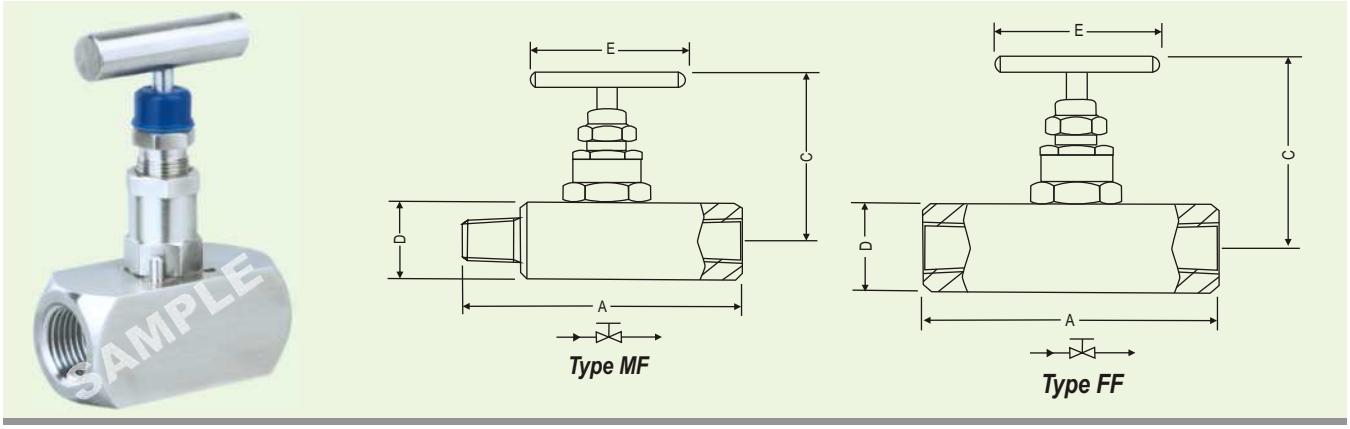
NEEDLE VALVE NV4

Type needle valves with hard seat are designed for use on applications requiring complete isolation or throttling of the media. The conical metal tip (Stem Type CT) press fitted ensures perfect alignment for positive bubble tight shut-off. Available with end connections in sizes from 1/8" to 1" and a wide choice in connections of female screwed, male screwed, male to female screwed or socket weld.



Technical specifications

Pressure	:	400 bar
Max temp.	:	240°C
Material	:	Stainless Steel
Stem	:	(Type CT) Conical tip press fitted hard chrome plated
Gland Packing	:	PTFE (Grafoil to be used for temperature above 240°C to 550°C)
Stem packing area	:	Burnished mirror finish for Smooth valve operation.
Safety Feature	:	Back seating for preventing stem blowout.

Size	Type	Length A	Width D	Ht open C	Ht closed C	Handle E
1/8"	FxF	50	22	55	52	40
	MxF	55	22	55	52	40
	MxM	60	22	55	52	40
1/4"	FxF	55	25	63	60.5	40
	MxF	65	25	63	60.5	40
	MxM	60	25	63	60.5	40
3/8"	FxF	55	25	63	60.5	40
	MxF	65	25	63	60.5	40
	MxM	65	25	63	60.5	40
1/2"	FxF	65	32	83.6	79.6	50
	MxF	75	32	83.6	79.6	50
	MxM	70	32	83.6	79.6	50
3/4"	FxF	70	38	88.6	82.6	50
	MxF	75	38	88.6	82.6	50
	MxM	80	38	83.6	79.6	50
1"	FxF	90	45	101	96	50
	MxF	105	45	101	96	50
	MxM	105	45	101	96	50

All dimensions are in mm

Applications :
- High pressure line shut off.
- Instrument isolation.
- Gauge isolation.
- Drain valve.
- Liquid and vapor service.

Optional : **Also available High pressure valveswith stem HPa for 10,000 psi pressureSeries no. is NV10. Also available High pressure valves with stem V2 for 20,000 psi pressure Series no. is NV20.**

Note : Other combination sizes available on request. Please contact factory for more details.

NEEDLE VALVE NV4

How to order : NV4

Body Material	Stem Packing	Size = P x P1	Connections	Threads
C = Carbon Steel	P = PTFE	24 = 1/4" x 1/4"	FF = Female x Female	N = NPT (ANSI B1.20.1.)
S = SS 316	G = Grafoil	33 = 3/8" x 3/8"	MF = Male x Female	P = BSPP (BS2779)
S4 = SS 304		44 = 1/2" x 1/2"	MM = Male x Male	B = BSPT (BS21)
SL = SS 316L		66 = 3/4" x 3/4"	SW = Socket Weld	
M = Monel 400		88 = 1" x 1"		
H = Hastelloy C				
B = Brass				

- Options -

IE : Handle circular plastic.
TF : Sour gas service to NACE standard MR-01-75.
SG : For Oxygen service, valves are supplied cleaned and degreased and suitably packed.
GH: Material test certificate
GO : Hydrotest test certificate

- Example -

To place an order simply refer to the codes in the table.

Valve Type : Body Material + Stem Packing + Size + Connections + Threads + Options

NV4 : S + P + 44 + FF + N = NV4 - S - P - 44 - FF - N - Options

- Note -

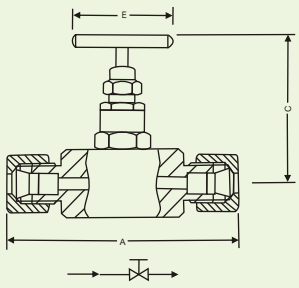
The weld prepared types are available with a male-or-female plain end - suitable for socket weld, or male butt weld end. Always specify pipe schedule and further requirements when ordering valves for welded or Flange connections. Panel mounting option for installation in racks and panels.

- Standard Valve Materials -

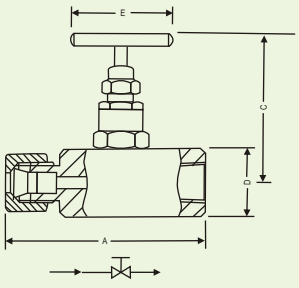
Valve	Body	Bonnet	Stem	Tip
Carbon Steel	CS A105	SS304	SS316	SS316
Stainless Steel	SS316	SS316	SS316	SS316
Monel	Alloy 400	Alloy 400	Alloy 400	Alloy K500

NEEDLE VALVE CET (Compression end)

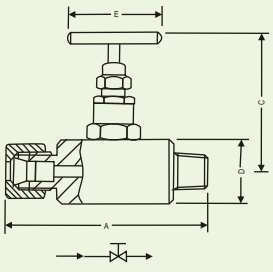
Needle Valves with compression ends designed for use on general applications requiring complete isolation and throttling of media. offered with Waaree designed twin ferrules and nuts are available in imperial and metric sizes. Specially designed conical metal tip press fitted ensures perfect alignment for positive bubble tight shut-off. Available with tube end connections in sizes from 6 mm to 12 mm and 1/4" to 1/2" tube or one end screwed to male or female.



Type TT



Type TF



Type TM

Technical specifications

Pressure	:	400 bar
Max temp.	:	240°C
Material	:	Stainless Steel
Stem	:	(CT) Conical tip press fitted hard chrome plated.
Gland Packing	:	PTFE (Grafoil to be used for temperature above 240°C till 550°C)
Stem packing area	:	Burnished mirror finish for smooth valve opera tion.
Safety Feature	:	Back seating for preventing stem blowout.

Type	Length A	Width D	Ht open C	Ht closed C	Handle E
6M x 6M	65	25	63	60.5	40
8M x 8M	65	25	63	60.5	40
10Mx 10M	65	25	63	60.5	40
12M x 12M	65	32	83.6	79.6	50
1/4" OD x 1/4" NPTF	65	25	63	60.5	40
3/8" OD x 3/8"NPTF	65	25	63	60.5	40
1/2" OD x ½"NPTF	65	32	83.6	79.6	50
1/4" OD or 6M x 1/4"NPTM	65	25	63	60.5	40
8m x 1/4"NPTM	65	25	63	60.5	40
3/8"OD or 10M x 3/8" NPTM	65	25	63	60.5	40
1/2" OD or 12M x 1/2" NPTM	72	32	83.6	79.6	50

All dimensions are in mm, base on finger tight position.

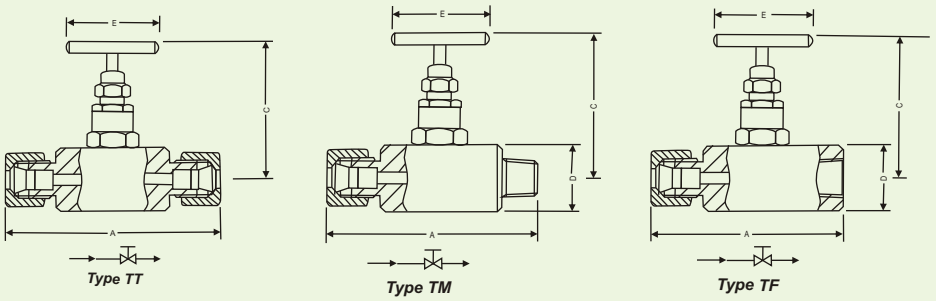
Applications :

- Instrument isolation.
- Media throttling
- Liquid and vapor service.

Note : Other combination sizes available on request. Please contact factory for more details.

NEEDLE VALVE CEB (Compression end)

Needle Valves with compression ends for use in applications on fluids containing solid particles designed to give high capacity bi-directional flow with reliable bubble tight shut off. The flow path of the valve is easily roddable on viscous fluid application cleaning. Offered with Waaree designed twin ferrules and nuts available in imperial and metric sizes. Available with tube end connections in sizes from 6 mm to 12 mm and 1/4" to ½" tube or one end screwed to male or female.



Technical specifications

Pressure	:	400 bar
Max temp.	:	240°C
Stem	:	Rising Plug(Type BD)
Stem packing area	:	Burnished mirror finish for smooth valve operation.
Safety Feature	:	Back seating for preventing stem blowout.
Feature	:	Replaceable soft seat which absorbs contaminants and operates in dirty service, with easy maintenance. Straight through design for high capacity bi-directional flow and Rodding capabilities.

Type	Length A	Width D	Ht open C	Ht closed C	Handle E
6M x 6M	65	25	64.5	61	40
8M x 8M	65	25	64.5	61	40
10Mx 10M	65	25	64.5	61	40
12M x 12M	65	32	94	87	50
1/4" OD x 1/4" NPTF	65	25	64.5	61	40
3/8" OD x 3/8"NPTF	65	25	64.5	61	40
1/2" OD x ½"NPTF	65	32	94	87	50
1/4" OD or 6M x 1/4"NPTM	65	25	64.5	61	40
8m x 1/4"NPTM	65	25	64.5	61	40
3/8"OD or 10M x 3/8" NPTM	65	25	64.5	61	40
1/2" OD or 12M x 1/2" NPTM	72	32	94	87	50

All dimensions are in mm, base on finger tight position.

Applications :

- Instrument isolation.
- Media throttling
- Liquid and vapor service.

Note : Other combination sizes available on request. Please contact factory for more details.

