

# RTG RANGE.

READY TO GO STOCK

ISOLATE

ALCO VALVES  
MADE IN  
3VR4NS  
6.000  
TEMP

VALVES GROUP  
THE

ALCO VALVES DELIVER TRUSTED  
SOLUTIONS FOR CRITICAL  
APPLICATIONS.





## ALCO VALVES GROUP LTD

The Alco Valves Group has been delivering quality, precision and excellence for its customers since 1977. In that time the business has evolved into the choice supplier of technically advanced valve products and solutions for critical applications across the globe.

The Alco Valves Group's extensive range of valves and accessories are precision-made to fit the customer's requirements using advanced machinery and manufacturing processes. Quality assurance is of the utmost importance to Alco and the group holds a number of internationally recognised quality standards certifications and management systems.

The Alco Valves Group now operates in over thirty countries worldwide with office locations in the UK, UAE, Malaysia, Australia and USA. In 2016 the group developed its flagship headquarters in Yorkshire, UK, establishing it as a state-of-the-art production and technology centre. This is where innovation comes to life and products are designed, tested and manufactured using the latest industry-led technology.

This dedication to operational excellence runs throughout the business, from customer service right through to the safety and reliability of products. The Alco Valves Group is committed to continual improvement and infrastructure investment as it aspires to be the most technologically advanced valve provider in the world.

**40** YEARS OF  
MANUFACTURING  
EXCELLENCE

# ALCO VALVES

## RTG RANGE

READY TO GO STOCK



PB Series Ball Valve



UE Series Ball Valve



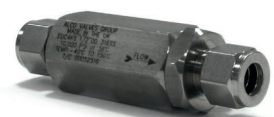
UB Series Ball Valve



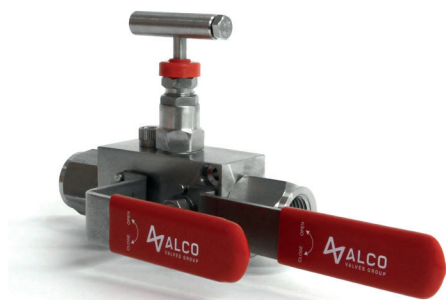
SN Series Ball Valve



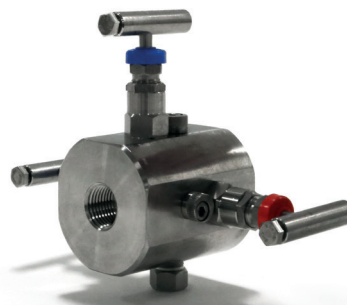
EC Series Check Valve



EUC Series Check Valve



DBB 'B' Series Manifold



DBB 'N' Series Manifold



UN Series Needle Valve



UN MxF Series Needle Valve



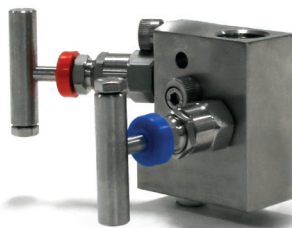
UN-V Series Needle Valve



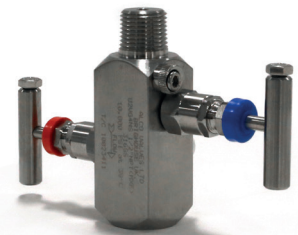
UN-V MxF Series Needle Valve



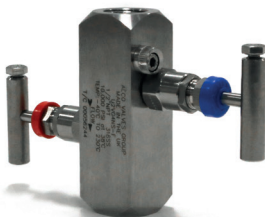
UGV Series Gauge Valve



U2VR Series Needle Manifold



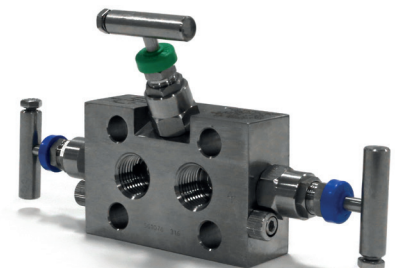
U2VG Series Needle Manifold



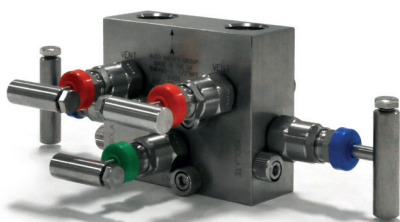
U2VG FxF Series Needle Manifold



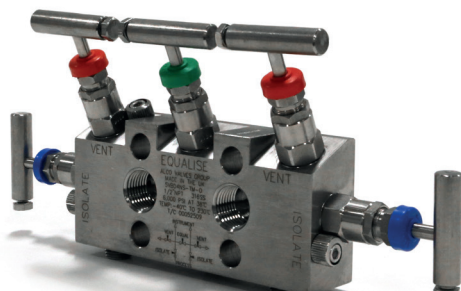
3VR Series Needle Manifold



3VBD Series Needle Manifold



5VR Series Needle Manifold



5VBD Series Needle Manifold

# PB Series Ball Valve

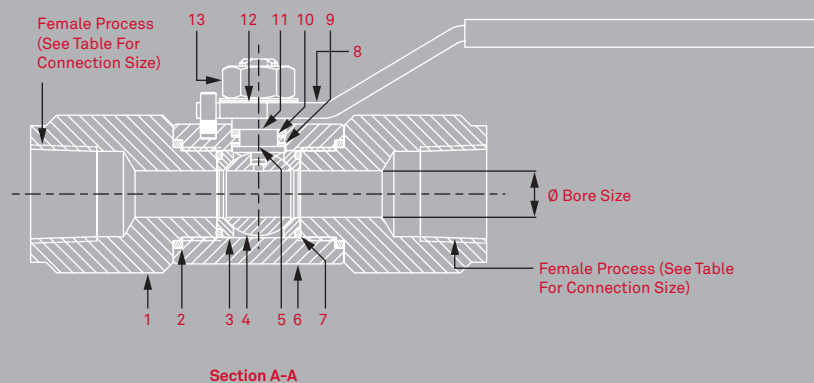
## Overview

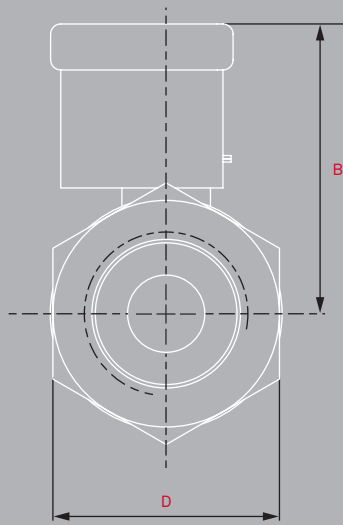
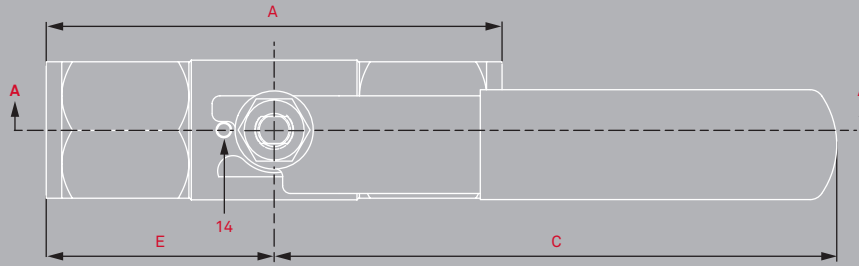
### Ball Valves 6,000 PSI

The 'PB' series high pressure 3 piece ball valve Rated at 414 bar, the 'PB' series is a reliable, compact and flexible isolation ball valve.

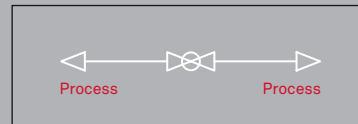
## Design Features

- Bi-directional floating ball design to ensure leak-proof shut-off on pressure and vacuum
- Flexible 3 piece design for easy maintenance
- Repair/service kits available to extend service life further
- Available in 316/316L
- Anti-blowout internally loaded stem for safety
- Temperature range -40°C to 150°C
- Handle indicates OPEN/CLOSED position at a glance
- Full material traceability
- Materials of construction supplied to meet the requirements of NACE MR 0175





Flow Diagram



Components Key

Item No.	Description	Material	Quantity
1	END CONNECTOR	A479 UNS S31600	2
2	BODY SEAL	PTFE	2
3	SEAT	PVDF	2
4	BALL	A479 316 (9.5mm bore) / A351 CF8M	1
5	STEM	A479 UNS S31600	1
6	VALVE BODY	A479 UNS S31600	1
7	O-RING	HNBR 90	2
8	LEVER HANDLE	UNS S31600	1
9	STEM SEAL	RTFE	1
10	STEM SEAL	RTFE	1
11	SPACER	UNS S31600	1
12	BELLEVILLE WASHER	ST/ST	2
13	5/16" UNF HEX NUT	A4 ST/ST	1
14	STOP PIN	UNS S31600	1

Dimensions shown are in metric mm

Part no.	Size	A	B	Bore	C	D	E	CV	Weight
PB2NS-LM	1/4" NPT	68	36	9.5	115	26	34	13.9	0.39 Kg
PB3NS-LM	3/8" NPT	74	36	9.5	115	26	37	13.9	0.4 Kg
PB4NS-LM	1/2" NPT	93	36	9.5	115	28	47	13.9	0.48 Kg
PB6NS-LM	3/4" NPT	95	39	12.7	115	35	48	25.3	0.66 Kg
PB8NS-LM	1" NPT	115	50	19.1	150	42	58	61.2	1.3 Kg

# UE Series Ball Valve

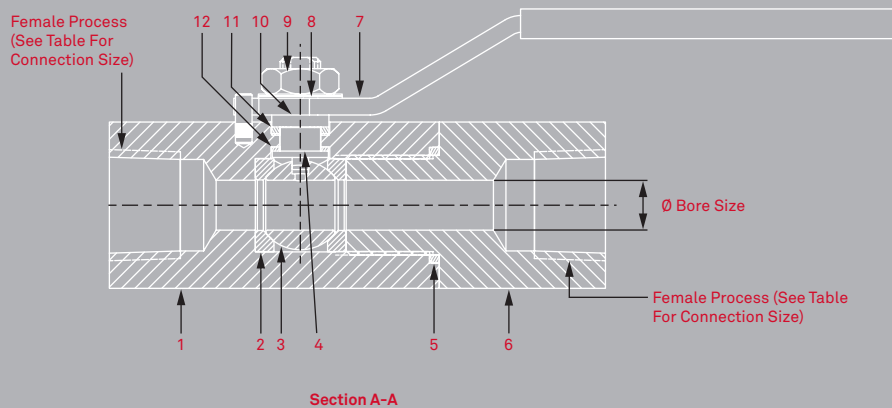
## Overview

### Ball Valves 10,000 PSI

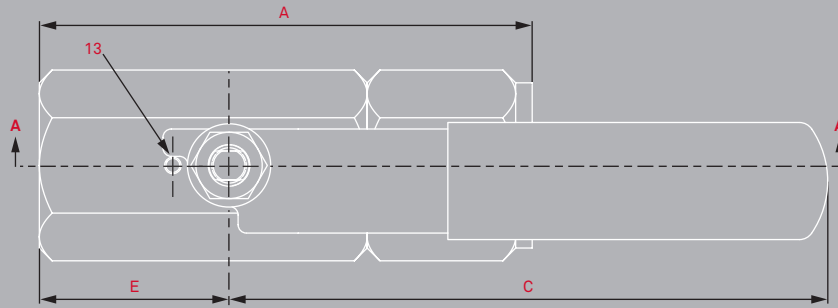
The 'UE' series has been designed to be lighter and more compact than the 'UB' series range. The 'UE' series comes with a stainless steel lever handle. Fully floating ball for first time seal.

## Design Features

- Smooth low torque 90° operation
- Two piece design means less leak paths for extra safety
- Value for money economical design
- Compact overall length, reduced weight
- Anti-blowout internally loaded stem for extra safety
- Temperature range -40°C to 230°C
- Available in 316/316L
- Bi-directional floating ball design to ensure leak-proof shut-off on pressure or vacuum
- Repair/service kits available to extend service life further
- Stainless steel lever handle as standard
- Full material traceability
- Materials of construction supplied to meet the requirements of NACE MR 0175

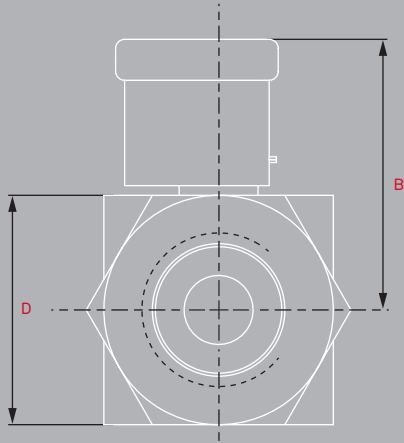
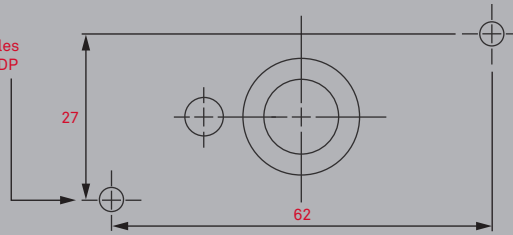




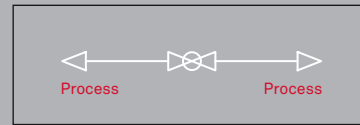


Top Mount Details 1" Only

Mounting Holes  
M5X0.8 x 6.0DP



Flow Diagram



Components Key

Item No.	Description	Material	Quantity
1	VALVE BODY	A479 UNS S31600	1
2	SEAT	PEEK HPV	2
3	BALL	A479 UNS S31600	1
4	STEM	A479 UNS S31600 / 17-4PH (19mm BORE)	1
5	BODY SEAL	PTFE	1
6	END CONNECTOR	A479 UNS S31600	1
7	LEVER HANDLE	UNS S31600	1
8	BELLEVILLE WASHER	ST/ST	2
9	STEM NUT	A4 ST/ST	1
10	SPACER	UNS S31600	1
11	STEM SEAL	RTFE	1
12	STEM SEAL	PEEK	1
13	STOP PIN	UNS S31600	1

Dimensions shown are in metric mm

Part no.	Size	A	B	Bore	C	D	E	CV	Weight
UE2NS	1/4" NPT	89	37	9.5	115	32	36	13.9	0.62 Kg
UE3NS	3/8" NPT	92	37	9.5	115	32	36	13.9	0.66 Kg
UE4NS	1/2" NPT	95	37	9.5	115	32	36	13.9	0.64 Kg
UE6NS	3/4" NPT	110	46	12.7	150	38	46	25.3	1.2 Kg
UE8NS	1" NPT	124	80	19.1	167	63.5	51	61.2	3.0 Kg

# UB Series Ball Valve

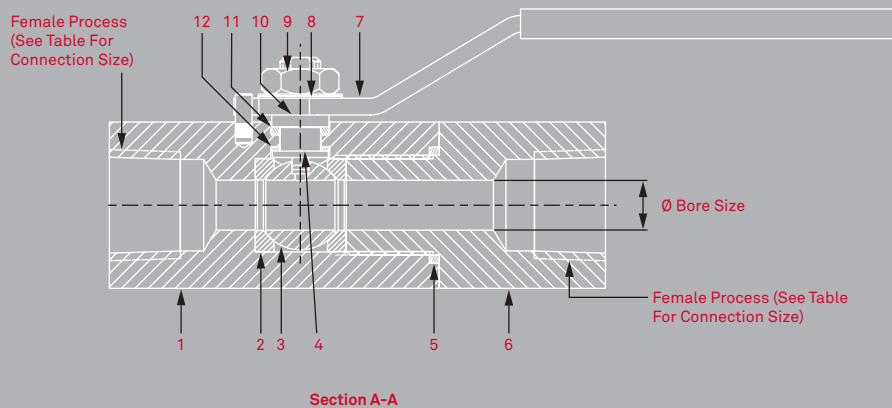
## Overview

### Ball Valves 10,000 PSI

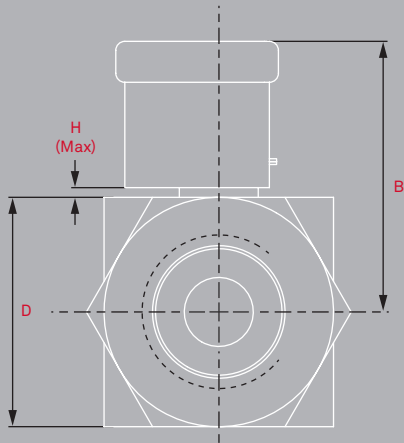
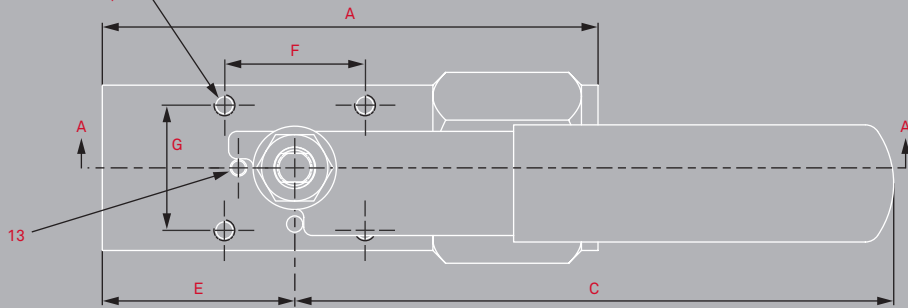
Alco are aware of the ever increasing operating pressures demanded by industry, and for this reason have developed the 'UB' range of valves to accommodate these stringent requirements. The UB series high pressure valve has a working pressure of 10,000psi with a body test at 15,000psi. The UB series is a tried and tested rugged design for high pressure applications. It comes with panel mounting holes and stainless steel handle as standard. Service / repair kits are available to prolong service / field life.

