

# Instrument Manifolds

## **2VR Series**

*2 valve manifold 6,000 psi and 10,000 psi rated*

## **2VG Series**

*Inline 2 valve manifold 6,000 psi and 10,000 psi rated*

## **2VBD Series**

*Direct mount 2 valve manifold 6,000 psi and 10,000 psi rated*

## **2VBM Series Base Mounted**

*Direct mount 2 valve manifold 6,000 psi & 10,000 psi rated*

## **3VR Series**

*Remote mount 3 valve manifold 6,000 psi and 10,000 psi rated*

## **3VBD Series**

*Direct mount 3 valve manifold 6,000 psi and 10,000 psi rated*

## **3VD Series**

*Direct flange mounted (T section) 3 valve manifold 6,000 psi rated*

## **3VBM Series Base Mounted**

*Direct mount 3 valve manifold 6,000 psi rated*

## **5VR Series**

*Remote mount 5 valve manifold 6,000 psi rated*

## **5VBD Series**

*Direct mount 5 valve manifold 6,000 psi rated*

## **5VD Series**

*Direct flange mounted (T section) 5 valve manifold 6,000 psi rated*

## **5VBM Series Base Mounted**

*Direct mount 5 valve manifold 6,000 psi rated*

## **3 Valve Manifold Block**

*Direct mount 3 valve manifold 6,000 psi rated*

## **5 Valve Manifold Block**

*Direct mount 5 valve manifold 6,000 psi rated*

## **3 Valve H Section Manifold**

*Direct mount 3 valve H Section manifold 6,000 psi rated*

## **5 Valve H Section Manifold**

*Direct mount 5 valve H Section manifold 6,000 psi rated*

## **Manifold Accessories**

*Direct mount 5 valve H Section manifold 6,000 psi rated*

## **How to order the above**

*An explanation of the part numbering system*

# 2VR Series

## General Information

### 2 Valve Manifold 6,000 psi and 10,000 psi rated

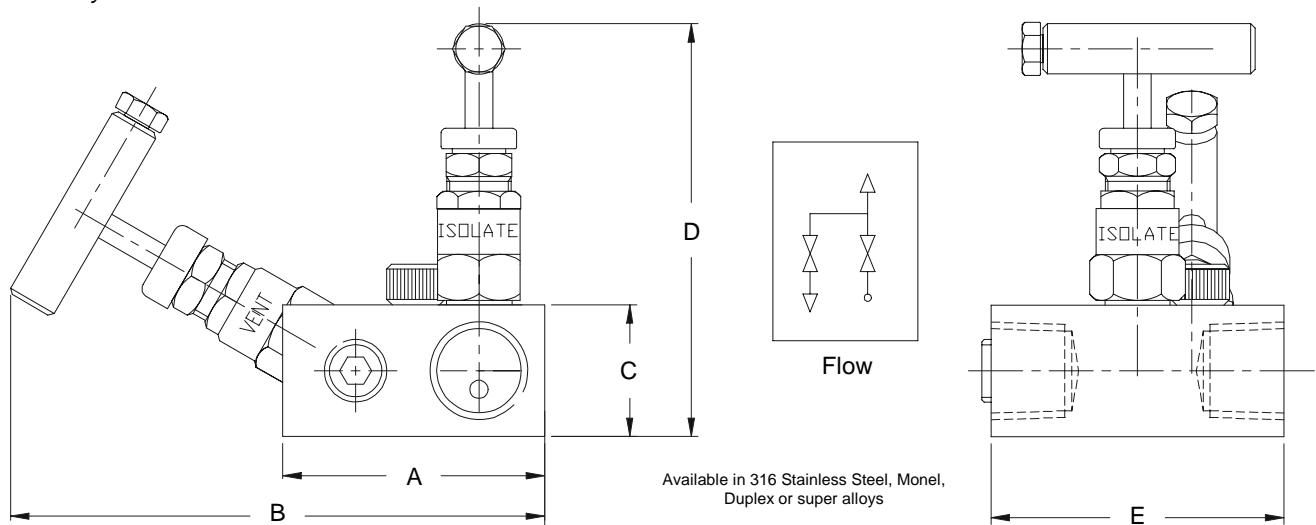
The two-valve isolating and venting manifold used mainly in gauge and static instrument applications such as pressure switches, pressure transmitters and manometers. The manifold will isolate instrumentation from the process and allow venting of the instrument for calibration / removal from the circuit without effecting the process / application and or recovery of a sample etc. Standard 1/2" inlet x 1/2" outlet with a 1/4" vent port supplied plugged as standard for safety. Incorporated are all the standard long service life features of the standard 'N' series needle valve, multi-ring piston style packings, back sealing facility. Safe anti-rotational cam locking device. Most standard options such as locking devices are available. Mounting holes supplied as standard for pipe or wall mounting to suit quick installation.



Note: This product comes with the vent port plugged for safety

## Design Features

- Offset vent valve for ease of operation.
- Valve flow can be reversed so calibration can be conducted in situ.
- All valves have 2-piece non-rotating hardened (17-4PH) tips as standard, for bubble tight shut off and long service life.
- Metal to metal body bonnet seal for high pressure and temperature sealing.
- Unique bonnet locking cam device.
- Positive no slack stem action.
- Vent port 1/4" NPT supplied plugged (as standard) for safety.
- Temperature rating -50°C to 230°C (570°C with GP option).
- Accurate and fine control of venting.
- Repair / service kit available to extend field life further.
- Ingress seals fitted as standard.
- Mounting holes as standard to allow for fixing to pipe stands or enclosures.
- 100 % Hydrostatic testing.
- Full material traceability.
- Materials of construction can be supplied to meet the requirements of NACE MR-01-75 latest revision.



## Part Numbers

St / St Part No.	Connections Size	A	B (OPEN)	C	D (OPEN)	E	F	Weight (KGS)
2VR2NS	1/4" NPT female x female	57	116	29	89	64	29	0.9
2VR4NS	1/2" NPT female x female	57	116	29	89	64	29	0.9

Packing materials: RTFE (standard) graphoil option -GP  
For 10,000 psi version add "U" i.e. U2VR2NS

Dims are in mm (Appx)

See technical section for important additional valve data.

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REF: AVCAT2K088

REV: 00

# 2VG Series

## General Information

### In-line 2 Valve Manifold 6,000 psi and 10,000 psi rated

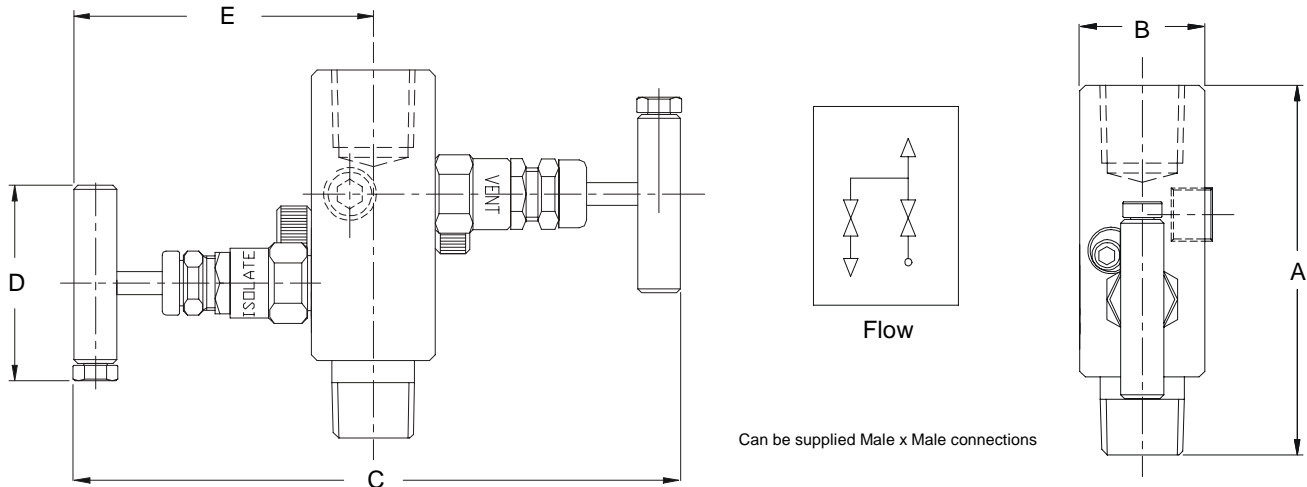


Note: This product comes with the vent port plugged for safety

The '2VG' series 2 valve gauge manifold offering single process isolation and controlled venting. Unlike the '2VR' series, the '2VG' series can be offered with male inlet and female outlet connections. Available 6,000 psi and 10,000 psi versions, a slim-line and compact 2 valve manifold (vent port plugged as standard). The '2VG' series, utilises metal to metal seat and body to bonnet connection for superior, bubble tight sealing capabilities at both extreme pressures and temperatures. The "2VG" series also offers non-rotating hardened tip for extended service life. The unique anti-vibration cam locking safety device at the body bonnet connection is for extra safety. Maximum working temperature up to 230°C and up to 570°C with -GP option at reduced pressure. Many options available including hand wheels and locking devices.

## Design Features

- All valves have 2-piece non-rating hardened (17-4PH) tips as standard for bubble tight shut off and long service life.
- Positive no slack stem action.
- Unique bonnet locking cam device.
- Metal to metal body bonnet seals for high pressure and temperature use.
- Ingress seals fitted as standard.
- Vent port 1/4" NPT supplied plugged (as standard) for safety.
- Temperature rating -50°C to 230°C (570°C with GP option).
- Repair / service kit available to extend field life further.
- 2" and 4" extended versions are available.  
i.e. 2VG4NS – Ext. 2" = 2" Extended  
2VG4NS – Ext. 4" = 4" Extended.
- Full material traceability.
- 100% Hydrostatic testing.
- Materials of construction can be supplied to meet the requirements of NACE MR-01-75 latest revision.



