

Products/ Services

- Low Pressure Valves, fittings & Tubing
- Medium Pressure Valves, fittings & Tubing
- High Pressure Valves, fittings & Tubing
- Air Operated Valves
- Ball Valves & Air Operated Type
- Relief Valves
- Block & Bleed Valves
- Specialty Valves & Other Products
- Accessories

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Complete High Pressure Products

- Up to 150,000psi (10,345bar) • Valves, Adaptors, Block and Bleed, Manifolds and Tubings
- High Tensile SS316 C1 High Quality Engineering and Machining
- Other Exotic Material Available • Suitable for use in all industries

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General Information

At High Pressure Technology Group, we understand the need of our customer that require equipment to perform at the highest levels of safety, costs, and reliability. With over 50 years of cumulative experience, our team at High Pressure Technology Group has produce high quality products and provide professional technical advice in defining final product specification and solving diverse technical problem for the customers.

Warranty

HTG warrants the products manufactured to be free from defects in material and workmanship. This warranty is for a period of 1 year after date of shipment. Warranty is limited to the repair or replacement of any item manufactured by HTG. HTG shall not be liable for any direct or indirect consequential damage arising from a failure or malfunction of the equipment.

Valve Design



- Valve bodies through 100,000 psi are cold work high tensile 316 stainless steel.
- Valve with NPT thread connection has maximum working pressure of up to 15,000 psi.
- Solid stainless steel or aluminium handle.
- Stainless steel captive fixing screw and spring for easier handle removal.

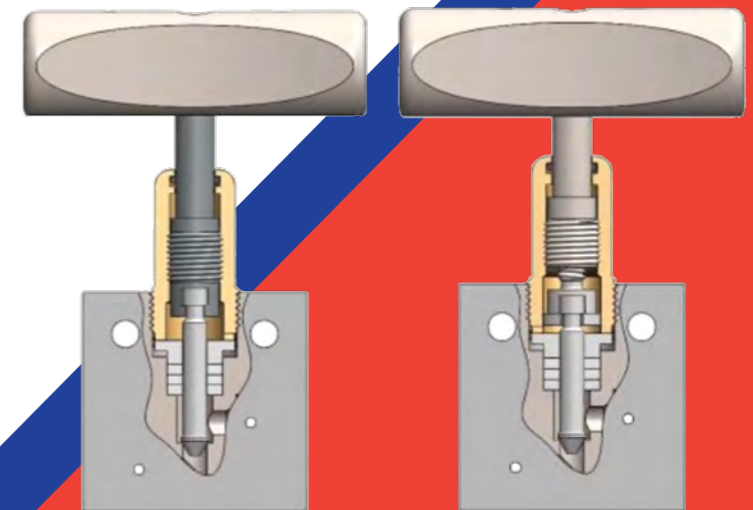
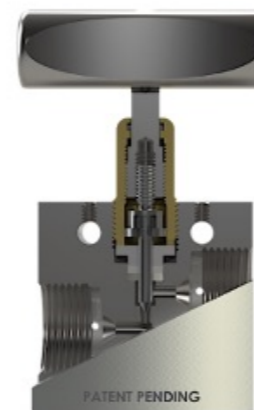
- Two-piece, heavy duty, non-rotating stem for a robust and reliable assembly.
- 4-sided tapered stem for maximum handle contact. No chance of the handle slipped or loosening on stem.
- Packing gland/body consists of a preload locking internal thread form that is resistant to vibration.

Quick Open Needle Valve

Quick Open Needle Valve

Same features as the standard needle valve with the exception of:

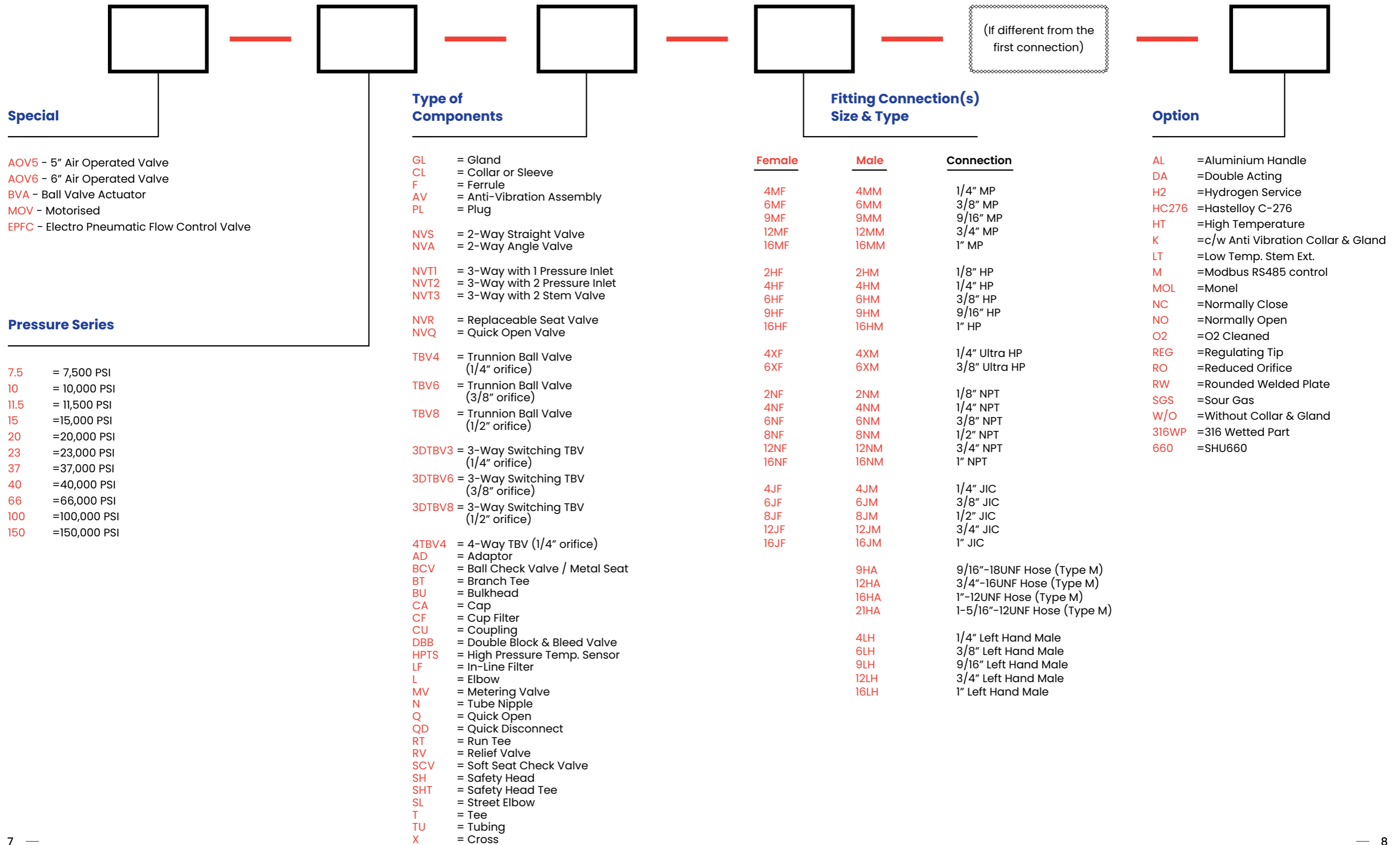
- Valve is fully open or closed in as little as 1.75 turns. A high pressure valve industry first!
- Stem is lifted off the seat >2X faster than conventional valves, which increases seat life
- Valve is closed 2x faster for quicker isolation.
- Less than half the number of turns to fully open compared to competitor's valves. Less operator fatigue when opening/closing
- Three-piece, heavy-duty, non-rotating stem
- Patent pending



Standard Valve
Medium Pressure, 9/16
Full travel in 4.5 turns

Quick Open Valve
Medium Pressure, 9/16
Full travel in 2.25 turns

Catalogue Numbering System





Low Pressure Valves & Fittings

LP Series "Speed Bite" Needle Valves and Fittings (Up to 11,500 PSI / 793 BAR)

Specifications

Pressure rating	: Up to 11,500 psi
Temp. Rating	: -100°F to 600°F
Body Material	: SS316 cold worked
Stem	: 15-5 PH
Packing	: Glass filled Teflon

Typical Applications

- Hydraulic applications
- Pneumatic applications
- General plant service
- Isolating or venting

Optional

- Grafoil Packing for temperature up to 800°F
- Extended Stuffing Box for temperature up to 1200°F
- Air Actuator for remote control operation is available
- Can be manufactured to meet NACE MR0175 standard
- Quick Open Needle Valve
 - o Fully open in 1-3/4 turn
 - o Reduces throttling and therefore increase seat life

Our valves are complemented by a complete line of low pressure fittings, tubing, check valves, relief valves, and line filters.



Features & Benefits

The Low Pressure (11,500 psi maximum), otherwise known as "SpeedBite" Needle Valves are designed for applications between traditional compression fittings and the Medium Pressure Cone and Thread products that are designed for high flow and high pressure. SpeedBite Valves are engineered for use with annealed ASTM A269 316 (and similar) Stainless Steel tubing. When correctly installed, connection strength far exceeds the burst pressure of the tubing utilized.

- Two pieces heavy duty non-rotating stem for a reliable assembly.
- Bi-directional flow capability.
- Panel mounting option available.
- 4-sided tapered stem for maximum handle contact.
- Complete material traceability.

Low Pressure Valves & Fittings

LP Series "Speed Bite" Check Valves and Fittings (Up to 11,500 PSI / 793 BAR)

Specifications

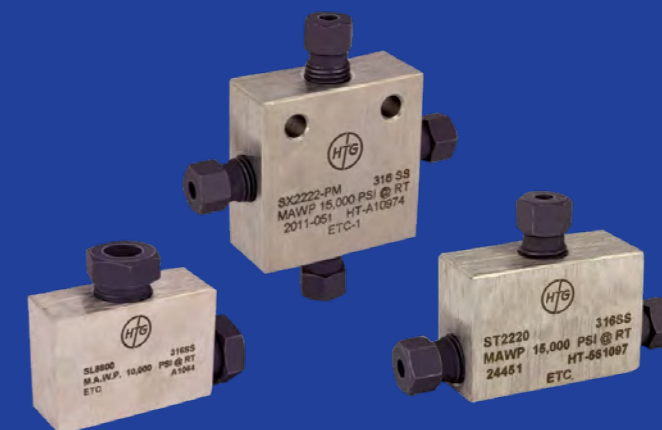
Pressure rating	: Up to 11,500 psi
Ball Seat Poppet	: -420°F to 1200°F
Soft Seat Poppet	: -65°F to 250°F
Body Material	: SS316 cold worked
Cracking Press.	: 15 PSI

Typical Applications

- Hydraulic applications
- Pneumatic applications
- General plant service

Features & Benefits

- Prevents reverse flow where leak-tight shutoff is required.
- Ball Seat Poppet offers metal to metal seat for rapid cycling or severe environments.
- Soft Seat Poppet offers O-ring seat for fast shutoff and reliable seal.
- Nitrile is standard material of Soft Seat Poppet Check Valve.
- Complete material traceability.



Low Pressure Connection Fittings (Up to 11,500 PSI / 793 BAR)

Specifications

Pressure rating	: Up to 11,500 psi
Body Material	: SS316 cold worked

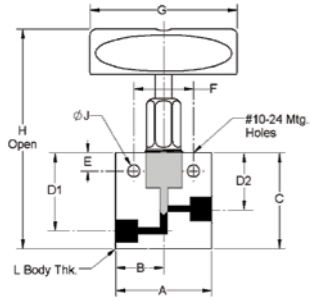
Features & Benefits

- A complete range of elbows, tees, crosses and adaptors are available for all of the tubing connection sizes.
- Can be manufactured to meet NACE MR0175 standard.
- Other materials available on request.



Low Pressure Valves (Up to 11,500 PSI / 793 BAR)

LP 2-Way Straight Valves

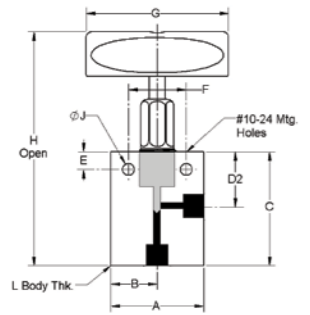


Pressure (PSI)	Connection Type	End Connection Size in.	Part Number	Orifice in. (mm)
11,500	L/P Single Ferrule	1/4" LP.F	11.5NVS4LF	0.188 (4.78)
7,500		3/8" LP.F	7.5NVS6LF	0.219 (5.56)

Dimensions, in. (mm)

A	B	C	D1	D2	E	F	G	H	J	L
2.00 (50.8)	1.00 (25.4)	2.00 (50.8)	1.63 (41.3)	1.19 (30.2)	0.38 (9.7)	1.24 (31.5)	3.06 (77.7)	4.80 (121.9)	0.25 (6.4)	1.00 (25.4)
2.00 (50.8)	1.00 (25.4)	2.00 (50.8)	1.63 (41.3)	1.19 (30.2)	0.38 (9.7)	1.24 (31.5)	3.06 (77.7)	4.80 (121.9)	0.25 (6.4)	1.00 (25.4)

LP 2-Way Angle Valves

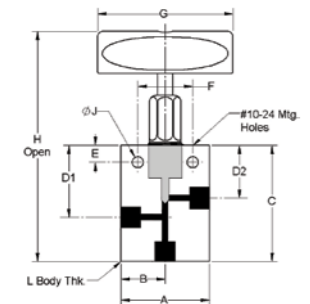


Pressure (PSI)	Connection Type	End Connection Size in.	Part Number	Orifice in. (mm)
11,500	L/P Single Ferrule	1/4" LP.F	11.5NVA4LF	0.188 (4.78)
7,500		3/8" LP.F	7.5NVA6LF	0.219 (5.56)

Dimensions, in. (mm)

A	B	C	D1	D2	E	F	G	H	J	L
2.00 (50.8)	1.00 (25.4)	2.44 (61.98)	-	1.19 (30.2)	0.38 (9.7)	1.24 (31.5)	3.06 (77.7)	5.235 (132.9)	0.25 (6.4)	1.00 (25.4)
2.00 (50.8)	1.00 (25.4)	2.44 (61.98)	-	1.19 (30.2)	0.38 (9.7)	1.24 (31.5)	3.06 (77.7)	4.80 (121.9)	0.25 (6.4)	1.00 (25.4)

LP 3-Way Valves with 2 Inlets



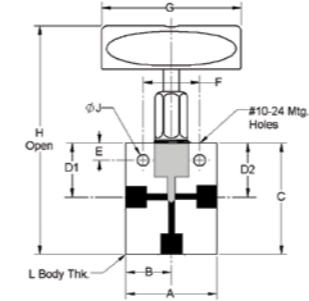
Pressure (PSI)	Connection Type	End Connection Size in.	Part Number	Orifice in. (mm)
11,500	L/P Single Ferrule	1/4" LP.F	11.5NVT2-4LF	0.188 (4.78)
7,500		3/8" LP.F	7.5NVT2-6LF	0.219 (5.56)

Dimensions, in. (mm)

A	B	C	D1	D2	E	F	G	H	J	L
2.00 (50.8)	1.00 (25.4)	2.62 (66.5)	1.63 (41.3)	1.19 (30.2)	0.38 (9.7)	1.24 (31.5)	3.06 (77.7)	5.37 (136.4)	0.25 (6.4)	1.00 (25.4)
2.00 (50.8)	1.00 (25.4)	2.62 (66.5)	1.63 (41.3)	1.19 (30.2)	0.38 (9.7)	1.24 (31.5)	3.06 (77.7)	5.37 (136.4)	0.25 (6.4)	1.00 (25.4)

Low Pressure Valves (Up to 11,500 PSI / 793 BAR)

LP 3-Way Valves with 1 Inlet

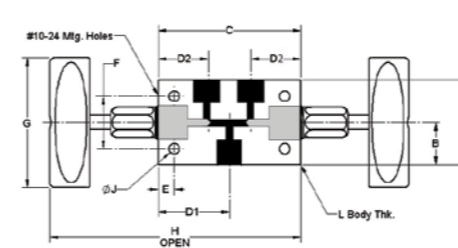


Pressure (PSI)	Connection Type	End Connection Size in.	Part Number	Orifice in. (mm)
11,500	L/P Single Ferrule	1/4" LP.F	11.5NVT1-4LF	0.188 (4.78)
7,500		3/8" LP.F	7.5NVT1-6LF	0.219 (5.56)

Dimensions, in. (mm)

A	B	C	D1	D2	E	F	G	H	J	L
2.00 (50.8)	1.00 (25.4)	2.44 (62.0)	1.19 (30.2)	1.19 (30.2)	0.38 (9.7)	1.24 (31.5)	3.06 (77.7)	5.19 (131.8)	0.25 (6.4)	1.00 (25.4)
2.00 (50.8)	1.00 (25.4)	2.44 (62.0)	1.19 (30.2)	1.19 (30.2)	0.38 (9.7)	1.24 (31.5)	3.06 (77.7)	5.19 (131.8)	0.25 (6.4)	1.00 (25.4)

LP 3-Way, 2 Stem Valves

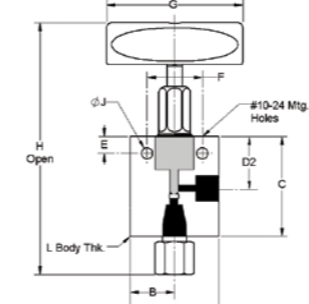


Pressure (PSI)	Connection Type	End Connection Size in.	Part Number	Orifice in. (mm)
11,500	L/P Single Ferrule	1/4" LP.F	11.5NVT3-4LF	0.188 (4.78)
7,500		3/8" LP.F	7.5NVT3-6LF	0.219 (5.56)

Dimensions, in. (mm)

A	B	C	D1	D2	E	F	G	H	J	L
2.00 (50.8)	1.00 (25.4)	3.38 (85.9)	1.68 (42.7)	1.19 (30.2)	0.38 (9.7)	1.24 (31.5)	3.06 (77.7)	8.88 (225.5)	0.25 (6.4)	1.00 (25.4)
2.00 (50.8)	1.00 (25.4)	3.38 (85.9)	1.68 (42.7)	1.19 (30.2)	0.38 (9.7)	1.24 (31.5)	3.06 (77.7)	8.88 (225.5)	0.25 (6.4)	1.00 (25.4)

LP Replaceable Seat Valves



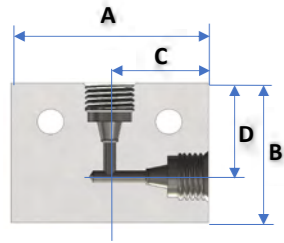
Pressure (PSI)	Connection Type	End Connection Size in.	Part Number	Orifice in. (mm)
11,500	L/P Single Ferrule	1/4" LP.F	11.5NVR4LF	0.188 (4.78)
7,500		3/8" LP.F	7.5NVR6LF	0.219 (5.56)

Dimensions, in. (mm)

A	B	C	D1	D2	E	F	G	H	J	L
2.00 (50.8)	1.00 (25.4)	2.25 (57.2)	-	1.19 (30.2)	0.38 (9.7)	1.24 (31.5)	3.06 (77.7)	5.63 (143.0)	0.25 (6.4)	1.00 (25.4)
2.00 (50.8)	1.00 (25.4)	2.25 (57.2)	-	1.19 (30.2)	0.38 (9.7)	1.24 (31.5)	3.06 (77.7)	5.63 (143.0)	0.25 (6.4)	1.00 (25.4)

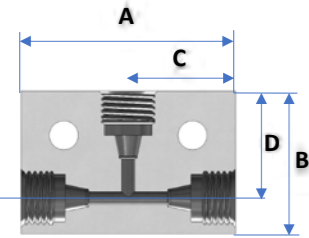
Low Pressure Fittings (Up to 11,500 PSI / 793 BAR)

LP Elbows



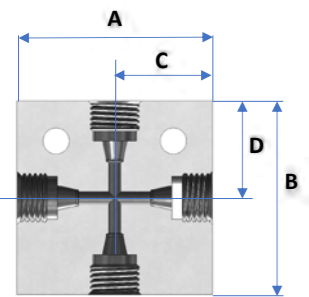
Part Number	MAWP (PSI)	Connections	A (in.)	B (in.)	C (in.)	D (in.)	Thickness (in.)
11.5L4LF	11,500	1/4" LP.F	1.19	1.19	0.88	0.88	0.62
7.5L6LF	7,500	3/8" LP.F	1.38	1.38	1.00	1.00	0.75

LP Tees



Part Number	MAWP (PSI)	Connections	A (in.)	B (in.)	C (in.)	D (in.)	Thickness (in.)
11.5T4LF	11,500	1/4" LP.F	1.75	1.19	0.88	0.88	0.62
7.5T6LF	7,500	3/8" LP.F	2.00	1.38	1.00	1.00	0.75

LP Crosses



Part Number	MAWP (PSI)	Connections	A (in.)	B (in.)	C (in.)	D (in.)	Thickness (in.)
11.5X4LF	11,500	1/4" LP.F	1.75	1.75	0.88	0.88	0.62
7.5X6LF	7,500	3/8" LP.F	2.00	2.00	1.00	1.00	0.75

LP Ferrules



Part Number	Pressure (PSI)	Tube Size
11.5F4L	11,500	1/4" OD
7.5F6L	7,500	3/8" OD

LP Glands



Part Number	Pressure (PSI)	Tube Size
11.5GL4L	11,500	1/4" OD
7.5GL6L	7,500	3/8" OD

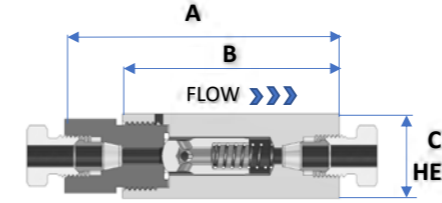
LP Plugs



Part Number	Pressure (PSI)	Tube Size
11.5PL4L	11,500	1/4" OD
7.5PL6L	7,500	3/8" OD

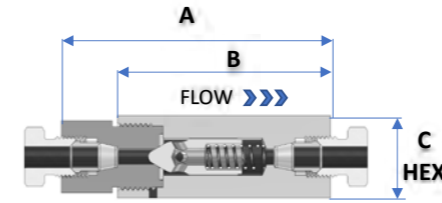
Low Pressure Check Valves (Up to 11,500 PSI / 793 BAR)

LP Ball Check Valves



Part Number	Pressure (PSI)	Orifice (in.)	Connections	A (in.)	B (in.)	C (in.)
11.5BCV4LF	11,500	0.188	1/4" LP.F	3.24	2.62	0.81
7.5BCV6LF	7,500	0.219	3/8" LP.F	4.44	3.50	1.38

LP Ball Check Valves



Part Number	Pressure (PSI)	Orifice (in.)	Connections	A (in.)	B (in.)	C (in.)
11.5SCV4LF	11,500	0.188	1/4" LP.F	3.24	2.62	0.81
7.5SCV6LF	7,500	0.219	3/8" LP.F	4.44	3.50	1.38

NPT Valves & Fittings

Pipe Connection NPT Needle Valves (Up to 15,000 PSI / 1034 BAR)

Specifications

Pressure rating	: Up to 15,000 psi
Temp. Rating	: -100°F to 600°F
Body Material	: SS316 cold Worked
Stem	: 15-5 PH
Packing	: Glass filled Teflon

Typical Applications

- Hydraulic applications
- Pneumatic applications
- General plant service
- Isolating or venting

Optional

- Grafoil Packing for temperature up to 800°F
- Extended Stuffing Box for temperature up to 1200°F
- Air Actuator for remote control operation is available
- Can be manufactured to meet NACE MR0175 standard
- Quick Open Needle Valve
 - o Fully open in 1-3/4 turn
 - o Reduces throttling and therefore increase seat life

Features & Benefits

HTG Standard Pipe Needle Valve offer low-torque, fully open in 3-1/2 turn and compact design providing positive shutoff in applications up to 15,000 psi. Other features include:

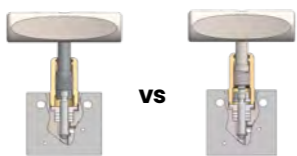
- Two pieces heavy duty non-rotating stem for a reliable assembly.
- Bi-directional flow capability.
- Panel mounting option available.
- 4-sided tapered stem for maximum handle contact
- Complete material traceability.

Quick Open Needle Valve (Up to 15,000 PSI / 1034 BAR)

Same features as the standard needle valve with the exception of:

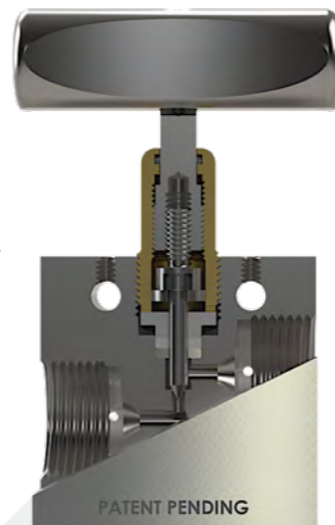
- Valve is fully open or closed in as little as 1.75 turns, the first in high pressure industry!
- Stem is lifted off of the seat >2X faster than conventional valves, which increases seat life.
- Valve is closed 2x faster for quicker isolation.
- Less than half the number of turns to fully open compared to competitor's valves. Less operator fatigue when opening/closing.
- Three-piece, heavy-duty, non-rotating stem .

Standard Valve
1/2" NPT Connection,
Full travel in 4.5 turns



Quick Open Valve
1/2" NPT Connection,
Full travel in 2.25 turns

With Quick Open Valve the CV will be fully unblocked, thus allow full flow.



NPT Valves & Fittings

Pipe Connection NPT Check Valves (Up to 15,000 PSI / 1034 BAR)

Specifications

Pressure rating	: Up to 15,000 psi
Ball Seat Poppet	: -420°F to 1200°F
Soft Seat Poppet	: -65°F to 250°F
Body Material	: SS316 cold worked
Cracking Press.	: 15 PSI

Typical Applications

- Hydraulic applications
- Pneumatic applications
- General plant service

Features & Benefits

- Prevents reverse flow where leak-tight shutoff is required.
- Ball Seat Poppet offers metal to metal seat for rapid cycling or severe environments.
- Soft Seat Poppet offers O-ring seat for fast shutoff and reliable seal.
- Nitrile is standard material of Soft Seat Poppet Check Valve.
- Complete material traceability.



Pipe Connection NPT Fittings (Up to 15,000 PSI / 1034 BAR)

Specifications

Pressure rating	: Up to 15,000 psi
Body Material	: SS316 cold worked

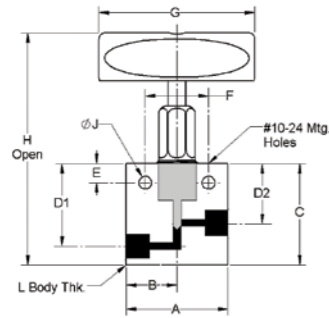
Features & Benefits

- A complete range of elbows, tees, crosses and adaptors are available for all of the tubing connection sizes.
- Can be manufactured to meet NACE MR0175 standard.
- Other materials available on request.



NPT Standard Valves (Up to 15,000 PSI / 1034 BAR)

NPT 2-Way Straight Valves

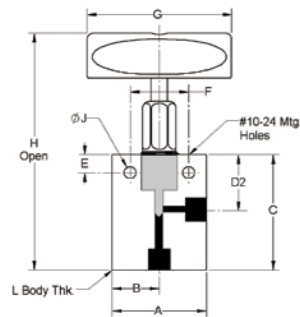


Pressure (PSI)	Connection Type	End Connection Size in.	Part Number	Orifice in. (mm)
15,000	Female NPT	1/4	15NVS4NF	0.25 (6.4)
		3/8	15NVS6NF	0.312 (7.9)
		1/2	15NVS8NF	0.312 (7.9)
10,000		3/4	10NVS12NF	0.438 (11.1)
		1	10NVS16NF	0.562 (14.3)

Dimensions, in. (mm)

A	B	C	D1	D2	E	F	G	H	J	L
2.00 (50.8)	1.00 (25.4)	2.00 (50.8)	1.63 (41.28)	1.19 (30.2)	0.38 (9.7)	1.24 (31.5)	3.00 (76.2)	4.84 (123.0)	0.25 (6.4)	1.00 (25.4)
2.50 (63.5)	1.25 (31.8)	2.88 (73.2)	2.38 (60.4)	1.75 (44.5)	0.50 (12.7)	1.38 (35.0)	4.00 (102.0)	5.46 (139.0)	0.34 (8.7)	1.00 (25.4)
2.50 (63.5)	1.25 (31.8)	3.00 (76.2)	2.38 (60.4)	1.75 (44.5)	0.50 (12.7)	1.38 (35.0)	4.00 (102.0)	5.58 (142.0)	0.34 (8.7)	1.25 (31.6)
3.00 (76.2)	1.50 (38.1)	3.75 (95.3)	3.00 (76.2)	2.25 (57.2)	0.62 (15.7)	1.75 (44.5)	8.07 (102.0)	5.58 (142.0)	0.44 (11.2)	1.38 (35.1)
4.12 (105)	2.06 (52.3)	4.75 (121)	3.75 (95.3)	2.82 (71.6)	1.12 (28.4)	2.5 (63.5)	10.29 (261.4)	8.96 (227.6)	0.56 (14.2)	1.75 (44.4)

NPT 2-Way Angle Valves



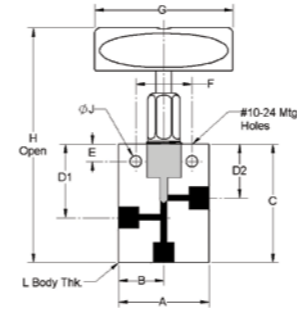
Pressure (PSI)	Connection Type	End Connection Size in.	Part Number	Orifice in. (mm)
15,000	Female NPT	1/4	15NVA4NF	0.25 (6.4)
		3/8	15NVA6NF	0.312 (7.9)
		1/2	15NVA8NF	0.312 (7.9)
10,000		3/4	10NVA12NF	0.44 (11.2)
		1	10NVA16NF	0.562 (14.3)

Dimensions, in. (mm)

A	B	C	D1	D2	E	F	G	H	J	L
2.00 (50.8)	1.00 (25.4)	2.44 (62.0)	-	1.19 (30.2)	0.38 (9.7)	1.24 (31.5)	3.00 (76.2)	5.28 (134.4)	0.25 (6.4)	1.00 (25.4)
2.50 (63.5)	1.25 (31.8)	3.38 (85.9)	-	1.75 (44.5)	0.50 (12.7)	1.38 (35.0)	4.00 (102.0)	5.96 (152.0)	0.34 (8.7)	1.00 (25.4)
2.50 (63.5)	1.25 (31.8)	3.38 (85.9)	-	1.75 (44.5)	0.50 (12.7)	1.38 (35.0)	4.00 (102.0)	5.96 (152.0)	0.34 (8.7)	1.25 (31.6)
3.00 (76.2)	1.5 (38.1)	4.25 (108.0)	-	2.25 (57.2)	0.62 (15.7)	1.76 (44.7)	8.07 (204)	7.56 (192.0)	0.44 (11.2)	1.38 (35.1)
4.12 (105)	2.06 (52.3)	5.13 (130.3)	-	2.82 (71.6)	1.12 (28.4)	2.5 (63.5)	10.29 (261.4)	9.45 (240.0)	0.56 (14.2)	1.75 (44.4)

NPT Standard Valves (Up to 15,000 PSI / 1034 BAR)

NPT 3-Way Valves with 2 Inlets

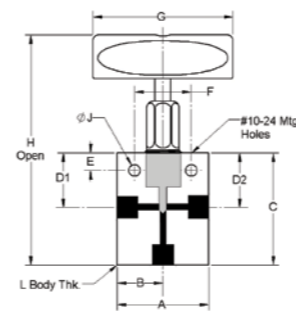


Pressure (PSI)	Connection Type	End Connection Size in.	Part Number	Orifice in. (mm)
15,000	Female NPT	1/4	15NVT2-4NF	0.25 (6.4)
		3/8	15NVT2-6NF	0.312 (7.9)
		1/2	15NVT2-8NF	0.312 (7.9)

Dimensions, in. (mm)

A	B	C	D1	D2	E	F	G	H	J	L
2.00 (50.8)	1.00 (25.4)	2.62 (66.5)	1.63 (41.3)	1.19 (30.2)	0.38 (9.7)	1.24 (31.5)	3.00 (76.2)	5.46 (139.5)	0.25 (6.4)	1.00 (25.4)
2.50 (63.5)	1.25 (31.8)	3.62 (95.9)	2.38 (60.4)	1.75 (44.5)	0.50 (12.7)	1.38 (35.0)	4.00 (102.0)	6.20 (157.5)	0.34 (8.7)	1.00 (25.4)
2.50 (63.5)	1.25 (31.8)	3.62 (95.9)	2.38 (60.4)	1.75 (44.5)	0.50 (12.7)	1.38 (35.0)	4.00 (102.0)	6.20 (157.5)	0.34 (8.7)	1.25 (31.6)

NPT 3-Way Valves with 1 Inlet



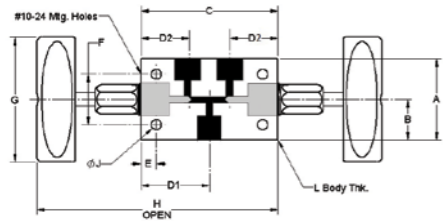
Pressure (PSI)	Connection Type	End Connection Size in.	Part Number	Orifice in. (mm)
15,000	Female NPT	1/4	15NVT1-4NF	0.25 (6.4)
		3/8	15NVT1-6NF	0.312 (7.9)
		1/2	15NVT1-8NF	0.312 (7.9)

Dimensions, in. (mm)

A	B	C	D1	D2	E	F	G	H	J	L
2.00 (50.8)	1.00 (25.4)	2.44 (62.0)	1.19 (30.2)	1.19 (30.2)	0.38 (9.7)	1.24 (31.5)	3.00 (76.2)	5.28 (134.1)	0.25 (6.4)	1.00 (25.4)
2.50 (63.5)	1.25 (31.8)	3.38 (85.9)	1.75 (44.5)	1.75 (44.5)	0.50 (12.7)	1.38 (35.0)	4.00 (102.0)	5.96 (152.0)	0.34 (8.7)	1.00 (25.4)
2.50 (63.5)	1.25 (31.8)	3.38 (85.9)	1.75 (44.5)	1.75 (44.5)	0.50 (12.7)	1.38 (35.0)	4.00 (102.0)	5.96 (152.0)	0.34 (8.7)	1.25 (31.6)

