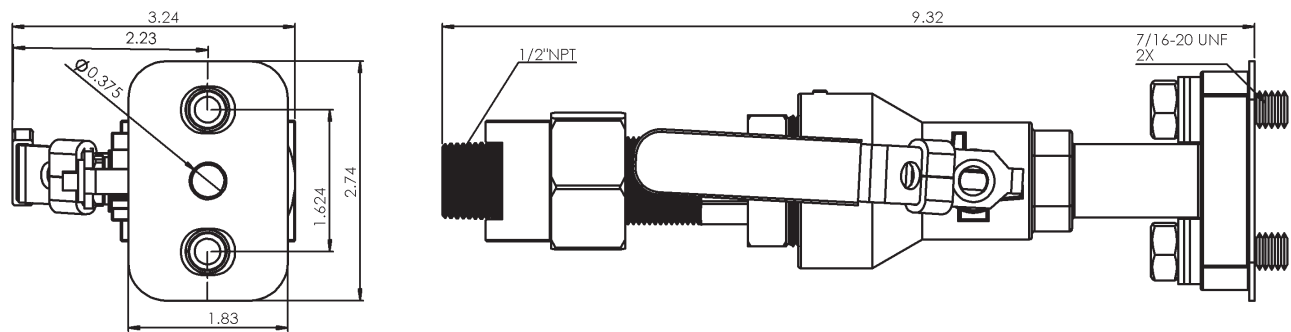
Stabilized Ball Valve Tap Options

Part Number	Metal Components Materials	Dielectric Material
TM-SBVT-AA	316SS CF8M	Delrin

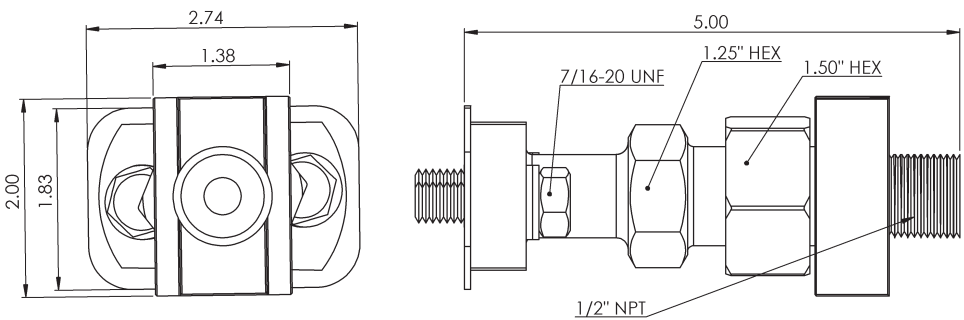
Stabilized Tap Options

Part Number	Metal Components Materials	Dielectric Material
TM-ST-L8MSS	316SS CF8M	Delrin
TM-ST-L8MCS	1045CS ASTM216 WCB – Yellow Cadmium Plate	Delrin

TM-SBVT-AA Stabilized Taps with Integral Ball Valve



TM-ST-L8MSS Stabilized Taps



Ordering Tree

Typical Ordering Part Number

TM - 5 - V - DMC - P - 8 - SS - H

Number of Valves

2 = 2 Valves
3 = 3 Valves
5 = 5 Valve

Manifold Type

V = Std Manifold
VS = Opposing Valves
VL1 = Std Gage Valve Configuration
VL3 = Mini Gage Valve
VL4 = Male x Male Gage Valve
VA = Angle Pattern
BB = 3/8" Orifice

Mounting Options

R = Female Pipe to Pipe
T = Pipe to Flange
H = Flange to Flange
RM = Remote Mount
DM = Direct Mount
DMA = Angle Pattern Direct Mount
DMC = Coplanar™ Mount

Packing

P = PTFE
G = Graphoil
V = Viton 75

Options

AT = Anti Tamper
SG = MR 01-75 Cert

Seat Material

D = Delrin - 6,000 psi
P = PCTFE - 3,000 psi
H = Metal - 10,000 psi

Wetted Metal Components

SS = 316/316L
CS = Carbon Steel/316SS
M4 = Monel 400
I6 = Inconel 600

Process Side - Inlet

4 = 1/4" NPT
8 = 1/2" NPT
12 = 3/4" NPT
F = Flange

Note: Not all combinations are possible
Please consult factory for information on special connections, o-rings, pressures, temperatures, materials & custom designs.

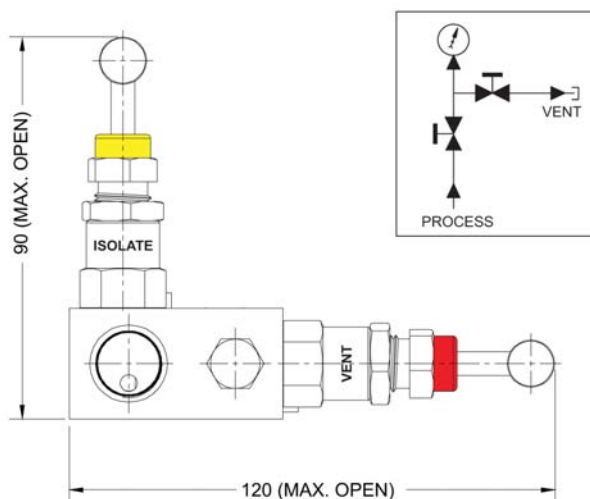
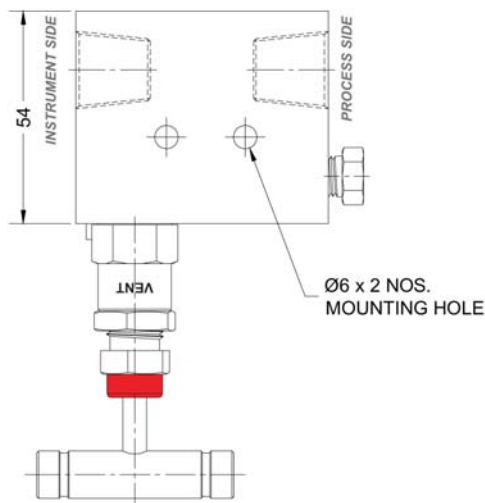
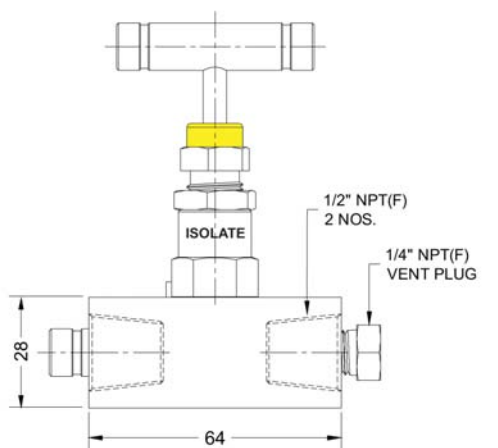
2 Valve Pipe to Pipe - Right Angle Valves

Model: TM-2-V-R-P-8-SS-H

TVI 2 Valve Pipe to pipe 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.

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.



Specifications

Max. Pressure	: 6,000 psi (413 bar) @100°F (38°C) 10,000 psi (789 bar) @77°F (25°C)
Seat Type	: Soft Seat /Hard Seat
Gland packing	: PTFE : For temp. -73°C (-99.4°F) to 210°C(410°C) Grafoil : For temp. (180°C 356°F) to 540°C (1001°F)
Materials	: Stainless Steel (316L,316, 304,304L), Monel,Inconel, Carbon Steel,Duplex Steel. NACE MR-01-75 is available. (For Sour gas Service)
Service Medium	: Liquid Gas or Vapor Service
Stem	: Needle (Standard) Ball tip (optional)
Connection	: Process :1/2"NPT(F) Instrument: 1/2"NPT(F) Drain :1/4"NPT(F) with Blind Plugs

Dimensions are for reference only and are subjected to change.

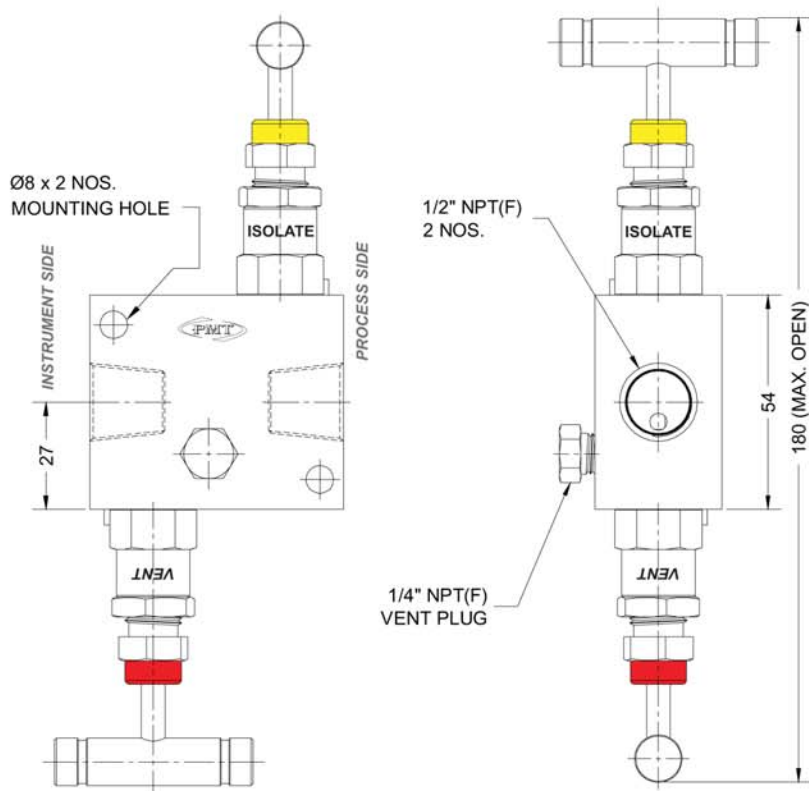
2 Valve Pipe to Pipe - Opposing Valves

Model: TM-2-VS-R-P-8-SS-H

TVI 2 Valve Pipe to pipe 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.

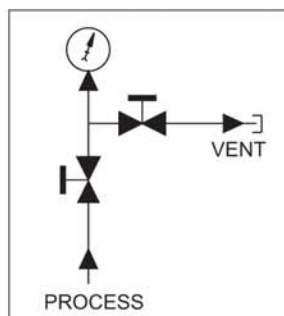
Features

- 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.



Specifications

Max. Pressure	: 6,000 psi (413 bar) @100°F (38°C) 10,000 psi (789 bar) @77°F (25°C)
Seat Type	: Soft Seat /Hard Seat
Gland packing	: PTFE : For temp. -73°C (-99.4°F) to 210°C(410°C) Graphoil : For temp. (180°C 356°F) to 540°C (1001°F)
Materials	: Stainless Steel (316L,316, 304,304L), Monel,Inconel, Carbon Steel,Duplex Steel. NACE MR-01-75 is available. (For Sour gas Service)
Service Medium	: Liquid Gas or Vapor Service
Stem	: Needle (Standard) Ball tip (optional)
Connection	: Process :1/2"NPT(F) Instrument: 1/2"NPT(F) Drain :1/4"NPT(F) with Blind Plugs



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2 Valve Pipe to Pipe - Gauge Type

Model: TM-2-VL1-P-8-SS-H



TVI 2 Valve Remote Mount manifolds 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.