## Part Numbers

St / St Part No.	Connections Size	A	B	C	D	E	Weight (kgs)
2VG2NS	1/4" NPT male inlet x 1/4" NPT female outlet	84	25	147	50	74	0.5
2VG2NS-F	1/4" NPT female inlet x female outlet	84	25	147	50	74	0.5
2VG4NS	1/2" NPT male inlet x 1/2" NPT female outlet	95	32	157	50	77	0.85
2VG4NS-F	1/2" NPT female inlet x 1/2" NPT female outlet	95	32	157	50	77	0.85

Packing materials: RTFE (standard) graphoil option -GP  
For 10,000 psi version add "U" i.e. U2VG4NS

Dims are in mm (Appx)

See technical section for important additional valve data.

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# 2VBD Series

## General Information

### Direct Mount 2 Valve Manifold 6,000 psi and 10,000 psi rated

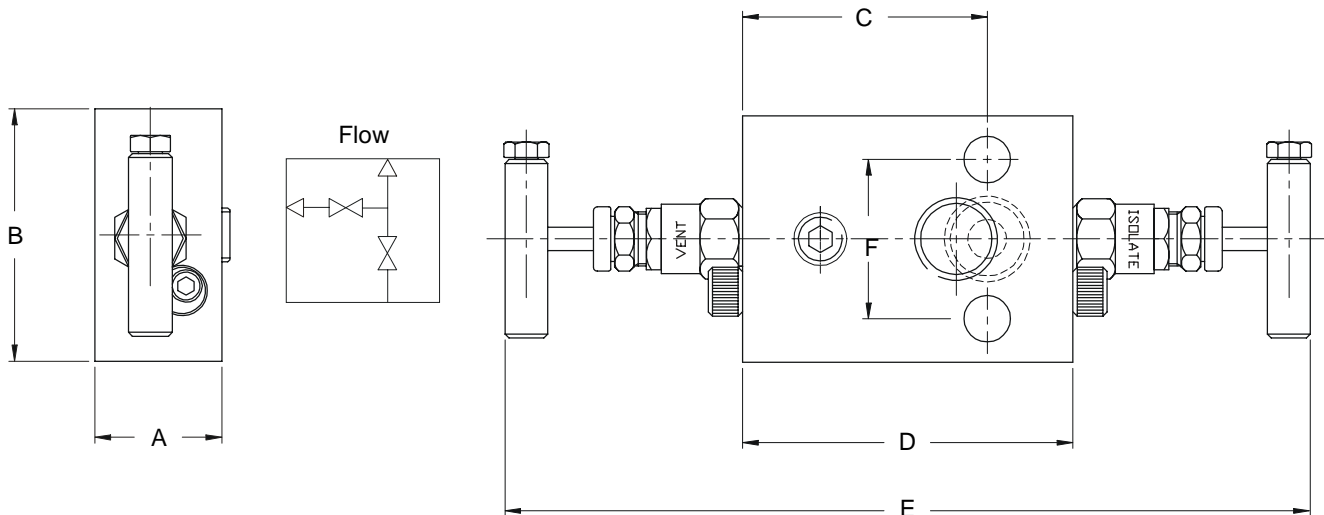


Note: This product comes with bolt pack, seal and the vent port plugged for safety as standard

Two valve direct mount manifold, designed for use with pressure transmitters. The manifold will isolate instrumentation from the process and allow venting of the instrument for calibration / removal from the circuit without effecting the process / application and or recovery of a sample etc. This compact unit offers single isolation, and vent / test facility. Vent port 1/4" NPT (vent port plugged as standard for safety). Supplied with bolt pack and seal as standard. The 2VBD can be supplied with additional tapped holes in it's base for mounting purposes. Other options apply such as anti-tamper, lockable vent valve.

## Design Features

- All valves have 2-piece non-rotating hardened (17-4PH) tips as standard for bubble tight shut off and long service life.
- Positive no slack action.
- Unique bonnet locking cam.
- Metal to metal body bonnet seal for high pressure and high temperature use.
- Pressure responsive multi-ring / piston packing for compressive and pressure dynamic sealing.
- Vent port 1/4" NPT supplied plugged (as standard) for safety.
- Repair / service kit available to extend field life further.
- Temperature rating -50°C to 230°C (570°C with GP option).
- High temperature version up to 570°C with graphoil option (-GP).
- Valve flow can be reversed so as calibration can take place in situ.
- Ingress seals fitted as standard.
- Full material traceability.
- 100% Hydrostatic testing.
- Materials of construction can be supplied to meet the requirements of NACE MR-01075 latest revision.



## Part Numbers

St / St Part No.	Connections Size	A	B	C	D	E	F	Weight (kgs)
2VBD4NS	1/2" NPT (F)	32	64	63	85	207	41	1.7

Packing materials: RTFE (standard) graphoil option -GP  
For 10,000 psi version add "U" i.e. U2VBD4NS

Dims are in mm (Appx)

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REF: AVCAT2K090

REV: 00

# 2VBM Series Base Mounted

## General Information

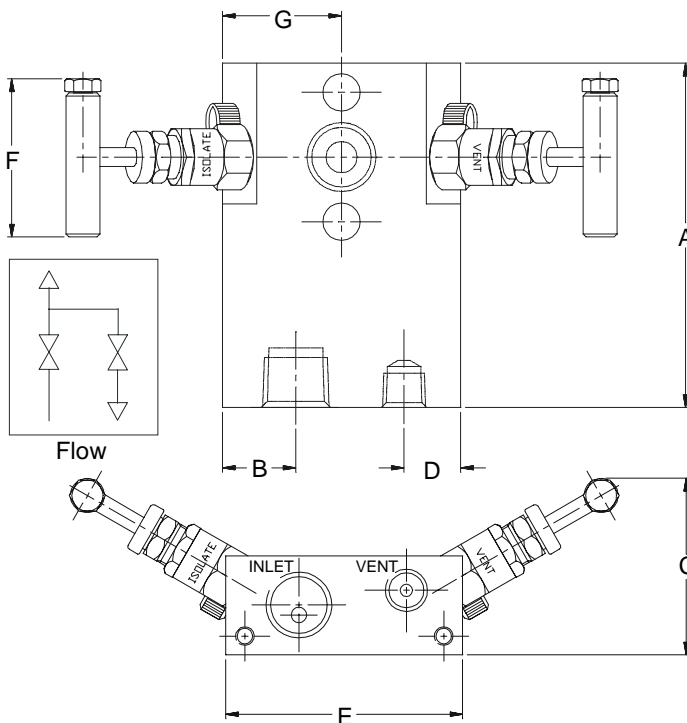
### Direct Mount 2 Valve Manifold 6,000 psi & 10,000 psi rated



Note: This product comes with bolt pack, spare seal & the vent port plugged for safety as standard

Two valve direct mount manifold for base mounting to an enclosure or mounting plate, designed for use with pressure gauge transmitter. The manifold will isolate the instrumentation from the process and allow safe venting of the instrument for calibration / removal from the circuit without effecting the process / application and or recovery of a sample etc. This compact unit offers single isolation, and vent / test facility. Vent port supplied 1/4" NPT (vent port plugged as standard for safety). Being base mounted facilitates quick and easy installation of the instrument. No additional fitting or brackets required, the manifold supports the instrument. Supplied with bolt pack and seal as standard.

## Design Features



- Bubble tight metal to metal seat for positive shut off.
- All valves have 2-piece non-rotating hardened (17-4PH) tip for first time seal. Every time.
- Temperature rating -50°C to 230°C (570°C with GP option).
- High temperature version up to 570°C with graphoil option (-GP).
- Pressure responsive multi-ring / piston packing for compression and pressure dynamic sealing.
- Metal to metal body bonnet seal for high pressure and high temperature sealing.
- Vent port is 1/4" and supplied plugged for safety.
- Unique bonnet locking cam. No accidental removal of head unit, or loosening due to vibration.
- Positive no slack stem action.
- Body to bonnet ingress seal fitted as standard to prevent crevice corrosion.
- Available fire safe to BS6755 Part 2 API 607
- Easy access angled valves and handles.
- Repair / service kit available to extend field life further.
- No additional brackets or fittings required.
- Full material traceability of major components.
- Back sealing stem to extend packing life.
- 100 % Hydrostatic testing.
- Materials of construction can be supplied to meet the requirements of NACE MR-01-75 latest revision.

## Part Numbers

St / St Part No.	Connections Size	A	B	C	D	E	F	G	Weight (kgs)
2VBM2NS	1/4" NPT female x instrument connection	110	23	57	18	76	50	38	2.6
2VBM4NS	1/2" NPT female x instrument connection	110	23	57	18	76	50	38	2.5

Packing materials: RTFE (standard) graphoil option -GP  
For 10,000 psi version add "U" i.e. U2VBM4NS

Dims are in mm (Apprx)

See technical section for important additional valve data.