NEEDLE VALVE (Compression end)

How to order : CET, CEB

Body Material	Stem Packing	Size = P x P1	Connections	Threads
C = Carbon Steel	P = PTFE	6M = 6x6mm OD	TT = Tube x Tube	N = NPT (ANSI B1.20.1.)
S = SS 316	G = Grafoil	8M = 8x8mm OD	TM = Tube x Male	P = BSPP (BS2779)
S4 = SS 304		10M = 10x10mm OD	TF = Tube x Female	B = BSPT (BS21)
SL = SS 316L		12M = 12 x 12mm OD		
M = Monel 400		4T = 1/4" x 1/4" OD		
H = Hastelloy C		6T = 3/8" x 3/8" OD		
B = Brass		8T = 1/2" x 1/2" OD		
		4 = 1/4"OD x 1/4" thread		
		6 = 3/8"OD x 3/8" thread		
		8 = 1/2"OD x 1/2" thread		

- Options -

IE : Handle circular plastic.
TF : Sour gas service to NACE standard MR-01-75.
SG : For Oxygen service, valves are supplied cleaned and degreased and suitably packed.
GH: Material test certificate
GO : Hydrotest test certificate

- Example -

To place an order simply refer to the codes in the table.

Valve Type : Body Material + Stem Packing + Size + Connections + Threads + Options

CET + C + G + 6T + TT + N = CET - C - G - 6T - TT - N - Options

- Note -

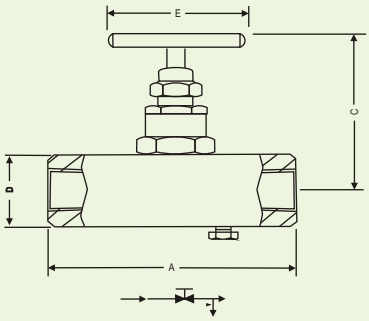
The weld prepared types are available with a male-or-female plain end - suitable for socket weld, or male butt weld end. Always specify pipe schedule and further requirements when ordering valves for welded or Flange connections. Panel mounting option for installation in racks and panels.

- Standard Valve Materials -

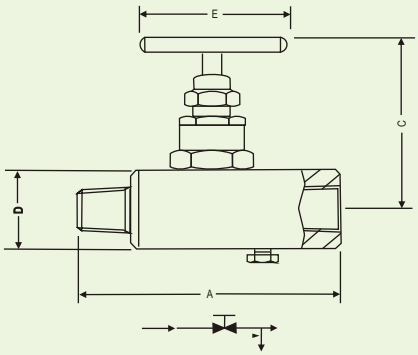
Valve	Body	Bonnet	Stem	Tip
Carbon Steel	CS A105	SS304	SS316	SS316
Stainless Steel	SS316	SS316	SS316	SS316
Monel	Alloy 4000	Alloy 4000	Alloy 4000	Alloy 5000

Block & Bleed Valve GV8

GV8 type gauge valve is a block and bleed needle pattern gauge valve with specially designed integral bleed. Ideal for use on applications requiring bleeding or venting of media. Self centering needle non-rotating, on the valve seat. The conical metal tip (stem type CT) press fitted ensures perfect alignment for positive bubble tight shut-off. Standard end connections are male inlet and female outlet or female inlet and female outlet from 1/4" to 3/4".



Type FF



Type MF

Technical specifications

Pressure	:	400 bar
Max temp.	:	240°C
Material	:	Stainless Steel
Stem	:	(CT) Conical tip press fitted hard chrome plated.
Gland Packing	:	PTFE (Grafoil used for temperature above 240°C to 550°C)
Stem packing area	:	Burnished mirror finish for smooth valve operation.
Safety Feature	:	Back seating for Preventing stem blowout.

Size	Type	Length A	Width D	Ht open C	Ht closed C	Handle E
1/4"	FxF	70	25	63	60.5	40
	MxF	70	25	63	60.5	40
	MxM	75	25	63	60.5	40
3/8"	FxF	70	25	63	60.5	40
	MxF	70	25	63	60.5	40
	MxM	75	25	63	60.5	40
1/2"	FxF	75	32	83.6	79.6	50
	MxF	83	32	83.6	79.6	50
	MxM	88	32	83.6	79.6	50
3/4"	FxF	75	38	86.6	82.6	50
	MxF	83	38	86.6	82.6	50
	MxM	88	38	83.6	79.6	50

All dimensions are in mm.

Applications

- Installation of instrument and gauge.
- isolation of Instrument.
- Venting of Instrument.
- Liquid and vapor service

Optional : Also available High pressure valves with stem HPa for 10,000 psi pressure Series no. is GV10
Also available High pressure valves with stem V2 for 20,000 psi pressure Series no. is GV20

Note : Other combination sizes available on request. Please contact factory for more details.

Block & Bleed Valve GV8

How to order : GV8

Body Material	Stem Packing	Size	Connections	Threads
C = Carbon Steel	P = PTFE	24 = 1/4" x 1/4"	FF = Female x Female	N = NPT (ANSI B1.20.1.)
S = SS 316	G = Grafoil	33 = 3/8" x 3/8"	MF = Male x Female	P = BSPP (BS2779)
S4 = SS 304		44 = 1/2" x 1/2"	MM = Male x Male	B = BSPT (BS21)
SL = SS 316L		66 = 3/4" x 3/4"	SW = Socket Weld	
M = Monel 400				
H = Hastelloy C				
B = Brass				

- Options -

IE : Handle circular plastic.
TF : Sour gas service to NACE standard MR-01-75.
SG : For Oxygen service, valves are supplied cleaned and degreased and suitably packed.
D4 : 1/4" NPT (F) drain instead of M8 bleed
GH: Material test certificate
GO : Hydrotest test certificate

- Example -

To place an order simply refer to the codes in the table.

Valve Type : Body Material + Stem Packing + Size + Connections + Threads + Options

GV8 + S + P + 44 + MF + N = GV8 - S - P - 44 - MF - N - Options

- Note -

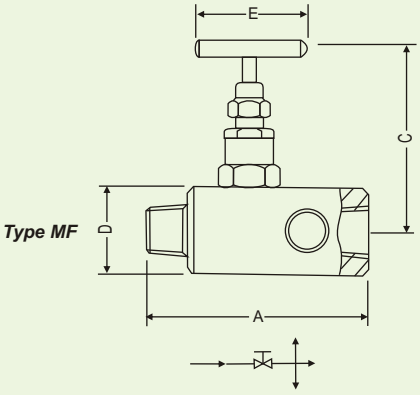
The weld prepared types are available with a male-or-female plain end - suitable for socket weld, or male butt weld end. Always specify pipe schedule and further requirements when ordering valves for welded or Flange connections. Panel mounting option for installation in racks and panels.

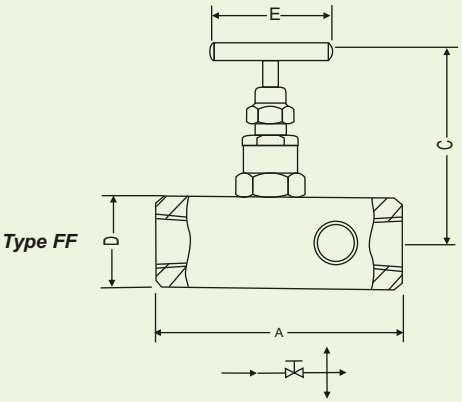
- Standard Valve Materials -

Valve	Body	Bonnet	Stem	Tip
Carbon Steel	CS A105	SS304	SS316	SS316
Stainless Steel	SS316	SS316	SS316	SS316
Monel	Alloy 400	Alloy 400	Alloy 400	Alloy K500

Multi Port Valve MGT

Type multiport gauge valves are ideal for use on gauge or instrument installations without further penetrations of the main piping. A gauge valve with multiple outlets and inlets with in various sizes and connections. The standard three 1/2" NPT female screwed outlet ports offer a flexibility of alternative applications. Available with a male inlet and three female outlet ports or female inlet and three female outlets. Bleed valves and plugs to suit outlet ports supplied optional.





Technical specifications

Pressure	:	400 bar
Max temp.	:	240°C
Stem	:	(Type CT) Conical tip press fitted hard chrome plated
Gland Packing	:	PTFE (Grafoil to be used for temperature above 240°C till 550°C)
Stem packing area	:	Burnished mirror finish for smooth valve operation.
Safety Feature	:	Back seating for preventing stem blowout.
Feature	:	Multi outlet design extended valve inlet up to 4" max. for pipe insulation.

Size	Type	Length A	Width D	Ht open C	Ht closed C	Handle E
1/4"	FxF	74	25	63	60.5	40
	MxF	84	25	63	60.5	40
3/8"	FxF	74	25	63	60.5	40
	MxF	84	25	63	60.5	40
1/2"	FxF	102	32	83.6	79.6	50
	MxF	115	32	83.6	79.6	50
3/4"	FxF	102	38	86.8	82.6	50
	MxF	115	38	86.6	82.6	50

All dimensions are in mm

Applications

- Mounting of instruments or multiple gauges
- Instrument isolation
- Instrument installation with separate vents and calibrate connections
- Liquid and vapor gas service

Optional : Also available High pressure valves with stem HPa for 10,000 psi pressure Series no. is GV10
Also available High pressure valves with stem V2 for 20,000 psi pressure Series no. is GV20

Note : Other combination sizes available on request. Please contact factory for more details.

Multi Port Valve MGT

How to order : MGT

Body Material	Stem Packing	Size = P x P1	Connections	Threads
C = Carbon Steel	P = PTFE	24 = 1/4" x 1/4"	FF = Female x Female	N = NPT (ANSI B1.20.1.)
S = SS 316	G = Grafoil	44 = 1/2" x 1/2"	MF = Male x Female	P = BSPP (BS2779)
S4 = SS 304		46 = 1/2" x 3/4"	SW = Socket Weld	B = BSPT (BS21)
SL = SS 316L		64 = 3/4" x 1/2"	FL = Female x extended long body end	
M = Monel 400		66 = 3/4" x 3/4"		
H = Hastelloy C				
B = Brass				

- Options -

IE : Handle circular plastic.
TF : Sour gas service to NACE standard MR-01-75.
SG : For Oxygen service, valves are supplied cleaned and degreased and suitably packed.
GH: Material test certificate
GO : Hydrotest test certificate

- Example -

To place an order simply refer to the codes in the table.

Valve Type :	Body Material	+	Stem Packing	+	Size	+	Connections	+	Threads	+	Options
MGT	S	+	P	+	44	+	MF	+	N	=	MGT - S - P - 44 - MF - N - Options

- Note -

The weld prepared types are available with a male-or-female plain end - suitable for socket weld, or male butt weld end. Always specify pipe schedule and further requirements when ordering valves for welded or Flange connections. Panel mounting option for installation in racks and panels.

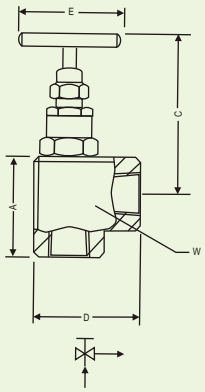
- Standard Valve Materials -

Valve	Body	Bonnet	Stem	Tip
Carbon Steel	CS A105	SS304	SS316	SS316
Stainless Steel	SS316	SS316	SS316	SS316
Monel	Alloy 4000	Alloy 4000	Alloy 4000	Alloy 5000

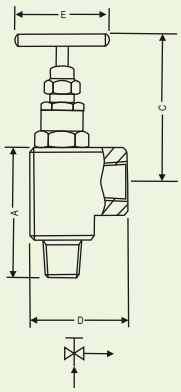
Angle Valve AVS

Type angle pattern needle valve designed for use in on general applications requiring complete isolation or throttling of the media. Ideal for use on gas services and some liquid applications. Produce as standard angle body at 90 degrees. Angle body 45 degrees optional. Specially designed soft Delrin needle tip (type **DS**) rolled in to the stem assembly in perfect location for positive bubble tight shut-off. Available with end connections in sizes from 1/4" to1/2" and a wide choice of female screwed, male to female screwed or socket weld.

