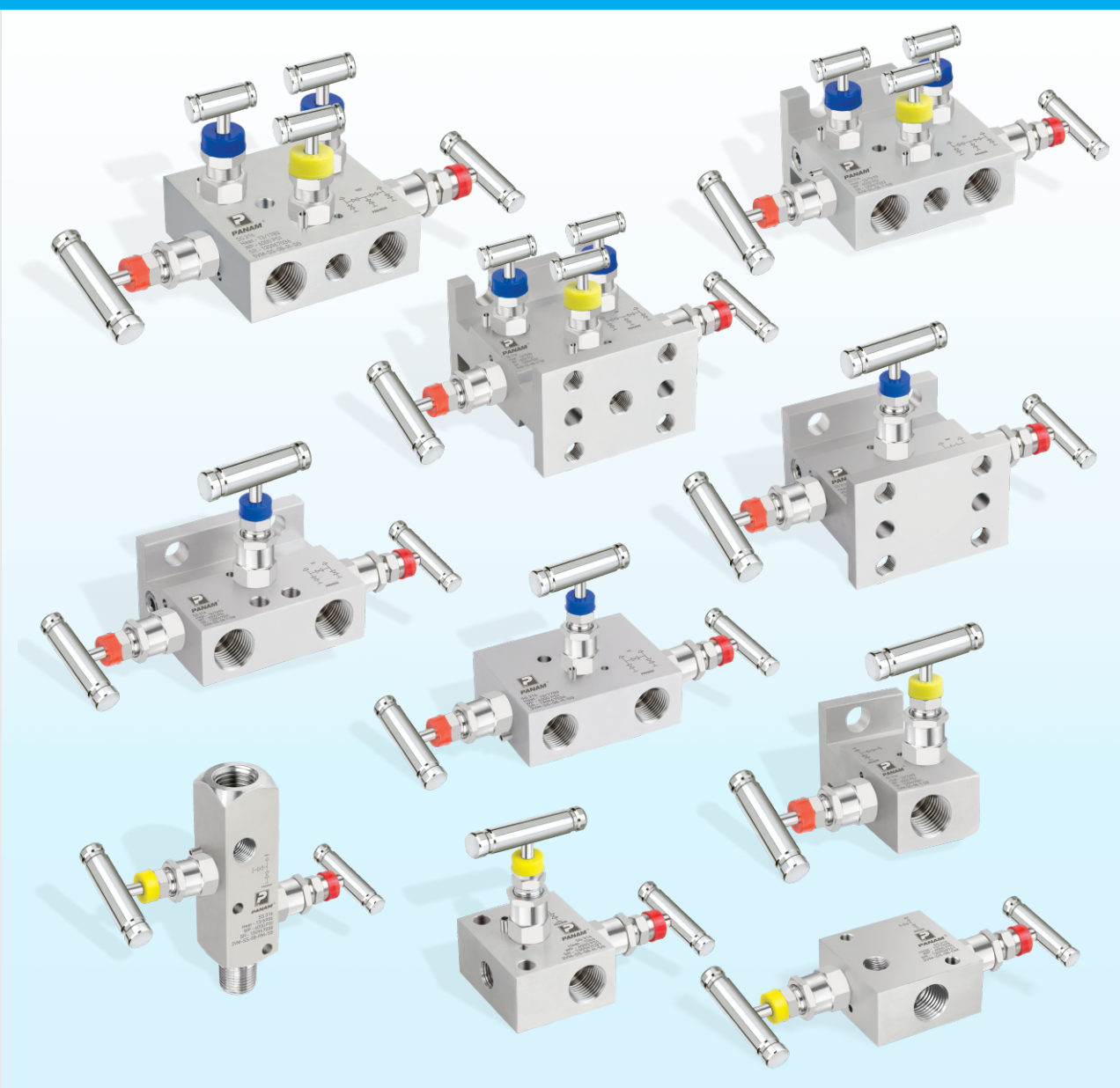


# Valve Manifolds



[www.panamengineers.com](http://www.panamengineers.com)

## 2-3-5 Valve Manifolds

**PANAM** 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 available in SS 316, CS, Monel & Hastelloy Materials.

**PANAM** Valve Manifolds series offer 2, 3 and 5 valves configurations which come in Remote Mounting “R” Type (Pipe to Pipe), Direct Mounting “T” & “H” Type (Pipe to Flange & Flange to Flange) on to the instrument on 2-1/8” (54mm) centre. Non-Rotating vee tip provides repetitive & leak tight shut-off. Packing below threads to prevent lubricant washout.

**PANAM** Valve Manifolds are functionally installed to control, measure, isolate, equalize, calibrate, drain, vent or differentiate the pressure of liquids and gases.

**PANAM** Valve Manifolds are 100% factory tested and are NACE certified with Heat code traceability. Maximum working pressure upto 10,000 psig (689 bar) or Higher available upon request

- API ISO 9001:2008 Certified
- API ISO TS 29001 Certified
- API Spec Q1 Certified
- API 6A Certified
- API 6D Certified
- API 600 Certified
- API 602 Certified
- MFG. Facility Approved by ABS Ind.
- ASTM F1387-99
- Leak Test Approved by TUV
- CE Marking





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## Features & Benefits

**Forged One Piece Body Construction (No Welding)**  
**Non Rotating Vee / Ball Tip Design**

**Safety Bonnet Lock**

**Stem Thread Rolled & Hard Plated**

**Mirror Finish Stem, Furnished to a 16RMS**

**Adjustable Packing Below Stem Threads**

**Safety Back Seating**

**Stainless Steel Handle**

**Body to Bonnet Seal**

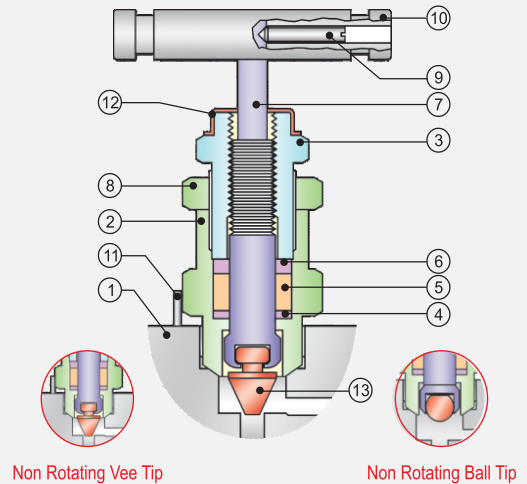
**Dust Cap**

- For High Strength
- Which forms a bearing joint with the stem eliminates rotation between plug & seat at closure, This prevents scoring and galling up the valve seat and ensure long life in repetitive shut off service.
- Prevents accidental disassembly.
- Provides additional strength & maximum service life.
- Extends packing life and smooth stem operation.
- Prevents stem lubrication washout and isolate threads from process contamination.
- Provides secondary stem seal in full open position, prevents stem blow out.
- For proper actuation.
- Metal to Metal constant compression, isolate bonnet threads from system fluids and eliminates possible tensile.
- Prevents contaminants and lubricant washout of bonnet assembly.

## Material of Construction

### Hard Seat

Sr. No.	Part	Qty.	Material
1.	Body	1	A479-316 / A-105
2.	Gland Body	1	A479-316 / A-105
3.	Gland Retainer	1	A479-316 / A-105
4.	Washer	1	A479-316 / A-105
5.	Packing	1	PTFE / Graphoil
6.	Packing Washer	1	A276-316 / A-105
7.	Spindle	1	A276-316
8.	Lock Nut	1	A479-316 / A-105
9.	Grub Screw	1	Steel
10.	Handle	1	A276-304 / A-105
11.	Lock Pin	1	A479-316 / A-105
12.	Dust Cap	1	Plastic LD.
13.	Tip	1	A564 - 630



## Pressure & Temperature Ratings

**PANAM** Valves comply with ASME standard B16.34-2004 for valves with threaded and welding ends. These tables must be used in accordance with ASME standards, The user is advised that a valve must be used under jurisdiction of the ASME boiler and pressure vessel code, ASME code for pressure piping, and Canadian governmental regulations and is subject to any limitations of that code or regulation. At temperatures over 1000°F. Material shall have a minimum carbon content of .04% or higher to the maximum allowed for ASTM grade A479-316

Service Temp. Degrees F	Working Pressure PSIG	
	316 SS	A105 CS
-20 to 100	6000	6170
200	5160	5625
300	4660	5470
400	4280	5280
500	3980	4990
600	3760	4560
650	3680	4475
700	3620	4440
750	3560	4200

Service Temp. Degrees F	Working Pressure PSIG	
	316 SS	A105 CS
800	3520	3430
850	3480	2230
900	3460	1430
950	3220	860
1000	3030	430
1050	3000	-
1100	2545	-
1150	1970	-
1200	1545	-

## Manifold Selection

Pressure and temperature rating are selected from ANSI B16.34 for standard class valves based on ANSI B16-Class 2500. Optional sour gas service confirms to NACE STD MR-01-75.