## Design Features

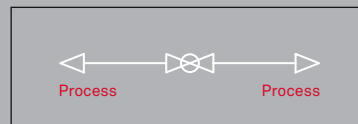
- 2 piece design for safety
- Quick 90° operation, lever handle standard
- Bi-directional floating ball design to ensure leak-proof shut-off on pressure and vacuum
- Anti-blowout stem for safety
- Available with 4-panel mounting holes M4 x 6 deep
- Temperature range -40°C to 230°C
- Renewable seats and seals for long life
- Available in 316/316L
- Full material traceability
- Materials of construction supplied to meet the requirements of NACE MR 0175



4 Off Mounting Holes (See Table For Thread Size)



Flow Diagram



Components Key

Item No.	Description	Material	Quantity
1	VALVE BODY	A479 UNS S31600	1
2	SEAT	PEEK HPV	2
3	BALL	A479 UNS S31600	1
4	STEM	A479 UNS S31600	1
5	BODY SEAL	PTFE	1
6	END CONNECTOR	A479 UNS S31600	1
7	LEVER HANDLE	UNS S31600	1
8	BELLEVILLE WASHER	ST/ST	2
9	STEM NUT	A4 ST/ST	1
10	SPACER	UNS S31600	1
11	STEM SEAL	RTFE	1
12	ANTI-EXTRUSION SEAL	PEEK	1
13	STOP PIN	UNS S31600	1

Dimensions shown are in metric mm

Part no.	Size	A	B	Bore	C	D	E	F	G	Panel mount	H (Max)	CV	Weight
UB2NS	1/4" NPT	89	37	9.5	115	32	37	27	24	M4 x 6	1.3	13.9	0.68 Kg
UB3NS	3/8" NPT	92	37	9.5	115	32	37	27	24	M4 x 6	1.3	13.9	0.73 Kg
UB4NS	1/2" NPT	95	37	9.5	115	32	37	27	24	M4 x 6	1.3	13.9	0.71 Kg
UB6NS	3/4" NPT	110	46	12.7	150	38	46	31.5	31.5	M4 x 6	2.0	25.3	1.2 Kg

# SN Series Ball Valve

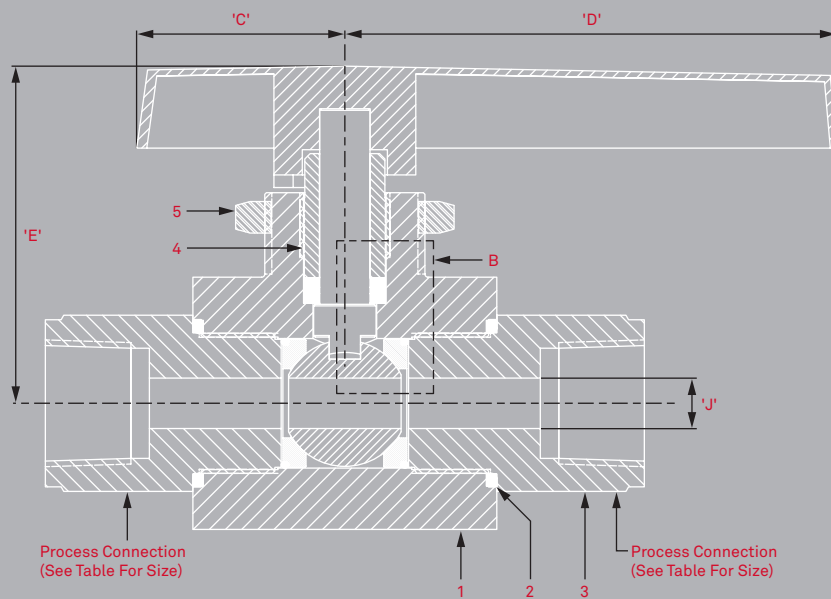
## Overview

### Ball Valves 6,000 PSI

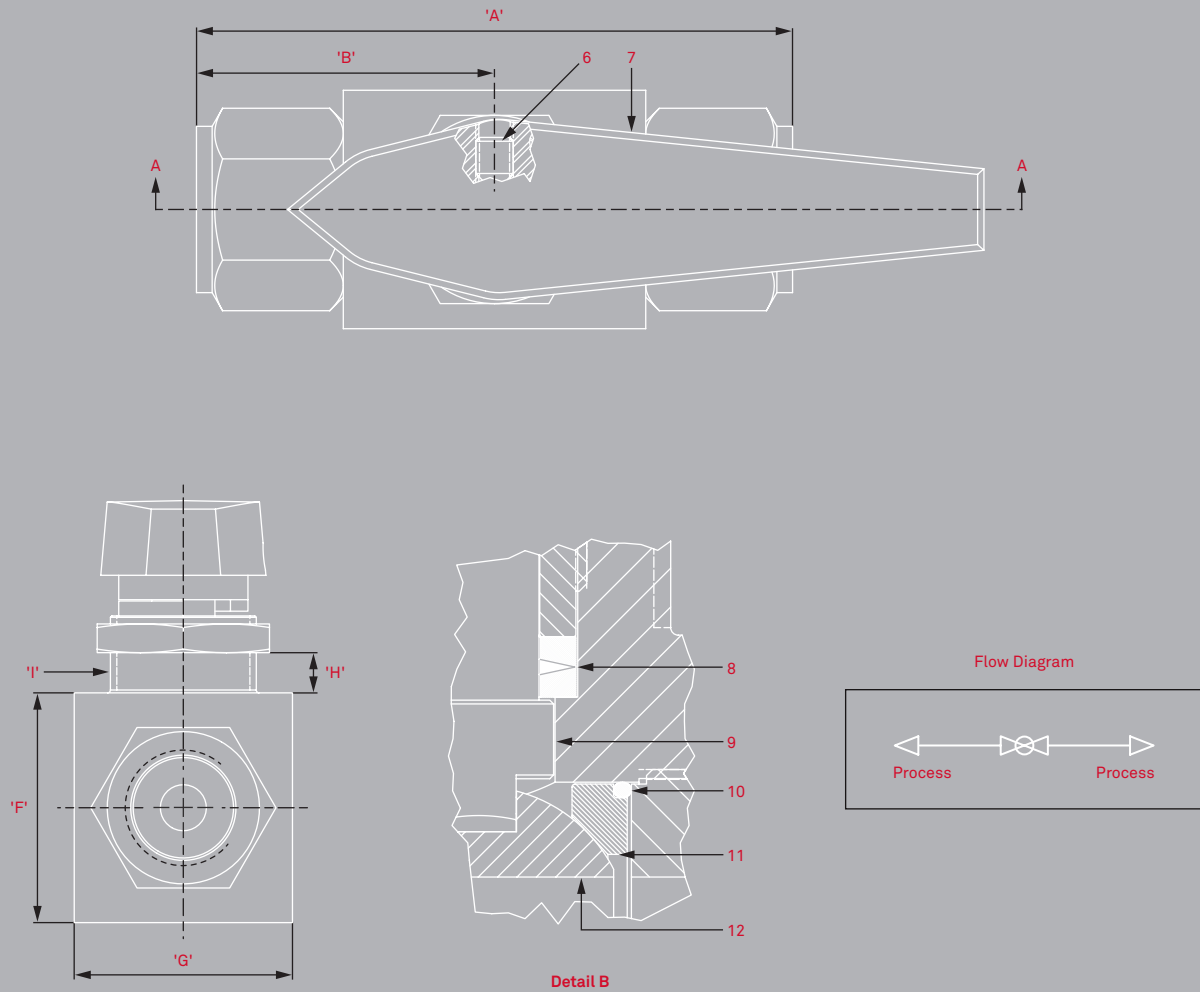
The single nut mounted ball valve is rated from vacuum up to 6,000psi. The single nut allows fast panel mounting. Max panel thickness is 11mm (dependant on valve size). A heavy duty yet compact design offering easy installation and maintainability.

## Design Features

- Flexible 3 piece design for easy maintenance
- Bi-directional floating ball design to ensure leak-proof shut-off on pressure or vacuum
- 90 degree low torque operation
- Single nut mounting facility for ease of installation
- Repair/service kits available to extend service life further
- Temperature range  $-40^{\circ}\text{C}$  to  $150^{\circ}\text{C}$
- Mazak pointer handle as standard, to indicate direction of flow
- Available in 316/316L
- Full material traceability
- Materials of construction supplied to meet the requirements of NACE MR 0175



Section A-A



Item No.	Description	Material	Quantity
1	VALVE BODY	UNS S31600	1
2	BODY SEAL	PTFE	2
3	END CONNECTOR	UNS S31600	2
4	GLAND ADJUSTER	UNS S31600	1
5	PANEL NUT	UNS S31600	1
6	GRUB SCREW	A4 ST/ST	1
7	HANDLE	MAZAK 5	1
8	GLAND PACKING	PTFE	2
9	STEM	UNS S31600	1
10	O-RING	HNBR 90 (AED)	2
11	SEAT	PVDF	2
12	BALL	UNS S31600	1

Components Key

Dimensions shown are in metric mm		Part no.	Connection size	'A'	'B'	'C'	'D'	'E'	'F'	'G'	'H' (MAX)	'I'	J	CV	Weight (KG)
		SN2NS-PPH	1/4" N.PT	61.8	30.9	18.5	46.0	37.0	24.6	24.6	5.0	M20 x 1.5	5.4	4.3	0.27
		SN3NS-PPH	3/8" N.PT	69.1	34.5	18.5	46.0	43.0	28.5	28.5	6.0	M24 x 1.5	5.8	4.9	0.40
		SN4NS-PPH	1/2" N.PT	95.0	47.5	33.0	78.0	54.0	40.0	38.0	7.0	1" x 12 UNF	8.0	9.5	0.89
		SN6NS-PPH	3/4" N.PT	104.7	52.4	33.0	78.0	68.0	44.0	43.0	10.5	M30 x 1.5	10.0	15.4	1.38
		SN8NS-PPH	1" N.PT	124.9	62.5	33.0	78.0	73.0	54.0	54.0	11	M30 x 1.5	17.0	46.9	2.20

# EC Series Check Valve

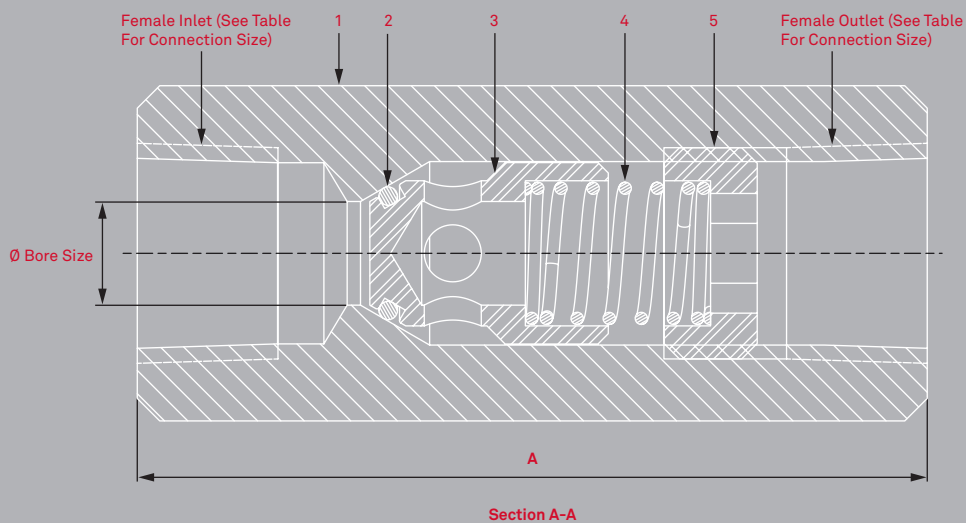
## Overview

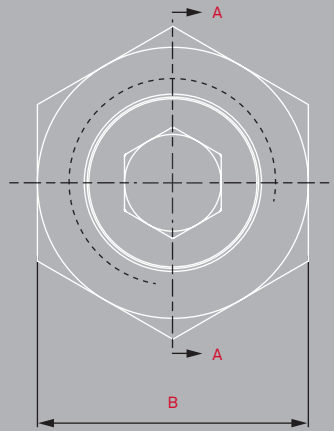
### Check Valves 10,000 PSI

The Alco Valves Non Return Valve, designed for prevention of back flow in high pressure systems. Having a soft primary seat means it is suitable for gases or liquids. Altogether a very compact unit, suitable for many arduous duties.

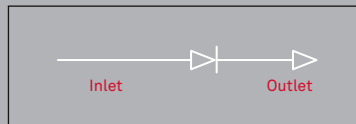
## Design Features

- Primary soft seal for bubble tight close, with secondary metal-to-metal seal as standard
- Available in 316/316L
- Close tolerance guided spring and piston to prevent grabbing or seizure
- Repair/service kits available to extend service life further
- Temperature range -40°C to 150°C
- Full material traceability
- Materials of construction supplied to meet the requirements of NACE MR 0175





Flow Diagram



Components Key

Item No.	Description	Material	Quantity
1	VALVE BODY	A479 UNS S31600	1
2	O-RING	HNBR 90	1
3	PISTON	A479 UNS S31600	1
4	SPRING	UNS S30200	1
5	INSERT	A479 UNS S31600	1

Dimensions shown are in metric mm

Part no.	Connection size	A	B	Bore	Cracking pressure	CV	Weight
EC2NS	1/4" NPT	59	22	5	6 psi ± 25%	0.53	0.16 Kg
EC3NS	3/8" NPT	64	22	8	6 psi ± 25%	0.97	0.15 Kg
EC4NS	1/2" NPT	76	28	10	15 psi ± 25%	1.78	0.30 Kg
EC6NS	3/4" NPT	85	35	10	15 psi ± 25%	1.78	0.53 Kg
EC8NS	1" NPT	95	45	10	15 psi ± 25%	1.78	1.0 Kg

# EUC Series Check Valve

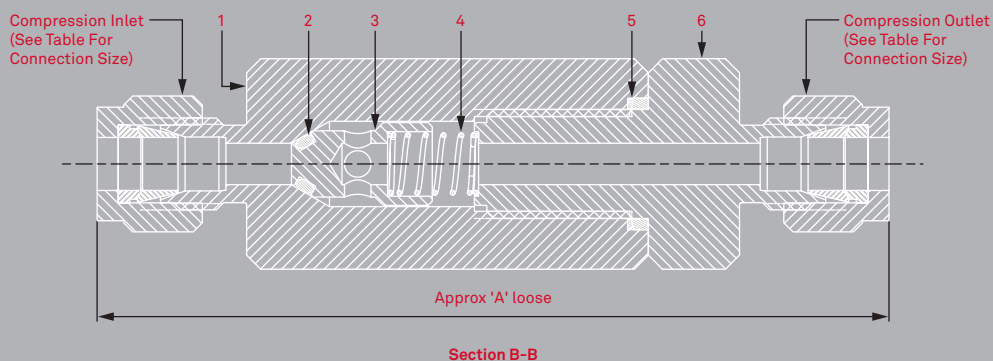
## Overview

### Compression End Check Valves 10,000 PSI

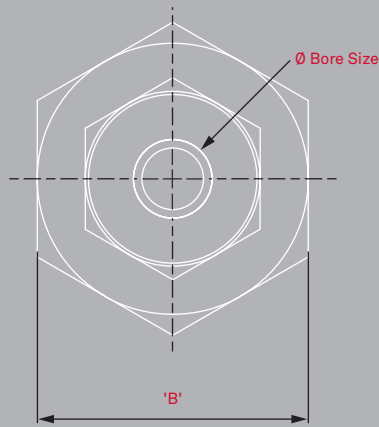
The Alco Valves Non Return Valve, designed for prevention of back flow in high pressure systems. Having a soft primary seal means it is suitable for gases or liquids. Altogether a very compact unit, suitable for many arduous duties.

## Design Features

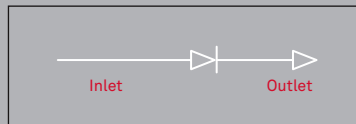
- Primary soft seal for bubble tight close, with secondary metal-to-metal seal as standard
- Available in 316/316L
- Close tolerance guided spring and piston to prevent grabbing or seizure
- Repair/service kits available to extend service life further
- Temperature range  $-40^{\circ}\text{C}$  to  $150^{\circ}\text{C}$
- Full material traceability
- Materials of construction supplied to meet the requirements of NACE MR 0175







Flow Diagram



	Item No.	Description	Material	Quantity
Components Key	1	CHECK VALVE BODY	A479 UNS S31600	1
	2	O-RING	HNBR90	1
	3	PISTON	A479 UNS S31600	1
	4	SPRING	UNS S30200	1
	5	BODY SEAL	PTFE	1
	6	END CONNECTOR	A479 UNS S31600	1

Dimensions shown are in metric mm

Part no.	Connection size	A	B	Bore	Cracking pressure	CV	Weight
EUC2KS	1/4" O/D	95	22	5	15 psi ± 25%	0.53	0.22 Kg
EUC3KS	3/8" O/D	97	25	8	15 psi ± 25%	0.97	0.30 Kg
EUC4KS	1/2" O/D	119	32	10	20 psi ± 25%	1.78	0.54 Kg

# DBB 'B' Series Manifold

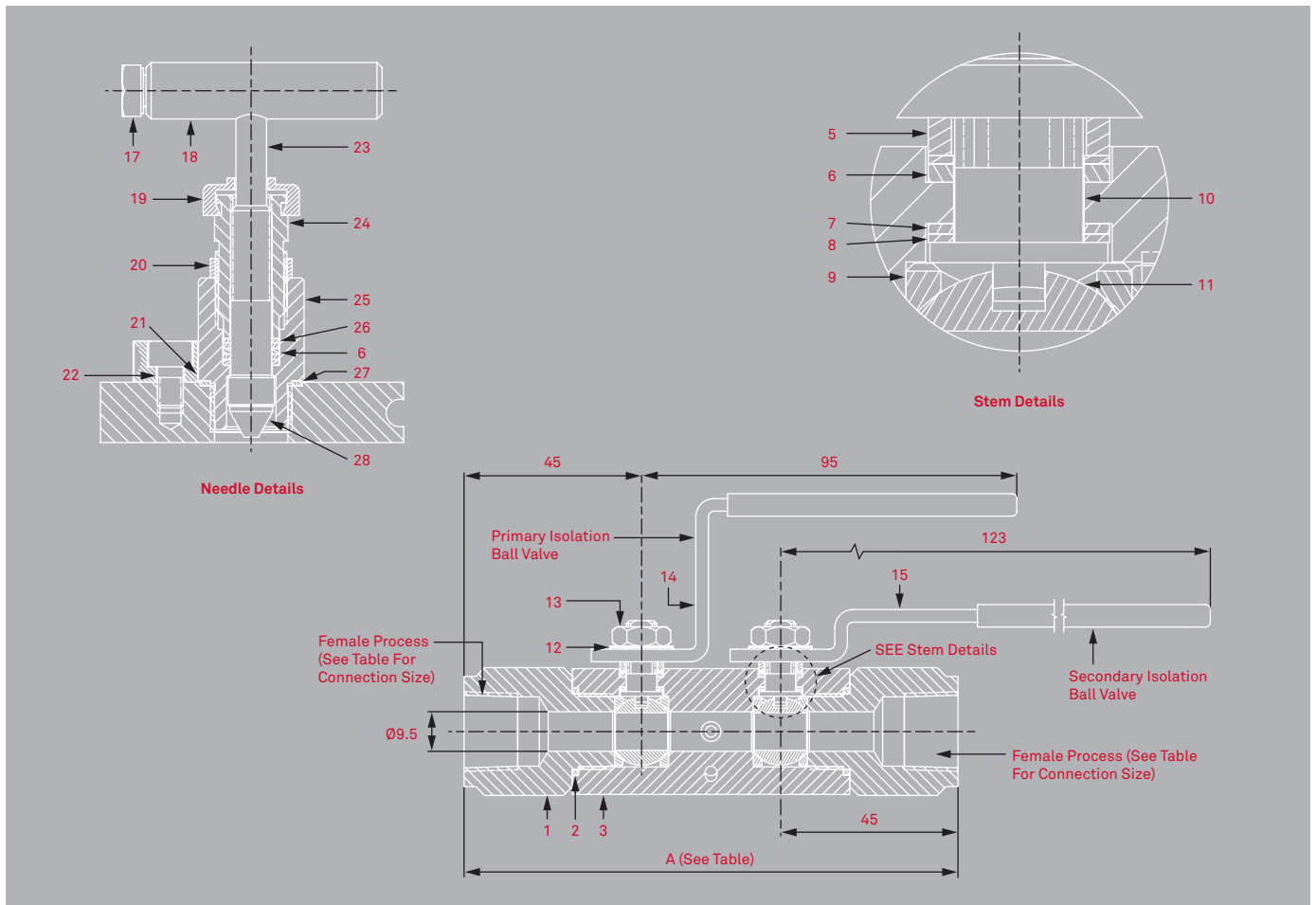
Overview

## Double Block & Bleed (Ball, Needle, Ball) 6,000 PSI

The Double Block & Bleed Manifold is fully approved to be supplied to many of the world's oil majors. The design provides an economical method for mounting gauges with facility to test and calibrate gauges and pressure switches. The DBB 'B' series offers roddability due to its straight through flow passage. The vent valve incorporating the long service firesafe 'N' series needle valve, graphite multi-ring piston style packing and back sealing facility. Mounting holes supplied as standard for wall or bracket mounting.