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# 3VR Series

## General Information

### Remote Mount 3 Valve Manifold 6,000 psi and 10,000 psi Rated

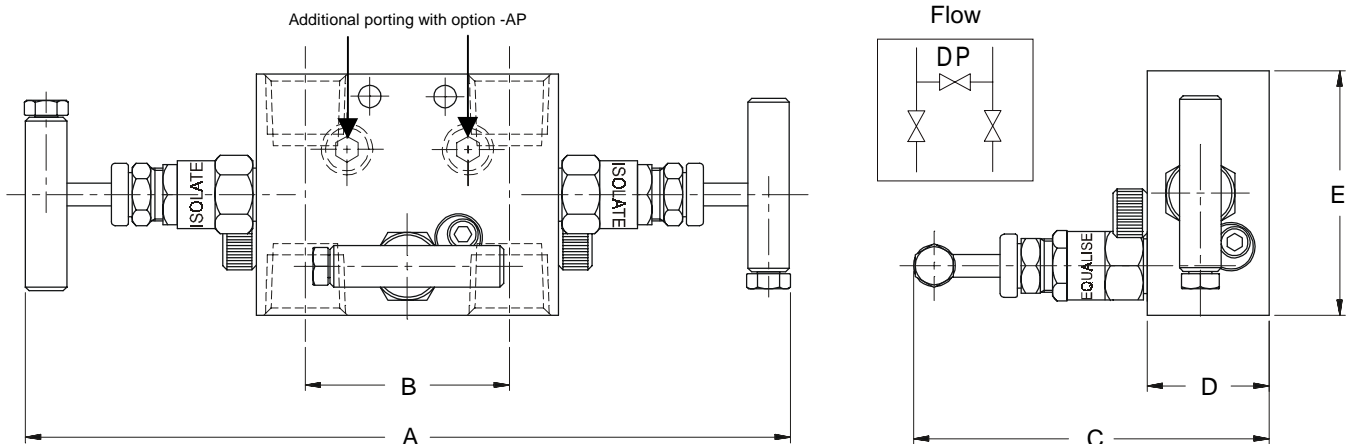


Note: 2 x 6mm diameter mounting holes as standard

The three-valve isolation manifold remote mounted (pipe to pipe). Used mainly in differential pressure transmitters and static instrument applications. The 3VR has two process isolation valves and one equalisation valve to equalise the two sides. Standard 1/2" inlet x 1/2" outlet. Incorporated all the standard long service life features of the standard "N" series needle valve, multi-ring piston style packings, back sealing facility. Safe anti-rotational cam locking device. Most standard options such as locking devices are available. Mounting holes supplied as standard for wall or bracket mounting. Process and instrument sides are both on 54mm centres to correspond with transmitter connections.

## Design Features

- 2 x isolation and 1 x equalising valve for instrument balancing applications.
- Additional purge ports available option -AP.
- All valves have 2-piece non-rotating hardened (17-4PH) tips as standard for bubble tight shut off & long service life.
- Metal to metal body bonnet seal for high pressure and high temperature sealing.
- 2 x 6mm diameter mounting holes as standard.
- Positive no slack stem action.
- Unique Anti-rotational cam locking device for extra safety.
- Repair / service kit available to extend field life further.
- Temperature rating -50°C to 230°C (570°C with GP option).
- Ingress seals fitted as standard.
- Available in 316 Stainless Steel, Monel, Duplex & other exotic materials.
- Mounting holes as standard to allow for fixing to pipe stands or enclosures.
- 100 % Hydrostatic testing
- Full material traceability.
- Materials of construction can be supplied to meet the requirements of NACE MR-01-75 latest revision.



## Part Numbers

St / St Part No.	Connections Size	A (OPEN)	B	C	D	E	Weight (KGS)
3VR2NS	2 x 1/4" NPT female x female	203	54	93	32	64	1.5
3VR4NS	2 x 1/2" NPT female x female	203	54	93	32	64	1.4

For BSPT version change "N" to "T" i.e. 3VR4TS  
Purge ports in bottom of manifold option -AP  
Packing materials: RTFE (standard) graphoil option -GP  
For 10,000 psi version add "U" i.e. U3VR4NS

See technical section for important additional valve data.

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REF: AVCAT2K092

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# 3VBD Series

## General Information

### Direct Mount 3 Valve Manifold 6,000 psi and 10,000 psi Rated

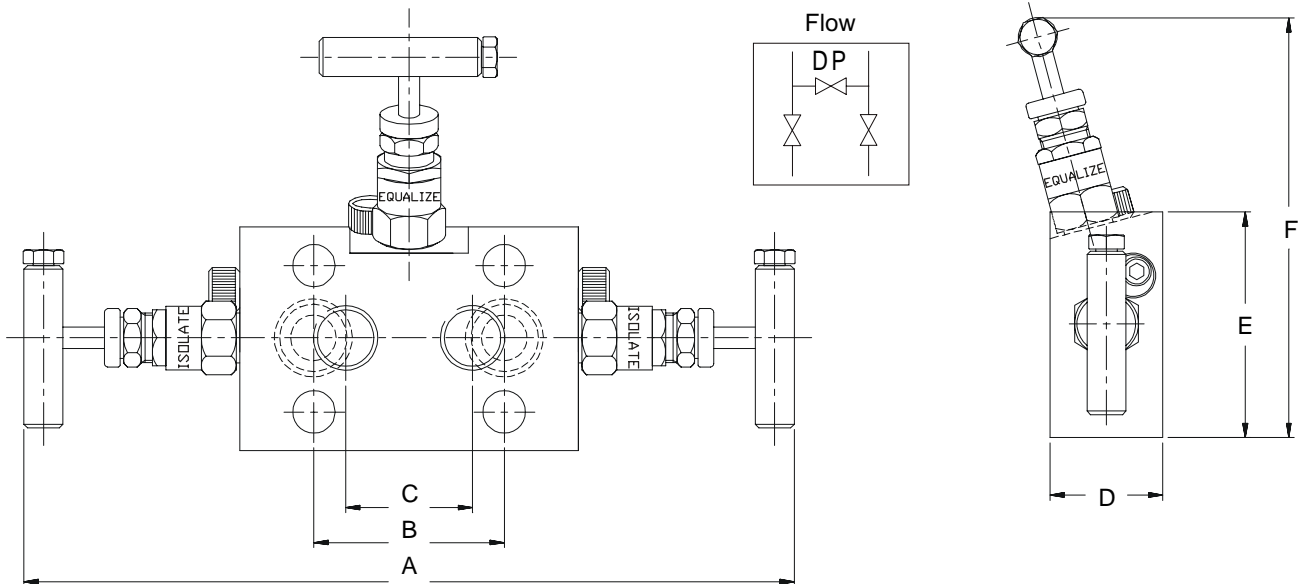
Direct mounted three-valve manifold, instrument mount to pipe connection. Offering two isolation valves, and one equalising valve for differential pressure transmitter or static instrument applications. Supplied with bolt pack and spare seals as standard. This slim, compact 3-valve manifold offers all the features of Alco's high integrity needle valve head design incorporated in one common instrument manifold block that mounts directly to an instrument.



Note: This product comes with bolt pack and spare seals as standard

## Design Features

- Compact bodied instrument manifold block.
- All valves have 2-piece non-rotating hardened (17-4PH) tips as standard for first time seal and long service life.
- Bubble tight shut off.
- Positive no slack stem action.
- Unique bonnet locking cam.
- Metal to metal body bonnet seal for high pressure and high temperature use.
- Ingress seal fitted as standard.
- Can be supplied with additional mounting holes in base.
- 54mm (2 1/8") instrument centres.
- Repair / service kit available to extend field life further.
- Temperature rating -50°C to 230°C (570°C with GP option).
- High temperature version up to 570°C (-GP)
- Available in 316 Stainless Steel, Monel, Duplex & other exotic materials.
- Base mounting holes to allow fixing to enclosure or mounting boss.
- Full material traceability.
- 100% Hydrostatic testing.
- Material of construction can be supplied to meet the requirements of NACE MR-01-75.



## Part Numbers

St/St Part No.	Connections Size	A	B	C	D	E	F	Weight (Kgs)
3VBD4NS	2 x 1/2" NPT female x direct mount	219	54	36	32	64	118	1.7

For BSPT version change "N" to "T" i.e. 3VBD4TS  
Packing materials: RTFE (standard) graphoil option -GP  
For 10,000 psi version add "U" i.e. U3VBD4NS

Dims are in mm (Appx)

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REF: AVCAT2K093

REV: 00

# 3VD Series

## General Information

### Direct Flange Mounted (T Section) 3 Valve Manifold 6,000 psi rated

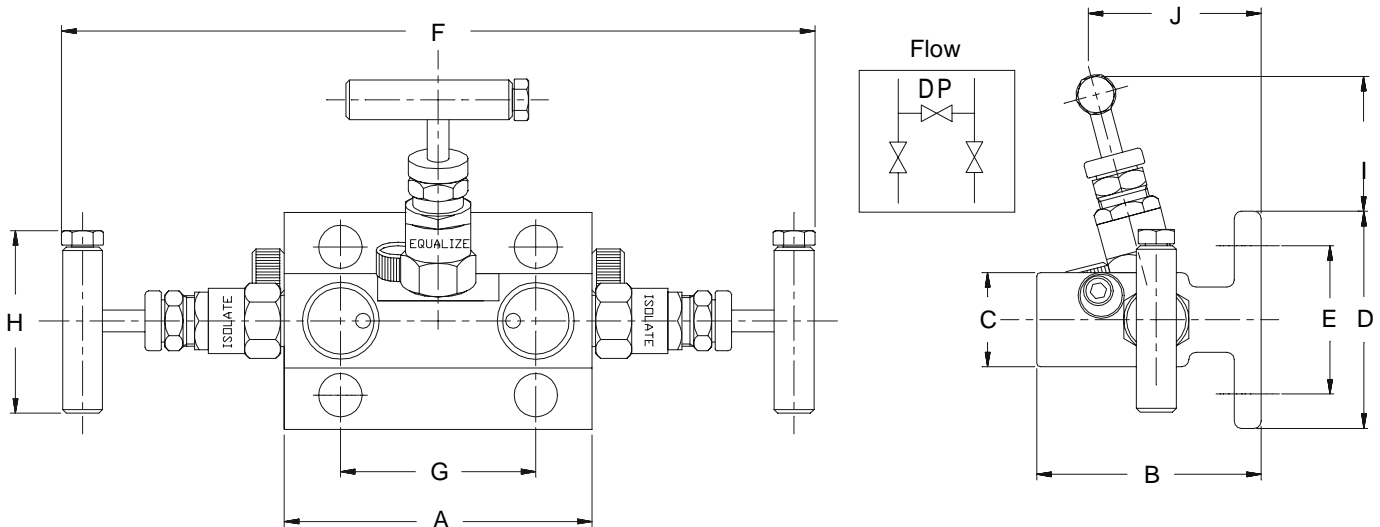
Direct mounted three-valve manifold, instrument mount to pipe connection. Having a "T" section body format allows reasonable space envelope between the instrument and process lines. The 3VD offers two isolation valves, and one equalising valve. Supplied with bolt pack and spare seals as standard. This slim, compact 3 valve manifold offers all the features of Alco's high integrity needle valve head design incorporated in one common instrument manifold block.