## Testing

Each valve is hydrostatically tested in accordance with MSS-SP-99. This procedure includes testing of the body cavity. Hydrostatic test is performed with pure water or other liquids of similar or lower viscosity at 1.5 times and seat leakage test at 1.1 times of the maximum working pressure.

Each valve is also tested with Nitrogen Gas at 1000 psi for seat, seal and shell leakage.

Other tests like Vibration, Temperature, Helium are available upon request.

## Ordering Information

**2-VM-SS-8-R-SG**

### Number of Valves

- 2 Valves
- 3 Valves
- 5 Valves

### Valve Manifolds

### Material

- SS - 316 SS
- CS - Carbon Steel
- M - Monel

### Process Connection

- 8 - 1/2" NPT
- 4 - 1/4" NPT

### Mounting

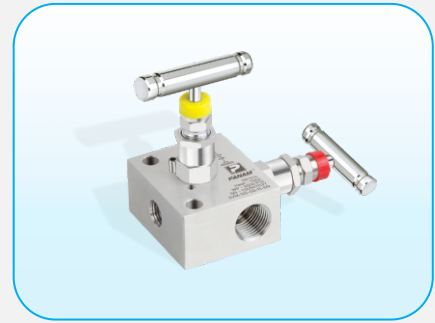
- R - Pipe to Pipe
- T - Pipe to Flange
- H - Flange to Flange

### Optional

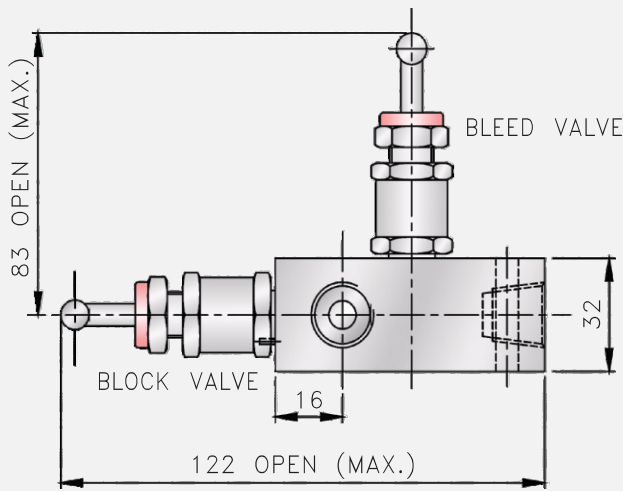
- SG - Sour Gas Service Confirms to NACE MR-01-75
- G - Graphoil Packing for High Temperature

## 2 Valve Manifolds - Pipe to Pipe (2VM-SS-8-R)

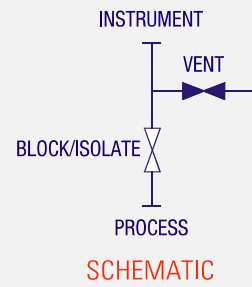
**PANAM** 2 Valve Manifold Pipe to Pipe design for separate mounting, connecting system impulse lines and transmitters, having simple two valve configuration, which allows for easy block, bleed and calibration of a static pressure transmitter or gauge.



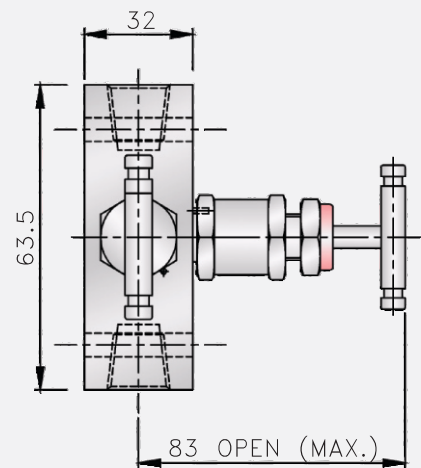
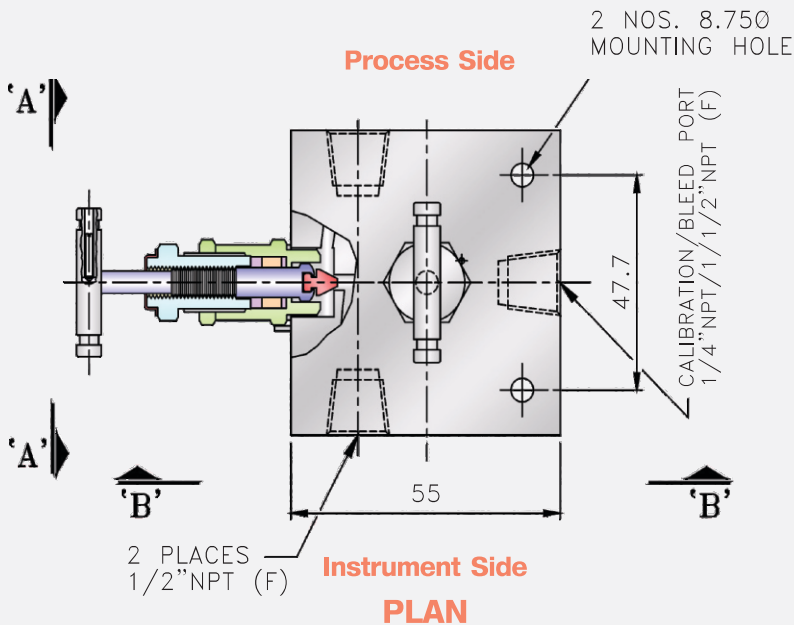
### Dimensions



**View "BB"**



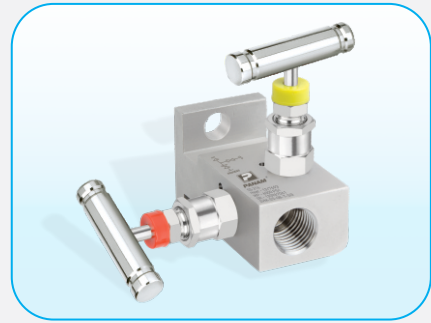
**SCHEMATIC**



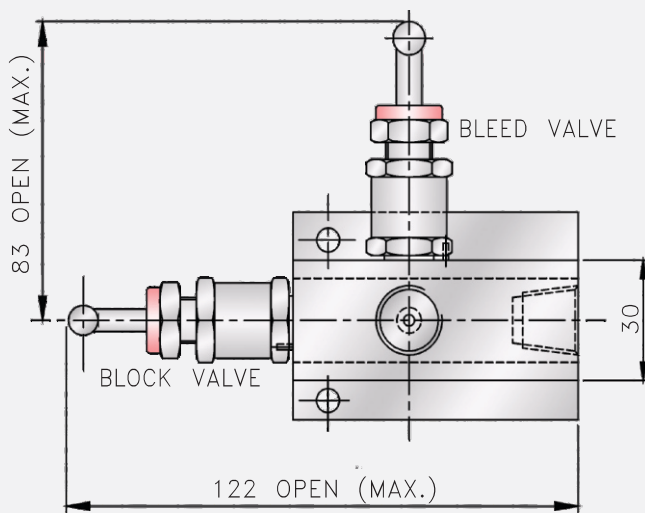
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## 2 Valve Manifolds - Pipe to Flange (2VM-SS-8-T)

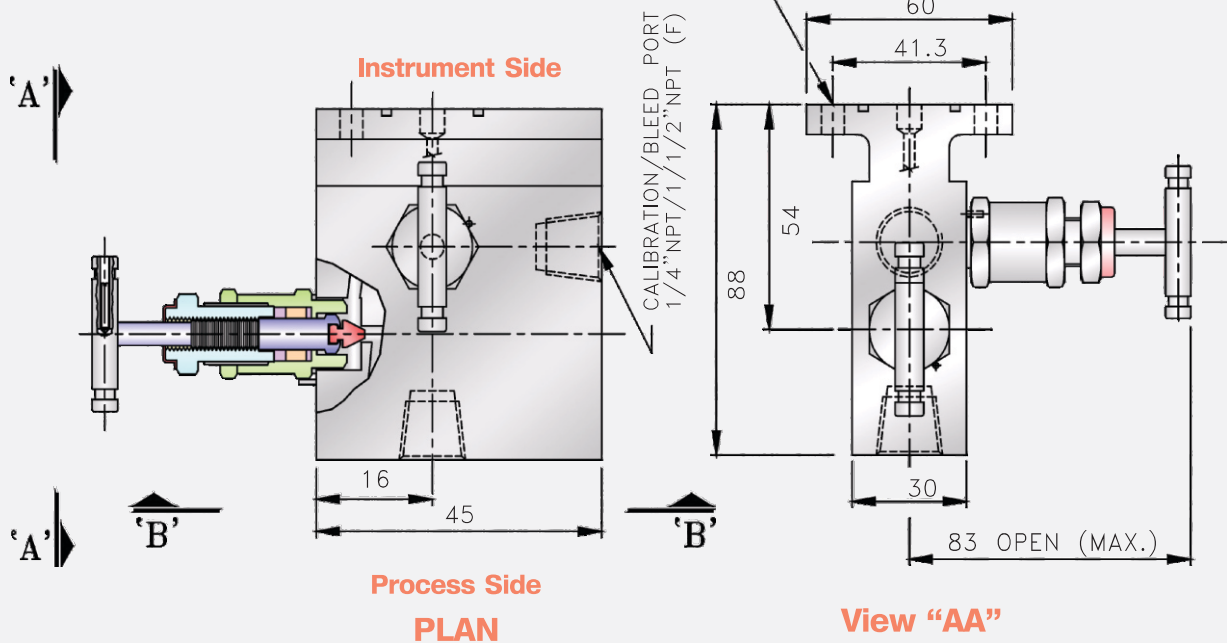
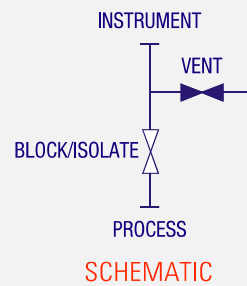
**PANAM** 2 Valve Manifold Pipe to Flange design for separate mounting, connecting system impulse lines and transmitters, having simple two valve configuration, which allows for easy block, bleed and calibration of a static pressure transmitter or gauge.



