

High-pressure needle valve

Nominal pressure of 15,000 ... 60,000 psi [1,034 ... 4,136 bar]

Model HPNV

WIKA data sheet AC 09.27

Applications

- Oil and gas, chemical industry, machine building and automation
- For injection systems, test benches, hydraulic power packs, blow-out protection
- Blasting/cutting with water, high-pressure cleaning

Special features

- Low-wear design due to non-rotating spindle tip in the bonnet
- Low torque and smooth operation of valve handle even at high pressure
- Leak-tested tightness in accordance with BS6755 / ISO 5208 leakage rate A
- Large selection of materials and configurations available
- Customer-specific combination of valves and measuring instruments (instrument hook-up) on request

Description

The model HPNV high-pressure needle valves have been developed for high-pressure applications of 15,000 ... 60,000 psi [1,034 ... 4,136 bar]. The valve is particularly suitable for control panels, where the space is restricted, or for test benches.

The non-rotating valve spindle prevents seizing and scoring, even if the valve is rarely opened or only partially closed.

With the blow-out proof design of the valve, working safety is ensured, especially in applications with high pressure loading and frequent pressure cycles.

The valve can be fully opened/closed with only 5 turns.



Fig. left: 2-way valve, straight bore
Fig. right: 2-way valve, angled bore

The risk of unintentional loosening of the bonnet is minimised by a mechanical stop for the handle. Quick assembly and disassembly of the handle is possible thanks to the self-centring system. The valve design and high-quality sealing materials ensure long operating times and high tightness.

On request, WIKA offers the professional assembly of valves and pressure measuring instruments and also other accessories into a ready-to-install solution, also known as an instrument hook-up. To ensure the performance of the complete system, an additional leak test is carried out on the instrument hook-up.

Specifications

Model HPNV	
Standards used	
Design	<ul style="list-style-type: none"> ■ ASME B1.20.1, pipe threads, general purpose (inch) ■ ASME B31.3, process piping
Tests	<ul style="list-style-type: none"> ■ MSS SP-99, valves for measuring instruments ■ API 598, valve inspection and testing ■ ISO 5208, pressure testing of metallic valves with leakage rate A ■ MSS SP-61, pressure testing of valves ■ DIN EN 12266-1, pressure tests, test procedures and acceptance criteria for industrial valves
Material requirements	NACE MR0175 / ISO 15156, use in H ₂ S-containing environments in oil and gas production
Marking	MSS SP-25, markings on valves
Nominal pressure	<ul style="list-style-type: none"> ■ 15,000 psi [1,034 bar] ■ 20,000 psi [1,379 bar] ■ 30,000 psi [2,068 bar] ■ 60,000 psi [4,136 bar]
Permissible temperature range	-55 ... +210 °C [-67 ... +410 °F]
Version	<ul style="list-style-type: none"> ■ 2-way valve, straight bore ■ 2-way valve, angled bore ■ 3-way valve, two pressure connections ■ 3-way valve, one pressure connection
Connection type	<ul style="list-style-type: none"> ■ Female thread/female thread per ANSI / ASME B1.20.1, code NPT ■ Male thread/female thread per ANSI / ASME B1.20.1, code NPT ■ Cone/threaded fitting
Connection size	<ul style="list-style-type: none"> ■ ¼ NPT ■ ⅜ NPT ■ ½ NPT ■ ¾ NPT ¹⁾ ■ 1 NPT ¹⁾ ■ ¼" cone/threaded screw connection ■ ⅜" cone/threaded screw connection ■ 9/16" cone/threaded screw connection ■ ¾" cone/threaded screw connection ²⁾ ■ 1" cone/threaded screw connection ²⁾
Valve bore size	<ul style="list-style-type: none"> ■ 2 mm [0.079 in] ■ 4 mm [0.197 in] ■ 6 mm [0.236 in] ■ 8 mm [0.394 in]
Pressure-temperature limits (for diagram, see page 6)	The limits for operating pressure and temperature depend on the version and the sealing material.
Mounting	Suitable for mounting bracket, with mounting holes
Features	<ul style="list-style-type: none"> ■ Sealing through self-centring piston ■ Bubble-tight shut-off ■ Flow direction marked on valve body ■ Hydrostatically tested ■ 100 % material traceability for wetted parts
Special bonnet feature	<ul style="list-style-type: none"> ■ Without ■ Suitable for low-temperature applications (to -196 °C [-321 °F]) ■ Mounting holes and valve stem for actuators
Special design feature	<ul style="list-style-type: none"> ■ Without ■ For oxygen, oil and grease free ■ For sour gas applications (NACE) ³⁾

1) The maximum operating pressure is limited to 10,000 psi [689 bar].

2) The maximum operating pressure is limited to 20,000 psi [1,379 bar].

3) The nominal pressure specifications must be reduced for sour gas applications. 15,000 psi [1,034 bar] and 20,000 psi [1,379 bar] are reduced to 10,000 psi [689 bar]. 30,000 psi [2,068 bar] are reduced to 20,000 psi [1,379 bar] and 60,000 psi [4,136 bar] to 30,000 psi [2,068 bar].

Materials

Wetted parts

Valve body	<ul style="list-style-type: none">■ Stainless steel 316 (1.4401)■ Other materials on request
Spindle tip	<ul style="list-style-type: none">■ Stainless steel 17-4PH (1.4542) per ASTM A564■ Duplex F51 (1.4462) per ASTM A479 ¹⁾■ Stainless steel XM-19 (S20910) ¹⁾
Sealing	<ul style="list-style-type: none">■ PTFE, glass-fibre filled■ PTFE, carbon-fibre reinforced
	Temperature range: -55 ... +210 °C [-65 ... +100 °F]