NPT Standard Valves (Up to 15,000 PSI / 1034 BAR)

NPT 3-Way, 2 Stems Valves

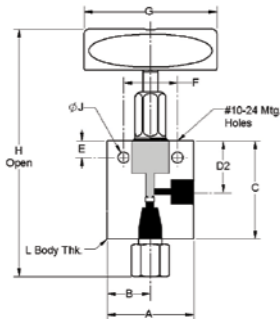


Pressure (PSI)	Connection Type	End Connection Size in.	Part Number	Orifice in. (mm)
15,000	Female NPT	1/4	15NVT3-4NF	0.25 (6.4)
		3/8	15NVT3-6NF	0.312 (7.9)
		1/2	15NVT3-8NF	0.312 (7.9)

Dimensions, in. (mm)

A	B	C	D1	D2	E	F	G	H	J	L
2.00 (50.8)	1.00 (25.4)	3.38 (85.9)	1.69 (42.9)	1.19 (30.2)	0.38 (9.7)	1.24 (31.5)	3.00 (76.2)	9.06 (230.1)	0.25 (6.4)	1.00 (25.4)
2.50 (63.5)	1.25 (31.8)	5.12 (130.0)	2.56 (65.0)	1.75 (44.5)	0.50 (12.7)	1.38 (35.0)	4.00 (102.0)	10.28 (261.1)	0.34 (8.7)	1.00 (25.4)
2.50 (63.5)	1.25 (31.8)	5.12 (130.0)	2.56 (65.0)	1.75 (44.5)	0.50 (12.7)	1.38 (35.0)	4.00 (102.0)	10.28 (261.1)	0.34 (8.7)	1.25 (31.6)

NPT Replaceable Seat Valves



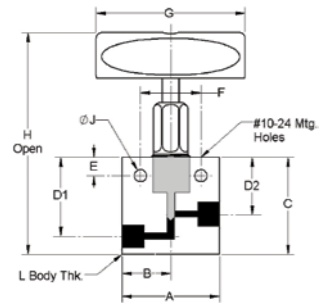
Pressure (PSI)	Connection Type	End Connection Size in.	Part Number	Orifice in. (mm)
15,000	Female NPT	1/4	15NVR4NF	0.25 (6.4)
		3/8	15NVR6NF	0.312 (7.9)
		1/2	15NVR8NF	0.312 (7.9)
10,000		3/4	10NVA12NF	0.44 (11.2)
		1	10NVA16NF	0.562 (14.3)

Dimensions, in. (mm)

A	B	C	D1	D2	E	F	G	H	J	L
2.00 (50.8)	1.00 (25.4)	3.30 (83.8)	-	1.19 (30.2)	0.38 (9.7)	1.24 (31.5)	3.00 (76.2)	6.19 (157.2)	0.25 (6.4)	1.00 (25.4)
2.50 (63.5)	1.25 (31.8)	4.51 (114.6)	-	1.75 (44.5)	0.50 (12.7)	1.38 (35.0)	4.00 (102.0)	7.09 (180.1)	0.34 (8.7)	1.00 (25.4)
2.50 (63.5)	1.25 (31.8)	4.62 (117.3)	-	1.75 (44.5)	0.50 (12.7)	1.38 (35.0)	4.00 (102.0)	7.20 (182.9)	0.34 (8.7)	1.25 (31.6)
3.00 (76.2)	1.5 (38.1)	4.25 (108.0)	-	2.25 (57.2)	0.62 (15.7)	1.76 (44.7)	8.07 (204)	7.56 (192.0)	0.44 (11.2)	1.38 (35.1)
4.12 (105)	2.06 (52.3)	5.13 (130.3)	-	2.82 (71.6)	1.12 (28.4)	2.5 (63.5)	10.29 (261.4)	9.45 (240.0)	0.56 (14.2)	1.75 (44.4)

NPT Quick Open Valves (Up to 15,000 PSI / 1034 BAR)

NPT Quick Open 2-Way Straight Valves

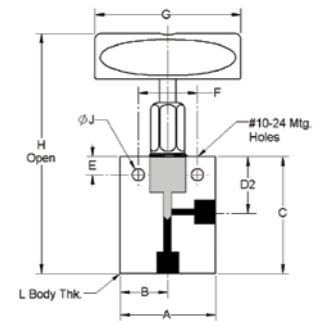


Pressure (PSI)	Connection Type	End Connection Size in.	Part Number	Orifice in. (mm)
15,000	Female NPT	1/4	15NVSQ4NF	0.25 (6.4)
		3/8	15NVSQ6NF	0.312 (7.9)
		1/2	15NVSQ8NF	0.312 (7.9)

Dimensions, in. (mm)

A	B	C	D1	D2	E	F	G	H	J	L
2.00 (50.8)	1.00 (25.4)	2.00 (50.8)	1.63 (41.28)	1.19 (30.2)	0.38 (9.7)	1.24 (31.5)	3.00 (76.2)	4.84 (123.0)	0.25 (6.4)	1.00 (25.4)
2.50 (63.5)	1.25 (31.8)	2.88 (73.2)	2.38 (60.4)	1.75 (44.5)	0.50 (12.7)	1.38 (35.0)	4.00 (102.0)	5.46 (139.0)	0.34 (8.7)	1.00 (25.4)
2.50 (63.5)	1.25 (31.8)	3.00 (76.2)	2.38 (60.4)	1.75 (44.5)	0.50 (12.7)	1.38 (35.0)	4.00 (102.0)	5.58 (142.0)	0.34 (8.7)	1.25 (31.6)

NPT Quick Open 2-Way Angle Valves

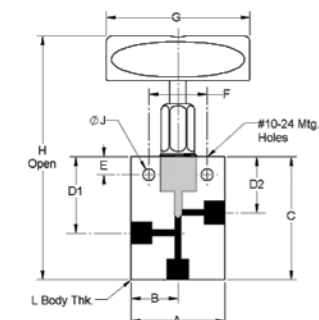


Pressure (PSI)	Connection Type	End Connection Size in.	Part Number	Orifice in. (mm)
15,000	Female NPT	1/4	15NVAQ4NF	0.25 (6.4)
		3/8	15NVAQ6NF	0.312 (7.9)
		1/2	15NVAQ8NF	0.312 (7.9)

Dimensions, in. (mm)

A	B	C	D1	D2	E	F	G	H	J	L
2.00 (50.8)	1.00 (25.4)	2.44 (62.0)	-	1.19 (30.2)	0.38 (9.7)	1.24 (31.5)	3.00 (76.2)	5.28 (134.1)	0.25 (6.4)	1.00 (25.4)
2.50 (63.5)	1.25 (31.8)	3.38 (85.9)	-	1.75 (44.5)	0.50 (12.7)	1.38 (35.0)	4.00 (102.0)	5.96 (152.0)	0.34 (8.7)	1.00 (25.4)
2.50 (63.5)	1.25 (31.8)	3.38 (85.9)	-	1.75 (44.5)	0.50 (12.7)	1.38 (35.0)	4.00 (102.0)	5.96 (152.0)	0.34 (8.7)	1.25 (31.6)

NPT Quick Open 3-Way Valves with 2 Inlets



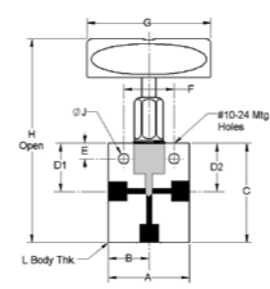
Pressure (PSI)	Connection Type	End Connection Size in.	Part Number	Orifice in. (mm)
15,000	Female NPT	1/4	15NVT2Q4NF	0.25 (6.4)
		3/8	15NVT2Q6NF	0.312 (7.9)
		1/2	15NVT2Q6NF	0.312 (7.9)

Dimensions, in. (mm)

A	B	C	D1	D2	E	F	G	H	J	L
2.00 (50.8)	1.00 (25.4)	2.62 (66.5)	1.63 (41.3)	1.19 (30.2)	0.38 (9.7)	1.24 (31.5)	3.00 (76.2)	5.46 (139.0)	0.25 (6.4)	1.00 (25.4)
2.50 (63.5)	1.25 (31.8)	3.62 (91.9)	2.38 (60.4)	1.75 (44.5)	0.50 (12.7)	1.38 (35.0)	4.00 (102.0)	6.20 (157.5)	0.34 (8.7)	1.00 (25.4)
2.50 (63.5)	1.25 (31.8)	3.62 (91.9)	2.38 (60.4)	1.75 (44.5)	0.50 (12.7)	1.38 (35.0)	4.00 (102.0)	6.20 (157.5)	0.34 (8.7)	1.25 (31.6)

NPT Quick Open Valves (Up to 15,000 PSI / 1034 BAR)

NPT Quick Open 3-Way Valves with 1 Inlet

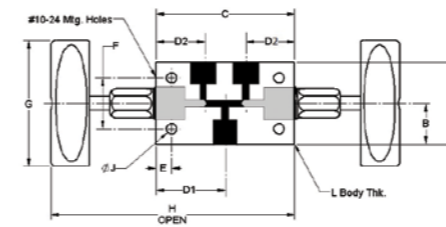


Pressure (PSI)	Connection Type	End Connection Size in.	Part Number	Orifice in. (mm)
15,000	Female NPT	1/4	15NVT1Q4NF	0.25 (6.4)
		3/8	15NVT1Q6NF	0.312 (7.9)
		1/2	15NVT1Q8NF	0.312 (7.9)

Dimensions, in. (mm)

A	B	C	D1	D2	E	F	G	H	J	L
2.00 (50.8)	1.00 (25.4)	2.44 (62.0)	1.19 (30.2)	1.19 (30.2)	0.38 (9.7)	1.24 (31.5)	3.00 (76.2)	5.28 (134.1)	0.25 (6.4)	1.00 (25.4)
2.50 (63.5)	1.25 (31.8)	3.38 (85.9)	1.75 (44.5)	1.75 (44.5)	0.50 (12.7)	1.38 (35.0)	4.00 (102.0)	5.96 (152.0)	0.34 (8.7)	1.00 (25.4)
2.50 (63.5)	1.25 (31.8)	3.38 (85.9)	1.75 (44.5)	1.75 (44.5)	0.50 (12.7)	1.38 (35.0)	4.00 (102.0)	5.96 (152.0)	0.34 (8.7)	1.25 (31.6)

NPT Quick Open 3-Way, 2 Stems Valves

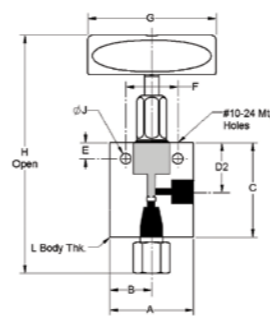


Pressure (PSI)	Connection Type	End Connection Size in.	Part Number	Orifice in. (mm)
15,000	Female NPT	1/4	15NVT3Q4NF	0.25 (6.4)
		3/8	15NVT3Q6NF	0.312 (7.9)
		1/2	15NVT3Q8NF	0.312 (7.9)

Dimensions, in. (mm)

A	B	C	D1	D2	E	F	G	H	J	L
2.00 (50.8)	1.00 (25.4)	3.38 (85.9)	1.69 (42.9)	1.19 (30.2)	0.38 (9.7)	1.24 (31.5)	3.00 (76.2)	9.06 (230.1)	0.25 (6.4)	1.00 (25.4)
2.50 (63.5)	1.25 (31.8)	5.12 (130.0)	2.56 (65.0)	1.75 (44.5)	0.50 (12.7)	1.38 (35.0)	4.00 (102.0)	10.28 (261.1)	0.34 (8.7)	1.00 (25.4)
2.50 (63.5)	1.25 (31.8)	5.12 (130.0)	2.56 (65.0)	1.75 (44.5)	0.50 (12.7)	1.38 (35.0)	4.00 (102.0)	10.28 (261.1)	0.34 (8.7)	1.25 (31.6)

NPT Quick Open Replaceable Seat Valves



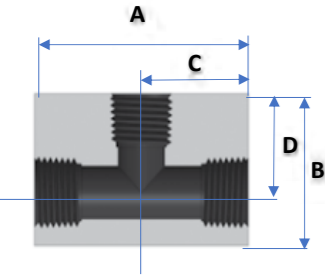
Pressure (PSI)	Connection Type	End Connection Size in.	Part Number	Orifice in. (mm)
15,000	Female NPT	1/4	15NVRQ4NF	0.25 (6.4)
		3/8	15NVRQ6NF	0.312 (7.9)
		1/2	15NVRQ8NF	0.312 (7.9)

Dimensions, in. (mm)

A	B	C	D1	D2	E	F	G	H	J	L
2.00 (50.8)	1.00 (25.4)	3.30 (83.8)	-	1.19 (30.2)	0.38 (9.7)	1.24 (31.5)	3.00 (76.2)	6.19 (157.2)	0.25 (6.4)	1.00 (25.4)
2.50 (63.5)	1.25 (31.8)	4.51 (114.6)	-	1.75 (44.5)	0.50 (12.7)	1.38 (35.0)	4.00 (102.0)	7.09 (180.1)	0.34 (8.7)	1.00 (25.4)
2.50 (63.5)	1.25 (31.8)	4.62 (117.3)	-	1.75 (44.5)	0.50 (12.7)	1.38 (35.0)	4.00 (102.0)	7.20 (182.9)	0.34 (8.7)	1.25 (31.6)

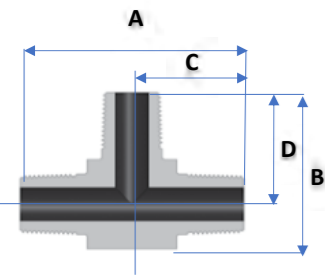
NPT Fittings (Up to 15,000 PSI / 1034 BAR)

NPT Female Tees



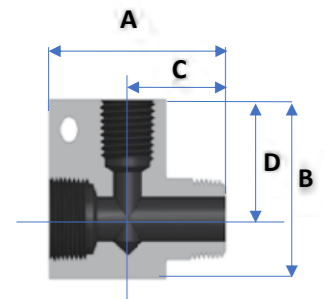
Part Number	Pressure (PSI)	Connections	A (in.)	B (in.)	C (in.)	D (in.)	Thickness (in.)
15T2NF	15,000	1/8" NPT.F	1.50	1.00	0.75	0.62	0.62
15T4NF	15,000	1/4" NPT.F	2.00	1.25	1.00	0.81	0.75
15T6NF	15,000	3/8" NPT.F	2.00	1.50	1.00	1.00	1.00
15T8NF	15,000	1/2" NPT.F	2.50	1.75	1.25	1.25	1.25
10T12NF	10,000	3/4" NPT.F	2.62	2.12	1.31	1.38	1.50
10T16NF	10,000	1" NPT.F	3.38	2.56	1.69	1.69	1.75

NPT Male Tees



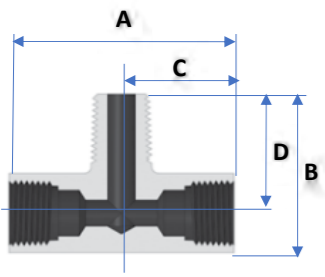
Part Number	Pressure (PSI)	Connections	A (in.)	B (in.)	C (in.)	D (in.)	Thickness (in.)
15T2NM	15,000	1/8" NPT.M	1.50	1.13	0.75	0.81	0.62
15T4NM	15,000	1/4" NPT.M	2.25	1.50	1.13	1.13	0.75
15T6NM	15,000	3/8" NPT.M	2.50	1.75	1.25	1.25	1.00
15T8NM	15,000	1/2" NPT.M	3.00	2.00	1.50	1.50	1.00
10T1NM	10,000	3/4" NPT.M	3.50	2.62	1.75	1.75	1.50
10T16NM	10,000	1" NPT.M	4.25	3.00	2.13	2.13	1.75

NPT Run Tees



Part Number	Pressure (PSI)	Connections	A (in.)	B (in.)	C (in.)	D (in.)	Thickness (in.)
15RT2NF2NM2NF	15,000	1/8" NPT.F x 1/8" NPT.M x 1/8" NPT.F	1.50	1.12	0.63	0.75	0.62
15RT4NF4NM4NF	15,000	1/4" NPT.F x 1/4" NPT.M x 1/4" NPT.F	2.00	1.37	0.81	1.00	0.75
15RT6NF6NM6NF	15,000	3/8" NPT.F x 3/8" NPT.M x 3/8" NPT.F	2.50	1.50	1.00	1.00	1.00
15RT8NF8NM8NF	15,000	1/2" NPT.F x 1/2" NPT.M x 1/2" NPT.F	2.75	1.75	1.25	1.25	1.38
10RT12NF12NM12NF	10,000	3/4" NPT.F x 3/4" NPT.M x 3/4" NPT.F	3.12	2.62	1.31	1.31	1.50
10RT16NF16NM16NF	10,000	1" NPT.F x 1" NPT.M x 1" NPT.F	4.25	3.00	2.13	2.13	1.75

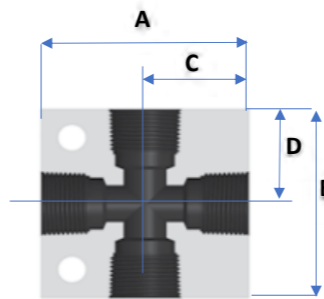
NPT Branch Tees



Part Number	Pressure (PSI)	Connections	A (in.)	B (in.)	C (in.)	D (in.)	Thickness (in.)
15BT2NF2NF2NM	15,000	1/8" NPT.F x 1/8" NPT.F x 1/8" NPT.M	1.50	1.13	0.75	0.81	0.62
15BT4NF4NF4NM	15,000	1/4" NPT.F x 1/4" NPT.F x 1/4" NPT.M	2.00	1.50	1.00	1.13	0.75
15BT6NF6NF6NM	15,000	3/8" NPT.F x 3/8" NPT.F x 3/8" NPT.M	2.00	1.75	1.00	1.25	1.00
15BT8NF8NF8NM	15,000	1/2" NPT.F x 1/2" NPT.F x 1/2" NPT.M	2.50	2.25	1.25	1.63	1.25
10BT12NF12NF12NM	10,000	3/4" NPT.F x 3/4" NPT.F x 3/4" NPT.M	2.62	2.50	1.31	1.75	1.50
10BT16NF16NF16NM	10,000	1" NPT.F x 1" NPT.F x 1" NPT.M	3.37	3.00	1.69	2.13	1.75

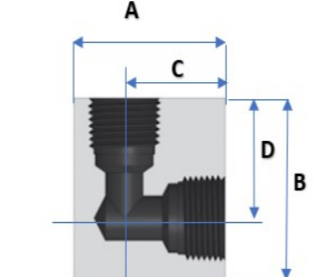
NPT Fittings (Up to 15,000 PSI / 1034 BAR)

NPT Crosses



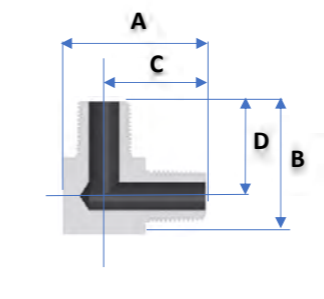
Part Number	Pressure (PSI)	Connections	A (in.)	B (in.)	C (in.)	D (in.)	Thickness (in.)
15X2NF	15,000	1/8" NPT.F	1.50	1.50	0.75	0.75	0.62
15X4NF	15,000	1/4" NPT.F	2.00	2.00	1.00	1.00	0.75
15X6NF	15,000	3/8" NPT.F	2.00	2.00	1.00	1.00	1.00
15X8NF	15,000	1/2" NPT.F	2.50	2.50	1.25	1.25	1.25
10X12NF	10,000	3/4" NPT.F	2.70	2.70	1.31	1.31	1.50
10X16NF	10,000	1" NPT.F	4.12	4.12	2.06	2.06	1.75

NPT Female Elbows



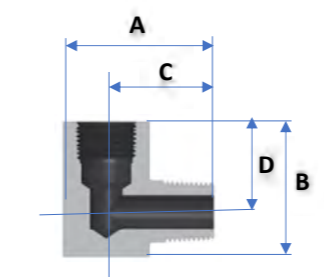
Part Number	Pressure (PSI)	Connections	A (in.)	B (in.)	C (in.)	D (in.)	Thickness (in.)
15L2NF	15,000	1/8" NPT.M x 1/8" NPT.M	1.13	1.00	0.75	0.62	0.62
15L4NF	15,000	1/4" NPT.M x 1/4" NPT.M	1.50	1.25	1.00	0.81	0.75
15L6NF	15,000	3/8" NPT.M x 3/8" NPT.M	1.50	1.50	1.00	1.00	1.00
15L8NF	15,000	1/2" NPT.M x 1/2" NPT.M	1.75	1.75	1.25	1.25	1.25
10L12NF	10,000	3/4" NPT.M x 3/4" NPT.M	2.62	2.12	1.31	1.38	1.50
10L16NF	10,000	1" NPT.M x 1" NPT.M	3.00	2.56	1.69	1.69	1.75

NPT Male Elbows



Part Number	Pressure (PSI)	Connections	A (in.)	B (in.)	C (in.)	D (in.)	Thickness (in.)
15L2NM	15,000	1/8" NPT.M x 1/8" NPT.M	1.00	1.13	0.75	0.81	0.62
15L4NM	15,000	1/4" NPT.M x 1/4" NPT.M	1.50	1.50	1.13	1.13	0.75
15L6NM	15,000	3/8" NPT.M x 3/8" NPT.M	1.75	1.75	1.25	1.25	1.00
15L8NM	15,000	1/2" NPT.M x 1/2" NPT.M	2.00	2.00	1.50	1.50	1.00
10L12NM	10,000	3/4" NPT.M x 3/4" NPT.M	2.62	2.62	1.75	1.75	1.50
10L16NM	10,000	1" NPT.M x 1" NPT.M	3.00	3.00	2.13	2.13	1.75

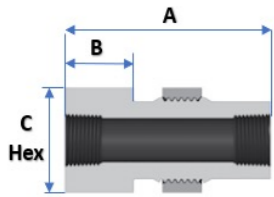
NPT Street Elbows



Part Number	Pressure (PSI)	Connections	A (in.)	B (in.)	C (in.)	D (in.)	Thickness (in.)
15SL2NF2NM	15,000	1/8" NPT.F x 1/8" NPT.M	1.12	1.00	0.81	0.75	0.62
15SL4NF4NM	15,000	1/4" NPT.F x 1/4" NPT.M	1.50	1.50	1.13	1.00	1.00
15SL6NF6NM	15,000	3/8" NPT.F x 3/8" NPT.M	1.75	1.50	1.25	1.00	1.00
15SL8NF8NM	15,000	1/2" NPT.F x 1/2" NPT.M	2.25	2.00	1.63	1.20	1.25
10SL12NF12NM	10,000	3/4" NPT.F x 3/4" NPT.M	2.50	2.62	1.75	1.31	1.50
10SL16NF16NM	10,000	1" NPT.F x 1" NPT.M	3.00	2.88	2.12	1.68	1.75

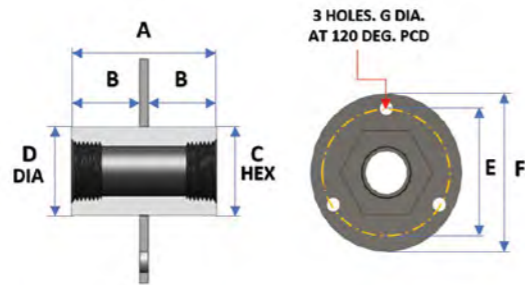
NPT Fittings (Up to 15,000 PSI / 1034 BAR)

NPT Bulkhead Couplings



Part Number	Pressure (PSI)	Connections	A (in.)	B (in.)	Panel Cutout (in.)
15BU2NF	15,000	1/8" NPT.F	2.00	1.00	0.81
15BU4NF	15,000	1/4" NPT.F	2.00	1.00	0.94
15BU6NF	15,000	3/8" NPT.F	2.62	1.38	1.25
15BU8NF	15,000	1/2" NPT.F	2.62	1.88	1.37
10BU12NF	10,000	3/4" NPT.F	2.62	1.88	1.69
10BU16NF	10,000	1" NPT.F	3.50	2.13	1.94

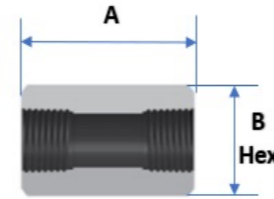
NPT Bulkhead Couplings c/w Welded Plates



Part Number	Pressure (PSI)	Connections	A (in.)	B (in.)	C (in.)	D (in.)	E (in.)	F (in.)	G (in.)	Panel Cutout (in.)
15BU2NF-RW	15,000	1/8" NPT.F	1.00	0.44	0.63	0.59	2.05	2.52	0.24	0.63
15BU4NF-RW	15,000	1/4" NPT.F	1.25	0.57	0.75	0.71	2.05	2.52	0.24	0.75
15BU6NF-RW	15,000	3/8" NPT.F	1.38	0.63	1.00	0.94	2.05	2.52	0.24	0.98
15BU8NF-RW	15,000	1/2" NPT.F	1.50	0.69	1.38	1.34	2.05	2.52	0.24	1.38
10BU12NF-RW	10,000	3/4" NPT.F	1.75	0.82	1.38	1.34	2.05	2.52	0.24	1.38
10BU16NF-RW	10,000	1" NPT.F	2.18	1.03	1.75	1.69	2.24	2.76	0.28	1.73

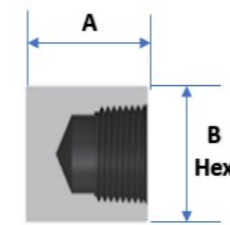
NPT Fittings (Up to 15,000 PSI / 1034 BAR)

Couplings



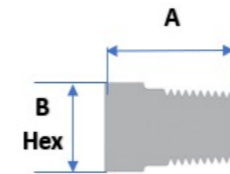
Part Number	Pressure (PSI)	Connections	A (in.)	B (in.)
15CU2NF	15,000	1/8" NPT.F	1.00	0.63
15CU4NF	15,000	1/4" NPT.F	1.25	0.75
15CU6NF	15,000	3/8" NPT.F	1.38	1.00
15CU8NF	15,000	1/2" NPT.F	1.5	1.38
10CU12NF	10,000	3/4" NPT.F	1.75	1.38
10CU16NF	10,000	1" NPT.F	2.18	1.75

Caps



Part Number	Pressure (PSI)	Connections	A (in.)	B (in.)
15CA2NF	15,000	1/8" NPT.F	0.75	0.63
15CA4NF	15,000	1/4" NPT.F	1.00	0.75
15CA6NF	15,000	3/8" NPT.F	1.00	1.00
15CA8NF	15,000	1/2" NPT.F	1.25	1.38
10CA12NF	10,000	3/4" NPT.F	1.50	1.38
10CA16NF	10,000	1" NPT.F	1.68	1.75

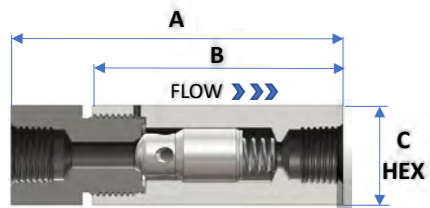
Plugs



Part Number	Pressure (PSI)	Connections	A (in.)	B (in.)
15PL2NM	15,000	1/8" NPT.M	1.00	0.50
15PL4NM	15,000	1/4" NPT.M	1.12	0.63
15PL6NM	15,000	3/8" NPT.M	1.12	0.75
15PL8NM	15,000	1/2" NPT.M	1.50	1.00
10PL12NM	10,000	3/4" NPT.M	1.50	1.38
10PL16NM	10,000	1" NPT.M	1.88	1.38

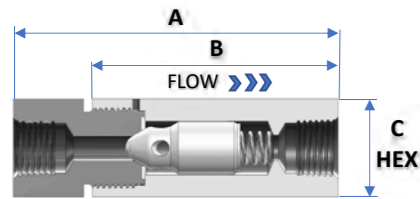
NPT Check Valves (Up to 15,000 PSI / 1034 BAR)

NPT Ball Check Valves



Part Number	Pressure (PSI)	Orifice (in.)	Connections	A (in.)	B (in.)	C (in.)
15BCV4NF	15,000	0.188	1/4" FNPT	3.20	2.50	1.00
15BCV6NF	15,000	0.219	3/8" FNPT	3.56	2.66	1.13
15BCV8NF	15,000	0.359	1/2" FNPT	4.63	3.50	1.38
10BCV12NF	10,000	0.516	3/4" FNPT	5.63	4.38	1.75
10BCV16NF	10,000	0.588	1" FNPT	7.00	5.25	2.13

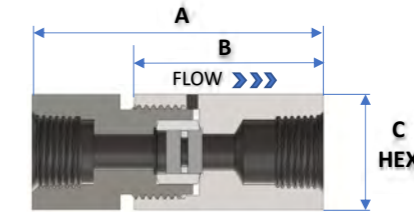
NPT Soft Seat Check Valves



Part Number	Pressure (PSI)	Orifice (in.)	Connections	A (in.)	B (in.)	C (in.)
15SCV4NF	15,000	0.188	1/4" FNPT	3.20	2.50	1.00
15SCV6NF	15,000	0.219	3/8" FNPT	3.56	2.66	1.13
15SCV8NF	15,000	0.359	1/2" FNPT	4.63	3.50	1.38
10SCV12NF	10,000	0.516	3/4" FNPT	5.63	4.38	1.75
10SCV16NF	10,000	0.588	1" FNPT	7.00	5.25	2.13

NPT In-Line Filters (Up to 15,000 PSI / 1034 BAR)

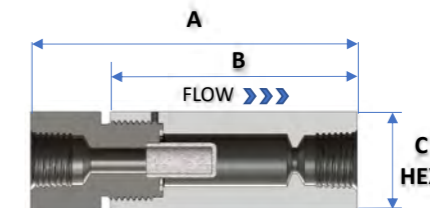
NPT In-Line Filters



Part Number	Pressure (PSI)	Connections	Orifice (in.)	A (in.)	B (in.)	C (in.)	Micron Size Filter Available					
							0.5	2	5	10	40	100
15LF4NF-*	15,000	1/4" NPT.F	0.188	2.13	1.50	1.00	●	●	●	●	●	●
15LF6NF-*	15,000	3/8" NPT.F	0.219	2.50	1.63	1.13	●	●	●	●	●	●
15LF8NF-*	15,000	1/2" NPT.F	0.359	3.25	2.06	1.38	●	●	●	●	●	●
15LF12NF-*	10,000	3/4" NPT.F	0.516	4.06	2.88	1.75	●	●	●	●	●	●
15LF16NF-*	10,000	1" NPT.F	0.588	5.00	3.30	2.13	●	●	●	●	●	●

* Insert desired micron filter
Example: 15LF4NF-5 is a 1/4"NPT In-Line filter with 5 micron filter

NPT Cup Filters



Part Number	Pressure (PSI)	Connections	Orifice (in.)	A (in.)	B (in.)	C (in.)	Micron Size Filter Available					
							0.5	2	5	10	40	100
15CF4NF-*	15,000	1/4" NPT.F	0.188	3.20	2.50	1.00	●	●	●	●	●	●
15CF6NF-*	15,000	3/8" NPT.F	0.219	3.56	2.66	1.13	●	●	●	●	●	●
15CF8NF-*	15,000	1/2" NPT.F	0.359	4.63	3.50	1.38	●	●	●	●	●	●
15CF12NF-*	10,000	3/4" NPT.F	0.516	5.63	4.38	1.75	●	●	●	●	●	●
15CF16NF-*	10,000	1" NPT.F	0.588	7.00	5.25	2.13	●	●	●	●	●	●

* Insert desired micron filter
Example: 15CF4NF-5 is a 1/4"NPT Cup filter with 5 micron filter

Medium Pressure Valves, Fittings & Tubing

Medium Pressure Needle Valves (20,000 – 23,000 PSI / 1379 –1586 BAR)

1/4"	3/8"	9/16"	3/4"	1" Medium Pressure
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Specifications

Pressure rating	: 20,000 to 23,000 psi
Temp. Rating	: -100°F to 600°F
Body Material	: SS316 cold Worked
Stem	: 15-5 PH
Packing	: Glass filled Teflon

Typical Applications

- Hydraulic applications
- Pneumatic applications
- General plant service
- Isolating or venting

Optional

- Grafoil Packing for temperature up to 800°F
- Extended Stuffing Box for temperature up to 1200°F
- Air Actuator for remote control operation is available
- Can be manufactured to meet NACE MR0175 standard
- Quick Open Needle Valve
 - o Fully open in 1-3/4 turn
 - o Reduces throttling and therefore increase seat lif

Features & Benefits

HTG Standard Needle Valve offer low-torque, fully open in 3-1/2 turn and compact design providing positive shutoff in applications up to 23,000 psi. Other features include:

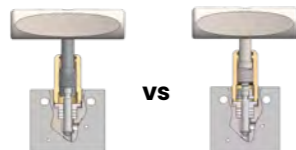
- Two pieces heavy duty non-rotating stem for a reliable assembly
- Bi-directional flow capability
- Panel mounting option available.
- 4-sided tapered stem for maximum handle contact
- Complete material traceability

Quick Open Needle Valve (Up 23,000 PSI / 1586 BAR)

Same features as the standard needle valve with the exception of:

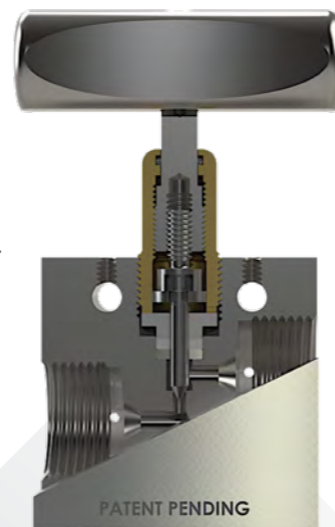
- Valve is fully open or closed in as little as 1.75 turns. A high-pressure valve industry first!
- Stem is lifted off of the seat >2X faster than conventional valves, which increases seat life.
- Valve is closed 2x faster for quicker isolation.
- Less than half the number of turns to fully open compared to competitor's valves. Less operator fatigue when opening/closing.
- Three-piece, heavy-duty, non-rotating stem

Standard Valve
Medium Pressure, 9/16
Full travel in 4.5 turns



Quick Open Valve
Medium Pressure, 9/16
Full travel in 2.25 turns

With Quick Open Valve the CV will be fully unblocked, thus allow full flow.