### Dimensions



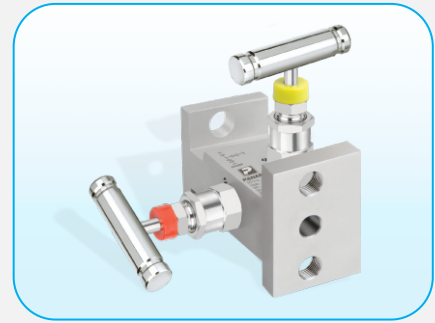
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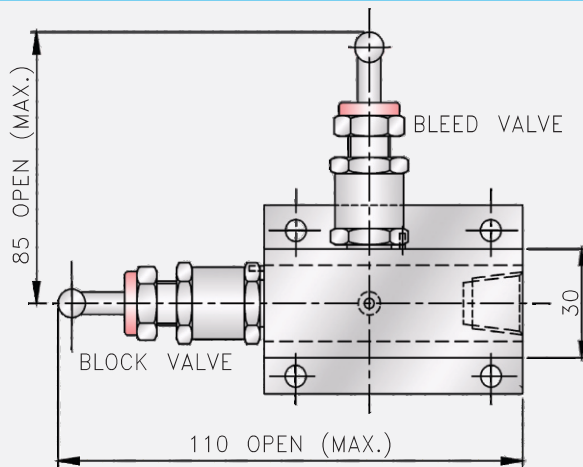


## 2 Valve Manifolds Flange to Flange (2VM-SS-8-H)

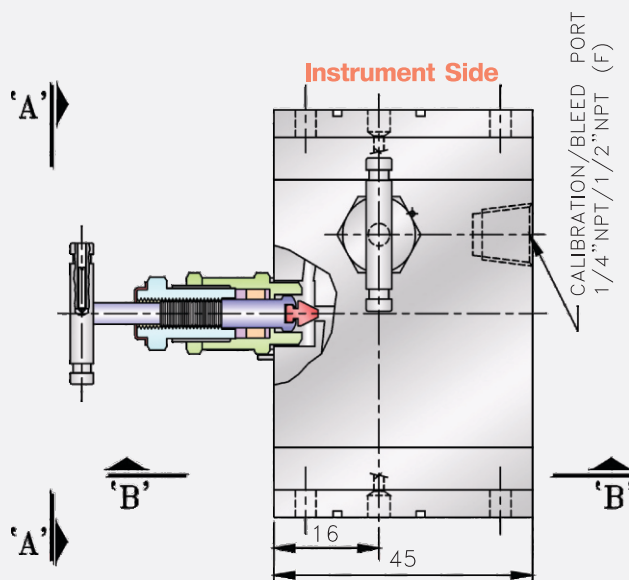
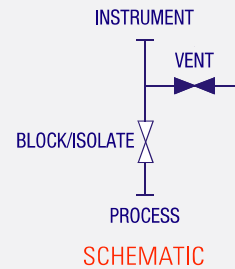
**PANAM** 2 Valve Manifold Flange to Flange design for separate mounting, connecting system impulse lines and transmitters, having simple two valve configuration, which allows for easy block, bleed and calibration of a static pressure transmitter or gauge.



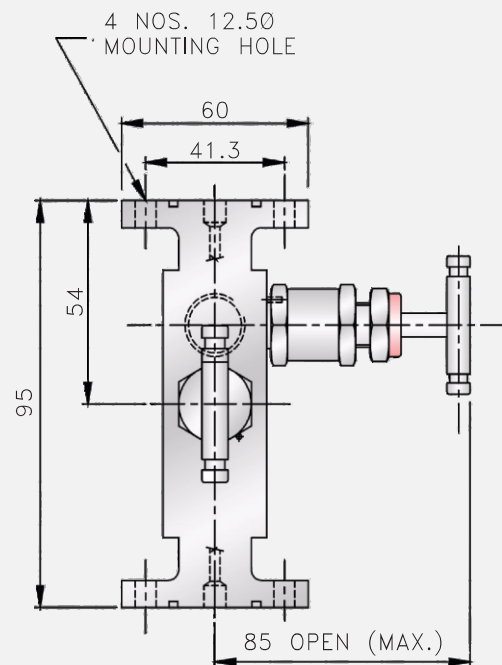
### Dimensions



**View "BB"**



**Process Side  
PLAN**

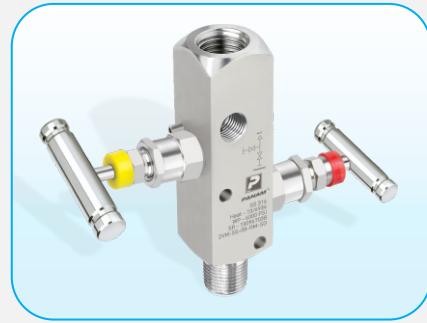


**View "AA"**

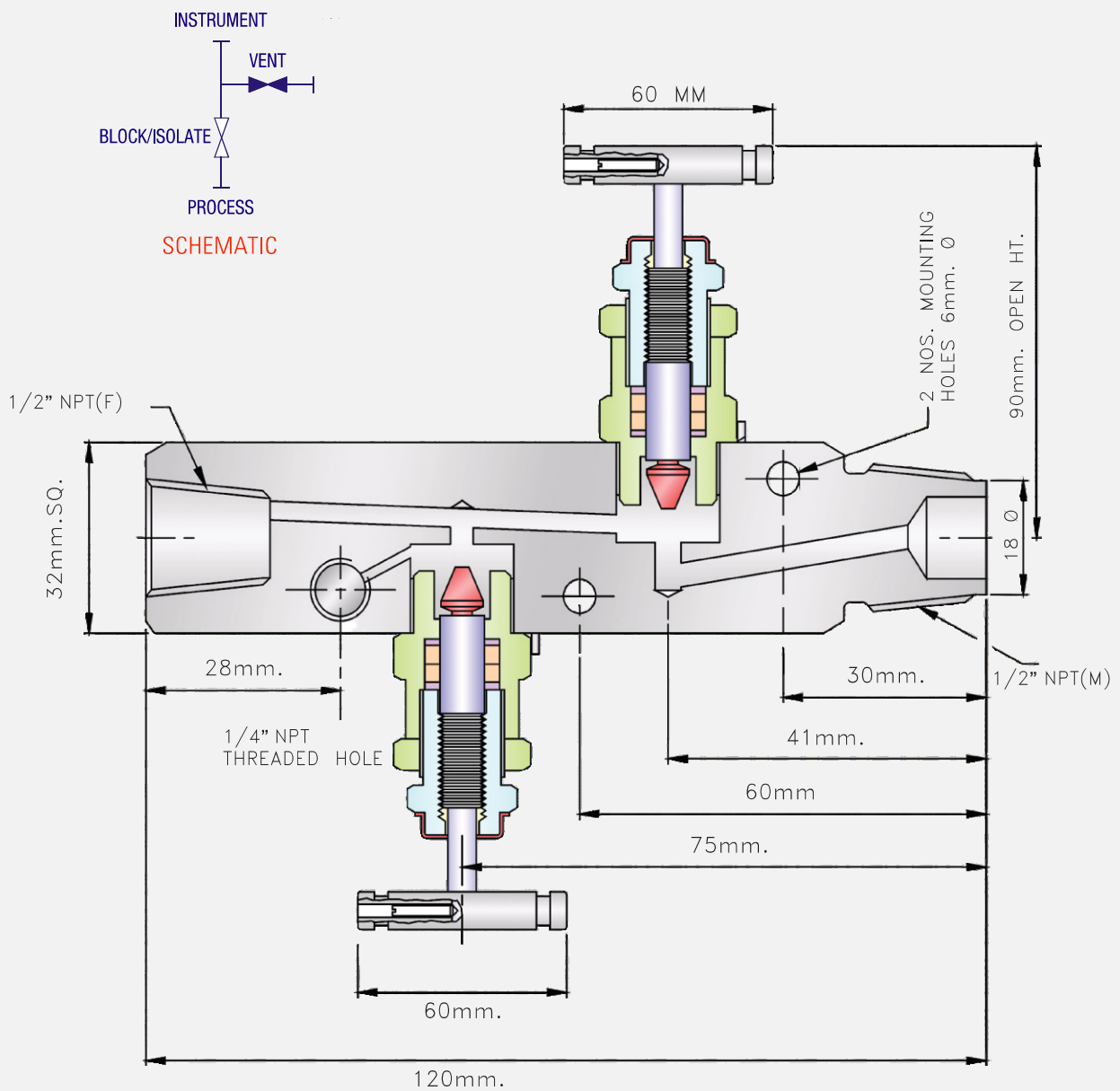
## 2 Valve Manifolds - Remote Mount (2VM-SS-8-RM)

### **PANAM** 2 Valve Manifold Remote Mount

Flange to Flange design for separate mounting, connecting system impulse lines and transmitters, having simple two valve configuration, which allows for easy block, bleed and calibration of a static pressure transmitter or gauge.

