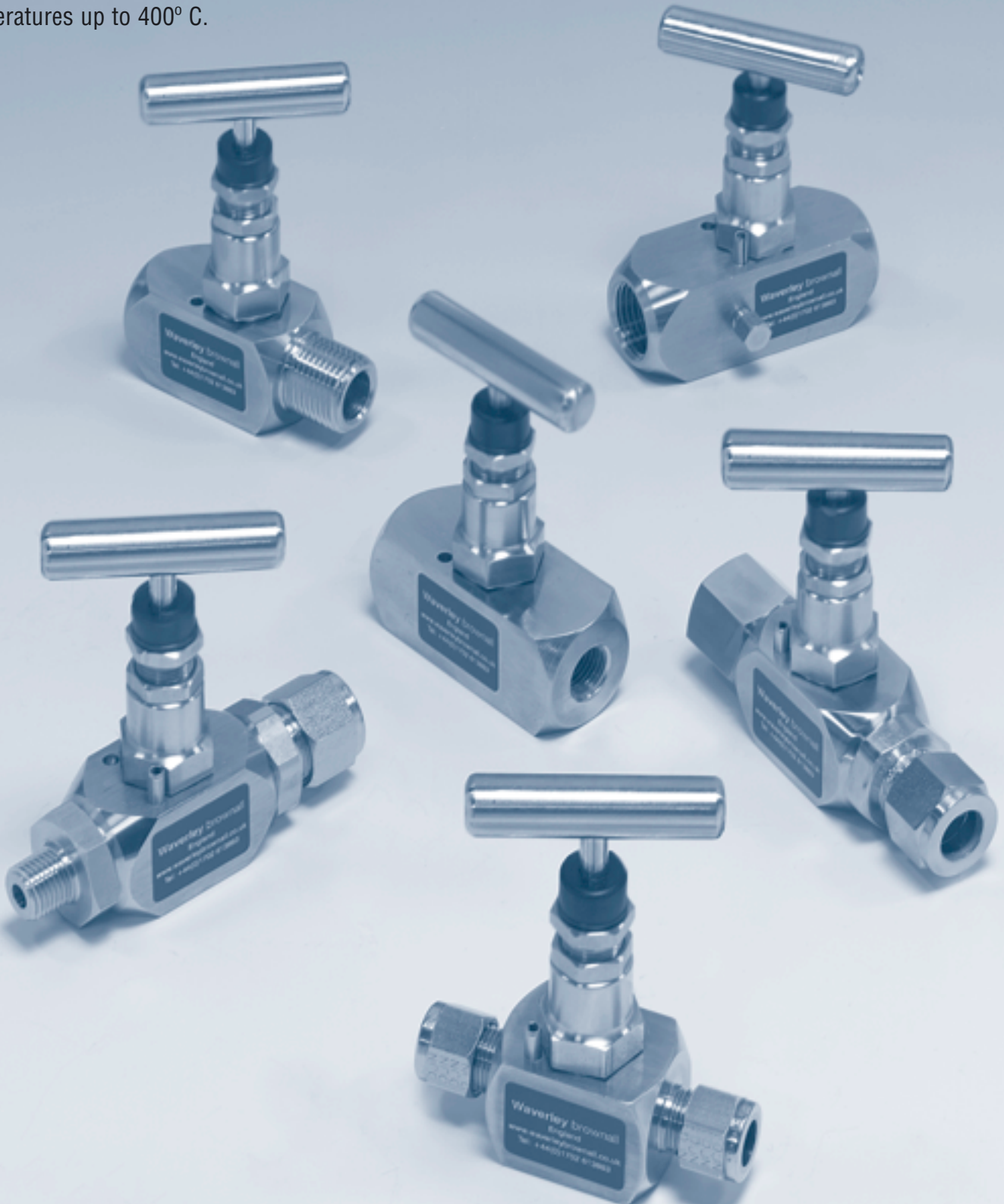


Featuring the World's most comprehensive range of instrumentation Needle valves. The Waverley brownall Needle valve range is designed and manufactured to the highest standards to meet the requirements of the severe applications anticipated for these valves. They have a split stem design, which ensures accurate seating, and a bubble tight seal. They are general-purpose valves for use on liquid or gas applications where the isolation of flow, equalisation and venting of pressure are the main criteria. The Waverley brownall Needle valve is available ex stock with a variety of end connections from 1/4" to 3/4", giving any combination of ends from NPT, BSPP, BSPT, Single and Twin ferrule OD compression. They are available for applications up to 10,000 psi and temperatures up to 400° C.