Design Features

- Bi-directional floating ball design to ensure leak-proof shut-off on pressure or vacuum
- 90° smooth action, low torque operation
- Vent valve metal to metal body bonnet seal for high pressure and high temperature sealing
- Anti-blowout internally loaded stem for extra safety
- Flexible 3 piece design for easy maintenance
- Temperature range -40°C to 150°C
- Firesafe design
- Repair/service kits available to extend service life further
- Available in 316/316L
- Full material traceability
- Handle indicates OPEN/CLOSED position at a glance
- Materials of construction supplied to meet the requirements of NACE MR 0175





# DBB 'N' Series Manifold

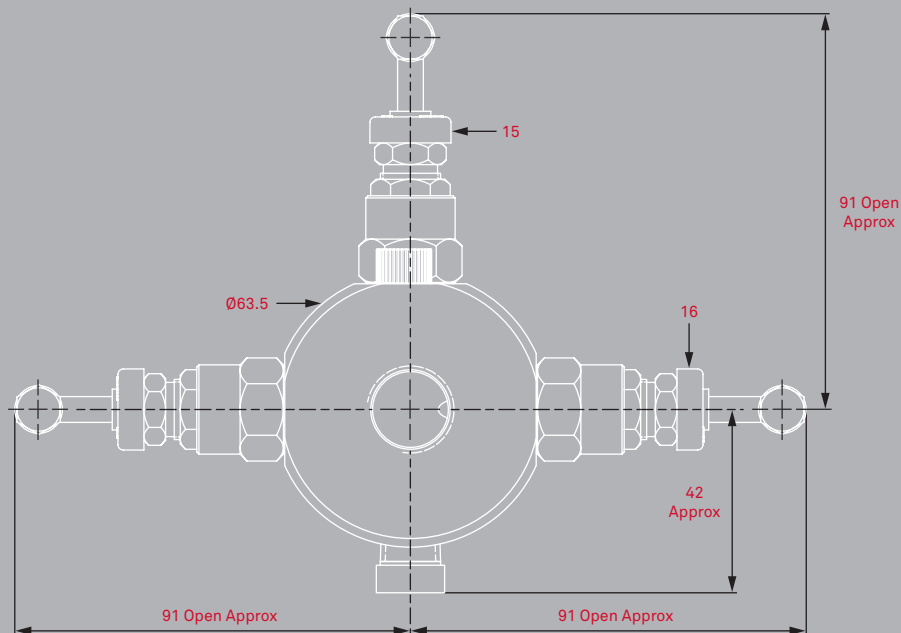
## Overview

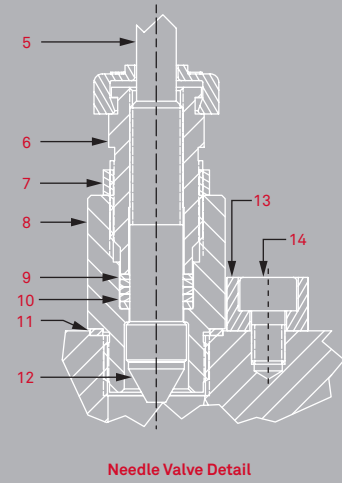
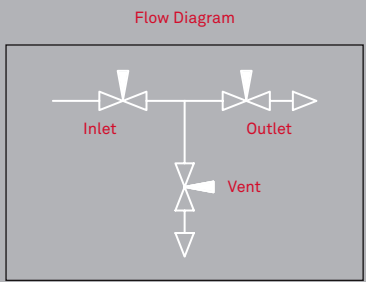
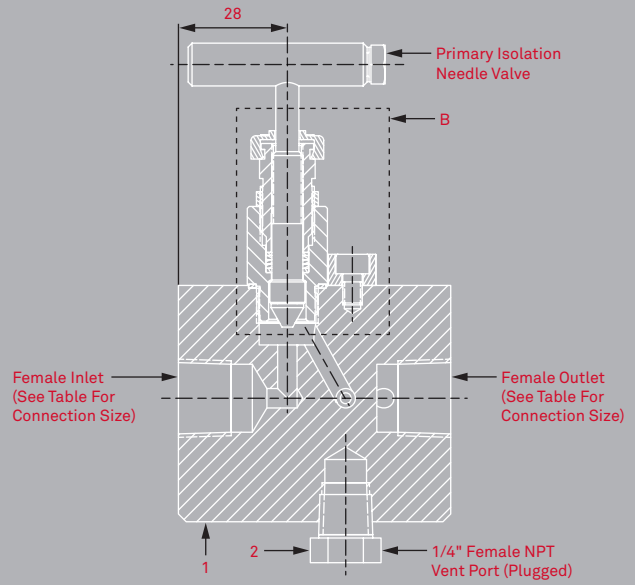
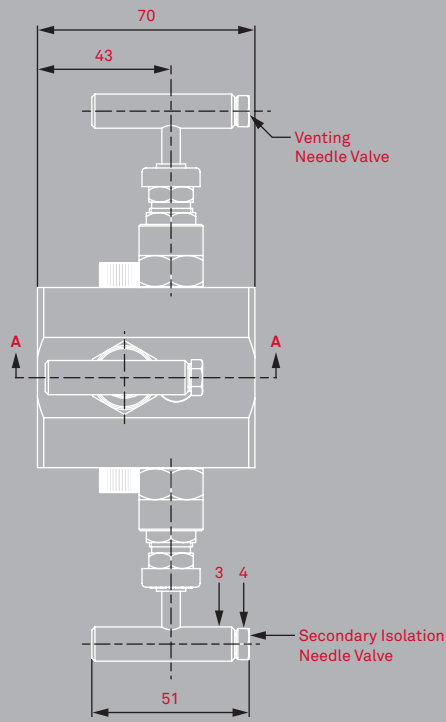
### Double Block & Bleed (Needle, Needle, Needle) 6,000 PSI

The Double Block & Bleed Manifold is fully approved to be supplied to many of the world's oil majors. The design provides an economical method for mounting gauges with facility to test and calibrate gauges and pressure switches. The DBB 'N' series is a slim-line and compact single piece 3 valve manifold. Both isolation and vent valves incorporate the long service firesafe 'N' series needle valve, graphite multi-ring piston style packing and back sealing facility.

## Design Features

- All valves have 2-piece non-rotating hardened (17-4PH) tips as standard for bubble tight shut off and long service life
- Firesafe design
- Positive no slack stem action
- Metal to metal body bonnet seal for high pressure and high temperature sealing
- Valve flow can be reversed so calibration can be conducted in situ
- Temperature range -40°C to 427°C
- Fine control of venting
- Available in 316/316L
- Full material traceability
- Materials of construction supplied to meet the requirements of NACE MR 0175





Components Key

Item No.	Description	Material	Quantity
1	NEEDLE MANIFOLD	A479 UNS S31600	1
2	BLANK PLUG	A479 UNS S31600	1
3	"T" HANDLE	UNS S31600	3
4	HANDLE BOLT	A4 ST/ST	3
5	NEEDLE STEM	A479 UNS S31600	3
6	GLAND ADJUSTER	UNS S31600	3
7	GLAND LOCKNUT	UNS S31600	3
8	BONNET HOUSING	A479 UNS S31600	3
9	STEM SEAL	RTFE	3
10	GLAND PACKING	GRAPHITE	12
11	BONNET SEAL	UNS S31600	3
12	VALVE TIP	A564 UNS S17400	3
13	LOCKING CAM	UNS S31600	3
14	CAM SCREW	A4 ST/ST	3
15	ISOLATE DUST CAP	PVC	2
16	VENT DUST CAP	PVC	1

Dimensions shown are in metric mm

Part no. EDBB-NNN-NV4NS-FS      Connection size 1/2" NPT      Bore 5      CV 0.7      Weight 1.9 Kg

# UN Series Needle Valve

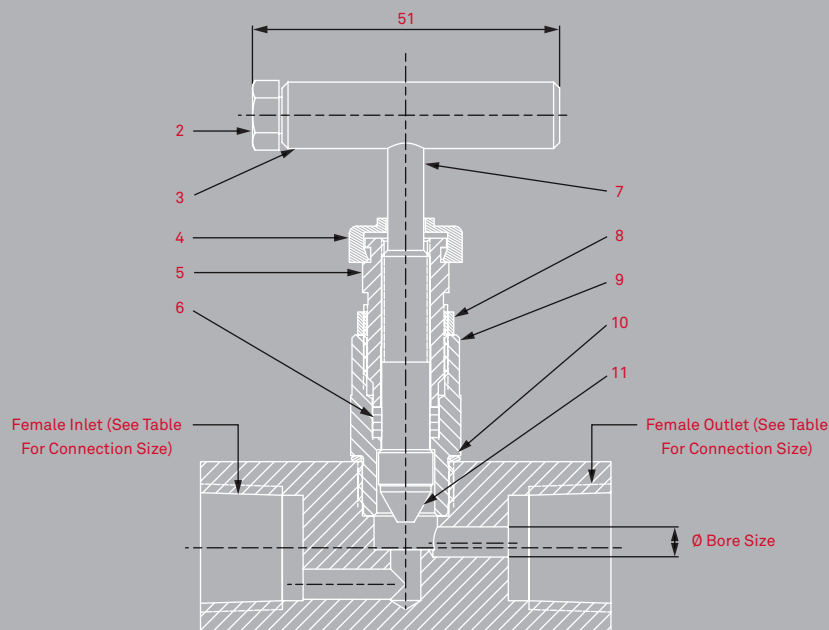
## Overview

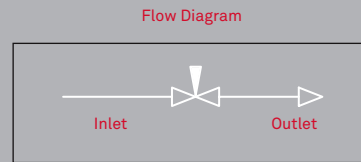
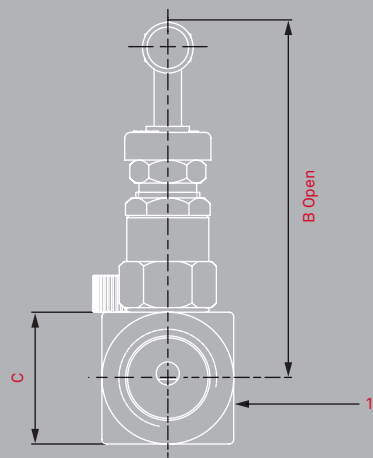
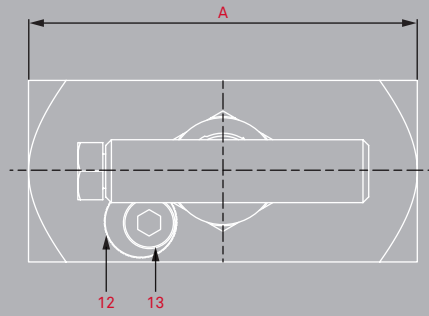
### Needle Valves 10,000 PSI

The precision made 'UN' series, single isolation hand valve utilising metal to metal seat and body to bonnet connection for superior, bubble tight sealing capabilities at both extreme pressures and temperatures. The 'UN' series also offers non-rotating hardened tip for extended service life. The unique anti-vibration cam locking device at the body bonnet connection is for extra safety. Maximum working pressure is 10,000psi. Maximum working temperature up to 230°C.

## Design Features

- Bubble tight metal to metal seat for positive shut off
- 2 piece non-rotating hardened (17-4PH) tip for first time seal and long service life
- 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
- Back sealing stem to extend packing life
- Temperature range -40°C to 230°C
- Available in 316/316L
- Actuating threads are above the packing seals to prevent contamination by process medium
- Body to bonnet ingress seal fitted as standard to prevent crevice corrosion
- Repair/service kits available to extend service life further
- Full material traceability of major components
- Materials of construction supplied to meet the requirements of NACE MR 0175





Item No.	Description	Material	Quantity
1	NEEDLE BODY	A479 UNS S31600	1
2	HANDLE BOLT	A4 ST/ST	1
3	"T" HANDLE	UNS S31600	1
4	ISOLATE DUST CAP	PVC	1
5	GLAND ADJUSTER	UNS S31600	1
6	GLAND PACKING	RTFE	4
7	NEEDLE STEM	A479 UNS S31600	1
8	GLAND LOCKNUT	UNS S31600	1
9	BONNET HOUSING	A479 UNS S31600	1
10	INGRESS SEAL	VITON	1
11	VALVE TIP	A564 UNS S17400	1
12	LOCKING CAM	UNS S31600	1
13	CAM SCREW	A4 ST/ST	1

Components Key

Dimensions shown are in metric mm

Part no.	Connection size	A	B	Bore	C	CV	Weight
UN2NS	1/4" NPT	61	76	4	25	0.6	0.40 Kg
UN3NS	3/8" NPT	61	76	4	25	0.6	0.38 Kg
UN4NS	1/2" NPT	68	77	5	29	0.7	0.47 Kg
UN6NS	3/4" NPT	76	82	5	38	0.8	0.80 Kg
UN8NS	1" NPT	85	85	8	45	1.8	1.2 Kg

# UN MxF Series Needle Valve

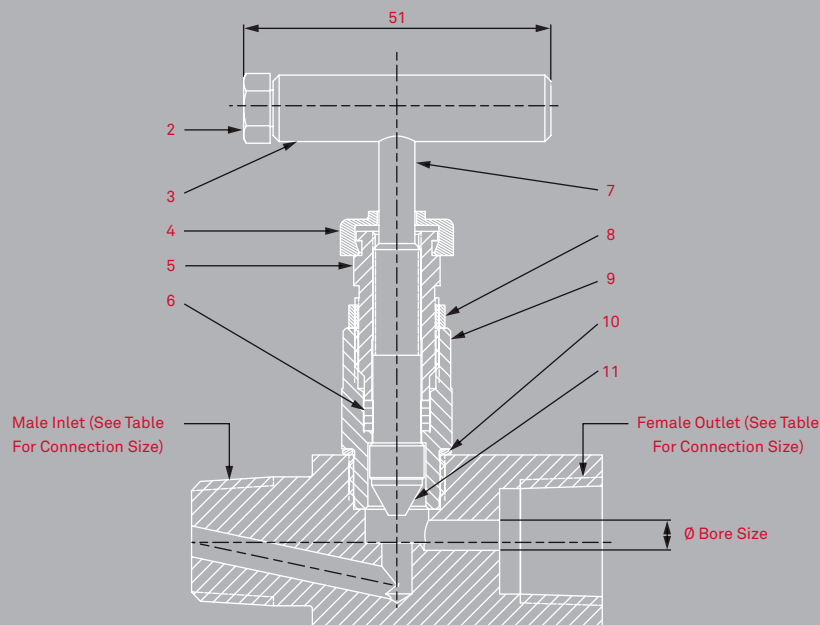
## Overview

### Needle Valves 10,000 PSI

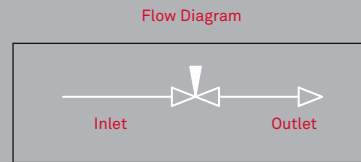
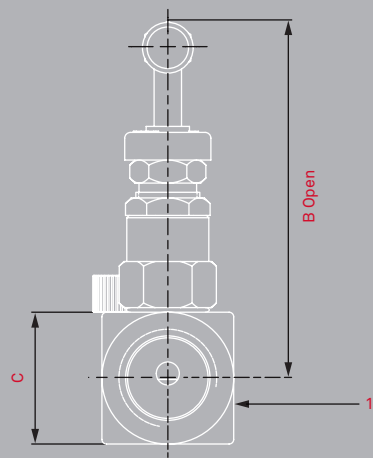
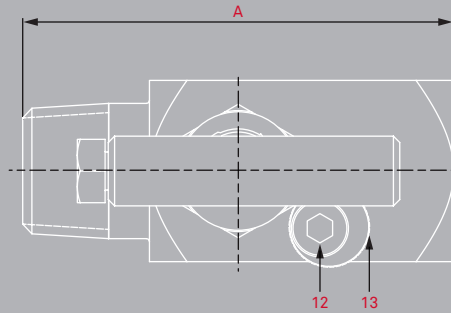
The precision made 'UN' series, single isolation hand valve utilising metal to metal seat and body to bonnet connection for superior, bubble tight sealing capabilities at both extreme pressures and temperatures. The 'UN' series also offers non-rotating hardened tip for extended service life. The unique anti-vibration cam locking device at the body bonnet connection is for extra safety. Maximum working pressure is 10,000psi. Maximum working temperature up to 230°C.