Note: This product comes with bolt pack and seals as standard

## Design Features

- All valves have 2-piece non-rotating hardened (17-4PH) tips as standard.
- Offset equalise valve for ease of operation.
- Bubble tight shut off.
- Positive no slack stem action.
- Metal to metal body bonnet seal for high pressure and high temperature use.
- Ingress seals fitted as standard.
- Repair / service kit available to extend field life further.
- Temperature rating -50°C to 230°C (570°C with GP option).
- 54mm (2 1/8") instrument centres.
- Unique bonnet locking cam.
- Full material traceability.
- 100% Hydrostatic testing.
- Materials of construction can be supplied to meet the requirements of NACE MR-01-75 latest revision.



## Part Numbers

St / St Part No.	Connections Size	A	B	C	D	E	F	G	H	I	Weight (kgs)
3VD4NS	1/2" NPT female x direct mount	85	62	26	60	41	208	54	50	37	1.5
<b>Mini heads</b>											
M3VD4NS	1/2" NPT female x direct mount	85	62	26	60	41	168	54	50	17	1.3

Packing materials: RTFE (standard) graphoil option -GP

Dims are in mm (Appx)

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REF: AVCAT2K094

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# 3VBM Series Base Mounted

## General Information

### Direct Mount 3 Valve Manifold 6,000 psi rated

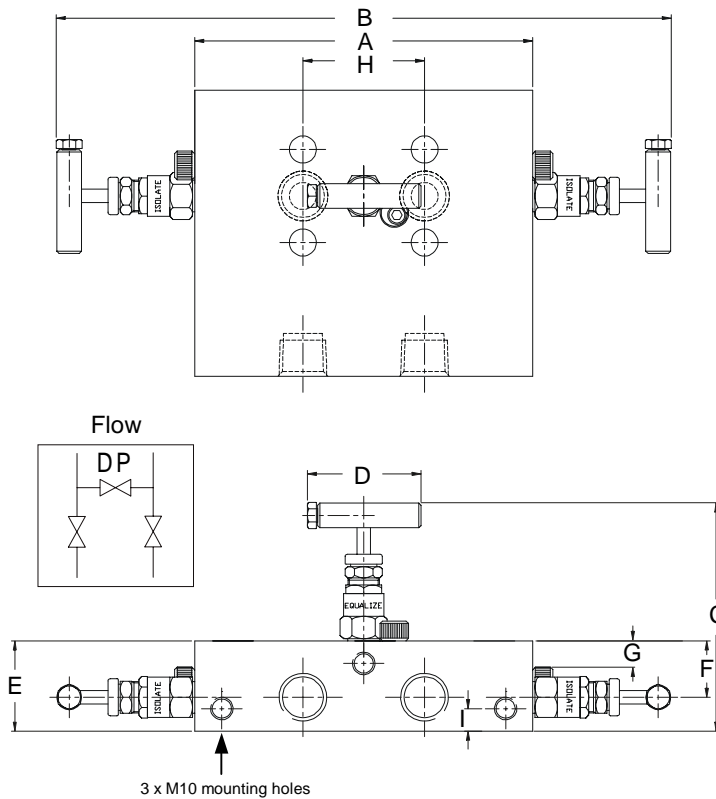


Note: This product comes complete with bolt pack and seals as standard.

Three valve direct mount manifold for base mounting to an enclosure or mounting plate, designed for use with pressure transmitter. The manifold will isolate the instrumentation from the process and allow safe equalisation between the high pressure and low pressure sides of the pipe-work arrangement without effecting the process / application. Being base mounted facilitates quick and easy installation of the instrument. No additional fitting or brackets required, the manifold supports the instrument. Supplied with bolt pack and seals as standard. The 3VBM can be supplied with additional steam trace porting. Other options are available such as locking / anti-tamper equalisation valve.

## Design Features

- Bubble tight metal to metal seat for positive shut off.
- Easy access and use of valve handles due to configuration.
- All valves have 2 piece non-rotating hardened (17-4PH) tip for first time seal. Every time.
- Pressure responsive multi-ring / piston packing for compression and pressure dynamic sealing.
- Metal to metal body bonnet seal for high pressure and high temperature sealing.
- Unique bonnet locking cam. No accidental removal of head unit, or loosening due to vibration.
- Positive no slack stem action.
- Repair / service kit available to extend field life further.
- Temperature rating -50°C to 230°C (570°C with GP option).
- Body to bonnet ingress seal fitted as standard to prevent crevice corrosion.
- Easy access angled valves and handles.
- No additional brackets or fittings required.
- Full material traceability of major components.
- Back sealing stem to extend packing life.
- 100 % Hydrostatic testing.
- Available fire safe to BS6755 Part 2 API 607.
- Materials of construction can be supplied to meet the requirements of NACE MR-01-75 latest revision.



Note: Available with steam tracing

## Part Numbers

St / St Part No.	Connections Size	A	B	C	D	E	F	G	H	I	Weight (kgs)
3VBM4NS	2 x 1/2" NPT female x direct mount	150	275	54	50	40	25	12	54	10	6

Packing materials: RTFE (standard) graphoil option -GP

Dims are in mm (Appx)

See technical section for important additional valve data.

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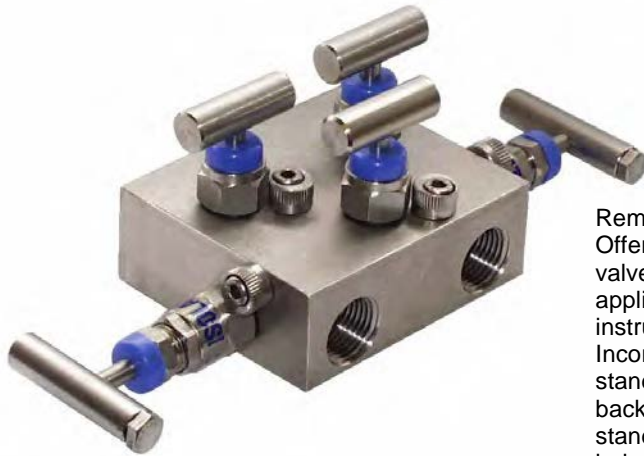


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REV: 00

# 5VR Series



Note: This product comes with blanking plugs on vents for safety.

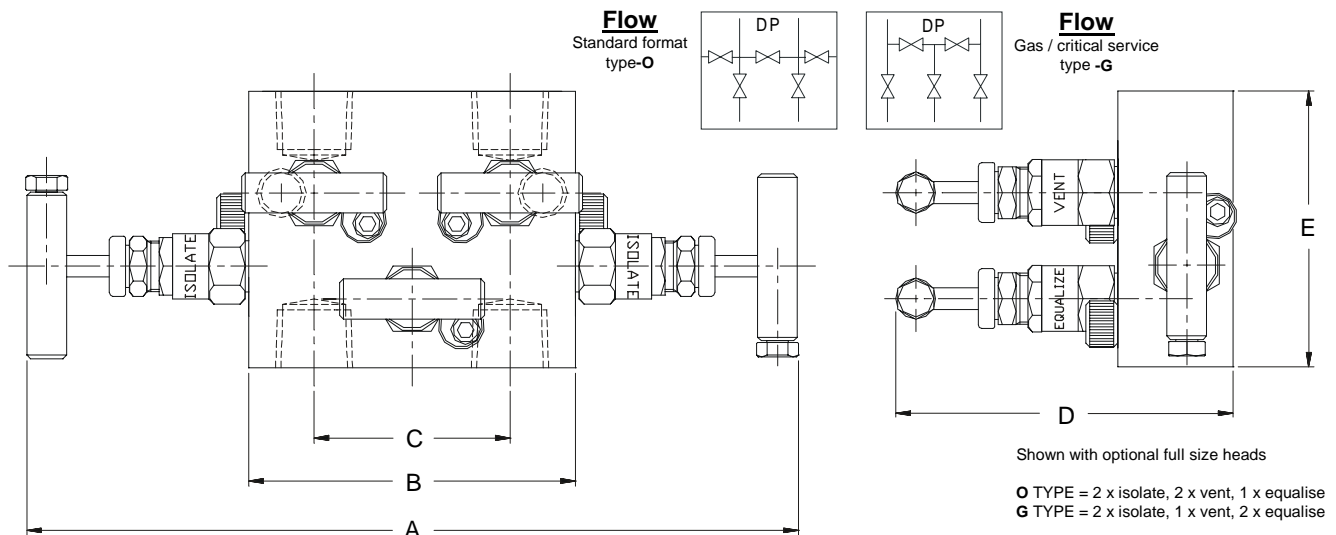
## General Information

### Remote mount 5 valve manifold 6,000 psi rated

Remote mounted, pipe to pipe configuration five valve manifold. Offering two isolation valves, two vent valves and one equalising valve. Used in differential pressure transmitters and static instrument applications. Standard 2 x 1/2" inlet x 2 x 1/2" outlet all on 54mm instrument centres with 2 x 1/4" plugged vent port supplied plugged. Incorporated all the standard long service life features of the standard N series needle valve, multi-ring piston style packings, back sealing facility. Safe anti-rotational cam locking device. Most standard options such as locking devices are available. Mounting holes supplied as standard for wall or bracket mounting. All additional ports supplied plugged as standard.