Features

Non rotating ball tip
Provides bubble tight shut off
Metal to metal bonnet seal
Back seating spindle
Prevents spindle blow out or accidental removal whilst in operation
All threads media free
Mirror finish spindle
8 micro inch finish reduces operating torque
Self adjusting shaft seal
Requires no maintenance
Anti-tamper option
Prevents unauthorised operation
Choice of body material
Provides a wide range of valves for many applications
Choice of valve packing
Providing for higher temperature applications

Applications

Instrument line shut off
Gauge and instrument isolation
Drain/vent valve
Up to 10,000 psi and 400°C
liquid or vapour service
Downstream pressure release
In-situ calibration

Options

Sour gas service
Valves can be manufactured to NACE (MR-01-75) standard on request

Oxygen service
Products can be supplied de-greased for oxygen service on request

Panel mount
Valves can also be supplied with a panel mount facility

Trim
316 stainless steel as standard.
17.4PH as option

Anti-tamper
To prevent unauthorised operation of the valve

Benefits

'T' Bar handle made from 304 or 316 stainless steel. Fastened to the spindle by a dowel type 304 or 316 stainless steel locking screw.

Colour coded dust cap protects the stem threads.

Close tolerance gland pusher allows packing adjustment whilst in service.

Gland lock-nut ensures the gland nut is positively located.

Close tolerance gland yoke precision machined from 316 stainless steel.

Gland packing is PTFE as standard for temperatures up to 200°C. Graphite seals are standard for temperatures up to 400°C.

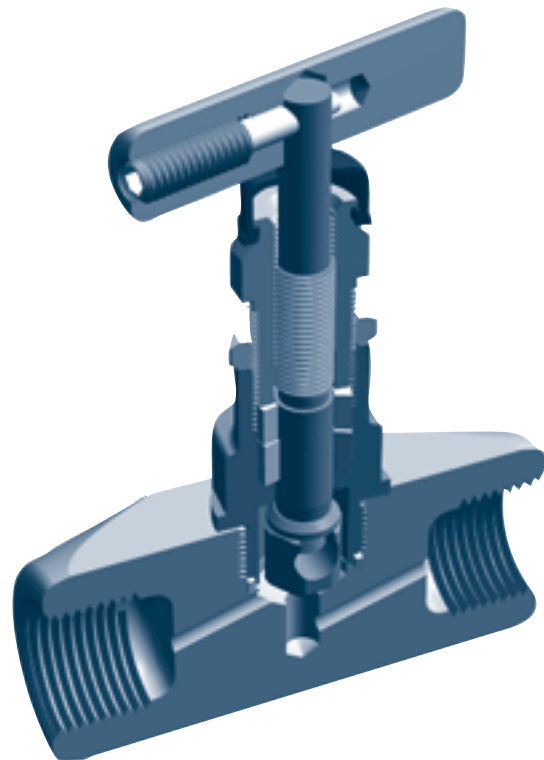
Spindle produced from 316 stainless steel.

Split stem design ensures accurate seating and bubble tight seal.

Locking pin made from 304 stainless steel ensures that the correct assembly torque of the valve head is maintained against the effects of vibration and/or temperature.

Bonnet precision machined from 316 stainless steel, housing the gland packing below the actuating threads.

Non-rotating trim made from 316 stainless steel, precision machined with spherical end to ensure a bubble tight seal.



Technical specifications

Pressure range	0-6000psi
Extended range	0-10,000psi
Temperature range (PTFE)	-20 to 200°C
Temperature range (Graphite)	-20 to 400°C
Factor of safety	4:1
Seat type	Metal to metal
CV rating (Open) 0.30	
Orifice	3.80mm

Materials of construction

Handle	304 stainless steel
Lock screw	304 stainless steel
Dust cap	Nylon 6
Spindle	316 stainless steel
Gland adjuster	316 stainless steel PTFE Coated
Lock nut	304 stainless steel
Packing	PTFE
Bonnet	316 stainless steel
Dwell screw (not shown)	304 stainless steel
Keep plate (not shown)	304 stainless steel
Body seal	PTFE
Needle	316 stainless steel
Gland yoke	316 stainless steel

Valve connection standards

NPT	to ANSI/ASME B1-20.3
BSPT	to BS21
BSP	to BS2779

Valve markings

Make or manufacturer	Brownall Precision
Model number	P1/W4W4TBOXH
Operating limits	6000 psi @200°C
Material of construction	316
Material cast code	A123
Operating schematic or polarity arrow	
Colour coded dust cap Blue	Isolate
Packing material T	PTFE
Packing material G	Graphite
Valve identification	Isolate

Testing

All Needle Valves are 100% tested with reference to BS122-1:2003.