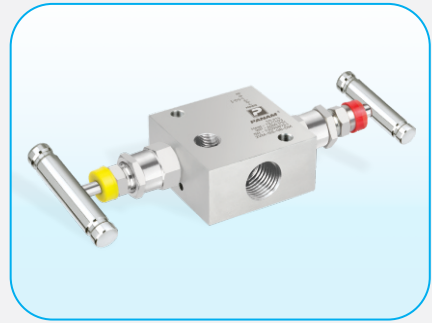


## Dimensions

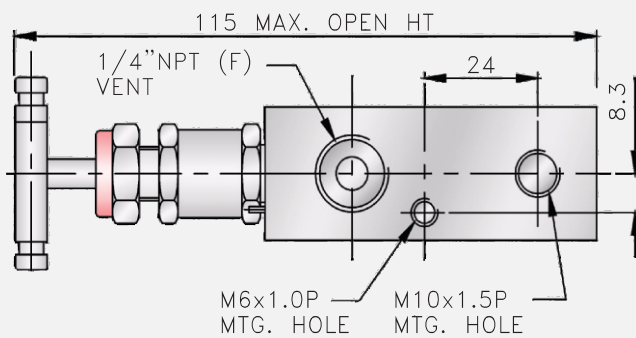


## 2 Valve Manifolds - Direct Mount (2VM-SS-8-DM)

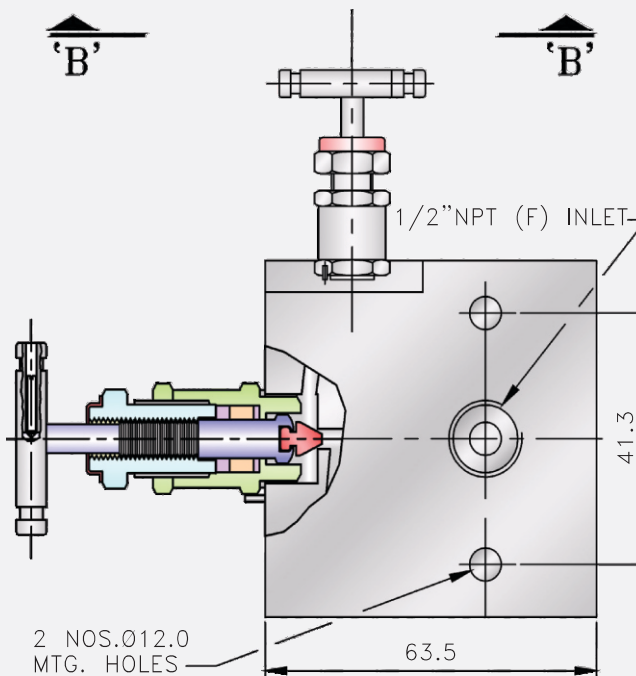
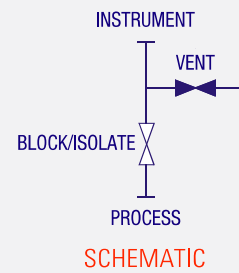
**PANAM** 2 Valve Manifold Pipe to Flange design for direct mounting, connecting system impulse lines and transmitters, having simple two valve configuration, which allows for easy block, bleed and calibration of a static pressure transmitter or gauge.



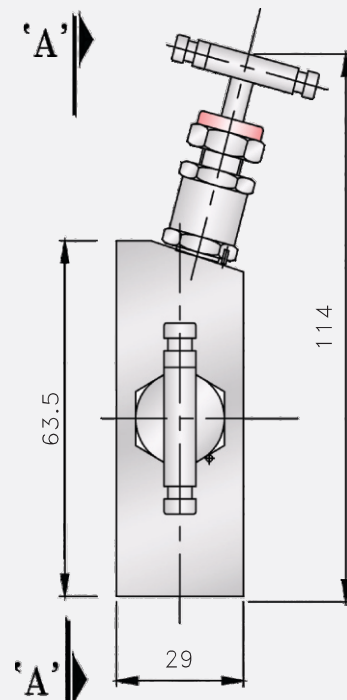
## Dimensions



View "BB"



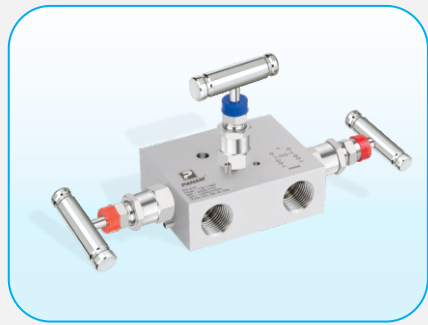
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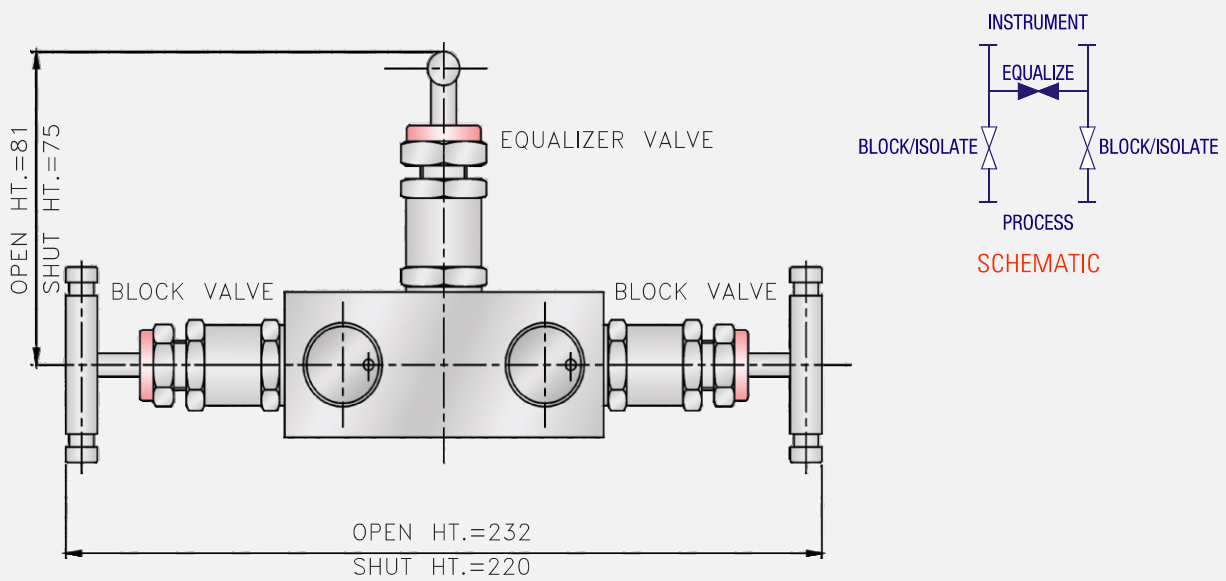
Side View