Type FF



Type MF



Technical specifications

Pressure	: 400 bar
Max temp.	: 100°C
Material	: Stainless steel
Stem	: (Type DS) Delrin Soft Needle Tip rolled into the needle
Gland Packing	: PTFE
Stem packing area	: Burnished mirror finish for smooth valve operation.
Safety Feature	: Back seating for Preventing stem blowout.

Size	Type	Body dimensions			Ht open	Ht closed	Handle
		A	D	W	C	C	E
1/4"	FxF	32	32	25	63	60.5	40
	MxF	48	32	25	63	60.5	40
	MxM	48	48	25	63	60.5	40
3/8"	FxF	32	32	25	63	60.5	40
	MxF	48	32	25	63	60.5	40
	MxM	48	48	25	63	60.5	40
1/2"	FxF	50	50	32	95.5	91	50
	MxF	70	50	32	95.5	91	50
	MxM	70	70	32	95.5	91	50

All dimensions are in mm

Applications

- Instrument line shut off.
- Instrument and gauge isolation.
- Drain valve.
- Specially designed for gas service.

Note : Other combination sizes available on request. Please contact factory for more details.

Angle Valve AVS

How to order : AVS

Body Material	Stem Packing	Size = P x P1	Connections	Threads
C = Carbon Steel	P = PTFE	24 = 1/4" x 1/4"	FF = Female x Female	N = NPT (ANSI B1.20.1.)
S = SS 316	G = Grafoil	33 = 3/8" x 3/8"	MF = Male x Female	P = BSPP (BS2779)
S4 = SS 304		44 = 1/2" x 1/2"	MM = Male x Male	B = BSPT (BS21)
SL = SS 316L			SW = Socket Weld	
M = Monel 400				
H = Hastelloy C				
B = Brass				

- Options -

IE : Handle circular plastic.
TF : Sour gas service to NACE standard MR-01-75.
SG : For Oxygen service, valves are supplied cleaned and degreased and suitably packed.
GH: Material test certificate
GO : Hydrotest test certificate

- Example -

To place an order simply refer to the codes in the table.

Valve Type : Body Material + Stem Packing + Size + Connections + Threads + Options

AVS + H + G + 44 + MM + N = AVS - H - G - 44 - MM - N - Options

- Note -

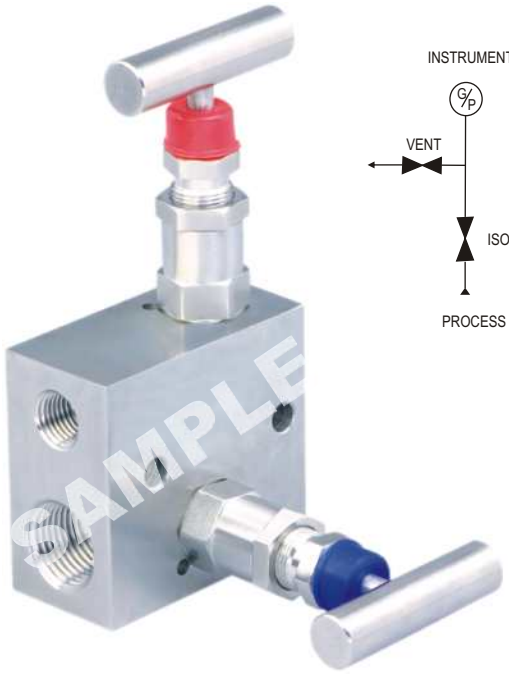
The weld prepared types are available with a male-or-female plain end - suitable for socket weld, or male butt weld end. Always specify pipe schedule and further requirements when ordering valves for welded or Flange connections. Panel mounting option for installation in racks and panels.

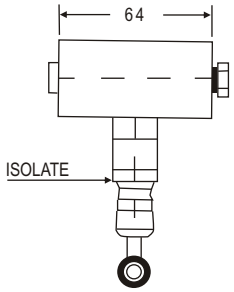
- Standard Valve Materials -

Valve	Body	Bonnet	Stem	Tip
Carbon Steel	CS A105	SS304	SS316	SS316
Stainless Steel	SS316	SS316	SS316	SS316
Monel	Alloy 4000	Alloy 4000	Alloy 4000	Alloy 5000

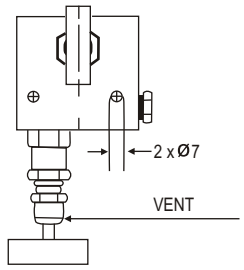
2VH

With threaded horizontal port inlet, outlet and vent/test connection on the left hand side. The venting bonnet is positioned on the top and the isolating bonnet on the front.

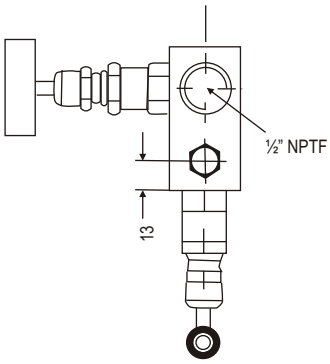




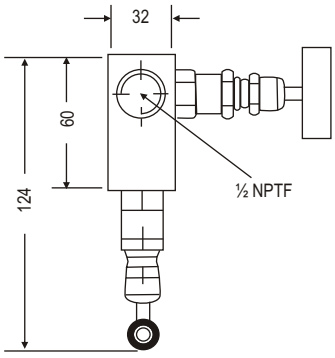
Top View



Front View



Side View



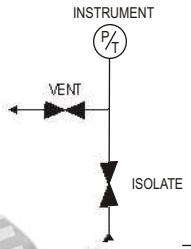
Side View

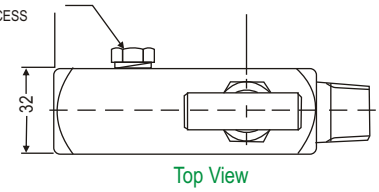
Standard connection

Product	Process side	Instrument side	Vent/Test
2VH	1/2" NPT female	1/2" NPT female	1/4" NPT female

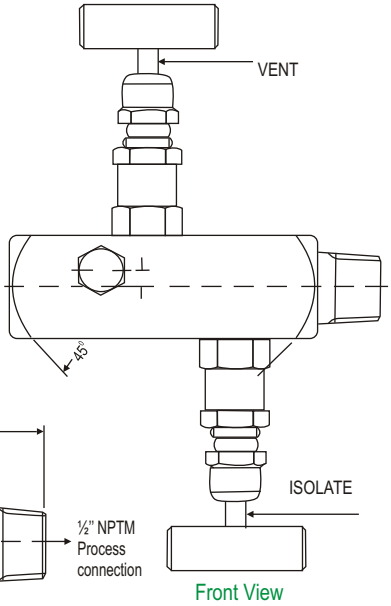
2VT

With threaded vertical port inlet and female outlet. The vent/test connection is positioned on the front side. The venting bonnet is positioned on the right hand side and the isolating bonnet on left hand side.

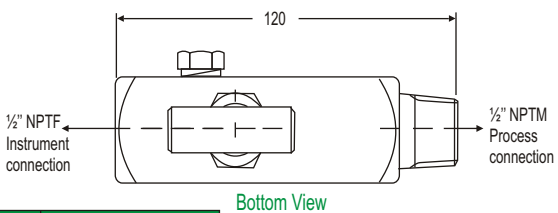




Top View



Front View



Bottom View

Standard connection

Product	Process side	Instrument side	Vent/Test
2VT	1/2" NPT male	1/2" NPT female	1/4" NPT female

Standard version specifications of Series 2VH,2VT

Body	:	SS 316
Stem	:	SS 316
Valve assembly	:	SS 316
'T' bar handle	:	SS 304
Maximum working pressure	:	6000 psi
Maximum working temperature	:	240°C
Packing	:	PTFE (Grafoil for temperature above 240°C to 550°C)
Type of stem	:	Type CT; Stem with conical metal tip
Drain port	:	1/4" NPT [F]; provided with SS 316 plug
Bracket mounting holes	:	2 Nos. (Not available in Series 2VT, 2VTF)
Hard Chrome plating	:	Provided on stem tip and female threads of valve.

How to order : 2VH, 2VT

Body Material	Stem Type	Stem Packing	Size = Inlet x Outlet	Connections	Threads
C = Carbon Steel	CT	P = PTFE	24 = 1/4" x 1/4"	MF = Male x Female	N = NPT (ANSI B1.20.1.)
S = SS 316	DS	G = Grafoil	33 = 3/8" x 3/8"	FF = Female x Female	P = BSPP (BS2779)
S4 = SS 304			44 = 1/2" x 1/2"	SW = Socket weld	B = BSPT (BS21)
SL = SS 316L			66 = 3/4" x 1/2"	FM = Female x Male	
M = Monel 400			2F = 1/4"x Flange		
H = Hastellogy C			3F = 3/8"x Flange		
			4F = 1/2"x Flange		

- Options -

- GH : Material test certificate
- GO : Hydro test certificate
- IE : Circular plastic.
- TF : Sour gas service to NACE standard MR-01-75.
- SG : Oxygen service. (manifolds are supplied cleaned and degreased)
- DS : Valves with stem having soft conical and delrin tip rolled into the needle for gas service.
- MB : Mounting bracket
- MBC : Mounting bolts [7/16" UNF] in carbon steel
- MBS : Mounting bolts [7/16" UNF] in SS

- Example -

To place an order simply refer to the codes in the table.