A shell test is at 1.5 x maximum working pressure and the seat test at 1.1 x maximum working pressure.

'T' Bar handle

Lock screw

Dust cap

Gland adjuster

Spindle

Lock nut

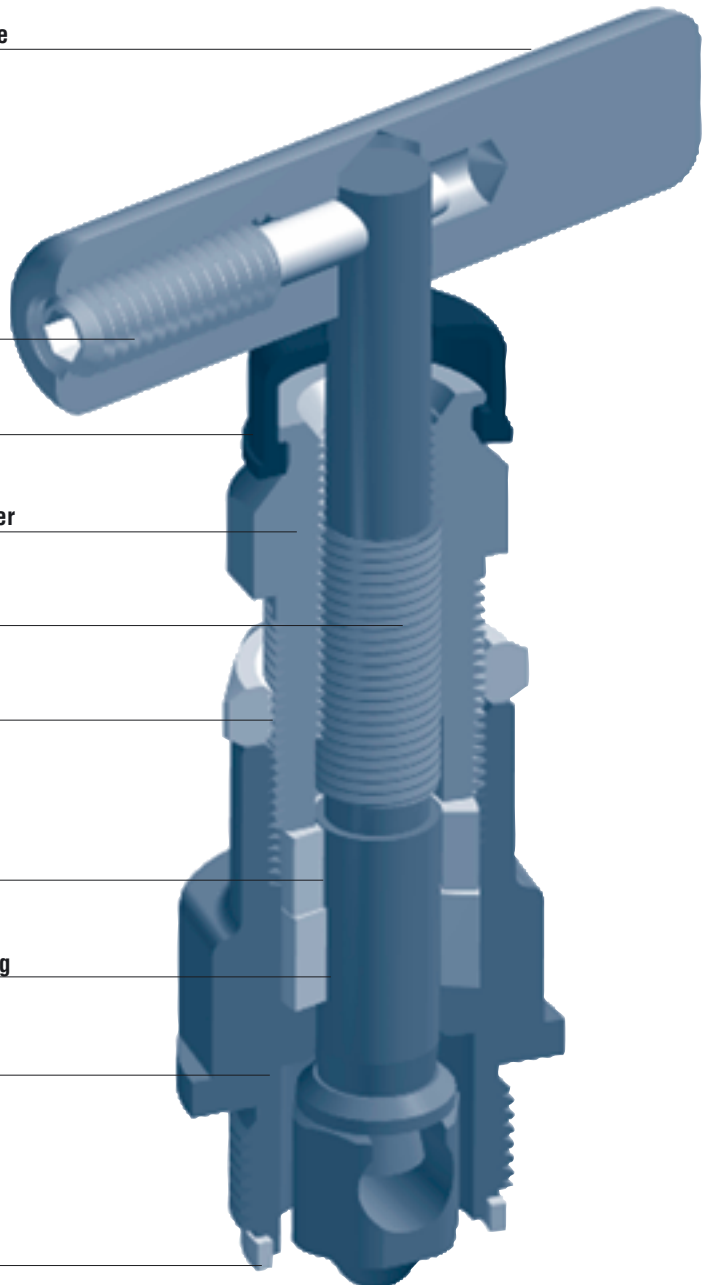
Gland yoke

Gland packing

Bonnet

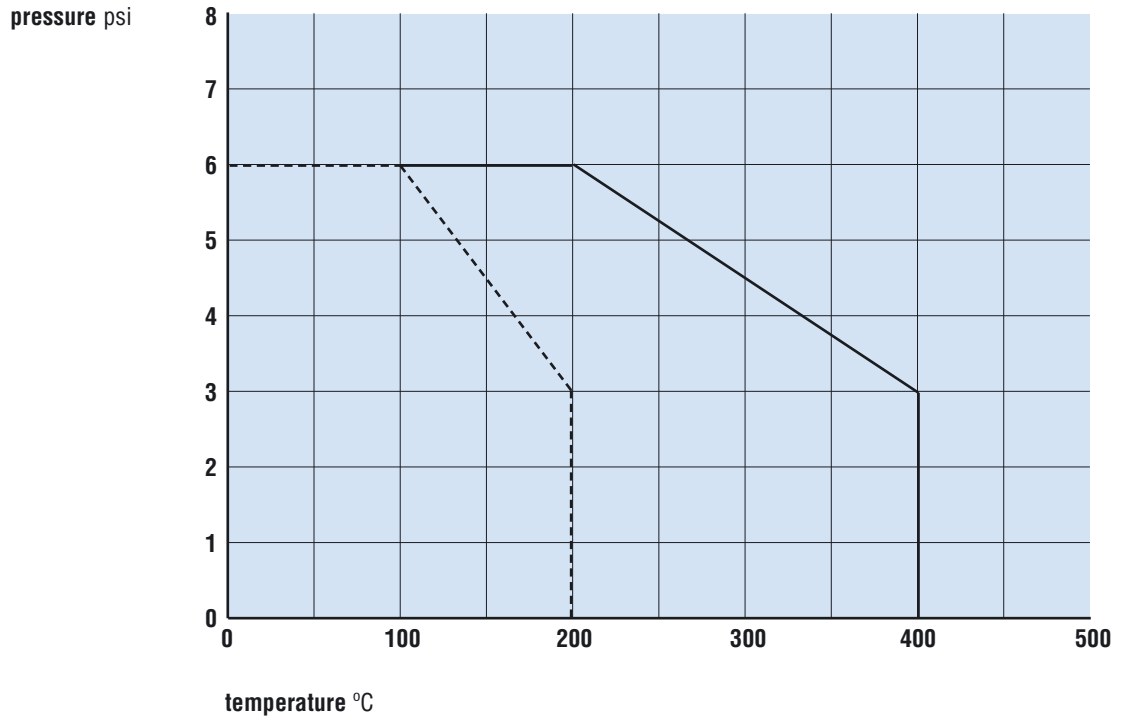
Body seal

Needle

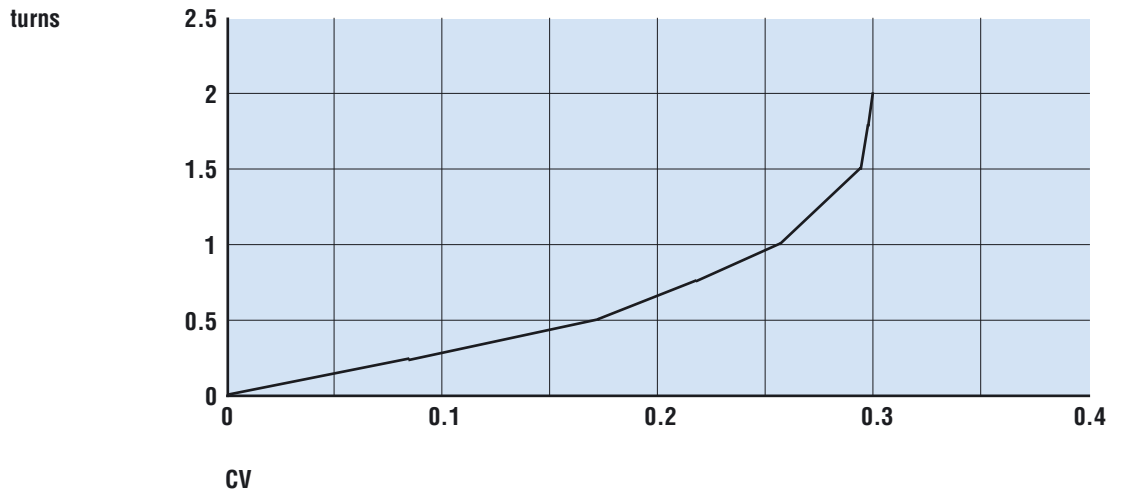


Pressure vs temperature performance

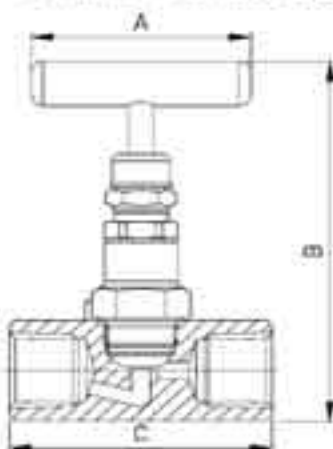
- PTFE seals
- Graphite seals



Valve turns vs CV

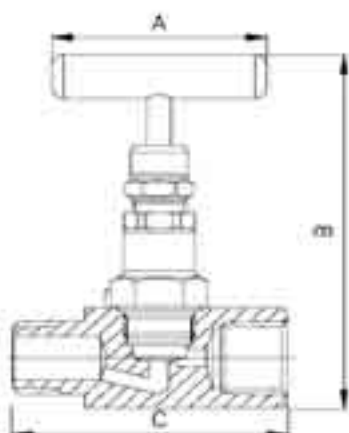