## Design Features

- Bubble tight metal to metal seat for positive shut off
- 2 piece non-rotating hardened (17-4PH) tip for first time seal and long service life
- 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
- Back sealing stem to extend packing life
- Temperature range -40°C to 230°C
- Available in 316/316L
- Actuating threads are above the packing seals to prevent contamination by process medium
- Body to bonnet ingress seal fitted as standard to prevent crevice corrosion
- Repair/service kits available to extend service life further
- Full material traceability of major components
- Materials of construction supplied to meet the requirements of NACE MR 0175







Item No.	Description	Material	Quantity
1	NEEDLE BODY	A479 UNS S31600	1
2	HANDLE BOLT	A4 ST/ST	1
3	"T" HANDLE	UNS S31600	1
4	ISOLATE DUST CAP	PVC	1
5	GLAND ADJUSTER	UNS S31600	1
6	GLAND PACKING	RTFE	4
7	NEEDLE STEM	A479 UNS S31600	1
8	GLAND LOCKNUT	UNS S31600	1
9	BONNET HOUSING	A479 UNS S31600	1
10	INGRESS SEAL	VITON	1
11	VALVE TIP	A564 UNS S17400	1
12	CAM SCREW	A4 ST/ST	1
13	LOCKING CAM	UNS S31600	1

Components Key

Dimensions shown are in metric mm

Part no.	Connection size	A	B	Bore	C	CV	Weight
UN2NS-1M	1/4" NPT	61	76	3	25	0.38	0.35 Kg
UN4NS-1M	1/2" NPT	68	77	5	29	0.7	0.43 Kg

# UN-V Series Needle Valve

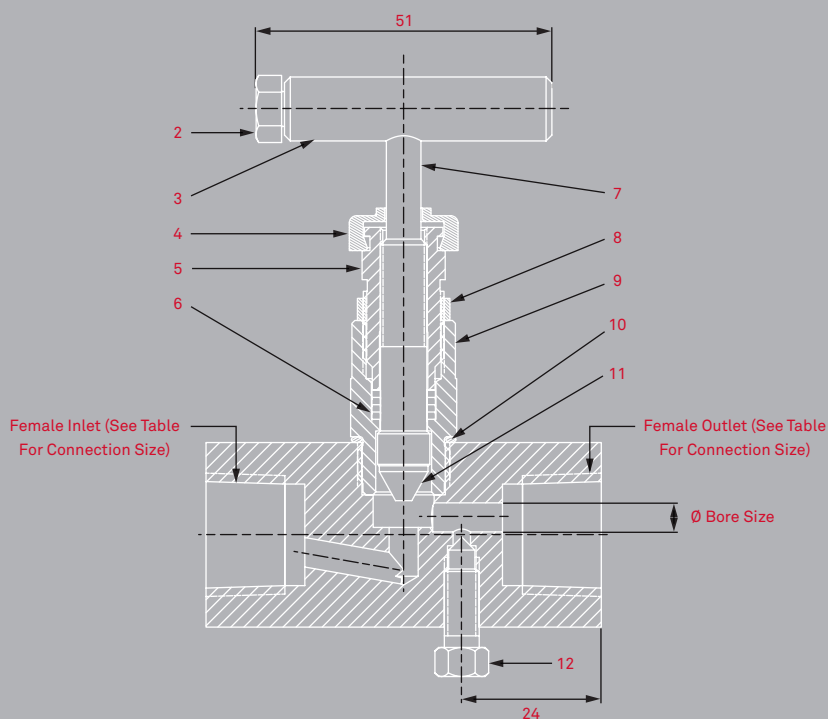
## Overview

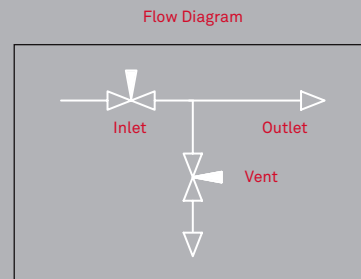
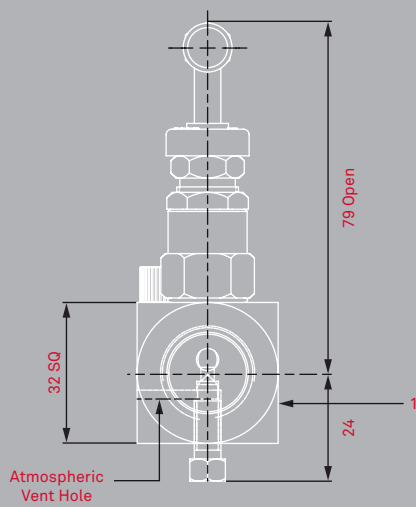
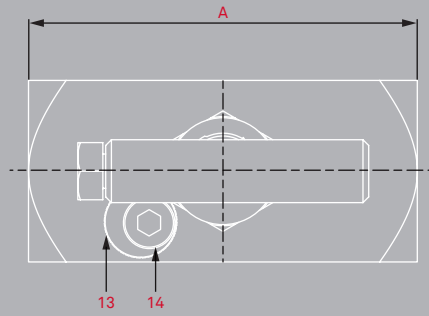
### Needle Valves 10,000 PSI

The precision made 'UN-V' series, single isolation hand valve utilising metal to metal seat and body to bonnet connection for superior, bubble tight sealing capabilities at both extreme pressures and temperatures. This design also provides an economical method for venting pressure on the downstream making it easy for calibrating gauges and pressure switches. The 'UN-V' series also offers non-rotating hardened tip for extended service life. The unique anti-vibration cam locking device at the body bonnet connection is for extra safety.

## Design Features

- Bubble tight metal to metal seat for positive shut off
- 2 piece non-rotating hardened (17-4PH) tip for first time seal and long service life
- 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
- Back sealing stem to extend packing life
- Temperature range -40°C to 230°C
- Available in 316/316L
- Downstream to atmosphere venting facility to enable calibration of instruments
- Body to bonnet ingress seal fitted as standard to prevent crevice corrosion
- Repair/service kits available to extend service life further
- Full material traceability of major components
- Materials of construction supplied to meet the requirements of NACE MR 0175





Item No.	Description	Material	Quantity
1	NEEDLE BODY	A479 UNS S31600	1
2	HANDLE BOLT	A4 ST/ST	1
3	"T" HANDLE	UNS S31600	1
4	ISOLATE DUST CAP	PVC	1
5	GLAND ADJUSTER	UNS S31600	1
6	GLAND PACKING	RTFE	4
7	NEEDLE STEM	A479 UNS S31600	1
8	GLAND LOCKNUT	UNS S31600	1
9	BONNET HOUSING	A479 UNS S31600	1
10	INGRESS SEAL	VITON	1
11	VALVE TIP	A564 UNS S17400	1
12	VENT PLUG NEEDLE	A479 UN S31600	1
13	LOCKING CAM	UNS S31600	1
14	CAM SCREW	A4 ST/ST	1

Components Key

Dimensions shown are in metric mm

Part no.	Connection size	A	Bore	CV	Weight
UN4NS-V	1/2" NPT	68	5	0.7	0.35Kg

# UN-V MxF Series Needle Valve

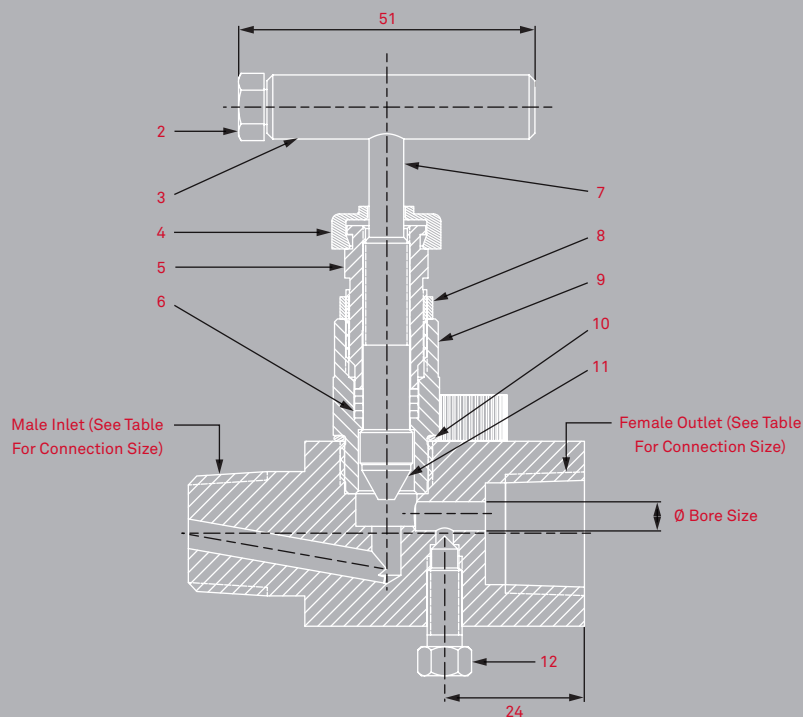
## Overview

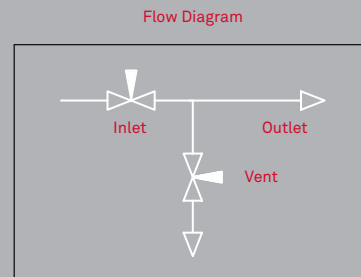
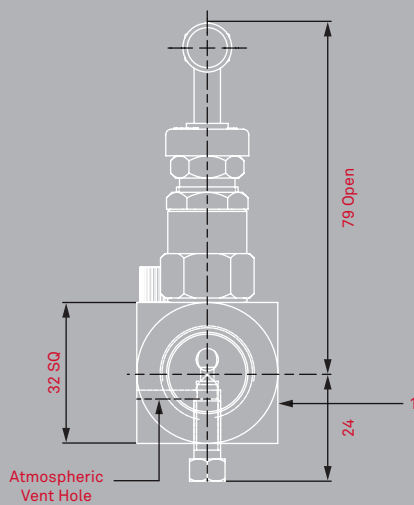
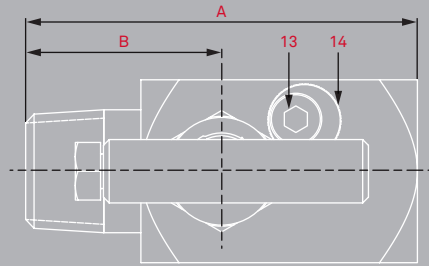
### Needle Valves 10,000 PSI

The precision made 'UN-V' series, single isolation hand valve utilising metal to metal seat and body to bonnet connection for superior, bubble tight sealing capabilities at both extreme pressures and temperatures. This design also provides an economical method for venting pressure on the downstream making it easy for calibrating gauges and pressure switches. The 'UN-V' series also offers non-rotating hardened tip for extended service life. The unique anti-vibration cam locking device at the body bonnet connection is for extra safety.

## Design Features

- Bubble tight metal to metal seat for positive shut off
- 2 piece non-rotating hardened (17-4PH) tip for first time seal and long service life
- 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
- Back sealing stem to extend packing life
- Temperature range -40°C to 230°C
- Available in 316/316L
- Downstream to atmosphere venting facility to enable calibration of instruments
- Body to bonnet ingress seal fitted as standard to prevent crevice corrosion
- Repair/service kits available to extend service life further
- Full material traceability of major components
- Materials of construction supplied to meet the requirements of NACE MR 0175





Item No.	Description	Material	Quantity
1	NEEDLE BODY	A479 UNS S31600	1
2	HANDLE BOLT	A4 ST/ST	1
3	"T" HANDLE	UNS S31600	1
4	ISOLATE DUST CAP	PVC	1
5	GLAND ADJUSTER	UNS S31600	1
6	GLAND PACKING	RTFE	4
7	NEEDLE STEM	A479 UNS S31600	1
8	GLAND LOCKNUT	UNS S31600	1
9	BONNET HOUSING	A479 UNS S31600	1
10	INGRESS SEAL	VITON	1
11	VALVE TIP	A564 UNS S17400	1
12	VENT PLUG NEEDLE	A479 UNS S31600	1
13	CAM SCREW	A4 ST/ST	1
14	LOCKING CAM	UNS S31600	1

Components Key

Dimensions shown are in metric mm

Part no.	Connection size	A	B	Bore	CV	Weight
UN4NS-1M-V	1/2" NPT	68	34	5	0.7	0.47 Kg

# UGV Series Gauge Valve

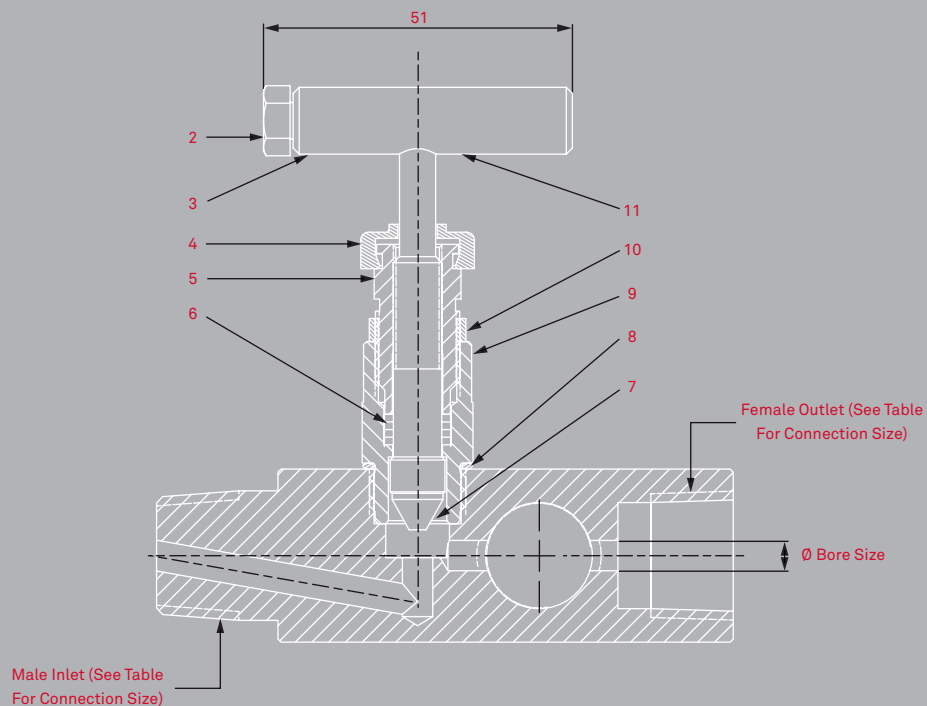
## Overview

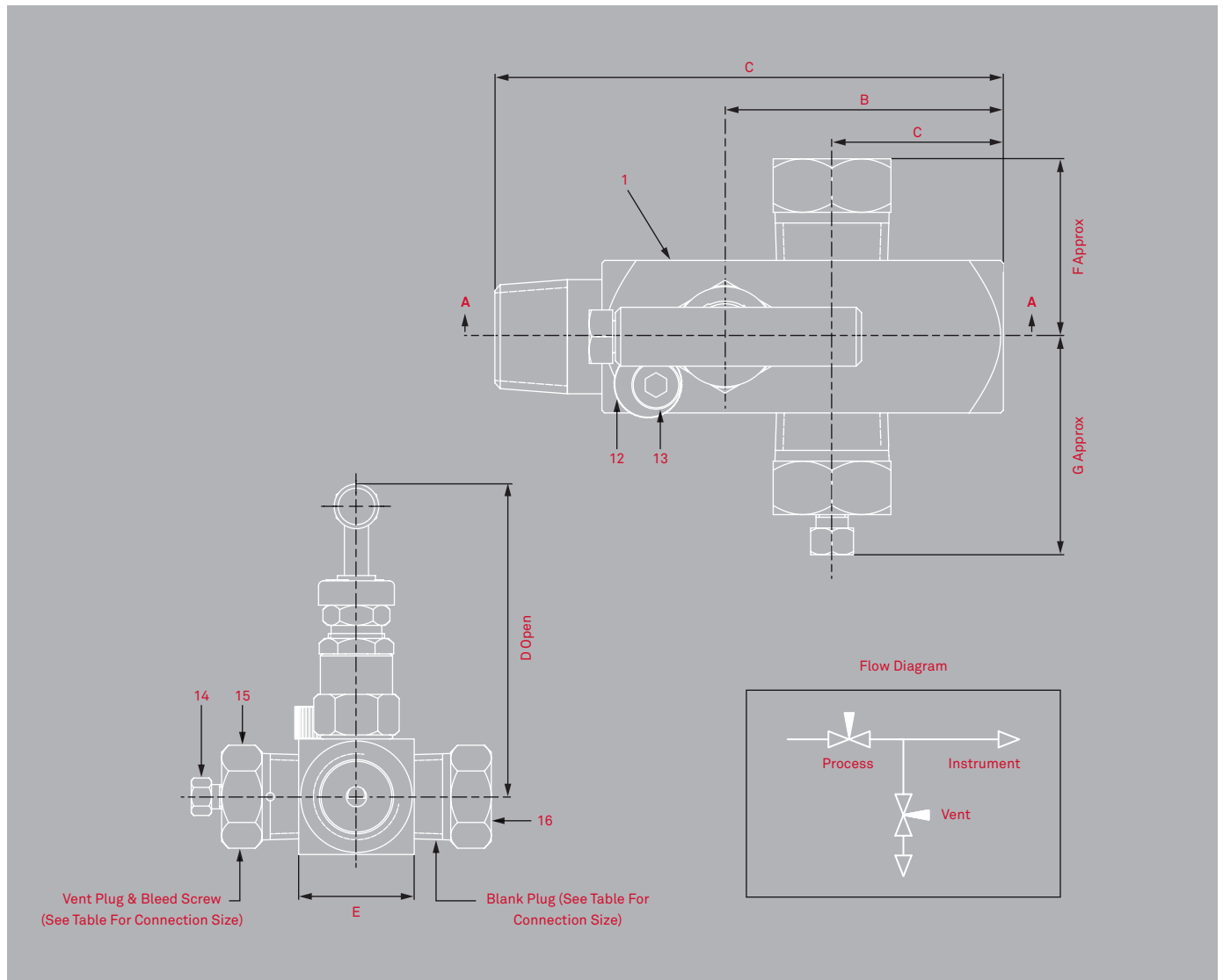
### Multiport Gauge Valves 10,000 PSI

The GV series multiport gauge valve provides an economical method of mounting pressure gauges, manometers, pressure transducers or transmitters and includes vent and blanked port facilities or additional drains in a circuit or system. Both 1/2" and 3/4" have 1/2" side ports. Especially suited as a method of using a manometer and a sample manometer or a transmitter and manometer simultaneously.