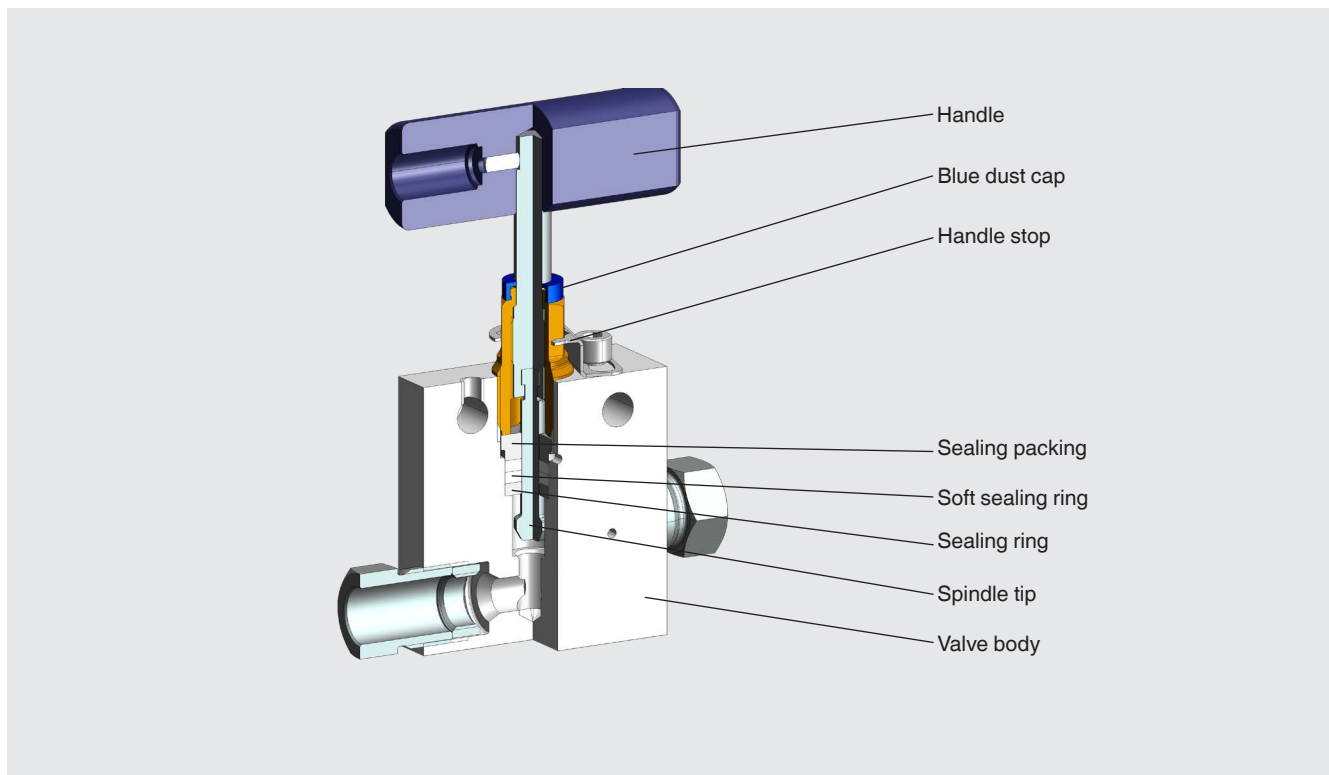
Non-wetted parts

Handle	<ul style="list-style-type: none">■ Handle from anodised aluminium (EN AW-6060-T6)■ T-bar handle from stainless steel 316L■ Without (suitable for actuators)
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1) Suitable for sour gas applications (NACE)