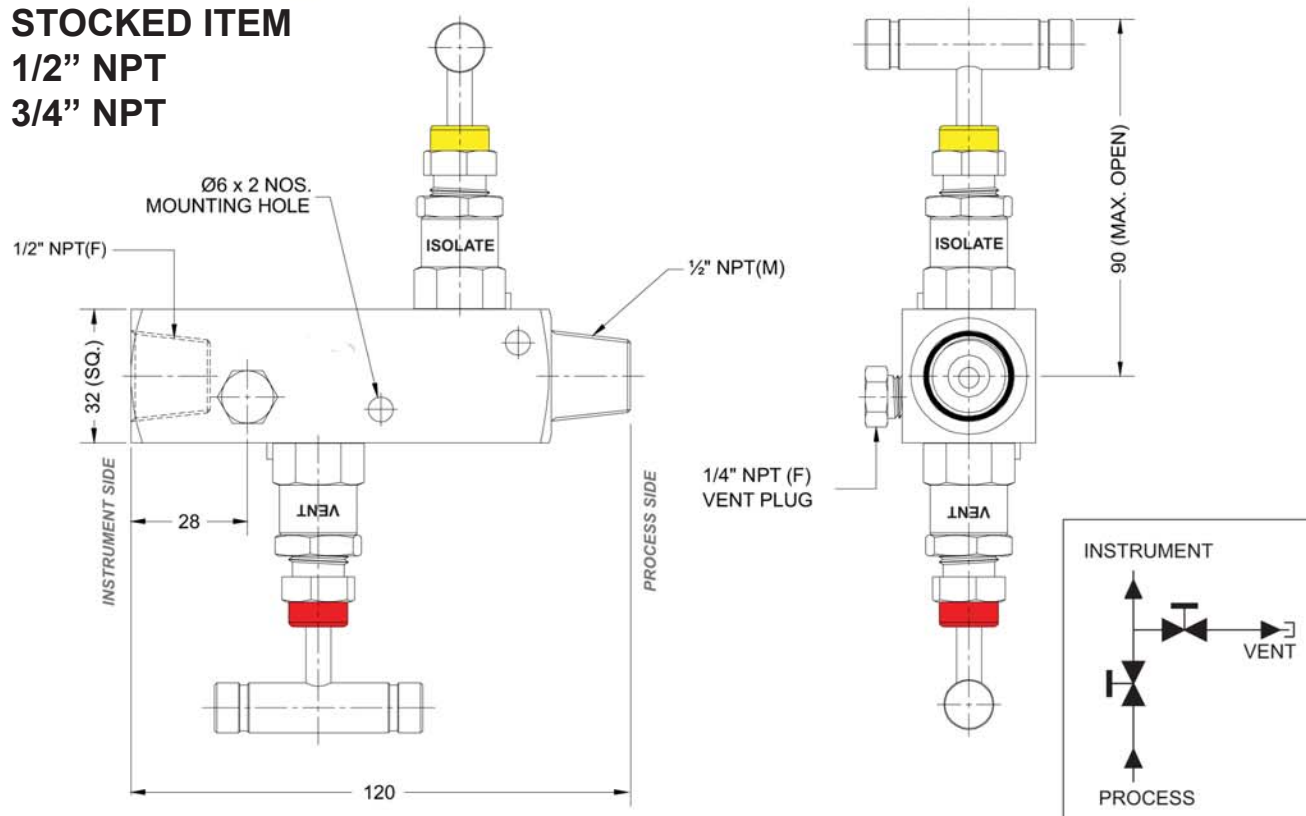
Features

- 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.
- Packing below stem threads prevents stem lubrication washout and isolate threads from system fluids.

STOCKED ITEM

1/2" NPT

3/4" NPT



Specifications

Max. Pressure	: 6,000 psi (413 bar) @100°F (38°C) 10,000 psi (789 bar) @77°F (25°C)
Seat Type	: Soft Seat /Hard Seat
Gland packing	: PTFE : For temp. -73°C (-99.4°F) to 210°C(410°C) Graphoil : For temp. (180°C 356°F) to 540°C (1001°F)

Service Medium	: Liquid Gas or Vapor Service
Stem	: Needle (Standard) Ball tip (optional)
Connection	: Process :1/2"NPT(M) Instrument: 1/2"NPT(F) Drain :1/4"NPT(F) with Blind Plugs
Materials	: Stainless Steel (316L,316, 304,304L), Monel,Inconel, Carbon Steel,Duplex Steel. NACE MR-01-75 is available. (For Sour gas Service)

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2 Valve Pipe to Pipe - Mini Gauge Type

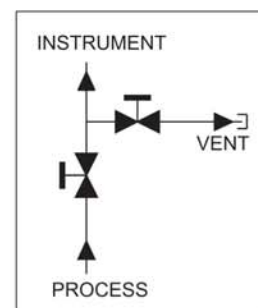
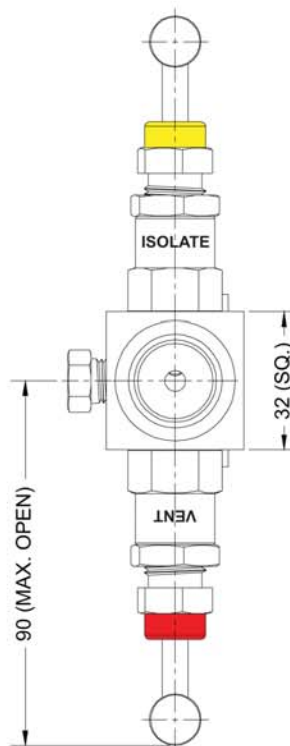
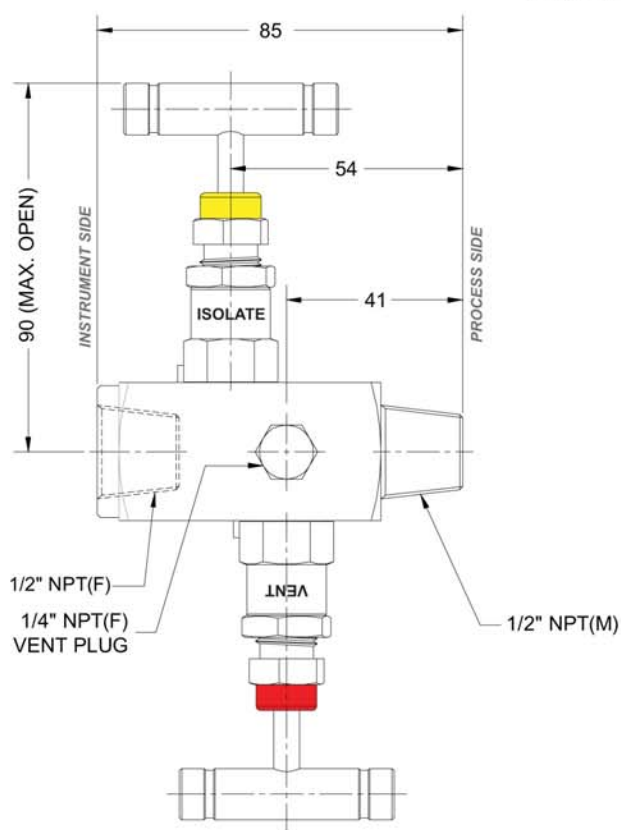
Model: TM-2-VL3-P-8-SS-H



TVI 2 Valve Remote Mount manifolds 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.
- Packing below stem threads prevents stem lubrication washout and isolate threads from system fluids.



Specifications

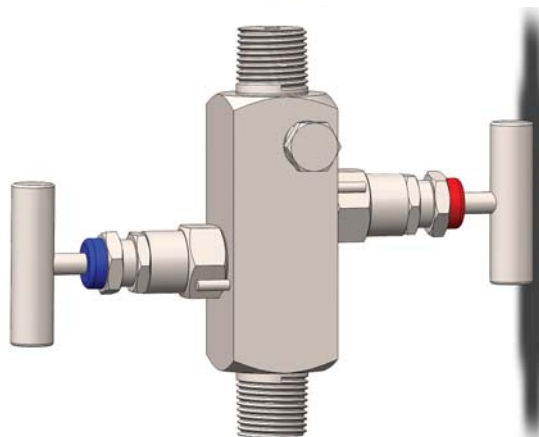
Max. Pressure	: 6,000 psi (413 bar) @100°F (38°C) 10,000 psi (789 bar) @77°F (25°C)
Seat Type	: Soft Seat /Hard Seat
Gland packing	: PTFE : For temp. -73°C (-99.4°F) to 210°C(410°C) Graphoil : For temp. (180°C 356°F) to 540°C (1001°F)

Service Medium	: Liquid Gas or Vapor Service
Stem	: Needle (Standard) Ball tip (optional)
Connection	: Process :1/2"NPT(M) Instrument: 1/2"NPT(F) Drain :1/4"NPT(F) with Blind Plugs
Materials	: Stainless Steel (316L,316, 304,304L), Monel,Inconel, Carbon Steel,Duplex Steel. NACE MR-01-75 is available. (For Sour gas Service)

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2 Valve Pipe to Pipe - For Static Pressure Transmitters

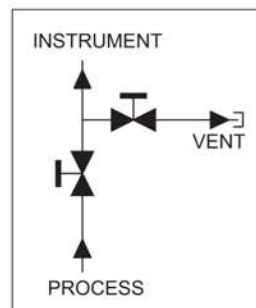
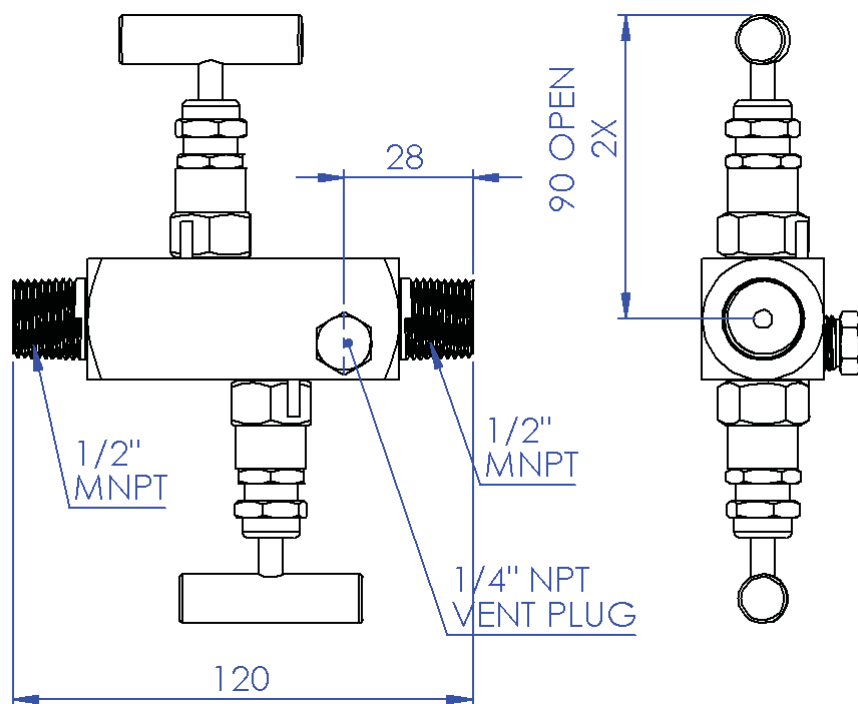
Model: TM-2-VL4-P-8-SS-H



This 2 Valve block & bleed manifold is designed to connect with 1/2" Female pipe connection static pressure transmitters. It eliminates a part and makes for an easier connection with one less potential leak path and is more compact.

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.
- Packing below stem threads prevents stem lubrication washout and isolate threads from system fluids.



Specifications

Max. Pressure	: 6,000 psi (413 bar) @100°F (38°C) 10,000 psi (789 bar) @77°F (25°C)
Seat Type	: Soft Seat /Hard Seat
Gland packing	: PTFE : For temp. -73°C (-99.4°F) to 210°C(410°C) Grafoil : For temp. (180°C 356°F) to 540°C (1001°F)

Service Medium	: Liquid Gas or Vapor Service
Stem	: Needle (Standard) Ball tip (optional)
Connection	: Process :1/2"NPT(M) Instrument: 1/2"NPT(F) Drain :1/4"NPT(F) with Blind Plugs
Materials	: Stainless Steel (316L,316, 304,304L), Monel,Inconel, Carbon Steel,Duplex Steel. NACE MR-01-75 is available. (For Sour gas Service)

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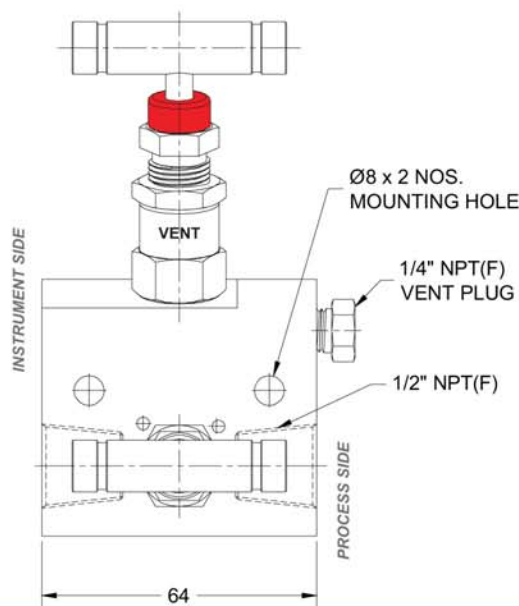
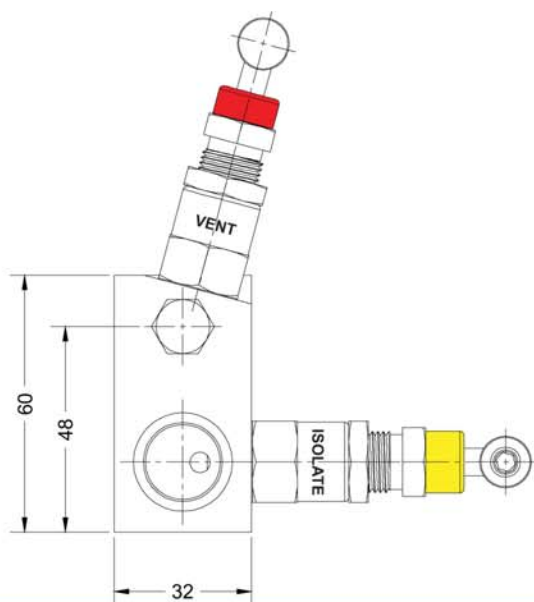
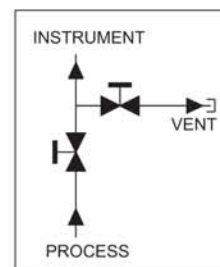
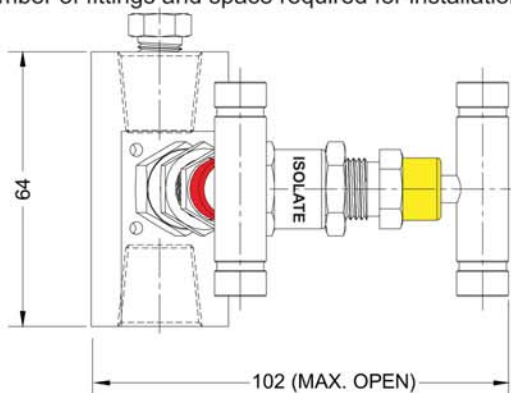
2 Valve Pipe to Pipe - European Style Direct Mount

Model: TM-2-VA-R-P-8-SS-H

TVI 2 Valve Direct Mount manifolds Direct mount 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.