Medium Pressure Valves, Fittings & Tubing

Medium Pressure Check Valves (23,000 PSI / 1586 BAR)

1/4"	3/8"	9/16"	3/4"	1" Medium Pressure
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Specifications

Pressure rating	: 20,000 to 23,000 psi
Ball Seat Poppet	: -420°F to 1200°F
Soft Seat Poppet	: -65°F to 250°F
Body Material	: SS316 cold worked
Cracking Press.	: 15 PSI

Typical Applications

- Hydraulic applications
- Pneumatic applications
- General plant service

Features & Benefits

- Prevents reverse flow where leak-tight shutoff is required.
- Ball Seat Poppet offers metal to metal seat for rapid cycling or severe environments.
- Soft Seat Poppet offers O-ring seat for fast shutoff and reliable seal.
- Nitrile is standard material of Soft Seat Poppet Check Valve.
- Complete material traceability.



Medium Pressure Fittings & Tubing (20,000 – 23,000 PSI / 1379 –1586 BAR)

1/4"	3/8"	9/16"	3/4"	1" Medium Pressure
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Specifications

Pressure rating	: 20,000 to 23,000 psi
Body Material	: SS316 cold worked

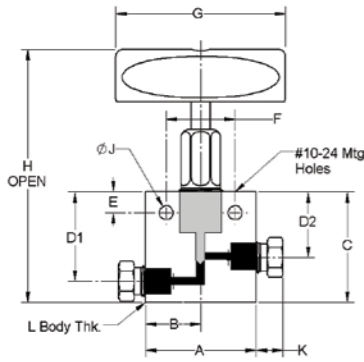
Features & Benefits

- A complete range of elbows, tees, crosses and adaptors are available for all of the tubing connection sizes.
- Can be manufactured to meet NACE MR0175 standard.
- Other materials available on request.



Medium Pressure Standard Valves (Up to 23,000 PSI / 1586 BAR)

Medium Pressure 2-Way Straight Valves

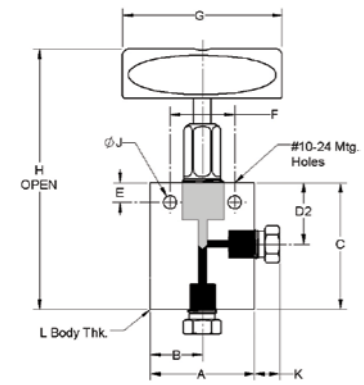


Pressure (PSI)	Connection Type	End Connection Size in.	Part Number	Orifice in. (mm)
23,000	Medium Pressure Cone & Thread	1/4	23NVS4MF	0.125 (3.2)
		3/8	23NVS6MF	0.20 (5.1)
		9/16	23NVS9MF	0.312 (7.9)
20,000		3/4	20NVS12MF	0.44 (11.2)
		1	20NVS16MF	0.562 (14.3)

Dimensions, in. (mm)

A	B	C	D1	D2	E	F	G	H	J	K	L
2.00 (50.8)	1.00 (25.4)	2.00 (50.8)	1.63 (41.3)	1.19 (30.2)	0.38 (9.7)	1.24 (31.5)	3.00 (76.2)	4.84 (123.0)	0.25 (6.4)	0.38 (9.7)	1.00 (25.4)
2.00 (50.8)	1.00 (25.4)	2.00 (50.8)	1.63 (41.3)	1.19 (30.2)	0.38 (9.7)	1.24 (31.5)	3.00 (76.2)	4.84 (123.0)	0.25 (6.4)	0.48 (12.2)	1.00 (25.4)
2.50 (63.5)	1.25 (31.8)	2.88 (73.2)	2.38 (60.5)	1.75 (44.5)	0.50 (12.7)	1.38 (35.0)	4.00 (102.0)	5.46 (138.7)	0.34 (8.7)	0.68 (17.3)	1.00 (25.4)
3.00 (76.2)	1.5 (38.1)	3.75 (95.3)	3.00 (76.2)	2.25 (57.2)	0.62 (15.7)	1.75 (44.7)	8.07 (204)	7.07 (179.6)	0.44 (11.2)	0.59 (15.0)	1.38 (35.1)
4.12 (105)	2.06 (52.3)	4.75 (121)	3.75 (95.3)	2.82 (71.6)	1.12 (28.4)	2.5 (63.5)	10.29 (261.4)	8.96 (227.6)	0.56 (14.2)	0.74 (18.8)	1.75 (44.4)

Medium Pressure 2-Way Angle Valves



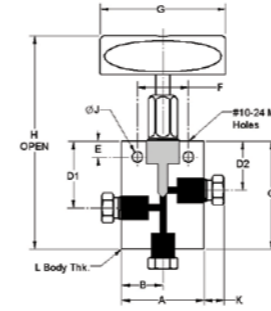
Pressure (PSI)	Connection Type	End Connection Size in.	Part Number	Orifice in. (mm)
23,000	Medium Pressure Cone & Thread	1/4	23NVA4MF	0.125 (3.2)
		3/8	23NVA6MF	0.200 (5.1)
		9/16	23NVA9MF	0.312 (7.9)
20,000		3/4	20NVA12MF	0.44 (11.2)
		1	20NVA16MF	0.562 (14.3)

Dimensions, in. (mm)

A	B	C	D1	D2	E	F	G	H	J	K	L
2.00 (50.8)	1.00 (25.4)	2.44 (62.0)	-	1.19 (30.2)	0.38 (9.7)	1.24 (31.5)	3.00 (76.2)	5.28 (134.1)	0.25 (6.4)	0.38 (9.7)	1.00 (25.4)
2.00 (50.8)	1.00 (25.4)	2.44 (62.0)	-	1.19 (30.2)	0.38 (9.7)	1.24 (31.5)	3.00 (76.2)	5.28 (134.1)	0.25 (6.4)	0.48 (12.2)	1.00 (25.4)
2.50 (63.5)	1.25 (31.8)	3.38 (85.9)	-	1.75 (44.5)	0.50 (12.7)	1.38 (35.0)	4.00 (102.0)	5.96 (151.4)	0.34 (8.7)	0.68 (17.3)	1.00 (25.4)
3.00 (76.2)	1.5 (38.1)	4.25 (108.0)	-	2.25 (57.2)	0.62 (15.7)	1.76 (44.7)	8.07 (204)	7.56 (192.0)	0.44 (11.2)	0.59 (15.0)	1.38 (35.1)
4.12 (105)	2.06 (52.3)	5.13 (130.3)	-	2.82 (71.6)	1.12 (28.4)	2.5 (63.5)	10.29 (261.4)	9.45 (240.0)	0.56 (14.2)	0.74 (18.8)	1.75 (44.4)

Medium Pressure Standard Valves (Up to 23,000 PSI / 1586 BAR)

Medium Pressure 3-Way Valves with 2 Inlets

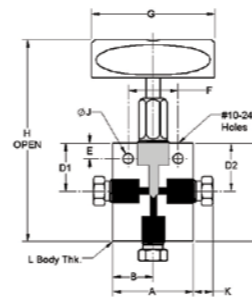


Pressure (PSI)	Connection Type	End Connection Size in.	Part Number	Orifice in. (mm)
23,000	Medium Pressure Cone & Thread	1/4	23NVT2-4MF	0.125 (3.2)
		3/8	23NVT2-6MF	0.200 (5.1)
		9/16	23NVT2-9MF	0.312 (7.9)

Dimensions, in. (mm)

A	B	C	D1	D2	E	F	G	H	J	K	L
2.00 (50.8)	1.00 (25.4)	2.62 (66.5)	1.63 (41.3)	1.19 (30.2)	0.38 (9.7)	1.24 (31.5)	3.00 (76.2)	5.46 (138.7)	0.25 (6.4)	0.38 (9.7)	1.00 (25.4)
2.00 (50.8)	1.00 (25.4)	2.62 (66.5)	1.63 (41.3)	1.19 (30.2)	0.38 (9.7)	1.24 (31.5)	3.00 (76.2)	5.46 (138.7)	0.25 (6.4)	0.48 (12.2)	1.00 (25.4)
2.50 (63.5)	1.25 (31.8)	3.63 (92.2)	1.75 (44.5)	1.75 (44.5)	0.50 (12.7)	1.38 (35.0)	4.00 (102)	6.21 (157.7)	0.34 (8.7)	0.68 (17.3)	1.00 (25.4)

Medium Pressure 3-Way Valves with 1 Inlet



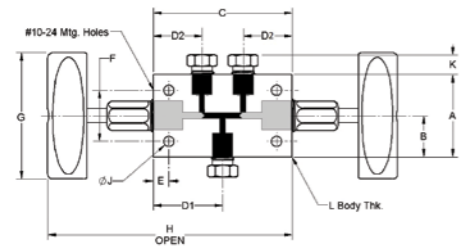
Pressure (PSI)	Connection Type	End Connection Size in.	Part Number	Orifice in. (mm)
23,000	Medium Pressure Cone & Thread	1/4	23NVT1-4MF	0.125 (3.2)
		3/8	23NVT1-6MF	0.200 (5.1)
		9/16	23NVT1-9MF	0.312 (7.9)

Dimensions, in. (mm)

A	B	C	D1	D2	E	F	G	H	J	K	L
2.00 (50.8)	1.00 (25.4)	2.44 (62.0)	1.19 (30.2)	1.19 (30.2)	0.38 (9.7)	1.24 (31.5)	3.00 (76.2)	5.28 (134.1)	0.25 (6.4)	0.38 (9.7)	1.00 (25.4)
2.00 (50.8)	1.00 (25.4)	2.44 (62.0)	1.19 (30.2)	1.19 (30.2)	0.38 (9.7)	1.24 (31.5)	3.00 (76.2)	5.28 (134.1)	0.25 (6.4)	0.48 (12.2)	1.00 (25.4)
2.50 (63.5)	1.25 (31.8)	3.38 (85.9)	1.75 (44.5)	1.75 (44.5)	0.50 (12.7)	1.38 (35.0)	4.00 (102)	5.96 (151.4)	0.34 (8.7)	0.68 (17.3)	1.00 (25.4)

Medium Pressure Standard Valves (Up to 23,000 PSI / 1586 BAR)

Medium Pressure 3-Way, 2 Stems Valves

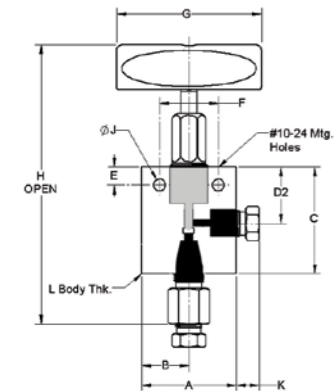


Pressure (PSI)	Connection Type	End Connection Size in.	Part Number	Orifice in. (mm)
23,000	Medium Pressure Cone & Thread	1/4	23NVT3-4MF	0.125 (3.2)
		3/8	23NVT3-6MF	0.200 (5.1)
		9/16	23NVT3-9MF	0.312 (7.9)

Dimensions, in. (mm)

A	B	C	D1	D2	E	F	G	H	J	K	L
2.00 (50.8)	1.00 (25.4)	3.38 (85.9)	1.69 (42.9)	1.19 (30.2)	0.38 (9.7)	1.24 (31.5)	3.00 (76.2)	9.06 (230.1)	0.25 (6.4)	0.38 (9.7)	1.00 (25.4)
2.00 (50.8)	1.00 (25.4)	3.38 (85.9)	2.56 (65.0)	1.75 (44.5)	0.38 (9.7)	1.24 (31.5)	3.00 (76.2)	9.06 (230.1)	0.25 (6.4)	0.48 (12.2)	1.00 (25.4)
2.50 (63.5)	1.25 (31.8)	5.12 (130)	2.56 (65.0)	1.75 (44.5)	0.50 (12.7)	1.38 (35.0)	4.00 (102)	10.28 (261.1)	0.34 (8.7)	0.68 (17.3)	1.00 (25.4)

Medium Pressure Replaceable Seat Valves



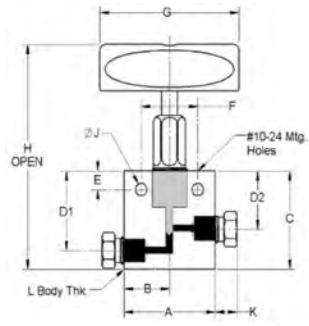
Pressure (PSI)	Connection Type	End Connection Size in.	Part Number	Orifice in. (mm)
23,000	Medium Pressure Cone & Thread	1/4	23NVR4MF	0.125 (3.2)
		3/8	23NVR6MF	0.200 (5.1)
		9/16	23NVR9MF	0.312 (7.9)
20,000		3/4	20NVR12MF	0.44 (11.2)
		1	20NVR16MF	0.562 (14.2)

Dimensions, in. (mm)

A	B	C	D1	D2	E	F	G	H	J	K	L
2.00 (50.8)	1.00 (25.4)	3.30 (83.8)	-	1.19 (30.2)	0.38 (9.7)	1.24 (31.5)	3.00 (76.2)	6.04 (153.4)	0.25 (6.4)	0.38 (9.7)	1.00 (25.4)
2.00 (50.8)	1.00 (25.4)	3.30 (83.8)	-	1.19 (30.2)	0.38 (9.7)	1.24 (31.5)	3.00 (76.2)	6.04 (153.4)	0.25 (6.4)	0.48 (12.2)	1.00 (25.4)
2.50 (63.5)	1.25 (31.8)	4.63 (117.6)	-	1.75 (44.5)	0.50 (12.7)	1.38 (35.0)	4.00 (102)	7.21 (183.1)	0.34 (8.7)	0.68 (17.3)	1.00 (25.4)
3.00 (76.2)	1.5 (38.1)	4.5 (114)	-	2.25 (57.2)	0.62 (15.7)	1.76 (44.7)	8.00 (203)	9.58 (243)	0.44 (11.2)	0.59 (15.0)	1.38 (35.1)
4.12 (105)	2.06 (52.3)	5.5 (140)	-	2.81 (71.4)	1.12 (28.4)	2.5 (63.5)	10.00 (254)	10.8 (275)	0.56 (14.2)	0.74 (18.8)	1.75 (44.4)

Medium Pressure Quick Open Valves (Up to 23,000 PSI / 1586 BAR)

Medium Pressure Quick Open 2-Way Straight Valves

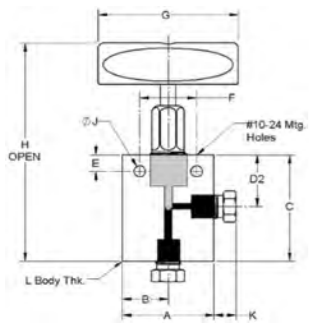


Pressure (PSI)	Connection Type	End Connection Size in.	Part Number	Orifice in. (mm)
23,000	Medium Pressure Cone & Thread	1/4	23NVSQ4MF	0.125 (3.2)
		3/8	23NVSQ6MF	0.20 (5.1)
		9/16	23NVSQ9MF	0.312 (7.9)

Dimensions, in. (mm)

A	B	C	D1	D2	E	F	G	H	J	K	L
2.00 (50.8)	1.00 (25.4)	2.00 (50.8)	1.63 (41.3)	1.19 (30.2)	0.38 (9.7)	1.24 (31.5)	3.00 (76.2)	4.84 (123.0)	0.25 (6.4)	0.38 (9.7)	1.00 (25.4)
2.00 (50.8)	1.00 (25.4)	2.00 (50.8)	1.63 (41.3)	1.19 (30.2)	0.38 (9.7)	1.24 (31.5)	3.00 (76.2)	4.84 (123.0)	0.25 (6.4)	0.48 (12.2)	1.00 (25.4)
2.50 (63.5)	1.25 (31.8)	2.88 (73.2)	2.38 (60.5)	1.75 (44.5)	0.50 (12.7)	1.38 (35.0)	4.00 (102.0)	5.46 (138.7)	0.34 (8.7)	0.68 (17.3)	1.00 (25.4)

Medium Pressure Quick Open 2-Way Angle Valves

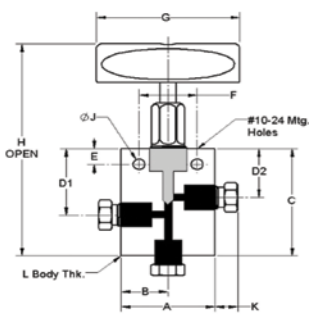


Pressure (PSI)	Connection Type	End Connection Size in.	Part Number	Orifice in. (mm)
23,000	Medium Pressure Cone & Thread	1/4	23NVAQ4MF	0.125 (3.2)
		3/8	23NVAQ6MF	0.20 (5.1)
		9/16	23NVAQ9MF	0.312 (7.9)

Dimensions, in. (mm)

A	B	C	D1	D2	E	F	G	H	J	K	L
2.00 (50.8)	1.00 (25.4)	2.44 (62.0)	-	1.19 (30.2)	0.38 (9.7)	1.24 (31.5)	3.00 (76.2)	5.28 (134.1)	0.25 (6.4)	0.38 (9.7)	1.00 (25.4)
2.00 (50.8)	1.00 (25.4)	2.44 (62.0)	-	1.19 (30.2)	0.38 (9.7)	1.24 (31.5)	3.00 (76.2)	5.28 (134.1)	0.25 (6.4)	0.48 (12.2)	1.00 (25.4)
2.50 (63.5)	1.25 (31.8)	3.38 (85.9)	-	1.75 (44.5)	0.50 (12.7)	1.38 (35.0)	4.00 (102.0)	5.96 (151.4)	0.34 (8.7)	0.68 (17.3)	1.00 (25.4)

Medium Pressure Quick Open 3-Way Valves with 2 Inlets



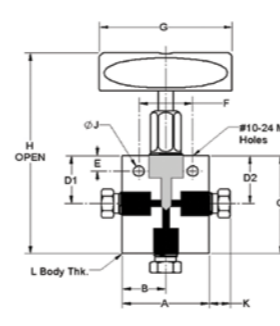
Pressure (PSI)	Connection Type	End Connection Size in.	Part Number	Orifice in. (mm)
23,000	Medium Pressure Cone & Thread	1/4	23NVT2Q4MF	0.125 (3.2)
		3/8	23NVT2Q6MF	0.20 (5.1)
		9/16	23NVT2Q9MF	0.312 (7.9)

Dimensions, in. (mm)

A	B	C	D1	D2	E	F	G	H	J	K	L
2.00 (50.8)	1.00 (25.4)	2.62 (66.5)	1.63 (41.3)	1.19 (30.2)	0.38 (9.7)	1.24 (31.5)	3.00 (76.2)	5.46 (138.7)	0.25 (6.4)	0.38 (9.7)	1.00 (25.4)
2.00 (50.8)	1.00 (25.4)	2.62 (66.5)	1.63 (41.3)	1.19 (30.2)	0.38 (9.7)	1.24 (31.5)	3.00 (76.2)	5.46 (138.7)	0.25 (6.4)	0.48 (12.2)	1.00 (25.4)
2.50 (63.5)	1.25 (31.8)	3.63 (92.2)	1.75 (44.5)	1.75 (44.5)	0.50 (12.7)	1.38 (35.0)	4.00 (102.0)	6.21 (157.7)	0.34 (8.7)	0.68 (17.3)	1.00 (25.4)

Medium Pressure Quick Open Valves (Up to 23,000 PSI / 1586 BAR)

Medium Pressure Quick Open 3-Way Valves with 1 Inlet

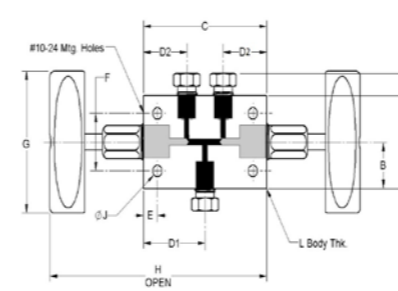


Pressure (PSI)	Connection Type	End Connection Size in.	Part Number	Orifice in. (mm)
23,000	Medium Pressure Cone & Thread	1/4	23NVT1Q4MF	0.125 (3.2)
		3/8	23NVT1Q6MF	0.20 (5.1)
		9/16	23NVT1Q9MF	0.312 (7.9)

Dimensions, in. (mm)

A	B	C	D1	D2	E	F	G	H	J	K	L
2.00 (50.8)	1.00 (25.4)	2.44 (62.0)	1.19 (30.2)	1.19 (30.2)	0.38 (9.7)	1.24 (31.5)	3.00 (76.2)	5.28 (134.1)	0.25 (6.4)	0.38 (9.7)	1.00 (25.4)
2.00 (50.8)	1.00 (25.4)	2.44 (62.0)	1.19 (30.2)	1.19 (30.2)	0.38 (9.7)	1.24 (31.5)	3.00 (76.2)	5.28 (134.1)	0.25 (6.4)	0.48 (12.2)	1.00 (25.4)
2.50 (63.5)	1.25 (31.8)	3.38 (85.9)	1.75 (44.5)	1.75 (44.5)	0.50 (12.7)	1.38 (35.0)	4.00 (102.0)	5.96 (151.4)	0.34 (8.7)	0.68 (17.3)	1.00 (25.4)

Medium Pressure Quick Open 3-Ways, 2 Stems Valves

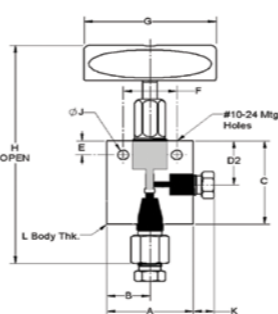


Pressure (PSI)	Connection Type	End Connection Size in.	Part Number	Orifice in. (mm)
23,000	Medium Pressure Cone & Thread	1/4	23NVT3Q4MF	0.125 (3.2)
		3/8	23NVT3Q6MF	0.20 (5.1)
		9/16	23NVT3Q9MF	0.312 (7.9)

Dimensions, in. (mm)

A	B	C	D1	D2	E	F	G	H	J	K	L
2.00 (50.8)	1.00 (25.4)	3.38 (85.9)	1.69 (42.9)	1.19 (30.2)	0.38 (9.7)	1.24 (31.5)	3.00 (76.2)	9.06 (230.1)	0.25 (6.4)	0.38 (9.7)	1.00 (25.4)
2.00 (50.8)	1.00 (25.4)	3.38 (85.9)	2.56 (65.0)	1.75 (44.5)	0.38 (9.7)	1.24 (31.5)	3.00 (76.2)	9.06 (230.1)	0.25 (6.4)	0.48 (12.2)	1.00 (25.4)
2.50 (63.5)	1.25 (31.8)	5.12 (130.0)	2.56 (65.0)	1.75 (44.5)	0.50 (12.7)	1.38 (35.0)	4.00 (102.0)	10.28 (261.1)	0.34 (8.7)	0.68 (17.3)	1.00 (25.4)

Medium Pressure Quick Open Replaceable Seat Valves



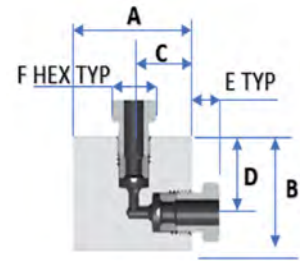
Pressure (PSI)	Connection Type	End Connection Size in.	Part Number	Orifice in. (mm)
23,000	Medium Pressure Cone & Thread	1/4	23NVRQ4MF	0.125 (3.2)
		3/8	23NVRQ6MF	0.20 (5.1)
		9/16	23NVRQ9MF	0.312 (7.9)

Dimensions, in. (mm)

A	B	C	D1	D2	E	F	G	H	J	K	L
2.00 (50.8)	1.00 (25.4)	3.30 (83.8)	-	1.19 (30.2)	0.38 (9.7)	1.24 (31.5)	3.00 (76.2)	6.04 (153.4)	0.25 (6.4)	0.38 (9.7)	1.00 (25.4)
2.00 (50.8)	1.00 (25.4)	3.30 (83.8)	-	1.19 (30.2)	0.38 (9.7)	1.24 (31.5)	3.00 (76.2)	6.04 (153.4)	0.25 (6.4)	0.48 (12.2)	1.00 (25.4)
2.50 (63.5)	1.25 (31.8)	4.63 (117.6)	-	1.75 (44.5)	0.50 (12.7)	1.38 (35.0)	4.00 (102.0)	7.21 (183.1)	0.34 (8.7)	0.68 (17.3)	1.00 (25.4)

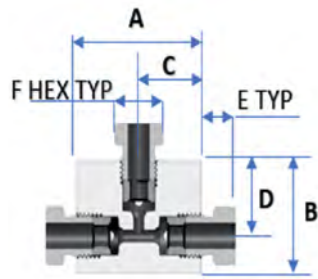
Medium Pressure Fittings (Up to 23,000 PSI / 1586 BAR)

Medium Pressure Elbows



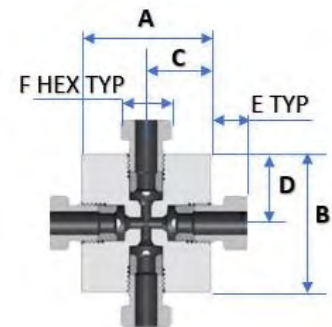
Part Number	MAWP (PSI)	Connections	A (in.)	B (in.)	C (in.)	D (in.)	E (in.)	F (in.)	Thickness (in.)
23L4MF	23,000	1/4" MP.F	1.50	1.13	0.75	0.75	0.35	0.50	0.62
23L6MF	23,000	3/8" MP.F	2.00	1.38	1.00	1.00	0.47	0.63	0.75
23L9MF	23,000	9/16" MP.F	2.50	1.75	1.25	1.25	0.66	0.88	1.00
20L12MF	20,000	3/4" MP.F	3.00	2.25	1.50	1.50	0.55	1.18	1.38
20L16MF	20,000	1" MP.F	4.13	3.00	2.06	2.06	0.69	1.38	1.75

Medium Pressure Tees



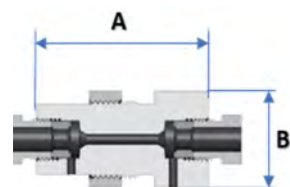
Part Number	MAWP (PSI)	Connections	A (in.)	B (in.)	C (in.)	D (in.)	E (in.)	F (in.)	Thickness (in.)
23T4MF	23,000	1/4" MP.F	1.50	1.13	0.75	0.75	0.35	0.50	0.62
23T6MF	23,000	3/8" MP.F	2.00	1.38	1.00	1.00	0.47	0.63	0.75
23T9MF	23,000	9/16" MP.F	2.50	1.75	1.25	1.25	0.66	0.88	1.00
20T12MF	20,000	3/4" MP.F	3.00	2.25	1.50	1.50	0.55	1.18	1.38
20T16MF	20,000	1" MP.F	4.12	3.00	2.06	2.06	0.69	1.38	1.75

Medium Pressure Crosses



Part Number	MAWP (PSI)	Connections	A (in.)	B (in.)	C (in.)	D (in.)	E (in.)	F (in.)	Thickness (in.)
23X4MF	23,000	1/4" MP.F	1.50	1.50	0.75	0.75	0.35	0.50	0.62
23X6MF	23,000	3/8" MP.F	2.00	2.00	1.00	1.00	0.47	0.63	0.75
23X9MF	23,000	9/16" MP.F	2.50	2.50	1.25	1.25	0.66	0.88	1.00
20X12MF	20,000	3/4" MP.F	3.00	3.00	1.50	1.50	0.55	1.18	1.38
20X16MF	20,000	1" MP.F	4.12	4.12	2.06	2.06	0.69	1.38	1.75

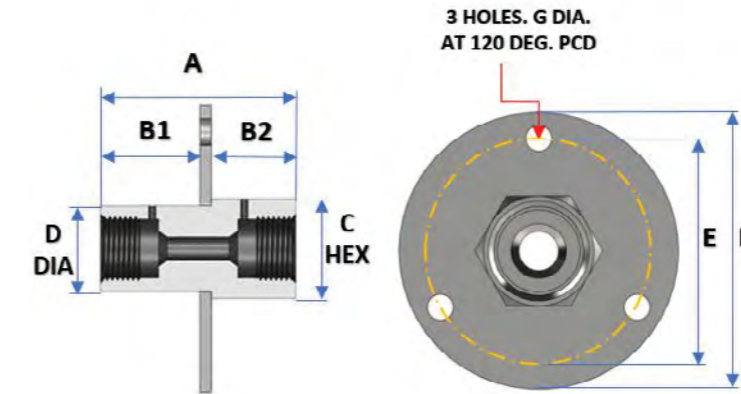
Medium Pressure Bulkhead Couplings



Part Number	MAWP (PSI)	Connections	A (in.)	B (in.)	Panel Cutout (in.)
23BU4MF	23,000	1/4" MP.F	2.00	1.00	0.88
23BU6MF	23,000	3/8" MP.F	2.00	1.00	0.94
23BU9MF	23,000	9/16" MP.F	2.62	1.38	1.25
20BU12MF	20,000	3/4" MP.F	2.62	1.88	1.69
20BU16MF	20,000	1" MP.F	3.50	2.13	2.00

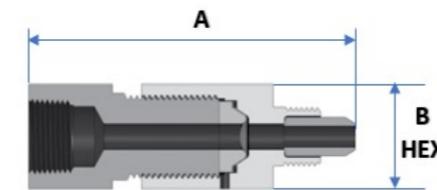
Medium Pressure Fittings (Up to 23,000 PSI / 1586 BAR)

Medium Bulkhead Couplings c/w Welded Plates



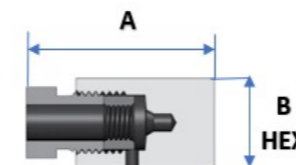
Part Number	MAWP (PSI)	Connections	A (in.)	B (in.)	C (in.)	D (in.)	E (in.)	F (in.)	G (in.)	Thickness (in.)
23BU4MF-RW	23,000	1/4" MP.F	1.35	0.62	0.63	0.58	2.05	2.52	0.24	0.62
23BU6MF-RW	23,000	3/8" MP.F	1.65	0.77	0.75	0.71	2.05	2.52	0.24	0.75
23BU9MF-RW	23,000	9/16" MP.F	2.00	0.94	1.00	0.94	2.05	2.52	0.24	0.98
20BU12MF-RW	20,000	3/4" MP.F	2.40	1.14	1.38	1.30	2.05	2.52	0.24	1.34
20BU16MF-RW	20,000	1" MP.F	3.50	1.69	1.75	1.65	2.24	2.76	0.28	1.69

Medium Pressure Safety Heads



Part Number	MAWP (PSI)	Connections	A (in.)	B (in.)
23SH4MM	23,000	1/4" MP.M	3.42	1.00
23SH6MM	23,000	3/8" MP.M	3.42	1.13
23SH9MM	23,000	9/16" MP.M	3.56	1.38

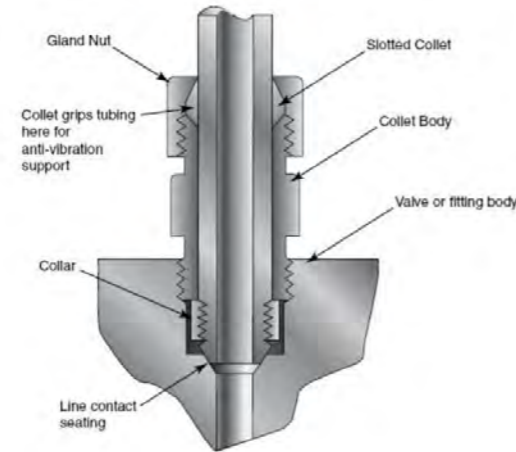
Medium Pressure Caps



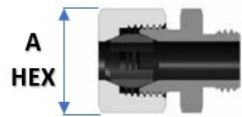
Part Number	MAWP (PSI)	Connections	A (in.)	B (in.)
23CA4MF	23,000	1/4" MP.F	1.00	0.50
23CA6MF	23,000	3/8" MP.F	1.25	0.63
23CA9MF	23,000	9/16" MP.F	1.50	0.88
20CA12MF	20,000	3/4" MP.F	1.75	1.18
20CA16MF	20,000	1" MP.F	2.25	1.38

Medium Pressure Fittings (Up to 23,000 PSI / 1586 BAR)

Medium Pressure Anti-Vibration Gland Assemblies

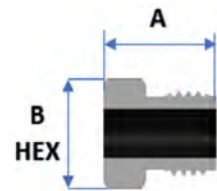


Part Number (AV Gland)	Part Number (Collar)	MAWP (PSI)	Connections	A (in.)
23AV4M	23CL4M	23,000	1/4" MP.F	0.50
23AV6M	23CL6M	23,000	3/8" MP.F	0.63
23AV9M	23CL9M	23,000	9/16" MP.F	0.88
20AV12M	20CL12M	20,000	3/4" MP.F	1.18
20AV16M	20CL16M	20,000	1" MP.F	1.38



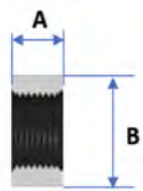
Medium Pressure Glands

Part Number	Pressure (PSI)	Tube Size	A (in.)	B (in.)
23GL4M	23,000	1/4" OD	0.56	0.50
23GL6M	23,000	3/8" OD	0.72	0.63
23GL9M	23,000	9/16" OD	0.88	0.94
20GL12M	20,000	3/4" OD	1.00	1.19
20GL16M	20,000	1" OD	1.38	1.38



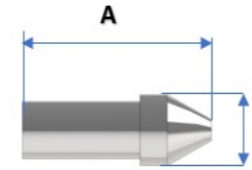
Medium Pressure Collars

Part Number	Pressure (PSI)	Tube Size	A (in.)	B (in.)
23CL4M	23,000	1/4" OD	0.22	0.38
23CL6M	23,000	3/8" OD	0.25	0.47
23CL9M	23,000	9/16" OD	0.31	0.72
20CL12M	20,000	3/4" OD	0.38	0.94
20CL16M	20,000	1" OD	0.50	1.25



Medium Pressure Fittings (Up to 23,000 PSI / 1586 BAR)