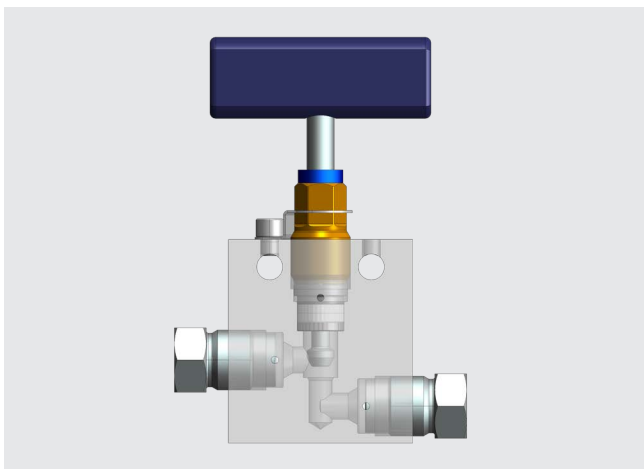
Version

Example: 2-way valve, straight bore, cone/threaded screw connection

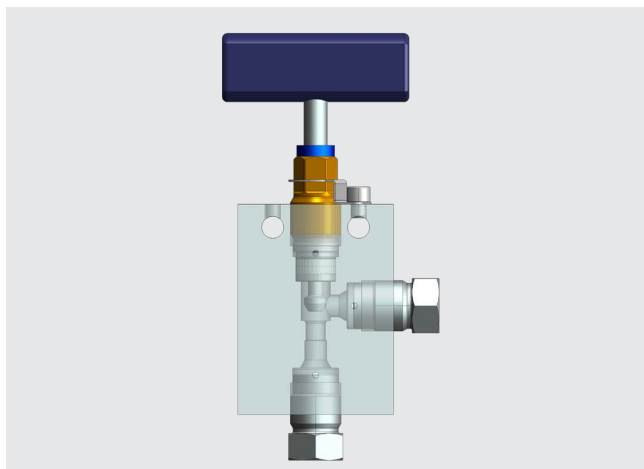


Versions

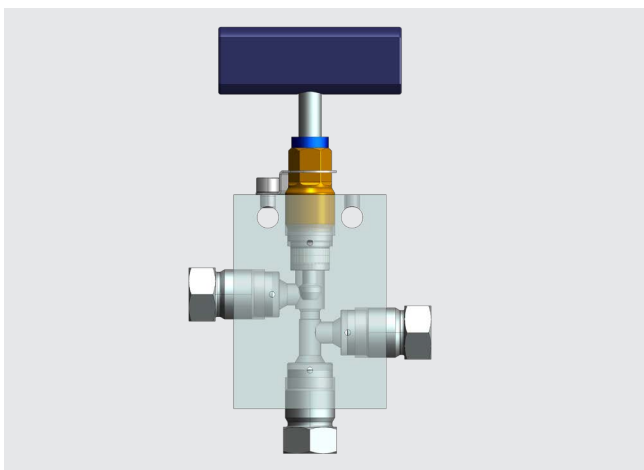
2-way valve, straight bore



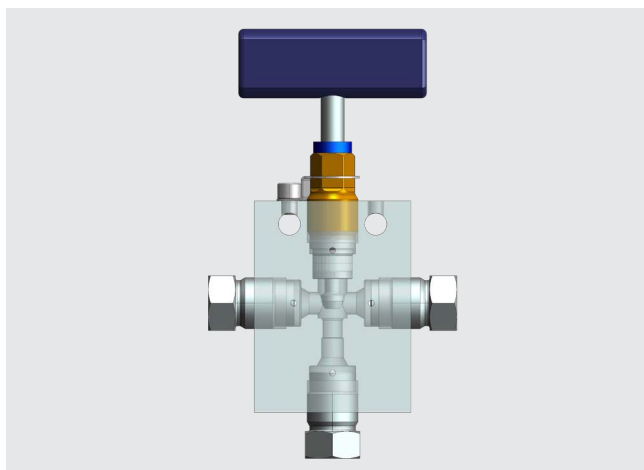
2-way valve, angled bore



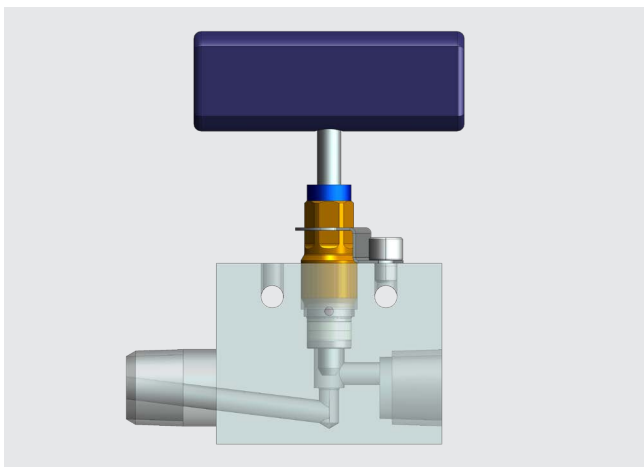
3-way valve, two pressure connections



3-way valve, one pressure connection

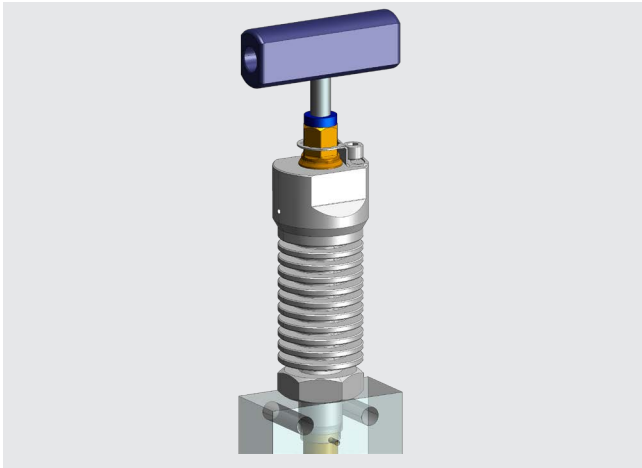


2-way valve, straight bore, male thread/female thread



Particular features

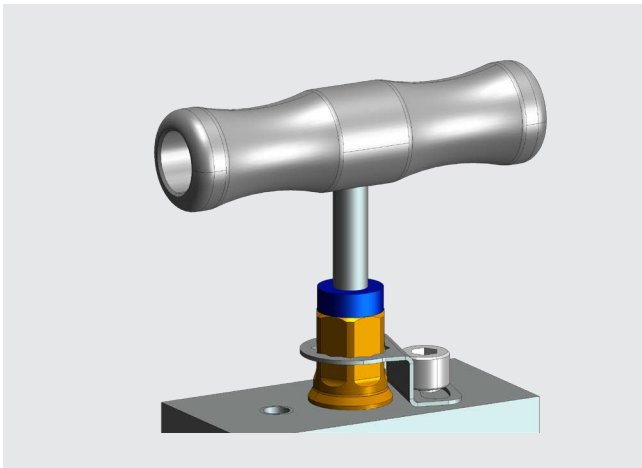
Bonnet for low-temperature applications



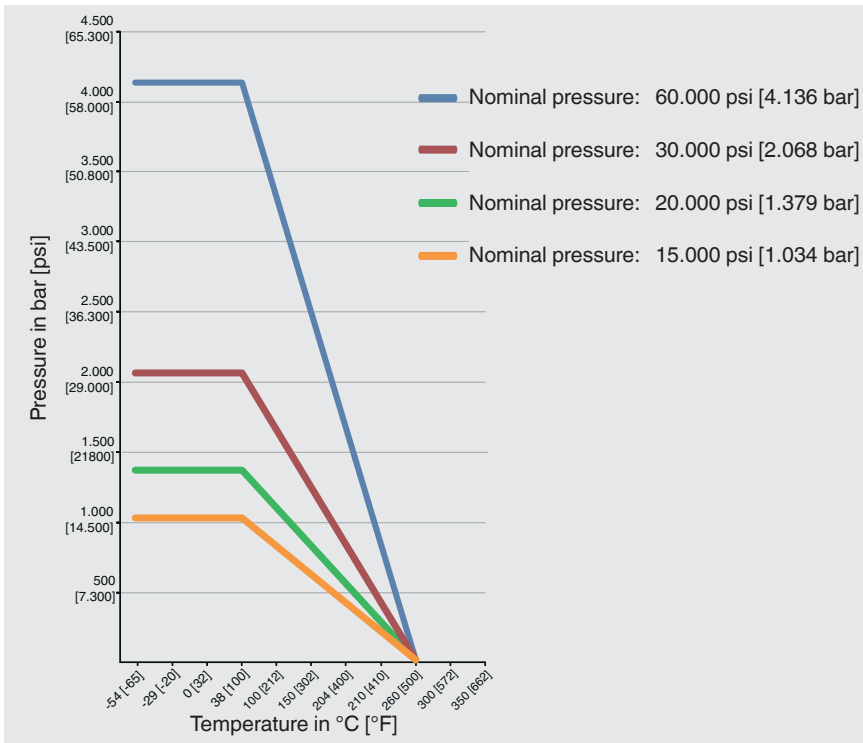
With mounted actuator



T-bar handle from stainless steel 316L



Pressure-temperature diagram

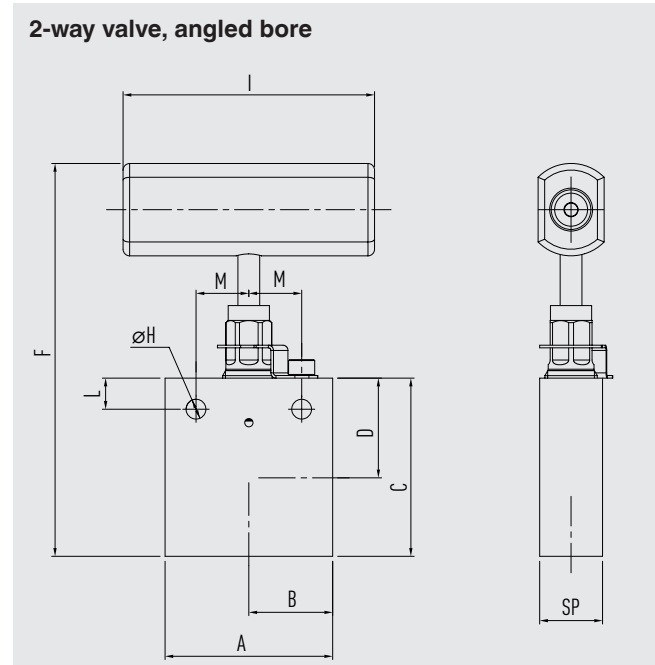
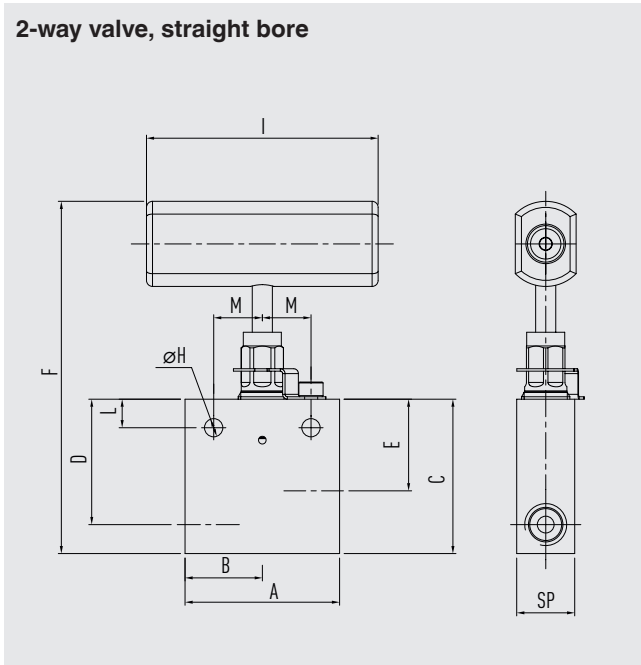