### 3 Valve Manifolds - Pipe to Pipe (3VM-SS-8-R)

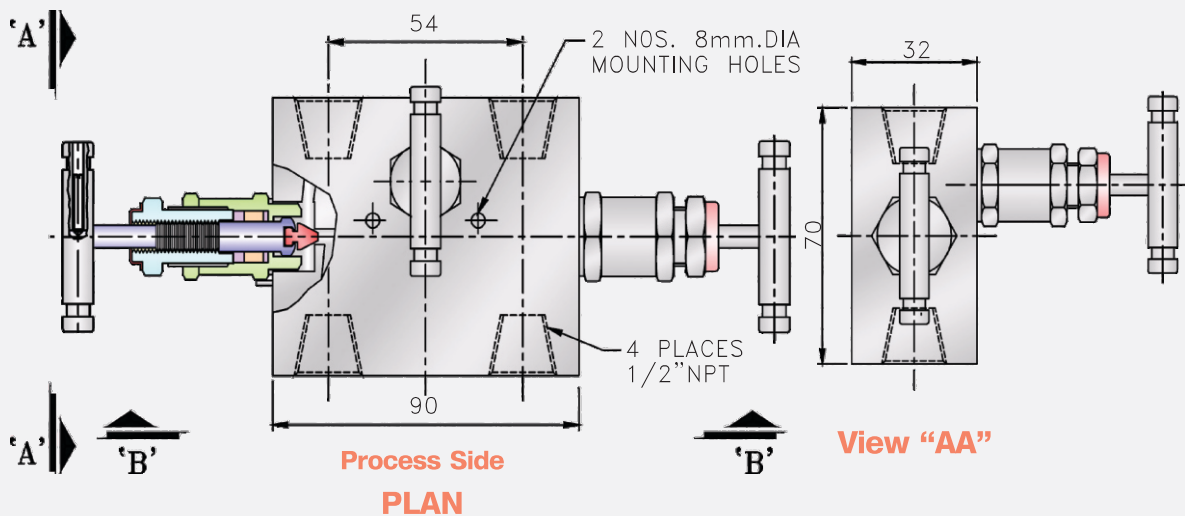
**PANAM** 3 Valve Manifold Pipe to Pipe design for connecting system impulse lines and transmitters. This valve consist of 1/2" NPT Female connections on 54mm (2-1/8") centers and one equalizer valve and two block valve



### Dimensions



**View "BB"**

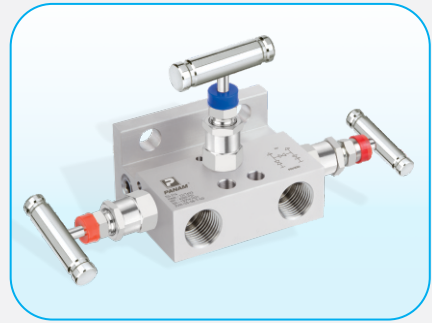


**Process Side PLAN**

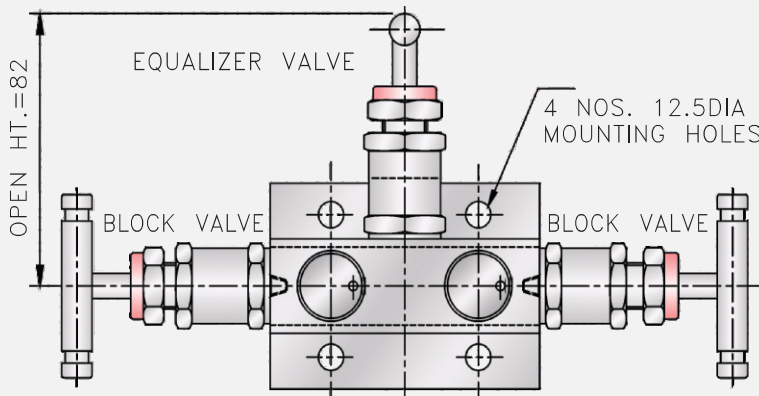
**View "AA"**

### 3 Valve Manifolds - Pipe to Flange (3VM-SS-8-T)

**PANAM** 3 Valve Manifold Pipe to Flange design for connecting system impulse lines and transmitters. This valve consist of 1/2" NPT female connections on 54mm (2-1/8") centers and of one equalizer valve and two block valves. 1/4" NPT purge connections (2) optional

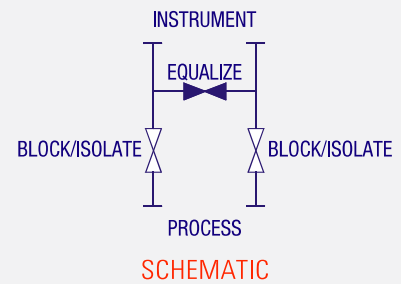


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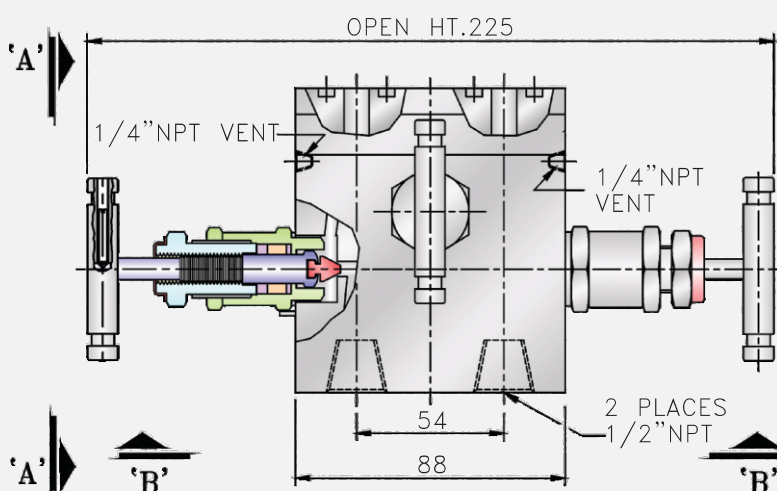


**View "BB"**

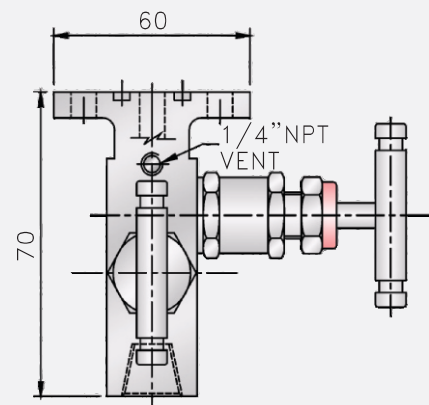
**Instrument Side**



**SCHEMATIC**



**Process Side  
PLAN**

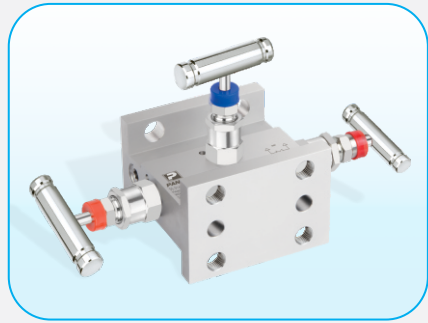


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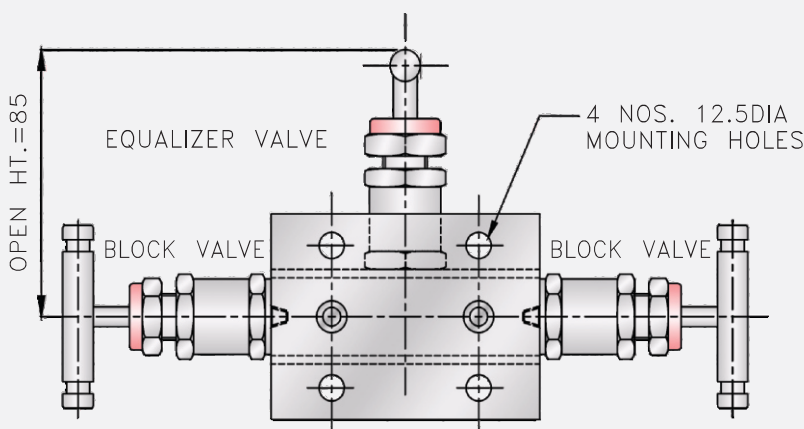


### 3 Valve Manifolds - Flange to Flange (3VM-SS-8-H)

**PANAM** 3 Valve Manifold Flange to Flange design for connecting system impulse lines and transmitters. This valve consist of 1/2" NPT Female connections on 54mm (2-1/8") centers and one equalizer valve and two block valve

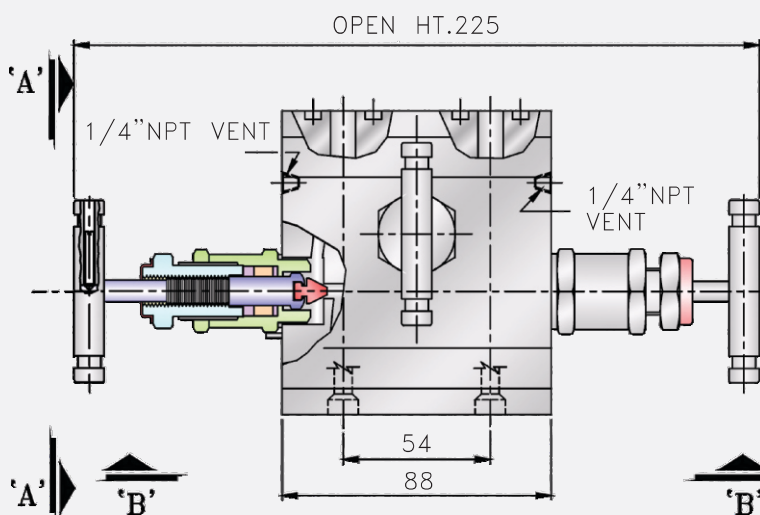
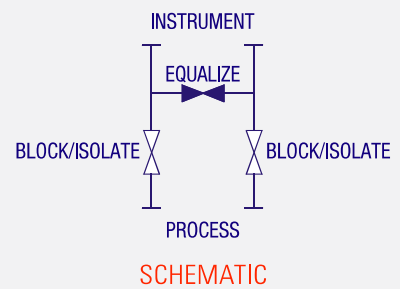