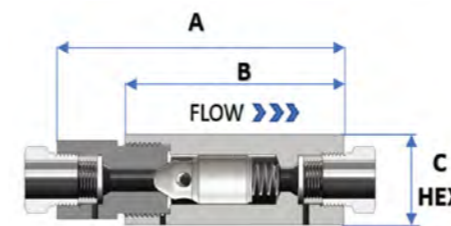
Medium Pressure Plugs



Part Number	Pressure (PSI)	Tube Size	A (in.)	B (in.)
23PL4M	23,000	1/4" OD	1.00	0.37
23PL6M	23,000	3/8" OD	1.25	0.47
23PL9M	23,000	9/16" OD	1.53	0.72
20PL12M	20,000	3/4" OD	1.50	0.94
20PL16M	20,000	1" OD	2.19	1.25

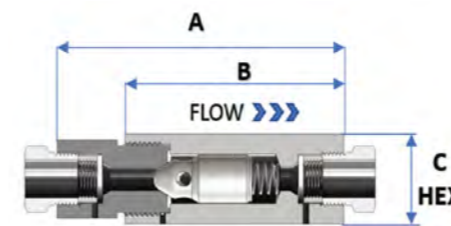
Medium Pressure Check Valves (Up to 23,000 PSI / 1586 BAR)

Ball Check Valves



Part Number	Pressure (PSI)	Connections	Orifice (in.)	A (in.)	B (in.)	C (in.)
23BCV4MF	23,000	1/4" MP.F	0.125	3.07	2.50	1.00
23BCV6MF	23,000	3/8" MP.F	0.219	3.48	2.66	1.13
23BCV9MF	23,000	9/16" MP.F	0.359	4.76	3.50	1.38
20BCV12MF	20,000	3/4" MP.F	0.516	5.63	4.38	1.75
20BCV16MF	20,000	1" MP.F	0.688	7.00	5.25	2.13

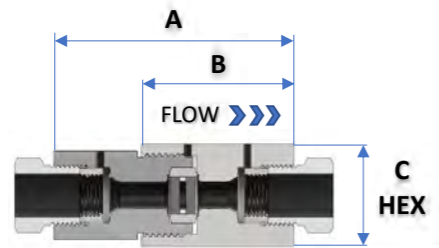
Soft Seat Check Valves



Part Number	Pressure (PSI)	Connections	Orifice (in.)	A (in.)	B (in.)	C (in.)
23SCV4MF	23,000	1/4" MP.F	0.125	3.07	2.50	1.00
23SCV6MF	23,000	3/8" MP.F	0.219	3.48	2.66	1.13
23SCV9MF	23,000	9/16" MP.F	0.359	4.76	3.50	1.38
20SCV12MF	20,000	3/4" MP.F	0.516	5.63	4.38	1.75
20SCV16MF	20,000	1" MP.F	0.680	7.00	5.25	2.13

Medium Pressure In-Line Filters (Up to 23,000 PSI / 1586 BAR)

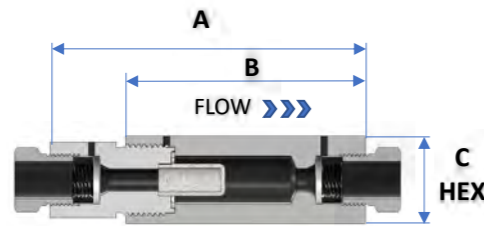
In-Line Disc Filters



Part Number	Pressure (PSI)	Connections	Orifice (in.)	A (in.)	B (in.)	C (in.)	Micron Size Filter Available					
							0.5	2	5	10	40	100
23LF4MF	23,000	1/4" MP.F	0.125	2.13	1.50	1.00	●	●	●	●	●	●
23LF6MF	23,000	3/8" MP.F	0.219	2.50	1.63	1.13	●	●	●	●	●	●
23LF9MF	23,000	9/16" MP.F	0.359	3.25	2.06	1.38	●	●	●	●	●	●
20LF12MF	20,000	3/4" MP.F	0.516	4.06	2.88	1.75	●	●	●	●	●	●
20LF16MF	20,000	1" MP.F	0.680	5.00	3.30	2.13	●	●	●	●	●	●

* Insert desired micron filter
Example: 23LF4MF-5 is a 1/4"MP In-Line filter with 5 micron filter

In-line Cup Filters



Part Number	Pressure (PSI)	Connections	Orifice (in.)	A (in.)	B (in.)	C (in.)	Micron Size Filter Available					
							0.5	2	5	10	40	100
23CF4MF	23,000	1/4" MP.F	0.125	3.07	2.50	1.00	●	●	●	●	●	●
23CF6MF	23,000	3/8" MP.F	0.219	3.48	2.66	1.13	●	●	●	●	●	●
23CF9MF	23,000	9/16" MP.F	0.359	4.76	3.50	1.38	●	●	●	●	●	●
20CF12MF	20,000	3/4" MP.F	0.516	5.63	4.38	1.75	●	●	●	●	●	●
20CF16MF	20,000	1" MP.F	0.680	7.00	5.25	2.13	●	●	●	●	●	●

* Insert desired micron filter
Example: 23CF4MF-5 is a 1/4"MP Cup filter with 5 micron filter

Medium Pressure Tubing and Nipples (Up to 20,000 PSI / 1379 BAR)

HTG's medium pressure tubing is capable of operating up to 20,000 psi and range in size from 1/4" to 1" tube size. Tubing is cold drawn, seamless and high yield & tensile strength in connection with high elongation.

Standard tubing is available in 316 stainless steel tubing, other materials available by request.

-* Tubing is stocked in lengths of 20-27 feet



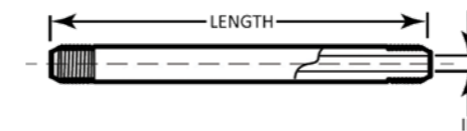
Medium Pressure Tubing



Part Number	Tubing Size	Type of Connection Used	Material	Pressure (PSI)
20TU4M-*	1/4" O.D. x 0.109" I.D.	1/4" MP	SS316	20,000
20TU6M-*	3/8" O.D. x 0.203" I.D.	3/8" MP	SS316	20,000
20TU9M-*	9/16" O.D. x 0.312" I.D.	9/16" MP	SS316	20,000
20TU12M-*	3/4" O.D. x 0.438" I.D.	3/4" MP	SS316	20,000
20TU16M-*	1" O.D. x 0.562" I.D.	1" MP	SS316	20,000
10TU16M-*	1" O.D. x 0.688" I.D.	1" MP	SS316	10,000

Coned and Threaded Nipples

Length	Tubing Size (Pressure)					
	1/4" O.D. x 0.109" I.D. (20,000 psi)	3/8" O.D. x 0.203" I.D. (20,000 psi)	9/16" O.D. x 0.312" I.D. (20,000 psi)	3/4" O.D. x 0.438" I.D. (20,000 psi)	1" O.D. x 0.562" I.D. (20,000 psi)	1" O.D. x 0.688" I.D. (10,000 psi)
2 3/4"	20N4M-2.75					
3"	20N4M-3	20N6M-3				
4"	20N4M-4	20N6M-4				
6"	20N4M-6	20N6M-6	20N9M-6			
8"	20N4M-8	20N6M-8	20N9M-8			
10"	20N4M-10	20N6M-10	20N9M-10			
12"	20N4M-12	20N6M-12	20N9M-12			



High Pressure Valves, Fittings & Tubing

High Pressure Needle Valves

(30,000 – 66,000 PSI / 2069–4552 BAR)

1/4"	3/8"	9/16"	1" High Pressure
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Specifications

Pressure rating	: 37,000 – 66,000 psi
Temp. Rating	: -100°F to 600°F
Body Material	: SS316 cold Worked
Stem	: 15-5 PH
Packing	: Glass filled Teflon

Typical Applications

- Hydraulic applications
- Pneumatic applications
- General plant service
- Isolating or venting

Optional

- Grafoil Packing for temperature up to 800°F
- Extended Stuffing Box for temperature up to 1200°F
- Air Actuator for remote control operation is available
- Can be manufactured to meet NACE MR0175 standard
- Quick Open Needle Valve
 - o Fully open in 1-3/4 turn
 - o Reduces throttling and therefore increase seat life



Features & Benefits

HTG Standard Needle Valve offer low-torque, fully open in 3-1/2 turn and compact design providing positive shutoff in applications up to 66,000 psi. Other features include:

- Two pieces heavy duty non-rotating stem for a reliable assembly.
- Bi-directional flow capability.
- Panel mounting option available.
- 4-sided tapered stem for maximum handle contact.
- Complete material traceability.

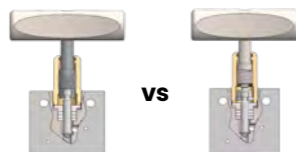
Quick Open Needle Valve

(30,000 – 66,000 PSI / 2069–4552 BAR)

Same features as the standard needle valve with the exception of:

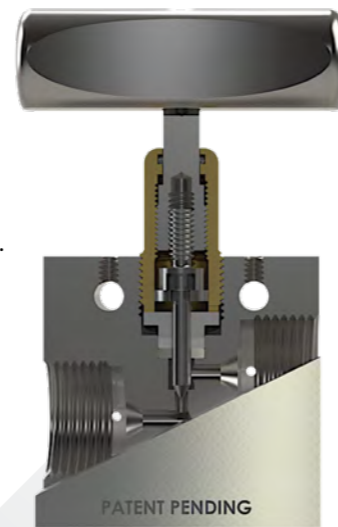
- Valve is fully open or closed in as little as 1.75 turns. A high-pressure valve industry first!
- Stem is lifted off of the seat >2X faster than conventional valves, which increases seat life.
- Valve is closed 2x faster for quicker isolation.
- Less than half the number of turns to fully open compared to competitor's valves. Less operator fatigue when opening/closing.
- Three-piece, heavy-duty, non-rotating stem

Standard Valve
Medium Pressure, 9/16
Full travel in 4.5 turns



Quick Open Valve
Medium Pressure, 9/16
Full travel in 2.25 turns

With Quick Open Valve the CV will be fully unblocked, thus allow full flow.



High Pressure Valves, Fittings & Tubing

High Pressure Check Valves

(30,000 – 66,000 PSI / 2069–4552 BAR)

1/4"	3/8"	9/16"	1" High Pressure
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Specifications

Pressure rating	: 37,000 to 66,000 psi
Ball Seat Poppet	: -420°F to 1200°F
Soft Seat Poppet	: -65°F to 250°F
Body Material	: SS316 cold worked
Cracking Press.	: 15 PSI

Typical Applications

- Hydraulic applications
- Pneumatic applications
- General plant service

Features & Benefits

- Prevents reverse flow where leak-tight shutoff is required.
- Ball Seat Poppet offers metal to metal seat for rapid cycling or severe environments.
- Soft Seat Poppet offers O-ring seat for fast shutoff and reliable seal.
- Nitrile is standard material of Soft Seat Poppet Check Valve.
- Complete material traceability.



High Pressure Fittings & Tubing

(30,000 – 66,000 PSI / 2069–4552 BAR)

1/4"	3/8"	9/16"	1" High Pressure
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Specifications

Pressure rating	: 30,000 – 66,000 psi
Body Material	: SS316 cold worked

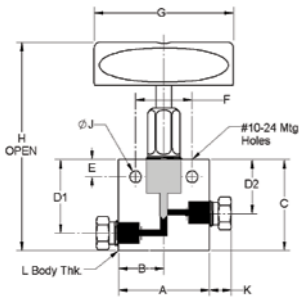
Features & Benefits

- A complete range of elbows, tees, crosses and adaptors are available for all of the tubing connection sizes.
- Can be manufactured to meet NACE MR0175 standard.
- Other materials available on request.



High Pressure Standard Valves (30,000 – 37,000 PSI / 2069 – 2552 BAR)

High Pressure 2-Way Straight Valves

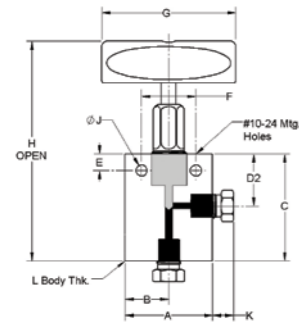


Pressure (PSI)	Connection Type	End Connection Size in.	Part Number	Orifice in. (mm)
37,000	High Pressure Cone & Thread	1/4	37NVS4HF	0.093 (2.4)
		3/8	37NVS6HF	0.125 (3.2)
		9/16	37NVS9HF	0.125 (3.2)
30,000		1	30NVS16MF	0.438 (11.1)

Dimensions, in. (mm)

A	B	C	D1	D2	E	F	G	H	J	K	L
2.00 (50.8)	1.00 (25.4)	2.00 (50.8)	1.50 (38.1)	1.12 (28.5)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	4.74 (120.4)	0.28 (7.1)	0.59 (15.0)	1.00 (25.4)
2.00 (50.8)	1.00 (25.4)	2.00 (50.8)	1.50 (38.1)	1.12 (28.5)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	4.74 (120.4)	0.28 (7.1)	0.72 (18.3)	1.00 (25.4)
2.62 (66.5)	1.31 (33.3)	2.44 (62.0)	1.56 (39.6)	1.12 (28.5)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	5.18 (131.6)	0.28 (7.1)	1.00 (25.4)	1.50 (38.1)
4.12 (105)	2.06 (52.3)	4.73 (121)	3.75 (95.3)	2.81 (71.4)	1.12 (28.4)	2.5 (63.5)	10.00 (254.0)	10.1 (138.7)	0.56 (14.2)	0.74 (18.8)	1.75 (44.4)

High Pressure 2-Way Angle Valves

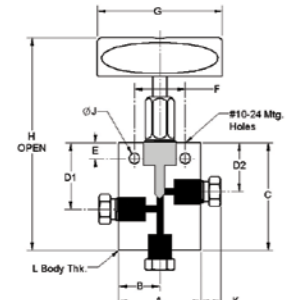


Pressure (PSI)	Connection Type	End Connection Size in.	Part Number	Orifice in. (mm)
37,000	High Pressure Cone & Thread	1/4	37NVA4HF	0.093 (2.4)
		3/8	37NVA6HF	0.125 (3.2)
		9/16	37NVA9HF	0.125 (3.2)
30,000		1	30NVA16MF	0.438 (11.1)

Dimensions, in. (mm)

A	B	C	D1	D2	E	F	G	H	J	K	L
2.00 (50.8)	1.00 (25.4)	2.00 (50.8)	-	1.12 (28.5)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	4.74 (120.4)	0.28 (7.1)	0.59 (15.0)	1.00 (25.4)
2.00 (50.8)	1.00 (25.4)	2.12 (53.8)	-	1.12 (28.5)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	4.86 (123.4)	0.28 (7.1)	0.72 (18.3)	1.00 (25.4)
2.62 (66.5)	1.31 (33.3)	2.44 (62.0)	-	1.12 (28.5)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	5.18 (131.6)	0.28 (7.1)	1.00 (25.4)	1.50 (38.1)
4.12 (105)	2.06 (52.3)	4.73 (121)	-	2.81 (71.4)	1.12 (28.4)	2.5 (63.5)	10.00 (254.0)	10.1 (138.7)	0.56 (14.2)	0.74 (18.8)	1.75 (44.4)

High Pressure 3-Way Valves with 2 Inlets



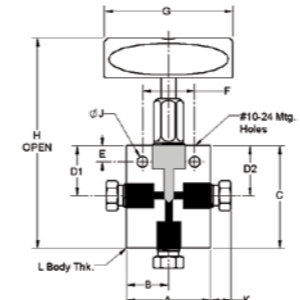
Pressure (PSI)	Connection Type	End Connection Size in.	Part Number	Orifice in. (mm)
37,000	High Pressure Cone & Thread	1/4	37NVT2-4HF	0.093 (2.4)
		3/8	37NVT2-6HF	0.125 (3.2)
		9/16	37NVT2-9HF	0.125 (3.2)

Dimensions, in. (mm)

A	B	C	D1	D2	E	F	G	H	J	K	L
2.00 (50.8)	1.00 (25.4)	2.12 (53.8)	1.50 (38.1)	1.12 (28.5)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	4.86 (123.4)	0.28 (7.1)	0.59 (15.0)	1.00 (25.4)
2.00 (50.8)	1.00 (25.4)	2.50 (63.5)	1.50 (38.1)	1.12 (28.5)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	5.24 (133.1)	0.28 (7.1)	0.72 (18.3)	1.00 (25.4)
2.62 (66.5)	1.31 (33.3)	2.88 (73.2)	1.56 (39.6)	1.12 (28.5)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	5.62 (142.7)	0.28 (7.1)	1.00 (25.4)	1.50 (38.1)

High Pressure Standard Valves (30,000 – 37,000 PSI / 2069 – 2552 BAR)

High Pressure 3-Way Valves with 1 Inlet

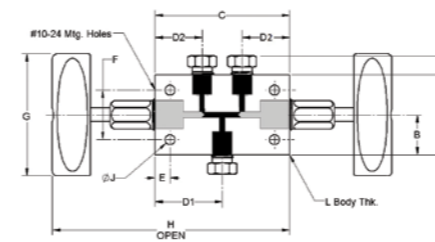


Pressure (PSI)	Connection Type	End Connection Size in.	Part Number	Orifice in. (mm)
37,000	High Pressure Cone & Thread	1/4	37NVT1-4HF	0.093 (2.4)
		3/8	37NVT1-6HF	0.125 (3.2)
		9/16	37NVT1-9HF	0.125 (3.2)

Dimensions, in. (mm)

A	B	C	D1	D2	E	F	G	H	J	K	L
2.00 (50.8)	1.00 (25.4)	2.00 (50.8)	1.12 (28.5)	1.12 (28.5)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	4.74 (120.4)	0.28 (7.1)	0.59 (15.0)	1.00 (25.4)
2.00 (50.8)	1.00 (25.4)	2.12 (53.8)	1.12 (28.5)	1.12 (28.5)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	4.86 (123.4)	0.28 (7.1)	0.72 (18.3)	1.00 (25.4)
2.62 (66.5)	1.31 (33.3)	2.44 (62.0)	1.12 (28.5)	1.12 (28.5)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	5.18 (131.6)	0.28 (7.1)	1.00 (25.4)	1.50 (38.1)

High Pressure 3-Way, 2 Stems Valves

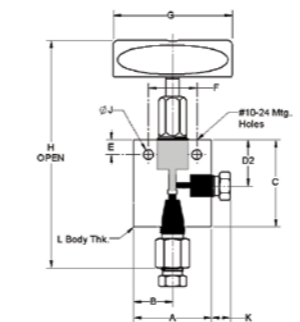


Pressure (PSI)	Connection Type	End Connection Size in.	Part Number	Orifice in. (mm)
37,000	High Pressure Cone & Thread	1/4	37NVT3-4HF	0.093 (2.4)
		3/8	37NVT3-6HF	0.125 (3.2)
		9/16	37NVT3-9HF	0.125 (3.2)

Dimensions, in. (mm)

A	B	C	D1	D2	E	F	G	H	J	K	L
2.00 (50.8)	1.00 (25.4)	3.06 (77.7)	1.53 (38.9)	1.12 (28.4)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	8.54 (216.9)	0.28 (7.1)	0.59 (15.0)	1.00 (25.4)
2.00 (50.8)	1.00 (25.4)	3.25 (82.6)	1.62 (41.2)	1.12 (28.4)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	8.73 (221.7)	0.28 (7.1)	0.72 (18.3)	1.00 (25.4)
2.62 (66.5)	1.31 (33.3)	3.75 (95.3)	1.88 (47.8)	1.12 (28.4)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	9.23 (234.4)	0.28 (7.1)	1.00 (25.4)	1.50 (38.1)

High Pressure Replaceable Seat Valves



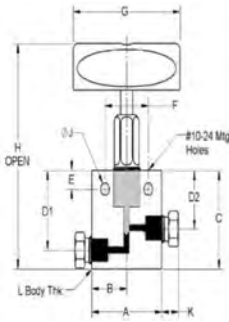
Pressure (PSI)	Connection Type	End Connection Size in.	Part Number	Orifice in. (mm)
37,000	High Pressure Cone & Thread	1/4	37NVR4HF	0.093 (2.4)
		3/8	37NVR6HF	0.125 (3.2)
		9/16	37NVR9HF	0.125 (3.2)
30,000		1	30NVR16MF	0.438 (11.1)

Dimensions, in. (mm)

A	B	C	D1	D2	E	F	G	H	J	K	L
2.00 (50.8)	1.00 (25.4)	3.12 (79.2)	-	1.12 (28.5)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	5.83 (148.1)	0.28 (7.1)	0.59 (15.0)	1.00 (25.4)
2.00 (50.8)	1.00 (25.4)	3.39 (86.1)	-	1.12 (28.5)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	6.09 (154.7)	0.28 (7.1)	0.72 (18.3)	1.00 (25.4)
2.62 (66.5)	1.31 (33.3)	3.82 (97.0)	-	1.19 (30.2)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	6.52 (165.6)	0.28 (7.1)	1.00 (25.4)	1.50 (38.1)
4.12 (105)	2.06 (52.3)	4.73 (121)	-	2.81 (71.4)	1.12 (28.4)	2.5 (63.5)	10.00 (254.0)	10.1 (138.7)	0.56 (14.2)	0.74 (18.8)	1.75 (44.4)

High Pressure Standard Valves (66,000 PSI / 4552 BAR)

High Pressure 2-Way Straight Valves

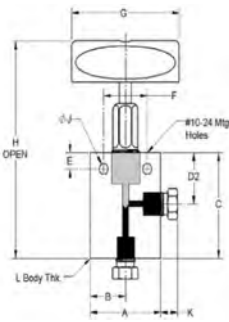


Pressure (PSI)	Connection Type	End Connection Size in.	Part Number	Orifice in. (mm)
66,000	High Pressure Cone & Thread	1/4	66NVS4HF	0.062 (1.6)
		3/8	66NVS6HF	0.062 (1.6)
		9/16	66NVS9HF	0.062 (1.6)

Dimensions, in. (mm)

A	B	C	D1	D2	E	F	G	H	J	K	L
2.00 (50.8)	1.00 (25.4)	2.12 (53.8)	1.69 (42.9)	1.31 (33.3)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	4.89 (124.2)	0.28 (7.1)	0.59 (15.0)	1.00 (25.4)
2.00 (50.8)	1.00 (25.4)	2.25 (57.2)	1.69 (42.9)	1.31 (33.3)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	5.02 (127.5)	0.28 (7.1)	0.72 (18.3)	1.00 (25.4)
2.62 (66.5)	1.31 (33.3)	2.50 (63.5)	1.75 (44.5)	1.31 (33.3)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	5.27 (133.9)	0.28 (7.1)	1.00 (25.4)	1.50 (38.1)

High Pressure 2-Way Angle Valves

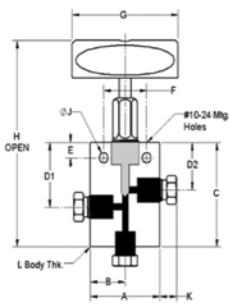


Pressure (PSI)	Connection Type	End Connection Size in.	Part Number	Orifice in. (mm)
66,000	High Pressure Cone & Thread	1/4	66NVA4HF	0.062 (1.6)
		3/8	66NVA6HF	0.062 (1.6)
		9/16	66NVA9HF	0.062 (1.6)

Dimensions, in. (mm)

A	B	C	D1	D2	E	F	G	H	J	K	L
2.00 (50.8)	1.00 (25.4)	2.38 (60.5)	-	1.31 (33.3)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	5.15 (130.8)	0.28 (7.1)	0.59 (15.0)	1.00 (25.4)
2.00 (50.8)	1.00 (25.4)	2.62 (66.5)	-	1.31 (33.3)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	5.39 (136.9)	0.28 (7.1)	0.72 (18.3)	1.00 (25.4)
2.62 (66.5)	1.31 (33.3)	2.81 (71.4)	-	1.31 (33.3)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	5.58 (141.7)	0.28 (7.1)	1.00 (25.4)	1.50 (38.1)

High Pressure 3-Way Valves with 2 Inlets



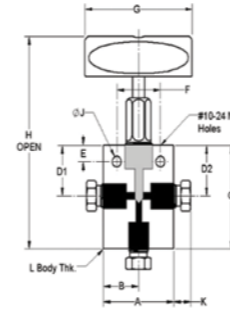
Pressure (PSI)	Connection Type	End Connection Size in.	Part Number	Orifice in. (mm)
66,000	High Pressure Cone & Thread	1/4	66NVT2-4HF	0.062 (1.6)
		3/8	66NVT2-6HF	0.062 (1.6)
		9/16	66NVT2-9HF	0.062 (1.6)

Dimensions, in. (mm)

A	B	C	D1	D2	E	F	G	H	J	K	L
2.00 (50.8)	1.00 (25.4)	2.38 (60.5)	1.69 (42.9)	1.31 (33.3)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	5.15 (130.8)	0.28 (7.1)	0.59 (15.0)	1.00 (25.4)
2.00 (50.8)	1.00 (25.4)	2.75 (69.9)	1.69 (42.9)	1.31 (33.3)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	5.52 (140.2)	0.28 (7.1)	0.72 (18.3)	1.00 (25.4)
2.62 (66.5)	1.31 (33.3)	3.03 (77.0)	1.75 (44.5)	1.31 (33.3)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	5.82 (147.8)	0.28 (7.1)	1.00 (25.4)	1.50 (38.1)

High Pressure Standard Valves (66,000 PSI / 4552 BAR)

High Pressure 3-Way Valves with 1 Inlet

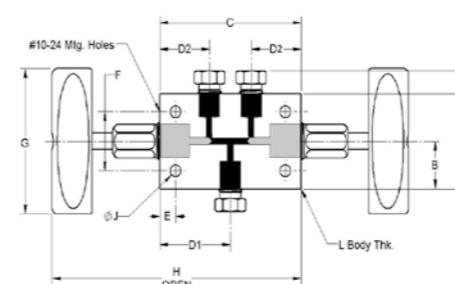


Pressure (PSI)	Connection Type	End Connection Size in.	Part Number	Orifice in. (mm)
66,000	High Pressure Cone & Thread	1/4	66NVT1-4HF	0.062 (1.6)
		3/8	66NVT1-6HF	0.062 (1.6)
		9/16	66NVT1-9HF	0.062 (1.6)

Dimensions, in. (mm)

A	B	C	D1	D2	E	F	G	H	J	K	L
2.00 (50.8)	1.00 (25.4)	2.38 (60.5)	1.31 (33.3)	1.31 (33.3)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	5.15 (130.8)	0.28 (7.1)	0.59 (15.0)	1.00 (25.4)
2.00 (50.8)	1.00 (25.4)	2.62 (66.5)	1.31 (33.3)	1.31 (33.3)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	5.39 (136.9)	0.28 (7.1)	0.72 (18.3)	1.00 (25.4)
2.62 (66.5)	1.31 (33.3)	2.81 (71.4)	1.31 (33.3)	1.31 (33.3)	0.38 (9.7)	1.50 (38.1)	3.00 (76.2)	5.58 (141.7)	0.28 (7.1)	1.00 (25.4)	1.50 (38.1)

High Pressure 3-Way, 2 Stems Valves

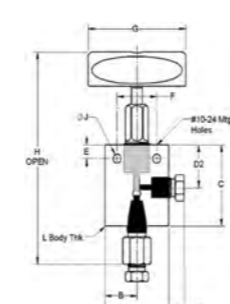


Pressure (PSI)	Connection Type	End Connection Size in.	Part Number	Orifice in. (mm)
66,000	High Pressure Cone & Thread	1/4	66NVT3-4HF	0.062 (1.6)
		3/8	66NVT3-6HF	0.062 (1.6)
		9/16	66NVT3-9HF	0.062 (1.6)

Dimensions, in. (mm)

A	B	C	D1	D2	E	F	G	H	J	K	L
2.00 (50.8)	1.00 (25.4)	3.44 (87.4)	1.72 (43.7)	1.31 (33.3)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	8.98 (228.1)	0.28 (7.1)	0.59 (15.0)	1.00 (25.4)
2.00 (50.8)	1.00 (25.4)	3.75 (95.3)	1.88 (47.8)	1.31 (33.3)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	9.29 (236.0)	0.28 (7.1)	0.72 (18.3)	1.00 (25.4)
2.62 (66.5)	1.31 (33.3)	4.12 (104.7)	2.06 (52.3)	1.31 (33.3)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	9.66 (245.4)	0.28 (7.1)	1.00 (25.4)	1.50 (38.1)

High Pressure Replaceable Seat Valves



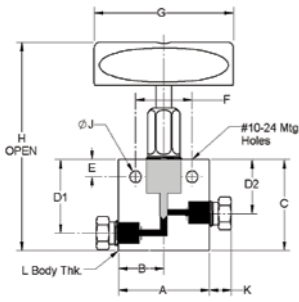
Pressure (PSI)	Connection Type	End Connection Size in.	Part Number	Orifice in. (mm)
66,000	High Pressure Cone & Thread	1/4	66NVR4HF	0.062 (1.6)
		3/8	66NVR6HF	0.062 (1.6)
		9/16	66NVR9HF	0.062 (1.6)

Dimensions, in. (mm)

A	B	C	D1	D2	E	F	G	H	J	K	L
2.00 (50.8)	1.00 (25.4)	3.45 (87.6)	-	1.31 (33.3)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	6.19 (157.2)	0.28 (7.1)	0.59 (15.0)	1.00 (25.4)
2.00 (50.8)	1.00 (25.4)	3.75 (95.25)	-	1.31 (33.3)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	6.49 (164.8)	0.28 (7.1)	0.72 (18.3)	1.00 (25.4)
2.62 (66.5)	1.31 (33.3)	4.00 (101.6)	-	1.31 (33.3)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	6.74 (171.2)	0.28 (7.1)	1.00 (25.4)	1.50 (38.1)

High Pressure Quick Open Valves (30,000 - 37,000 PSI / 2069 - 2552 BAR)

Quick Open High Pressure 2-Way Straight Valves

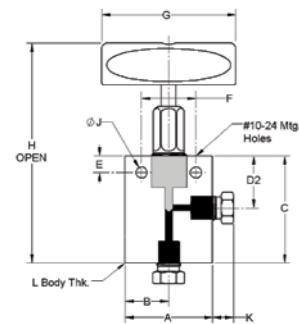


Pressure (PSI)	Connection Type	End Connection Size in.	Part Number	Orifice in. (mm)
37,000	High Pressure Cone & Thread	1/4	37NVSQ4HF	0.093 (2.4)
		3/8	37NVSQ6HF	0.125 (3.2)
		9/16	37NVSQ9HF	0.125 (3.2)
30,000		1	30NVSQ16MF	0.438 (11.1)

Dimensions, in. (mm)

A	B	C	D1	D2	E	F	G	H	J	K	L
2.00 (50.8)	1.00 (25.4)	2.00 (50.8)	1.50 (38.1)	1.12 (28.5)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	4.74 (120.4)	0.28 (7.1)	0.59 (15.0)	1.00 (25.4)
2.00 (50.8)	1.00 (25.4)	2.00 (50.8)	1.50 (38.1)	1.12 (28.5)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	4.74 (120.4)	0.28 (7.1)	0.72 (18.3)	1.00 (25.4)
2.62 (66.5)	1.31 (33.3)	2.44 (62.0)	1.56 (39.6)	1.12 (28.5)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	5.18 (131.6)	0.28 (7.1)	1.00 (25.4)	1.50 (38.1)
4.12 (105)	2.06 (52.3)	4.75 (121)	3.75 (95.3)	2.81 (71.4)	1.12 (28.4)	2.5 (63.5)	10.29 (261.3)	8.955 (227.5)	0.56 (14.2)	0.74 (18.8)	1.75 (44.4)

Quick Open High Pressure 2-Way Angle Valves

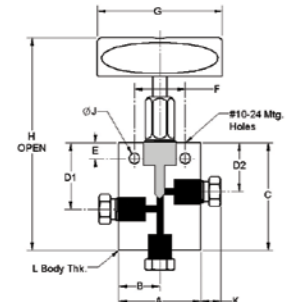


Pressure (PSI)	Connection Type	End Connection Size in.	Part Number	Orifice in. (mm)
37,000	High Pressure Cone & Thread	1/4	37NVAQ4HF	0.093 (2.4)
		3/8	37NVAQ6HF	0.125 (3.2)
		9/16	37NVAQ9HF	0.125 (3.2)
30,000		1	30NVAQ16MF	0.56 (14.2)

Dimensions, in. (mm)

A	B	C	D1	D2	E	F	G	H	J	K	L
2.00 (50.8)	1.00 (25.4)	2.00 (50.8)	-	1.12 (28.5)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	4.74 (120.4)	0.28 (7.1)	0.59 (15.0)	1.00 (25.4)
2.00 (50.8)	1.00 (25.4)	2.12 (53.8)	-	1.12 (28.5)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	4.74 (120.4)	0.28 (7.1)	0.72 (18.3)	1.00 (25.4)
2.62 (66.5)	1.31 (33.3)	2.44 (62.0)	-	1.12 (28.5)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	5.18 (131.6)	0.28 (7.1)	1.00 (25.4)	1.50 (38.1)
4.12 (105)	2.06 (52.3)	5.5 (140)	-	2.81 (71.4)	1.12 (28.4)	2.5 (63.5)	10.29 (261.3)	10.8 (275)	0.56 (14.2)	0.74 (18.8)	1.75 (44.4)

Quick Open High Pressure 3-Way Valves with 2 Inlets



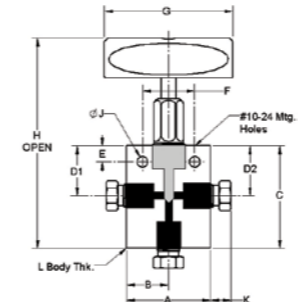
Pressure (PSI)	Connection Type	End Connection Size in.	Part Number	Orifice in. (mm)
37,000	High Pressure Cone & Thread	1/4	37NVT2Q4HF	0.093 (2.4)
		3/8	37NVT2Q6HF	0.125 (3.2)
		9/16	37NVT2Q9HF	0.125 (3.2)

Dimensions, in. (mm)