Valve Type : Body Material + Stem Type + Stem Packing + Size + Connections + Threads + Options

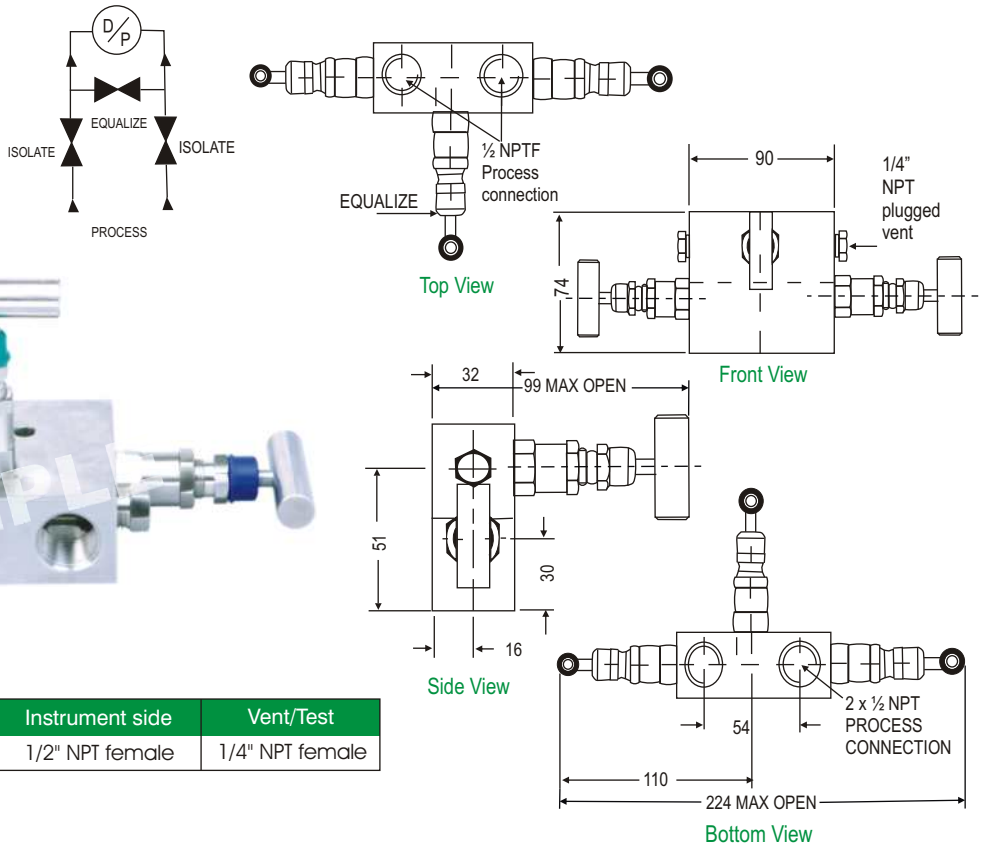
2VA + S + CT + P + 44 + FF + N = 2VA-S-CT-P-44-FF-N-Options

- Note -

- The weld prepared types are available with female plain end - suitable for socket weld.
- Anti-tamper bonnet - special design on request with locking arrangement if desired.

3VS

With two threaded vertical port inlets and outlets, both test connections are positioned on the left and right hand side. The two isolating bonnets are positioned on the left and right hand side and the equalizing bonnet is positioned on the front.

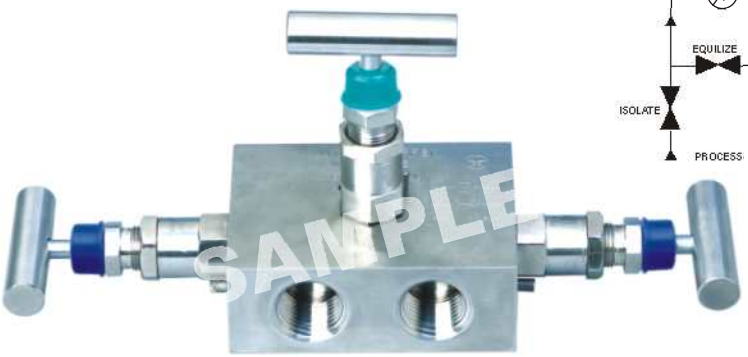


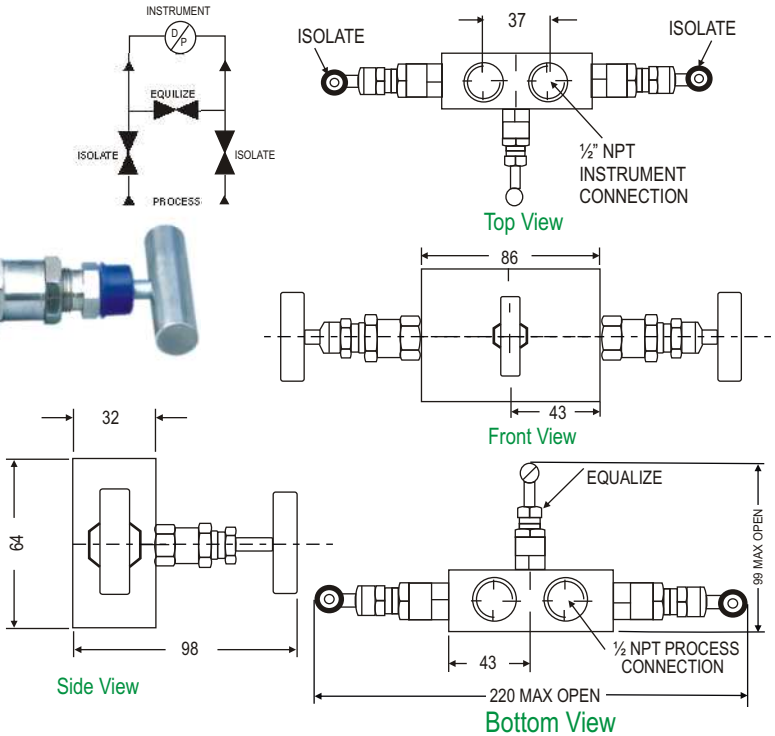
Standard connection

Product	Process side	Instrument side	Vent/Test
3VS	1/2" NPT female	1/2" NPT female	1/4" NPT female

3VM

With threaded vertical port inlets and outlets. The isolating bonnets are positioned on the left and right hand side and the equalizing bonnet is positioned on the front. This manifold is specially designed as miniature valve to be remote mounted.





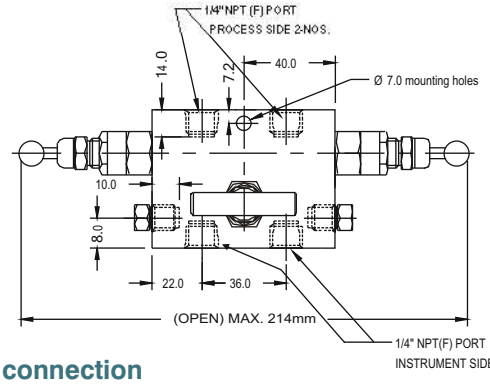
Standard connection

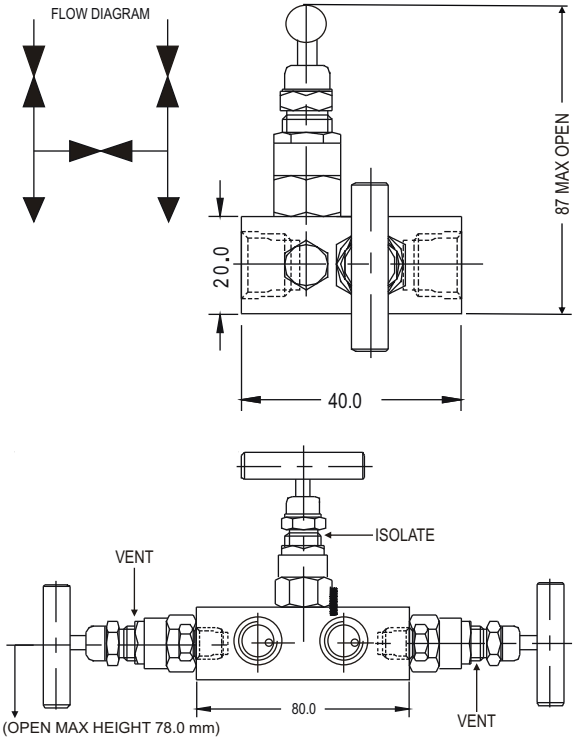
Product	Process side	Instrument side
3VM	1/2" NPT female	1/2" NPT female

3VMN

Three valve **Miniature** manifold with compact design having threaded port for inlet and out let and finds application for isolating and venting the process media . This is used where space is a constraint. The isolating bonnets positioned on top and venting bonnets are positioned on right and left hand side.

Connection : 1/4" (F) For Instrument and process along with 1/8" (F) Drain
Maximum Working Pressure 3000 PSI



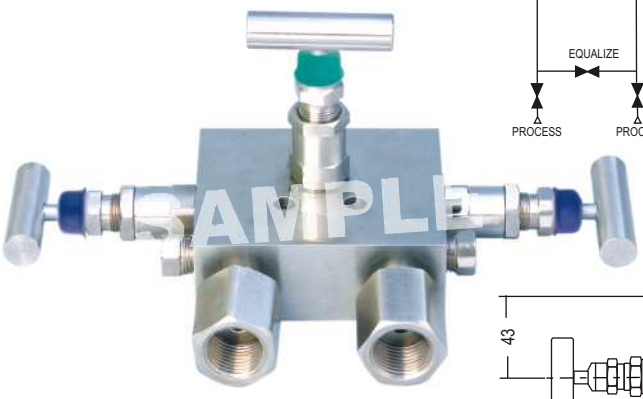


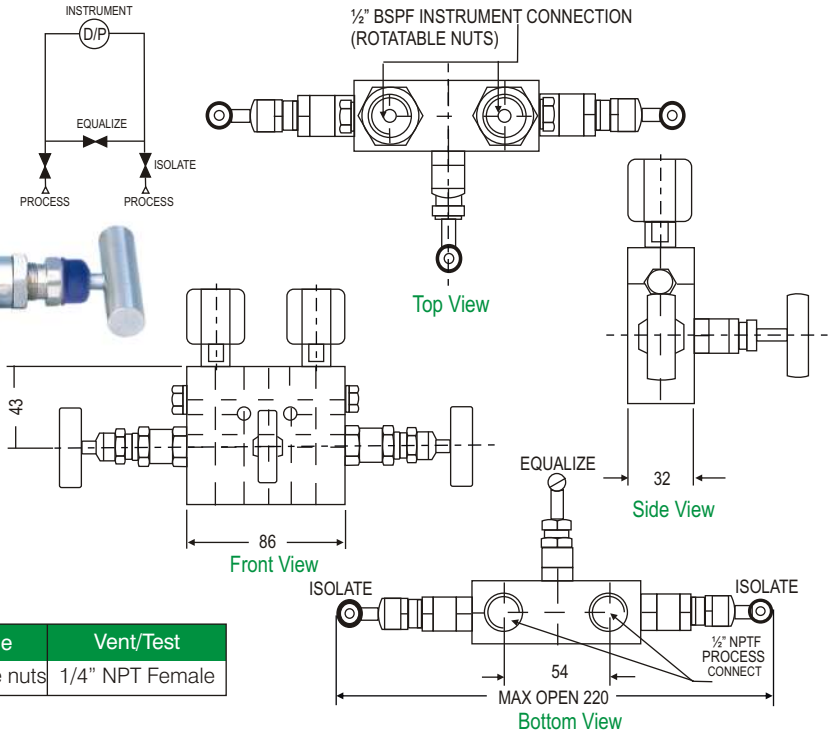
Standard connection

Product	Process side	Instrument side	Vent/Test
3VMN	1/4"NPT Female	1/4"NPT Female	1/8" NPT Female

3VD

Three valve manifold or differential pressure gauges. Two horizontal inlets NPT female at bottom side. Two outlets with rotating for nuts on top side and vent/test connection ontop. Equalizing bonnet at front, isolating bonnets at left and right hand side. **Also available in 54mm tap spacings Series - 3VD54.**





Standard connection

Product	Process side	Instrument side	Vent/Test
3VD	1/2"NPT Female	1/2"BSP Rotatable nuts	1/4" NPT Female

Standard version specifications of Series 3VS, 3VM, 3VMN, 3VD

Body	:	SS 316
Stem	:	SS 316
Valve assembly	:	SS 316
'T' bar handle	:	SS 304
Maximum working pressure	:	6000 psi [not available in Series 3VMN]
Maximum working temperature	:	240°C
Packing	:	PTFE (Grafoil for temperature above 240°C to 550°C)
Type of stem	:	Type CT; Stem with conical metal tip
Drain port	:	1/4" NPT [F]; provided with SS 316 plug [not available in Series 3VMN]
Hard Chrome plating	:	Provided on stem tip

How to order : 3VS, 3VM, 3VMN, 3VD

Body Material	Stem Type	Stem Packing	Size = Inlet x Outlet	Connections	Threads
C = Carbon Steel	CT (std)	P = PTFE	24 = 1/4" x 1/4"	FF = Female x Female (Std)	N = NPT (ANSI B1.20.1.)
S = SS 316	DS	G = Grafoil	44 = 1/2" x 1/2" (std)	SW = Socket Weld	P = BSPP (BS2779)
S4 = SS 304					B = BSPT (BS21)
SL = SS 316L					
M = Monel 400					
H = Hastellogy C					

- Options -

- GH : Material test certificate
- GO : Hydro test certificate
- MBC : Mounting bolts [7/16" UNF] in carbon steel
- MBS : Mounting bolts [7/16" UNF] in SS
- IE : Circular plastic.
- TF : Sour gas service to NACE standard MR-01-75.
- SG : Oxygen service. (manifolds are supplied cleaned and degreased)
- DS : Valves with stem having soft conical and delrin tip rolled into the needle for gas service.
- MB : Mounting bracket

- Example -

To place an order simply refer to the codes in the table.