Specifications

Max. Pressure	: 6,000 psi (413 bar) @100°F (38°C) 10,000 psi (789 bar) @77°F (25°C)
Seat Type	: Soft Seat /Hard Seat
Gland packing	: PTFE : For temp. -73°C (-99.4°F) to 210°C(410°C) Graphoil : For temp. (180°C 356°F) to 540°C (1001°F)

Service Medium	: Liquid Gas or Vapor Service
Stem	: Needle (Standard) , Ball tip (optional)
Connection	: Process :1/2"NPT(F), Instrument: 1/2" NPT(F) Drain :1/4"NPT(F) with Blind Plugs
Materials	: Stainless Steel (316L,316, 304,304L), Monel,Inconel, Carbon Steel,Duplex Steel. NACE MR-01-75 is available. (For Sour gas Service)

Dimensions are for reference only and are subjected to change.

Texas Valve & Instruments, LLC
8221 Lockheed Ave
Houston, Tx 77061

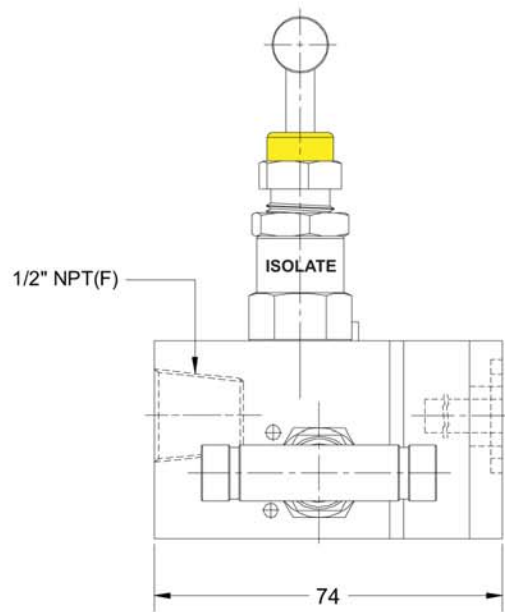
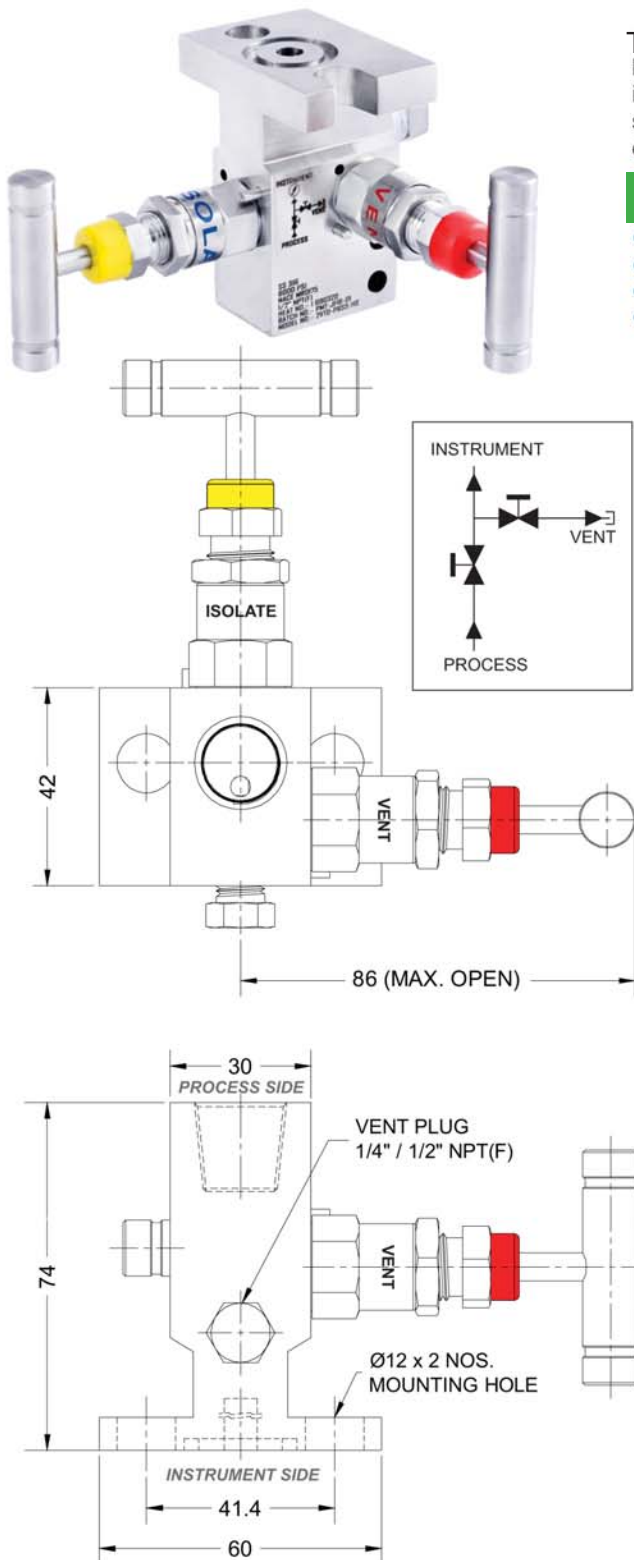
2 Valve Pipe to Flange

Model: TM-2-V-DM-P-8-SS-H

TVI 2 valve Pipe to Flange manifolds 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. Which eliminates several joints and no of parts.

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.



Specifications

Max. Pressure	: 6,000 psi (413 bar) @100°F (38°C) 10,000 psi (789 bar) @77°F (25°C)
Seat Type	: Soft Seat /Hard Seat
Gland packing	: PTFE : For temp. -73°C (-99.4°F) to 210°C(410°C) Graphoil : For temp. (180°C 356°F) to 540°C (1001°F)
Materials	: Stainless Steel (316L,316, 304,304L), Monel,Inconel, Carbon Steel,Duplex Steel. NACE MR-01-75 is available. (For Sour gas Service)
Service Medium	: Liquid Gas or Vapor Service
Stem	: Needle (Standard) Ball tip (optional)
Connection	: Process :1/2"NPT(F) Instrument: Flange Drain :1/4"NPT(F)

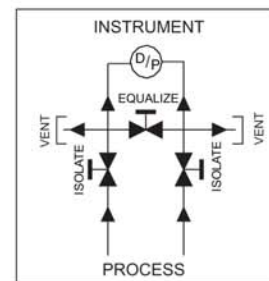
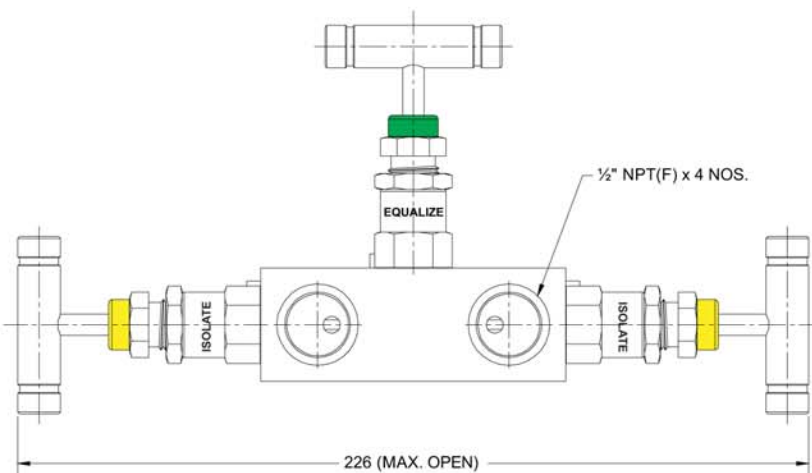
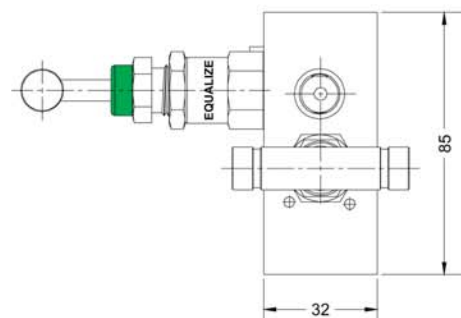
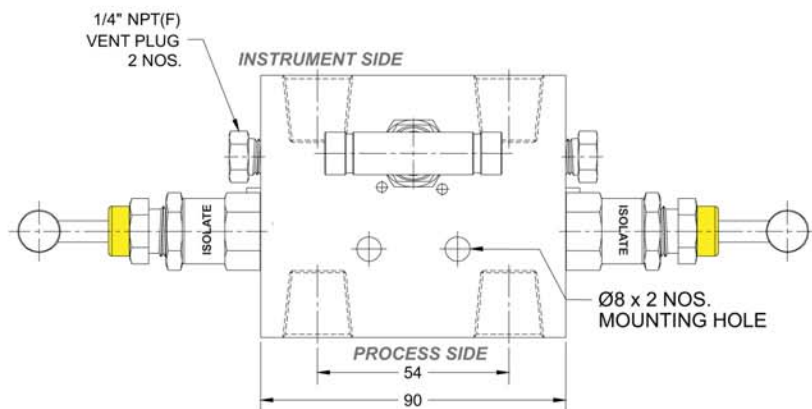
3 Valve Pipe x Pipe Manifold

Model: TM-3-V-R-P-8-SS-H

TVI 3 Valve Pipe to Pipe Manifold are Designed for applications to facilitate remote mounting of differential pressure instruments. Two mounting Holes are provided for 1/4" bolts used with DP Gauges, Pressure Transmitters & Pressure Switches. Please consult us for these dimensions. Useful for installations in remote fields eliminating conventional method of piping.

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.



Specifications

Max. Pressure	: 6,000 psi (413 bar) @100°F (38°C) 10,000 psi (789 bar) @77°F (25°C)	Service Medium	: Liquid Gas or Vapor Service
Seat Type	: Soft Seat /Hard Seat	Stem	: Needle (Standard) , Ball tip (optional)
Gland packing	: PTFE : For temp. -73°C (-99.4°F) to 210°C(410°C) Graphoil : For temp. (180°C 356°F) to 540°C (1001°F)	Connection	: Process :1/2"NPT(F), Instrument: 1/2" NPT(F) Drain :1/4"NPT(F) with Blind Plugs
		Materials	: Stainless Steel (316L,316, 304,304L), Monel,Inconel, Carbon Steel,Duplex Steel. NACE MR-01-75 is available. (For Sour gas Service)

Dimensions are for reference only and are subjected to change.