Nominal pressure	Max. permissible operating pressure in bar at temperature in °C	Max. permissible operating pressure in psi at temperature in °F
15,000 psi [1,034 bar]	1,034 bar at 38 °C	15,000 psi at 100 °F
20,000 psi [1,379 bar]	1,379 bar at 38 °C	20,000 psi at 100 °F
30,000 psi [2,068 bar]	2,068 bar at 38 °C	30,000 psi at 100 °F
60,000 psi [4,136 bar]	4,136 bar at 38 °C	60,000 psi at 100 °F

For permanently low operating temperatures of ≤ -55 °C [≤ -67 °F] a special design is required.

Dimensions in mm [in]

Threaded connection per ANSI / ASME B1.20.1, female thread/female thread
Nominal pressure: 15,000 psi [1,034 bar]



2-way valve, straight bore

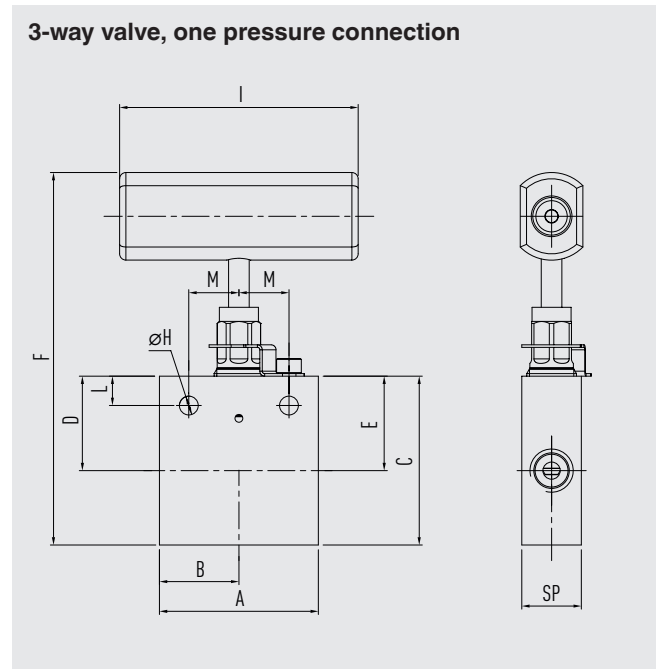
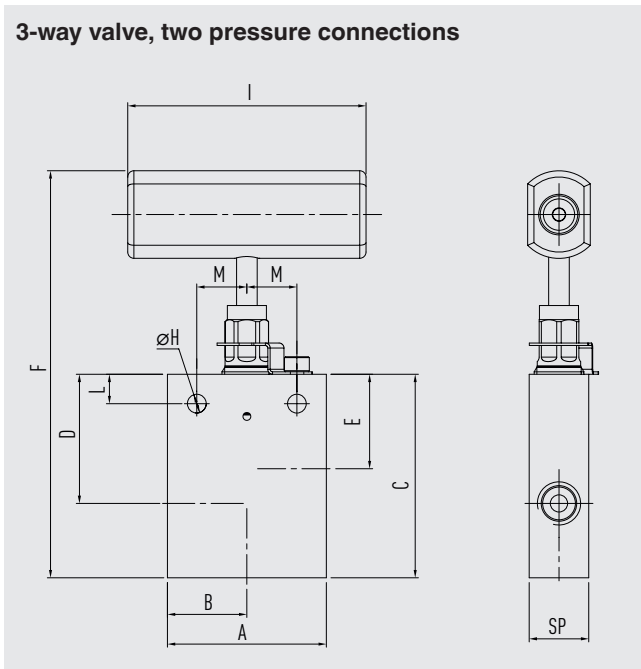
Thread	Dimensions in mm [in]											
	A	B	C	D	E	F	H	I	L	M	SP	Orifice
¼ NPT	50.8 [2.00]	25.4 [1.00]	50.8 [2.00]	41.3 [1.63]	30.2 [1.19]	115.9 [4.6]	6 [0.24]	76.2 [3]	9.4 [0.37]	16 [0.63]	19.05 [0.75]	5.5 [0.22]
⅜ NPT	50.8 [2.00]	25.4 [1.00]	53.98 [2.13]	41.3 [1.63]	30.2 [1.19]	119.1 [4.7]	6 [0.24]	76.2 [3]	9.4 [0.37]	16 [0.63]	25.4 [1.00]	5.5 [0.22]
½ NPT	63.5 [2.50]	31.75 [1.25]	70 [2.76]	54 [2.13]	38.1 [1.5]	139.7 [5.5]	9 [0.35]	76.2 [3]	9.4 [0.37]	17.5 [0.69]	31.75 [1.25]	8 [0.31]
¾ NPT ¹⁾	76.2 [3.00]	38.1 [1.50]	95.25 [3.75]	73 [2.87]	57 [2.24]	184.8 [7.3]	11.5 [0.45]	232.7 [9.2]	16 [0.63]	22.35 [0.88]	44.45 [1.75]	11.1 [0.44]
1 NPT ¹⁾	104.78 [4.13]	52.39 [2.06]	117.2 [4.61]	95 [3.74]	71.2 [2.8]	228.9 [9]	14 [0.55]	232.7 [9.2]	17.4 [0.69]	35 [1.38]	44.45 [1.75]	14.3 [0.56]