### Dimensions

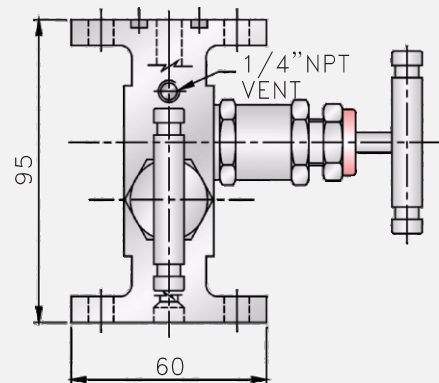


**View "BB"**

**Instrument Side**



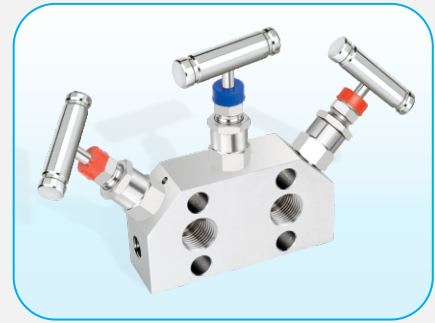
**Process Side  
PLAN**



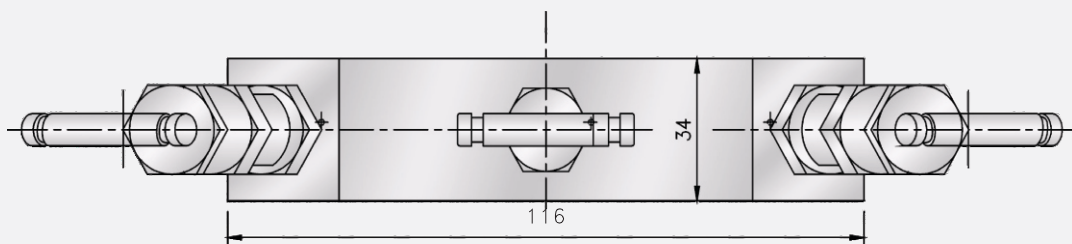
**View "AA"**

### 3 Valve Manifolds - Direct Mount (3VM-SS-8-DM)

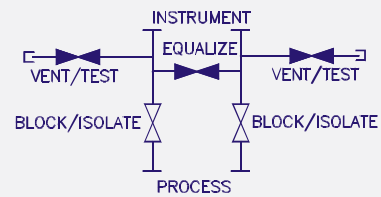
**PANAM** 3 Valve Manifold Pipe to Flange, base mount connection design for connecting system impulse lines and transmitters. This valve consist of 1/2" NPT female connections on 54mm (2-1/8") centers and of one equalizer valve and two block valves.



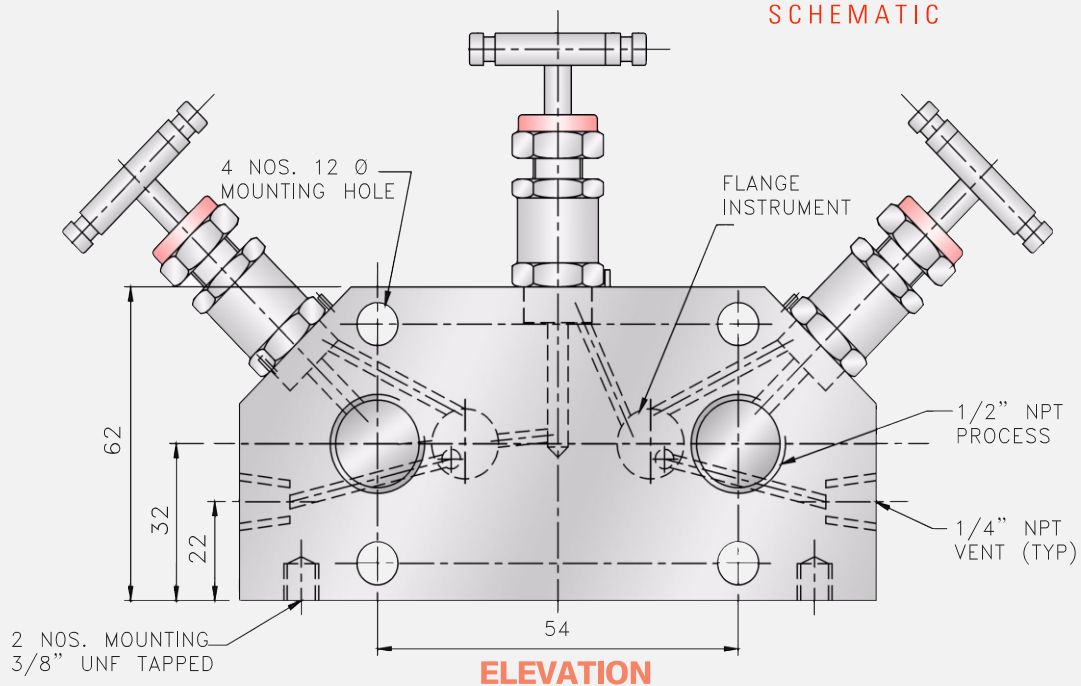
### Dimensions



PLAN



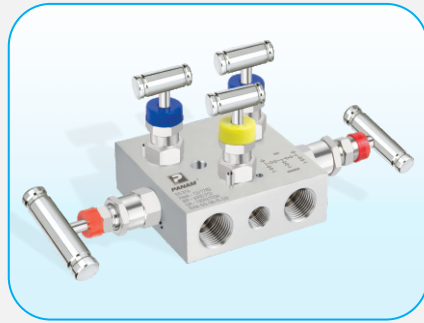
SCHEMATIC



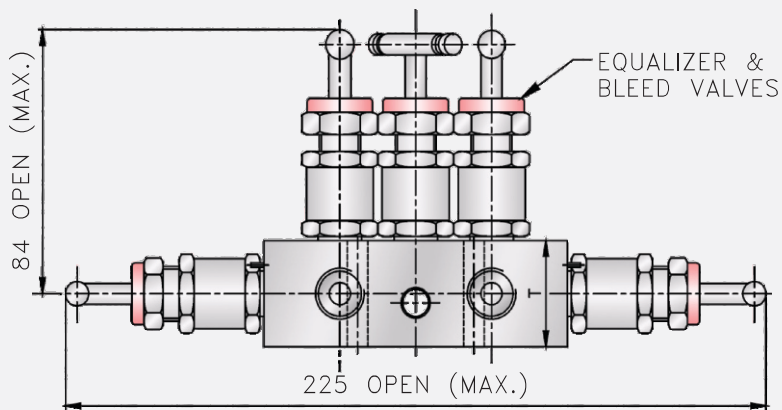
ELEVATION

## 5 Valve Manifolds - Pipe to Pipe (5VM-SS-8-R)

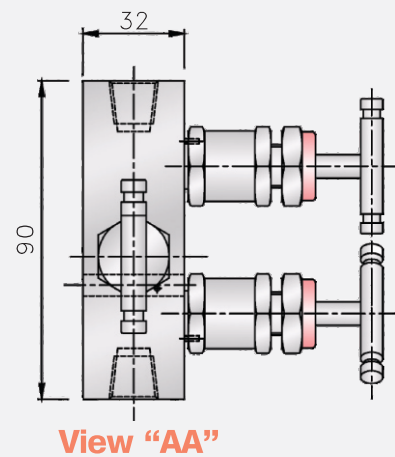
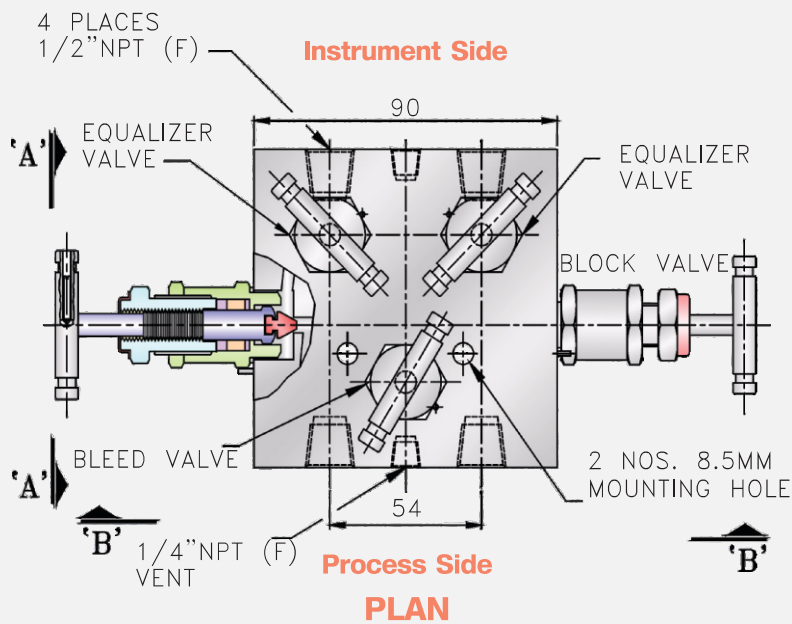
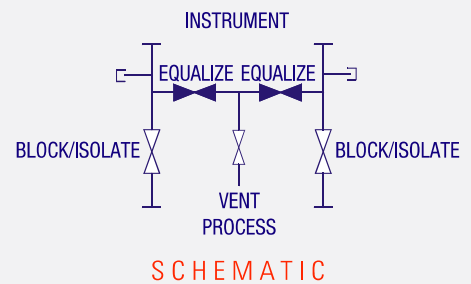
**PANAM** 5 Valve Manifold Pipe to Pipe design for connecting system impulse lines and transmitters. This valve consist of 1/2" NPT Female connections on 54mm (2-1/8") centers to suit the inlet connection. This valve provides two instrument isolating valves, Two equalizer valves and one bleed valve. (For Testing).