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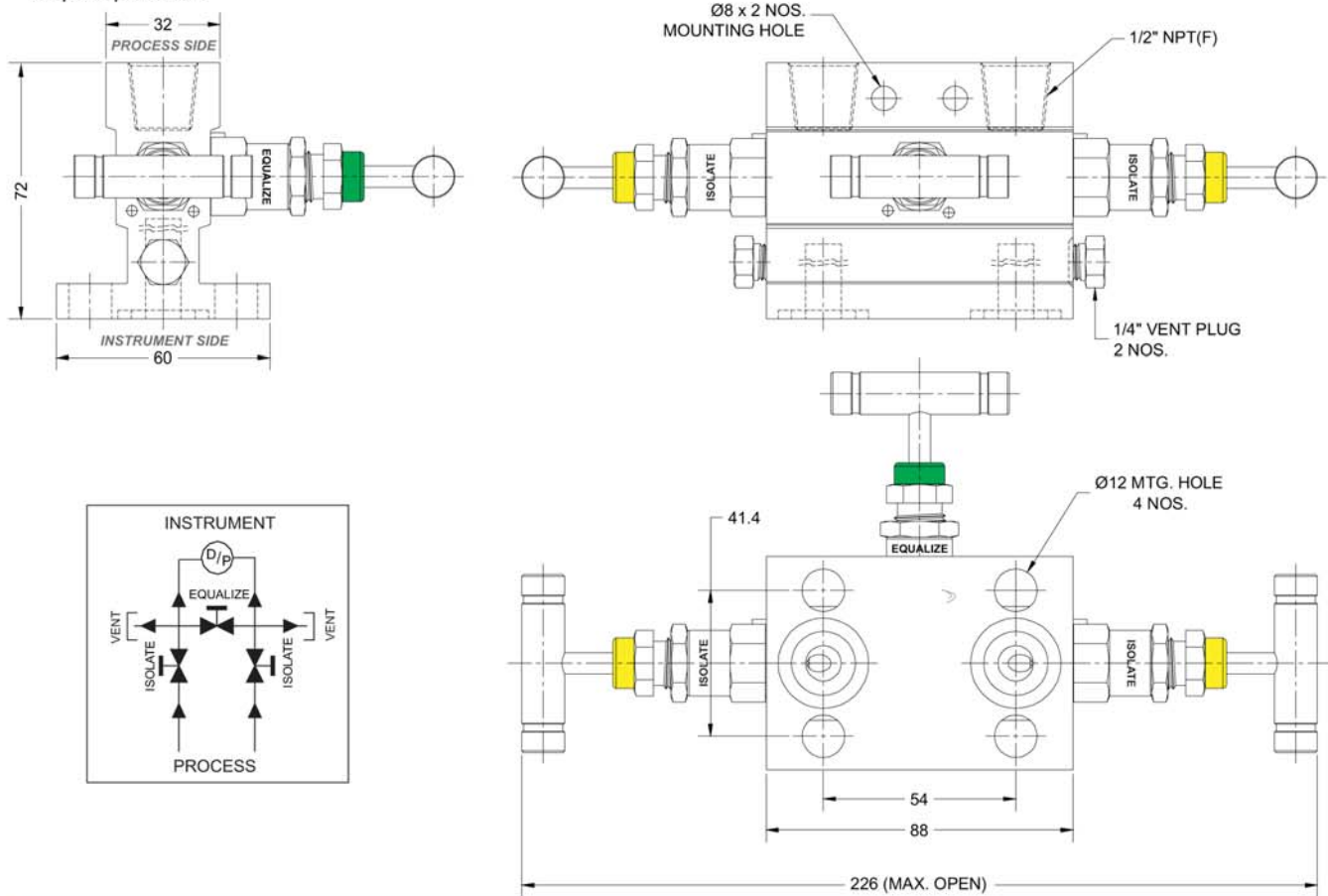
3 Valve Pipe x Flange

Model: TM-3-V-T-P-8-SS-H

TVI 3 Valve Pipe to Flange type Manifold are Designed for direct mounting on to standard differential pressure transmitters. This manifold block incorporates three valves, two main process isolation valves and one equalizing valve. 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

- 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.



Specifications

Max. Pressure	: 6,000 psi (413 bar) @100°F (38°C) 10,000 psi (789 bar) @77°F (25°C)	Service Medium	: Liquid Gas or Vapor Service
Seat Type	: Soft Seat /Hard Seat	Stem	: Needle (Standard) , Ball tip (optional)
Gland packing	: PTFE : For temp. -73°C (-99.4°F) to 210°C(410°C) Graphoil : For temp. (180°C 356°F) to 540°C (1001°F)	Connection	: Process :1/2"NPT(F), Instrument: Flange Drain :1/4"NPT(F) with Blind Plugs
		Materials	: Stainless Steel (316L,316, 304,304L), Monel,Inconel, Carbon Steel,Duplex Steel. NACE MR-01-75 is available. (For Sour gas Service)

Dimensions are for reference only and are subjected to change.

3 Valve Flange x Flange

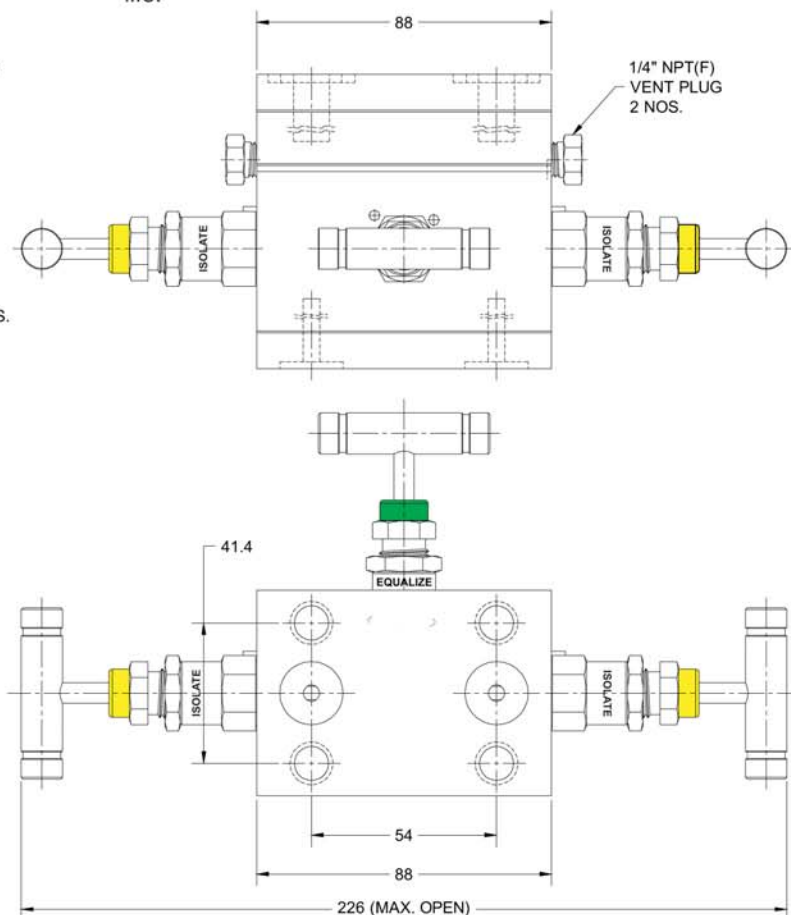
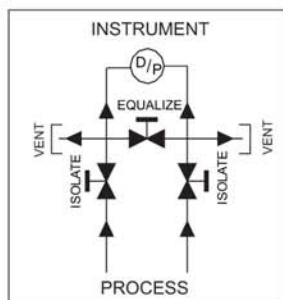
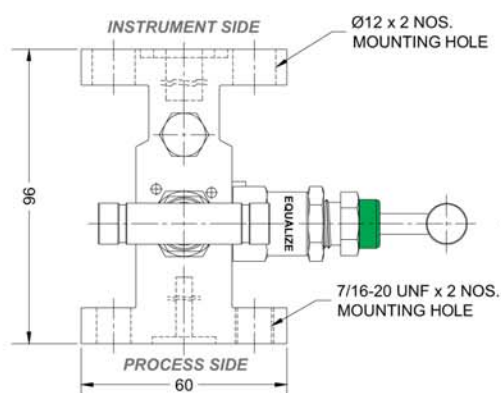
Model: TM-3-V-H-P-8-SS-H



3 Valve Flange to Flange Manifold are 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. The manifold block incorporate two main valves for process isolation and one valve for equalizing.

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.



Specifications

Max. Pressure	: 6,000 psi (413 bar) @100°F (38°C) 10,000 psi (789 bar) @77°F (25°C)
Seat Type	: Soft Seat /Hard Seat
Gland packing	: PTFE : For temp. -73°C (-99.4°F) to 210°C(410°C) Graphoil : For temp. (180°C 356°F) to 540°C (1001°F)

Service Medium	: Liquid Gas or Vapor Service
Stem	: Needle (Standard) ,Ball tip (optional)
Connection	: Process :Flange , Instrument: Flange Drain :1/4"NPT(F) with Blind Plugs
Materials	: Stainless Steel (316L,316, 304,304L), Monel,Inconel, Carbon Steel,Duplex Steel. NACE MR-01-75 is available. (For Sour gas Service)

Dimensions are for reference only and are subjected to change.

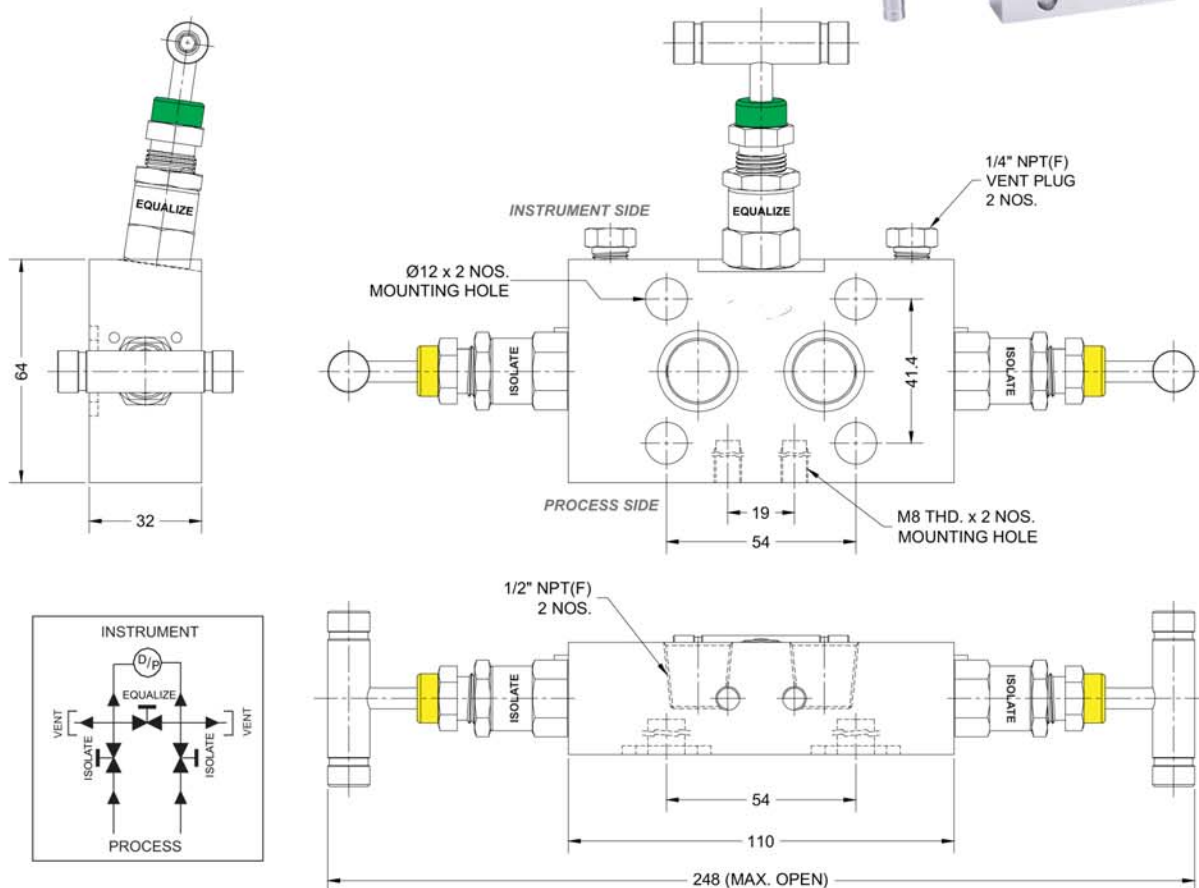
3 Valve - Direct Mount

Model: TM-3-V-DM-P-8-SS-H

3 Valve Direct Mount Manifold are Designed for direct mounting on to standard differential pressure transmitters. The two isolate bonnet are on the left and right side, the equalizing bonnet is of the angular design on the top for easy operation. Can be mounted directly on DP Gauges, Pressure Transmitter & 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.
- Stem threads rolled and hard plated provides maximum service life.