Female / Female Single Piece Body



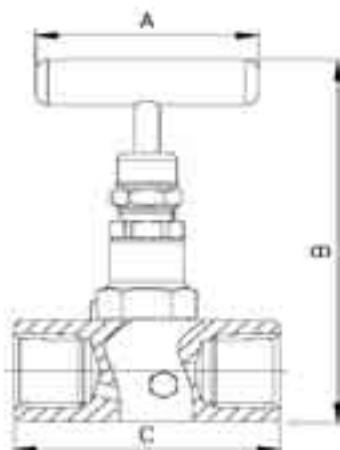
Thread	Part No	Dim A	Dim B	Dim C
1/4 NPT	NV2N	2.25	4.00	2.69
3/8 NPT	NV3N	2.25	4.00	2.69
1/2 NPT	NV4N	2.25	4.00	2.69

Male / Female Single Piece Body



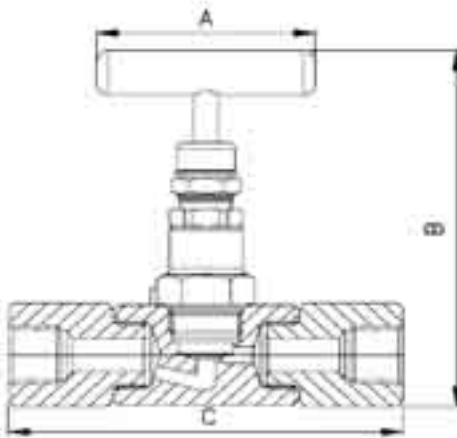
Thread	Part No	Dim A	Dim B	Dim C
1/4 NPT	NV2N M/F	2.25	4.00	2.88
3/8 NPT	NV3N M/F	2.25	4.00	2.88
1/2 NPT	NV4N M/F	2.25	4.00	2.88

Female / Female Single Piece Body with Bleed



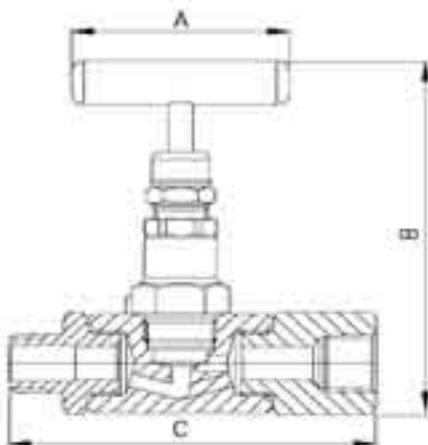