## Design Features

- 2 piece non-rotating hardened (17-4PH) tip for first time seal and long service life
- Positive no slack stem action
- Unique bonnet locking cam
- Metal to metal body bonnet seal for high pressure and high temperature sealing
- Pressure responsive multi-ring / piston packing for compression and pressure dynamic sealing
- Vent and blanking plugs
- Temperature range -40°C to 230°C
- Available in 316/316L
- Ingress seal fitted as standard to prevent crevice corrosion
- Repair/service kits available to extend service life further
- Full material traceability
- Materials of construction supplied to meet the requirements of NACE MR 0175





Item No. Description Material Quantity

Item No.	Description	Material	Quantity
1	VALVE BODY	A479 UNS S31600	1
2	HANDLE BOLT	A4 ST/ST	1
3	"T" HANDLE	UNS S31600	1
4	ISOLATE DUST CAP	PVC	1
5	GLAND ADJUSTER	UNS S31600	1
6	PACKING	RTFE	4
7	VALVE TIP	A564 UNS S17400	1
8	INGRESS SEAL	VITON	1
9	BONNET HOUSING	A479 UNS S31600	1
10	GLAND LOCKNUT	UNS S31600	1
11	NEEDLE STEM	A479 UNS S31600	1
12	LOCKING CAM	UNS S31600	1
13	CAM SCREW	A4 ST/ST	1
14	VENT PLUG NEEDLE	A479 UNS S31600	1
15	VENTING PLUG	A479 UNS S31600	1
16	BLANK PLUG	A479 UNS S31600	1

Components Key

Part no.	Inlet size	Outlet size	A	B	Bore	C	D	E	F	G	CV	Weight	Vent size
UGV4NS-VP-BP	1/2" NPT	1/2" NPT	95	52	5	32	77	29	33	41	0.7	0.71 Kg	1/2" NPT
UGV4NS-16MN-VP-BP	3/4" NPT	1/2" NPT	95	60	5	35	79	32	35	42	0.7	0.83 Kg	1/2" NPT

Dimensions shown are in metric mm

# U2VR Series Needle Manifold

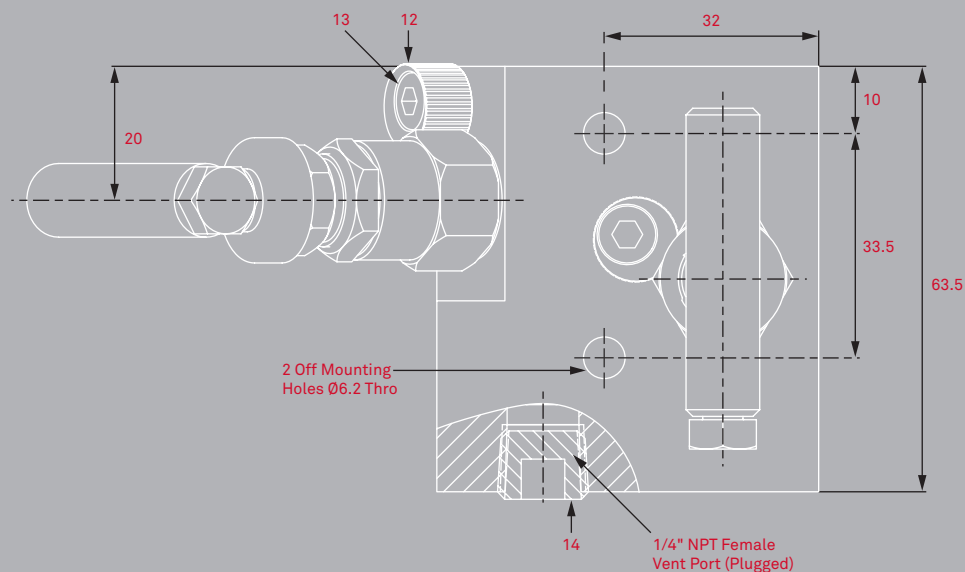
## Overview

### 2 Valve Needle Manifold 10,000 PSI

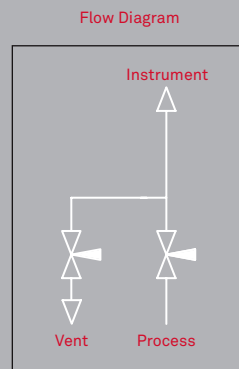
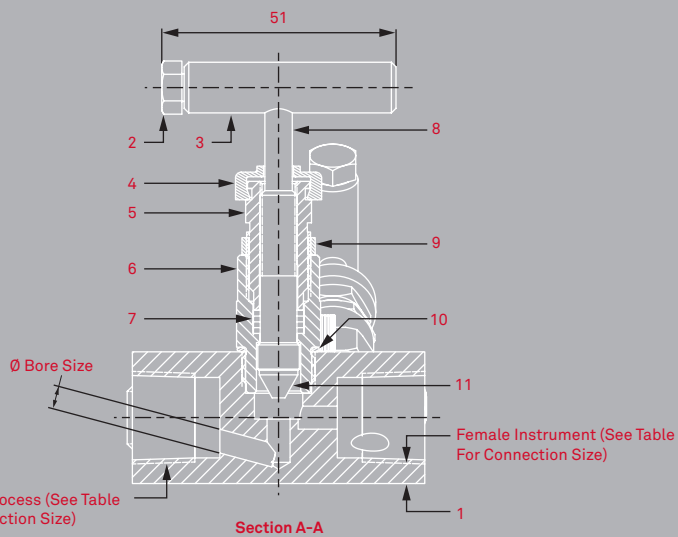
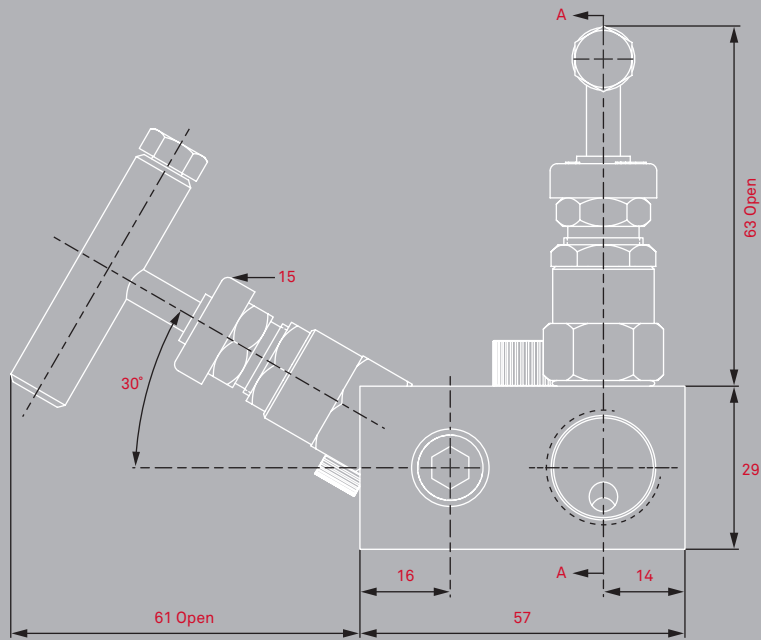
The two-valve isolating and venting manifold used mainly in gauge and static instrument applications such as pressure switches, pressure transmitters and manometers. The manifold will isolate instrumentation from the process and allow venting of the instrument for calibration / removal from the circuit with affecting the process / application and recovery of a sample, etc. Incorporated are all the standard long service life features of the standard 'UN' series needle valve, multi-ring piston style packing, back sealing facility. Mounting holes supplied as standard for pipe or wall mounting to suit quick installation.

## 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 high temperature sealing
- Unique bonnet anti-rotational cam device
- Positive no slack stem action
- Mounting holes as standard to allow for fixing to pipe stands or enclosures
- Blanking plugs supplied as standard
- Temperature range -40°C to 230°C
- Fine control of venting
- Available in 316/316L
- Repair/service kits available to extend service life further
- Ingress seals fitted as standard
- Full material traceability
- Materials of construction supplied to meet the requirements of NACE MR 0175







Components Key

Item No.	Description	Material	Quantity
1	MANIFOLD BODY	A479 UNS S31600	1
2	HANDLE BOLT	A4 ST/ST	2
3	"T" HANDLE	UNS S31600	2
4	ISOLATE DUST CAP	PVC	1
5	GLAND ADJUSTER	UNS S31600	2
6	BONNET HOUSING	A479 UNS S31600	2
7	PACKING	RTFE	8
8	NEEDLE STEM	A479 UNS S31600	2
9	GLAND LOCKNUT	UNS S31600	2
10	INGRESS SEAL	VITON	2
11	VALVE TIP	A564 UNS S17400	2
12	CAM SCREW	A4 ST/ST	2
13	LOCKING CAM	UNS S31600	2
14	BLANK PLUG	A479 UNS S31600	1
15	VENT DUST CAP	PVC	1

Dimensions shown are in metric mm

Part no.	Connection size	Bore	CV	Weight
U2VR2NS	1/4" NPT	5	0.7	0.96 Kg
U2VR4NS	1/2" NPT	5	0.7	0.92 Kg

# U2VG Series Needle Manifold

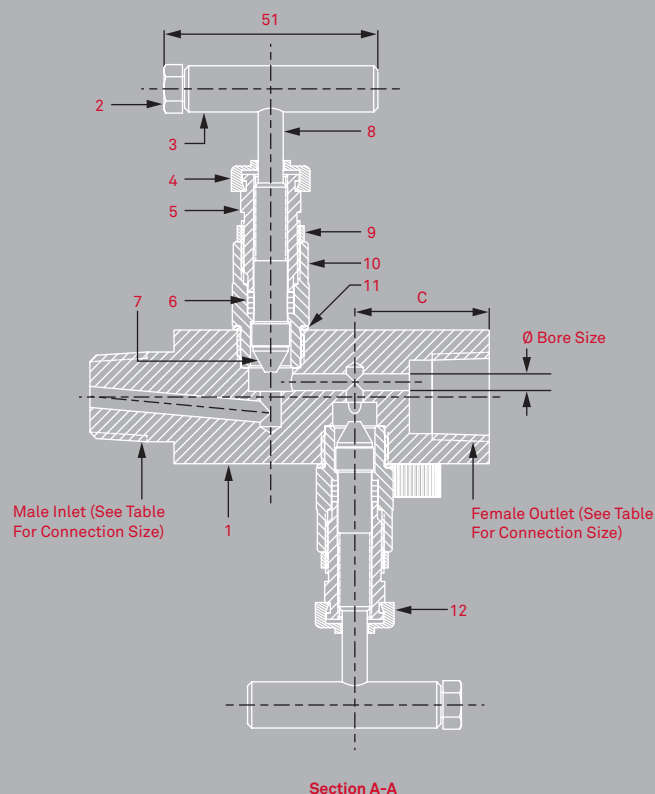
## Overview

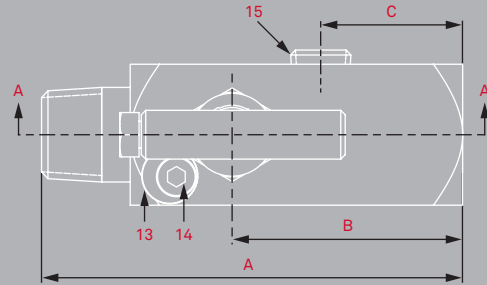
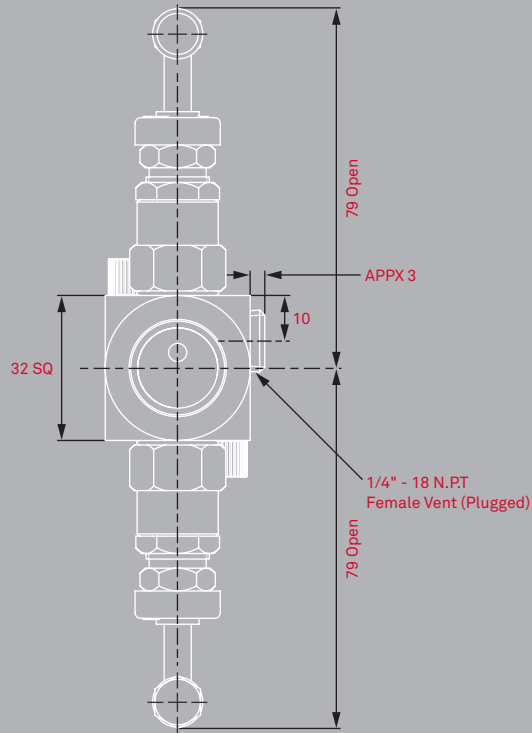
### 2 Valve Needle Manifold 10,000 PSI

The U2VG series 2 valve gauge manifold offering single process isolation and controlled venting. Unlike the 'U2VR' series, this can be offered with male inlet and female outlet connections. A slim-line and compact 2 valve manifold. Incorporated are all the standard long service life features of the standard 'N' series needle valve, multi-ring piston style packing and back sealing facility.

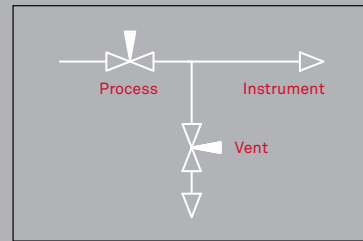
## Design Features

- 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 stem action
- Unique bonnet anti-rotational cam device
- Metal to metal body bonnet seal for high pressure and high temperature sealing
- Ingress seals fitted as standard
- Temperature range -40°C to 230°C
- Repair/service kits available to extend service life further
- Available in 316/316L
- Full material traceability
- Materials of construction supplied to meet the requirements of NACE MR 0175





Flow Diagram



Components Key

Item No.	Description	Material	Quantity
1	NEEDLE BODY	A479 UNS S31600	1
2	HANDLE BOLT	A4 ST/ST	2
3	"T" HANDLE	UNS S31600	2
4	ISOLATE DUST CAP	PVC	1
5	GLAND ADJUSTER	UNS S31600	2
6	PACKING	RTFE	8
7	VALVE TIP	A564 UNS S17400	2
8	NEEDLE STEM	A479 UNS S31600	2
9	GLAND LOCKNUT	UNS S31600	2
10	BONNET HOUSING	A479 UNS S31600	2
11	INGRESS SEAL	VITON	2
12	VENT DUST CAP	PVC	1
13	LOCKING CAM	UNS S31600	2
14	CAM SCREW	A4 ST/ST	2
15	BLANK PLUG	A479 UNS S31600	1

Dimensions shown are in metric mm

Part no.	Inlet size	Outlet size	A	B	Bore	C	CV	Weight
U2VG4NS	1/2" NPT	1/2" NPT	95	52	4	32	0.6	0.83 Kg
U2VG4NS-16MN	3/4" NPT	1/2" NPT	95	52	3	32	0.38	0.89 Kg

# U2VG FxF Series Needle Manifold

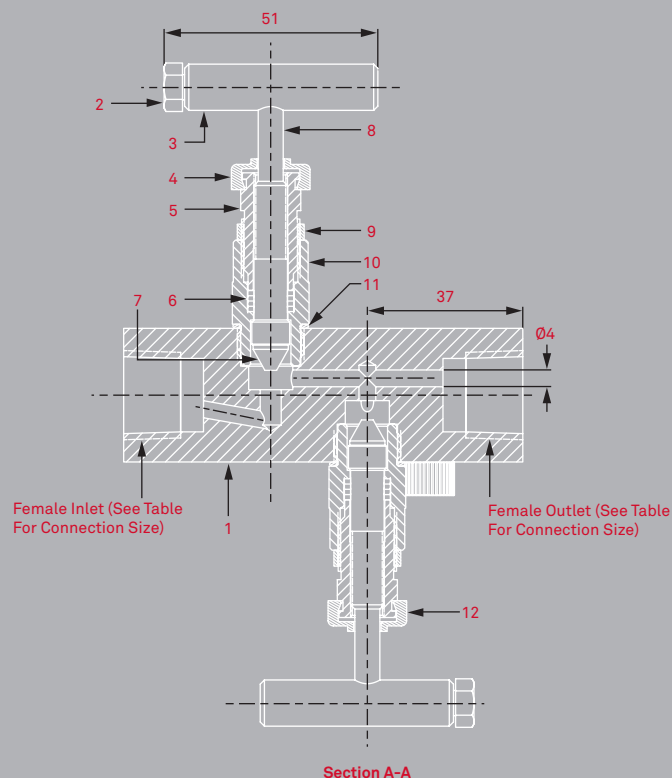
## Overview

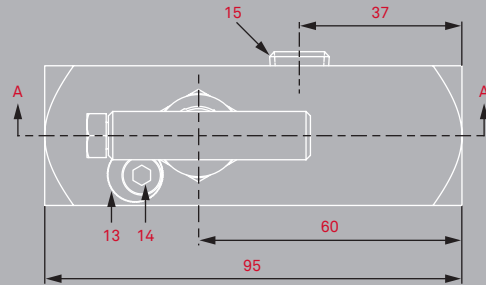
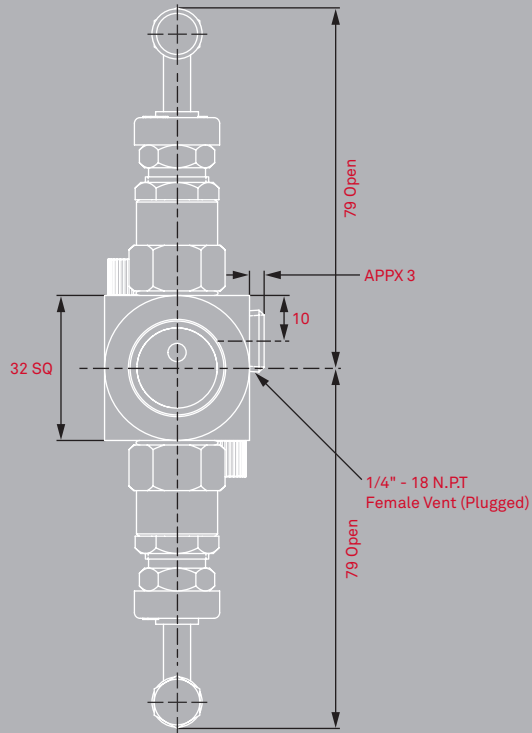
### 2 Valve Needle Manifold 10,000 PSI

The U2VG series 2 valve gauge manifold offering single process isolation and controlled venting. Unlike the 'U2VR' series, this can be offered with male inlet and female outlet connections. A slim-line and compact 2 valve manifold. Incorporated are all the standard long service life features of the standard 'N' series needle valve, multi-ring piston style packing and back sealing facility.