A	B	C	D1	D2	E	F	G	H	J	K	L
2.00 (50.8)	1.00 (25.4)	2.12 (53.8)	1.50 (38.1)	1.12 (28.5)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	4.86 (123.4)	0.28 (7.1)	0.59 (15.0)	1.00 (25.4)
2.00 (50.8)	1.00 (25.4)	2.50 (63.5)	1.50 (38.1)	1.12 (28.5)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	5.24 (133.1)	0.28 (7.1)	0.72 (18.3)	1.00 (25.4)
2.62 (66.5)	1.31 (33.3)	2.88 (73.2)	1.56 (39.6)	1.12 (28.5)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	5.62 (142.7)	0.28 (7.1)	1.00 (25.4)	1.50 (38.1)

High Pressure Quick Open Valves (30,000 - 37,000 PSI / 2069 - 2552 BAR)

Quick Open High Pressure 3-Way Valves 1 Inlet

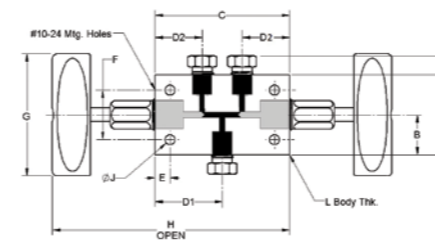


Pressure (PSI)	Connection Type	End Connection Size in.	Part Number	Orifice in. (mm)
37,000	High Pressure Cone & Thread	1/4	37NVT1Q4HF	0.093 (2.4)
		3/8	37NVT1Q6HF	0.125 (3.2)
		9/16	37NVT1Q9HF	0.125 (3.2)

Dimensions, in. (mm)

A	B	C	D1	D2	E	F	G	H	J	K	L
2.00 (50.8)	1.00 (25.4)	2.00 (50.8)	1.12 (28.5)	1.12 (28.5)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	4.74 (120.4)	0.28 (7.1)	0.59 (15.0)	1.00 (25.4)
2.00 (50.8)	1.00 (25.4)	2.12 (53.8)	1.12 (28.5)	1.12 (28.5)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	4.85 (123.4)	0.28 (7.1)	0.72 (18.3)	1.00 (25.4)
2.62 (66.5)	1.31 (33.3)	2.44 (62.0)	1.12 (28.5)	1.12 (28.5)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	5.18 (131.6)	0.28 (7.1)	1.00 (25.4)	1.50 (38.1)

Quick Open High Pressure 3-Way, 2 Stems Valves

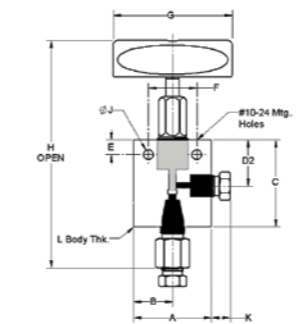


Pressure (PSI)	Connection Type	End Connection Size in.	Part Number	Orifice in. (mm)
37,000	High Pressure Cone & Thread	1/4	37NVT3Q4HF	0.093 (2.4)
		3/8	37NVT3Q6HF	0.125 (3.2)
		9/16	37NVT3Q9HF	0.125 (3.2)

Dimensions, in. (mm)

A	B	C	D1	D2	E	F	G	H	J	K	L
2.00 (50.8)	1.00 (25.4)	3.06 (77.7)	1.53 (38.9)	1.12 (28.4)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	8.54 (216.9)	0.28 (7.1)	0.59 (15.0)	1.00 (25.4)
2.00 (50.8)	1.00 (25.4)	3.25 (82.6)	1.62 (41.2)	1.12 (28.4)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	8.73 (221.7)	0.28 (7.1)	0.72 (18.3)	1.00 (25.4)
2.62 (66.5)	1.31 (33.3)	3.75 (95.3)	1.88 (47.8)	1.12 (28.4)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	9.23 (234.4)	0.28 (7.1)	1.00 (25.4)	1.50 (38.1)

Quick Open High Pressure Replaceable Seat Valves



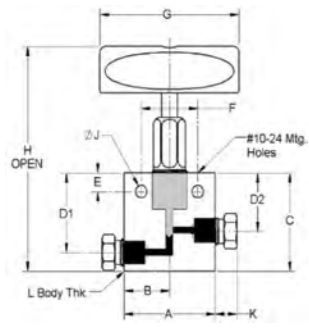
Pressure (PSI)	Connection Type	End Connection Size in.	Part Number	Orifice in. (mm)
37,000	High Pressure Cone & Thread	1/4	37NVRQ4HF	0.093 (2.4)
		3/8	37NVRQ6HF	0.125 (3.2)
		9/16	37NVRQ9HF	0.125 (3.2)
30,000		1	30NVRQ16MF	0.56 (14.2)

Dimensions, in. (mm)

A	B	C	D1	D2	E	F	G	H	J	K	L
2.00 (50.8)	1.00 (25.4)	3.12 (79.2)	-	1.12 (28.5)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	5.83 (148.1)	0.28 (7.1)	0.59 (15.0)	1.00 (25.4)
2.00 (50.8)	1.00 (25.4)	3.39 (86.1)	-	1.12 (28.5)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	6.09 (154.7)	0.28 (7.1)	0.72 (18.3)	1.00 (25.4)
2.62 (66.5)	1.31 (33.3)	3.82 (97.0)	-	1.19 (30.2)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	6.52 (165.6)	0.28 (7.1)	1.00 (25.4)	1.50 (38.1)
4.12 (105)	2.06 (52.3)	5.5 (140)	-	2.81 (71.4)	1.12 (28.4)	2.5 (63.5)	10.00 (254.0)	10.8 (275)	0.56 (14.2)	0.74 (18.8)	1.75 (44.4)

High Pressure Quick Open Valves (66,000 PSI / 4552 BAR)

Quick Open High Pressure 2-Way Straight Valves

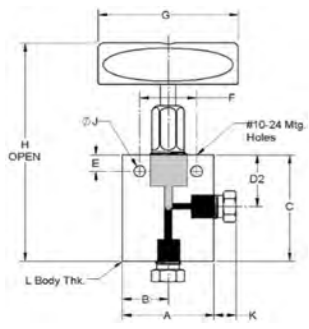


Pressure (PSI)	Connection Type	End Connection Size in.	Part Number	Orifice in. (mm)
66,000	High Pressure Cone & Thread	1/4	66NVSQ4HF	0.062 (1.6)
		3/8	66NVSQ6HF	0.062 (1.6)
		9/16	66NVSQ9HF	0.062 (1.6)

Dimensions, in. (mm)

A	B	C	D1	D2	E	F	G	H	J	K	L
2.00 (50.8)	1.00 (25.4)	2.12 (53.8)	1.69 (42.9)	1.31 (33.3)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	4.89 (124.2)	0.28 (7.1)	0.59 (15.0)	1.00 (25.4)
2.00 (50.8)	1.00 (25.4)	2.25 (57.2)	1.69 (42.9)	1.31 (33.3)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	5.02 (127.5)	0.28 (7.1)	0.72 (18.3)	1.00 (25.4)
2.62 (66.5)	1.31 (33.3)	2.50 (63.5)	1.75 (44.5)	1.31 (33.3)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	5.27 (133.9)	0.28 (7.1)	1.00 (25.4)	1.50 (38.1)

Quick Open High Pressure 2-Way Angle Valves

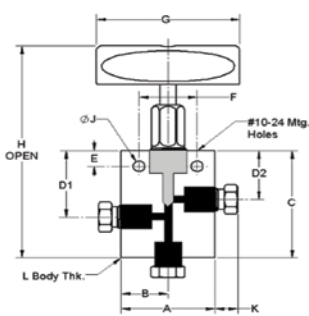


Pressure (PSI)	Connection Type	End Connection Size in.	Part Number	Orifice in. (mm)
66,000	High Pressure Cone & Thread	1/4	66NVAQ4HF	0.062 (1.6)
		3/8	66NVAQ6HF	0.062 (1.6)
		9/16	66NVAQ9HF	0.062 (1.6)

Dimensions, in. (mm)

A	B	C	D1	D2	E	F	G	H	J	K	L
2.00 (50.8)	1.00 (25.4)	2.38 (60.5)	-	1.31 (33.3)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	5.15 (130.8)	0.28 (7.1)	0.59 (15.0)	1.00 (25.4)
2.00 (50.8)	1.00 (25.4)	2.62 (66.5)	-	1.31 (33.3)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	5.39 (136.9)	0.28 (7.1)	0.72 (18.3)	1.00 (25.4)
2.62 (66.5)	1.31 (33.3)	2.81 (71.4)	-	1.31 (33.3)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	5.58 (141.7)	0.28 (7.1)	1.00 (25.4)	1.50 (38.1)

Quick Open High Pressure 3-Way Valves with 2 Inlets



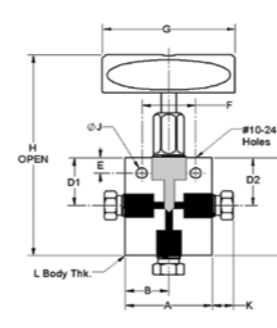
Pressure (PSI)	Connection Type	End Connection Size in.	Part Number	Orifice in. (mm)
66,000	High Pressure Cone & Thread	1/4	66NVT2Q4HF	0.062 (1.6)
		3/8	66NVT2Q6HF	0.062 (1.6)
		9/16	66NVT2Q9HF	0.062 (1.6)

Dimensions, in. (mm)

A	B	C	D1	D2	E	F	G	H	J	K	L
2.00 (50.8)	1.00 (25.4)	2.38 (60.5)	1.69 (42.9)	1.31 (33.3)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	5.15 (130.8)	0.28 (7.1)	0.59 (15.0)	1.00 (25.4)
2.00 (50.8)	1.00 (25.4)	2.75 (69.9)	1.69 (42.9)	1.31 (33.3)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	5.52 (140.2)	0.28 (7.1)	0.72 (18.3)	1.00 (25.4)
2.62 (66.5)	1.31 (33.3)	3.03 (77.0)	1.75 (44.5)	1.31 (33.3)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	5.82 (147.8)	0.28 (7.1)	1.00 (25.4)	1.50 (38.1)

High Pressure Quick Open Valves (66,000 PSI / 4552 BAR)

Quick Open High Pressure 3-Way Valves with 1 Inlet

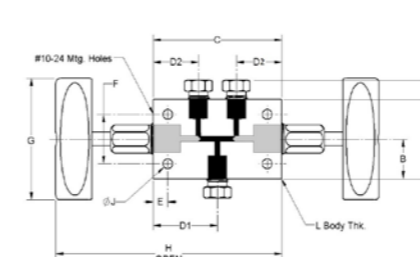


Pressure (PSI)	Connection Type	End Connection Size in.	Part Number	Orifice in. (mm)
66,000	High Pressure Cone & Thread	1/4	66NVT1Q4HF	0.062 (1.6)
		3/8	66NVT1Q6HF	0.062 (1.6)
		9/16	66NVT1Q9HF	0.062 (1.6)

Dimensions, in. (mm)

A	B	C	D1	D2	E	F	G	H	J	K	L
2.00 (50.8)	1.00 (25.4)	2.38 (60.5)	1.31 (33.3)	1.31 (33.3)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	5.15 (130.8)	0.28 (7.1)	0.59 (15.0)	1.00 (25.4)
2.00 (50.8)	1.00 (25.4)	2.62 (66.5)	1.31 (33.3)	1.31 (33.3)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	5.39 (136.9)	0.28 (7.1)	0.72 (18.3)	1.00 (25.4)
2.62 (66.5)	1.31 (33.3)	2.81 (71.4)	1.31 (33.3)	1.31 (33.3)	0.38 (9.7)	1.50 (38.1)	3.00 (76.2)	5.58 (141.7)	0.28 (7.1)	1.00 (25.4)	1.50 (38.1)

Quick Open High Pressure 3-Way, 2 Stems Valves

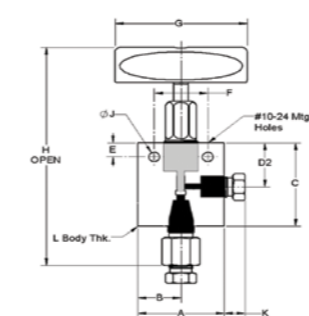


Pressure (PSI)	Connection Type	End Connection Size in.	Part Number	Orifice in. (mm)
66,000	High Pressure Cone & Thread	1/4	66NVT3Q4HF	0.062 (1.6)
		3/8	66NVT3Q6HF	0.062 (1.6)
		9/16	66NVT3Q9HF	0.062 (1.6)

Dimensions, in. (mm)

A	B	C	D1	D2	E	F	G	H	J	K	L
2.00 (50.8)	1.00 (25.4)	3.44 (87.4)	1.72 (43.7)	1.31 (33.3)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	8.98 (228.1)	0.28 (7.1)	0.59 (15.0)	1.00 (25.4)
2.00 (50.8)	1.00 (25.4)	3.75 (95.3)	1.88 (47.8)	1.31 (33.3)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	9.29 (236.0)	0.28 (7.1)	0.72 (18.3)	1.00 (25.4)
2.62 (66.5)	1.31 (33.3)	4.12 (104.7)	2.06 (52.3)	1.31 (33.3)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	9.66 (245.4)	0.28 (7.1)	1.00 (25.4)	1.50 (38.1)

Quick Open High Pressure 2-Way Replaceable Seat Valves



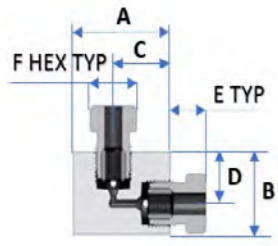
Pressure (PSI)	Connection Type	End Connection Size in.	Part Number	Orifice in. (mm)
66,000	High Pressure Cone & Thread	1/4	66NVRQ4HF	0.062 (1.6)
		3/8	66NVRQ6HF	0.062 (1.6)
		9/16	66NVRQ9HF	0.062 (1.6)

Dimensions, in. (mm)

A	B	C	D1	D2	E	F	G	H	J	K	L
2.00 (50.8)	1.00 (25.4)	3.45 (87.6)	-	1.31 (33.3)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	6.19 (157.2)	0.28 (7.1)	0.59 (15.0)	1.00 (25.4)
2.00 (50.8)	1.00 (25.4)	3.75 (95.25)	-	1.31 (33.3)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	6.49 (164.8)	0.28 (7.1)	0.72 (18.3)	1.00 (25.4)
2.62 (66.5)	1.31 (33.3)	4.00 (101.6)	-	1.31 (33.3)	0.38 (9.7)	1.38 (35.0)	3.00 (76.2)	6.74 (171.2)	0.28 (7.1)	1.00 (25.4)	1.50 (38.1)

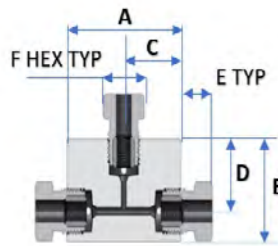
High Pressure Fittings (Up to 66,000 PSI / 4552 BAR)

High Pressure Elbows



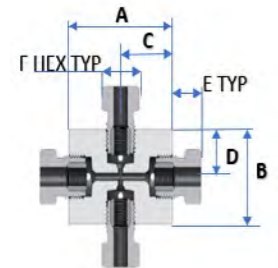
Part Number	Pressure (PSI)	Connections	A (in.)	B (in.)	C (in.)	D (in.)	E (in.)	F (in.)	Thickness (in.)
66L4HF	66,000	1/4" HP.F	1.50	1.00	0.88	0.63	0.50	0.62	0.75
66L6HF	66,000	3/8" HP.F	2.00	1.50	1.25	1.00	0.60	0.81	1.00
66L9HF	66,000	9/16" HP.F	2.62	1.88	1.88	1.13	0.81	1.18	1.50
30L16HF	30,000	1" HP.F	3.00	3.00	2.06	2.06	0.72	1.38	1.75

High Pressure Tees



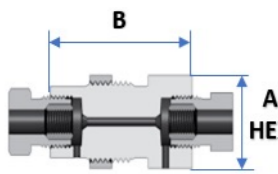
Part Number	Pressure (PSI)	Connections	A (in.)	B (in.)	C (in.)	D (in.)	E (in.)	F (in.)	Thickness (in.)
66T4HF	66,000	1/4" HP.F	2.00	1.25	1.00	0.88	0.50	0.62	1.00
66T6HF	66,000	3/8" HP.F	2.00	1.56	1.00	1.06	0.60	0.81	1.00
66T9HF	66,000	9/16" HP.F	2.62	2.12	1.31	1.38	0.81	1.18	1.50
30T16HF	30,000	1" HP.F	4.12	3.00	2.06	2.06	0.72	1.38	1.75

High Pressure Crosses



Part Number	Pressure (PSI)	Connections	A (in.)	B (in.)	C (in.)	D (in.)	E (in.)	F (in.)	Thickness (in.)
66X4HF	66,000	1/4" HP.F	2.00	1.25	1.00	0.62	0.50	0.62	1.00
66X6HF	66,000	3/8" HP.F	2.00	2.12	1.00	1.06	0.60	0.81	1.00
66X9HF	66,000	9/16" HP.F	2.62	2.75	1.31	1.38	0.81	1.18	1.50
30X16HF	30,000	1" HP.F	4.12	4.12	2.06	2.06	0.72	1.38	1.75

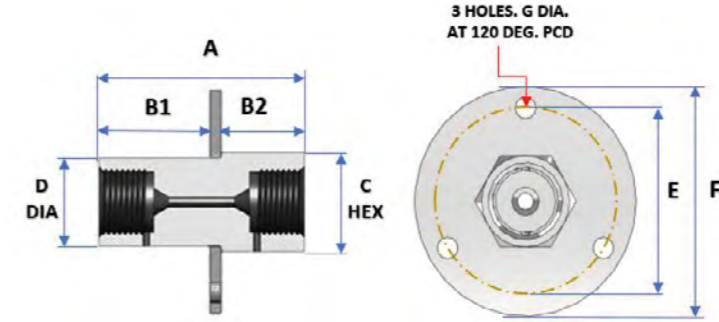
High Pressure Bulkhead Couplings



Part Number	Pressure (PSI)	Connections	A (in.)	B (in.)	Panel Cutout (in.)
66BU4HF	66,000	1/4" HP.F	1.00	2.00	0.94
66BU6HF	66,000	3/8" HP.F	1.38	2.38	1.12
66BU9HF	66,000	9/16" HP.F	1.87	2.75	1.75
30BU16HF	30,000	1" HP.F	2.12	3.50	2.00

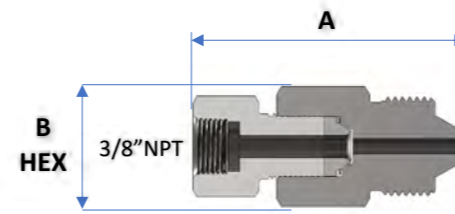
High Pressure Fittings (Up to 66,000 PSI / 4552 BAR)

High Pressure Bulkhead Couplings c/w Welding Plates



Part Number	Pressure (PSI)	Connections	A (in.)	B (in.)	C (in.)	D (in.)	E (in.)	F (in.)	G (in.)	Panel Cutout (in.)
66BU4HF-RW	66,000	1/4" HP.F	1.25	0.57	0.75	0.71	2.05	2.52	0.24	0.75
66BU6HF-RW	66,000	3/8" HP.F	1.66	0.77	1.00	0.94	2.05	2.52	0.24	0.98
66BU9HF-RW	66,000	9/16" HP.F	2.10	0.99	1.38	1.30	2.05	2.52	0.24	1.34
30BU16HF-RW	30,000	1" HP.F	3.50	1.69	1.75	1.65	2.24	2.76	0.28	1.69

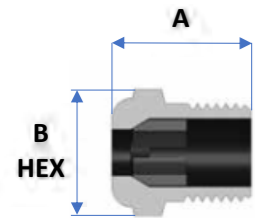
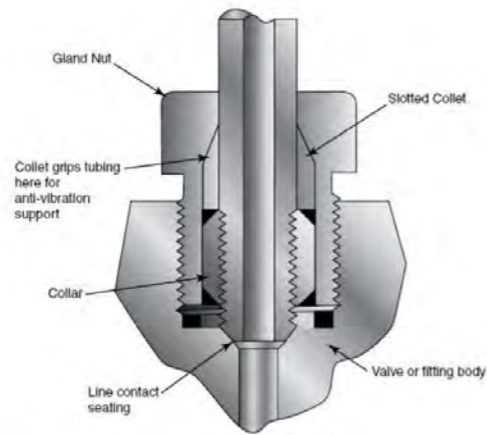
High Pressure Safety Heads



Part Number	Pressure (PSI)	Connections	A (in.)	B (in.)
66SH4HM	66,000	1/4" HP.M	1.88	1.13
66SH6HM	66,000	3/8" HP.M	2.13	1.50
66SH9HM	66,000	9/16" HP.M	2.75	1.50

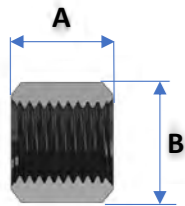
High Pressure Fittings (Up to 66,000 PSI / 4552 BAR)

High Pressure Anti-Vibration Gland Assemblies



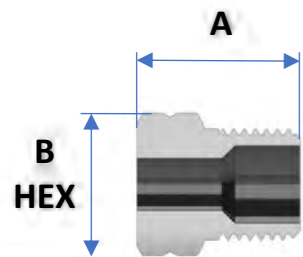
Tube Size	Pressure (PSI)	Anti-vibration	A (in.)	B (in.)
1/4"HP	66,000	66AV4H	0.81	0.63
3/8"HP	66,000	66AV6H	1.13	0.81
9/16"HP	66,000	66AV6H	1.56	1.81

High Pressure Collars



Part Number	Pressure (PSI)	Tube Size	A (in.)	B (in.)
66CL4H	66,000	1/4" OD	0.38	0.38
66CL6H	66,000	3/8" OD	0.50	0.53
66CL9H	66,000	9/16" OD	0.81	0.63
30CL16H	30,000	1" OD	1.00	1.25

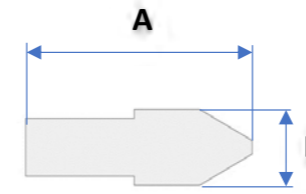
High Pressure Glands



Part Number	Pressure (PSI)	Tube Size	A (in.)	B (in.)
66GL4H	66,000	1/4" OD	0.88	0.63
66GL6H	66,000	3/8" OD	1.19	0.81
66GL9H	66,000	9/16" OD	1.50	1.19
30GL16H	30,000	1" OD	1.38	1.50

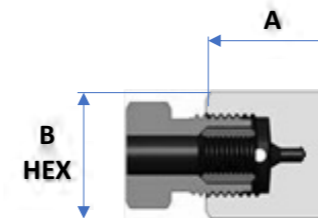
High Pressure Fittings (Up to 66,000 PSI / 4552 BAR)

High Pressure Plugs



Part Number	Pressure (PSI)	Tube Size	A (in.)	B (in.)
66PL4H	66,000	1/4" OD	1.16	0.38
66PL6H	66,000	3/8" OD	1.56	0.50
66PL9H	66,000	9/16" OD	2.00	0.81
30PL16H	30,000	1" OD	2.38	1.25

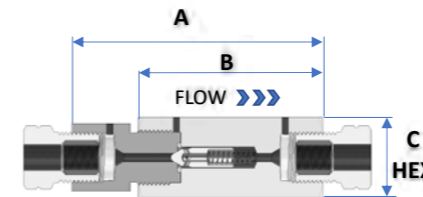
High Pressure Caps



Part Number	Pressure (PSI)	Tube Size	A (in.)	B (in.)
66CA4HF	66,000	1/4" HP.F	0.87	0.75
66CA6HF	66,000	3/8" HP.F	1.25	1.00
66CA9HF	66,000	9/16" HP.F	1.50	1.38
30CA16HF	30,000	1" HP.F	3.00	1.75

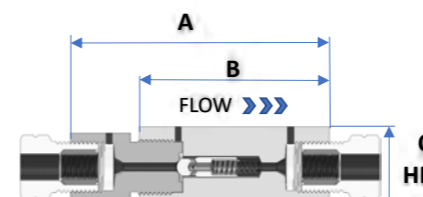
High Pressure Check Valves (Up to 66,000 PSI / 4552 BAR)

Ball Check Valves



Part Number	Pressure (PSI)	Connections	Orifice (in.)	A (in.)	B (in.)	C (in.)
66BCV4HF	66,000	1/4" HP.F	0.094	3.26	2.50	1.25
66BCV6HF	66,000	3/8" HP.F	0.125	3.75	2.75	1.25
66BCV9HF	66,000	9/16" HP.F	0.188	4.63	3.38	1.50
30BCV16HF	30,000	1" HP.F	0.438	6.54	5.63	1.88

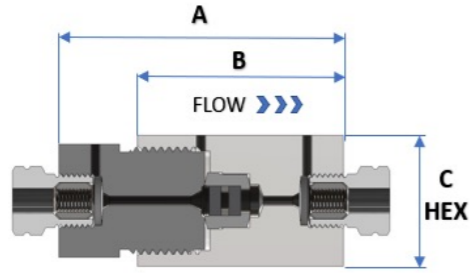
Soft Seat Check Valves



Part Number	Pressure (PSI)	Connections	Orifice (in.)	A (in.)	B (in.)	C (in.)
66SCV4HF	66,000	1/4" HP.F	0.094	3.26	2.50	1.25
66SCV6HF	66,000	3/8" HP.F	0.125	3.75	2.75	1.25
66SCV9HF	66,000	9/16" HP.F	0.188	4.63	3.38	1.50
30SCV16HF	30,000	1" HP.F	0.438	6.54	5.63	1.88

High Pressure In-Line Filters (Up to 66,000 PSI / 4552 BAR)

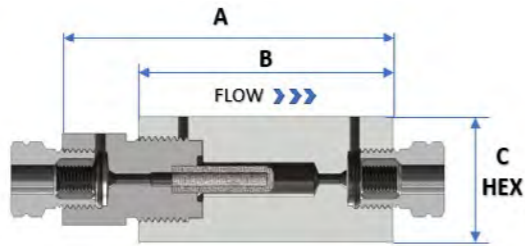
In-Line Disc Filter



Part Number	Pressure (PSI)	Connections	Orifice (in.)	A (in.)	B (in.)	C (in.)	Micron Size Filter Available					
							0.5	2	5	10	40	100
66LF4HF	66,000	1/4" HP.F	0.094	3.26	2.50	1.25	●	●	●	●	●	●
66LF6HF	66,000	3/8" HP.F	0.125	3.75	2.75	1.25	●	●	●	●	●	●
66LF9HF	66,000	9/16" HP.F	0.188	4.63	3.38	1.50	●	●	●	●	●	●

* Insert desired micron filter
Example: 66LF4HF-5 is a 1/4"HP In-Line filter with 5 micron filter

In-line Cup Filter



Part Number	Pressure (PSI)	Connections	Orifice (in.)	A (in.)	B (in.)	C (in.)	Micron Size Filter Available					
							0.5	2	5	10	40	100
66CF4HF	66,000	1/4" HP.F	0.094	3.26	2.50	1.25	●	●	●	●	●	●
66CF6HF	66,000	3/8" HP.F	0.125	3.75	2.75	1.25	●	●	●	●	●	●
66CF9HF	66,000	9/16" HP.F	0.188	4.63	3.38	1.50	●	●	●	●	●	●

* Insert desired micron filter
Example: 66CF4HF-5 is a 1/4"HP Cup filter with 5 micron filter

High Pressure Tubing & Nipples (UP TO 60,000PSI / 4138 BAR)

HTG's high pressure tubing is capable of operating up to 60,000 psi and range in size from 1/4" to 1" tube size. Tubing is cold drawn, seamless and high yield & tensile strength in connection with high elongation

Standard tubing is available in 316 stainless steel tubing, other materials available by request

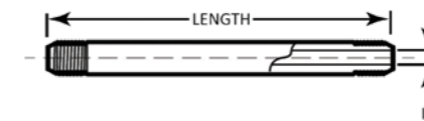
-* Tubing is stocked in lengths of 20-27 feet



High Pressure Tubing

Part Number	Tubing Size	Connections	Material	Pressure (PSI)
60TU4H-*	1/4" O.D. x 0.083" I.D.	1/4" HP	SS316	60,000
60TU6H-*	3/8" O.D. x 0.125" I.D.	3/8" HP	SS316	60,000
60TU9H-*	9/16" O.D. x 0.187" I.D.	9/16" HP	SS316	60,000
40TU9H-*	9/16" O.D. x 0.250" I.D.	9/16" HP	SS316	40,000
30TU16H-*	1" O.D. x 0.438" I.D.	1" HP	SS316	30,000

High Pressure Coned and Threaded Nipples



Length	Tubing Size				
	1/4" O.D. x 0.083" I.D. (60,000 psi)	3/8" O.D. x 0.125" I.D. (60,000 psi)	9/16" O.D. x 0.187" I.D. (60,000 psi)	9/16" O.D. x 0.250" I.D. (40,000 psi)	1" O.D. x 0.438" I.D. (30,000 psi)
2 3/4"	60N4H-2.75				
3"	60N4H-3	60N6H-3			
4"	60N4H-4	60N6H-4	60N9H-4	40N9H-4	
6"	60N4H-6	60N6H-6	60N9H-6	40N9H-6	30N16H-6
8"	60N4H-8	60N6H-8	60N9H-8	40N9H-8	30N16H-8
10"	60N4H-10	60N6H-10	60N9H-10	40N9H-10	30N16H-10
12"	60N4H-12	60N6H-12	60N9H-12	40N9H-12	30N16H-12

Ultra-High Pressure Valves, Fittings & Tubing

Ultra-High Pressure Valves Up to (150,000 PSI / 10345 BAR)

1/4"	3/8"	Ultra High Pressure
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Specifications

Pressure rating	: 100,000 – 150,000 psi
Temp. Rating	: -100°F to 600°F
Body Material	: SS316 cold Worked
Stem	: 15-5 PH
Packing	: Glass filled Teflon

Typical Applications

- Hydraulic applications
- Pneumatic applications
- General plant service
- Isolating or venting

Optional

- Grafoil Packing for temperature up to 800°F
- Extended Stuffing Box for temperature up to 1200°F
- Air Actuator for remote control operation is available
- Can be manufactured to meet NACE MR0175 standard
 - o Reduces throttling and therefore increase seat life



Features & Benefits

HTG Standard Needle Valve offer low-torque, compact design providing positive shutoff in applications up to 150,000 psi. Other features include:

- Two pieces heavy duty non-rotating stem for a reliable assembly.
- Bi-directional flow capability.
- Panel mounting option available.
- 4-sided tapered stem for maximum handle contact.
- Complete material traceability.

Ultra-High Pressure Valves, Fittings & Tubing

Ultra-High Pressure Check Valves (100,000 – 150,000 PSI / 6896 – 10345 BAR)

1/4"	3/8"	Ultra High Pressure
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Specifications

Pressure rating	: 100,000 to 150,000 psi
Ball Seat Poppet	: -420°F to 1200°F
Soft Seat Poppet	: -65°F to 250°F
Body Material	: SS316 cold worked
Cracking Press.	: 15 PSI

Typical Applications

- Hydraulic applications
- Pneumatic applications
- General plant service

Features & Benefits

- Prevents reverse flow where leak-tight shutoff is required.
- Ball Seat Poppet offers metal to metal seat for rapid cycling or severe environments.
- Soft Seat Poppet offers O-ring seat for fast shutoff and reliable seal.
- Nitrile is standard material of Soft Seat Poppet Check Valve.
- Complete material traceability.



Ultra-High Pressure Fittings and Tubing (100,000 – 150,000 PSI / 6896 – 10345 BAR)

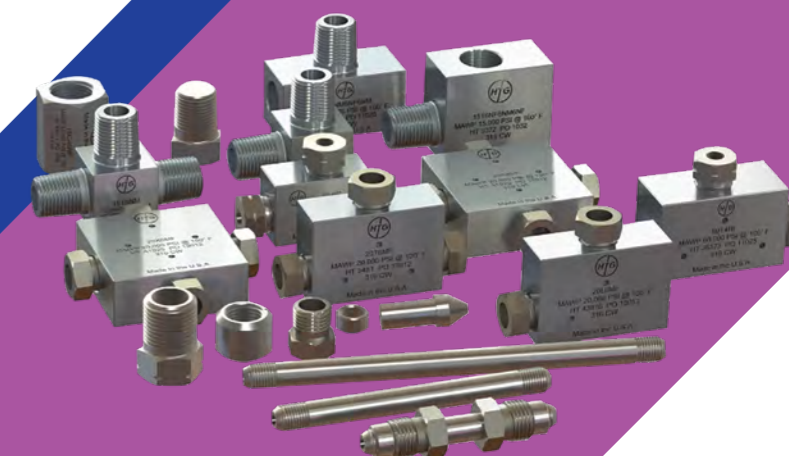
1/4"	3/8"	Ultra High Pressure
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Specifications

Pressure rating	: 100,000 – 150,000 psi
Body Material	: SS316 cold worked

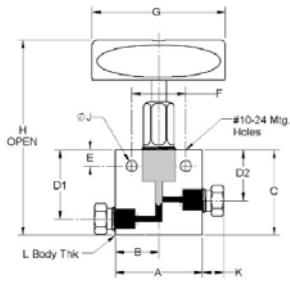
Features & Benefits

- A complete range of elbows, tees, crosses and adaptors are available for all of the tubing connection sizes.
- Can be manufactured to meet NACE MR0175 standard.
- Other materials available on request.