Thread	Part No	Dim A	Dim B	Dim C
1/4 NPT	NV2N-B	2.25	4.00	2.93
3/8 NPT	NV3N-B	2.25	4.00	2.93
1/2 NPT	NV4N-B	2.25	4.00	2.93

Female / Female Three Piece Body



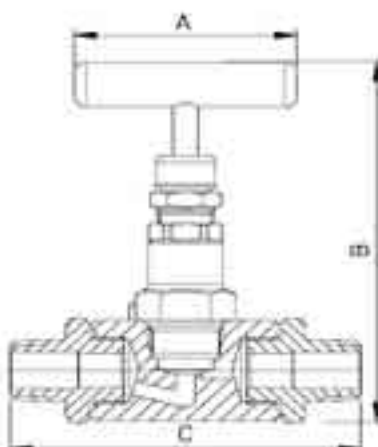
Thread	Part No	Dim A	Dim B	Dim C
1/4 NPT	NV2N-3	2.25	4.00	3.62
3/8 NPT	NV3N-3	2.25	4.00	4.05
1/2 NPT	NV4N-3	2.25	4.00	4.17
1/4 BSPT	NV2T-3	2.25	4.00	3.62
3/8 BSPT	NV3T-3	2.25	4.00	3.84
1/2 BSPT	NV4T-3	2.25	4.00	4.17
1/4 BSP	NV2P-3	2.25	4.00	3.50
3/8 BSP	NV3P-3	2.25	4.00	3.84
1/2 BSP	NV4P-3	2.25	4.00	4.12