Specifications

Max. Pressure : 6,000 psi (413 bar) @100°F (38°C)
10,000 psi (789 bar) @77°F (25°C)

Seat Type : Soft Seat /Hard Seat

Gland packing : **PTFE** : For temp. -73°C (-99.4°F) to 210°C(410°C)
Graphoil : For temp. (180°C 356°F) to 540°C (1001°F)

Service Medium : Liquid Gas or Vapor Service

Stem : Needle (Standard) , Ball tip (optional)

Connection : Process :1/2"NPT(F), Instrument: Flange
Drain :1/4"NPT(F) with Blind Plugs

Materials : Stainless Steel (316L,316, 304,304L), Monel,Inconel, Carbon Steel,Duplex Steel. NACE MR-01-75 is available. (For Sour gas Service)

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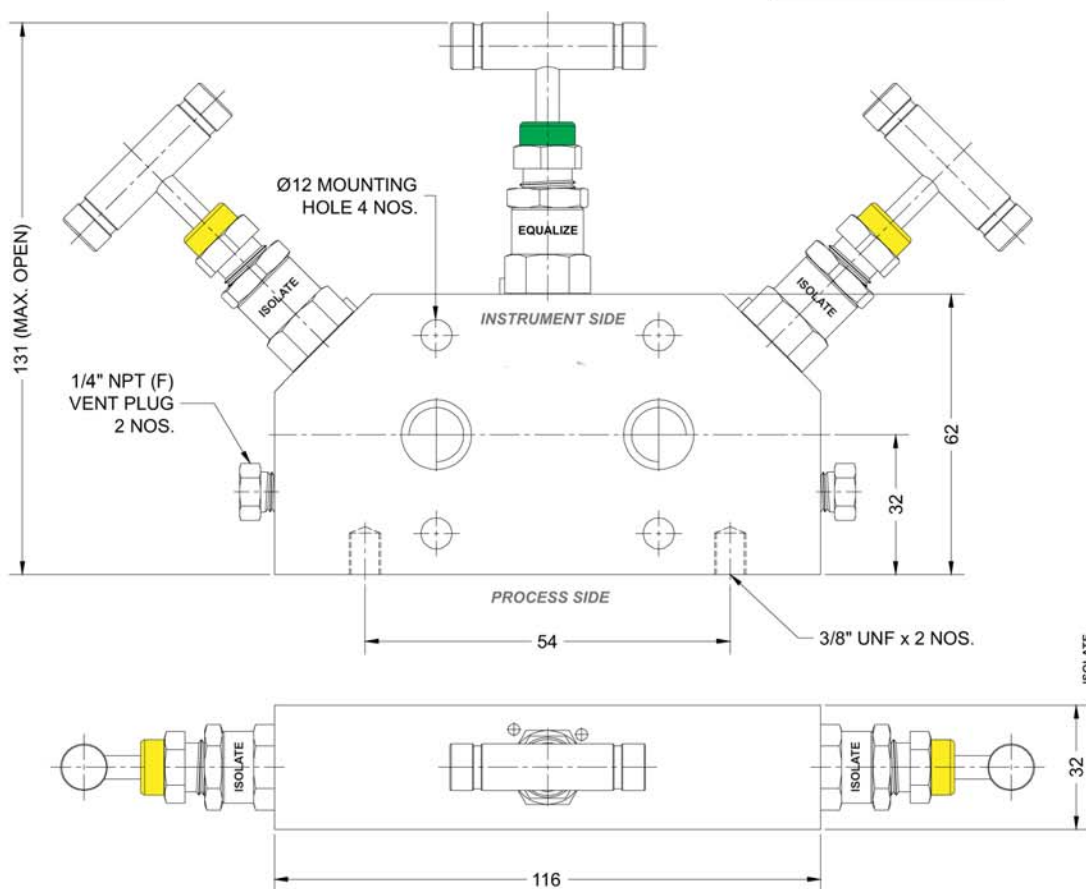
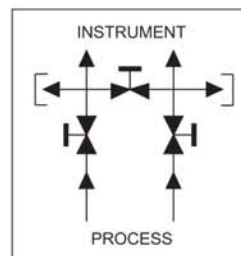
3 Valve - Direct Mount - Angled Valves

Model: TM-3-V-DMA-P-8-SS-H

3 Valve Direct Mount Manifold are Designed for direct mounting on to standard differential pressure transmitters. This manifold block incorporates three valves, two main process isolation valves and one equalizing valve. This design is suitable where the straight valve may foul with the instrument and to provide ease of operation. It is 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.



Specifications

Max. Pressure	: 6,000 psi (413 bar) @100°F (38°C) 10,000 psi (789 bar) @77°F (25°C)
Seat Type	: Soft Seat /Hard Seat
Gland packing	: PTFE : For temp. -73°C (-99.4°F) to 210°C(410°C) Graphoil : For temp. (180°C 356°F) to 540°C (1001°F)

Service Medium	: Liquid Gas or Vapor Service
Stem	: Needle (Standard) , Ball tip (optional)
Connection	: Process :1/2"NPT(F), Instrument: 1/2" NPT(F) Drain :1/4"NPT(F) with Blind Plugs
Materials	: Stainless Steel (316L,316, 304,304L), Monel,Inconel, Carbon Steel,Duplex Steel. NACE MR-01-75 is available. (For Sour gas Service)

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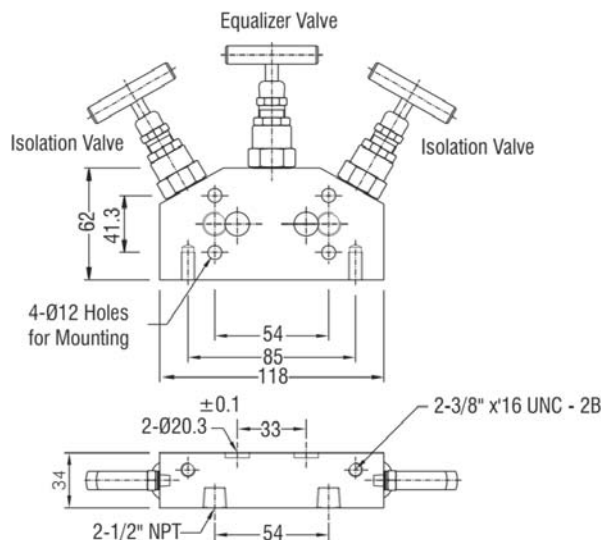
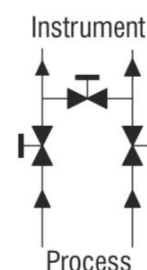
3 Valve Coplaner™ Mount

Model: TM-3-V-DMC-P-8-SS-H

3 Valve Coplanar™ style manifold are designed to Coplanar™ style differential pressure transmitters. This manifold block incorporates three valves, two main process isolation valves and one equalizing valve. This design is suitable for use with 1/2" npt piping.

Features

- Stem threads rolled and hard plated provides maximum service life
- Graphoil option for high temperature applications
- Bonnet locks prevent accidental loosening
- Highly polished stems for maximum packing life



Specifications

Max. Pressure : 6,000 psi (413 bar) @100°F (38°C)
10,000 psi (789 bar) @77°F (25°C)

Seat Type : Soft Seat /Hard Seat

Gland packing : **PTFE** : For temp. -73°C
(-99.4°F) to 210°C(410°C)
Graphoil : For temp. (180°C
356°F) to 540°C (1001°F)

Service Medium : Liquid Gas or Vapor Service

Stem : Needle (Standard) , Ball tip (optional)

Connection : Process :1/2"NPT(F), Instrument: 1/2" NPT(F)
Drain :1/4"NPT(F) with Blind Plugs

Materials : Stainless Steel (316L,316, 304,304L), Monel,Inconel,
Carbon Steel,Duplex Steel. NACE MR-01-75 is
available. (For Sour gas Service)

Dimensions are for reference only and are subjected to change.

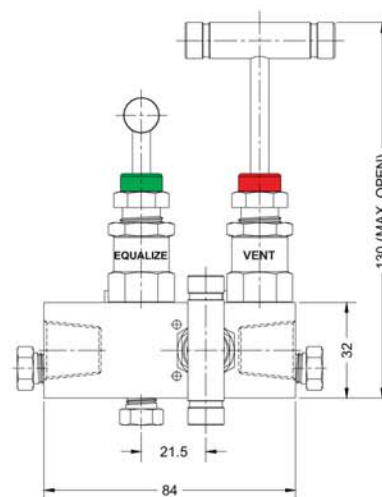
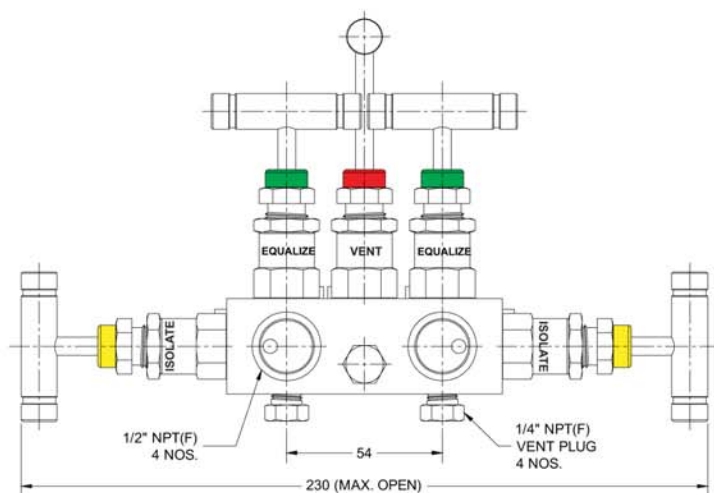
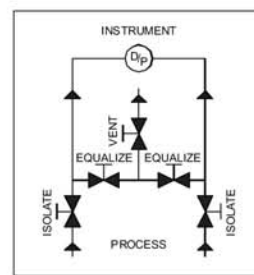
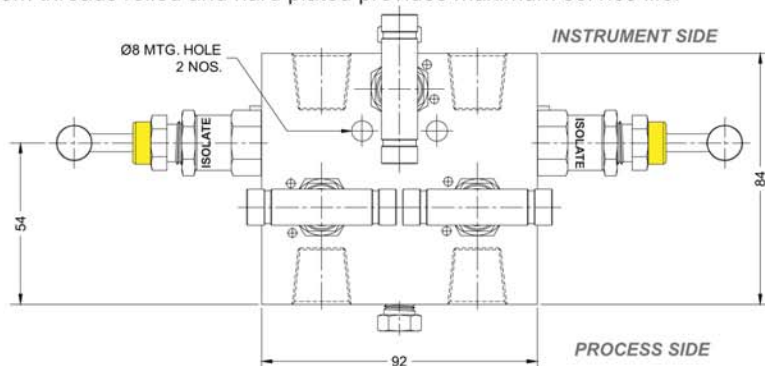
5 Valve Pipe x Pipe

Model: TM-5-V-R-P-8-SS-H

5 Valve Pipe to Pipe Manifold are Designed with vertical port inlets and outlets. The Vent/Test ports are positioned on the bottom and top of the body. The isolating bonnets are positioned on the left and right hand side and the venting and equalizing bonnets are positioned on the front side. Specially designed for remote mounting to field meters, differential transmitters and chart recorders on gas service allowing fail configuration preventing pressure loss from the high to low pressure impulse lines.

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.