## Design Features

- All valves have 2-piece non-rotating hardened (17-4PH) tips as standard.
- Positive no slack stem action.
- Bubble tight shut off.
- Vent porting in base for piping away (supplied plugged).
- Metal to metal body bonnet seal for high pressure and high temperature use.
- Unique bonnet locking cam.
- Repair / service kit available to extend field life further.
- Ingress seals fitted as standard.
- Temperature rating -15°C to 170°C (570°C with GP option).
- Available in 316 Stainless Steel, Monel, Duplex & other exotic materials.
- 54mm (2 1/8") instrument centres.
- Full material traceability.
- 100% Hydrostatic testing.
- Two valve configurations available.
- Materials of construction can be supplied to meet the requirements of NACE MR-01-75 latest revision.



## Part Numbers

St/St Part No.	Connections Size	A	B	C	D	E	Weight (kgs)
5VR4NS-O	1/2" NPT (F)	213	90	54	93	76	2

If gas / critical service manifold is required change 'O' for 'G' i.e. 5VR4NS-G which offers 2 x isolation, 2 x equalise & 1 x vent  
Packing materials: RTFE (standard) Graphoil (option -GP)

Dims are in mm (Appx)

See technical section for important additional valve data.

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REF: AVCAT2K096

REV: 00

# 5VBD Series

## General Information

### Direct mount 5 valve manifold 6,000 psi rated

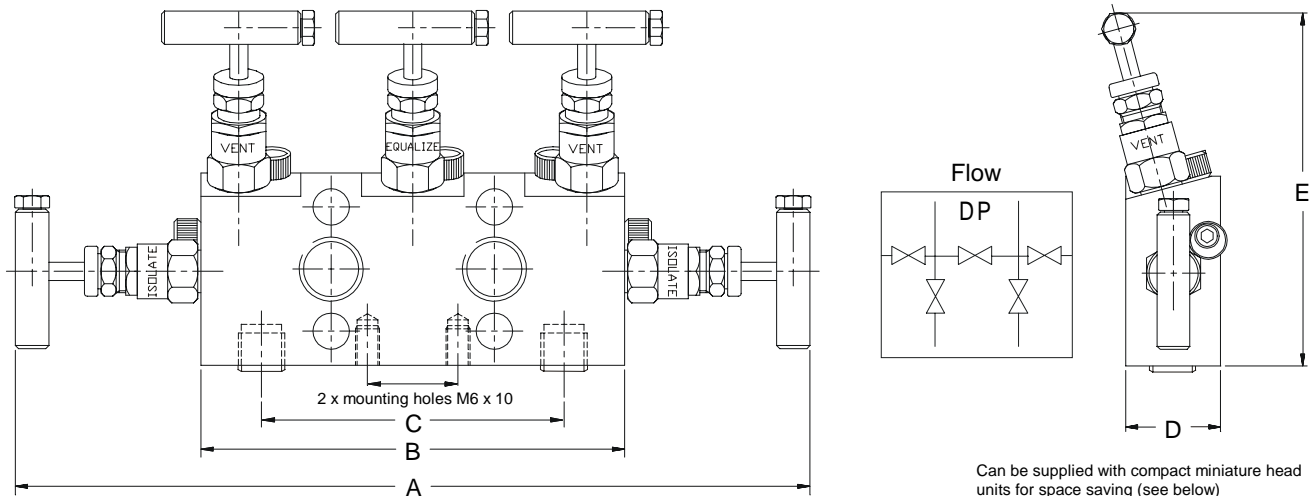


Note: This product comes with safety blanking plugs on vents, bolt pack and spare seals

Direct style block mounted five-valve manifold, instrument mount to pipe connection. Offering two isolation valves, two vent valves and one equalising valve. Used in differential pressure transmitters and static instrument applications. Standard 2 x 1/2" inlet x direct mount (54mm centres) with 2 x 1/4" plugged vent port supplied plugged. This slim, compact valve incorporates all the standard long service life features of the standard N series needle valve, multi-ring piston style packings, back sealing facility. Safe anti-rotational cam locking device. Most standard options such as locking devices are available. Mounting holes supplied as standard for wall or bracket mounting. All additional ports supplied plugged as standard.

## Design Features

- All valves have 2-piece non-rotating hardened (17-4PH) tips as standard.
- Bubble tight shut off.
- Positive no slack stem action.
- Unique bonnet locking cam.
- Metal to metal body bonnet seal for high pressure and high temperature use.
- Base mounting holes to allow fixing to enclosure or mounting boss.
- Repair / service kit available to extend field life further.
- Temperature rating -50°C to 230°C (570°C with GP option).
- High temperature version up to 570°C (-GP)
- Available in 316 Stainless Steel, Monel, Duplex & other exotic materials.
- Ingress seals fitted as standard.
- Full material traceability.
- 54mm (2 1/8") instrument centres.
- 100% Hydrostatic testing.
- Material of construction can be supplied to meet the requirements of NACE MR-01-75



## Part Numbers

St / St Part No.	Connections Size	A (Open)	B	C	D	E (Open)	Weight (kgs)
5VBD4NS	2 x 1/2" NPT female x direct mount 2 x 1/4" NPT vents	263	140	100	32	118	2.75
<b>Mini Heads</b>							
M5VBD4NS	2 x 1/2" NPT female x direct mount 2 x 1/4" NPT vents	215	140	100	32	98	2.5

Packing materials: RTFE (standard) graphoil option -GP  
For BSPT process connections change "N" to "T" i.e. 5VBD4TS

Dims are in mm (Appx)  
See technical section for important additional valve data.

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REF: AVCAT2K097

REV: 00

# 5VD Series

## General Information

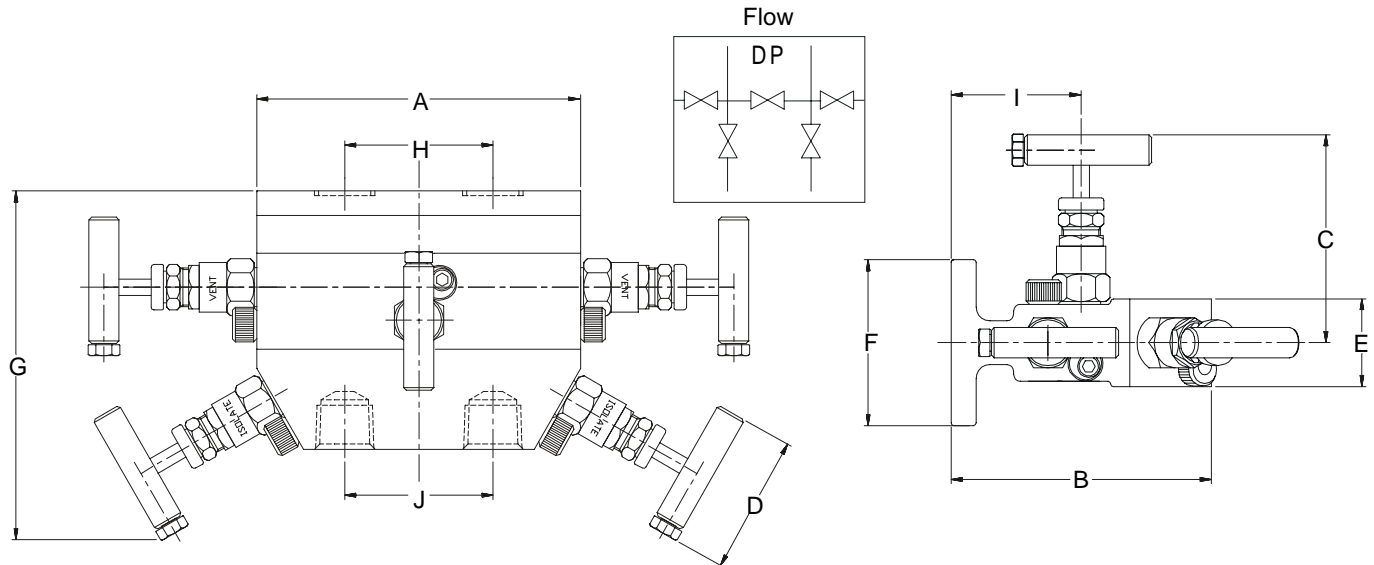
### Direct Flange Mounted (T Section) 5 Valve Manifold 6,000 psi rated

Direct mounted five-valve manifold, instrument mount to pipe connection. Having a "T" section body format allows a reasonable space envelope between the instrument and process lines. The 5VD offers two isolation valves, two vent valves and one equalising valve. Supplied with bolt pack and spare seals. This elongated 5 valve manifold offers all the features of Alco's high integrity needle valve head design incorporated in one common instrument manifold block. All additional porting supplied plugged as standard. Other options such as lockable vent valves & hand wheel are available.

Note: This product comes with bolt pack, spare seals & safety blanking plugs on vent ports as standard

## Design Features

- All valves have 2-piece non-rotating hardened (17-4PH) tips as standard.
- Bubble tight shut off.
- Positive no slack stem action.
- Unique bonnet locking cam.
- Metal to metal body bonnet seal for high pressure and high temperature use.
- Base mounting holes to allow fixing to enclosure or mounting boss.
- Supplied with bolt pack and extra PTFE seals.
- Repair / service kit available to extend field life further.
- Temperature rating -50°C to 230°C (570°C with GP option).
- Ingress seals fitted as standard.
- Direct mounting to instruments.
- Available in 316 Stainless Steel, Monel, Duplex & other exotic materials.
- Full material traceability.
- 100% Hydrostatic testing.
- 54mm (2 1/8") instrument centres.
- Material of construction can be supplied to meet the requirements of NACE MR-01-75.