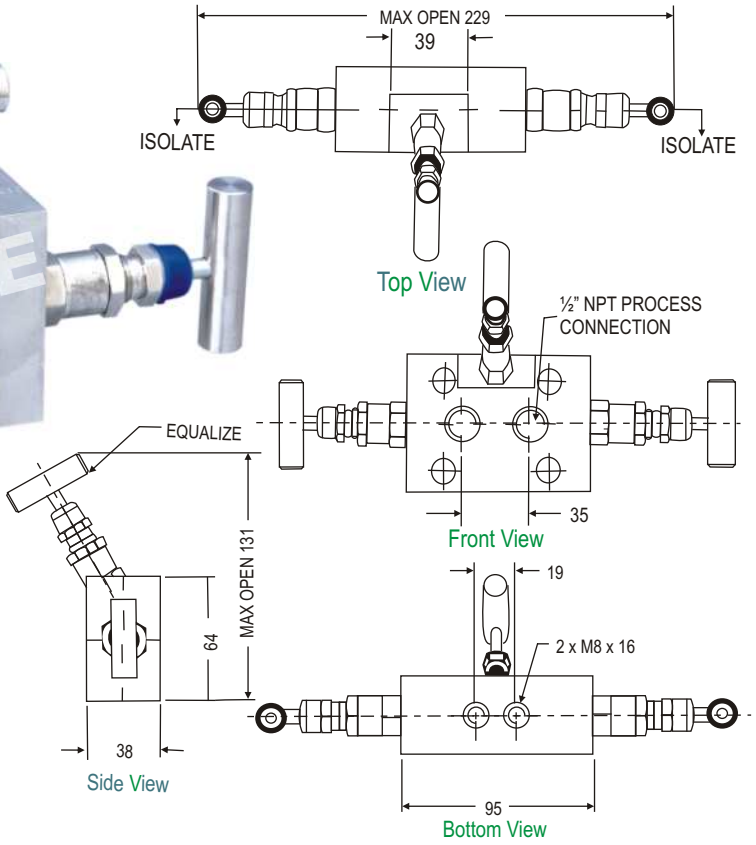
Valve Type	:	Body Material	+	Stem Type	+	Stem Packing	+	Size	+	Connections	+	Threads	+	Options
3VS	+	C	+	CT	+	P	+	44	+	FF	+	N	=	3VS-C-CT-P-44-FF-N-Options

- Note -

- The weld prepared types are available with female plain end - suitable for socket weld.
- Anti-tamper bonnet - special design on request with locking arrangement if desired.

3VA

With two threaded horizontal port inlets on the front side and two Flange outlets on the back side. The two isolating bonnets are positioned on the left and right hand side, the equalizing bonnet is of angular design positioned on the top for easy operation.

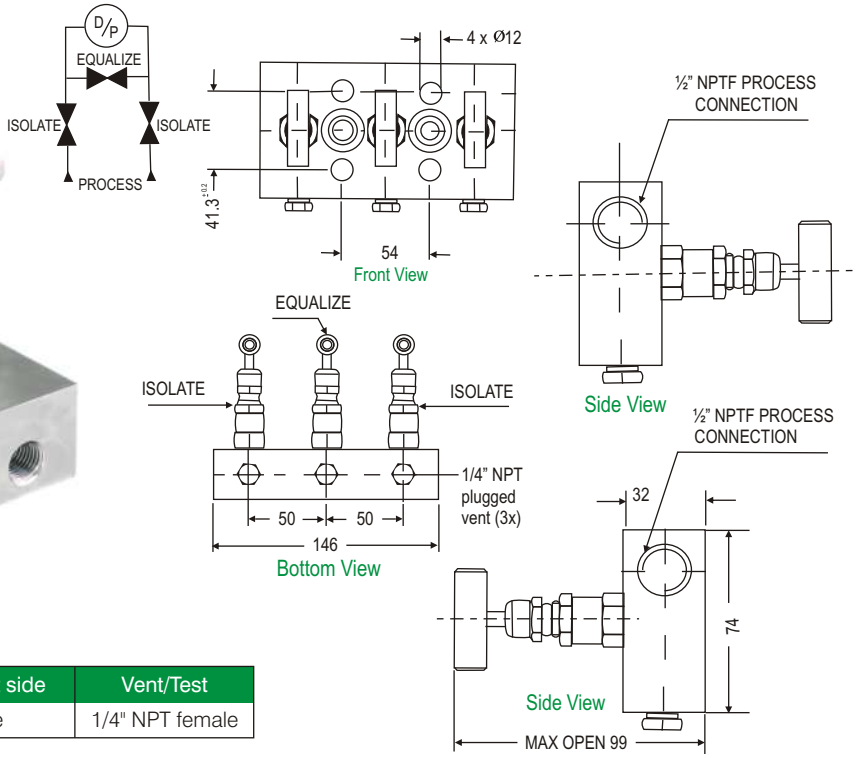


Standard connection

Product	Process side	Instrument side
3VA	1/2" NPT female	Flange

3VF

With two threaded horizontal port inlets positioned on the left and right hand side and two Flange outlets on the back side. The two isolating bonnets and the equalizing bonnet are positioned on the front. Standard with three downstream test connections.



Standard connection

Product	Process side	Instrument side	Vent/Test
3VF	1/2" NPT female	Flange	1/4" NPT female

Standard version specifications of Series 3VA, 3VF

Body	:	SS 316
Stem	:	SS 316
Valve assembly	:	SS 316
'T' bar handle	:	SS 304
Maximum working pressure	:	6000 psi
Maximum working temperature	:	240°C
Packing	:	PTFE (Grafoil for temperature above 240°C to 550°C)
Type of stem	:	Type CT; Stem with conical metal tip
Drain port	:	1/4" NPT [F]; provided with SS 316 plug [not available in Series 3VA]
Hard Chrome plating	:	Provided on stem tip.

How to order : 3VA, 3VF

Body Material	Stem Type	Stem Packing	Size = Inlet x Outlet	Connections	Threads
C = Carbon Steel	CT (std)	P = PTFE	4F = 1/2"x Flange	FD = Female x Flange (54mm)	N = NPT (ANSI B1.20.1.)
S = SS 316 (std)	DS	G = Grafoil	2F = 1/4"x Flange	FR = Female X Female Rotating	P = BSPP (BS2779)
S4 = SS 304				SW = Socket Weld	B = BSPT (BS21)
SL = SS 316L					
M = Monel 400					
H = Hastellogy C					

- Options -

- GH : Material test certificate
- GO : Hydro test certificate
- MBC : Mounting bolts [7/16" UNF] in carbon steel
- MBS : Mounting bolts [7/16" UNF] in SS
- IE : Circular plastic.
- TF : Sour gas service to NACE standard MR-01-75.
- SG : Oxygen service. (manifolds are supplied cleaned and degreased)
- DS : Valves with stem having soft conical and delrin tip rolled into the needle for gas service.
- MB : Mounting bracket

- Example -

To place an order simply refer to the codes in the table.

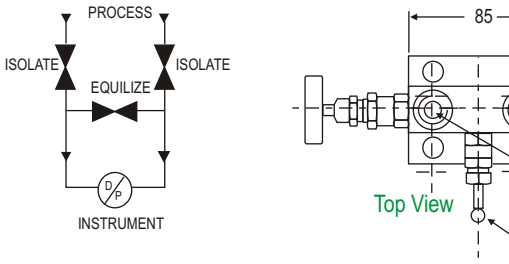
Valve Type	:	Body Material	+	Stem Type	+	Stem Packing	+	Size	+	Connections	+	Threads	+	Options
3VA	+	S	+	CT	+	P	+	4F	+	FD	+	N	=	3VA-S-CT-P-4F-FD-N-Options

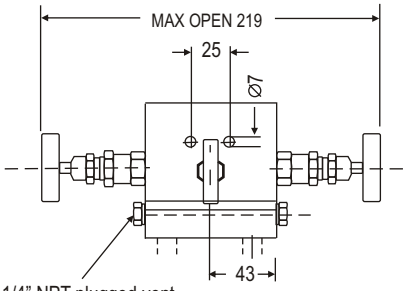
- Note -

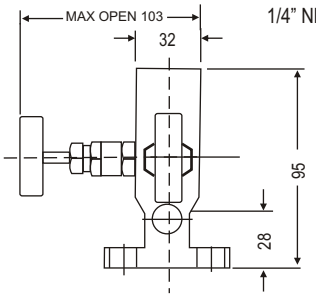
- The weld prepared types are available with female plain end - suitable for socket weld.
- Anti-tamper bonnet - special design on request with locking arrangement if desired.

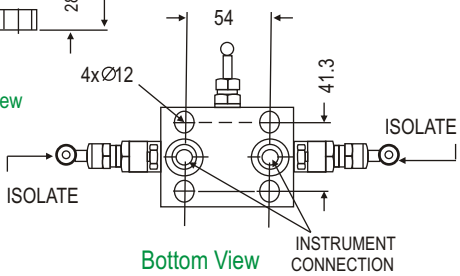
3VT

With threaded horizontal port inlets on the front side and Flange outlets on the back side. Two test connections positioned on the left and right hand side of the body. The isolating bonnets are positioned on the left and right hand side and the equalizing bonnet is positioned on the top.