Specifications

Max. Pressure	: 6,000 psi (413 bar) @100°F (38°C) 10,000 psi (789 bar) @77°F (25°C)
Seat Type	: Soft Seat /Hard Seat
Gland packing	: PTFE : For temp. -73°C (-99.4°F) to 210°C(410°C) Graphoil : For temp. (180°C 356°F) to 540°C (1001°F)

Service Medium	: Liquid Gas or Vapor Service
Stem	: Needle (Standard) ,Ball tip (optional)
Connection	: Process :1/2"NPT(F), Instrument: 1/2"NPT(F) Drain :1/4"NPT(F) with Blind Plugs
Materials	: Stainless Steel (316L,316, 304,304L), Monel,Inconel, Carbon Steel,Duplex Steel. NACE MR-01-75 is available. (For Sour gas Service)

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5 Valve Flange x Pipe

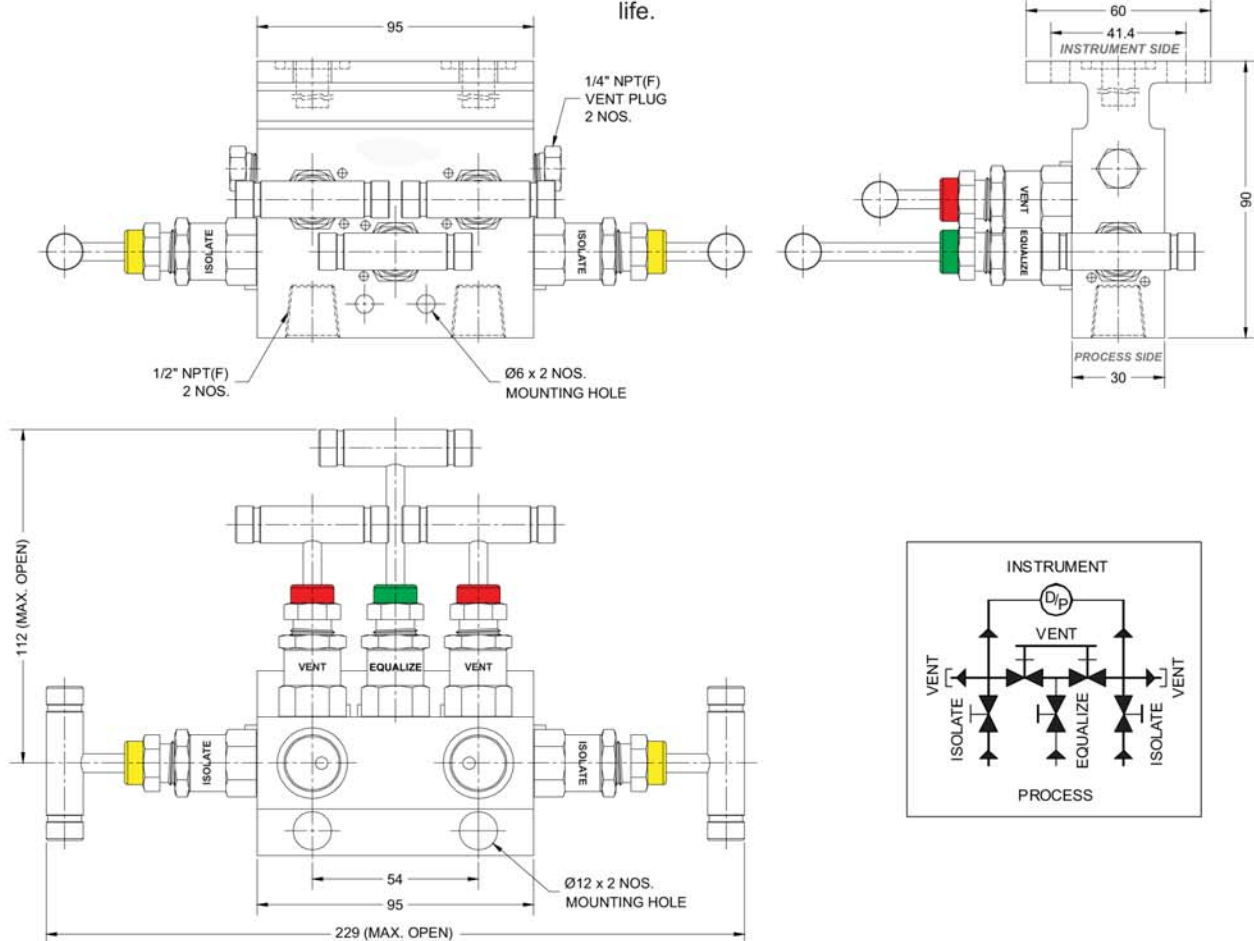
Model: TM-5-V-T-P-8-SS-H



5 valve flange to pipe Manifold incorporate two process isolation valves, one equalizer valve and two drain/vent valves with separate connections in a compact manifold block. The Model is designed for remote mounting away from the differential pressure instrument and joined by tube or pipe impulse lines.

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.



Specifications

Max. Pressure	: 6,000 psi (413 bar) @100°F (38°C) 10,000 psi (789 bar) @77°F (25°C)
Seat Type	: Soft Seat /Hard Seat
Gland packing	: PTFE : For temp. -73°C (-99.4°F) to 210°C(410°C) Graphoil : For temp. (180°C 356°F) to 540°C (1001°F)

Service Medium	: Liquid Gas or Vapor Service
Stem	: Needle (Standard) , Ball tip (optional)
Connection	: Process :1/2"NPT(F), Instrument: Flange Drain :1/4"NPT(F) with Blind Plugs
Materials	: Stainless Steel (316L,316, 304,304L), Monel,Inconel, Carbon Steel,Duplex Steel. NACE MR-01-75 is available. (For Sour gas Service)

Dimensions are for reference only and are subjected to change.

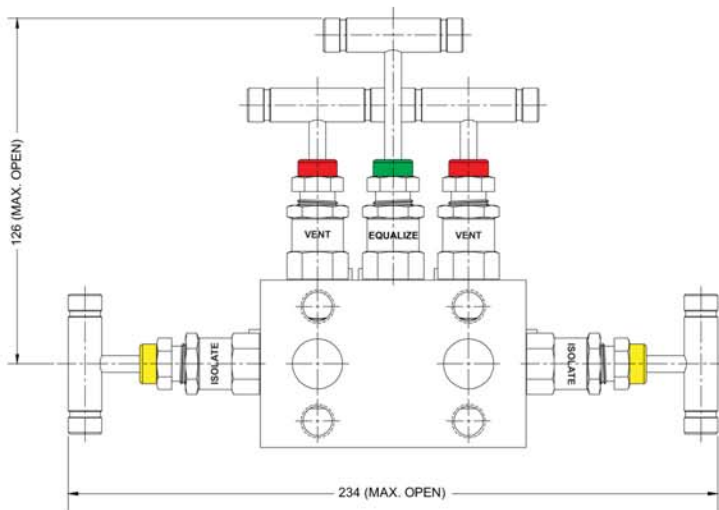
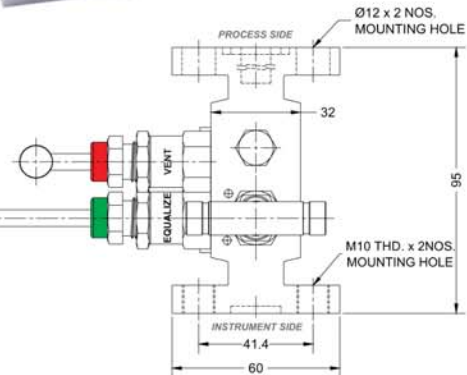
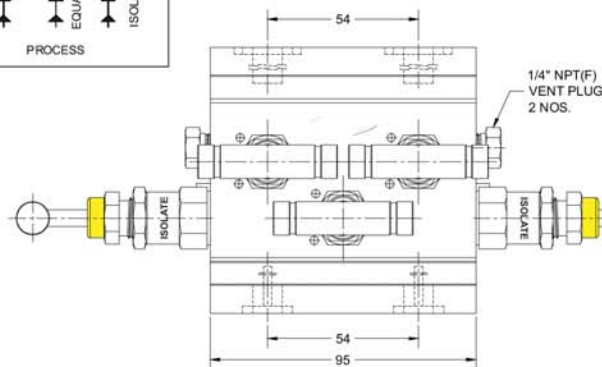
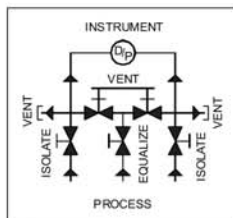
5 Valve Flange x Flange

Model: TM-5-V-H-P-8-SS-H

5 Valve Flange to Flange Manifold are 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. The manifold block incorporate two main valves for process isolation and one valve for equalizing.

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.



Specifications

Max. Pressure	: 6,000 psi (413 bar) @100°F (38°C) 10,000 psi (789 bar) @77°F (25°C)
Seat Type	: Soft Seat /Hard Seat
Gland packing	: PTFE : For temp. -73°C (-99.4°F) to 210°C(410°C) Graphoil : For temp. (180°C 356°F) to 540°C (1001°F)
Materials	: Stainless Steel (316L,316, 304,304L), Monel,Inconel, Carbon Steel,Duplex Steel. NACE MR-01-75 is available. (For Sour gas Service)
Service Medium	: Liquid Gas or Vapor Service
Stem	: Needle (Standard) Ball tip (optional)
Connection	: Process :Flange Instrument: Flange Drain :1/4"NPT(F) with Blind Plugs

Dimensions are for reference only and are subjected to change.

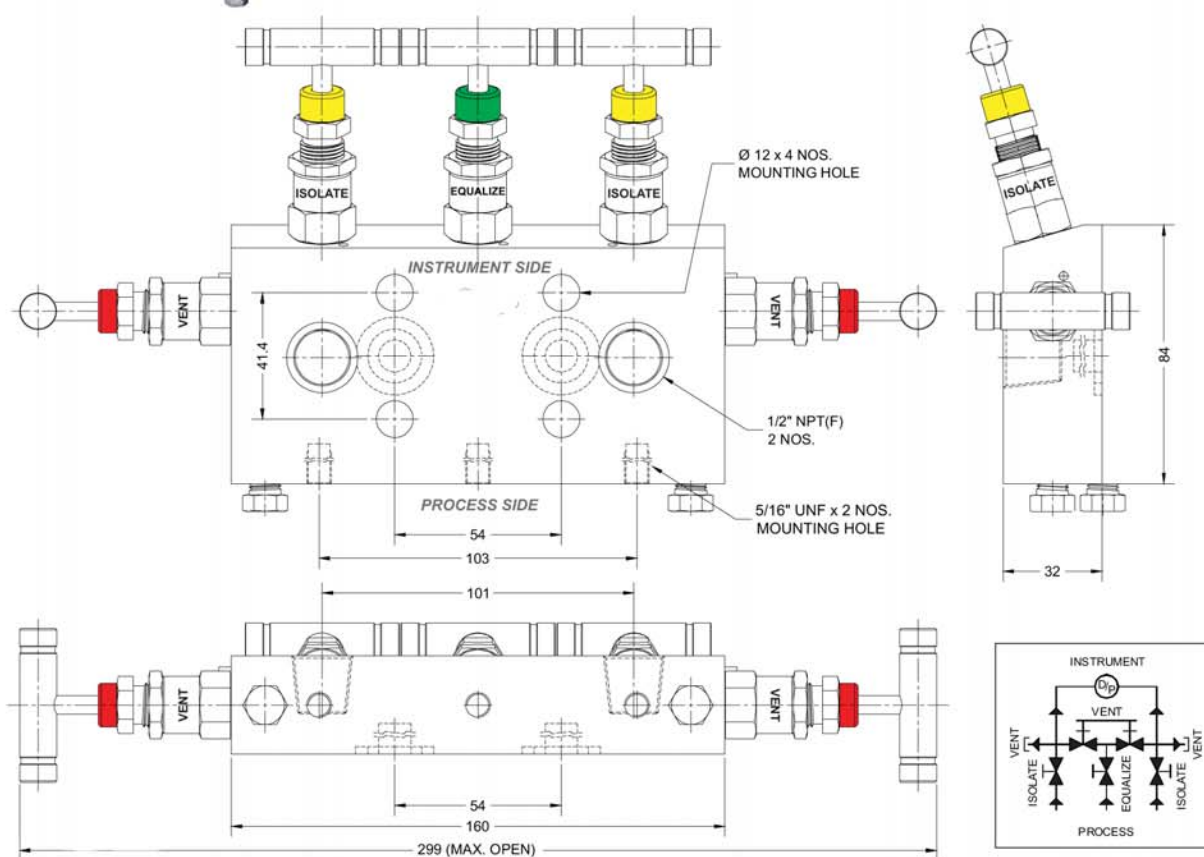
5 Valve Direct Mount

Model: TM-5-V-DM-P-8-SS-H

5 Valve Direct Mount Manifold are 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.

Features

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



Specifications

Max. Pressure	: 6,000 psi (413 bar) @100°F (38°C) 10,000 psi (789 bar) @77°F (25°C)
Seat Type	: Soft Seat /Hard Seat
Gland packing	: PTFE : For temp. -73°C (-99.4°F) to 210°C(410°C) Graphoil : For temp. (180°C 356°F) to 540°C (1001°F)

Service Medium	: Liquid Gas or Vapor Service
Stem	: Needle (Standard) ,Ball tip (optional)
Connection	: Process :1/2"NPT(F), Instrument: Flange Drain :1/4"NPT(F) with Blind Plugs
Materials	: Stainless Steel (316L,316, 304,304L), Monel,Inconel, Carbon Steel,Duplex Steel. NACE MR-01-75 is available. (For Sour gas Service)

Dimensions are for reference only and are subjected to change.