2-way valve, angled bore

Thread	Dimensions in mm [in]											
	A	B	C	D	E	F	H	I	L	M	SP	Orifice
¼ NPT	50.8 [2.00]	25.4 [1.00]	53.98 [2.13]	41.3 [1.63]	30.2 [1.19]	119.1 [4.7]	6 [0.24]	76.2 [3]	9.4 [0.37]	16 [0.63]	19.05 [0.75]	5.5 [0.22]
⅜ NPT	50.8 [2.00]	25.4 [1.00]	54.77 [2.16]	41.3 [1.63]	30.2 [1.19]	119.1 [4.7]	6 [0.24]	76.2 [3]	9.4 [0.37]	16 [0.63]	25.4 [1.00]	5.5 [0.22]
½ NPT	63.5 [2.50]	31.75 [1.25]	70 [2.76]	54 [2.13]	38.13 [1.5]	139.7 [5.5]	9 [0.35]	76.2 [3]	9.4 [0.37]	17.5 [0.69]	31.75 [1.25]	8 [0.31]
¾ NPT ¹⁾	76.2 [3.00]	38.1 [1.50]	95.25 [3.75]	73 [2.87]	57 [2.24]	184.8 [7.3]	11.5 [0.45]	232.7 [9.2]	16 [0.63]	22.35 [0.88]	44.45 [1.75]	11.1 [0.44]
1 NPT ¹⁾	104.78 [4.13]	52.39 [2.06]	117.2 [4.61]	95 [3.74]	71.2 [2.8]	228.9 [9]	14 [0.55]	232.7 [9.2]	17.4 [0.69]	35 [1.38]	44.45 [1.75]	14.3 [0.56]

¹⁾ The maximum operating pressure is limited to 10,000 psi [689] bar.

Threaded connection per ANSI / ASME B1.20.1
Nominal pressure: 15,000 psi [1,034 bar]



3-way valve, two pressure connections

Thread	Dimensions in mm [in]											
	A	B	C	D	E	F	H	I	L	M	SP	Orifice
¼ NPT	50.8 [2.00]	25.4 [1.00]	65.09 [2.56]	41.3 [1.63]	30.2 [1.19]	30.2 [1.19]	6 [0.24]	76.2 [3]	9.4 [0.37]	16 [0.63]	19.05 [0.75]	5.5 [0.22]
⅜ NPT	50.8 [2.00]	25.4 [1.00]	65.88 [2.59]	41.3 [1.63]	30.2 [1.19]	30.2 [1.19]	6 [0.24]	76.2 [3]	9.4 [0.37]	16 [0.63]	25.4 [1.00]	5.5 [0.22]
½ NPT	63.5 [2.50]	31.75 [1.25]	85.73 [3.38]	54 [2.13]	38.1 [1.5]	38.1 [1.5]	9 [0.35]	76.2 [3]	9.4 [0.37]	17.5 [0.69]	31.75 [1.25]	8 [0.31]
¾ NPT ¹⁾	76.2 [3.00]	38.1 [1.50]	111.12 [4.37]	73 [2.87]	57 [2.24]	57 [2.24]	11.5 [0.45]	232.7 [9.2]	16 [0.63]	22.35 [0.88]	44.45 [1.75]	11.1 [0.44]
1 NPT ¹⁾	104.78 [4.13]	52.39 [2.06]	141.29 [5.56]	95 [3.74]	71.2 [2.8]	71.2 [2.8]	14 [0.55]	232.7 [9.2]	17.4 [0.69]	35 [1.38]	44.45 [1.75]	14.3 [0.56]

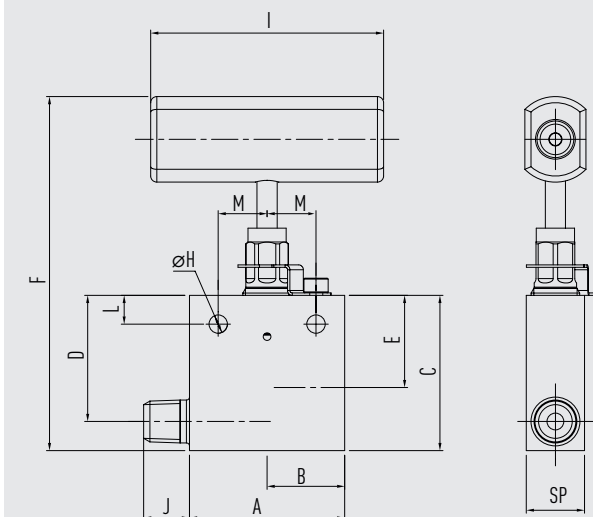
3-way valve, one pressure connection

Thread	Dimensions in mm [in]											
	A	B	C	D	F	H	I	L	M	SP	Orifice	
¼ NPT	50.8 [2.00]	25.4 [1.00]	53.98 [2.13]	30.2 [1.19]	119.1 [4.7]	6 [0.24]	76.2 [3]	9.4 [0.37]	16 [0.63]	19.05 [0.75]	5.5 [0.22]	
⅜ NPT	50.8 [2.00]	25.4 [1.00]	54.77 [2.16]	30.2 [1.19]	119.1 [4.7]	6 [0.24]	76.2 [3]	9.4 [0.37]	16 [0.63]	25.4 [1.00]	5.5 [0.22]	
½ NPT	63.5 [2.50]	31.75 [1.25]	70 [2.76]	38.13 [1.5]	139.7 [5.5]	9 [0.35]	76.2 [3]	9.4 [0.37]	17.5 [0.69]	31.75 [1.25]	8 [0.31]	
¾ NPT ¹⁾	76.2 [3.00]	38.1 [1.50]	95.25 [3.75]	57 [2.24]	184.8 [7.3]	11.5 [0.45]	232.7 [9.2]	16 [0.63]	22.35 [0.88]	44.45 [1.75]	11.1 [0.44]	
1 NPT ¹⁾	104.78 [4.13]	52.39 [2.06]	117.2 [4.61]	71.2 [2.8]	228.9 [9]	14 [0.55]	232.7 [9.2]	17.4 [0.69]	35 [1.38]	44.45 [1.75]	14.3 [0.56]	

¹⁾ The maximum operating pressure is limited to 10,000 psi [689] bar.

Threaded connection per ANSI / ASME B1.20.1, male thread/female thread
Nominal pressure: 15,000 psi [1,034 bar]