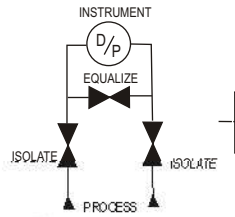


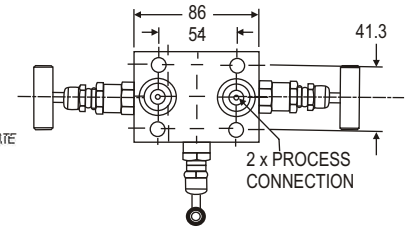
Standard connection

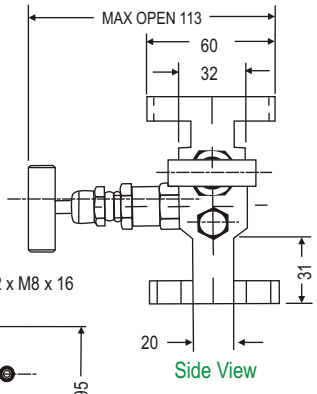
Product	Process side	Instrument side	Vent/Test
3VT	1/2" NPT female	Flange	1/4" NPT female

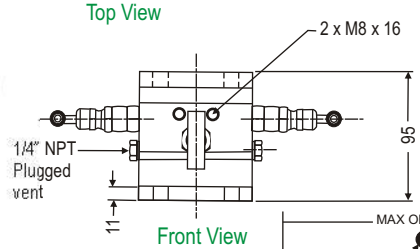
3VH

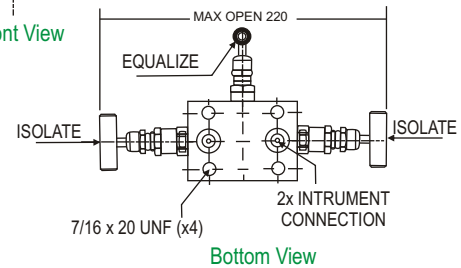
With Flange horizontal port inlets on the front side and Flange outlets on the back side. Two test connections positioned on the left and right hand side of the body. The isolating bonnets are positioned on the left and right hand side and the equalizing bonnet is positioned on the top.









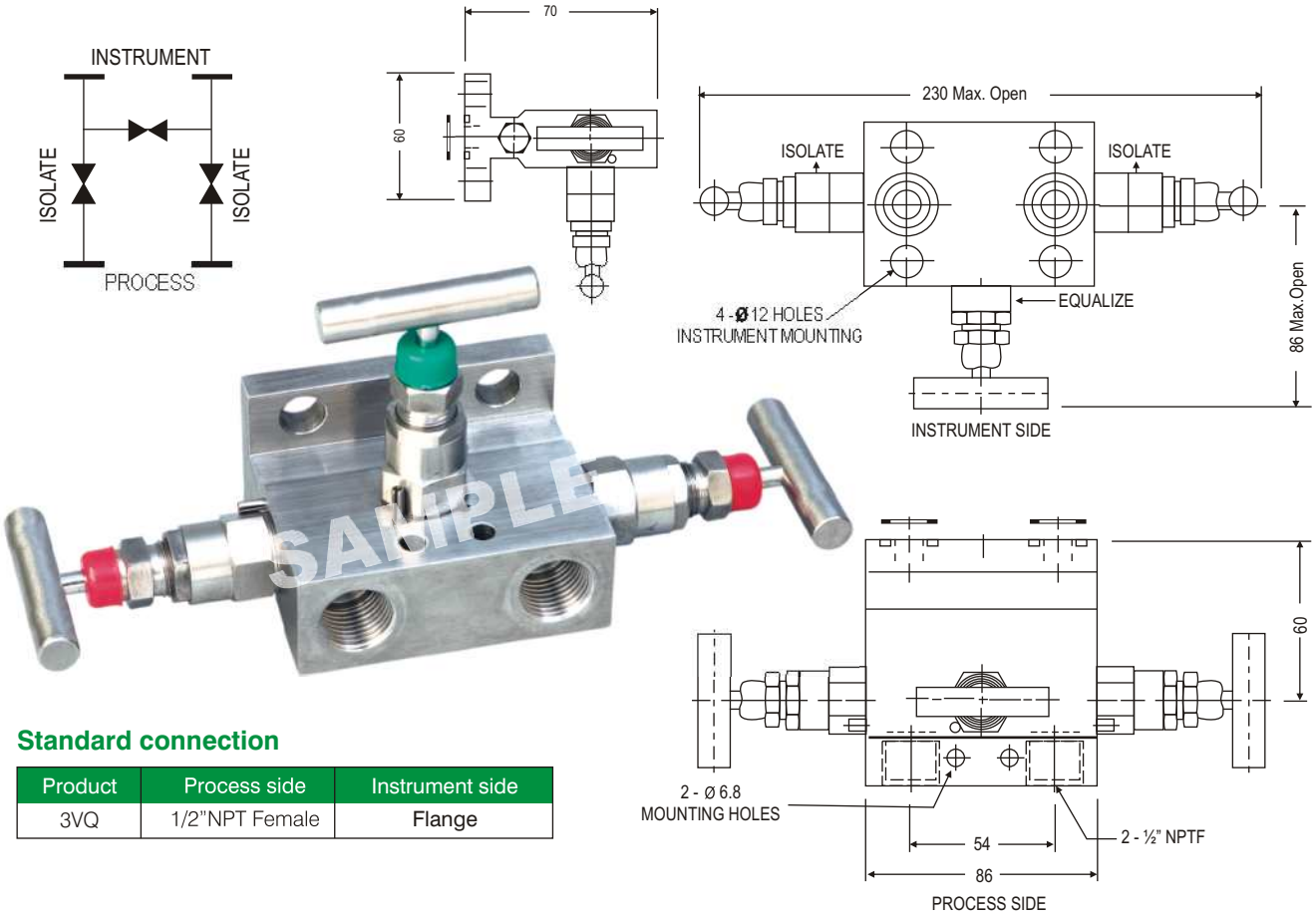


Standard connection

Product	Process side	Instrument side	Vent/Test
3VH	Flange	Flange	1/4" NPT female

3VQ

With threaded horizontal port inlet on the front side and Flange outlet on the back side without test/ vent connection. The isolating bonnets are positioned on the left and right hand side and Equalizing bonnet is positioned on the top.



Standard connection

Product	Process side	Instrument side
3VQ	1/2"NPT Female	Flange

Standard technical specifications of series 3VT, 3VH, 3VQ

Body	:	SS 316
Stem	:	SS 316
Valve assembly	:	SS 316
'T' bar handle	:	SS 304
Maximum working pressure	:	6000 psi
Maximum working temperature	:	240°C
Packing	:	PTFE (Grafoil for temperature above 240°C to 550°C)
Type of stem	:	Type CT; Stem with conical metal tip
Drain port	:	1/4" NPT [F]; provided with SS 316 plug
Hard Chrome plating	:	Provided on stem tip.

How to order : 3VT, 3VH, 3VQ

Body Material	Stem Type	Stem Packing	Size = Inlet x Outlet	Connections	Threads
C = Carbon Steel	CT (std)	P = PTFE	4F = 1/2"x Flange	FD = Female x Flange (54mm)	N = NPT (ANSI B1.20.1.)
S = SS 316 (std)	DS	G = Grafoil	2F = 1/4"x Flange	SW = Socket Weld	P = BSPP (BS2779)
S4 = SS 304				DD = Flange x Flange (54mm)	B = BSPT (BS21)
SL = SS 316L					
M = Monel 400					
H = Hastellogy C					

- Options -

- GH : Material test certificate
- GO : Hydro test certificate
- MBC : Mounting bolts [7/16" UNF] in carbon steel
- MBS : Mounting bolts [7/16" UNF] in SS
- IE : Circular plastic.
- TF : Sour gas service to NACE standard MR-01-75.
- SG : Oxygen service. (manifolds are supplied cleaned and degreased)
- DS : Valves with stem having soft conical and delrin tip rolled into the needle for gas service.
- MB : Mounting bracket

- Example -

To place an order simply refer to the codes in the table.

Valve Type : Body Material + Stem Type + Stem Packing + Size + Connections + Threads + Options

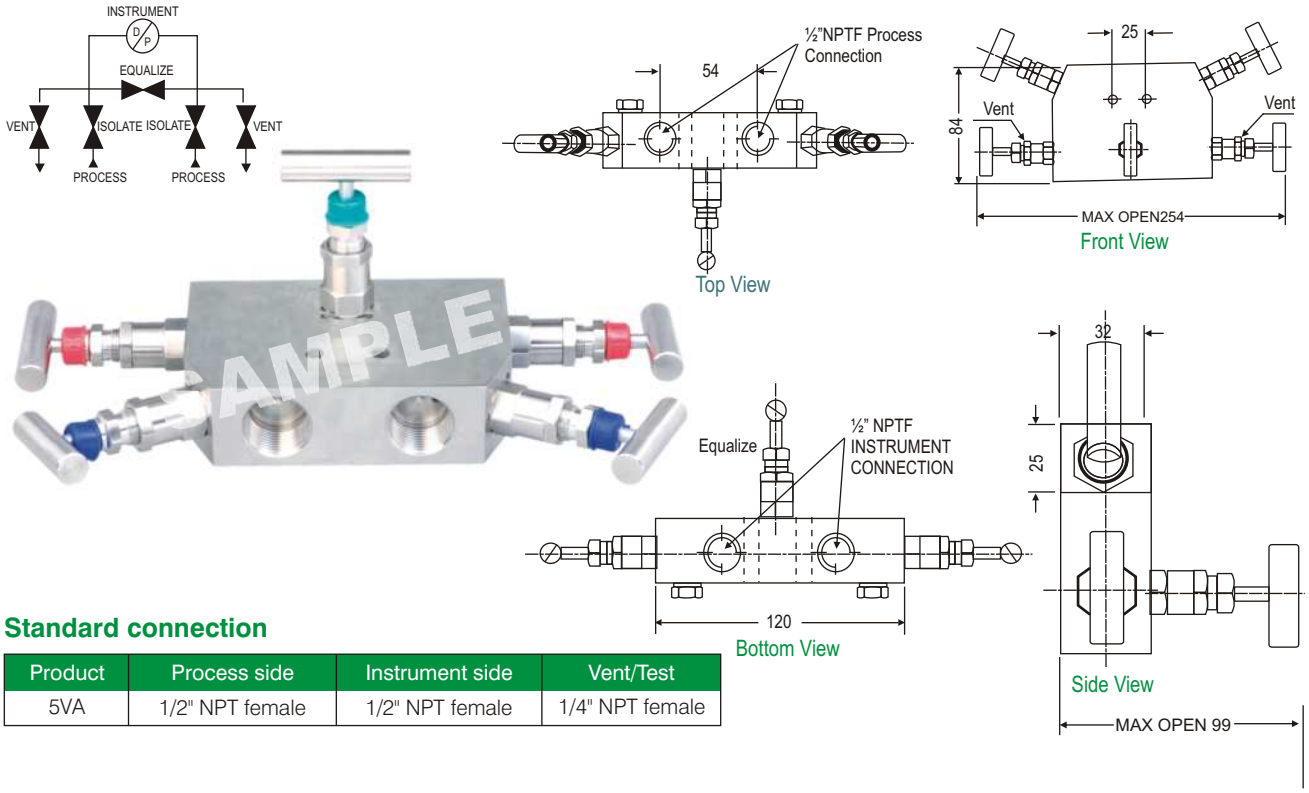
3VT + S + CT + P + 4F + FD + N = 3VT-S-CT-P-4F-FD-N-Options

- Note -

- The weld prepared types are available with female plain end - suitable for socket weld.
- Anti-tamper bonnet - special design on request with locking arrangement if desired.

5VA

With threaded vertical port inlets and outlets. The isolating and venting bonnets are positioned on the left and right hand side and the equalizing bonnet is positioned on the front side. Designed for remote mounting.