TVI MANIFOLDS

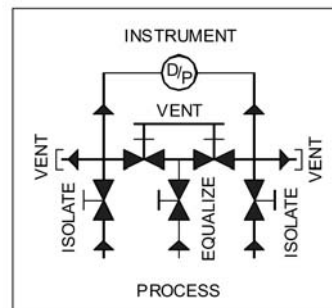
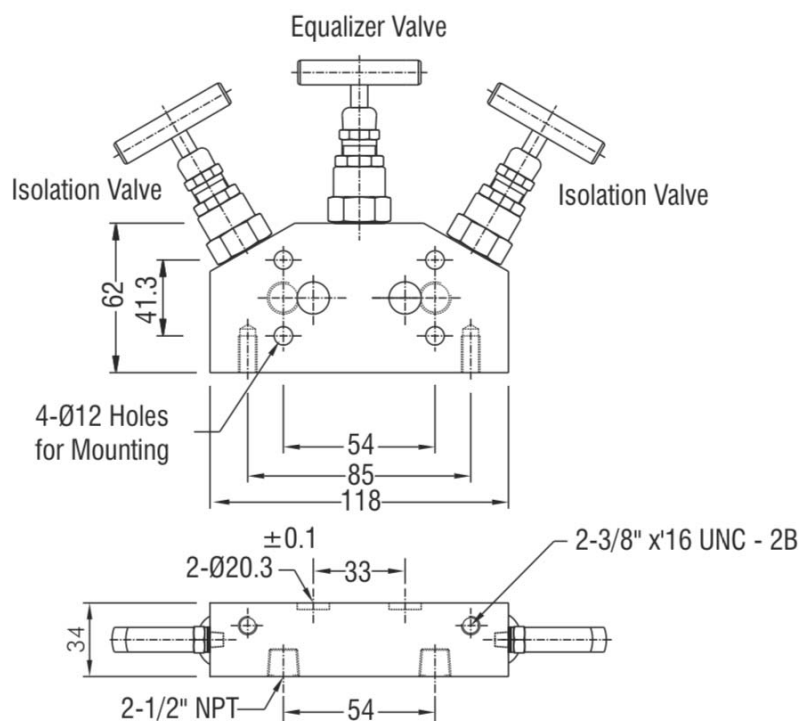
5V Coplanar™ Mount

Model: TM-5-V-DMC-P-8-SS-H

5 Valve Coplanar™ style manifold are designed to Coplanar™ style differential pressure transmitters. This manifold block incorporates three valves, two main process isolation valves and one equalizing valve. This design is suitable for use with 1/2" npt piping.

Features:

- Stem threads rolled and hard plated provides maximum service life
- Graphoil option for high temperature applications
- Bonnet locks prevent accidental loosening
- Highly polished stems for maximum packing life



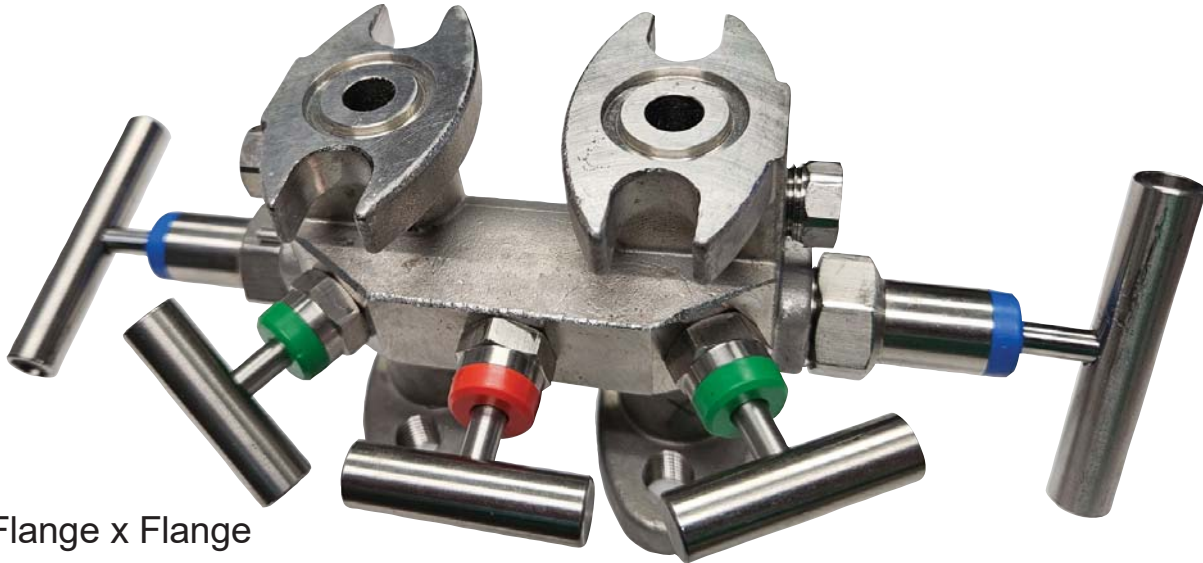
Specifications

Max. Pressure	: 6,000 psi (413 bar) @100°F (38°C) 10,000 psi (789 bar) @77°F (25°C)	Service Medium	: Liquid Gas or Vapor Service
Seat Type	: Soft Seat /Hard Seat	Stem	: Needle (Standard) , Ball tip (optional)
Gland packing	: PTFE : For temp. -73°C (-99.4°F) to 210°C(410°C) Graphoil : For temp. (180°C 356°F) to 540°C (1001°F)	Connection	: Process :1/2"NPT(F), Instrument: 1/2" NPT(F) Drain :1/4"NPT(F) with Blind Plugs
		Materials	: Stainless Steel (316L,316, 304,304L), Monel,Inconel, Carbon Steel,Duplex Steel. NACE MR-01-75 is available. (For Sour gas Service)

Dimensions are for reference only and are subjected to change.

NEW LIGHT WEIGHT MANIFOLDS

- 50% REDUCTION IN WEIGHT
- 3/8" BORE
- LOW TORQUE VALVES



Flange x Flange

Characteristics

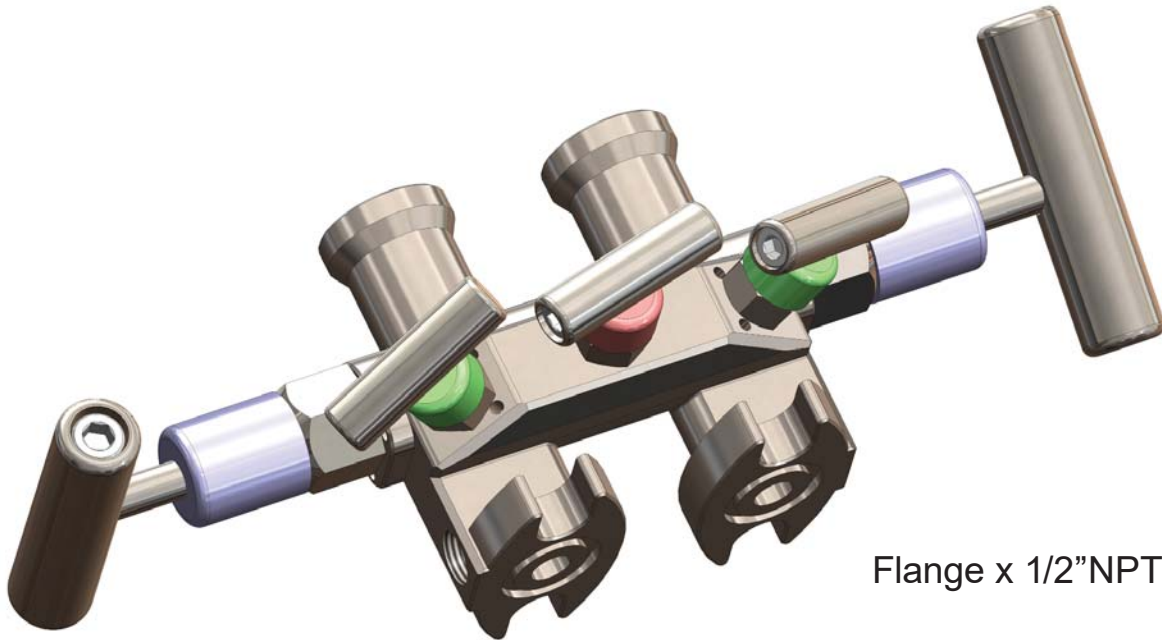
- 3/8" minimum bore diameter to help ameliorate spiking signals caused by pulsations in the pipeline.
- Very tight, reliable seats and seals to prevent errant measurements caused by small leaks. These seats and seals should be able to stand up to repeated use caused by the calibration verification process.
- Integrated blocking valves to minimize the potential leaks between the tap valves and the equalization valves. These valves can also serve as double equalizing valves to help insure against measurement error.
- Angle pattern equalizer and vent valves

Features

- 3/8" thru bores
- Delrin seats standard, Carbon filled Teflon seats available
- Viton O-ring seals on the bonnets for zero leakage, yet low torque
- Angle pattern equalizer and vent valves
- Three configurations: Pipe x Flange, Flange x Flange, 90° Flange x Flange

NEW LIGHT WEIGHT MANIFOLDS

- 50% REDUCTION IN WEIGHT
- 3/8" BORES
- LOW TORQUE VALVES



Flange x 1/2"NPT

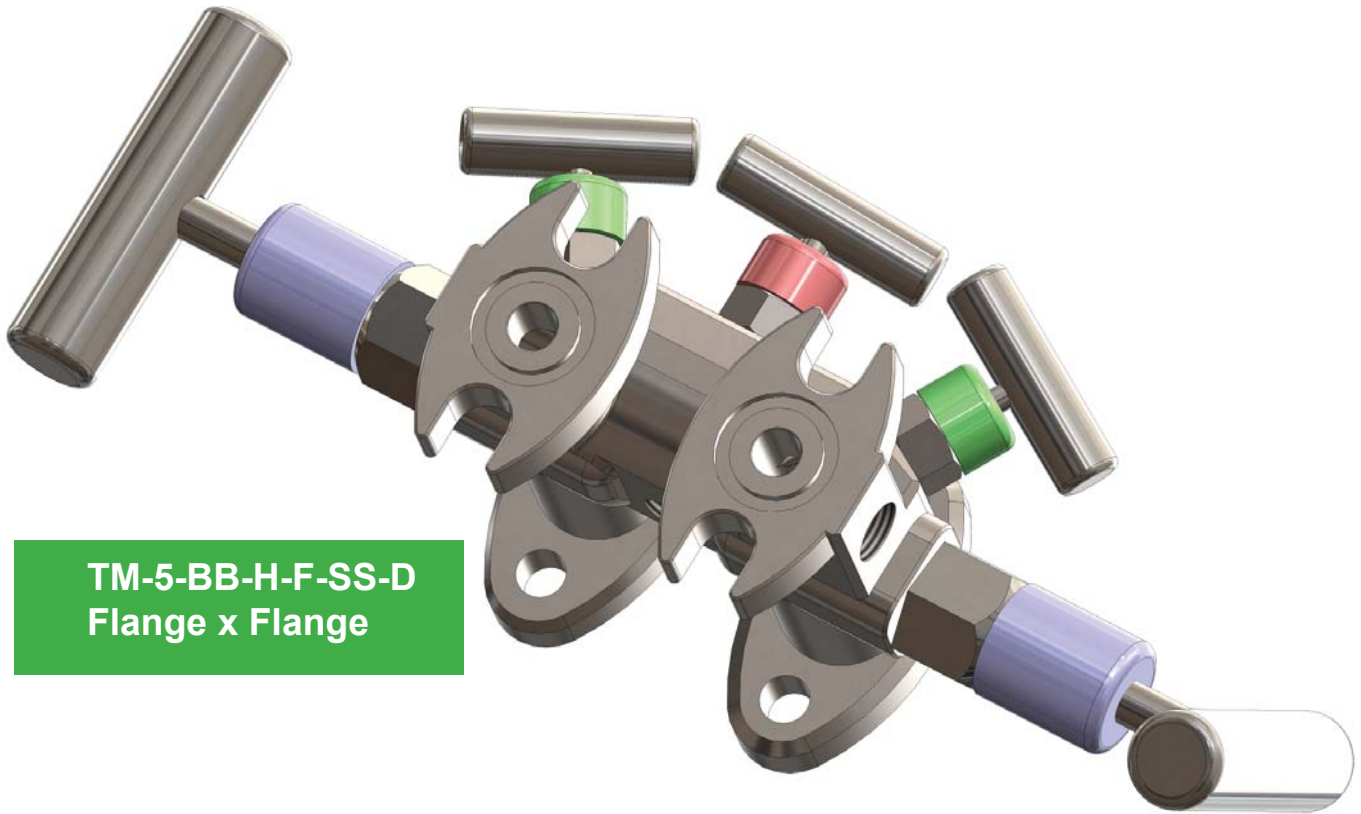
Characteristics

- 3/8" minimum bore diameter to help ameliorate spiking signals caused by pulsations in the pipeline.
- Very tight, reliable seats and seals to prevent errant measurements caused by small leaks. These seats and seals should be able to stand up to repeated use caused by the calibration verification process.
- Integrated blocking valves to minimize the potential leaks between the tap valves and the equalization valves. These valves can also serve as double equalizing valves to help insure against measurement error.
- Angle pattern equalizer and vent valves