Male / Female Three Piece Body



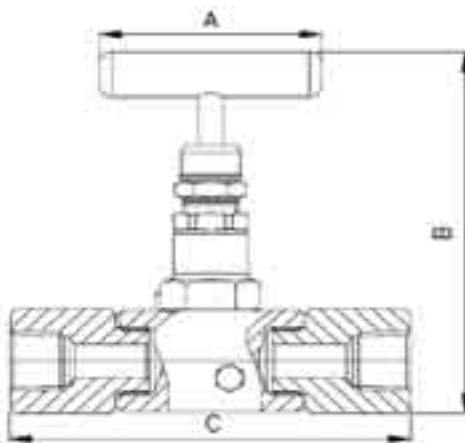
Thread	Part No	Dim A	Dim B	Dim C
1/4 NPT	NV2N-3-M/F	2.25	4.00	3.58
3/8 NPT	NV3N-3-M/F	2.25	4.00	3.80
1/2 NPT	NV4N-3-M/F	2.25	4.00	4.12
1/4 BSPT	NV2T-3-M/F	2.25	4.00	3.52
3/8 BSPT	NV3T-3-M/F	2.25	4.00	3.63
1/2 BSPT	NV4T-3-M/F	2.25	4.00	3.99
1/4 BSP	NV2P-3-M/F	2.25	4.00	3.36
3/8 BSP	NV3P-3-M/F	2.25	4.00	3.67
1/2 BSP	NV4P-3-M/F	2.25	4.00	3.87

Male / Male Three Piece Body



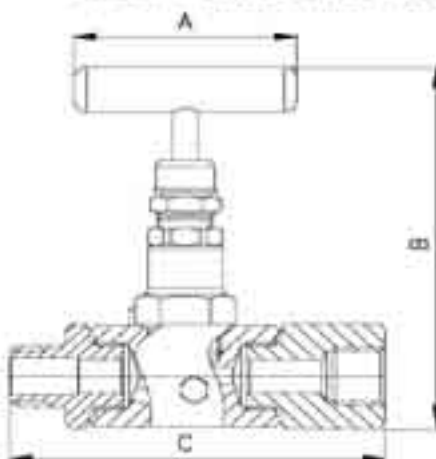
Thread	Part No	Dim A	Dim B	Dim C
1/4 NPT	NV2N-3-M/M	2.25	4.00	3.55
3/8 NPT	NV3N-3-M/M	2.25	4.00	3.55
1/2 NPT	NV4N-3-M/M	2.25	4.00	4.06
1/4 BSPT	NV2T-3-M/M	2.25	4.00	3.42
3/8 BSPT	NV3T-3-M/M	2.25	4.00	3.42
1/2 BSPT	NV4T-3-M/M	2.25	4.00	3.80
1/4 BSP	NV2P-3-M/M	2.25	4.00	3.22
3/8 BSP	NV3P-3-M/M	2.25	4.00	3.50
1/2 BSP	NV4P-3-M/M	2.25	4.00	3.62

Female / Female Three Piece Body with Bleed



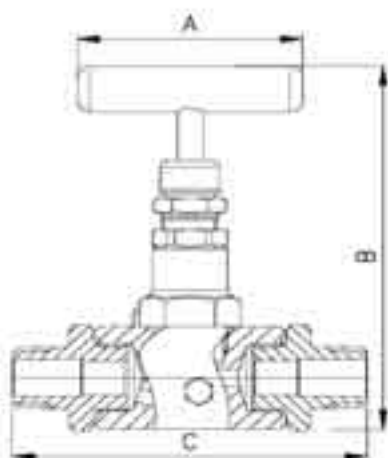
Thread	Part No	Dim A	Dim B	Dim C
1/4 NPT	NV2N-3-B	2.25	4.00	3.87
3/8 NPT	NV3N-3-B	2.25	4.00	4.30
1/2 NPT	NV4N-3-B	2.25	4.00	4.42
1/4 BSPT	NV2T-3-B	2.25	4.00	3.87
3/8 BSPT	NV3T-3-B	2.25	4.00	4.09
1/2 BSPT	NV4T-3-B	2.25	4.00	4.42
1/4 BSP	NV2P-3-B	2.25	4.00	3.75
3/8 BSP	NV3P-3-B	2.25	4.00	4.00
1/2 BSP	NV4P-3-B	2.25	4.00	4.37