2-way valve, straight bore, male thread/female thread

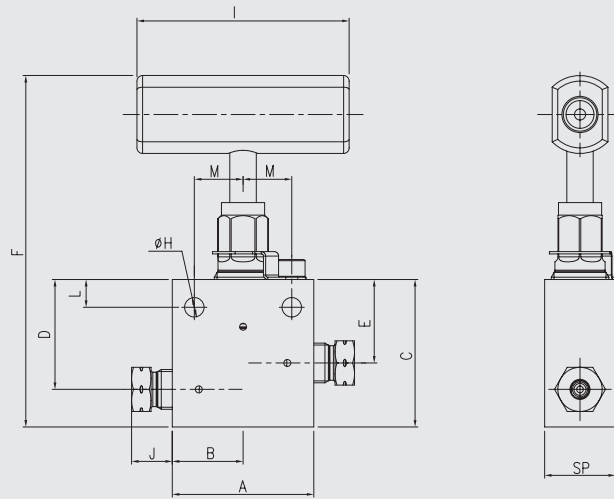


Thread	Dimensions in mm [in]												
	A	B	C	D	E	F	H	I	J	L	M	SP	Orifice
¼ NPT	50.8 [2.00]	25.4 [1.00]	50.8 [2]	41.3 [1.63]	30.2 [1.19]	115.9 [4.6]	6 [0.24]	76.2 [3]	15 [0.6]	9.4 [0.37]	16 [0.63]	19.05 [0.75]	5.5 [0.22]
⅜ NPT	50.8 [2.00]	25.4 [1.00]	53.98 [2.13]	41.3 [1.63]	30.2 [1.19]	119.1 [4.7]	6 [0.24]	76.2 [3]	19 [0.7]	9.4 [0.37]	16 [0.63]	25.4 [1.00]	5.5 [0.22]
½ NPT	63.5 [2.50]	31.75 [1.25]	69.85 [2.75]	57 [2.24]	38.1 [1.5]	139.5 [5.5]	9 [0.35]	76.2 [3]	25 [1]	9.4 [0.37]	17.5 [0.69]	31.75 [1.25]	8 [0.31]
¾ NPT ¹⁾	76.2 [3.00]	38.1 [1.50]	95.25 [3.75]	76 [2.99]	57 [2.24]	184.8 [7.3]	11.5 [0.45]	232.7 [9.2]	25 [1]	16 [0.63]	22.35 [0.88]	44.45 [1.75]	11.1 [0.44]
1 NPT ¹⁾	104.78 [4.13]	52.39 [2.06]	117.48 [4.63]	95 [3.74]	71.2 [2.8]	229.1 [9]	14 [0.55]	232.7 [9.2]	29 [1.1]	17.4 [0.69]	35 [1.38]	44.45 [1.75]	14.3 [0.56]

1) The maximum operating pressure is limited to 10,000 psi [689] bar.

Cone/threaded fitting

2-way valve, straight bore



Nominal pressure: 20,000 psi [1,379 bar]

For outer Ø	Dimensions in mm [in]												
	A	B	C	D	E	F	H	I	J	L	M	SP	Orifice
¼"	50.8 [2.00]	25.4 [1.00]	50.8 [2.00]	41.3 [1.63]	30.2 [1.19]	115.9 [4.6]	6 [0.24]	76.2 [3]	12.2 [0.5]	9.4 [0.37]	16 [0.63]	19.05 [0.75]	5.5 [0.22]
⅜"	50.8 [2.00]	25.4 [1.00]	53.98 [2.13]	41.3 [1.63]	30.2 [1.19]	115.9 [4.6]	6 [0.24]	76.2 [3]	14.3 [0.6]	9.4 [0.37]	16 [0.63]	19.05 [0.75]	5.5 [0.22]
½"	63.5 [2.50]	31.75 [1.25]	70 [2.76]	57.3 [2.26]	41.4 [1.63]	139.7 [5.5]	9 [0.35]	76.2 [3]	18.6 [0.7]	9.4 [0.37]	17.5 [0.69]	25.4 [1]	8 [0.31]
¾"	76.2 [3.00]	38.1 [1.50]	95.25 [3.75]	76.2 [3]	57.2 [2.25]	184.8 [7.3]	11.5 [0.45]	232.7 [9.2]	18.8 [0.7]	16 [0.63]	22.35 [0.88]	34.90 [1.37]	11.1 [0.44]
1"	104.78 [4.13]	52.39 [2.06]	117.2 [2.8]	95 [3.74]	71.2 [2.8]	228.9 [9]	14 [0.55]	232.7 [9.2]	21.3 [0.8]	17.4 [0.69]	35 [1.38]	44.45 [1.75]	14.3 [0.56]

Nominal pressure: 30,000 psi [2,068 bar]

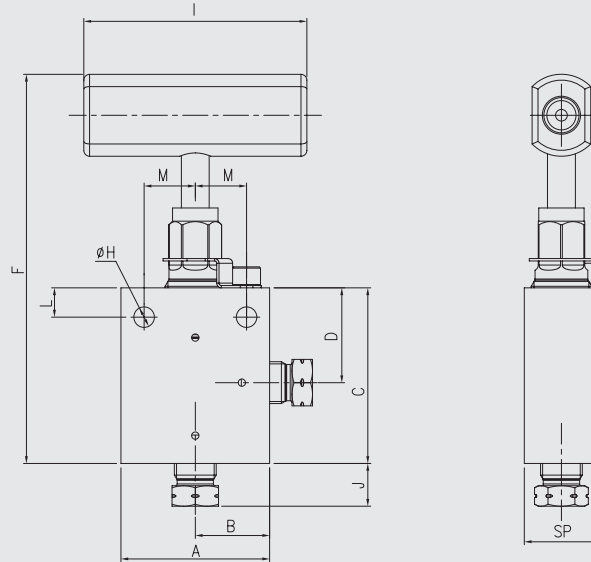
For outer Ø	Dimensions in mm [in]												
	A	B	C	D	E	F	H	I	J	L	M	SP	Orifice
¼"	50.8 [2.00]	25.4 [1.00]	53 [2.09]	39.5 [1.56]	30 [1.18]	126.3 [5.0]	7 [0.28]	76.2 [3]	14.6 [0.6]	10 [0.39]	17.5 [0.69]	25.4 [1]	3.2 [0.13]
⅜"	50.8 [2.00]	25.4 [1.00]	53 [2.09]	39.5 [1.56]	30 [1.18]	126.3 [5.0]	7 [0.28]	76.2 [3]	18.7 [0.7]	10 [0.39]	17.5 [0.69]	25.4 [1]	3.2 [0.13]
½"	66.68 [2.63]	33.34 [1.31]	60 [2.36]	40 [1.57]	29 [1.14]	133.3 [5.2]	7 [0.28]	76.2 [3]	26.9 [1.1]	10 [0.39]	17.5 [0.69]	38.1 [1.5]	3.2 [0.13]

Nominal pressure: 60,000 psi [4,136 bar]

For outer Ø	Dimensions in mm [in]												
	A	B	C	D	E	F	H	I	J	L	M	SP	Orifice
¼"	50.8 [2.00]	25.4 [1.00]	53 [2.09]	42 [1.65]	32.4 [1.28]	126 [5.0]	7 [0.28]	76.2 [3]	14.6 [0.6]	10 [0.39]	17.5 [0.69]	25.4 [1]	2 [0.06]
⅜"	50.8 [2.00]	25.4 [1.00]	57 [2.24]	42.9 [1.69]	33.3 [1.31]	130 [5.1]	7 [0.28]	76.2 [3]	18.7 [0.7]	10 [0.39]	17.5 [0.69]	25.4 [1]	2 [0.06]
½"	66.68 [2.63]	33.34 [1.31]	63.5 [2.50]	45.5 [1.79]	33.3 [1.31]	136.5 [5.4]	7 [0.28]	76.2 [3]	26.9 [1.1]	10 [0.39]	17.5 [0.69]	38.1 [1.5]	2 [0.06]