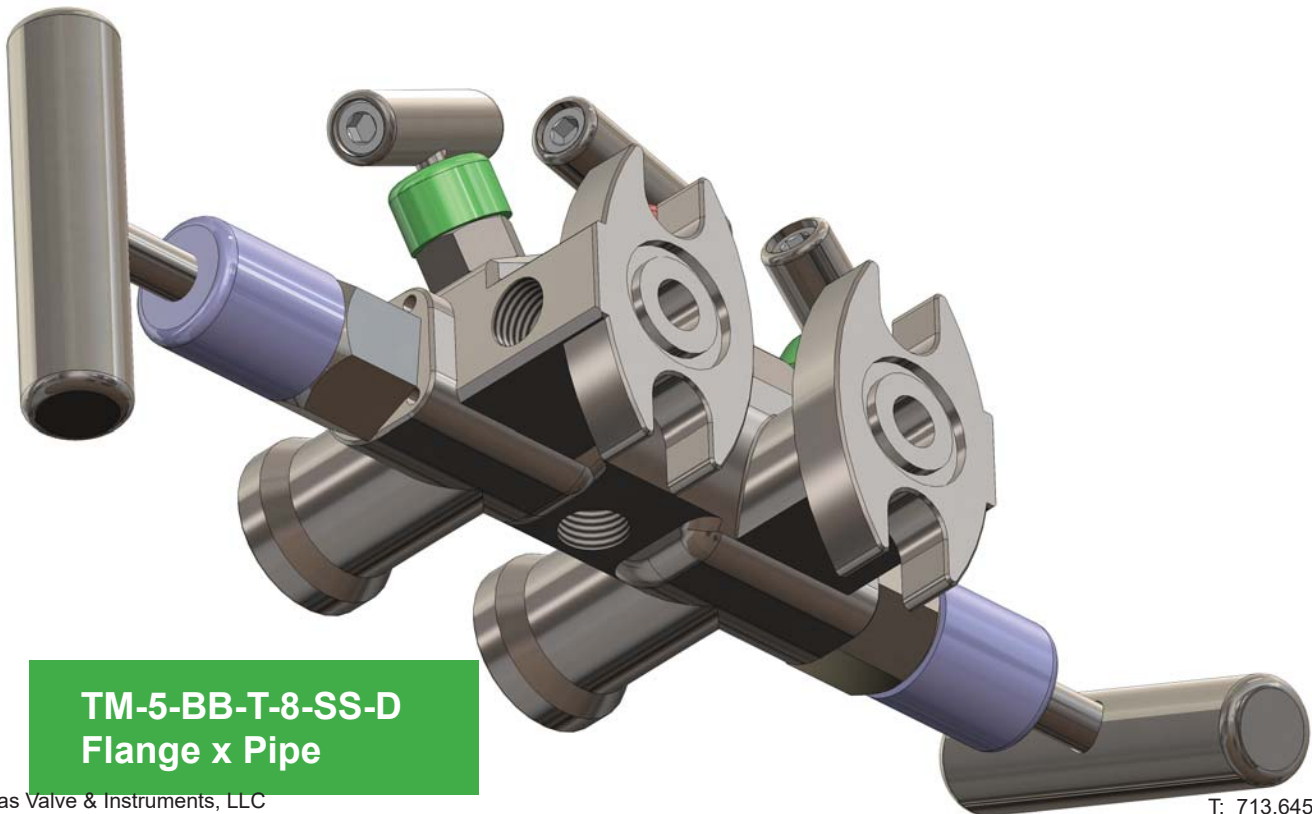
Features

- 3/8" thru bores
- Delrin seats standard, Carbon filled Teflon seats available
- Viton O-ring seals on the bonnets for zero leakage, yet low torque
- Angle pattern equalizer and vent valves
- Three configurations: Pipe x Flange, Flange x Flange, 90° Flange x Flange

TVI MANIFOLDS

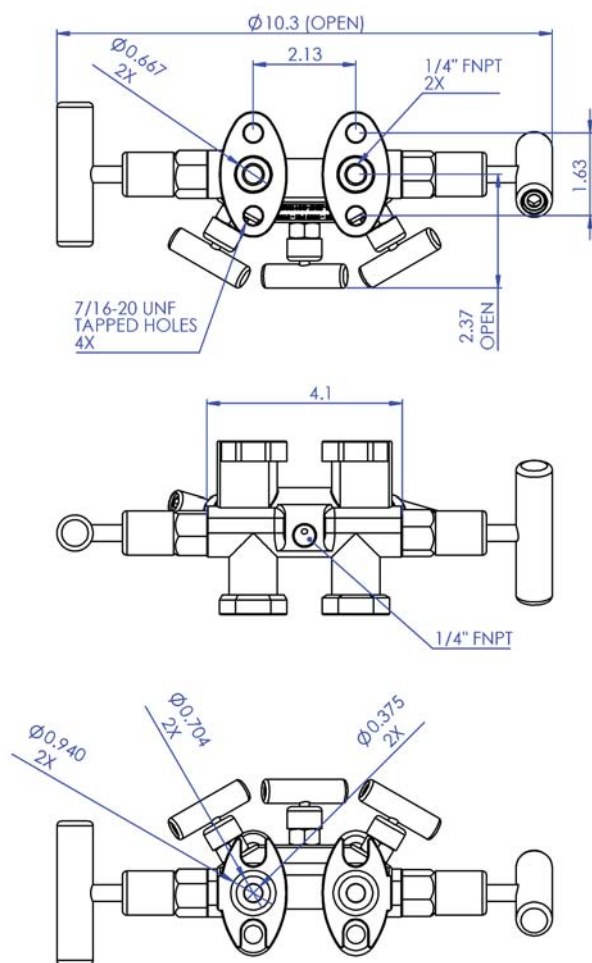


TM-5-BB-H-F-SS-D
Flange x Flange

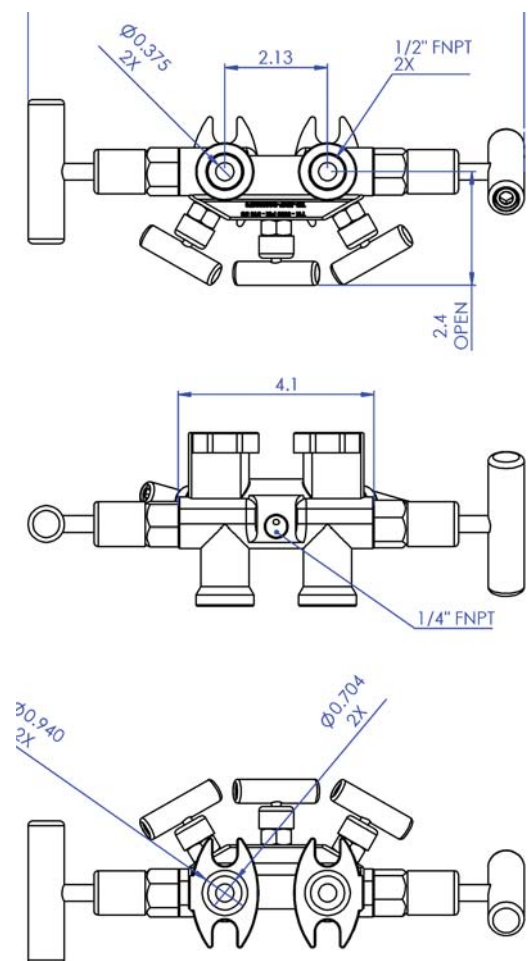


TM-5-BB-T-8-SS-D
Flange x Pipe

TM-5-BB-H-F-SS-D Flange x Flange



TM-5-BB-T-8-SS-D Flange x Pipe

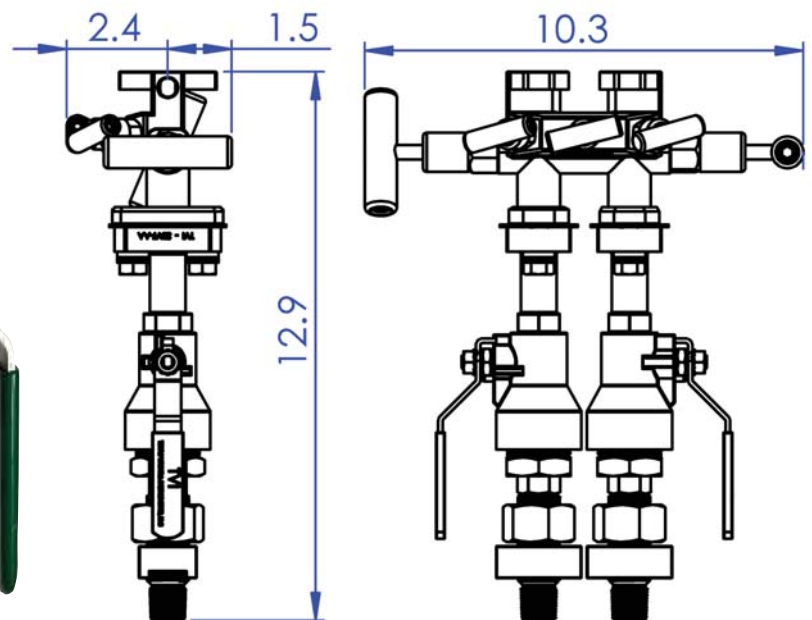
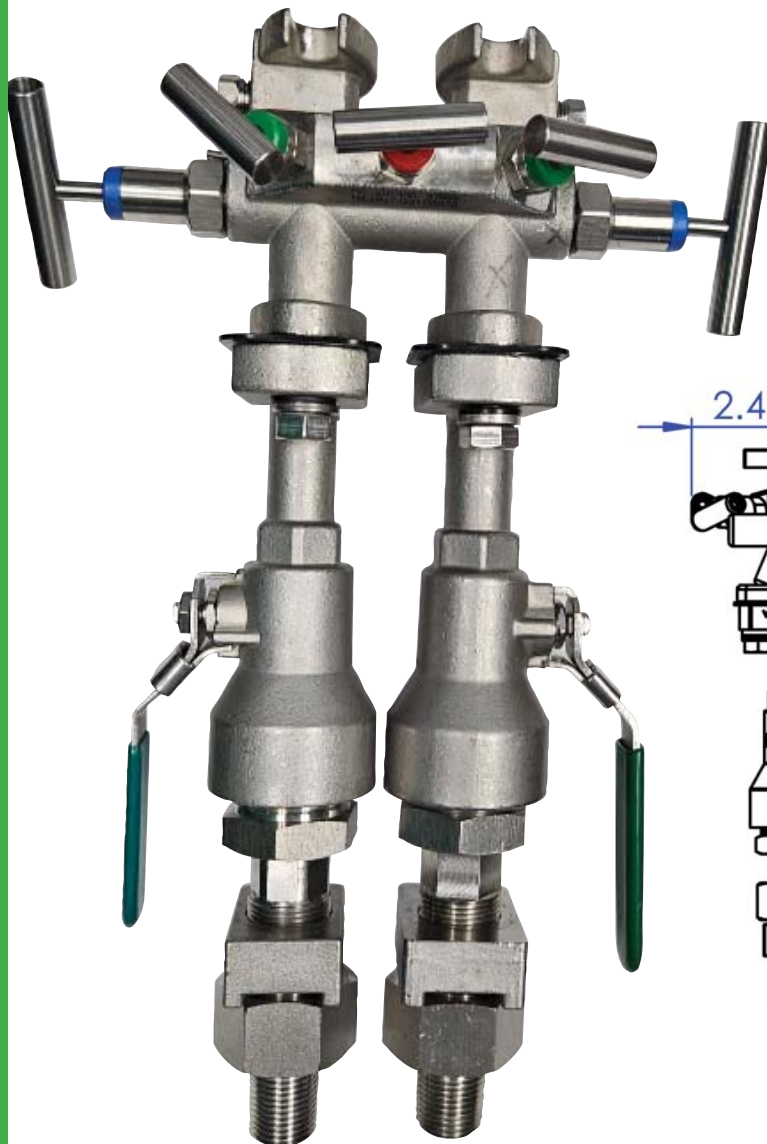


Big Bore Measurement Set

Everything Necessary To Hook Your Flow Computer To An OFU

Part Number:

TM-BBK-123015



Specifications:

- **5 valve manifold with 3/8" bores**
- **Dielectric kit**
- **Fire safe ball valves with 3/8" bores**
- **Bolting kit**
- **Gaskets**

- Pressure rating: 6000 psi @ 200F
- Material: 316 SS
- Seats: Delrin
- Oring: Viton 75
- Mates with all applications on 2.125" centers
- 1/2" MNPT pipe taps
- Dielectric Kit: standard

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