Male / Female Three Piece Body with Bleed



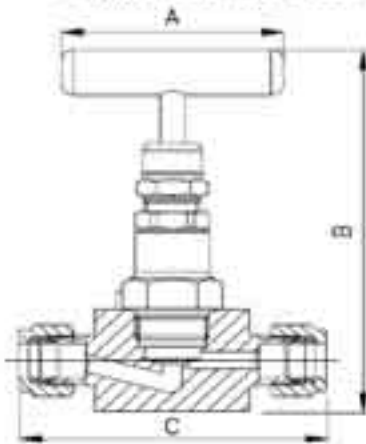
Thread	Part No	Dim A	Dim B	Dim C
1/4 NPT	NV2N-3-M/F-B	2.25	4.00	3.84
3/8 NPT	NV3N-3-M/F-B	2.25	4.00	4.05
1/2 NPT	NV4N-3-M/F-B	2.25	4.00	4.37
1/4 BSPT	NV2T-3-M/F-B	2.25	4.00	3.77
3/8 BSPT	NV3T-3-M/F-B	2.25	4.00	3.88
1/2 BSPT	NV4T-3-M/F-B	2.25	4.00	4.24
1/4 BSP	NV2P-3-M/F-B	2.25	4.00	3.61
3/8 BSP	NV3P-3-M/F-B	2.25	4.00	3.92
1/2 BSP	NV4P-3-M/F-B	2.25	4.00	4.12

Male / Male Three Piece Body with Bleed



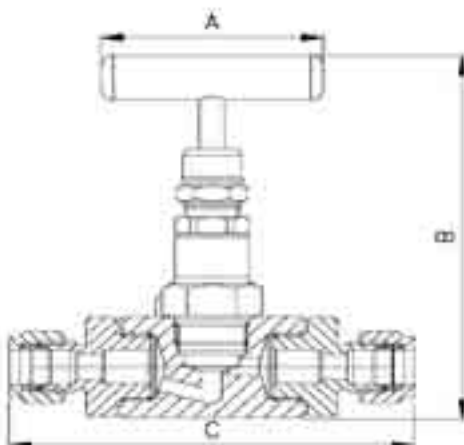
Thread	Part No	Dim A	Dim B	Dim C
1/4 NPT	NV2N-3-M/M-B	2.25	4.00	3.80
3/8 NPT	NV3N-3-M/M-B	2.25	4.00	3.86
1/2 NPT	NV4N-3-M/M-B	2.25	4.00	4.31
1/4 BSPT	NV2T-3-M/M-B	2.25	4.00	3.87
3/8 BSPT	NV3T-3-M/M-B	2.25	4.00	3.73
1/2 BSPT	NV4T-3-M/M-B	2.25	4.00	4.05
1/4 BSP	NV2P-3-M/M-B	2.25	4.00	3.47
3/8 BSP	NV3P-3-M/M-B	2.25	4.00	3.75
1/2 BSP	NV4P-3-M/M-B	2.25	4.00	3.87

Ringlok Compression End Single Piece Body



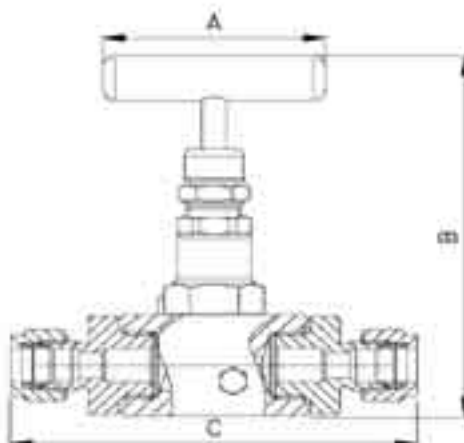
O/D Size	Part No	Dim A	Dim B	Dim C
6mm Ringlok	NV 6M=OD	2.25	4.00	2.99
8mm Ringlok	NV 8M=OD	2.25	4.00	3.06
10mm Ringlok	NV 10M=OD	2.25	4.00	3.12
12mm Ringlok	NV 12M=OD	2.25	4.00	3.32
1/4 Ringlok	NV2=OD	2.25	4.00	3.00
3/8 Ringlok	NV3=OD	2.25	4.00	3.12
1/2 Ringlok	NV4=OD	2.25	4.00	3.32
5/8 Ringlok	NV5=OD	2.25	4.00	3.32