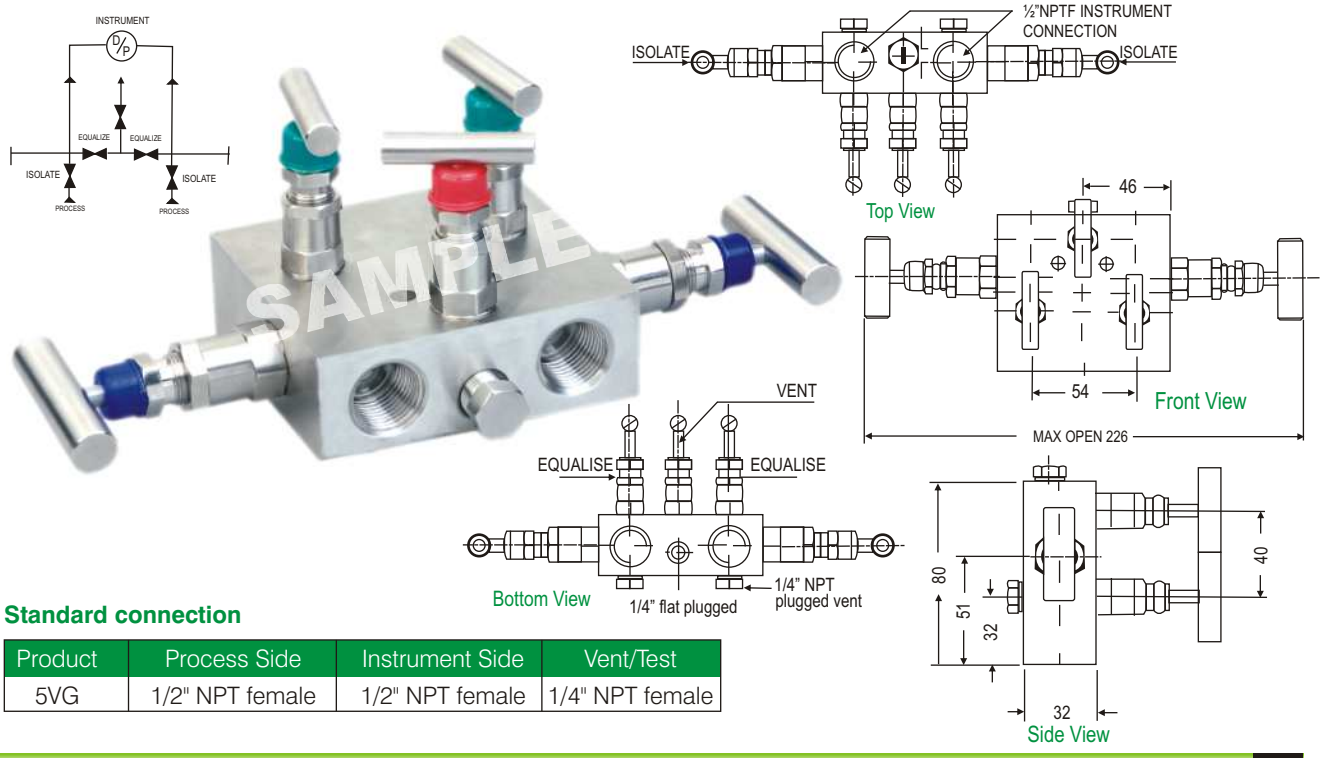


Standard connection

Product	Process side	Instrument side	Vent/Test
5VA	1/2" NPT female	1/2" NPT female	1/4" NPT female

5VG

With threaded 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 safe configuration preventing pressure loss from the high to low pressure impulse lines.

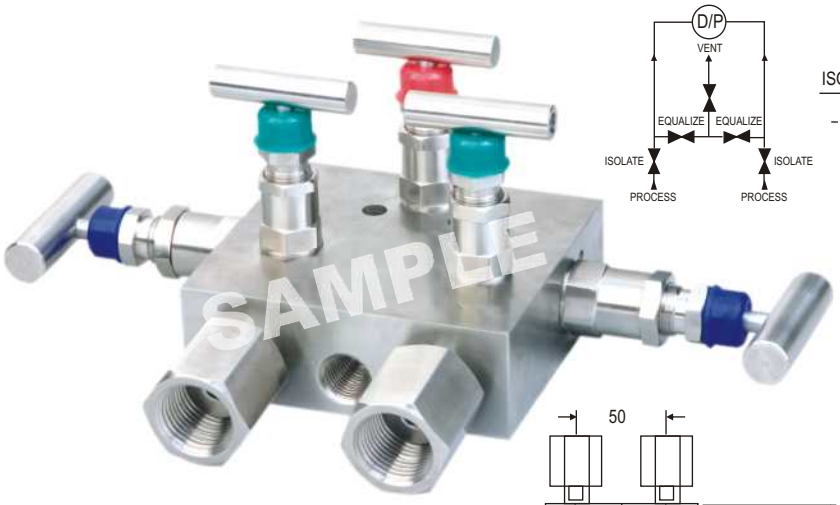


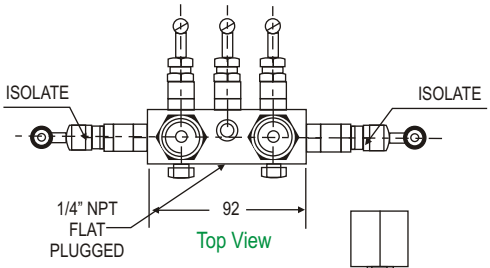
Standard connection

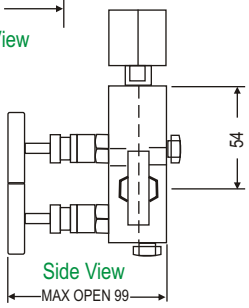
Product	Process Side	Instrument Side	Vent/Test
5VG	1/2" NPT female	1/2" NPT female	1/4" NPT female

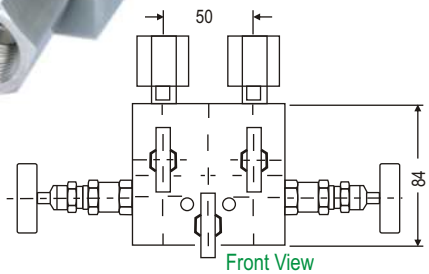
5VD

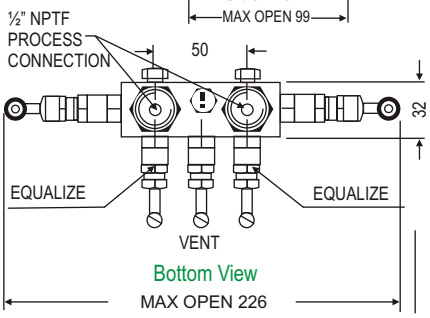
Series for differential pressure gauges with 2 inlets NPT female at bottom and 2 outlets with rotating nuts on top side. **Also available in 54mm tap spacings Series - 5VD54.**









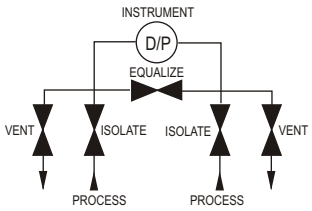


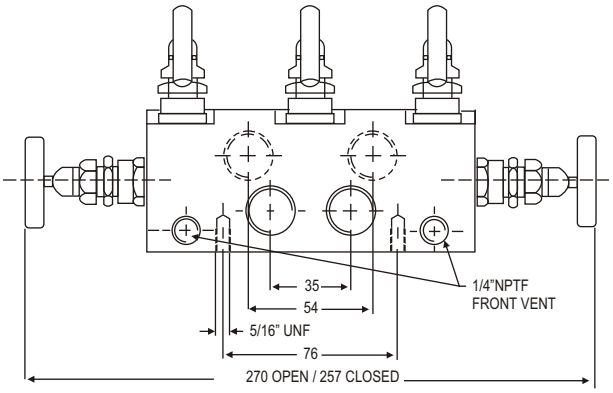
Standard connection

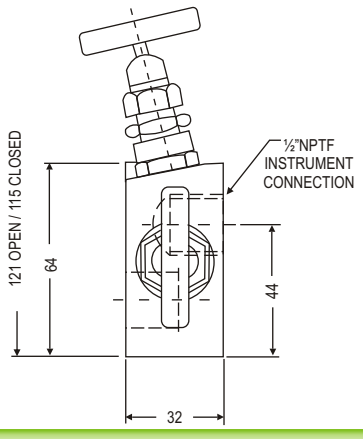
Product	Process side	Instrument side	Vent/Test
5VD	1/2" NPT female	1/2"BSP Rotatable nuts	1/4" NPT female

5VQ

Series designed for complete isolation of instruments-2 inlets NPT female at front, 2 outlets NPT female at back side. Vent/test connection at front, equalizing bonnets (2) angular top, isolating bonnets at left and right side, venting bonnet angular on top.





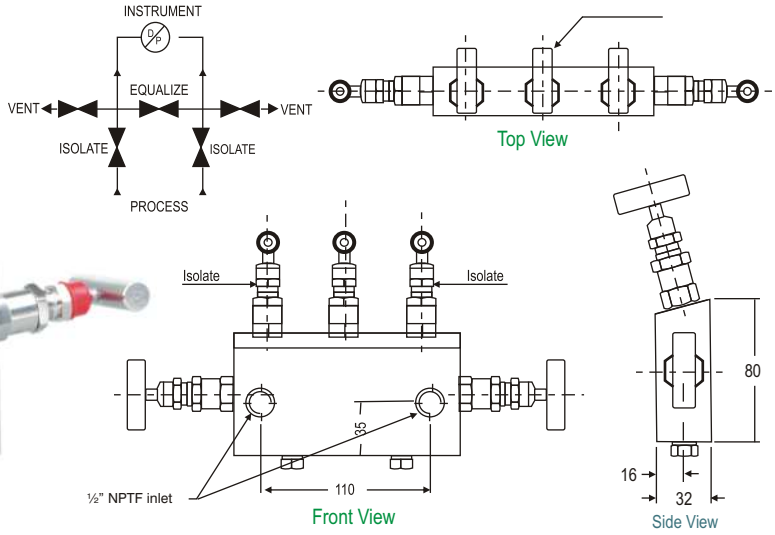


Standard connection

Product	Process Side	Instrument Side	Vent/Test
5VQ	1/2" NPT female	1/2" NPT female	1/4" NPT female

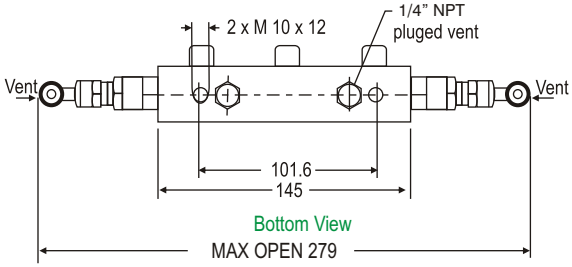
5VV

Model designed for complete isolation of instruments with NPT female inlets /outlets. Vent/test connection at bottom; equalizing bonnet angular on top-isolating bonnets angular on top venting bonnets at left and right side.