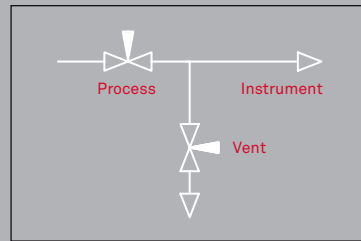
## Design Features

- 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 stem action
- Unique bonnet anti-rotational cam device
- Metal to metal body bonnet seal for high pressure and high temperature sealing
- Ingress seals fitted as standard
- Temperature range -40°C to 230°C
- Repair/service kits available to extend service life further
- Available in 316/316L
- Full material traceability
- Materials of construction supplied to meet the requirements of NACE MR 0175





Flow Diagram



Components Key

Item No.	Description	Material	Quantity
1	NEEDLE BODY	A479 UNS S31600	1
2	HANDLE BOLT	A4 ST/ST	2
3	"T" HANDLE	UNS S31600	2
4	ISOLATE DUST CAP	PVC	1
5	GLAND ADJUSTER	UNS S31600	2
6	PACKING	RTFE	8
7	VALVE TIP	A564 UNS S17400	2
8	NEEDLE STEM	A479 UNS S31600	2
9	GLAND LOCKNUT	UNS S31600	2
10	BONNET HOUSING	A479 UNS S31600	2
11	INGRESS SEAL	VITON	2
12	VENT DUST CAP	PVC	1
13	LOCKING CAM	UNS S31600	2
14	CAM SCREW	A4 ST/ST	2
15	BLANK PLUG	A479 UNS S31600	1

Dimensions shown are in metric mm

Part no.	Connection size	Bore	CV	Weight
U2VG4NS-F	1/2" NPT	0.6	0.6	0.83 Kg

# U2VG FxM Series Needle Manifold

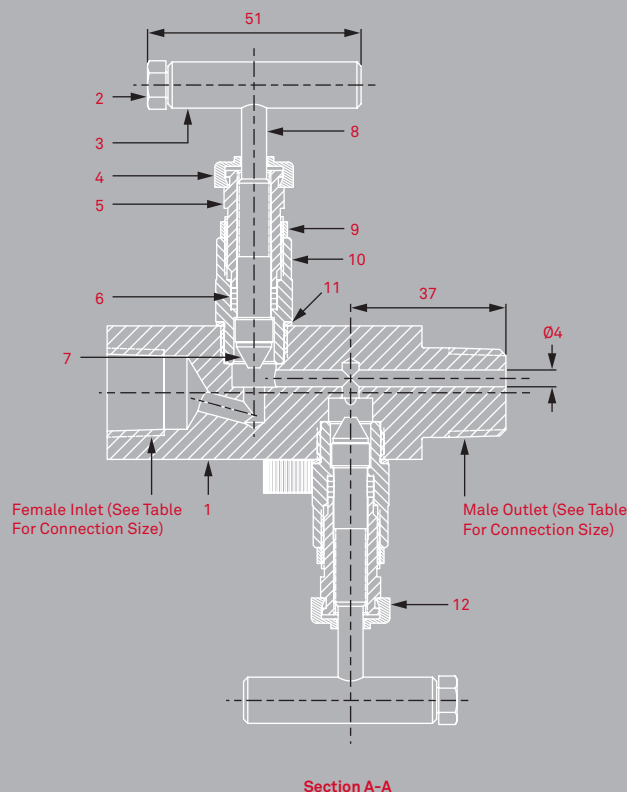
## Overview

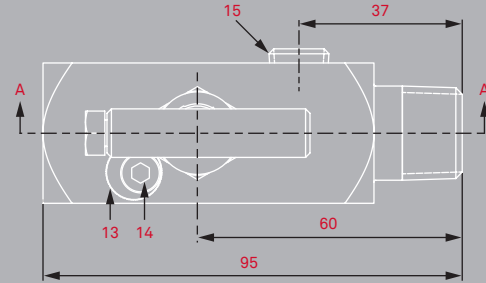
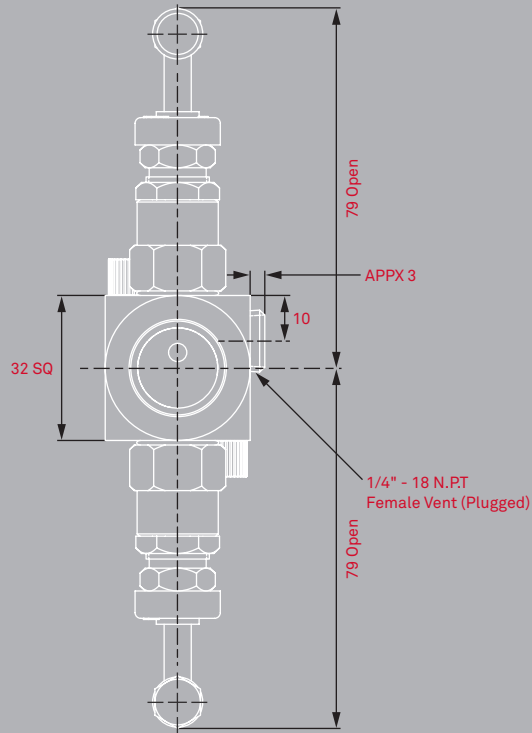
### 2 Valve Needle Manifold 10,000 PSI

The U2VG series 2 valve gauge manifold offering single process isolation and controlled venting. Unlike the 'U2VR' series, this can be offered with male inlet and female outlet connections. A slim-line and compact 2 valve manifold. Incorporated are all the standard long service life features of the standard 'N' series needle valve, multi-ring piston style packing and back sealing facility.

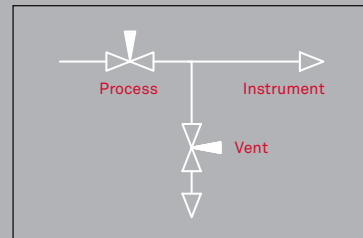
## Design Features

- 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 stem action
- Unique bonnet anti-rotational cam device
- Metal to metal body bonnet seal for high pressure and high temperature sealing
- Ingress seals fitted as standard
- Temperature range -40°C to 230°C
- Repair/service kits available to extend service life further
- Available in 316/316L
- Full material traceability
- Materials of construction supplied to meet the requirements of NACE MR 0175





Flow Diagram



Components Key

Item No.	Description	Material	Quantity
1	NEEDLE BODY	A479 UNS S31600	1
2	HANDLE BOLT	A4 ST/ST	2
3	"T" HANDLE	UNS S31600	2
4	ISOLATE DUST CAP	PVC	1
5	GLAND ADJUSTER	UNS S31600	2
6	PACKING	RTFE	8
7	VALVE TIP	A564 UNS S17400	2
8	NEEDLE STEM	A479 UNS S31600	2
9	GLAND LOCKNUT	UNS S31600	2
10	BONNET HOUSING	A479 UNS S31600	2
11	INGRESS SEAL	VITON	2
12	VENT DUST CAP	PVC	1
13	LOCKING CAM	UNS S31600	2
14	CAM SCREW	A4 ST/ST	2
15	BLANK PLUG	A479 UNS S31600	1

Dimensions shown are in metric mm

Part no.	Connection size	Bore	CV	Weight
U2VG4FNS-1M	1/2" NPT	0.6	0.6	0.83 Kg

# 3VR Series Needle Manifold

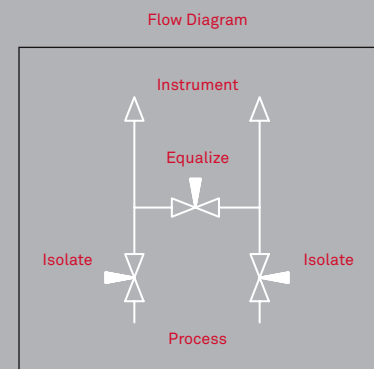
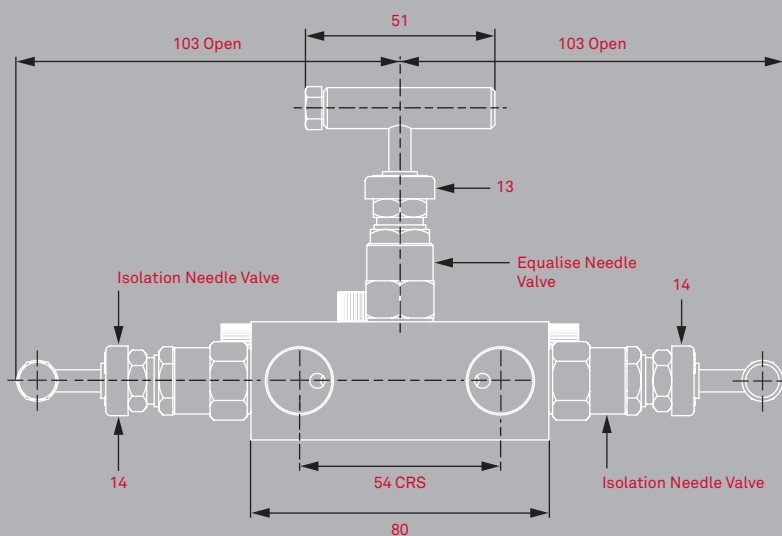
## Overview

### 3 Valve Needle Manifold 6,000 PSI

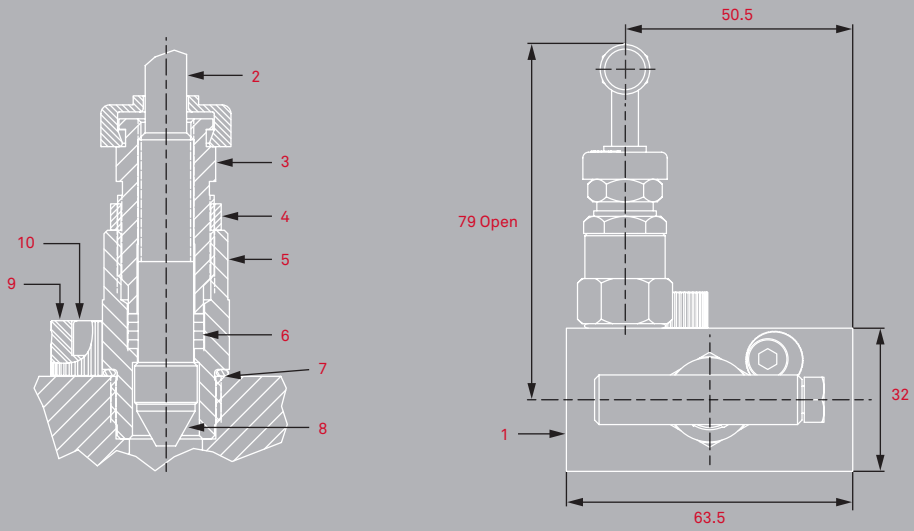
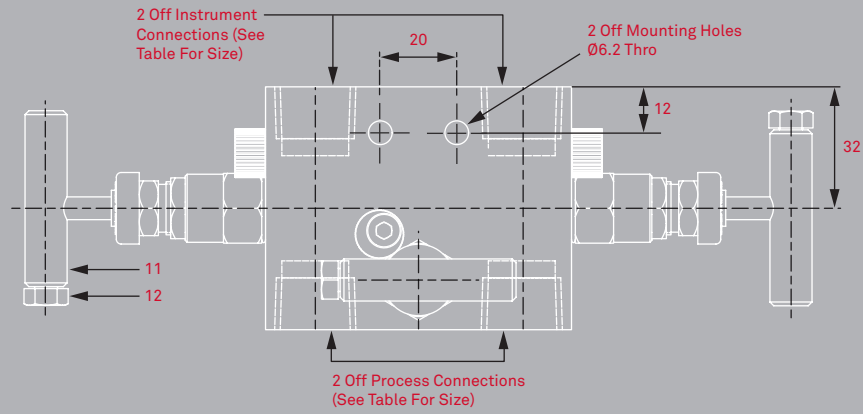
The three-valve isolation manifold remote mounted (pipe to pipe). Used mainly in differential pressure transmitters and static instrument applications. The '3VR' has two process isolation valves and one equalisation valve to equalise the two sides. Incorporated all the standard long service life features of the standard 'N' series needle valve, multi-ring piston style packing, back sealing facility. Mounting holes supplied as standard for wall or bracket. 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
- 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 high temperature sealing
- 2 x 6mm diameter mounting holes as standard
- Positive no slack stem action
- Unique anti-rotational cam device for extra safety
- Temperature range -40°C to 230°C
- Ingress seals fitted as standard
- Repair/service kits available to extend service life further
- Available in 316/316L
- Mounting holes as standard to allow for fixing to pipe stands or enclosures
- Full material traceability
- Materials of construction supplied to meet the requirements of NACE MR 0175







Components Key

Item No.	Description	Material	Quantity
1	VALVE BODY	A479 UNS S31600	1
2	NEEDLE STEM	A479 UNS S31600	3
3	GLAND ADJUSTER	UNS S31600	3
4	GLAND LOCKNUT	UNS S31600	3
5	BONNET HOUSING	A479 UNS S31600	3
6	PACKING	RTFE	12
7	INGRESS SEAL	VITON	3
8	VALVE TIP	A564 UNS S17400	3
9	LOCKING CAM	UNS S31600	3
10	CAM SCREW	A4 ST/ST	3
11	"T" HANDLE	UNS S31600	3
12	HANDLE BOLT	A4 ST/ST	3
13	EQUALISE DUST CAP	PVC	1
14	ISOLATE DUST CAP	PVC	2

Dimensions shown are in metric mm

Part no.	Connection size	Bore	CV	Weight
3VR4NS	1/2" NPT	4	0.6	1.45 Kg

# 3VBD Series Needle Manifold

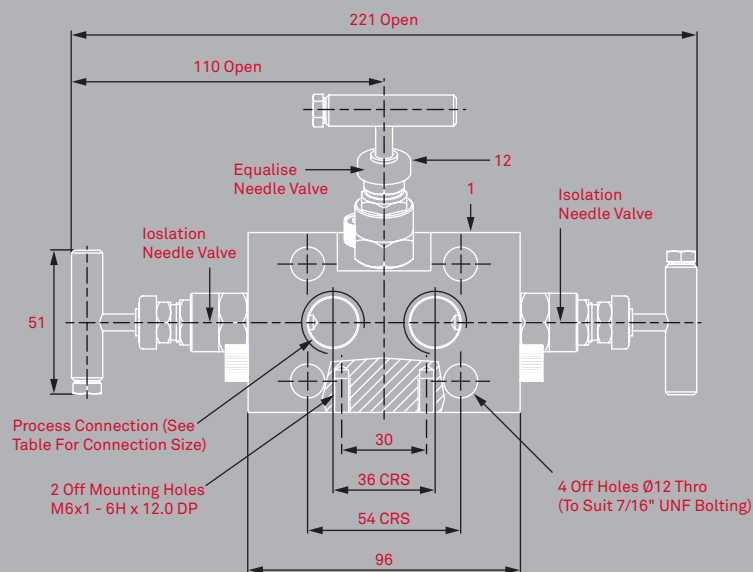
## Overview

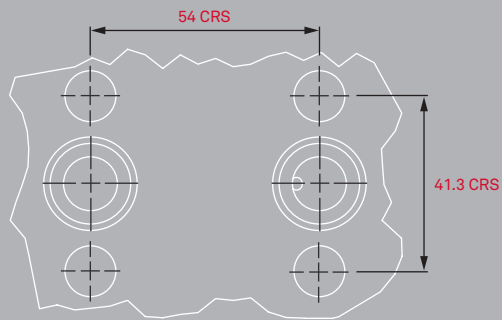
### Direct Mounted 3 Valve Needle Manifold 6,000 PSI

Direct mounted 3 valve manifold, instrument mount to pipe connection. Offering two isolation valves, and one equalising valve for differential pressure transmitter or static instrument applications. 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.