## Part Numbers

St/St Part No.	Connections Size	A	B	C	D	E	F	G	H	I	J	Weight (kgs)
5VD4NS	2 x 1/2" NPT female x direct mount 2 x 1/4" NPT vents	118	94	75	51	32	60	127	54	47	54	2.8

Packing materials: RTFE (standard) graphoil option -GP  
For optional hand wheel add -HW

Dims are in mm (Appx)

See technical section for important additional valve data.

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REF: AVCAT2K098

REV: 00

# 5VBM Valve Base Mounted

## General Information

### Direct Mount 5 Valve Manifold 6,000 psi rated

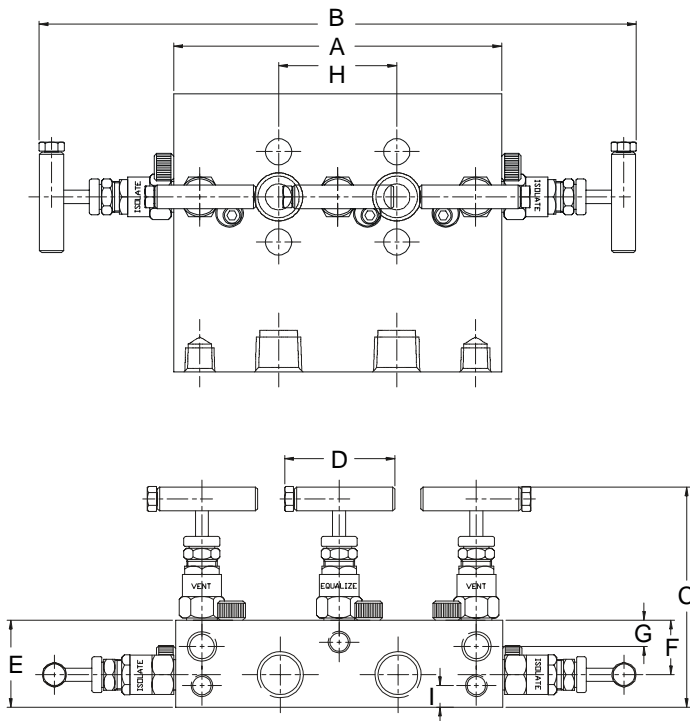


Note: This product comes with bolt pack, spare seals & safety blanking plugs on vents as standard.

Five valve direct mount manifold for base mounting to an enclosure or mounting plate, designed for use with pressure gauge transmitter. The manifold will isolate the instrumentation from the process and allow safe venting of the instrument for calibration / removal from the circuit without effecting the process / application and or recovery of a sample etc. This compact unit offers single isolation, and vent / test facility. Vent port supplied 1/4" NPT (vent port plugged as standard). Being base mounted facilitates quick and easy installation of the instrument. No additional fitting or brackets required, the manifold supports the instrument. Supplied with bolt pack and spare seals as standard. Certain options such as locking devices and hand wheels etc are available.

## Design Features

- All valves have 2-piece non-rotating hardened (17-4PH) tips as standard.
- Bubble tight shut off.
- Positive no slack stem action.
- Unique bonnet locking cam.
- Metal to metal body bonnet seal for high pressure and high temperature use.
- Temperature rating -50°C to 230°C (570°C with GP option).
- Ingress seals fitted as standard.
- Repair / service kit available to extend field life further.
- Base mounting holes to allow fixing to enclosure or mounting boss
- Full material traceability.
- 100% Hydrostatic testing.
- 54mm (2 1/8") instrument centres.
- Material of construction can be supplied to meet the requirements of NACE MR-01-75



Note: Base mounting holes are supplied as standard.  
Can be supplied with steam trace porting

## Part Numbers

St / St Part No.	Connections Size	A	B	C	D	E	F	G	H	I	Weight (kgs)
5VBM4NS	2 x 1/2" NPT x direct mount 2 x 1/4" NPT vents	150	275	54	50	40	25	12	54	10	6.2

Packing materials: RTFE (standard) graphoil option -GP  
For optional hand wheel add -HW

Dims are in mm (Appx)

See technical section for important additional valve data.

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REF: AVCAT2K099

REV: 00

# 3 Valve Manifold Block

## General Information

### Direct mount 3 Valve Manifold 6,000 psi rated

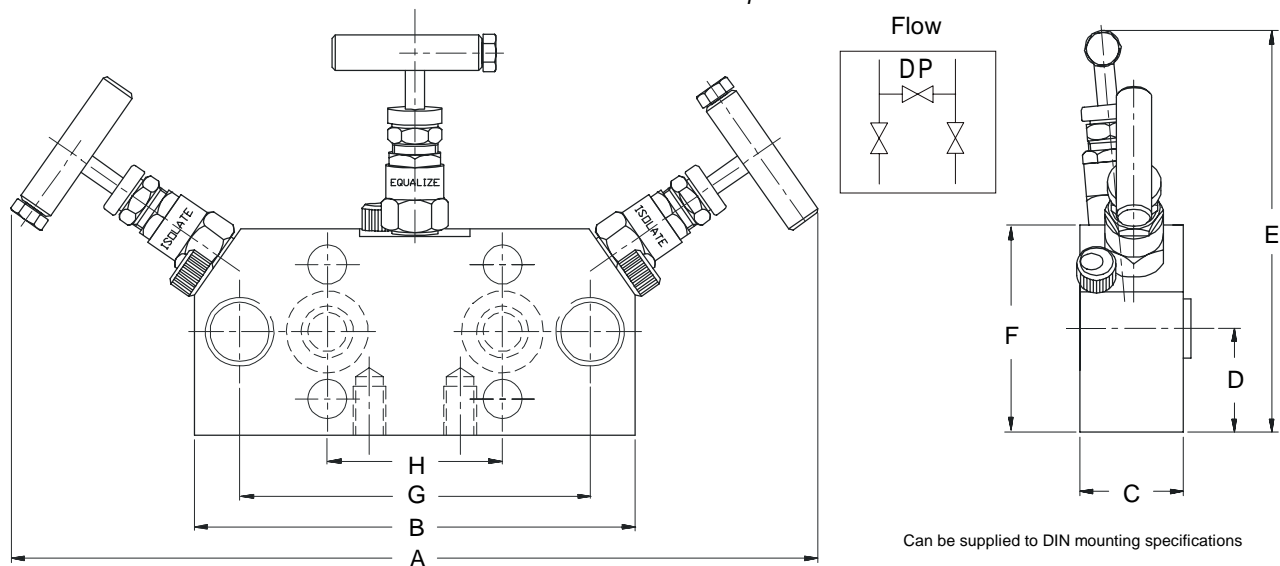


Note: This product comes complete with bolt pack and seals

Direct mounted three-valve manifold, instrument mount to pipe connection. Offering two isolation valves, and one equalising valve. Supplied with bolt pack and spare seals. This slim, compact 3 valve manifold offers all the features of Alco's high integrity needle valve head design incorporated in one common instrument manifold block. All additional porting supplied plugged as standard. Can be supplied to DIN 19 213 mounting specification in the 100 bar (1,500 psi) or 420 bar (6,000 psi).

## Design Features

- Compact overall size manifold body saving weight and space.
- All valves have 2-piece non-rotating hardened (17-4PH) tips as standard.
- Bubble tight shut off.
- Positive no slack stem action.
- Unique bonnet locking cam.
- Metal to metal body bonnet seal for high pressure and temperature use.
- Base mounting holes to allow fixing to enclosure or mounting boss.
- Available in 316 Stainless Steel, Monel, Duplex & other exotic materials.
- Temperature rating -50°C to 230°C (570°C with GP option).
- Ingress seals fitted as standard.
- Repair / service kit available to extend field life further.
- Full material traceability.
- 100% Hydrostatic testing.
- 54mm (2 1/8") instrument centres alternative instrument centres available
- Available DIN style mounting:  
Form B1 = 100 bar (1,450 psi)  
Form B2 = 420 bar (6,000 psi)
- Material of construction can be supplied to meet the requirements of NACE MR-01-75.



## Part Numbers

St / St Part No.	Connections Size	A (OPEN)	B	C	D	E (OPEN)	F	G	H	Weight (kgs)
3VBDD4NS	1/2" inlet x direct mount outlet	248	136	32	32	123	63	107	54	2.0

Packing materials: RTFE (standard) graphoil option -GP i.e. 3VBDD4NS-GP  
Additional purge ports located on top face add -PP i.e. 3VBDD4NS-PP

Dims are in mm (Appx)

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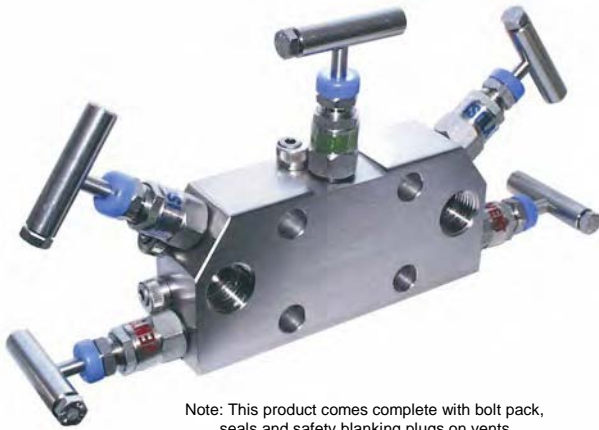
REF: AVCAT2K100