Ultra-High Pressure Needle Valves (Up to 150,000 PSI / 10345 BAR)

Ultra-High Pressure 2-Way Straight Valves

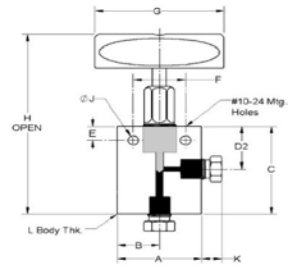


Pressure (PSI)	Connection Type	Connection Size in.	Part Number	Orifice in. (mm)
100,000	Ultra-High Pressure Cone & Thread	1/4	100NVS4XF	1/16 (0.0625)
150,000	Ultra-High Pressure Cone & Thread	3/8	150NVS6XF	1/16 (0.0625)

Dimensions, in. (mm)

A	B	C	D1	D2	E	F	G	H	J	K	L
3.00 (76.2)	1.50 (38.1)	2.38 (60.45)	1.75 (44.45)	1.44 (36.58)	0.5 (12.7)	1.75 (44.45)	4.00 (101.6)	5.025 (128.32)	0.34 (8.73)	0.59 (15.0)	1.376 (34.95)
3.50 (88.9)	1.75 (44.45)	2.63 (66.8)	1.75 (44.45)	1.44 (36.58)	0.5 (12.7)	1.75 (44.45)	4.00 (101.6)	5.025 (128.32)	0.34 (8.73)	0.59 (15.0)	1.376 (34.95)

Ultra-High Pressure 2-Way Angle Valves



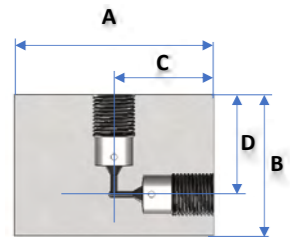
Pressure (PSI)	Connection Type	Connection Size in.	Part Number	Orifice in. (mm)
100,000	Ultra-High Pressure Cone & Thread	1/4	100NVA4XF	1/16 (0.0625)
150,000	Ultra-High Pressure Cone & Thread	3/8	150NVA6XF	1/16 (0.0625)

Dimensions, in. (mm)

A	B	C	D1	D2	E	F	G	H	J	K	L
3.00 (76.2)	1.50 (38.1)	2.38 (60.45)	-	1.44 (36.58)	0.5 (12.7)	1.75 (44.45)	4.00 (101.6)	5.025 (128.32)	0.34 (8.73)	0.59 (15.0)	1.376 (34.95)
3.50 (88.9)	1.75 (44.45)	3.50 (88.9)	-	1.44 (36.58)	0.5 (12.7)	1.75 (44.45)	4.00 (101.6)	5.025 (128.32)	0.34 (8.73)	0.59 (15.0)	1.376 (34.95)

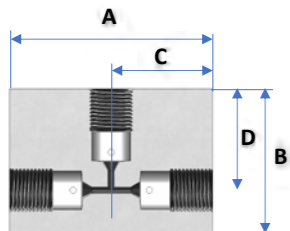
Ultra-High Pressure Fittings (Up to 150,000 PSI / 10,345 BAR)

Ultra-High Pressure Elbows



Part Number	Pressure (PSI)	Connections	A (in.)	B (in.)	C (in.)	D (in.)	Thickness (in.)
100L4XF	100,000	1/4" UHP.F	1.75	1.75	1.25	1.25	1.00
150L6XF	150,000	3/8" UHP.F	2.63	2.63	1.75	1.75	1.50

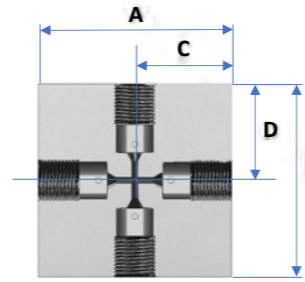
Ultra-High Pressure Tees



Part Number	Pressure (PSI)	Connections	A (in.)	B (in.)	C (in.)	D (in.)	Thickness (in.)
100T4XF	100,000	1/4" UHP.F	2.50	1.75	1.25	1.25	1.00
150T6XF	150,000	3/8" UHP.F	3.50	2.63	1.75	1.75	1.50

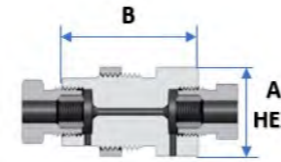
Ultra-High Pressure Fittings (Up to 150,000 PSI / 10,345 BAR)

Ultra-High Pressure Crosses



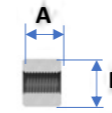
Part Number	Pressure (PSI)	Connections	A (in.)	B (in.)	C (in.)	D (in.)	Thickness (in.)
100X4XF	100,000	1/4" UHP.F	2.50	2.50	1.25	1.25	1.00
150X6XF	150,000	3/8" UHP.F	3.50	2.63	1.75	1.75	1.50

Ultra-High Pressure Bulkhead Couplings



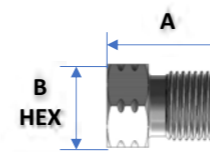
Part Number	Pressure (PSI)	Connections	A (in.)	B (in.)	Panel Cutout (in.)
100BU4XF	100,000	1/4" UHP.F	1.00	2.00	0.94
150BU6XF	150,000	3/8" UHP.F	1.75	4.00	1.25

Ultra-High Pressure Collars



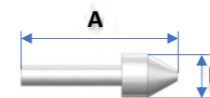
Part Number	Pressure (PSI)	Tube Size	A (in.)	B (in.)
100CL4X	100,000	1/4" OD	0.38	0.38
150CL6X	150,000	3/8" OD	0.50	0.688

Ultra-High Pressure Glands



Part Number	Pressure (PSI)	Tube Size	A (in.)	B (in.)
100GL4X	100,000	1/4" OD	1.13	0.63
150GL6X	150,000	3/8" OD	1.13	0.81

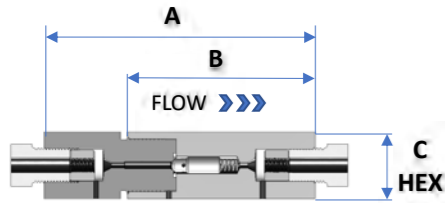
Ultra-High Pressure Plugs



Part Number	Pressure (PSI)	Tube Size	A (in.)	B (in.)
100PL4X	100,000	1/4" OD	1.13	0.38
150PL6X	150,000	3/8" OD	1.75	0.50

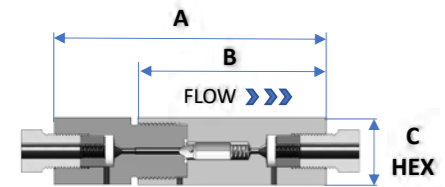
Ultra-High Pressure Check Valves (Up to 150,000 PSI / 10,345 BAR)

Ultra-High Pressure Ball Check Valves



Part Number	Pressure (PSI)	Orifice (in.)	Connections	A (in.)	B (in.)	C (in.)
100BCV4XF	100,000	0.094	1/4" HP.F	4.00	3.00	1.25
150BCV6XF	150,000	0.125	3/8" HP.F	4.50	3.50	1.25

Ultra-High Pressure Soft Seat Check Valves



Part Number	Pressure (PSI)	Orifice (in.)	Connections	A (in.)	B (in.)	C (in.)
100SCV4XF	100,000	0.094	1/4" HP.F	4.00	3.00	1.25
150SCV6XF	150,000	0.125	3/8" HP.F	4.50	3.50	1.25

Ultra-High Pressure Tubing & Nipples (Up To 150,000PSI / 10,345 BAR)

HTG's high pressure tubing is capable of operating up to 150,000 psi and range in size from 1/4" to 3/8" tube size. Tubing is cold drawn, seamless and high yield & tensile strength in connection with high elongation.

Standard tubing is available in 316 stainless steel tubing, other materials available by request.

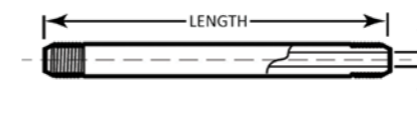
-* Tubing is stocked in lengths of 20-27 feet



Ultra-High Pressure Tubing

Part Number	Tubing Size	Connections	Material	Pressure (PSI)
100TU4X-*	1/4" O.D. x 1/16" I.D.	1/4" UHP	SS316	100,000
150TU6X-*	3/8" O.D. x 1/16" I.D.	3/8" UHP	SS316	150,000

Ultra-High Pressure Coned and Threaded Nipples



Length	Tubing Size (Pressure)	
	1/4" O.D. x 0.083" I.D. (100,000 psi)	3/8" O.D. x 0.125" I.D. (150,000 psi)
2 3/4"	100N4X-2.75	
4"	100N4X-4	150N6X-4
6"	100N4X-6	150N6X-6
8"	100N4X-8	150N6X-8
10"	100N4X-10	150N6X-8
12"	100N4X-12	150N6X-10



High Pressure Ball Valves

HTG Trunnion Ball Valves and Air Actuator Ball Valves (Up to 20,000 PSI/ 1379 BAR)

HTG Ball Valves are available in 2 and 3-way designs and offer low-torque in a compact design providing positive shutoff in applications up to 20,000 psi.

Features

- Bi-directional trunnion style closure for optimal performance
- 3 standard mounting options:
 - o Panel mount using optional panel nut
 - o Two bolts through panel into top of valve body
 - o Bolted through body mounting holes
- Large selection of pipe end connections available

Optional

- Electric or Air Actuator for remote control operation is available
- Can be manufactured to meet NACE MR0175 standard
- Valve Position Indicator for better visual indication

Specifications

- Orifice from 6.35mm to 12.70mm
- Temperature Rating: -20°F to 400°F
- Body Material / Stem: 316 cold worked stainless steel
- Packing: Glass filled Teflon
- Seats: PEEK
- Seals: Viton
- Bearings: Nitronic 60

3-way Diverting TBV

3-way diverting trunnion ball valves are designed to divert pressure from a single inlet to one of two separate outlet by 90° quarter turn.

3-way Switching TBV

3-way switching trunnion ball valves are designed to switch pressure from a single inlet to one of two separate outlet. The 180° quarter turn design allows for positive shutoff in the center position



High Pressure Ball Valves

Air Operated Ball Valve for Hydrogen and special medium

The hydrogen ball-valve series is designed and tested for high cycle use in refuelling, storage and manufacturing systems. This ball valve series is optimized for durability in high-cycle controlled, actuated use and for the highest safety and environmental standards, based on comprehensive experience and installed base in hydrogen refuelling, storage and manufacturing systems. Tested in accordance to ISO19880:2018 Gaseous hydrogen - refuelling stations and to TPED*, the HTG ball valve is ready to be safely used in all systems of Hydrogen refuelling application.

When ordering, simply add the suffix "H2" to the standard valve number and add the prefix "BVA" for air actuator with indicator (example: BVA20BV4T9HF-H2)



Air Operated Ball Valve with ex-proof valve positioning indicator

Valve Position Indicator

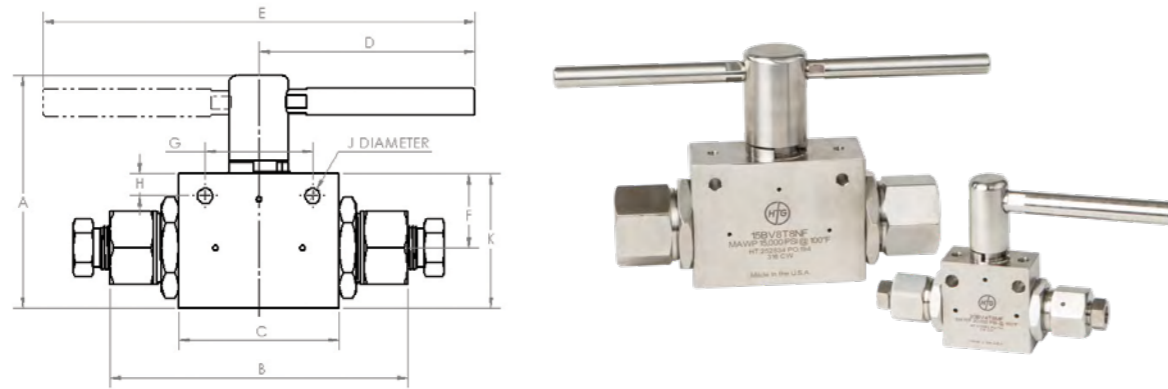
- Enclosure : Weatherproof IP67/NEMA4,4X,7,9 (Standard) IP68 (Option)
- Explosionproof : E EX d IIC T6, E EX ia IIC T6, E EX d IIB T6
- Solid and compact design
- Shaft holder built in the cover (Dual shaft)
- Easy to set the visual position indicator.
- Unique design to put the visual indicator on the threaded joint type cover.
- Bolts on visual position indicator
- Dual Cable entries : 2 x 3/4 PF (Standard)
- M20, M25, NPT3/4 , PT3/4 (Option)
- Terminal Strips : 8 points (0.08-2.5)
- Captive cover bolts & Spring loaded cover bolts
- No worry to loose bolts while cover open
- & Unique design to hold bolts inside cover
- Easy mounting bracket
- NAMUR standard stainless steel shaft and stainless steel or steel bracket.



2-Way Trunnion Ball Valves (Up to 20,000 PSI / 1379 BAR)

HTG Ball Valves are available in 2 and 3-way designs with an infinite combination of connections. We offer a trunion ball design, making this type of valve ideal for severe duty application.

This valve is available in various orifices of 0.250", 0.375" & 0.500". The two-way ball valve offers complete shut-off with a convenient of 1/4 turn.



1/4" Orifice

Pressure (PSI)	Connection Type	End Connection	Part Number	Orifice in. (mm)
15,000	Female NPT	1/4"	15TBV4-4NF	0.250 (6.35)
		3/8"	15TBV4-6NF	
		1/2"	15TBV4-8NF	
20,000	Medium Pressure Cone & Thread	1/4"	20TBV4-4MF	
		3/8"	20TBV4-6MF	
		9/16"	20TBV4-9MF	
	High Pressure Cone & Thread	1/4"	20TBV4-4HF	
		3/8"	20TBV4-6HF	
		9/16"	20TBV4-9HF	

Dimensions, in. (mm)

A	B	C	D	E	F	G	H	J	K	THK
3.83 (97.3)	4.35 (110.5)	2.00 (50.80)	3.98 (101.1)	-	1.13 (28.7)	1.50 (38.10)	0.44 (11.2)	0.28 (7.1)	2.00 (50.8)	1.00 (25.4)

2-Way Trunion Ball Valves (Up to 20,000 PSI / 1379 BAR)

3/8" Orifice

Pressure (PSI)	Connection Type	End Connection	Part Number	Orifice in. (mm)
15,000	Female NPT	1/4"	15TBV6-4NF	0.375 (9.525)
		3/8"	15TBV6-6NF	
		1/2"	15TBV6-8NF	
20,000	Medium Pressure Cone & Thread	3/8"	20TBV6-6MF	
		9/16"	20TBV6-9MF	
		3/4"	20TBV6-12MF	

Dimensions, in. (mm)

A	B	C	D	E	F	G	H	J	K	THK
4.34 (110.2)	5.54 (140.7)	3.00 (76.2)	4.02 (102.1)	-	1.38 (35.1)	2.00 (50.8)	0.41 (10.4)	0.28 (7.1)	2.50 (63.5)	1.38 (35.1)

1/2" Orifice

Pressure (PSI)	Connection Type	End Connection	Part Number	Orifice in. (mm)
15,000	Female NPT	1/2"	15TBV8-8NF	0.500 (12.70)
10,000		3/4"	10TBV8-12NF	
		1"	10TBV8-16NF	
15,000	Medium Pressure Cone & Thread	3/4"	15TBV8-12MF	
		1"	15TBV8-16MF	

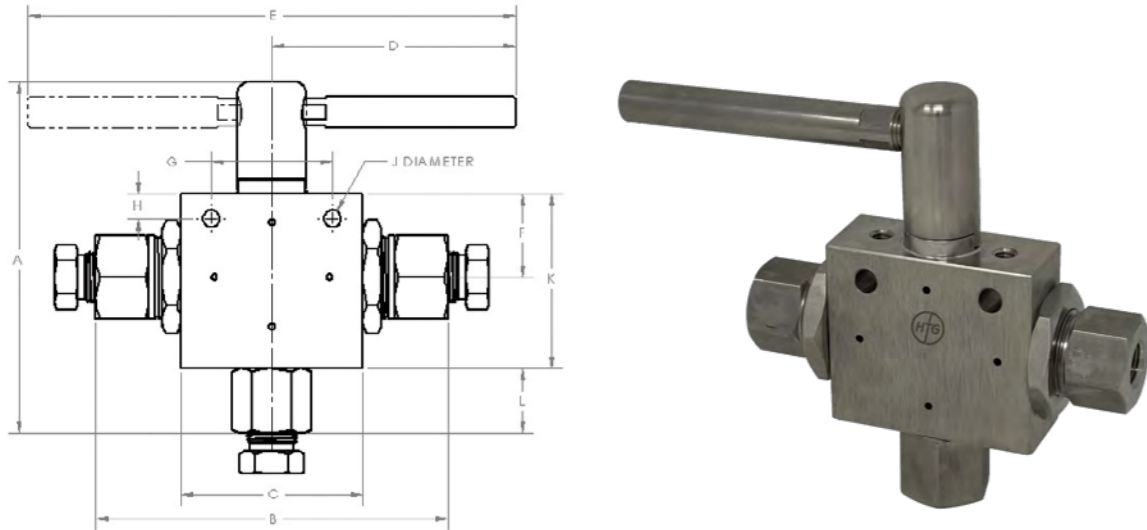
Dimensions, in. (mm)

A	B	C	D	E	F	G	H	J	K	THK
5.57 (141.5)	7.69 (195.3)	4.13 (104.9)	5.13 (130.3)	10.26 (260.6)	1.76 (44.7)	3.00 (76.2)	0.50 (12.7)	0.28 (7.1)	3.09 (78.5)	1.75 (44.5)

3-Way Diverting Trunnion Ball Valves (Up to 20,000 PSI /1379 BAR)

3-way diverting trunnion ball valves are designed to divert pressure from a single inlet to one of two separate outlet by 90° quarter turn.

3-way switching trunnion ball valves are designed to switch pressure from a single inlet to one of two separate outlet. The 180° quarter turn design allows for positive shutoff in the center position.



3-Way Diverting Trunnion Ball Valves (Up to 20,000 PSI /1379 BAR)

3-Way Trunnion Ball Valve (3/8" orifice)

Pressure (PSI)	Connection Type	End Connection	Part Number		Orifice in. (mm)
			90° Diverting	180° Switching	
15,000	Female NPT	1/4"	15-3DTBV6-4NF	15-3STBV6-4NF	0.375 (9.53)
		3/8"	15-3DTBV6-6NF	15-3STBV6-6NF	
		1/2"	15-3DTBV6-8NF	15-3STBV6-8NF	
	Medium Pressure Cone & Thread	3/8"	15-3DTBV6-6MF	15-3STBV6-6MF	
		9/16"	15-3DTBV6-9MF	15-3STBV6-9MF	
		3/4"	15-3DTBV6-12MF	15-3STBV6-12MF	

Dimensions, in. (mm)

A	B	C	D	E	F	G	H	J	K	L	THK
5.78 (146.8)	5.80 (147.3)	3.00 (76.2)	4.02 (102.1)	-	1.38 (35.1)	2.00 (50.8)	0.41 (10.4)	0.28 (7.1)	2.88 (73.2)	1.06 (26.9)	1.38 (35.1)

3-Way Trunnion Ball Valve (3/16" orifice)

Pressure (PSI)	Connection Type	End Connection	Part Number		Orifice in. (mm)
			90° Diverting	180° Switching	
15,000	Female NPT	1/4"	15-3DTBV3-4NF	15-3STBV3-4NF	0.188 (4.78)
		3/8"	15-3DTBV3-6NF	15-3STBV3-6NF	
		1/2"	15-3DTBV3-8NF	15-3STBV3-8NF	
20,000	Medium Pressure Cone & Thread	1/4"	20-3DTBV3-4MF	20-3STBV3-4MF	
		3/8"	20-3DTBV3-6MF	20-3STBV3-6MF	
		9/16"	20-3DTBV3-9MF	20-3STBV3-9MF	
	High Pressure Cone & Thread	1/4"	20-3DTBV3-4HF	20-3STBV3-4HF	
		3/8"	20-3DTBV3-6HF	20-3STBV3-6HF	
		9/16"	20-3DTBV3-9HF	20-3STBV3-9HF	

Dimensions, in. (mm)

A	B	C	D	E	F	G	H	J	K	L	THK
5.78 (146.8)	5.80 (147.3)	3.00 (76.2)	4.02 (102.1)	-	1.38 (35.1)	2.00 (50.8)	0.41 (10.4)	0.28 (7.1)	2.88 (73.2)	1.06 (26.9)	1.38 (35.1)

3-Way Trunnion Ball Valve (1/2" orifice)

Pressure (PSI)	Connection Type	End Connection	Part Number		Orifice in. (mm)
			90° Diverting	180° Switching	
15,000	Female NPT	1/2"	15-3DTBV8-8NF	15-3STBV8-8NF	0.500 (12.70)
		3/4"	10-3DTBV8-12NF	10-3STBV8-12NF	
		1"	10-3DTBV8-16NF	10-3STBV8-16NF	
10,000	Medium Pressure Cone & Thread	3/4"	10-3DTBV8-12MF	10-3STBV8-12MF	
		1"	10-3DTBV8-16MF	10-3STBV8-16MF	

Dimensions, in. (mm)

A	B	C	D	E	F	G	H	J	K	L	THK
7.83 (198.9)	7.77 (197.4)	4.13 (104.9)	5.120 (130.0)	10.25 (260.35)	1.66 (42.2)	3.00 (76.2)	0.50 (12.7)	0.28 (7.1)	3.34 (84.8)	1.70 (43.2)	1.75 (44.5)

Air Operated Needle Valves

Air Operated Needle Valves (Up to 66,000 PSI/ 4552 BAR)

HTG offers air operated valves to accommodate remote operation of pressure valve up to 66,000psi. Various models of air piston operated actuators are available in all the different models.

Features

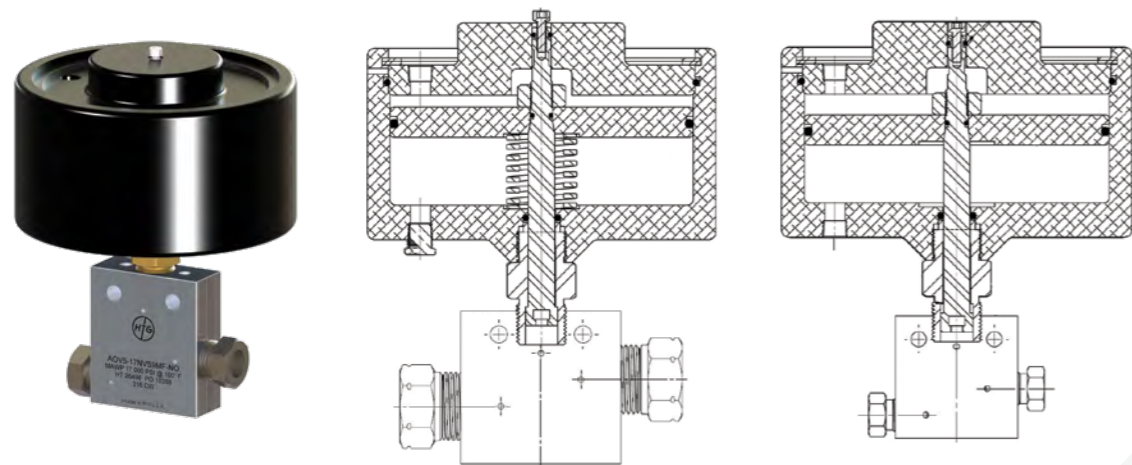
- No brackets or special couplings ensure precise and consistent alignment
- Simple assembly/repair
- Two piece stem design for reliability
- Simple stem replacement if required
- Open/closed position indicator
- Position indicator facilitates simple addition of proximity switch
- Breather vent for blocking external contamination
- Stainless cover retaining ring and adjuster bolt

Types

- Normally Closed
- Normally Open
- Double Acting



Air Operate Valve (AOV) is applicable for normally open service, normally close and as well as double acting service. The air operate actuators provide remote automatic on/off operation of valves and can be controlled by means of an air regulator, an electrical solenoid, or a manual low pressure valve in the user's air supply line. The Air Operate Valve supplied with the operating pressure is shown in the table below.



Air Operated Needle Valves

Principle of Operation:

The need to control process and vent valves from a remote location makes air operated valves a vital component to many process applications.

All HTG needle valves are available with piston type pneumatic actuators. They are offered to meet the service requirements of HTG Low, Medium and High-Pressure needle valves. Both air-to-open (normally closed) and air-to-close (normally open) designs are included in the product line. Dual acting Air-to-Open & Close actuators are also available.

For most HTG valve series there is a choice of two or more actuator designs. This provides the most efficient and economical pneumatic valve operation for any combination of process requirements and available air pressure.

Actuators are available for outdoor service. These operators provide corrosion resistant components and prevent the ingress of outside elements. Weatherproof or Explosionproof (CUL/ATEX) Limit Switch position indication is available upon request.



Features and Benefits:

- Fail Close (Air-to-Open) or Fail Open (Air-to-Close) with Spring Return
- Dual Acting (Air-to-Open & Close) actuators are available in all sizes except Mini-Light and Light. Note: Not Fail-Safe
- Piston actuator sizing incorporates maximum allowable air pressure of 100 psi
- Yoke design for separation of process and air pressure/ allows for limit switch position indication
- Visual Valve Position Indicator as standard - Limit Switch options available
- Anodized Aluminium Housing (for corrosion and wear resistance)
- -20°F to 200°F (-29° to 93°C) ambient temperature range. (for operation below 30°F (-1°C) dry air must be used and heat tracing is recommended.)

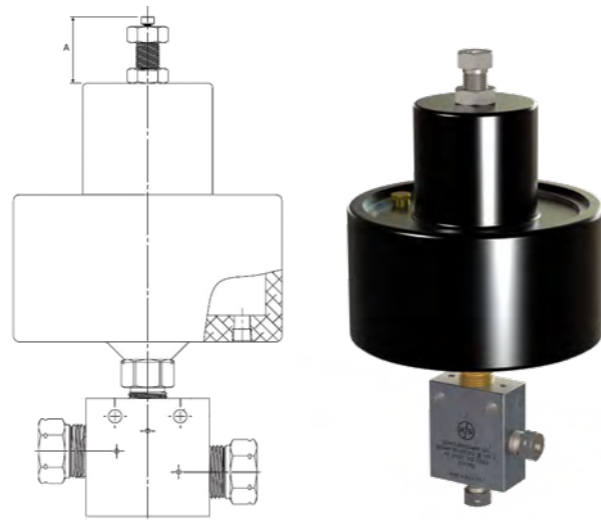
Air Operated Needle Valves

5" AIR ACTUATOR

Valve Type & Size		AOV5 - Normally Close (NC)		AOV5 - Normally Open (NO)		AOV5 - Double Acting (DA)	
STRAIGHT	ANGLE	AIR PRESSURE TO FULL TRAVEL	MAWP PSI @ 100°F	AIR PRESSURE TO FULL TRAVEL	MAWP PSI	AIR PRESSURE TO FULL TRAVEL	MAWP PSI
15NVS4NF	15NVA4NF	80	15,000	65	15,000	50	15,000
15NVS6NF	15NVA6NF	100	15,000	100	15,000	95	15,000
15NVS8NF	15NVA8NF	110	14,000	100	15,000	95	15,000
23NVS4MF	23NVA4MF	80	23,000	65	23,000	50	23,000
23NVS6MF	23NVA6MF	80	23,000	65	23,000	50	23,000
23NVS9MF	23NVA9MF	110	14,000	100	17,000	95	23,000
37NVS4HF	37NVA4HF	85	37,000	70	37,000	55	37,000
37NVS6HF	37NVA6HF	85	37,000	70	37,000	55	37,000
37NVS9HF	37NVA9HF	85	37,000	70	37,000	55	37,000
66NVS4HF	66NVA4HF	100	66,000	95	66,000	75	66,000
66NVS6HF	66NVA6HF	100	66,000	95	66,000	75	66,000
66NVS9HF	66NVA9HF	100	66,000	95	66,000	75	66,000

AOV5 - Normally Close (NC)

Valve Type & Size		SPRING ADJUSTING SCREW STANDUP HEIGHT, A (mm)
STRAIGHT	ANGLE	
15NVS4NF	15NVA4NF	29.718
15NVS6NF	15NVA6NF	25.730
15NVS8NF	15NVA8NF	25.730
23NVS4MF	23NVA4MF	29.718
23NVS6MF	23NVA6MF	29.718
23NVS9MF	23NVA9MF	25.730
37NVS4HF	37NVA4HF	30.175
37NVS6HF	37NVA6HF	30.175
37NVS9HF	37NVA9HF	30.175
66NVS4HF	66NVA4HF	27.280
66NVS6HF	66NVA6HF	27.280
66NVS9HF	66NVA9HF	27.280

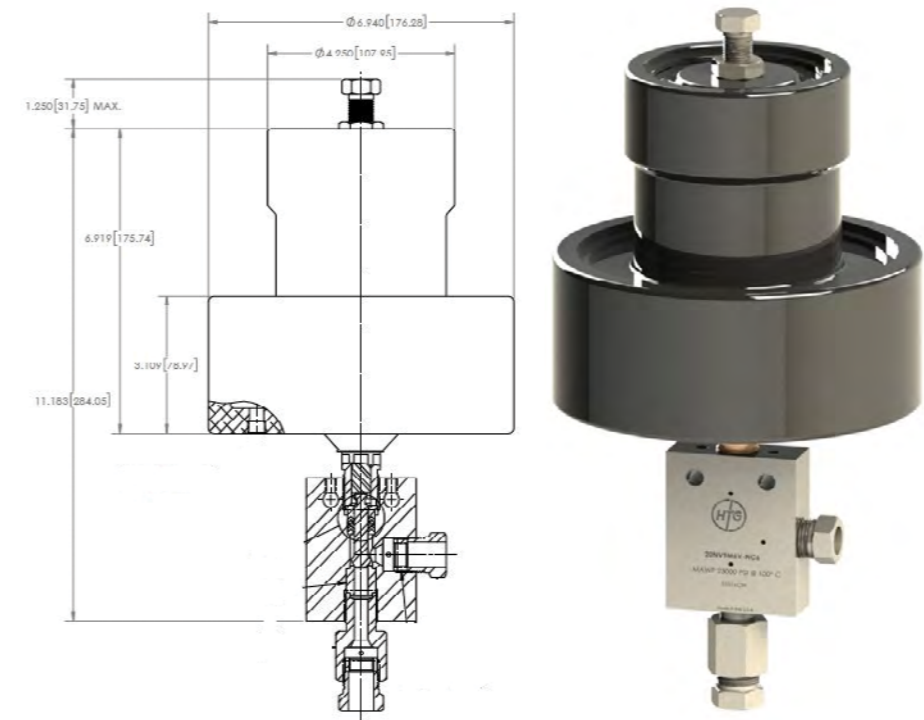


MODEL: AOV5-66NVA6MF (NC)
5" Air Operated 3/8" High Pressure Angle Valve

Air Operated Needle Valves

6" AIR ACTUATOR

Valve Type & Size		AOV6 - Normally Close (NC)		AOV6 - Normally Open (NO)	
STRAIGHT	ANGLE	AIR PRESSURE TO FULL TRAVEL	MAWP PSI @ 100°F	AIR PRESSURE TO FULL TRAVEL	MAWP PSI @ 100°F
15NVS6NF	15NVA6NF	85	15,000	100	15,000
15NVS8NF	15NVA8NF	100	15,000	100	15,000
23NVS9MF	23NVA9MF	110	23,000	100	20,000



MODEL: AOV6-23NVA9MF (NC)
6" Air Operated 9/16" Medium Pressure Angle Valve c/w Replacable Seat



Pressure Relief Valve

Pressure Relief Valves (Up to 30,000 PSI/ 2068 BAR)

Key Features

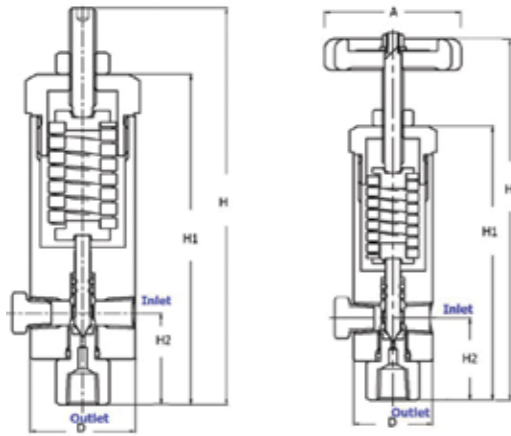
- Relief Valve are offered in pressure range from 1000 to 30,000 psi.
- Standard material includes 316 stainless steel bodies and seat gland.
- Standard O-ring material is FKM, with teflon packing and nylon seats.

Up to 11,000 PSI (758 BAR)

- Provide cracking pressure with one designated spring.
- Valve care supplied with a round nylon handle.
- Induction hardened stainless steel valve plunger, thus increase the life span.

Up to 30,000 PSI (2142 BAR)

- Valve body for the 25,000 psi (1723 bar) and 30,000 psi (2068 bar) service models are the same.
- Maximum cracking pressure is determined by the spring installed.
- Valve is supplied with no handle to prevent unauthorised changes.
- Induction hardened stainless steel valve plunger, thus increase the life span.



HTG-30RV-RVS25/30

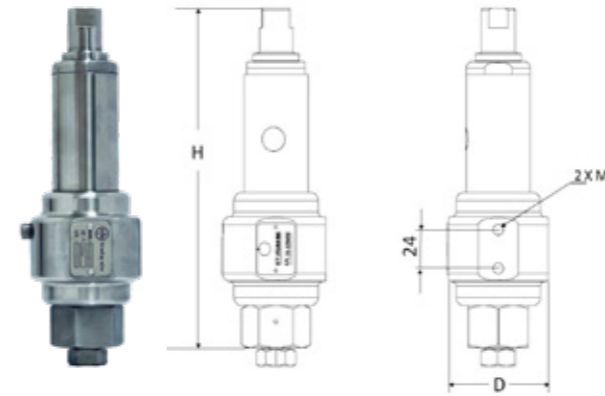
HTG-11RV

Relief Valve Selection Chart

Ordering Part No.	Pressure Range (PSI)	End Connection Size in.		Orifice in. (mm)	Dimensions, in. (mm)				
		Inlet	Outlet		H	H1	H2	D	A
HTG-11RV	1,000-11,000	1/4" NPT.F	1/4" NPT.F	0.07(1.78)	7.00 (178.00)	5.22 (132.60)	1.56 (39.70)	1.5 (38.1)	2.76 (70.00)
HTG-30RV-RVS25	11,000-25,000	1/4" HP.F	1/4" NPT.F	0.07(1.78)	7.55 (191.80)	6.28 (159.60)	1.74 (44.20)	2.00 (50.80)	-
HTG-30RV-RVS30	15,000-30,000	1/4" HP.F	1/4" NPT.F	0.07(1.78)	7.55 (191.80)	6.28 (159.60)	1.74 (44.20)	2.00 (50.80)	-

** Temperature rating with standard FKM O-ring is at -20° to 180°C (-4 ° to 356°F)

Pressure Relief Valve



Large Orifice Pressure Relief Valves (Up to 14,500 PSI/ 1,000 BAR)

Features

- Liquid and gas service.
- Reliable seat design for repetitive leak-tight performance.
- Fully stainless steel constructions.