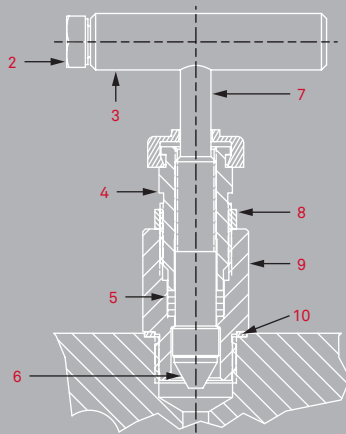
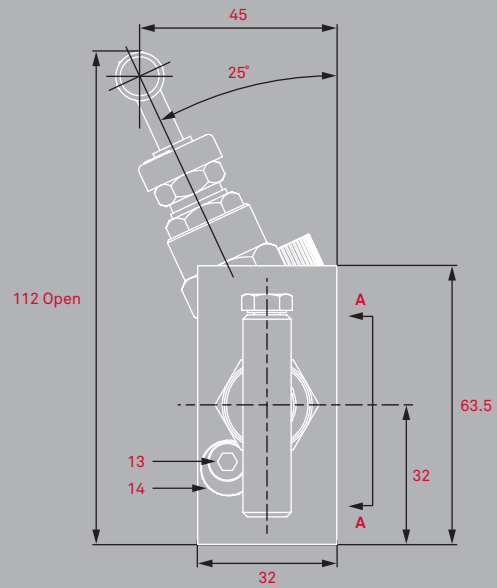
## Design Features

- Compact bodied instrument manifold block
- All valves have two piece non-rotating hardened (17-4PH) tips as standard for first time seal and long life service
- Bubble tight shut off
- Positive no slack stem action
- Supplied with bolt pack and PTFE seals as standard
- Metal to metal body bonnet seal for high pressure and high temperature use
- Full material traceability
- Temperature range -40°C to 230°C
- Available in 316/316L
- 54mm (2 1/8") instrument centres
- Repair/service kit available to extend field life further
- Base mounting holes to allow fixing to enclosure or mounting boss
- Materials of construction supplied to meet the requirements of NACE MR 0175



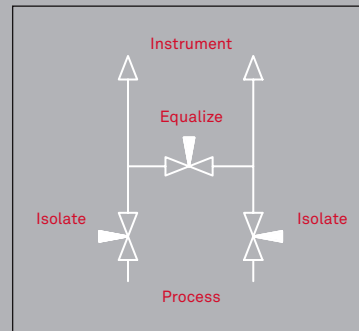


Direct Mount Instrument Connection Detail A-A



Needle Valve Details

Flow Diagram



Components Key

Item No.	Description	Material	Quantity
1	VALVE BODY	A479 UNS S31600	1
2	HANDLE BOLT	A4 ST/ST	3
3	"T" HANDLE	UNS S31600	3
4	GLAND ADJUSTER	UNS S31600	3
5	PACKING	RTFE	12
6	VALVE TIP	A564 UNS S17400	3
7	NEEDLE STEM	A479 UNS S31600	3
8	GLAND LOCKNUT	UNS S31600	3
9	BONNET HOUSING	A479 UNS S31600	3
10	BONNET SEAL	UNS S31600	3
11	ISOLATE DUST CAP	PVC	2
12	EQUALISE DUST CAP	PVC	1
13	CAM SCREW	A4 ST/ST	3
14	LOCKING CAM	UNS S31600	3

Dimensions shown are in metric mm

Part no. 3VBD4NS-TM Connection size 1/2" NPT Bore 4 CV 0.6 Weight 1.6KG

# 5VR Series Needle Manifold - Oil

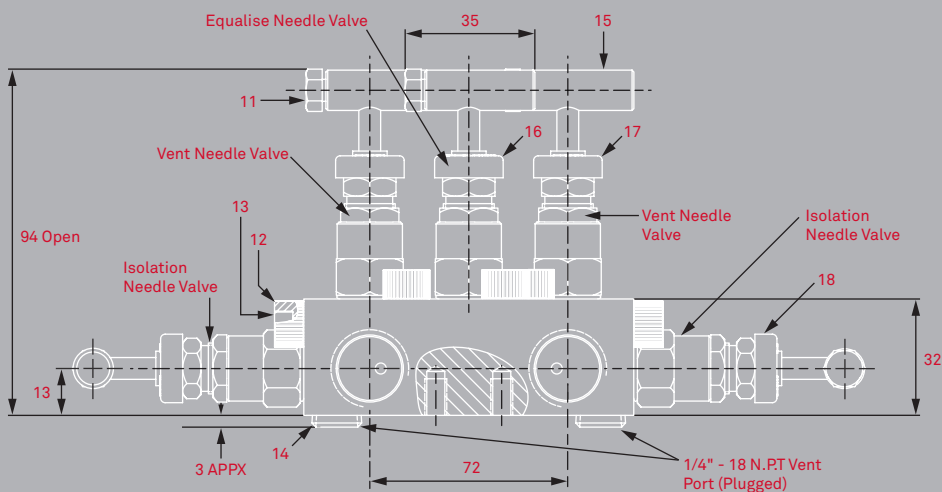
## Overview

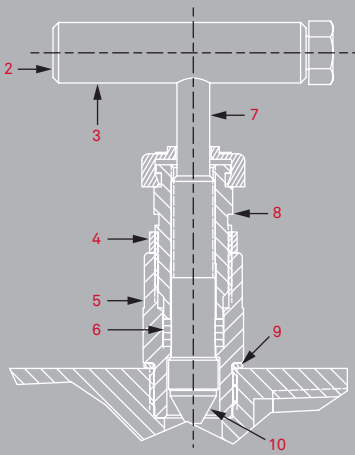
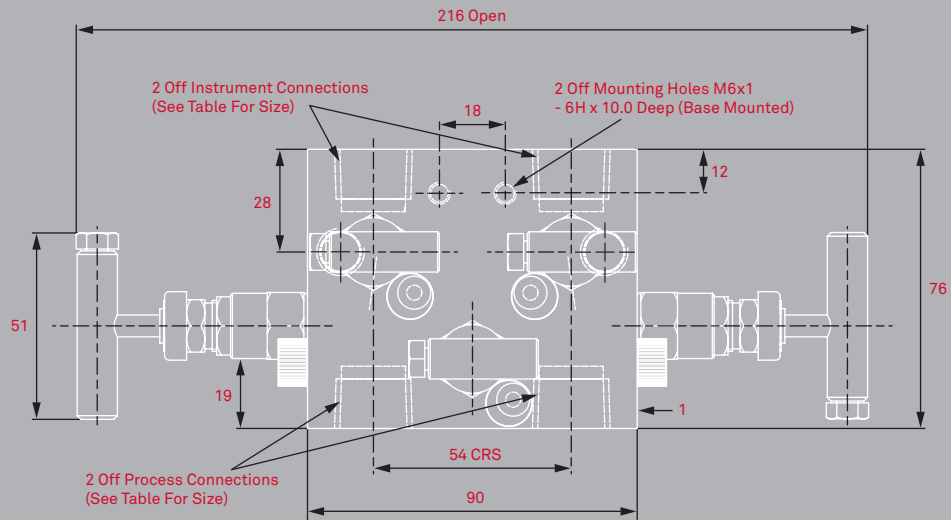
### 5 Valve Needle Manifold 6,000 PSI

Remote mounted, pipe to pipe configuration five valve manifold. Offering two isolation valves, two vent valves and one equalising valve (see attached drawing). 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" vent port. Incorporating all the standard long service life features of the standard 'N' series needle valve, multi-ring piston style packing, back sealing facility. Mounting holes supplied as standard for wall or bracket mounting.

## Design Features

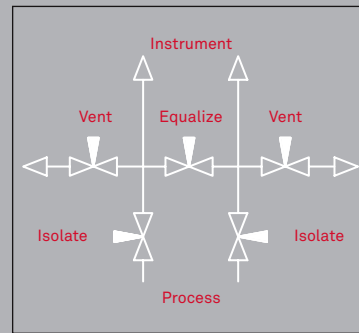
- All valves have 2-piece non-rotating hardened (17-4PH) tips as standard
- Positive no slack stem action
- Bubble tight shut off
- Vent porting in base for piping away (oil type only)
- Metal to metal body bonnet seal for high pressure and high temperature use
- Unique bonnet locking cam
- Ingress seals fitted as standard
- Temperature range -40°C to 230°C
- Available in 316/316L
- 54mm (2 1/8") instrument centres
- Full material traceability
- Oil configuration
- Repair/service kit available to extend field life further
- Materials of construction supplied to meet the requirements of NACE MR 0175





Needle Valve Details

Flow Diagram



Item No.	Description	Material	Quantity
1	VALVE BODY	A479 UNS S31600	1
2	M6 X 20 HEX BOLT	A4 ST/ST	2
3	"T" HANDLE	UNS S31600	2
4	GLAND LOCKNUT	UNS S31600	5
5	BONNET HOUSING	A479 UNS S31600	5
6	PACKING	RTFE	20
7	NEEDLE STEM	A479 UNS S31600	5
8	GLAND ADJUSTER	UNS S31600	5
9	INGRESS SEAL	VITON	5
10	VALVE TIP	A564 UNS S17400	5
11	M6 X 12 HEX BOLT	A4 ST/ST	3
12	LOCKING CAM	UNS S31600	5
13	CAM SCREW	A4 ST/ST	5
14	BLANK PLUG	A479 UNS S31600	2
15	"T" HANDLE (SHORT)	UNS S31600	3
16	EQUALISE DUST CAP	PVC	1
17	VENT DUST CAP	PVC	2
18	ISOLATE DUST CAP	PVC	2

Components Key

Dimensions shown are in metric mm

Part no. 5VR4NS-O Connection size 1/2" NPT Bore 3 CV 0.4 Weight 2.1 Kg

# 5VR Series Needle Manifold - Gas

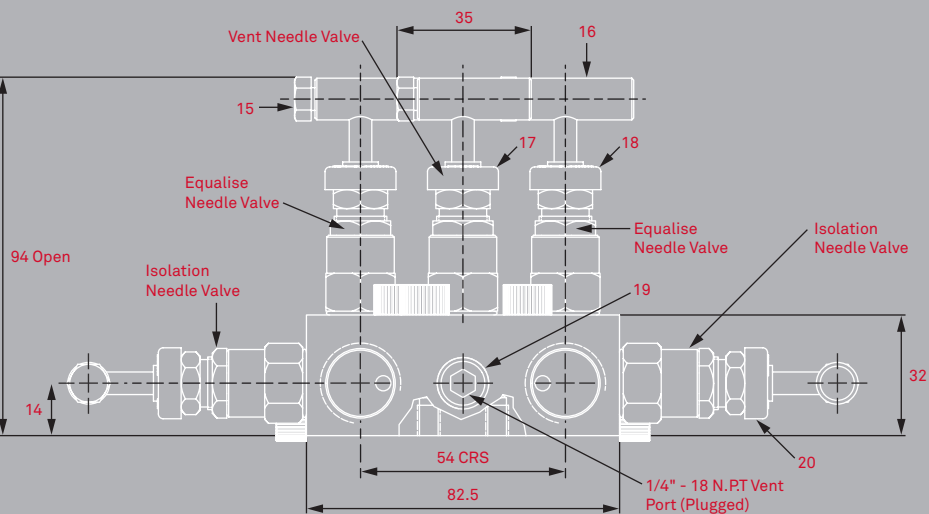
## Overview

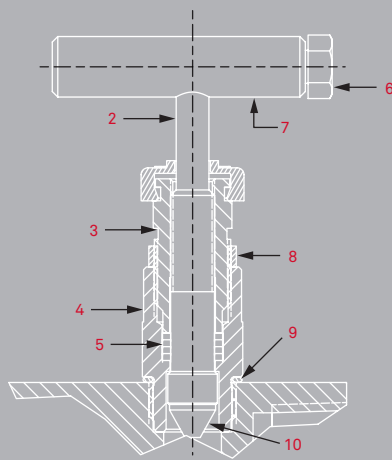
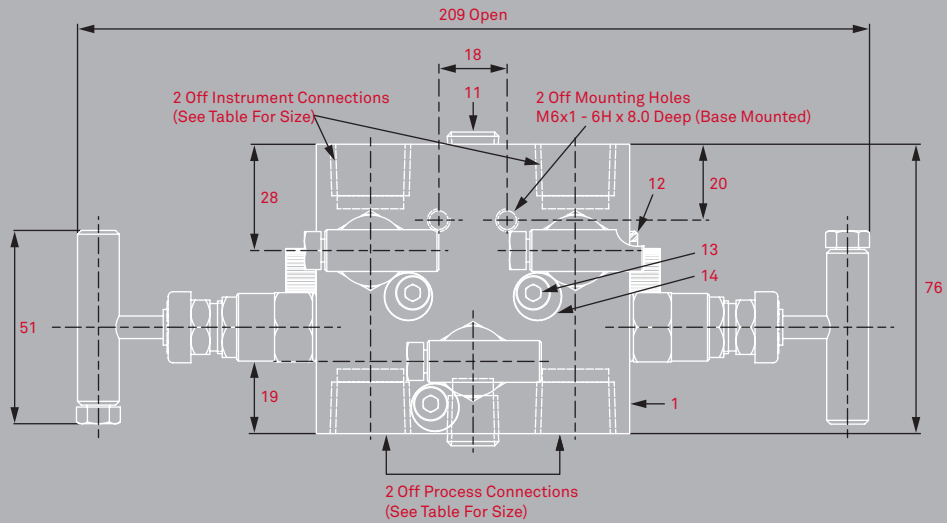
### 5 Valve Needle Manifold 6,000 PSI

Remote mounted, pipe to pipe configuration five valve manifold. Offering two isolation valves, one vent valve and two equalising valves (see attached drawing). 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" vent port. Incorporating all the standard long service life features of the standard 'N' series needle valve, multi-ring piston style packing, back sealing facility. Mounting holes supplied as standard for wall or bracket mounting.

## Design Features

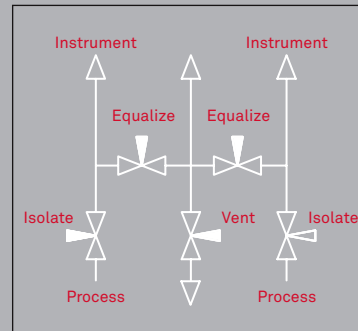
- All valves have 2-piece non-rotating hardened (17-4PH) tips as standard
- Positive no slack stem action
- Bubble tight shut off
- Metal to metal body bonnet seal for high pressure and high temperature use
- Unique bonnet locking cam
- Ingress seals fitted as standard
- Temperature range -40°C to 230°C
- Available in 316/316L
- 54mm (2 1/8") instrument centres
- Full material traceability
- Gas configuration
- Repair/service kit available to extend field life further
- Materials of construction supplied to meet the requirements of NACE MR 0175





Needle Valve Details

Flow Diagram



Components Key

Item No.	Description	Material	Quantity
1	VALVE BODY	A479 UNS S31600	1
2	NEEDLE STEM	A479 UNS S31600	5
3	GLAND ADJUSTER	UNS S31600	5
4	BONNET HOUSING	A479 UNS S31600	5
5	PACKING	RTFE	20
6	M6 X 20 HEX BOLT	A4 ST/ST	2
7	"T" HANDLE	UNS S31600	2
8	GLAND LOCKNUT	UNS S31600	5
9	INGRESS SEAL	VITON	5
10	VALVE TIP	A564 UNS S17400	5
11	1/4" NPT BLANK PLUG *	A479 UNS S31600	2
12	1/8" NPT BLANK PLUG *	A479 UNS S31600	1
13	CAM SCREW	A4 ST/ST	5
14	LOCKING CAM	UNS S31600	5
15	M6 X 12 HEX BOLT	A4 ST/ST	3
16	'T' HANDLE	UNS S31600	3
17	VENT DUST CAP	PVC	1
18	EQUALISE DUST CAP	PVC	2
19	1/4" NPT VENT PLUG	A479 UNS S31600	1
20	ISOLATE DUST CAP	PVC	2

Dimensions shown are in metric mm

Part no. 5VR4NS-G Connection size 1/2" NPT Bore 4 CV 0.6 Weight 1.9 Kg

\* THESE PLUGS ARE USED SOLELY FOR THE PURPOSE OF RETAINING PRESSURE (DO NOT REMOVE)

# 5VBD Series Needle Manifold - Oil

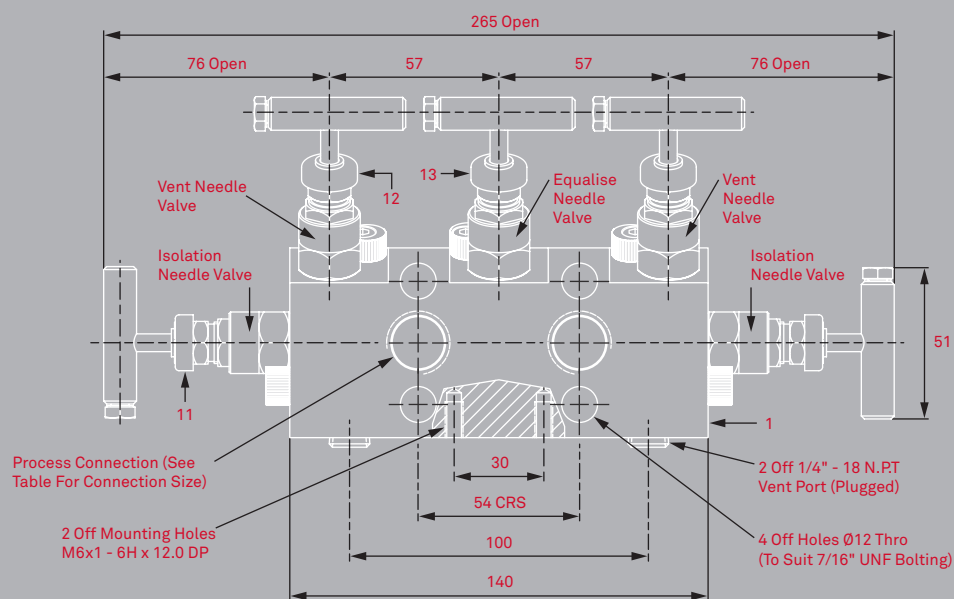
## Overview

### Direct Mounted 5 Valve Needle Manifold 6,000 PSI

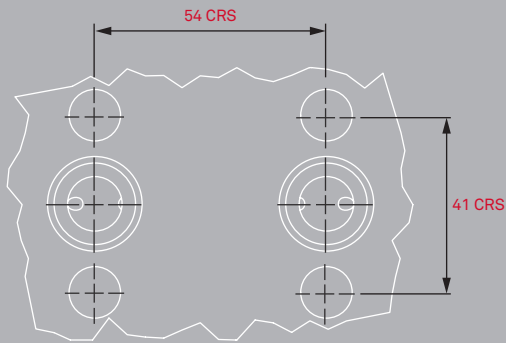
Direct style block mounted 5 valve manifold, instrument mount to pipe connection. Offering two isolation valves, two vent valves and one equalising valve (see attached drawing). Used in differential pressure transmitters and static instrument applications. Standard 2 x 1/2" inlet x 2 x 1/2" outlet all on 54mm instrument centres with 2 x 1/4" vent port. Incorporating all the standard long service life features of the standard 'N' series needle valve, multi-ring piston style packing, back sealing facility. Mounting holes supplied as standard for wall or bracket mounting.