## Dimensions



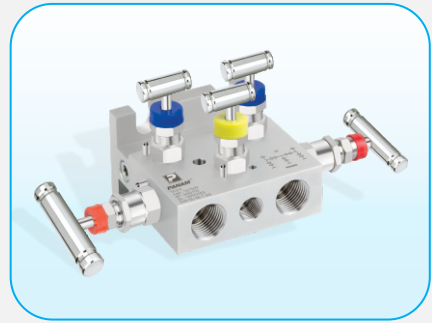
**View "BB"**



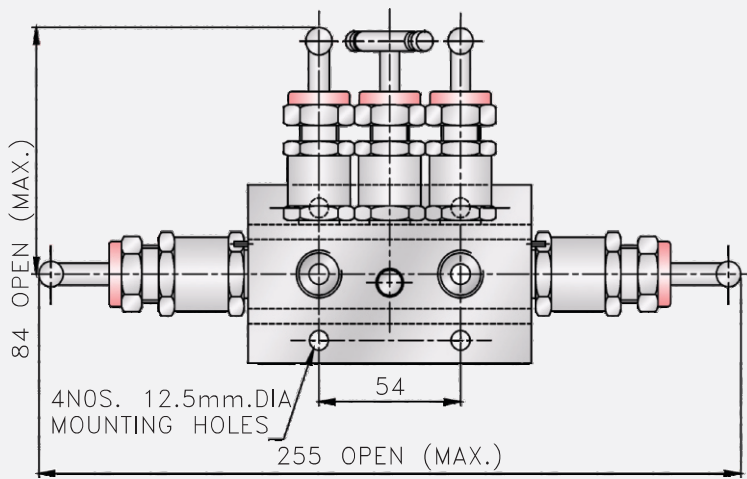
**View "AA"**

## 5 Valve Manifolds - Pipe to Flange (5VM-SS-8-T)

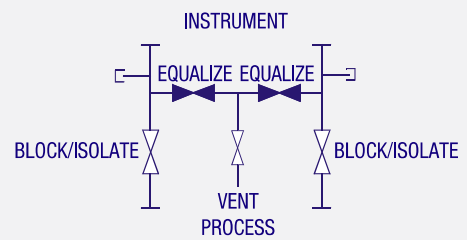
**PANAM** 5 Valve Manifold Pipe to Flange design for connecting system impulse lines and transmitters. This valve consist Pipe to Flange connections with Teflon/Viton O-Ring packing on 54mm (2-1/8") centers to suit the inlet connection. This valve provides two instrument isolating valves, Two equalizer valves and One bleed valve. (For Testing).



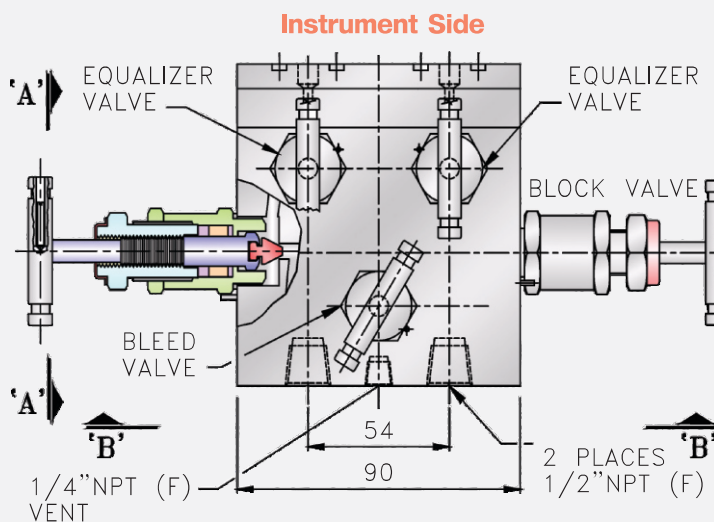
## Dimensions



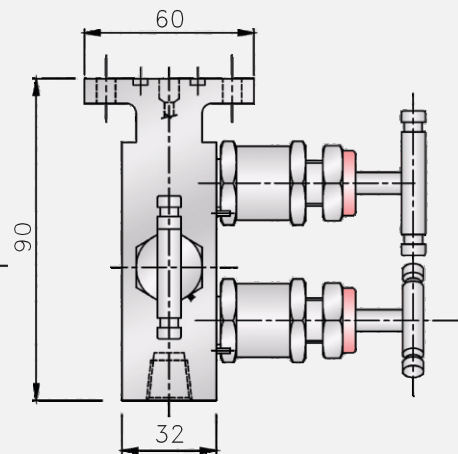
**View "BB"**



**SCHEMATIC**



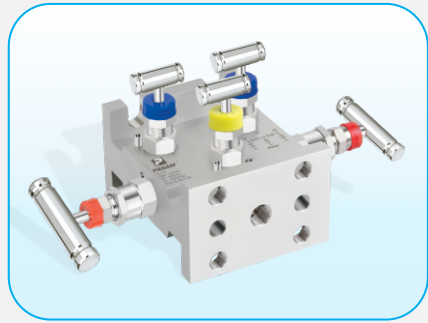
**Process Side PLAN**



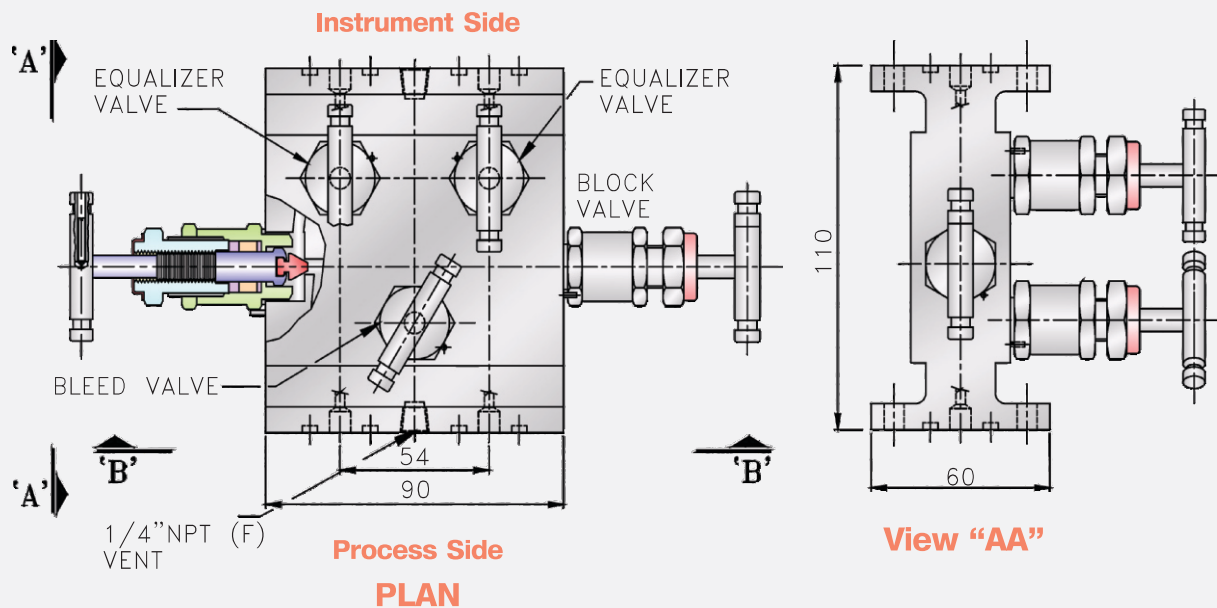
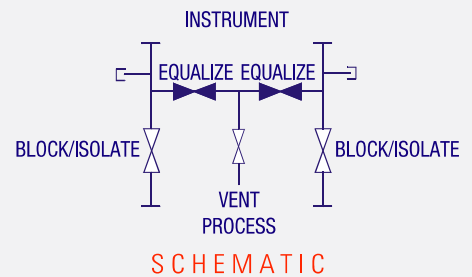
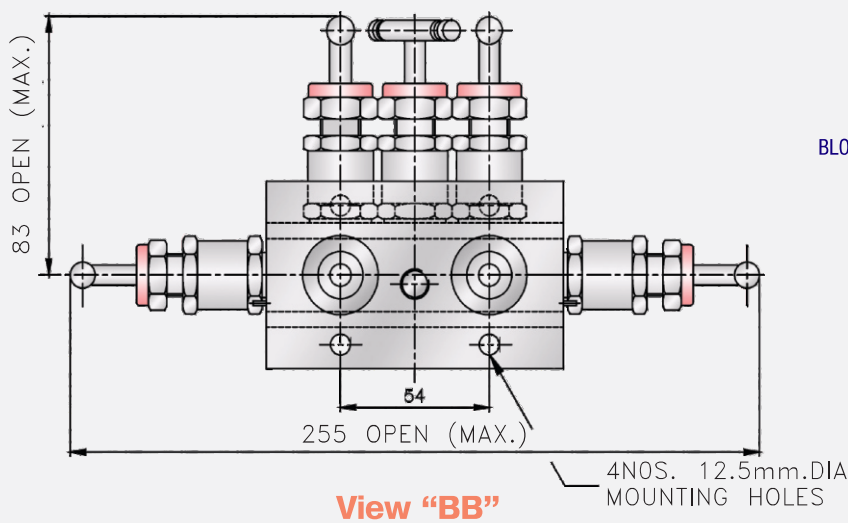
**View "AA"**