REV: 00

# 5 Valve Manifold Block

## General Information

### Direct Mount 5 Valve Manifold 6,000 psi rated

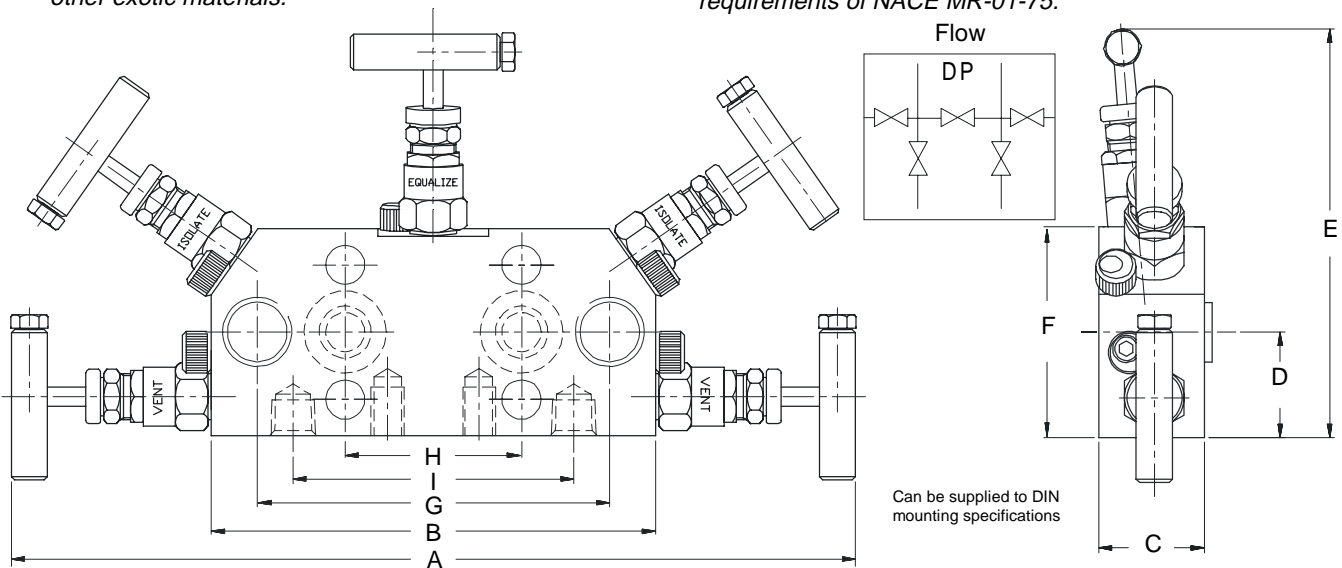


Note: This product comes complete with bolt pack, seals and safety blanking plugs on vents

Direct block mounted five-valve manifold, instrument mount to pipe connection. Offering two isolation valves, two vent valves and one equalising valve. Used mainly in differential pressure transmitters and static instrument applications. Standard 2 x 1/2" inlet x 2 x 1/2" outlet with 2 x 1/4" vent port supplied plugged. Incorporated all the standard long service life features of the standard N series needle valve, multi-ring piston style packings, back sealing facility. Safe anti-rotational cam locking device. Most standard options such as locking devices are available. Mounting holes as standard (for wall or bracket mounting). All additional ports supplied plugged. Comes with bolt pack and spare seals. Can be supplied to DIN 19 213 mounting.

## Design Features

- Compact overall size manifold body saving weight and space.
- All valves have 2-piece non-rotating hardened (17-4PH) tips as standard.
- Bubble tight shut off.
- Positive no slack stem action.
- Unique bonnet locking cam.
- Metal to metal body bonnet seal for high pressure and temperature use.
- Base mounting holes to allow fixing to enclosure or mounting boss.
- Available in 316 Stainless Steel, Monel, Duplex & other exotic materials.
- Temperature rating -50°C to 230°C (570°C with GP option).
- High temperature version up to 570°C (-GP)
- Ingress seals fitted as standard.
- Repair / service kit available to extend field life further.
- Full material traceability.
- 100% Hydrostatic testing.
- 54mm (2 1/8") instrument centres alternative instrument centres available.
- Available DIN style mounting:  
Form B1 = 100 bar (1,450 psi)  
Form B2 = 420 bar (6,000 psi)
- Material of construction can be supplied to meet the requirements of NACE MR-01-75.



## Part Numbers

St / St Part No.	Connections Size	A	B	C	D	E	F	G	H	I	Weight (kgs)
5VBDD4NS	1/2" inlet x direct outlet 2 x 1/4" vent	258	108	32	32	123	63	107	54	86	2.0

Packing materials: RTFE (standard) graphoil option -GP i.e. 5VBDD4NS-GP

Dims are in mm (Appx)

See technical section for important additional valve data.

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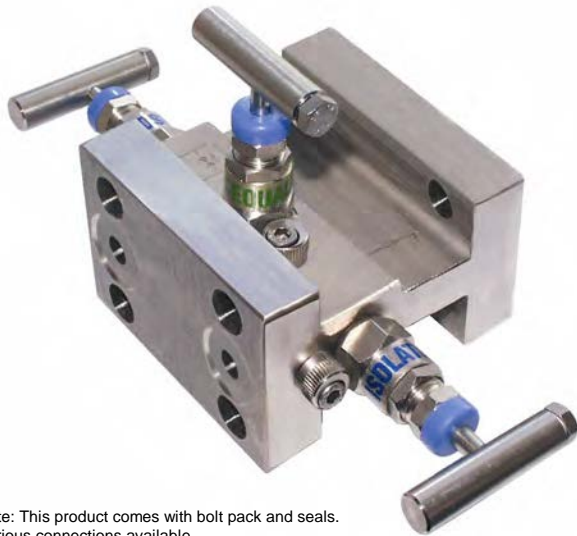
REF: AVCAT2K101

REV: 00

# 3 Valve H Section Manifold

## General Information

### Direct Mount 3 Valve Manifold 6,000 psi Rated

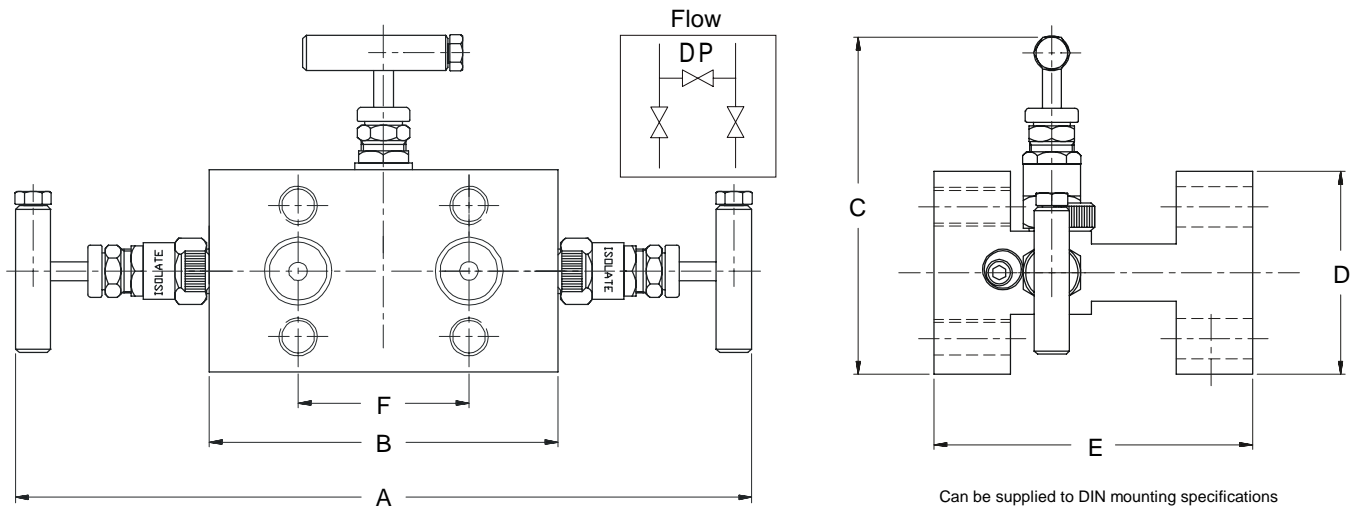


Note: This product comes with bolt pack and seals.  
Various connections available

Direct mounted three-valve manifold, instrument mount to pipe connection. Having a "H" section body format allows compact space envelope between the instrument and process lines. The 3VDH offers two isolation valves, and one equalising valve. Supplied with bolt pack and spare seals. This slim, compact 3 valve manifold offers all the features of Alco's high integrity needle valve head design incorporated in one common instrument manifold block for direct mounting to a pressure instrument available flange mount connection x 1/2" NPT female or flange x flange configuration. Certain options are available such as locking devices, high temperature option (570°C) or hand wheel operation. Can be supplied to DIN 19 213 mounting specification in the 100 bar (1,500 psi) or 420 bar (6,000 psi).

## Design Features

- All valves have two-piece non-rotating hardened (17-4PH) tips as standard.
- Bubble tight shut off.
- Positive no slack stem action.
- Unique bonnet locking cam.
- Metal to metal body bonnet seal for high pressure and high temperature use.
- Ingress seals fitted as standard.
- Available in 316 Stainless Steel, Monel, Duplex & other exotic materials.
- Repair / service kit available to extend field life further.
- Temperature rating -50°C to 230°C (570°C with GP option).
- Full material traceability.
- 100% Hydrostatic testing.
- 54mm (2 1/8") instrument centres, alternative instrument centres available.
- Available DIN style mounting:  
Form B1 = 100 bar (1,450 psi)  
Form B2 = 420 bar (6,000 psi)
- Material of construction can be supplied to meet the requirements of NACE MR-01-75.