## Design Features

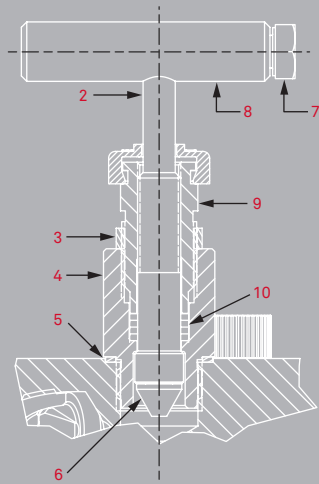
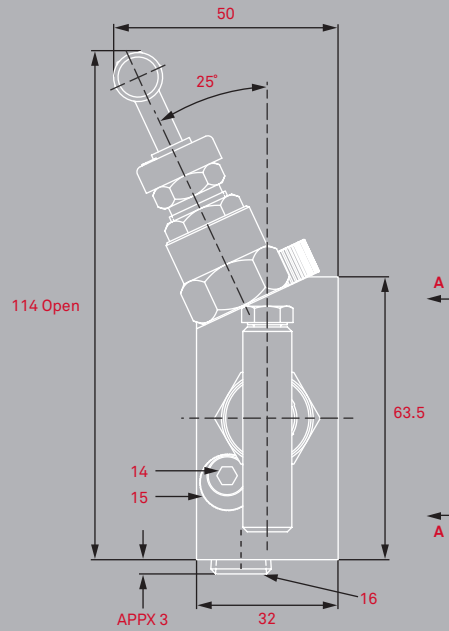
- All valves have 2-piece non-rotating hardened (17-4PH) tips as standard
- Positive no slack stem action
- Bubble tight shut off
- Supplied with bolt pack and PTFE seals as standard
- Metal to metal body bonnet seal for high pressure and high temperature use
- Unique bonnet locking cam
- Available in 316/316L
- Base mounting holes to allow fixing to enclosure or mounting boss
- Temperature range -40°C to 230°C
- 54mm (2 1/8") instrument centres
- Full material traceability
- Oil configuration
- Repair/service kit available to extend field life further
- Materials of construction supplied to meet the requirements of NACE MR 0175





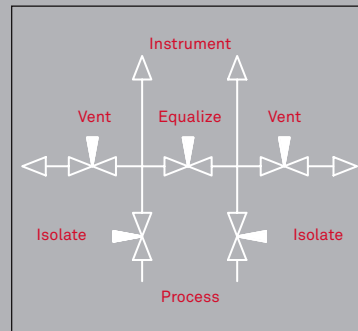


Direct Mount Instrument Connection Detail A-A



Needle Valve Details

Flow Diagram



Components Key

Item No.	Description	Material	Quantity
1	VALVE BODY	A479 UNS S31600	1
2	NEEDLE STEM	A479 UNS S31600	5
3	GLAND LOCKNUT	UNS S31600	5
4	BONNET HOUSING	A479 UNS S31600	5
5	BONNET SEAL	UNS S31600	5
6	VALVE TIP	A564 UNS S17400	5
7	HANDLE BOLT	A4 ST/ST	5
8	"T" HANDLE	UNS S31600	5
9	GLAND ADJUSTER	UNS S31600	5
10	PACKING	RTFE	20
11	ISOLATE DUST CAP	PVC	2
12	VENT DUST CAP	PVC	2
13	EQUALISE DUST CAP	PVC	1
14	CAM SCREW	A4 ST/ST	5
15	LOCKING CAM	UNS S31600	5
16	BLANK PLUG	A479 UNS S31600	2

Dimensions shown are in metric mm

Part no. 5VBD4NS-TM-O Connection size 1/2" NPT Bore 3 CV 0.4 Weight 2.4 Kg

# 5VBD Series Needle Manifold - Gas

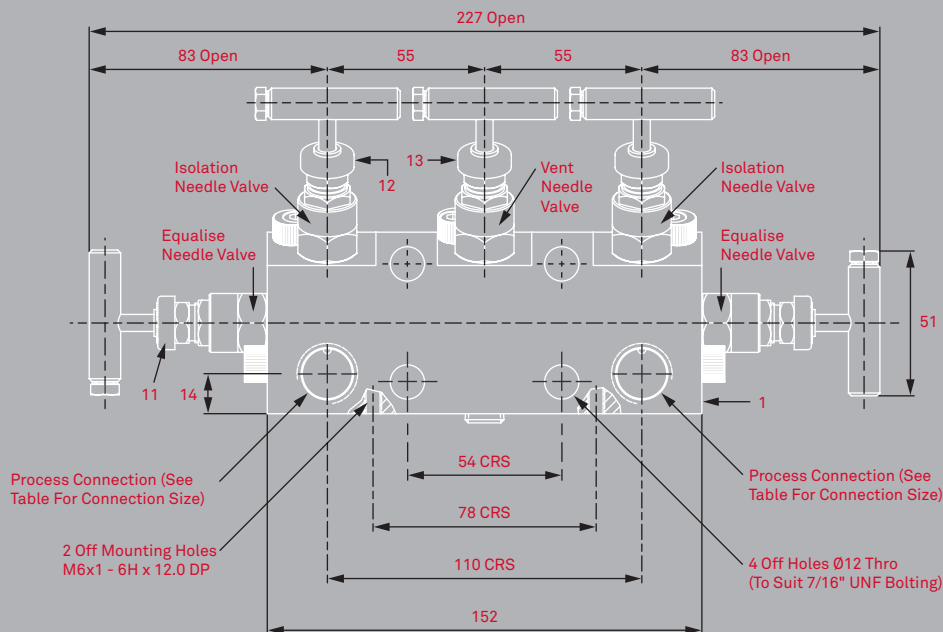
## Overview

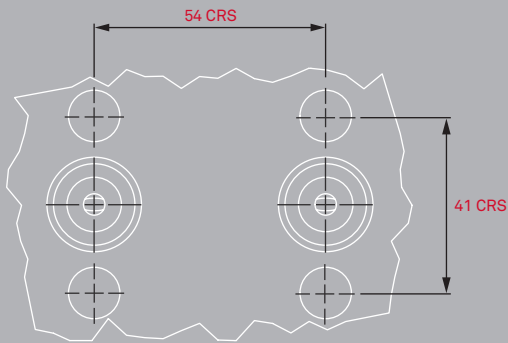
### Direct Mounted 5 Valve Needle Manifold 6,000 PSI

Direct style block mounted 5 valve manifold, instrument mount to pipe connection. Offering two isolation valves, one vent valve and two equalising valves (see attached drawing). 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" vent port. Incorporating all the standard long service life features of the standard 'N' series needle valve, multi-ring piston style packing, back sealing facility. Mounting holes supplied as standard for wall or bracket mounting.

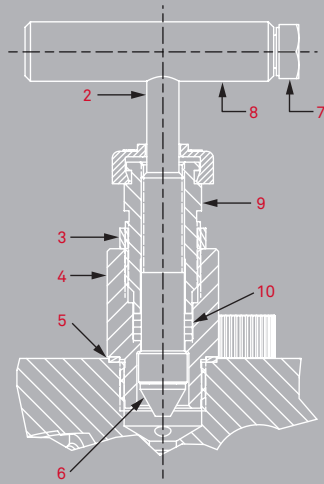
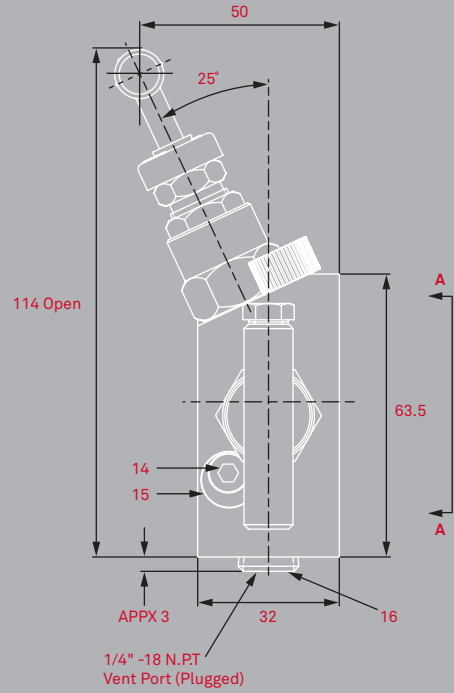
## Design Features

- All valves have 2-piece non-rotating hardened (17-4PH) tips as standard
- Positive no slack stem action
- Bubble tight shut off
- Supplied with bolt pack and PTFE seals as standard
- Metal to metal body bonnet seal for high pressure and high temperature use
- Unique bonnet locking cam
- Available in 316/316L
- Base mounting holes to allow fixing to enclosure or mounting boss
- Temperature range -40°C to 230°C
- 54mm (2 1/8") instrument centres
- Full material traceability
- Gas configuration
- Repair/service kit available to extend field life further
- Materials of construction supplied to meet the requirements of NACE MR 0175



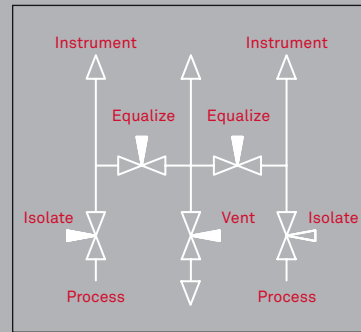


Direct Mount Instrument Connection Detail A-A



Needle Valve Details

Flow diagram



Components Key

Item No.	Description	Material	Quantity
1	NEEDLE MANIFOLD	A479 UNS S31600	1
2	NEEDLE STEM	A479 UNS S31600	5
3	GLAND LOCKNUT	UNS S31600	5
4	BONNET HOUSING	A479 UNS S31600	5
5	BONNET SEAL	UNS S31600	5
6	VALVE TIP	A564 UNS S17400	5
7	HANDLE BOLT	A4 ST/ST	5
8	"T" HANDLE	UNS S31600	5
9	GLAND ADJUSTER	UNS S31600	5
10	PACKING	RTFE	20
11	EQUALISE DUST CAP	PVC	2
12	ISOLATE DUST CAP	PVC	2
13	VENT DUST CAP	PVC	1
14	CAM SCREW	A4 ST/ST	5
15	LOCKING CAM	UNS S31600	5
16	BLANK PLUG	A479 UNS S31600	1

Dimensions shown are in metric mm

Part no. 5VBD4NS-TM-G Connection size 1/2" NPT Bore 3 CV 0.4 Weight 2.4 Kg

# Breakout Torques 2-3 Way Ball

## 2-Way Reduced Bore Ball Valves - Including 3-Way\*

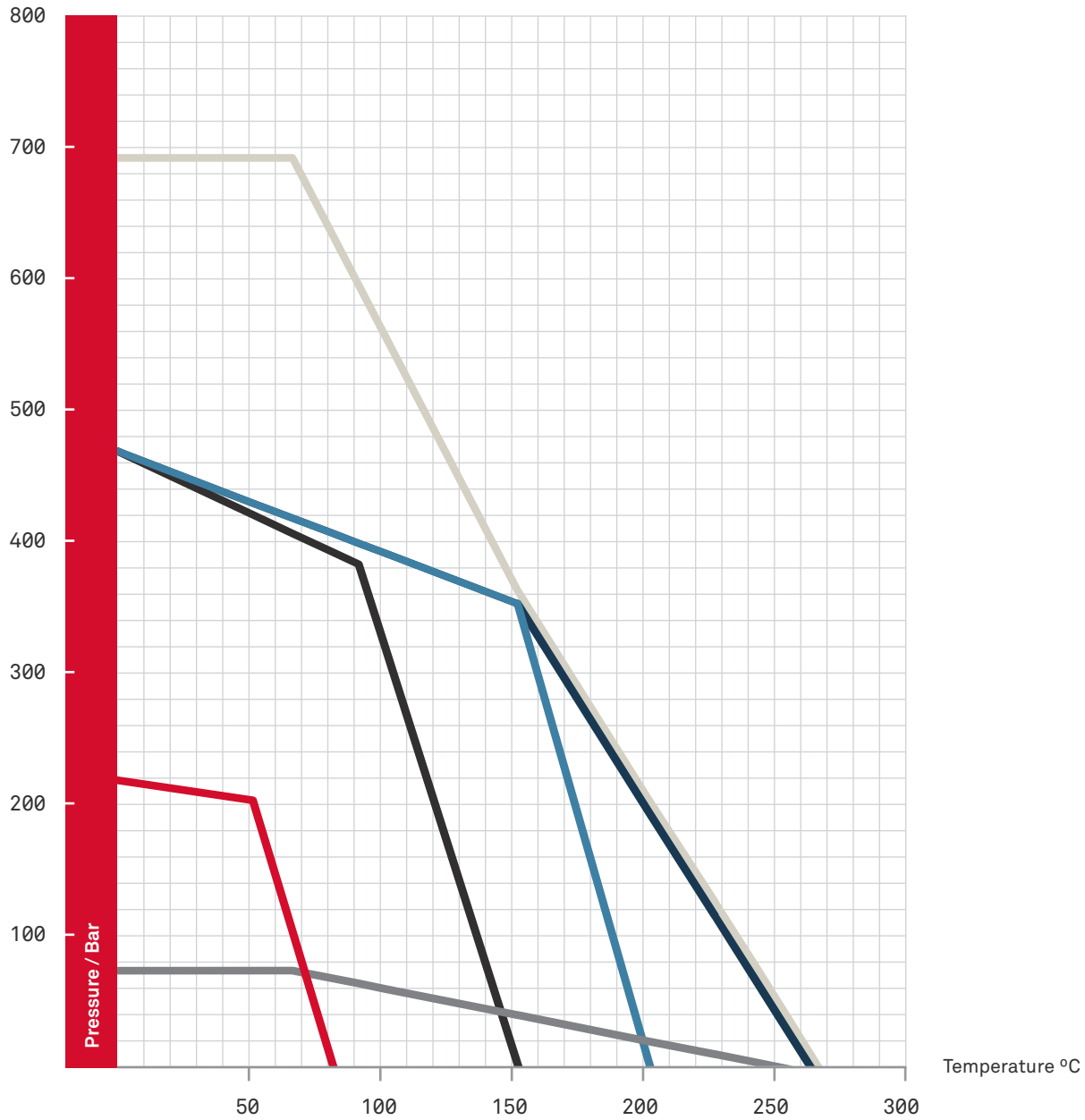
	1/4"	3/8"	1/2"	3/4"	1"	1. 1/4"	1. 1/2"	2	
Newton Metre / Nm	PTFE 1000 psi	2Nm	2Nm	2Nm	4.5Nm	7Nm	14Nm	32Nm	56Nm
	RTFE 2000 psi	2.5Nm	2.5Nm	2.5Nm	6Nm	9Nm	18Nm	37Nm	69Nm
	PVDF 3000 psi	3Nm	3Nm	3Nm	8Nm	17Nm	-	-	-
	ACETAL 3000 psi	-	-	-	-	-	52Nm	71Nm	84Nm
	PVDF 6000 psi	4.5Nm	4.5Nm	4.5Nm	12Nm	28Nm	-	-	-
	PEEK 6000 psi	8.5Nm	8.5Nm	8.5Nm	17Nm	34Nm 5000psi	116Nm	116Nm	116Nm
	PEEK 10,000 psi	17Nm	17Nm	17Nm	23Nm	57Nm	-	-	-

## T -Port & 4 Way\*

	1/4"	3/8"	1/2"	3/4"	1"	1. 1/4"	1. 1/2"	2	
Newton Metre / Nm	PEEK 1000 psi	5.5Nm	5.5Nm	5.5Nm	9Nm	14Nm	-	-	-
	PEEK 6000 psi	14Nm	14Nm	14Nm	19Nm	42Nm	-	-	-

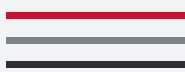
\*Percentage allowance +20%

# Pressure vs Temperature Graph

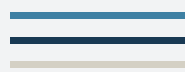


**KEY**

Delrin  
PTFE  
PVDF



Devlon  
PEEK  
PEEK Compound 2

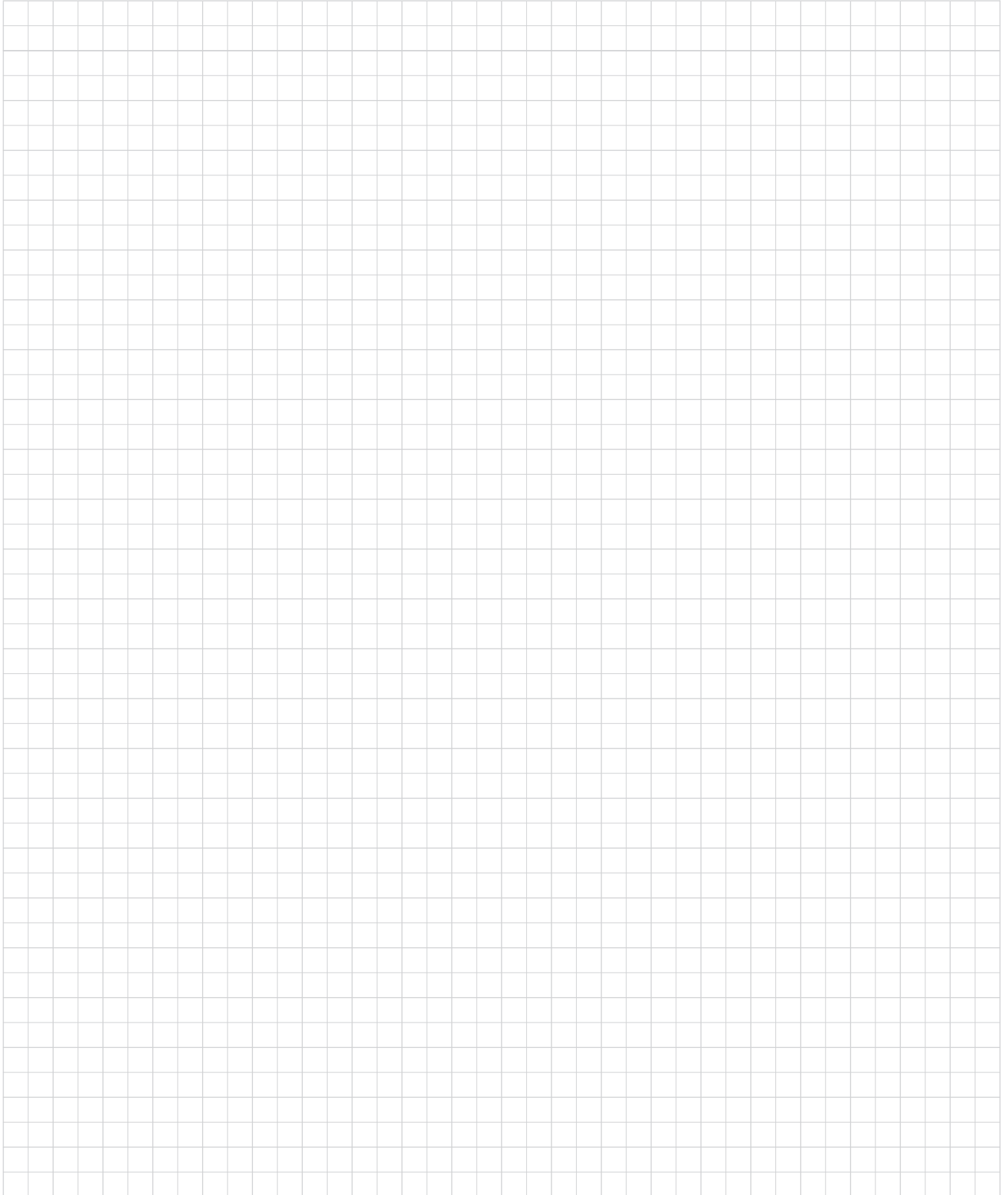


**O Ring Temperature Limitation Notes**

HNBR 90 O Ring      -40°C to +150°C  
Endura V91A O Ring    -46°C to +225°C

# NOTES

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