## 5 Valve Manifolds - Flange to Flange (5VM-SS-8-H)

**PANAM** 5 Valve Manifold Flange to Flange design for connecting system impulse lines and transmitters. This valve consist two flange connections with Teflon/Viton O-Ring packing on 54mm (2-1/8") centers to suit the inlet connection. This valve provides two instrument isolating valves, Two equalizer valves and one bleed valve. (For Testing).



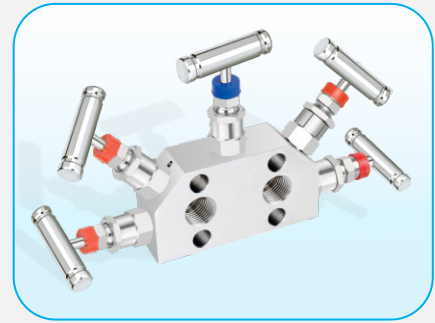
## Dimensions



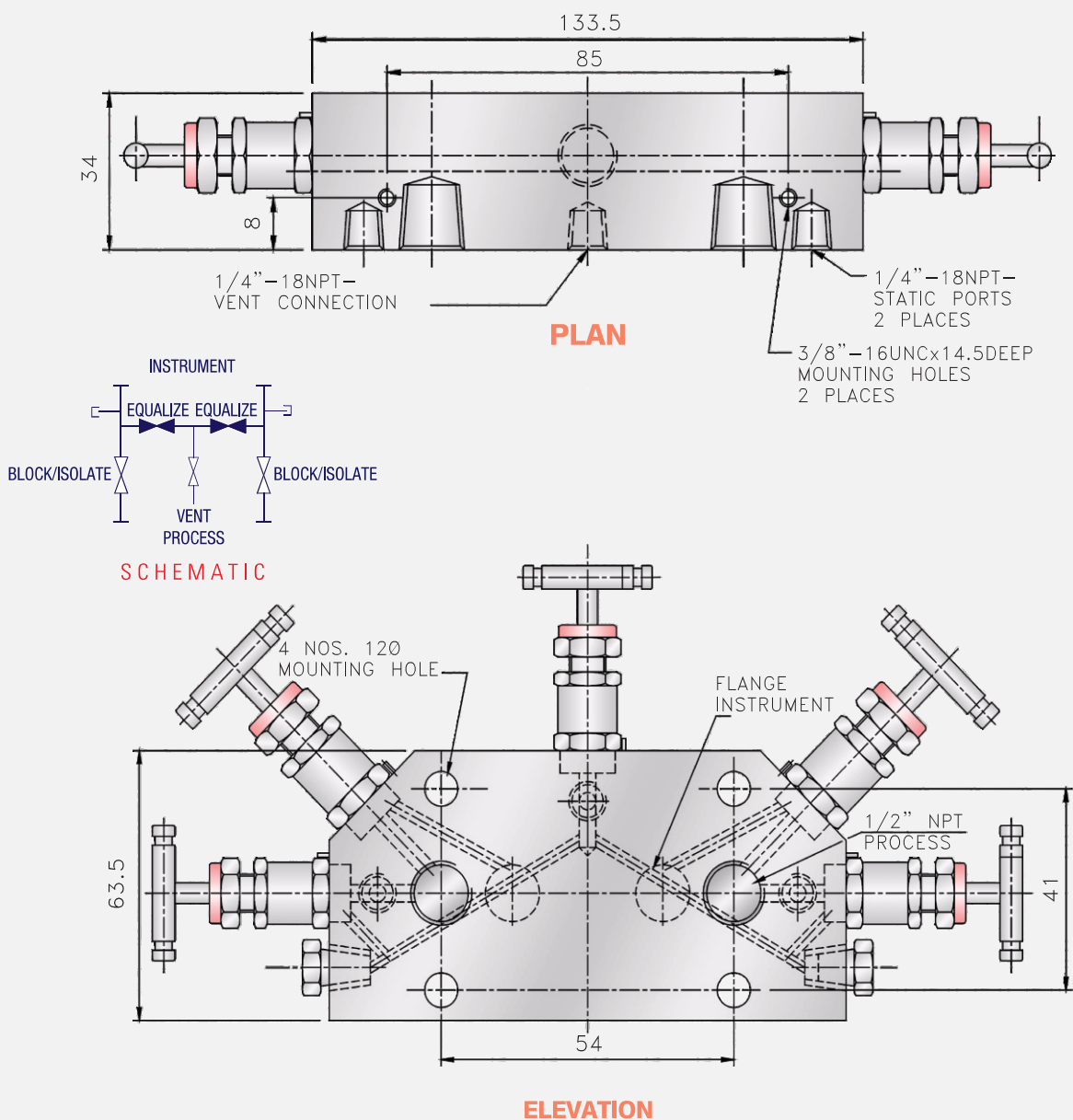


## 5 Valve Manifolds - Direct Mount (5VM-SS-8-DM)

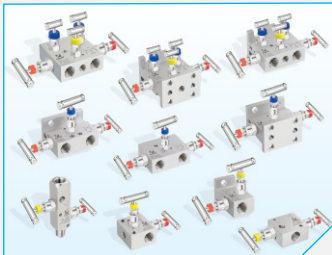
**PANAM** 5 Valve Manifold integral mounting connection design for system impulse lines and transmitters. This valve consist of 1/2" NPT female connections on 54mm (2-1/8") centers and of Two equalizer valves, Two block valves and one vent valve.



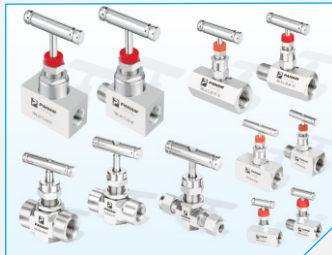
## Dimensions



## Other Products



2, 3 & 5 Valve Manifolds



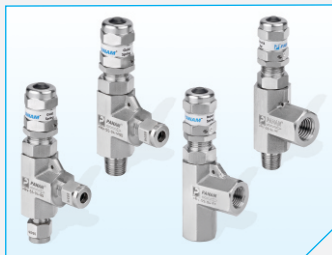
Needle Valves



Ball Valves



Check Valves



Relief Valves



Tube Fittings



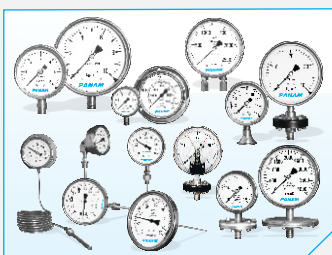
Pipe Fittings



Thermowells



Gauge Root Valves



Pressure, Temperature & Diaphragm Gauges



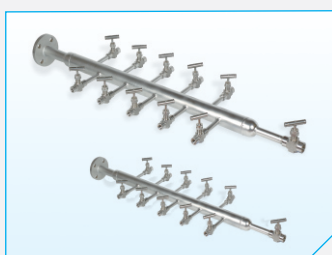
Pressure Transmitters



Pressure Regulators



Double Block & Bleed Valves



Air Header



Industrial Valves



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