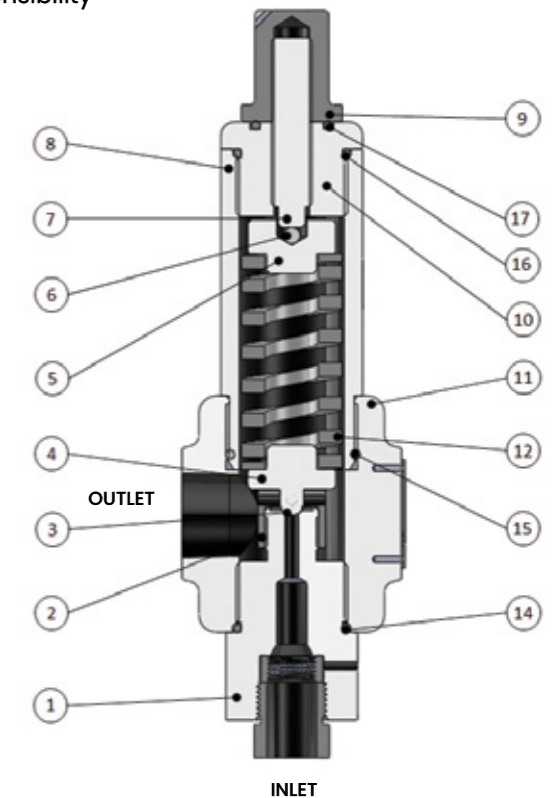
Relief Valve Selection Chart

Ordering Part No.	Pressure Range (PSI)	End Connection Size in.		Orifice in. (mm)	Dimensions, in. (mm)		Spring Color Coding
		Inlet	Outlet		H	D	
HTG-RV4-9M1	11,020-14,500	9/16" MP	3/4" NPT.F	0.157(4.00)	8.27 (210.00)	1.5 (65.00)	Black (1)
HTG-RV4-9M2	7,250-11,020	9/16" MP	3/4" NPT.F	0.157(4.00)	8.27 (210.00)	1.5 (65.00)	Brown (2)
HTG-RV6-8N2	4,350-7,250	1/2"NPT.F	3/4" NPT.F	0.236(6.00)	8.27 (210.00)	1.5 (65.00)	Brown (2)
HTG-RV6-8N3	580-4,350	1/2"NPT.F	3/4" NPT.F	0.236(6.00)	8.27 (210.00)	1.5 (65.00)	Green (3)

Safety Valve Selection

The selection of a valve for any application or system must be consider to ensure safe performance. Valve rating, valve function, material compatibility, proper installation,operation and maintenance remain the sole responsibility of the system designer and the user.

No	Description	Material
1	Inlet Adaptor	SS316L
2	Poppet Housing	SS316L
3	Poppet Seat	PCTFE
4	Poppet	SS316L
5	Spring Guide	SS304
6	Ball Bearing	SS303
7	Set Screw	SS304
8	Body	SS304
9	Cap	C45
10	Adaptor Housing	SS304
11	Poppet Housing	SS304
12	Spring	AISI1086
13	Adjustable Screw	SS304
14	Adaptor O-ring	NBR
15	Body Housing O-ring	NBR
16	Adaptor Housing O-ring	NBR
17	O-ring	NBR



Specialty Products

High Pressure & Temperature Sensor (Up to 60,000 PSI / 4138 BAR) with optional (Explosion Proof Certificate)

TG has developed this high pressure, temperature sensor to capture both the pressure and the temperature data directly in high pressure lines. It is easily fitted to various sizes of pipes with the right adapters and has a maximum working pressure up to 60,000 psi depending on the selection type. Sensor provides 4 to 20 mA current for pressures between -40 to 200 deg C. Optional: Ex-proof, IP 68 rated housing makes the set suitable for different industries even in zone 1 conditions.

Technical information

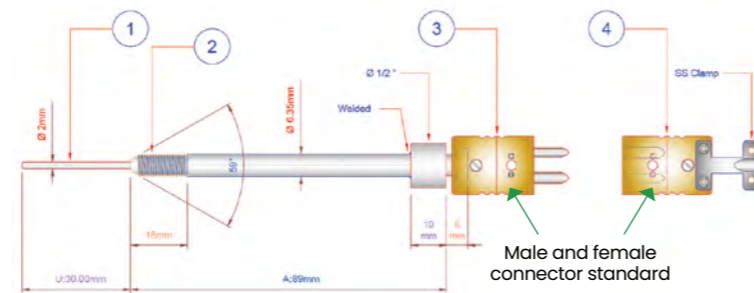
required to help selecting the correct sensor.

1. Measuring range: Pt: -196...550 C, J/K: -200...550°C
2. Material of wetted parts: 304ss or 316Lss (other materials on request)
3. Process connection: M20x1.5, G1/2", 1/2"NPT, flanges according to DIN or ANSI
4. Diameter of measuring insert: Ø 2mm, Ø 6mm or Ø 8mm
5. Minimal immersion depth: 30mm

Wired Welded Type High Pressure & Temperature Sensor

Wire Welded Type:

Sheath: SS316, Ø2.00mm, K type, simplex ungrounded.
Probe Length: 30/89.
Connection: 1/4" HP LH Thread (Gland & Collar Provided).
Working Pressure: 60K psi.
Sensing Temp: -50 to 500°C

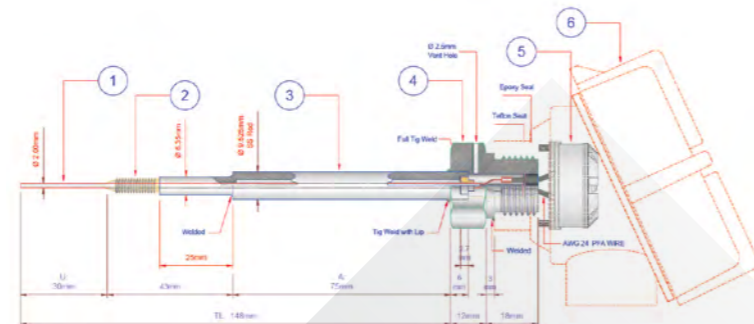


Model: 60HPTS2-4HM-30/89

Wired Welded Type High Pressure & Temperature Sensor

Wire Welded Type:

Sheath: SS316, Ø2.00mm of length: 30mm long.
Connection: 1/4" HP LH Thread. (Gland & Collar Provided).
Sensor Type: K type, simplex ungrounded.
Special: **Complete separation of medium from electrical contact.
Transmitter: 2-Wired programmable transmitter.
Mounting Head: Stainless Steel, explosion proofed Isolated.
Working Pressure: 30K psi.
Sensing Temp: -50 0 to 500°C



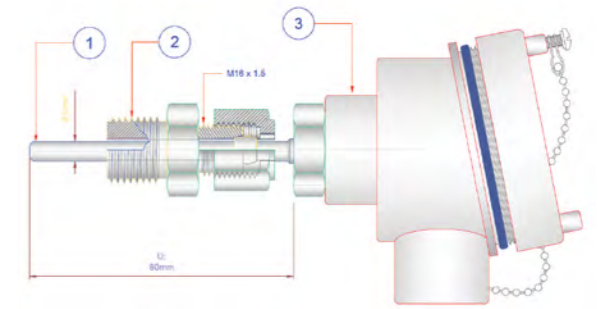
Model: 30HPTS2-4HM-30/148-EXT

Specialty Products

Probe Type Temperature Sensor c/w Terminal Housing

Welded Wire Type:

Working Pressure: 10K psi.
Connection: 1/4" NPT Male.
Sensor Type: K type, Ø6.00mm, simplex ungrounded.
Sheath: SS316.
Probe length: 60mm
Sensing Temp: -50 0 to 500°C
Head Mount: 2 Wire, Atex Isolated.

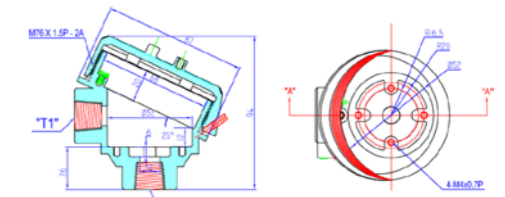
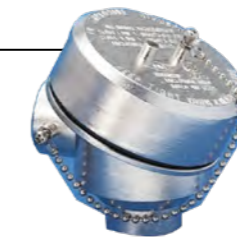


Model: 10HPTS6-4NM-80-EXT

Stainless Steel Explosion Proof Thermocouple Head

EXPLOSION PROOF CERTIFIED

- NEMA 4X AND IP66/68 CONSTRUCTION
- WIDE SELECTION OF CONDUIT SIZES
- OPTION FOR A CUSTOMIZED SS NAMEPLATE
- WIDE RANGE OF ACCESSORIES



Assembly Drawing
M4 X 0.7 Mounting Hole Positions

Material of Construction Certification

SS 316
FM/CSA/ATEX/IECEx Explosion Proof Certified, NEMA 4X and IP66/68

Connections Mounting Holes Surface Finishing "O" Ring Weight Accessories

1/2" NPT, 3/4" NPT, 1/2" BSP, M20x1.5P
See attached drawing
Electro-Polished
Buna "N"
1.0 KG (2.2 lbs)
SS Ball Chain, Terminal Block (Ceramic/Bakelite, Optional)

2-Wire Programmable Transmitter

Features

- TC input
- High measurement accuracy
- Galvanic isolation
- Programmable sensor error value
- For DIN form B sensor head mounting



Specialty Products

Custom Manifolds (Up to 66,000 PSI / 4552 BAR)

High Pressure Technology Group manufactures custom designed manifolds to meet the unique requirements of each individual customer. Manifolds reduce installation time, minimize potential leak ports, and reduce space requirements.

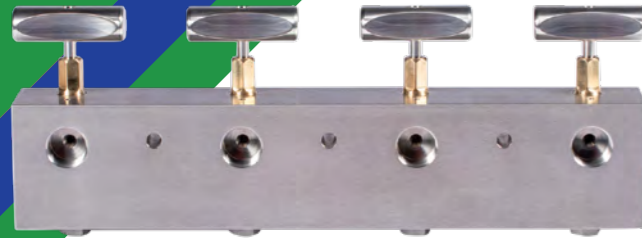
Specifications

- MAWP up to 66,000 psi (4551 bar).
- Available in a wide range of connection sizes and types including NPT and Cone & Thread.
- Lengths up to 45" are available.
- Available in a wide variety of materials.

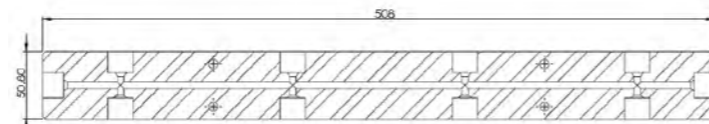
Features & Benefits

- Basic block for fluid distribution.
- Manifolds with needle valve assemblies for flow control.
- Both standard and quick open needle valves assemblies available.
- Replaceable seats available for ease of repair, minimizing long term costs.

When requesting a Custom Manifold, provide a dimensioned drawing to your authorized HTG representative or consult factory for additional details and availability.



Valves combine with Manifold



Manifold Sample

Specialty Products

Micro Metering Valves (Up to 66,000 PSI / 4552 BAR)

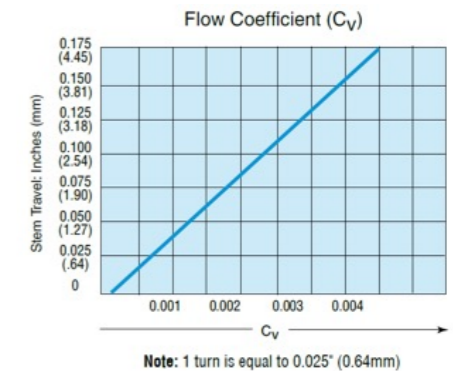
HTG's micro metering valve is designed for precise metering of fluids up to 66,000psi. Valve assembly is available for 1/4" and 3/8" for 37,000 psi and 66,000 psi selection. The unique stem design coupled with clear vernier indicators on the barrel and thimble ensures accurate adjustments every time.

Although it is able to fully close but it is a recommended practice to include a shut off valve along the pressure line to protect the precise control parts within the metering valve.

With the added metering feature and the qualities of the valves, it makes HTG highly suited for use in different industries and environment.

To add metering feature to your valve, add "-M" after the part number.

Part Number	Description
37MVA4H	Metering Valve, Angle Type, 1/4"HP, 37K psi, SS316
37MVA6H	Metering Valve, Angle Type, 3/8"HP 1/4"HP, 37K psi, SS316
37MVA9H	Metering Valve, Angle Type, 9/16"HP, 37K psi, SS316
66MVA4H	Metering Valve, Angle Type, 1/4"HP, 66K psi, SS316
66MVA6H	Metering Valve, Angle Type, 3/8"HP, 66K psi, SS316



Motorise Micro Metering Valves (Up to 66,000 PSI / 4552 BAR)

The Electronic Micro-Metering Valves is a full-featured valve with the ability to control high pressure systems electronically. The design provides smooth, highly accurate positioning, with a positive position lock when not in motion. The built-in electronics allow for analogue input control and provides a process control valve for use with liquids and gases.



Stepper motor metering valve specification		Part Number	Description
Electrical Signal:	<ul style="list-style-type: none"> • Input Voltage: 24VDC ±5% • Operating Current: 3.55A • Command Signal Input: pulse signal or Modbus 	MOV-66MVA4H	Motorise-Micro Metering Valve, Angle Type, 1/4"HP, 66K psi, SS316 (with pulse signal control)
Mechanical:	<ul style="list-style-type: none"> • Output Torque: 8Nm or 70in-lbs. • Output Shaft Speed: 0-120 rpm. • Operating Temperature: 5 to 110 °C. • Positioning accuracy: 0.5 % 	MOV-66MVA4H-M	Motorise-Micro Metering Valve, Angle Type, 1/4"HP, 66K psi, SS316 (with Modbus RS485 control)

Specialty Products

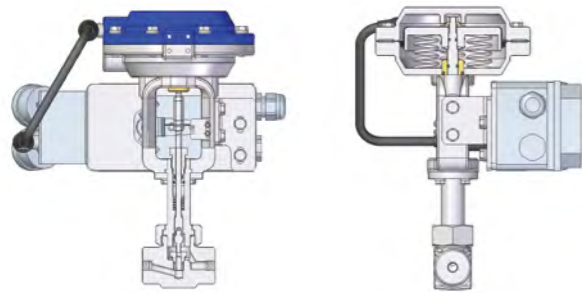
HTG High Pressure Electropneumatic Flow Control Valve (Up to 15,000 PSI / 1034 BAR)

This special valve was developed to allow for precision fine control of the fluid (liquid/gas) at high pressure.

Specifications

Max. operating pressure	:15,000 psi
Range (adjustment range)	:10:1
CV (Orifice)	:(0.1-0.5") Adjustable
Body	:SS316L
Seat(seat)	:SS316L
Stem (stem)	:SUH660
Gland Packing (Seal)	:Reinforce PTFE
Packing Gland Bush (Sealed Cap)	:SUS316L
Connection Port for the valve	:9/16" MP
Explosion Proof	:Ex ia IIc T4/T6 Gb
Instrument Air	:Min. 6 bar
Dimension	:(190x260x305mm) (L x W x H)

Model No.: EPFC-15NV9MIM-RS



Electropneumatic Positioner SIPART PS2

Position control of pneumatic linear or part-turn actuators, also for intrinsically safe operation

SIPART PS2

Universal device for positioning pneumatic actuators

- Connection: 4 to 20 mA
- HART; PROFIBUS PA or FOUNDATION Fieldbus
- Local manual operation
- Binary inputs and outputs
- Diagnostic function
- Blocking function
- Automatic start up

Specifications

SIPART PS2 positioners offer decisive advantages:

- Simple installation and automatic commissioning (self-adjustment of zero and span)
- Simple operation with - Local operation (manual operation) and configuration of the device using three buttons and a user-friendly two-line display - Programming through SIMATIC PDM
- Very high-quality control thanks to an online adaptation procedure
- Negligible air consumption in stationary operation
- "Tight shut-off" function (ensures maximum positioning pressure on the valve seat)
- Numerous functions can be activated by simple configuring (e.g. characteristic curves and limits)
- Extensive diagnostic functions for valve and actuator
- Only one device version for linear and part-turn actuators
- Few moving parts, hence insensitive to vibrations
- External non-contacting position sensor as option for extreme ambient conditions
- "Intelligent solenoid valve": Partial Stroke Test and solenoid valve function in a single device
- Partial Stroke Test e.g. for safety valves
- Can also be operated with natural gas
- SIL (Safety Integrity Level) 2

Specialty Products

Explosion-proof versions

The basic version of the device is available in an intrinsically safe design with degree of protection Ex ia/ib and approval for zone 2/zone 20 (dust).

Operation in zone 1 is permissible for the SIPART PS2 Ex d version with flameproof enclosure (see "Technical Data"). It is then permissible to use all option modules (except external actuator travel detection systems, SIA/GWK modules and NCS).

In a flameproof enclosure for extreme ambient conditions

The SIPART PS2 is available in a stainless-steel enclosure (with no window in the cover) for use in particularly aggressive environments (e.g., offshore operation, chlorine plants etc.). The device functions are the same as those of the basic versions.

Design

The SIPART PS2 positioner is a digital field device with a highly integrated microcontroller. The positioner consists of the following components:

- Enclosure and cover
- PCB with corresponding electronics with or without communication through HART or with electronics for communication in accordance with - PROFIBUS PA specification, IEC 61158-2; bus-supplied device, or - Foundation Fieldbus (FF) specification, IEC 61158-2, bus supplied device
- Position detection system
- Terminal housing with screw terminals
- Pneumatic valve manifold with piezoelectric valve pre control. the valve manifold is located in the housing, the pneumatic connections for the inlet air and the positioning pressure on the righthand side. A pressure gauge block and/or a safety solenoid valve can be connected there as options. The SIPART PS2 positioner is fitted to the linear or part-turn actuator using an appropriate mounting kit. The circuit board container in the casing provides slots for separately ordered boards with the following functions:

ly module:

- Position feedback as a two-wire signal 4 to 20 mA

Alarm unit (3 outputs, 1 input):

- Signalling of two limits of the travel or angle by binary signals. The two limits can be set independently as maximum or minimum values.
- Output of an alarm if the setpoint position of the final control element is not reached in automatic mode or if a device fault occurs.
- Second binary input for alarm signals of for triggering safety reactions, e.g. blocking function or safety position.

Specialty Products

Double Block & Bleed Valves (Up to 20,000 PSI/ 1379 BAR)

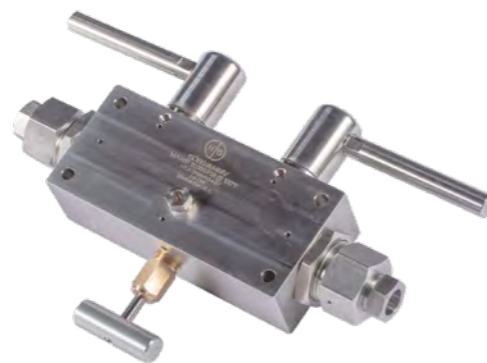
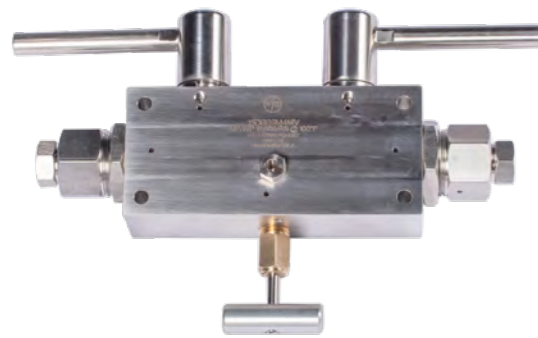
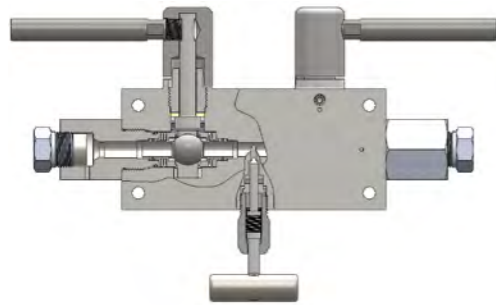
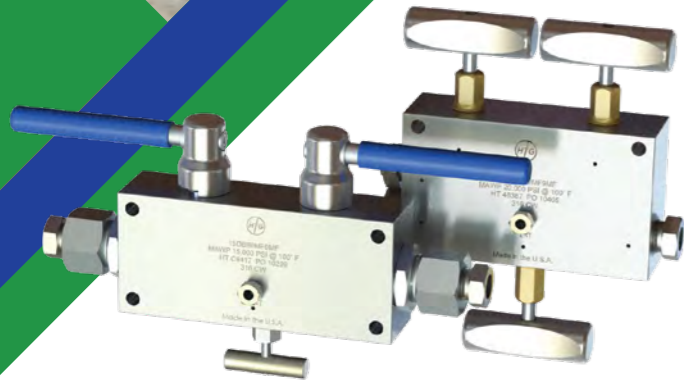
Features

- Two configurations available:
- Single block and bleed (needle/needle)
- Double block and bleed (ball/needle/ball or needle/needle/needle).
- Double block and bleed configuration allows for double positive isolation.
- Vee stem vent valve.
- Available for sour gas applications. Materials are selected in accordance with
- NACE MR0175/ISO15156.
- Maximum operating pressure up to 20,000psi.

Options include NACE compliant alloy 2507 and NACE compliant annealed 316 SS.

Important Information About Ball Valves

- A packing adjustment may be required periodically to increase service life and to prevent leakage.
- Valves that have not been cycled for a period of time may have a higher initial actuation torque.
- To avoid damage and over-actuation, do not attempt to actuate past positive stop.



Specialty Products

High Pressure Temperature Valves (Up to 30,000 PSI / 2069 BAR)

HTG's High pressure temperature valve is designed for testing up to 1,000°F (538°C) and pressure up to 30,000psi. Valve assembly is available for medium and high pressure up to 1" selection. The high extension provides a means to move the packing area away from the hot zone of the valve.

Material and features:
The standard is Grafoil, and Teflon packing is also available. Nonrotating tip stem prevent galling at the seats and minimize torque requirements for positive shut off.

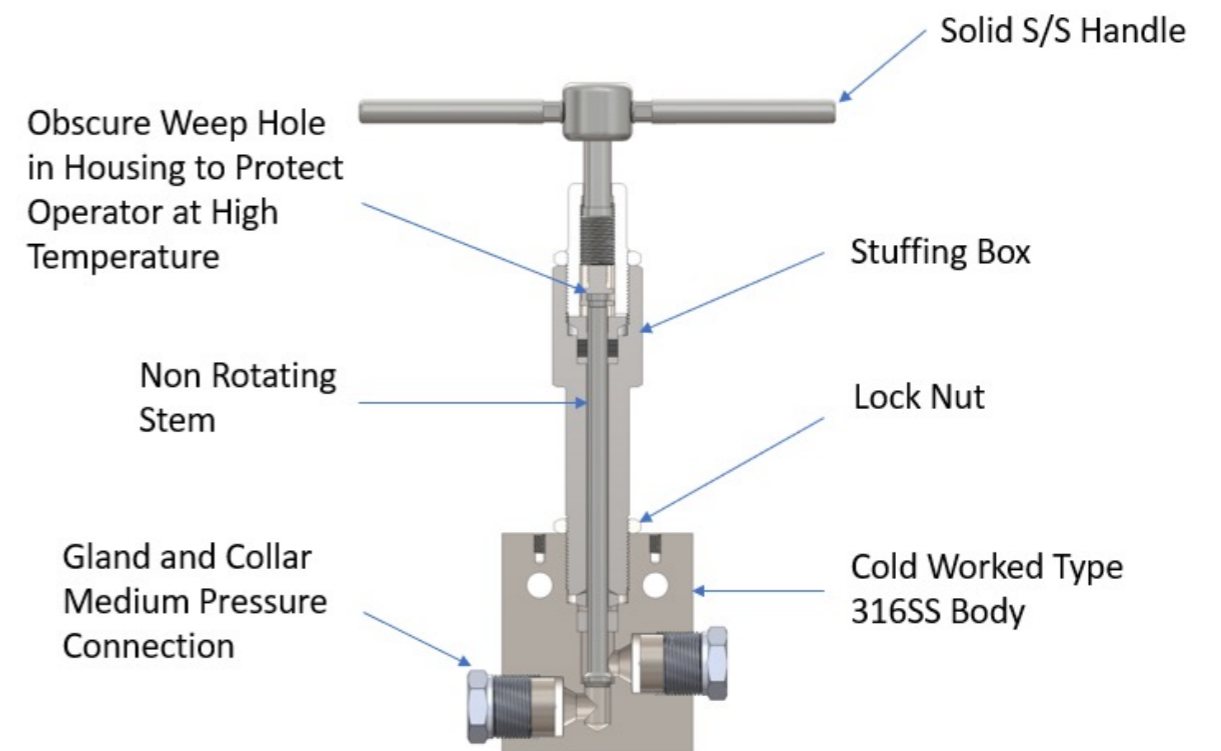
When ordering, simply add the suffix "HT" to the standard valve number (example: 20NVA12HF-HT)

Note: These valves may also be used in cryogenic application, with Teflon packing supplied.



Model: 20VA12HF-HT

High Temperature Needle Valve



High Pressure Quick Disconnect Couplings (Up to 30,000 PSI / 2069 BAR)

Quick couplers are quick-disconnect fittings used in a hydraulic or pneumatic system to quickly connect lines without losing fluid or fluid pressure. Quick couplers are designed to be connected and disconnected immediately without the use of tools, eliminating the need to close valves, bleed the system, recharge with fluid, and/or purge entrapped gas when parts are disconnected and replaced. For this reason, HTG had specially included these range of products that are especially useful in critical or time-dependent production applications where speed is key issue. Quick couplers also save valuable time when used to construct or tear down plumbing systems.

High Pressure Female Half (Self-sealing Coupling)



Female Half Side c/w male HP connection

Part Number	Description
30QDHP06-0-1-4HM-SS	QDC female half c/w, 1/4"HP male, 30K psi, SS316
30QDHP06-0-1-6HM-SS	QDC female half c/w, 3/8"HP male, 30K psi, SS316
30QDHP06-0-1-9HM-SS	QDC female half c/w, 9/16"HP male, 30K psi, SS316



Female Half Side c/w female HP connection

Part Number	Description
30QDHP06-0-1-4HF-SS	QDC female half c/w, 1/4"HP female, 30K psi, SS316
30QDHP06-0-1-6HF-SS	QDC female half c/w, 3/8"HP female, 30K psi, SS316
30QDHP06-0-1-9HF-SS	QDC female half c/w, 9/16"HP female, 30K psi, SS316

High Pressure Male Half (Thru Type)



Male Half, thru type c/w male HP connection

Part Number	Description
30QDHP06-1-1-4HM-SS	QDC male half thru type c/w, 1/4"HP male, 30K psi, SS316
30QDHP06-1-1-6HM-SS	QDC male half thru type c/w, 3/8"HP male, 30K psi, SS316
30QDHP06-1-1-9HM-SS	QDC male half thru type c/w, 9/16"HP male, 30K psi, SS316



Male Half, thru type c/w female HP connection

Part Number	Description
30QDHP06-1-1-4HF-SS	QDC male half thru type c/w, 1/4"HP female, 30K psi, SS316
30QDHP06-1-1-6HF-SS	QDC male half thru type c/w, 3/8"HP female, 30K psi, SS316
30QDHP06-1-1-9HF-SS	QDC male half thru type c/w, 9/16"HP female, 30K psi, SS316

High Pressure Quick Disconnect Couplings (Up to 30,000 PSI / 2069 BAR)

High Pressure Male Half (with Check Valve)



Male Half c/w check valve & male HP connection

Part Number	Description
30QDHP06-2-1-4HM-SS	QDC male half c/w check valve & 1/4"HP male, 30K psi, SS316
30QDHP06-2-1-6HM-SS	QDC male half c/w check valve & 3/8"HP male, 30K psi, SS316
30QDHP06-2-1-9HM-SS	QDC male half c/w, check valve 9/16"HP male, 30K psi, SS316



Female Half c/w check valve & female HP connection

Part Number	Description
30QDHP06-2-1-4HF-SS	QDC male half c/w check valve, 1/4"HP female, 30K psi, SS316
30QDHP06-2-1-6HF-SS	QDC male half c/w check valve, 3/8"HP female, 30K psi, SS316
30QDHP06-2-1-9HF-SS	QDC male half c/w check valve, 9/16"HP female, 30K psi, SS316

Medium Pressure Quick Disconnect Coupling Set (Thru Type)



Complete Set P/n: CS-20QD-009-9MF-S
9/16" MP Female Screw Together Quick Disconnect Set

Part Number	Description
20QDMP09-0-1-9MF-SS	QDC female half screw type coupling c/w 9/16"MP female, 20K psi, SS316
20QDMP09-1-1-9MF-SS	QDC male half screw type coupling c/w 9/16"MP female, 20K psi, SS316

Standard Pressure Quick Disconnect Coupling Set (Thru Type)



Complete Set P/n: CS-10QD-008-8NF-S
1/2" NPT Female Push/Pull Quick Disconnect Coupler

Part Number	Description
10QDLP08-0-1-8NF-SS	QDC female half, thru type c/w 1/2"NPT female, 10K psi, SS316
10QDLP08-1-1-8NF-SS	QDC female half, thru type c/w 1/2"NPT female, 10K psi, SS316



Accessories

High Pressure Adaptors and Couplings (Up to 66,000 PSI / 4552 BAR)

Adaptors and Coupling

High Pressure Technology Group provide an extensive range of accessories that enable you to completely hook up your system with ease.

Specifications

- End connections Types Include:
 - o BSP, JIC, NPT
 - o Type M Hose
 - o Medium Pressure Cone & Thread
 - o High Pressure Cone & Thread
- Pressure rating: Up to 66,000 psi
- Body Material: SS316 cold worked

Features & Benefits

- A complete range of adapters and couplings are available for all of the tubing connection sizes.
- Safety weep holes standard on all medium and high pressure adapters and couplings.
- All medium pressure and high pressure adapters come complete with glands and collars.
- Anti-vibration connection components available.
- Complete material traceability on all components.
- Prototype and design assistance available for special applications.
- Can be manufactured to meet NACE MR0175 standard.
- Other materials available on request.
- Maximum working pressure is determined by the end connection with the lowest pressure rating.

Accessories

High Pressure Adaptors and Couplings (Up to 66,000 PSI / 4552 BAR)

Female to Female Couplings



High Pressure (HP) Female		High Pressure (HP) Female		
Conn. Type	Pressure (PSI)	1/4" HP.F	3/8" HP.F	9/16" HP.F
1/4" HP.F	66,000	66CU4HF	66CU4HF6HF	66CU4HF9HF
3/8" HP.F	66,000	66CU4HF6HF	66CU6HF	66CU6HF9HF
9/16" HP.F	66,000	66CU4HF9HF	66CU6HF9HF	66CU9HF

Med. Pressure (MP) Female		High Pressure (HP) Female		
Conn. Type	Pressure (PSI)	1/4" HP.F	3/8" HP.F	9/16" HP.F
1/4" MP.F	23,000	23CU4MF4HF	23CU4MF6HF	23CU4MF9HF
3/8" MP.F	23,000	23CU6MF4HF	23CU6MF6HF	23CU6MF9HF
9/16" MP.F	23,000	23CU9MF4HF	23CU9MF6HF	23CU9MF9HF
3/4" MP.F	20,000	20CU12MF4HF	20CU12MF6HF	20CU12MF9HF
1" MP.F	20,000	20CU16MF4HF	20CU16MF6HF	20CU16MF9HF

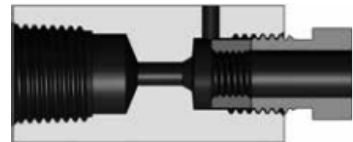
NPT Female		High Pressure (HP) Female		
Conn. Type	Pressure (Psi)	1/4" HP.F	3/8" HP.F	9/16" HP.F
1/8" NPT.F	15,000	15CU2NF4HF	15CU2NF6HF	15CU2NF9HF
1/4" NPT.F	15,000	15CU4NF4HF	15CU4NF6HF	15CU4NF9HF
3/8" NPT.F	15,000	15CU6NF4HF	15CU6NF6HF	15CU6NF9HF
1/2" NPT.F	15,000	15CU8NF4HF	15CU8NF6HF	15CU8NF9HF
3/4" NPT.F	10,000	10CU12NF4HF	10CU12NF6HF	10CU12NF9HF
1" NPT.F	10,000	10CU16NF4HF	10CU16NF6HF	10CU16NF9HF

High Pressure Adaptors and Couplings (Up to 66,000 PSI / 4554 BAR)

Female to Female Couplings



Med. Pressure (MP) Female		Medium Pressure (MP) Female				
Conn. Type	Pressure (PSI)	1/4" MP.F	3/8" MP.F	9/16" MP.F	3/4" MP.F	1" MP.F
1/4" MP.F	23,000	23CU4MF	23CU4MF6MF	23CU4MF9MF	23CU4MF12MF	23CU4MF16MF
3/8" MP.F	23,000	23CU4MF6MF	23CU6MF	23CU6MF9MF	23CU6MF12MF	23CU6MF16MF
9/16" MP.F	23,000	23CU4MF9MF	23CU6MF9MF	23CU9MF	23CU9MF12MF	23CU9MF16MF
3/4" MP.F	20,000	20CU4MF12MF	20CU6MF12MF	20CU9MF12MF	203CU12MF	20CU12MF16MF
1" MP.F	20,000	20CU4MF16MF	20CU6MF16MF	20CU9MF16MF	20CU12MF16MF	20CU16MF



NPT Female		Medium Pressure (MP) Female				
Conn. Type	Pressure (PSI)	1/4" MP.F	3/8" MP.F	9/16" MP.F	3/4" MP.F	1" MP.F
1/8" NPT.F	15,000	15CU2NF4MF	15CU2NF6MF	15CU2NF9MF	15CU2NF12MF	15CU2NF16MF
1/4" NPT.F	15,000	15CU4NF4MF	15CU4NF6MF	15CU4NF9MF	15CU4NF12MF	15CU4NF16MF
3/8" NPT.F	15,000	15CU6NF4MF	15CU6NF6MF	15CU6NF9MF	15CU6NF12MF	15CU6NF16MF
1/2" NPT.F	15,000	15CU8NF4MF	15CU8NF6MF	15CU8NF9MF	15CU8NF12MF	15CU8NF16MF
3/4" NPT.F	10,000	10CU12NF4MF	10CU12NF6MF	10CU12NF9MF	10CU12NF12MF	10CU12NF16MF
1" NPT.F	10,000	10CU16NF4MF	10CU16NF6MF	10CU16NF9MF	10CU16NF12MF	10CU16NF16MF



NPT Female		NPT Female					
Conn. Type	Pressure (PSI)	1/8" NPT.F	1/4" NPT.F	3/8" NPT.F	1/2" NPT.F	3/4" NPT.F	1" NPT.F
1/8" NPT.F	15,000	15CU2NF	15CU2NF4NF	15CU2NF6NF	15CU2NF8NF		
	10,000					10CU2NF12NF	10CU2NF16NF
1/4" NPT.F	15,000	15CU2NF4NF	15CU4NF	15CU4NF6NF	15CU4NF8NF		
	10,000					10CU4NF12NF	10CU4NF16NF
3/8" NPT.F	15,000	15CU2NF6NF	15CU4NF6NF	15CU6NF	15CU6NF8NF		
	10,000					10CU6NF12NF	10CU6NF16NF
1/2" NPT.F	15,000	15CU2NF8NF	15CU4NF8NF	15CU6NF8NF	15CU8NF		
	10,000					10CU8NF12NF	10CU8NF16NF
3/4" NPT.F	10,000	10CU2NF12NF	10CU4NF12NF	10CU6NF12NF	10CU8NF12NF	10CU12NF	10CU12NF16NF
	10,000	10CU2NF16NF	10CU4NF16NF	10CU6NF16NF	10CU8NF16NF	10CU12NF16NF	10CU16NF

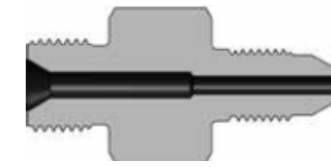
High Pressure Adaptors and Couplings (Up to 66,000 PSI / 4554 BAR)

Male to Male Adapters



Cone plug

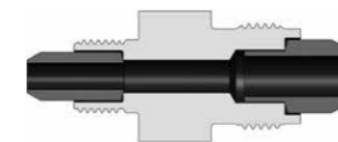
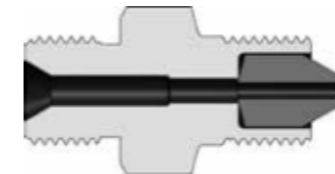
Two-piece Design



Integral cone end

One-piece Design

Please note that all fittings are quoted base on one-piece design unless special request.