Cone/threaded fitting

2-way valve, angled bore



Nominal pressure: 20,000 psi [1,379 bar]

For outer \emptyset	Dimensions in mm [in]											
	A	B	C	D	F	H	I	J	L	M	SP	Orifice
1/4"	50.8 [2.00]	25.4 [1.00]	61.9 [2.44]	30.2 [1.19]	127 [5]	6 [0.24]	76.2 [3]	12.2 [0.5]	9.4 [0.37]	16 [0.63]	19.05 [0.75]	5.5 [0.22]
3/8"	50.8 [2.00]	25.4 [1.00]	61.9 [2.44]	30.2 [1.19]	127 [5]	6 [0.24]	76.2 [3]	14.3 [0.6]	9.4 [0.37]	16 [0.63]	19.05 [0.75]	5.5 [0.22]
1/2"	63.5 [2.50]	31.75 [1.25]	85.73 [3.38]	41.43 [1.63]	155.4 [6.1]	9 [0.35]	76.2 [3]	18.6 [0.7]	9.4 [0.37]	17.5 [0.69]	25.4 [1]	8 [0.31]
3/4"	76.2 [3.00]	38.1 [1.50]	107.95 [4.25]	57.15 [2.25]	197.5 [7.8]	11.5 [0.45]	232.7 [9.2]	18.8 [0.7]	16 [0.63]	22.35 [0.88]	34.90 [1.37]	11.1 [0.44]
1"	104.78 [4.13]	52.39 [2.06]	130.18 [5.13]	71.19 [2.80]	241.8 [9.5]	14 [0.55]	232.7 [9.2]	21.3 [0.8]	17.4 [0.69]	35 [1.38]	44.45 [1.75]	14.3 [0.56]

Nominal pressure: 30,000 psi [2,068 bar]

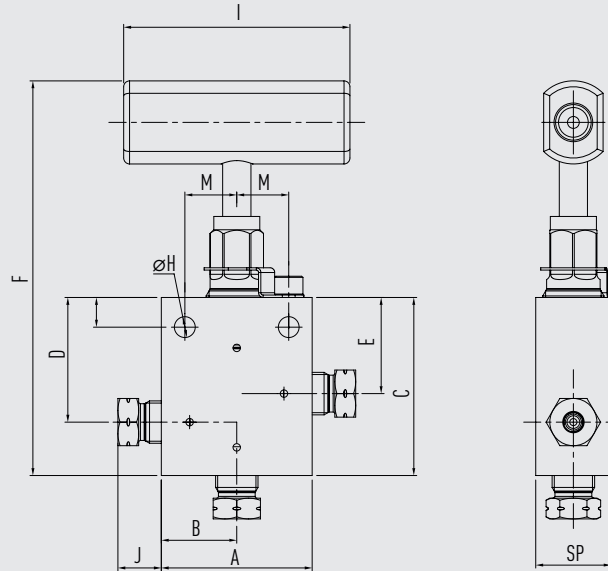
For outer \emptyset	Dimensions in mm [in]											
	A	B	C	D	F	H	I	J	L	M	SP	Orifice
1/4"	50.8 [2.00]	25.4 [1.00]	53 [2.09]	30 [1.18]	126.3 [5.0]	7 [0.28]	76.2 [3]	14.6 [0.6]	10 [0.39]	17.5 [0.69]	25.4 [1]	3.2 [0.13]
3/8"	50.8 [2.00]	25.4 [1.00]	57 [2.24]	30 [1.18]	130.3 [5.1]	7 [0.28]	76.2 [3]	18.7 [0.7]	10 [0.39]	17.5 [0.69]	25.4 [1]	3.2 [0.13]
1/2"	66.68 [2.63]	33.34 [1.31]	62 [2.44]	29 [1.14]	135.3 [5.3]	7 [0.28]	76.2 [3]	26.9 [1.1]	10 [0.39]	17.5 [0.69]	38.1 [1.5]	3.2 [0.13]

Nominal pressure: 60,000 psi [4,136 bar]

For outer \emptyset	Dimensions in mm [in]											
	A	B	C	D	F	H	I	J	L	M	SP	Orifice
1/4"	50.8 [2.00]	25.4 [1.00]	60 [2.36]	32.4 [1.28]	133 [5.2]	7 [0.28]	76.2 [3]	14.6 [0.6]	10 [0.39]	17.5 [0.69]	25.4 [1]	2 [0.06]
3/8"	50.8 [2.00]	25.4 [1.00]	66 [2.6]	33.3 [1.31]	139 [5.5]	7 [0.28]	76.2 [3]	18.7 [0.7]	10 [0.39]	17.5 [0.69]	25.4 [1]	2 [0.06]
1/2"	66.68 [2.63]	33.34 [1.31]	71 [2.8]	33.3 [1.31]	144 [5.7]	7 [0.28]	76.2 [3]	26.9 [1.1]	10 [0.39]	17.5 [0.69]	38.1 [1.5]	2 [0.06]

Cone/threaded fitting

3-way valve, two pressure connections



Nominal pressure: 20,000 psi [1,379 bar]

DN	Dimensions in mm [in]											
	A	B	C	D	F	H	I	J	L	M	SP	Orifice
¼"	50.8 [2.00]	25.4 [1.00]	61.9 [2.44]	41.43 [1.63]	127 [5]	6 [0.24]	76.2 [3]	12.2 [0.5]	9.4 [0.37]	16 [0.63]	19.05 [0.75]	5.5 [0.22]
⅜"	50.8 [2.00]	25.4 [1.00]	61.9 [2.44]	41.43 [1.63]	131.8 [5.2]	6 [0.24]	76.2 [3]	14.3 [0.6]	9.4 [0.37]	16 [0.63]	19.05 [0.75]	5.5 [0.22]
½"	63.5 [2.50]	31.75 [1.25]	85.73 [3.38]	57.3 [2.26]	158.6 [6.2]	9 [0.35]	76.2 [3]	18.6 [0.7]	9.4 [0.37]	17.5 [0.69]	25.4 [1]	8 [0.31]
¾"	76.2 [3.00]	38.1 [1.50]	107.95 [4.25]	76.2 [3]	207 [8.1]	11.5 [0.45]	232.7 [9.2]	18.8 [0.7]	16 [0.63]	22.35 [0.88]	34.90 [1.37]	11.1 [0.44]
1"	104.78 [4.13]	52.39 [2.06]	130.18 [5.13]	71.2 [2.8]	264.1 [10.4]	14 [0.55]	232.7 [9.2]	21.3 [0.8]	17.4 [0.69]	35 [1.38]	44.45 [1.75]	14.3 [0.56]