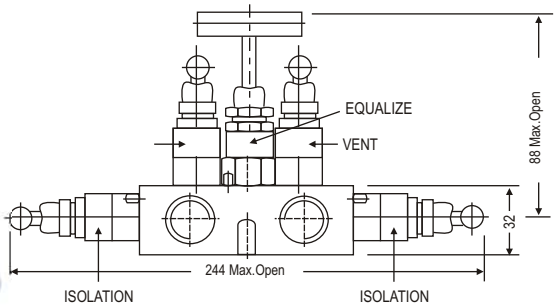
Standard connection

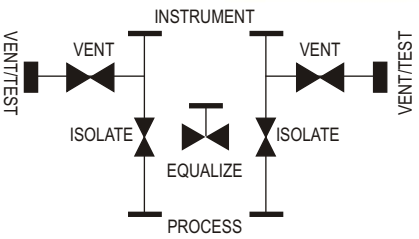
Product	Process Side	Instrument Side	Vent/Test
5VV	1/2" NPT female	1/2" NPT female	1/4" NPT female

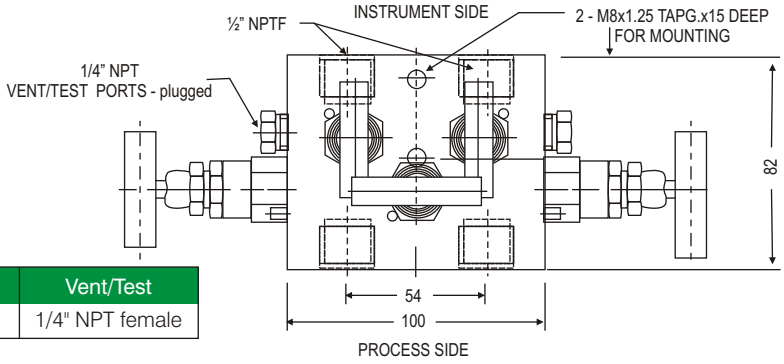


5VR

With threaded female ports on front side and back side for instrument and process connections. The two vent bonnets along with equalizing bonnet are positioned on the top side. The two isolation bonnets are positioned on left and right hand sides.







Standard connection

Product	Process Side	Instrument Side	Vent/Test
5VR	1/2" NPT female	1/2" NPT female	1/4" NPT female

Standard version specifications of Series 5VA, 5VG, 5VD, 5VQ, 5VV, 5VR

Body	:	SS 316
Stem	:	SS 316
Valve assembly	:	SS 316
'T' bar handle	:	SS 304
Maximum working pressure	:	6000 psi
Maximum working temperature	:	240°C
Packing	:	PTFE (Grafoil for temperature above 240°c to 550°c)
Type of stem	:	Type CT; Stem with conical metal tip
Drain port	:	1/4" NPT [F]; provided with SS 316 plug
Bracket mounting holes	:	2 Nos.
Hard Chrome plating	:	Provided on stem tip.

How to order : 5VA, 5VG, 5VD, 5VQ, 5VV, 5VR

Body Material	Stem Type	Stem Packing	Size = Inlet x Outlet	Connections	Threads
C = Carbon Steel	CT	P = PTFE	44= 1/2" x 1/2" (std)	FF = Female x Female	N = NPT (ANSI B1.20.1.)
S = SS 316	DS	G = Grafoil	24 = 1/4" x 1/4"	FR = Female x Female Rotating	P = BSPP (BS2779)
S4 = SS 304				SW = Socket weld	B = BSPT (BS21)
SL = SS 316L					
M = Monel 400					
H = Hastellogy C					

- Options -

- GH : Material test certificate
- GO : Hydro test certificate
- IE : Circular plastic.
- TF : Sour gas service to NACE standard MR-01-75.
- SG : Oxygen service. (manifolds are supplied cleaned and degreased)
- DS : Valves with stem having soft conical and delrin tip rolled into the needle for gas service.
- MB : Mounting bracket
- MBC : Mounting bolts [7/16" UNF] in carbon steel
- MBS : Mounting bolts [7/16" UNF] in SS

- Example -

To place an order simply refer to the codes in the table.

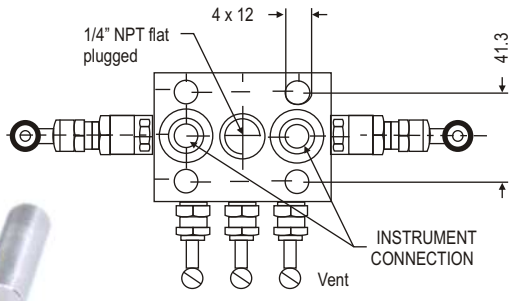
Valve Type	:	Body Material	+	Stem Type	+	Stem Packing	+	Size	+	Connections	+	Threads	+	Options
5VA	+	S	+	CT	+	P	+	44	+	FF	+	N	=	5VA-S-CT-P-44-FF-N-Options

- Note -

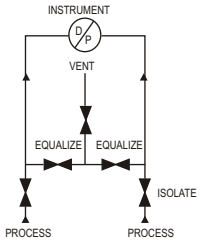
- The weld prepared types are available with female plain end - suitable for socket weld.
- Anti-tamper bonnet - special design on request with locking arrangement if desired.

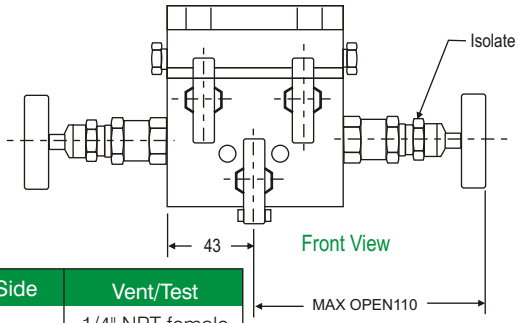
5VN

Five Valve Manifold Special Series to accommodate any half DIN 19213 interface complaint pressure transmitter. 2 inlets NPT female at front and 2 outlets Flange at back side DIN 19213. Vent/teat connection at front, equalizing bonnets at top side, isolating bonnets at left and right side-venting bonnet at top.

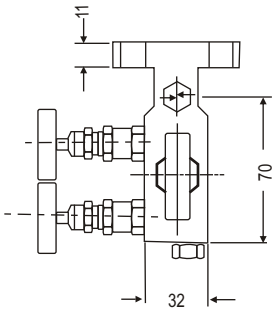


Back View





Front View



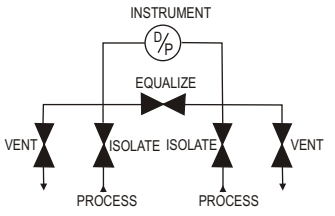
Top View

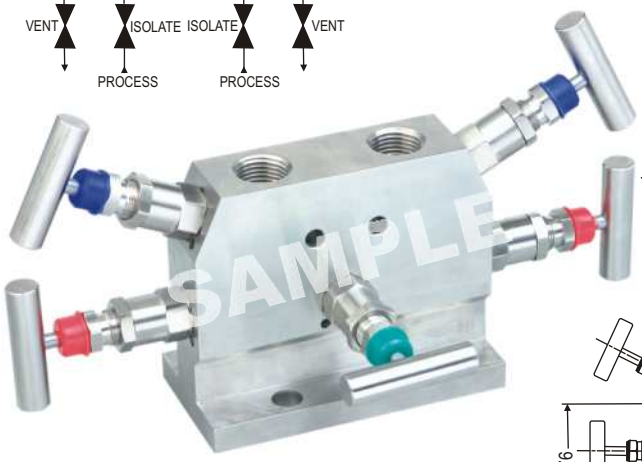
Standard connection

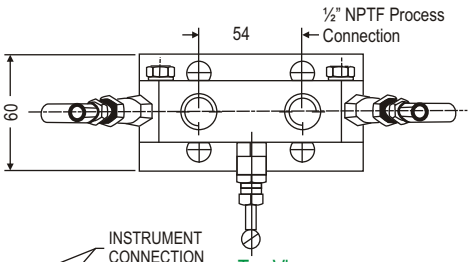
Product	Process Side	Instrument Side	Vent/Test
5VN	1/2" NPT female	flanged	1/4" NPT female

5VT

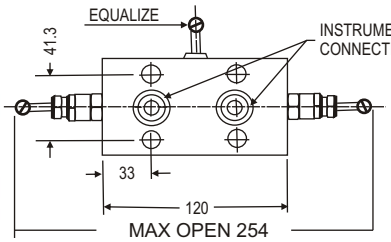
With threaded horizontal port inlets and Flange port outlets. The vent/test ports are positioned on the bottom side. The isolating and venting bonnets are positioned on the left and right hand side and the equalizing bonnet is positioned on the top side. Designed for direct mounting.

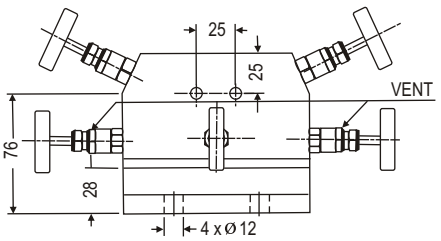




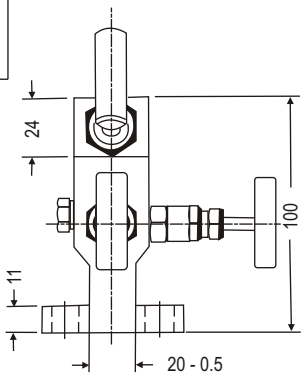


Top View





Front View



Side View

Standard connection

Product	Process Side	Instrument Side	Vent/Test
5VT	1/2" NPT female	flanged	1/4" NPT female

Standard version specifications of Series 5VN, 5VT

Body	:	SS 316
Stem	:	SS 316
Valve assembly	:	SS 316
'T' bar handle	:	SS 304
Maximum working pressure	:	6000 psi
Maximum working temperature	:	240°C
Packing	:	PTFE (Grafoil for temperature above 240°C to 550°C)
Type of stem	:	Type CT; Stem with conical metal tip
Drain port	:	1/4" NPT [F]; provided with SS 316 plug
Hard Chrome plating	:	Provided on stem tip.

How to order : 5VN, 5VT

Body Material	Stem Type	Stem Packing	Size = Inlet x Outlet	Connections	Threads
C = Carbon Steel	CT (std)	P = PTFE	4F= 1/2" x Flange	FD = Female x Flange (54mm)	N = NPT (ANSI B1.20.1.)
S = SS 316 (std)	DS	G = Grafoil	FF= Flange x Flange	DD = Flange x Flange	P = BSPP (BS2779)
S4 = SS 304			2F = 1/4" x Flange	SW = Socket Weld	B = BSPT (BS21)
SL = SS 316L					
M = Monel 400					
H = Hastellogy C					

- Options -

- GH : Material test certificate
- GO : Hydro test certificate
- MBC : Mounting bolts available [7/16" UNF] in carbon steel
- MBS : Mounting bolts available [7/16" UNF] in SS
- IE : Circular plastic.
- TF : Sour gas service to NACE standard MR-01-75.
- SG : Oxygen service. (manifolds are supplied cleaned and degreased)
- DS : Valves with stem having soft conical and delrin tip rolled into the needle for gas service.
- MB : Mounting bracket

- Example -

To place an order simply refer to the codes in the table.

Valve Type	:	Body Material	+	Stem Type	+	Stem Packing	+	Size	+	Connections	+	Threads	+	Options
5VN	+	S	+	CT	+	P	+	4F	+	FD	+	N	=	5VN-S-CT-P-4F-FD-N-Options

- Note -

- The weld prepared types are available with female plain end - suitable for socket weld.
- Anti-tamper bonnet - special design on request with locking arrangement if desired.