Ringlok Compression End Three Piece Body



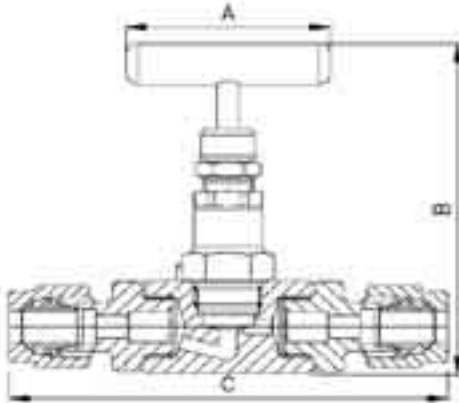
O/D Size	Part No	Dim A	Dim B	Dim C
6mm Ringlok	NV 6M=OD-3	2.25	4.00	3.98
8mm Ringlok	NV 8M=OD-3	2.25	4.00	4.04
10mm Ringlok	NV 10M=OD-3	2.25	4.00	4.10
12mm Ringlok	NV 12M=OD-3	2.25	4.00	4.30
1/4 Ringlok	NV2=OD-3	2.25	4.00	3.99
3/8 Ringlok	NV3=OD-3	2.25	4.00	4.10
1/2 Ringlok	NV4=OD-3	2.25	4.00	4.30
5/8 Ringlok	NV5=OD-3	2.25	4.00	4.30

Ringlok Compression End Three Piece Body with Bleed



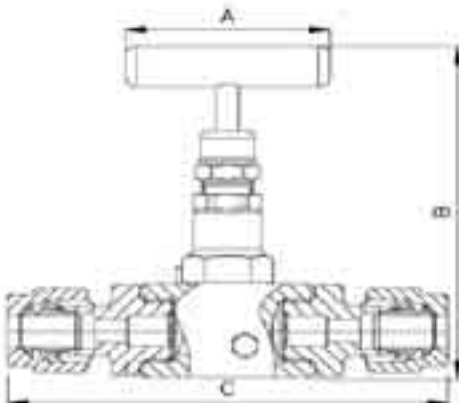
O/D Size	Part No	Dim A	Dim B	Dim C
6mm Ringlok	NV 6M=OD-3-B	2.25	4.00	4.23
8mm Ringlok	NV 8M=OD-3-B	2.25	4.00	4.29
10mm Ringlok	NV 10M=OD-3-B	2.25	4.00	4.35
12mm Ringlok	NV 12M=OD-3-B	2.25	4.00	4.55
1/4 Ringlok	NV2=OD-3-B	2.25	4.00	4.24
3/8 Ringlok	NV3=OD-3-B	2.25	4.00	4.35
1/2 Ringlok	NV4=OD-3-B	2.25	4.00	4.55
5/8 Ringlok	NV5=OD-3-B	2.25	4.00	4.55

Duoloc Compression End Three Piece Body



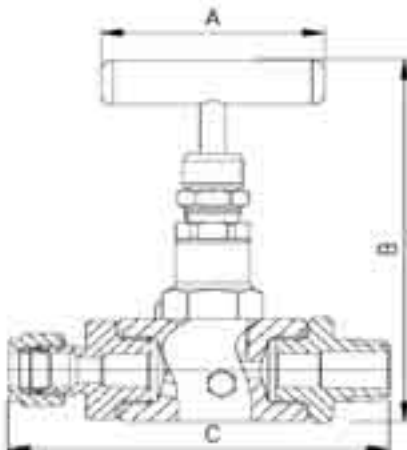
O/D Size	Part No	Dim A	Dim B	Dim C
6mm Duoloc	NV 6M OD-3	2.25	4.00	3.96
8mm Duoloc	NV 8M OD-3	2.25	4.00	4.02
10mm Duoloc	NV 10M OD-3	2.25	4.00	4.00
12mm Duoloc	NV 12M OD-3	2.25	4.00	4.10
1/4 Duoloc	NV2 OD-3	2.25	4.00	3.97
3/8 Duoloc	NV3 OD-3	2.25	4.00	4.00
1/2 Duoloc	NV4 OD-3	2.25	4.00	4.10

Duoloc Compression End Three Piece Body with Bleed



O/D Size	Part No	Dim A	Dim B	Dim C
6mm Duoloc	NV 6M OD-3-B	2.25	4.00	4.21
8mm Duoloc	NV 8M OD-3-B	2.25	4.00	4.27
10mm Duoloc	NV 10M OD-3-B	2.25	4.00	4.25
12mm Duoloc	NV 12M OD-3-B	2.25	4.00	4.35
1/4 Duoloc	NV2 OD-3-B	2.25	4.00	4.22
3/8 Duoloc	NV3 OD-3-B	2.25	4.00	4.25
1/2 Duoloc	NV4 OD-3-B	2.25	4.00	4.35

Combination of Ends Three Piece Body with and without Bleed



For example:

3/8" OD Ringlok twin ferrule
compression end

To

1/4" NPT male end

Ask for details about any combination