Nominal pressure: 30,000 psi [2,068 bar]

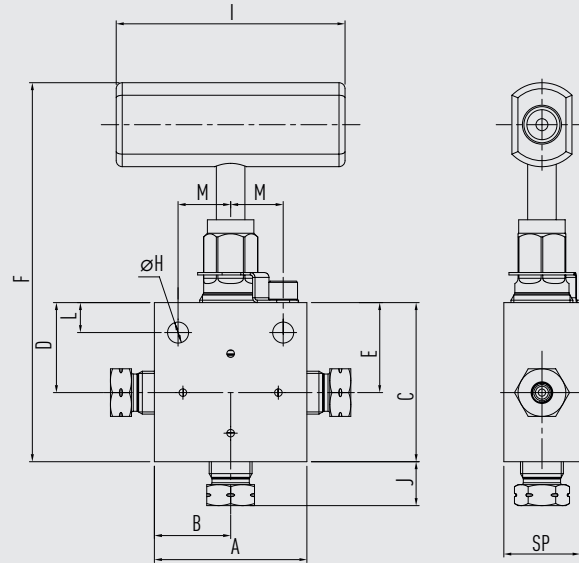
DN	Dimensions in mm [in]											
	A	B	C	D	F	H	I	J	L	M	SP	Orifice
¼"	50.8 [2.00]	25.4 [1.00]	57.5 [2.26]	39.5 [1.56]	130.8 [5.1]	7 [0.28]	76.2 [3]	14.6 [0.6]	10 [0.39]	17.5 [0.69]	25.4 [1]	3.2 [0.13]
⅜"	50.8 [2.00]	25.4 [1.00]	69.6 [2.74]	39.5 [1.56]	142.9 [5.6]	7 [0.28]	76.2 [3]	18.7 [0.7]	10 [0.39]	17.5 [0.69]	25.4 [1]	3.2 [0.13]
½"	66.68 [2.63]	33.34 [1.31]	77.5 [3.05]	40 [1.57]	150.8 [5.9]	7 [0.28]	76.2 [3]	26.9 [1.1]	10 [0.39]	17.5 [0.69]	38.1 [1.5]	3.2 [0.13]

Nominal pressure: 60,000 psi [4,136 bar]

DN	Dimensions in mm [in]											
	A	B	C	D	F	H	I	J	L	M	SP	Orifice
¼"	50.8 [2.00]	25.4 [1.00]	60 [2.36]	42 [1.65]	133 [5.2]	7 [0.28]	76.2 [3]	14.6 [0.6]	10 [0.39]	17.5 [0.69]	25.4 [1]	2 [0.06]
⅜"	50.8 [2.00]	25.4 [1.00]	73 [2.87]	42.9 [1.69]	146 [5.7]	7 [0.28]	76.2 [3]	18.7 [0.7]	10 [0.39]	17.5 [0.69]	25.4 [1]	2 [0.06]
½"	66.68 [2.63]	33.34 [1.31]	83 [3.27]	45.5 [1.79]	156 [6.1]	7 [0.28]	76.2 [3]	26.9 [1.1]	10 [0.39]	17.5 [0.69]	38.1 [1.5]	2 [0.06]

Cone/threaded fitting

3-way valve, one pressure connection



Nominal pressure: 20,000 psi [1,379 bar]

For outer Ø	Dimensions in mm [in]												
	A	B	C	D	E	F	H	I	J	L	M	SP	Orifice
¼"	50.8 [2.00]	25.4 [1.00]	61.9 [2.44]	41.3 [1.63]	30.2 [1.19]	127 [5]	6 [0.24]	76.2 [3]	12.2 [0.5]	9.4 [0.37]	16 [0.63]	19.05 [0.75]	5.5 [0.22]
⅜"	50.8 [2.00]	25.4 [1.00]	61.9 [2.44]	41.3 [1.63]	30.2 [1.19]	127 [5]	6 [0.24]	76.2 [3]	14.3 [0.6]	9.4 [0.37]	16 [0.63]	19.05 [0.75]	5.5 [0.22]
½"	63.5 [2.50]	31.75 [1.25]	85.73 [3.38]	57.3 [2.26]	41.4 [1.63]	155.4 [6]	9 [0.35]	76.2 [3]	18.6 [0.7]	9.4 [0.37]	17.5 [0.69]	25.4 [1]	8 [0.31]
¾"	76.2 [3.00]	38.1 [1.50]	107.95 [4.25]	76.2 [3]	57.2 [2.25]	197.5 [7.8]	11.5 [0.45]	232.7 [9.2]	18.8 [0.7]	16 [0.63]	22.35 [0.88]	34.90 [1.37]	11.1 [0.44]
1"	104.78 [4.13]	52.39 [2.06]	130.18 [5.13]	95 [3.74]	71.2 [2.8]	241.8 [9.5]	14 [0.55]	232.7 [9.2]	21.3 [0.8]	17.4 [0.69]	35 [1.38]	44.45 [1.75]	14.3 [0.56]

Nominal pressure: 30,000 psi [2,068 bar]

For outer Ø	Dimensions in mm [in]												
	A	B	C	D	E	F	H	I	J	L	M	SP	Orifice
¼"	50.8 [2.00]	25.4 [1.00]	53 [2.09]	39.5 [1.56]	30 [1.18]	126.3 [5.0]	7 [0.28]	76.2 [3]	14.6 [0.6]	10 [0.39]	17.5 [0.69]	25.4 [1]	3.2 [0.13]
⅜"	50.8 [2.00]	25.4 [1.00]	57 [2.24]	39.5 [1.56]	30 [1.18]	130.3 [5.1]	7 [0.28]	76.2 [3]	18.7 [0.7]	10 [0.39]	17.5 [0.69]	25.4 [1]	3.2 [0.13]
½"	66.68 [2.63]	33.34 [1.31]	62 [2.44]	40 [1.57]	29 [1.14]	135.3 [5.3]	7 [0.28]	76.2 [3]	26.9 [1.1]	10 [0.39]	17.5 [0.69]	38.1 [1.5]	3.2 [0.13]

Manufacturer's information and certificates

Logo	Description
-	PMI ¹⁾ test certificate (option) All wetted parts

1) Positive material identification

Certificates

- 3.1 inspection certificate per EN 10204 (option)
 - Material certificate for all wetted parts per NACE MR0103/MR0175
 - Confirmation of pressure tests per API 598 ²⁾

2) Shell test: 15 s test duration with 1.5 times the permissible working air pressure

Ordering information

Model / Nominal pressure / Connection type / Nominal width / Valve bore size / Diagram / Bonnet design/ Special design feature / Valve body / Sealing / Handle / Options

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