## Part Numbers

St / St Part No.	Connections Size	A	B	C	D	E	F	Weight (kgs)
3VHD4S	1/2" direct mount x 1/2" direct mount	232	110	105	63	100	54	4.2

Packing materials: RTFE (standard) graphoil option -GP

Dims are in mm (Appx)

See technical section for important additional valve data.

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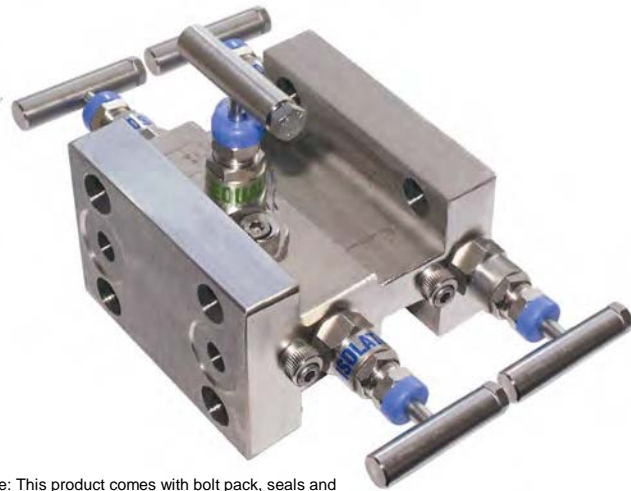
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REF: AVCAT2K102

REV: 00



# 5 Valve H Section Manifold



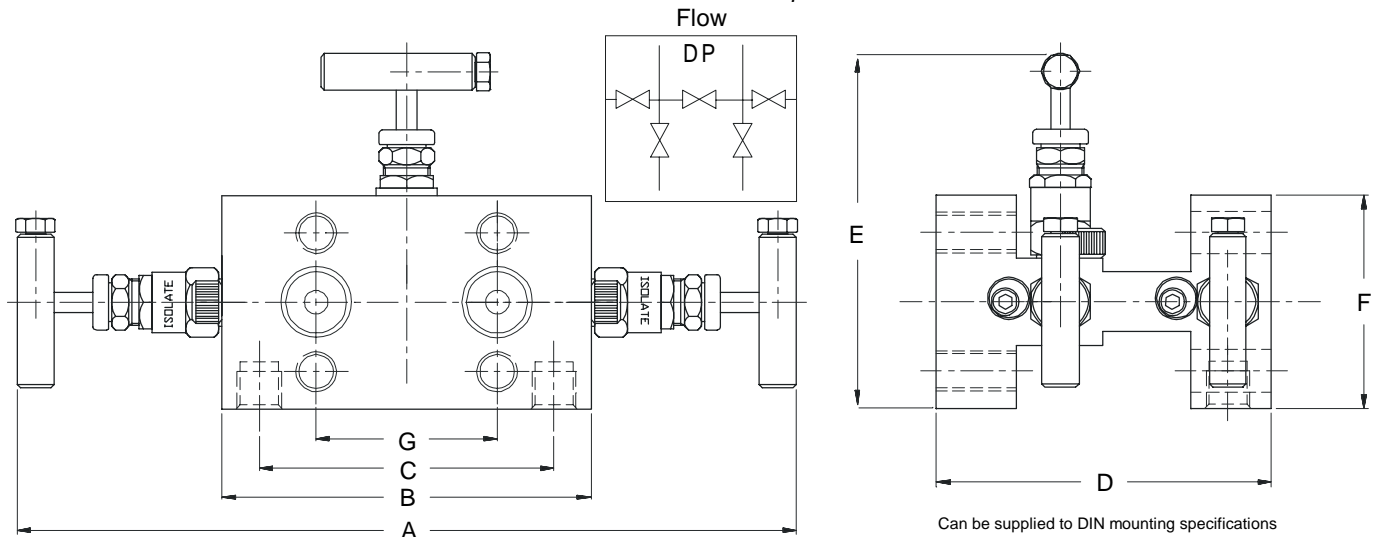
Note: This product comes with bolt pack, seals and safety blanking plugs on vents. Various connections available.

## General Information

Direct mounted five-valve manifold, instrument mount to pipe connection. Having a "H" section body format allows compact space envelope between the instrument and process lines. The 5VDH offers two isolation valves, two vent valves and one equalising valve. Supplied with bolt pack and spare seals. This slim, compact 5 valve manifold offers all the features of Alco's high integrity needle valve head design incorporated in one common instrument manifold block for direct mounting to a pressure instrument available flange mount configuration x 1/2" NPT female or flange x flange configuration. All additional porting supplied plugged as standard. Certain options are available such as locking devices, high temperature option (570°C) or hand wheel operation. Can be supplied to DIN 19 213 mounting specification in the 100 bar (1,500 psi) or 420 bar (6,000 psi).

## Design Features

- All valves have 2-piece non-rotating hardened (17-4PH) tips as standard.
- Bubble tight shut off.
- Positive no slack stem action.
- Unique bonnet locking cam.
- Metal to metal body bonnet seal for high pressure and high temperature use.
- Ingress seals fitted as standard.
- Repair / service kit available to extend field life further.
- Available in 316 Stainless Steel, Monel, Duplex & other exotic materials.
- Temperature rating -50°C to 230°C (570°C with GP option).
- Available DIN style mounting:  
Form B1 = 100 bar (1,450 psi)  
Form B2 = 420 bar (6,000 psi)
- Full material traceability.
- 100% Hydrostatic testing.
- 2 1/8" (54mm) instrument centres, alternative instrument centres available.
- Material of construction can be supplied to meet the requirements of NACE MR-01-75.



## Part Numbers

St / St Part No.	Connections Size	A	B	C	D	E	F	G	Weight (kgs)
5VHD4S	1/2" direct mount x 1/2" direct mount	232	110	88	100	105	63	54	4.5

Packing materials: RTFE (standard) graphoil option -GP

Dims are in mm (Appx)

See technical section for important additional valve data.

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REF: AVCAT2K103

REV: 00

# Manifold Accessories



Manifold Bracket for 2" stand pipe includes "U" bolts, nuts and washers, designed to support most Alco manifolds and instruments, made from heavy duty plate.  
 -BKT-1 Carbon Steel as standard.  
 -BKT-3 Stainless Steel version.



Spare bolt and seal packs  
 2 - valve kits are supplied with 1 spare seal, 3 & 5 valve kits have 2 spare seals. If spare PTFE seal alone is required order part number MFP10030.



Kidney flanges and various flange adapters threaded or with twin ferrule compression tube fitting / adapters / weld fittings / extenders / converters available in Stainless Steel, Monel 400, Duplex and other super alloys.



Manifold heaters and enclosure temperature control devices to various specifications to suit your application. Manufactured in 316 stainless steel and other alloys.



Manifold adapters to convert threaded / remote manifold valves to direct instrument connection - available in Carbon Steel, 316 Stainless Steel and Duplex



A wide range of GRP instrument and manifold enclosures and sun shades. Manufactured to the highest standards, to clients specifications and to suit the application.

See technical section for important additional valve data.

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REF: AVCAT2K104

REV: 00

# How to order Instrument Manifolds

Our part number system is made up of alphanumeric / generic code system as explained below.  
An example is :-

**5 valve instrument manifold compact “BD” block style in 316 Stainless Steel, 1/2” NPT process connections x 54mm direct instrument connection. 2 x isolation valves 2 x vent valves and 1 x equalising valve. Fitted RTFE (25% glass fibre filled) packings rated 6,000 psi. All additional ports supplied plugged as standard. Complete with locking vent valves for safety.**

The part number shown below is made up using the system :-

Rated pressure	No. of valves	Manifold type	Inlet Connection size	Inlet Threads / ends	Material of construction / body parts	Options
	<b>5V</b>	<b>BD</b>	<b>4</b>	<b>N</b>	<b>S</b>	<b>- LKV</b>
Blank = Std Rating U = 10,000 psi	2V = Two valve format 3V = Three valve format 4V = Four valve format 5V = Five valve format		2 = 1/4” 3 = 3/8” 4 = 1/2”	N = NPT T = BSPT K = Twin Ferrule Tube Fittings P = BSPP S = Socket weld	B = Brass C = C/Steel D = Ali-Bronze H = Hastalloy C I = Incoloy 625 M = Monel 400 N = Cupro-Nickel S = 316 St. St. U = Duplex <b>Note:</b> Other specialist material such as 6MO, Super Duplex, Zirconium are available	GP = Graphoil Packings HW = Hand wheel LKI = Locking isolation valves LKV = Locking vent valves LKE = Locking equalisation valves LKA = All valves locking PAD = Pad lock BDD = DIN type design AP = Additional Porting DG = degreased & cleaned
		R = Remote mount threaded process connections & threaded instrument connections. BDD = Direct mounting to transmitter, DIN style mounting available. BD = Direct block threaded inlet to instrument connection. BM = Direct block threaded inlet to instrument connection base mount manifold. D = Direct "T" section instrument mount threaded inlet to instrument connection. H = Direct "H" section threaded inlet to instrument connection.				

Socket weld and butt weld end connectors may be extended for thermal protection of the valve internals

**NOTE 1:** The pressure ratings quoted within our literature are maximum hydrostatic pressure ratings for the valves. Certain options available are the products / designs of other manufacturers, Alco Valves cannot accept any responsibility for these products unsuitability or failure in service.

**NOTE 2:** It is always advisable to refer to specific product literature or contact our technical sales department when ordering valves as some of these options are available only on certain styles of valves. Any special end connections such as compression ends or butt / socket weld may limit the rated working pressure of the valve or component supplied in accordance with the relevant specification of design or use of that method of connection. The valve or component will still carry the maximum working pressure markings in accordance with the valve or component design not the connection method as they vary.

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REF: AVCAT2K087

REV: 00