High Pressure (HP) Male		High Pressure (HP) Male		
Conn. Type	Pressure (PSI)	1/4" HP.M	3/8" HP.M	9/16" HP.M
1/4" HP.M	66,000	66AD4HM	66AD4HM6HM	66AD4HM9HM
3/8" HP.M	66,000	66AD4HM6HM	66AD6HM	66AD6HM9HM
9/16" HP.M	66,000	66AD4HM9HM	66AD6HM9HM	66AD9HM

Type M (Hose) Male		High Pressure (HP) Male		
Conn. Type	Pressure (PSI)	1/4" HP.M	3/8" HP.M	9/16" HP.M
9HA	43,000	43AD9HA4HM	43AD9HA6HM	43AD9HA9HM
12HA	37,000	37AD12HA4HM	37AD12HA6HM	37AD12HA9HM
16HA	26,000		26AD16HA6HM	26AD16HA9HM
21HA	23,000			23AD21HA9HM

Medium Pressure (MP) Male		Medium Pressure (MP) Male		
Conn. Type	Pressure (Psi)	1/4" HP.M	3/8" HP.M	9/16" HP.M
1/4" MP.M	23,000	23AD4MM4HM	23AD4MM6HM	23AD4MM9HM
3/8" MP.M	23,000	23AD6MM4HM	23AD6MM6HM	23AD6MM9HM
9/16" MP.M	23,000	23AD9MM4HM	23AD9MM6HM	23AD9MM9HM
3/4" MP.M	20,000	20AD12MM4HM	20AD12MM6HM	20AD12MM9HM
1" MP.M	20,000	20AD16MM4HM	20AD16MM6HM	20AD16MM9HM

High Pressure Adaptors and Couplings (Up to 66,000 PSI / 4554 BAR)

Male to Male Adaptors



JIC Male		High Pressure (HP) Male		
Conn. Type	Pressure (PSI)	1/4" HP.M	3/8" HP.M	9/16" HP.M
1/4" JIC.M	15,000	15AD4JM4HM	15AD4JM6HM	15AD4JM9HM
3/8" JIC.M	15,000	15AD6JM4HM	15AD6JM6HM	15AD6JM9HM
1/2" JIC.M	15,000	15AD8JM4HM	15AD8JM6HM	15AD8JM9HM
3/4" JIC.M	10,000	10AD12JM4HM	10AD12JM6HM	10AD12JM9HM
1" JIC.M	10,000	10AD16JM4HM	10AD16JM6HM	10AD16JM9HM



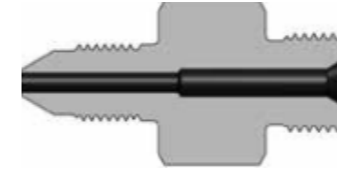
NPT Male		High Pressure (HP) Male		
Conn. Type	Pressure (Psi)	1/4" HP.M	3/8" HP.M	9/16" HP.M
1/8" NPT.M	15,000	15AD2NM4HM	15AD2NM6HM	15AD2NM9HM
1/4" NPT.M	15,000	15AD4NM4HM	15AD4NM6HM	15AD4NM9HM
3/8" NPT.M	15,000	15AD6NM4HM	15AD6NM6HM	15AD6NM9HM
1/2" NPT.M	15,000	15AD8NM4HM	15AD8NM6HM	15AD8NM9HM
3/4" NPT.M	10,000	10AD12NM4HM	10AD12NM6HM	10AD12NM9HM
1" NPT.M	10,000	10AD16NM4HM	10AD16NM6HM	10AD16NM9HM



Type M (Hose) Male		Type M Hose (HA) Male			
Conn. Type	Pressure (PSI)	9HA	12HA	16HA	21HA
9HA	43,000	43AD9HA			
	30,000		30AD9HA12HA		
	26,000			26AD9HA16HA	
12HA	30,000	30AD9HA12HA	30AD12HA		
	26,000			26AD12HA16HA	
16HA	26,000	26AD9HA16HA	26AD12HA16HA	26AD16HA	
	20,000				20AD16HA21HA
21HA	20,000			20AD16HA21HA	20AD21HA

High Pressure Adaptors and Couplings (Up to 66,000 PSI / 4554 BAR)

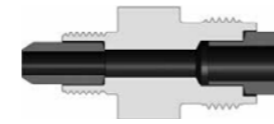
Male to Male Adaptors



Medium Pressure (MP) Male		Type M (Hose) Male			
Conn. Type	Pressure (PSI)	9HA	12HA	16HA	21HA
1/4" MP.M	23,000	23AD4MM9HA	23AD4MM12HA	23AD4MM16HA	
3/8" MP.M	23,000	23AD6MM9HA	23AD6MM12HA	23AD6MM16HA	
9/16" MP.M	23,000	23AD9MM9HA	23AD9MM12HA	23AD9MM16HA	23AD9MM21HA
3/4" MP.M	20,000	20AD12MM9HA	20AD12MM12HA	20AD12MM16HA	20AD12MM21HA
1" MP.M	20,000	20AD16MM9HA	20AD16MM12HA	20AD16MM16HA	20AD16MM21HA



NPT Male		Type M (Hose) Male			
Conn. Type	Pressure (PSI)	9HA	12HA	16HA	21HA
1/4" NPT.M	15,000	15AD4NM9HA	15AD4NM12HA	15AD4NM16HA	
3/8" NPT.M	15,000	15AD6NM9HA	15AD6NM12HA	15AD6NM16HA	
1/2" NPT.M	15,000	15AD8NM9HA	15AD8NM12HA	15AD8NM16HA	15AD8NM21HA
3/4" NPT.M	10,000	10AD12NM9HA	10AD12NM12HA	10AD12NM16HA	10AD12NM21HA
1" NPT.M	10,000	10AD16NM9HA	10AD16NM12HA	10AD16NM16HA	10AD16NM21HA



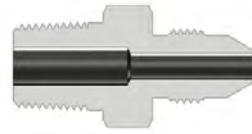
Medium Pressure (MP) Male		Medium Pressure (MP) Male				
Conn. Type	Pressure (PSI)	1/4" MP.M	3/8" MP.M	9/16" MP.M	3/4" MP.M	1" MP.M
1/4" MP.M	23,000	23AD4MM	23AD4MM6MM	23AD4MM9MM	20AD4MM12MM	20AD4MM16MM
3/8" MP.M	23,000	23AD4MM6MM	23AD6MM	23AD6MM9MM	20AD6MM12MM	20AD6MM16MM
9/16" MP.M	23,000	23AD4MM9MM	23AD6MM9MM	23AD9MM	20AD9MM12MM	20AD9MM16MM
3/4" MP.M	20,000	20AD4MM12MM	20AD6MM12MM	20AD9MM12MM	20AD12MM	20AD12MM16MM
1" MP.M	20,000	20AD4MM16MM	20AD6MM16MM	20AD9MM16MM	20AD12MM16MM	20AD16MM



JIC Male		Medium Pressure (MP) Male				
Conn. Type	Pressure (PSI)	1/4" MP.M	3/8" MP.M	9/16" MP.M	3/4" MP.M	1" MP.M
1/4" JIC.M	15,000	15AD4JM4MM	15AD4JM6MM	15AD4JM9MM	10AD4JM12MM	10AD4JM16MM
3/8" JIC.M	15,000	15AD6JM4MM	15AD6JM6MM	15AD6JM9MM	10AD6JM12MM	10AD6JM16MM
1/2" JIC.M	15,000	15AD8JM4MM	15AD8JM6MM	15AD8JM9MM	10AD8JM12MM	10AD8JM16MM
3/4" JIC.M	10,000	10AD12JM4MM	10AD12JM6MM	10AD12JM9MM	10AD12JM12MM	10AD12JM16MM
1" JIC.M	10,000	10AD16JM4MM	10AD16JM6MM	10AD16JM9MM	10AD16JM12MM	10AD16JM16MM

High Pressure Adaptors and Couplings (Up to 66,000 PSI / 4554 BAR)

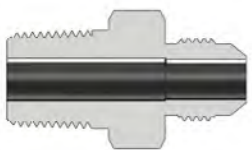
Male to Male Adapters



NPT Male		Medium Pressure (MP) Male				
Conn. Type	Pressure (PSI)	1/4" MP.M	3/8" MP.M	9/16" MP.M	3/4" MP.M	1" MP.M
1/8" NPT.M	15,000	15AD2NM4MM	15AD2NM6MM	15AD2NM9MM	10AD2NM12MM	10AD2NM16MM
1/4" NPT.M	15,000	15AD4NM4MM	15AD4NM6MM	15AD4NM9MM	10AD4NM12MM	10AD4NM16MM
3/8" NPT.M	15,000	15AD6NM4MM	15AD6NM6MM	15AD6NM9MM	10AD6NM12MM	10AD6NM16MM
1/2" NPT.M	15,000	15AD8NM4MM	15AD8NM6MM	15AD8NM9MM	10AD8NM12MM	10AD8NM16MM
3/4" NPT.M	10,000	10AD12NM4MM	10AD12NM6MM	10AD12NM9MM	10AD12NM12MM	10AD12NM16MM
1" NPT.M	10,000	10AD16NM4MM	10AD16NM6MM	10AD16NM9MM	10AD16NM12MM	10AD16NM16MM



JIC Male		JIC Male				
Conn. Type	Pressure (PSI)	1/4" JIC.M	3/8" JIC.M	1/2" JIC.M	3/4" JIC.M	1" JIC.M
1/4" JIC.M	15,000	15AD4JM	15AD4JM6JM	15AD4JM8JM	10AD4JM12JM	
3/8" JIC.M	15,000	15AD4JM6JM	15AD6JM	15AD6JM8JM	10AD6JM12JM	
1/2" JIC.M	15,000	15AD4JM8JM	15AD6JM8JM	15AD8JM	10AD8JM12JM	
3/4" JIC.M	10,000	10AD4JM12JM	10AD6JM12JM	10AD8JM12JM	10AD12JM	10AD12JM16JM
1" JIC.M	10,000				10AD12JM16JM	10AD16JM



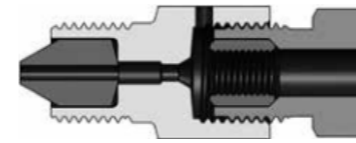
NPT Male		JIC Male				
Conn. Type	Pressure (PSI)	1/4" JIC.M	3/8" JIC.M	1/2" JIC.M	3/4" JIC.M	1" JIC.M
1/4" NPT.M	15,000	15AD4NM4JM	15AD4NM6JM	15AD4NM8JM	10AD4NM12JM	10AD4NM16JM
3/8" NPT.M	15,000	15AD6NM4JM	15AD6NM6JM	15AD6NM8JM	10AD6NM12JM	10AD6NM16JM
1/2" NPT.M	15,000	15AD8NM4JM	15AD8NM6JM	15AD8NM8JM	10AD8NM12JM	10AD8NM16JM
3/4" NPT.M	10,000	10AD12NM4JM	10AD12NM6JM	10AD12NM8JM	10AD12NM12JM	10AD12NM16JM
1" NPT.M	10,000	10AD16NM4JM	10AD16NM6JM	10AD16NM8JM	10AD16NM12JM	10AD16NM16JM



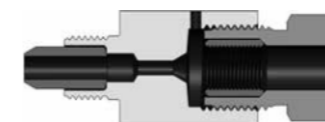
NPT Male		NPT Male				
Conn. Type	Pressure (PSI)	1/4" NPT.M	3/8" NPT.M	1/2" NPT.M	3/4" NPT.M	1" NPT.M
1/4" NPT.M	15,000	15AD4NM	15AD4NM6NM	15AD4NM8NM		
	10,000				10AD4NM12NM	10AD4NM16NM
3/8" NPT.M	15,000	15AD4NM6NM	15AD6NM	15AD6NM8NM		
	10,000				10AD6NM12NM	10AD6NM16NM
1/2" NPT.M	15,000	15AD4NM8NM	15AD6NM8NM	15AD8NM		
	10,000				10AD8NM12NM	10AD8NM16NM
3/4" NPT.M	10,000	10AD4NM12NM	10AD6NM12NM	10AD8NM12NM	10AD12NM	10AD12NM16NM
1" NPT.M	10,000	10AD4NM16NM	10AD6NM16NM	10AD8NM16NM	10AD12NM16NM	10AD16NM

High Pressure Adaptors and Couplings (Up to 66,000 PSI / 4554 BAR)

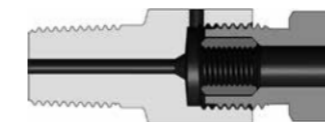
Male to Female Adapters



High Pressure (HP) Male		High Pressure (HP) Female		
Conn. Type	Pressure (PSI)	1/4" HP.F	3/8" HP.F	9/16" HP.F
1/4" HP.M	66,000	66AD4HF4HM	66AD6HF4HM	66AD9HF4HM
3/8" HP.M	66,000	66AD4HF6HM	66AD6HF6HM	66AD9HF6HM
9/16" HP.M	66,000	66AD4HF9HM	66AD6HF9HM	66AD9HF9HM



Medium Pressure (MP) Male		High Pressure (HP) Female		
Conn. Type	Pressure (PSI)	1/4" HP.F	3/8" HP.F	9/16" HP.F
1/4" MP.M	23,000	23AD4HF4MM	23AD6HF4MM	23AD9HF4MM
3/8" MP.M	23,000	23AD4HF6MM	23AD6HF6MM	23AD9HF6MM
9/16" MP.M	23,000	23AD4HF9MM	23AD6HF9MM	23AD9HF9MM
3/4" MP.M	20,000	20AD4HF12MM	20AD6HF12MM	20AD9HF12MM
1" MP.M	20,000	20AD4HF16MM	20AD6HF16MM	20AD9HF16MM



NPT Male		High Pressure (HP) Female		
Conn. Type	Pressure (PSI)	1/4" HP.F	3/8" HP.F	9/16" HP.F
1/8" NPT.M	15,000	15AD4HF2NM	15AD6HF2NM	15AD9HF2NM
1/4" NPT.M	15,000	15AD4HF4NM	15AD6HF4NM	15AD9HF4NM
3/8" NPT.M	15,000	15AD4HF6NM	15AD6HF6NM	15AD9HF6NM
1/2" NPT.M	15,000	15AD4HF8NM	15AD6HF8NM	15AD9HF8NM
3/4" NPT.M	10,000	10AD4HF12NM	10AD6HF12NM	10AD9HF12NM
1" NPT.M	10,000	10AD4HF16NM	10AD6HF16NM	10AD9HF16NM

High Pressure Adaptors and Couplings (Up to 66,000 PSI / 4554 BAR)

Male to Female Adapters



High Pressure (HP) Male		Medium Pressure (MP) Female				
Conn. Type	Pressure (PSI)	1/4" MP.F	3/8" MP.F	9/16" MP.F	3/4" MP.F	1" MP.F
1/4" HP.M	23,000	23AD4MF4HM	23AD6MF4HM	23AD9MF4HM		
	20,000				20AD12MF4HM	20AD16MF4HM
3/8" HP.M	23,000	23AD4MF6HM	23AD6MF6HM	23AD9MF6HM		
	20,000				20AD12MF6HM	20AD16MF6HM
9/16" HP.M	23,000	23AD4MF9HM	23AD6MF9HM	23AD9MF9HM		
	20,000				20AD12MF9HM	20AD16MF9HM



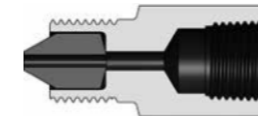
Medium Pressure (MP) Male		Medium Pressure (MP) Female				
Conn. Type	Pressure (PSI)	1/4" MP.F	3/8" MP.F	9/16" MP.F	3/4" MP.F	1" MP.F
1/4" MP.M	23,000	23AD4MF4MM	23AD6MF4MM	23AD9MF4MM	20AD12MF4MM	20AD16MF4MM
3/8" MP.M	23,000	23AD4MF6MM	23AD6MF6MM	23AD9MF6MM	20AD12MF6MM	20AD16MF6MM
9/16" MP.M	23,000	23AD4MF9MM	23AD6MF9MM	23AD9MF9MM	20AD12MF9MM	20AD16MF9MM
3/4" MP.M	20,000	20AD4MF12MM	20AD6MF12MM	20AD9MF12MM	20AD12MF12MM	20AD16MF12MM
1" MP.M	20,000	20AD4MF16MM	20AD6MF16MM	20AD9MF16MM	20AD12MF16MM	20AD16MF16MM



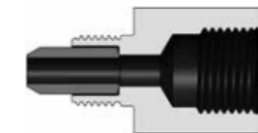
NPT Male		Medium Pressure (MP) Female				
Conn. Type	Pressure (PSI)	1/4" MP.F	3/8" MP.F	9/16" MP.F	3/4" MP.F	1" MP.F
1/8" NPT.M	15,000	15AD4MF2NM	15AD6MF2NM	15AD9MF2NM	15D12MF2NM	15AD16MF2NM
1/4" NPT.M	15,000	15AD4MF4NM	15AD6MF4NM	15AD9MF4NM	15AD12MF4NM	15AD16MF4NM
3/8" NPT.M	15,000	15AD4MF6NM	15AD6MF6NM	15AD9MF6NM	15AD12MF6NM	15AD16MF6NM
1/2" NPT.M	15,000	15AD4MF8NM	15AD6MF8NM	15AD9MF8NM	15AD12MF8NM	15AD16MF8NM
3/4" NPT.M	10,000	10AD4MF12NM	10AD6MF12NM	10AD9MF12NM	10AD12MF12NM	10AD16MF12NM
1" NPT.M	10,000	10AD4MF16NM	10AD6MF16NM	10AD9MF16NM	10AD12MF16NM	10AD16MF16NM

High Pressure Adaptors and Couplings (Up to 66,000 PSI / 4554 BAR)

Male to Female Adapters



High Pressure (HP) Male		NPT Female					
Conn. Type	Pressure (PSI)	1/8" NPT.F	1/4" NPT.F	3/8" NPT.F	1/2" NPT.F	3/4" NPT.F	1" NPT.F
1/4" HP.M	15,000	15AD2NF4HM	15AD4NF4HM	15AD6NF4HM	15AD8NF4HM		
	10,000					10AD12NF4HM	10AD16NF4HM
3/8" HP.M	15,000	15AD2NF6HM	15AD4NF6HM	15AD6NF6HM	15AD8NF6HM		
	10,000					10AD12NF6HM	10AD16NF6HM
9/16" HP.M	15,000	15AD2NF9HM	15AD4NF9HM	15AD6NF9HM	15AD8NF9HM		
	10,000					10AD12NF9HM	10AD16NF9HM



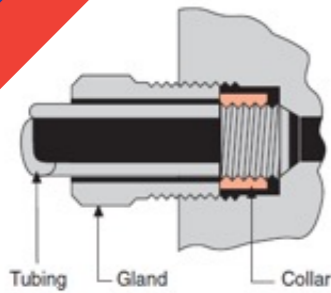
Medium Pressure (MP) Male		NPT Female					
Conn. Type	Pressure (PSI)	1/8" NPT.F	1/4" NPT.F	3/8" NPT.F	1/2" NPT.F	3/4" NPT.F	1" NPT.F
1/4" MP.M	15,000	15AD2NF4MM	15AD4NF4MM	15AD6NF4MM	15AD8NF4MM		
	10,000					10AD12NF4MM	10AD16NF4MM
3/8" MP.M	15,000	15AD2NF6MM	15AD4NF6MM	15AD6NF6MM	15AD8NF6MM		
	10,000					10AD12NF6MM	10AD16NF6MM
9/16" MP.M	15,000	15AD2NF9MM	15AD4NF9MM	15AD6NF9MM	15AD8NF9MM		
	10,000					10AD12NF9MM	10AD16NF9MM
3/4" MP.M	15,000	15AD2NF12MM	15AD4NF12MM	15AD6NF12MM	15AD8NF12MM		
	10,000					10AD12NF12MM	10AD16NF12MM
1" MP.M	15,000	15AD2NF16MM	15AD4NF16MM	15AD6NF16MM	15AD8NF16MM		
	10,000					10AD12NF16MM	10AD16NF16MM



NPT Male		NPT Female					
Conn. Type	Pressure (PSI)	1/8" NPT.F	1/4" NPT.F	3/8" NPT.F	1/2" NPT.F	3/4" NPT.F	1" NPT.F
1/8" NPT.M	15,000	15AD2NF2NM	15AD4NF2NM	15AD6NF2NM	15AD8NF2NM		
	10,000					10AD12NF2NM	10AD16NF2NM
1/4" NPT.M	15,000	15AD2NF4NM	15AD4NF4NM	15AD6NF4NM	15AD8NF4NM		
	10,000					10AD12NF4NM	10AD16NF4NM
3/8" NPT.M	15,000	15AD2NF6NM	15AD4NF6NM	15AD6NF6NM	15AD8NF6NM		
	10,000					10AD12NF6NM	10AD16NF6NM
1/2" NPT.M	15,000	15AD2NF8NM	15AD4NF8NM	15AD6NF8NM	15AD8NF8NM		
	10,000					10AD12NF8NM	10AD16NF8NM
3/4" NPT.M	10,000	10AD2NF12NM	10AD4NF12NM	10AD6NF12NM	10AD8NF12NM	10AD12NF12NM	10AD16NF12NM
1" NPT.M	10,000	10AD2NF16NM	10AD4NF16NM	10AD6NF16NM	10AD8NF16NM	10AD12NF16NM	10AD16NF16NM

Technical Information

Medium Pressure Connections (Coned and Threaded) 23,000 psi service



The Medium Pressure tubing connection is available for 1/4", 3/8", 9/16", 3/4", and 1" O.D. tubing. The tubing may be prepared with the use of tooling (see tooling section 9.0) or prepared at the factory to specified lengths. This connection has become an industry standard for use at elevated pressures and temperatures in both liquid and gas applications. It may be disassembled and retightened indefinitely. The threads of the gland are right-hand while the threads of the collar and tubing are left-hand to prevent rotation of the collar during assembly. Glands and collars are provided with all valves and fittings (except nipples) unless otherwise requested. (See chart on the below for size details and catalog numbers).

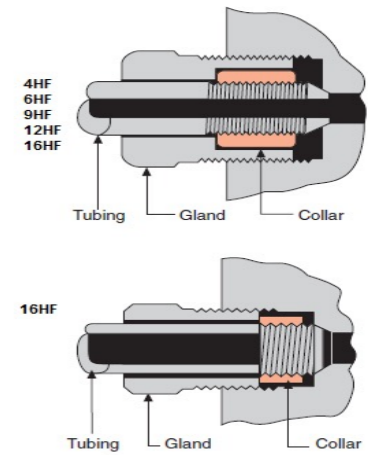
Materials

All of the components required for make-up of a Medium Pressure connection (glands, collars and plugs) are produced in Type 316 stainless steel.

23,000 psi					
4MF 1/4" O.D. Tubing	6MF 3/8" O.D. Tubing	9MF 9/16" O.D. Tubing	12MF 3/4" O.D. Tubing	16MF 1" O.D. Tubing	24MF 1 1/2" O.D. Tubing
Female Opening Detail					
Gland					
Collar					
Plug					
Tube End Prep					

Technical Information

High Pressure Connection (Coned and Threaded) 30,000/66,000 psi service



The High Pressure tubing connection is available for 1/8", 1/4", 3/8", 9/16" and 1" O.D. tubing. The tubing may be prepared with the use of tooling or prepared at the factory to specified lengths. Additionally, standard length coned and threaded tubing nipples are available from stock.

This connection has become an industry standard for use at elevated pressures and temperatures in both liquid and gas applications. It may be disassembled and retightened indefinitely. The threads of the gland are right-hand while the threads of the collar and tubing are left-hand to prevent rotation of the collar during assembly.

Materials

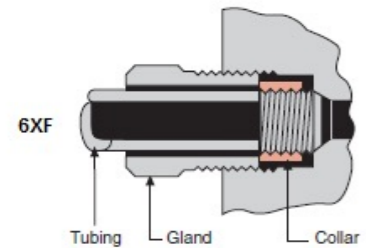
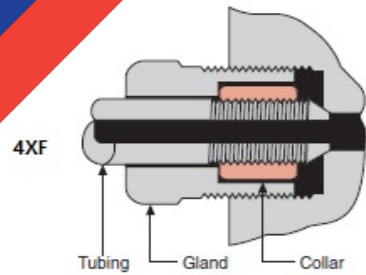
All of the components required for make-up of a High Pressure connection (glands, collars and plugs) are produced in Type 316 stainless steel. Glands and collars are provided with all valves and fittings (except nipples) unless otherwise requested. (See chart on the right for size details and catalog numbers).

66,000 psi						40,000 psi	30,000 psi
2HF 1/8" O.D. Tubing	4HF 1/4" O.D. Tubing	6HF 3/8" O.D. Tubing	9HF 9/16" O.D. Tubing	9HF 9/16" O.D. Tubing	16HF 1" O.D. Tubing		
Female Opening Detail							
Gland							
Collar							
Plug							
Tube End Prep							

Technical Information

Ultra-High Pressure Connections (Coned and Threaded) 100,000 and 150,000 psi service

The Ultra High Pressure tubing connection is available for 1/4" and 3/8" O.D. tubing. The tubing may be prepared with the use of tooling or prepared at the factory to specified lengths. Additionally, standard length coned and threaded nipples are available from stock. This connection has become an industry standard for use at elevated pressures and temperatures in both liquid and gas applications. It may be disassembled and retightened indefinitely. The threads of the gland are right-hand while the threads of the collar and tubing are left-hand to prevent rotation of the collar during assembly.



Materials

All of the components required for make-up of a Ultra High Pressure connection (glands, collars and plugs) are produced in Type 316 stainless steel.

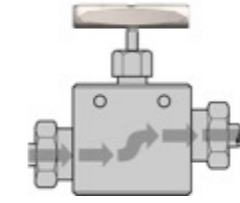
Necessary glands and collars are provided with all valves and fittings (except nipples) unless otherwise requested (see chart on the right for size details and catalog numbers).

	100,000 psi		150,000 psi	
	4XF 1/4" O.D. Tubing	6XF 3/8" O.D. Tubing	9XF 9/16" O.D. Tubing	6UF 3/8" O.D. Tubing
Female Opening Detail				
Gland				
Collar				
Plug				
Tube End Prep				

Technical Information

Flow Calculations

Gas	SG@RT Relative to Air	Liquid	SGF@RT Relative to Water
Acetylene	0.897	Acetylene	0.792
Air	1.000	Alcohol	0.792
Ammonia	0.587	Benzine	0.902
Argon	1.377	Gasoline	0.751
Butane	2.070	Gasoline, nat.	0.680
Carbon Dioxide	1.516	Kerosene	0.815
Ethylene	0.967	Pentane	0.624
Helium	0.138	Water	1.000
Hydrogen	0.0695		
Methane	0.553		
Nitrogen	0.966		
Oxygen	1.103		
Propane	1.562		
Sulphur Dioxide	2.208		



Flow Formulas

Liquids

- Flow, U.S. gal./min
- Flow, lb./hr.

$$V = \frac{C_v \sqrt{P_1 - P_2}}{\sqrt{S_{GF}}}$$

$$W = 500 C_v \sqrt{(P_1 - P_2) / S_{GF}}$$

Gases

- Flow, SCFH
- Flow, SCFH (temperature corrected)
- Flow, lb./hr.

$$Q = \frac{42.2 C_v \sqrt{(P_1 - P_2)(P_1 + P_2)}}{\sqrt{S_{GF}}}$$

$$Q = \frac{963 C_v \sqrt{(P_1 - P_2)(P_1 + P_2)}}{\sqrt{S_{GF} T_F}}$$

Standard Steam

- Flow, lb./hr.

$$W = 3.22 C_v \sqrt{(P_1 - P_2)(P_1 + P_2) / S_G}$$

Standard Steam

- Flow, lb./hr.

$$W = 2.1 C_v \sqrt{(P_1 - P_2)(P_1 + P_2)}$$

$$W = \frac{2.1 C_v \sqrt{(P_1 - P_2)(P_1 + P_2)}}{(1 + 0.0007 T_s)}$$

Formula Nomenclature

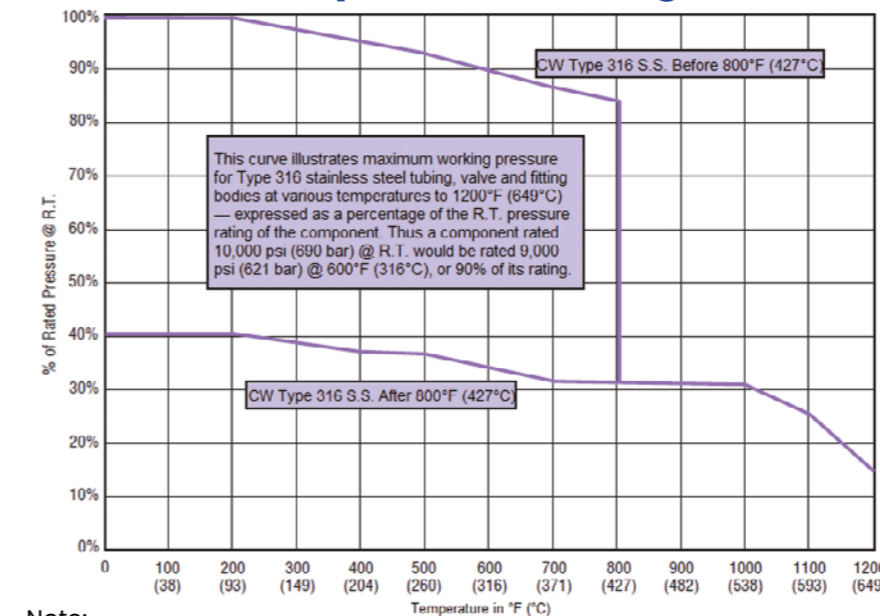
- V = Flow, U.S. gallons per minute (GPM)
- Q = Flow, standard cu.ft. per hr. (SCFH)
- W = Flow, pounds per hour (lb./hr)
- P₁ = Inlet pressure, psia (14.7+psig)
- P₂ = Outlet pressure, psia (14.7+psig)
- S_{GF} = Liquid specific gravity (water=1.0)
- S_G = Gas specific gravity (air=1.0)
- T_F = Flowing temp., °R absolute (460+°F)
- T_s = Superheat in °F
- C_v = Valve coefficient of flow, full open

* Effect of flowing temperatures on gas flow are minimal for temperatures between 30°F and 150°F. Correction should be included if temperatures are higher or lower.

** Where outlet pressure P₂ is less than 1/2 inlet pressure P₁, the term: $\sqrt{(P_1 - P_2)(P_1 + P_2)}$ becomes 0.87 x P₁.

Note: Maximum CV values in this catalog have been determined in accordance with the Fluid Controls Institute report FCI 58-2. "Recommended Voluntary Standards for Measurement Procedure for Determining Control Valve Flow Capacity," including procedure, design of the test stand and evaluation of the data.

Pressure/Temperature Rating Curve: 316 SS & 304 SS



* Curve is valid for cold-worked Type 316 stainless steel components as long as operating temperature does not exceed 800°F (427°C). When exceeding this temperature, the cold worked effect is PERMANENTLY altered, and the components should be considered as annealed material, using 40% of its cold-worked rating for future operation of the components

Note:

Curves and ratings presented here are average values for reference only, and can be significantly affected by pressure and temperature characteristics of trim and packing materials. For unusual pressure/temperature requirements, please consult factory for recommended body, trim and packing specifications.