

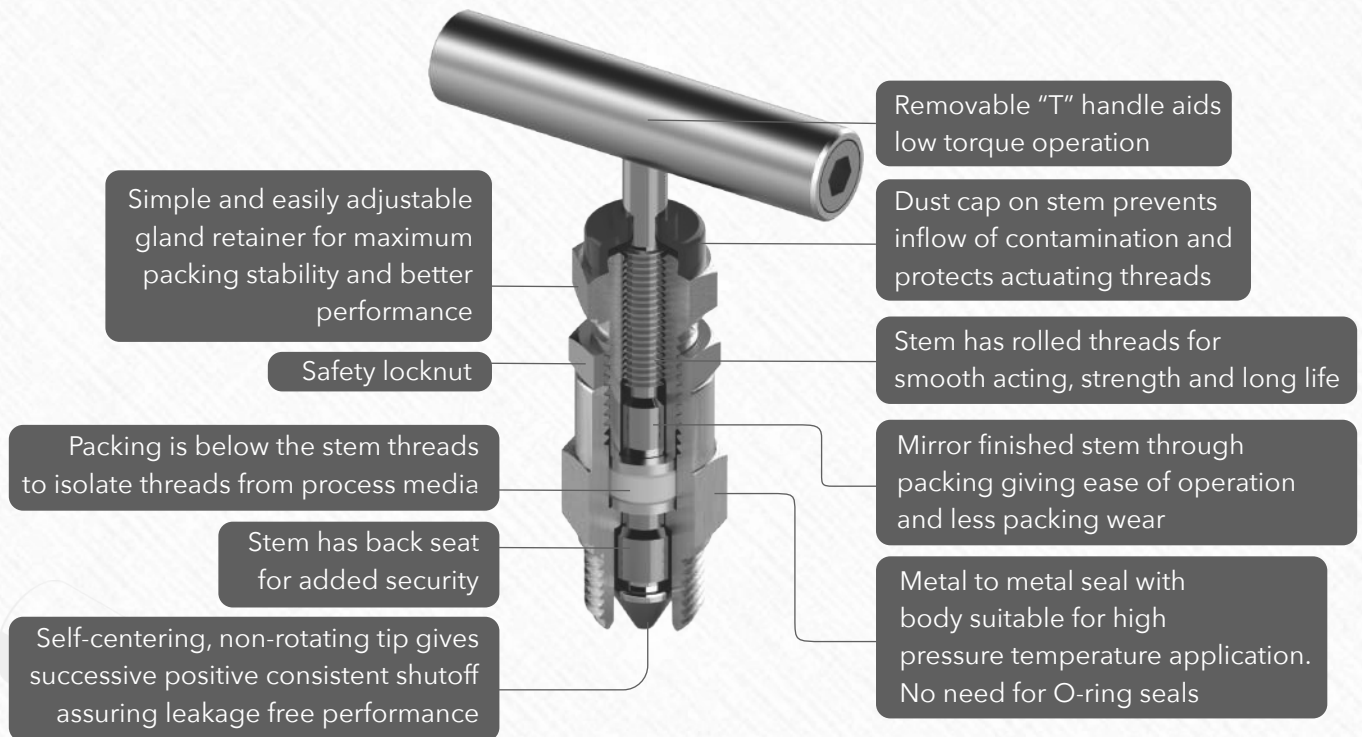


NEEDLE VALVES

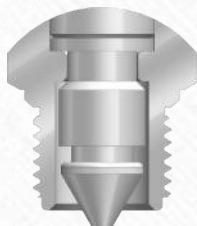


GUARANTEED
Reliability With
Economy

BONNET DESIGN

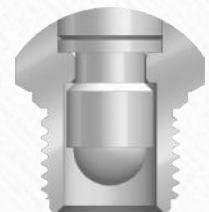


NON ROTATING VEE TIP



Self centering non rotating plug closer tip eliminates galling

NON ROTATING BALL TIP



Superior hardness prevents deformation of the sealing tip and wear, significantly increasing the lifetime of the product for isolation purposes



Isolation Valve

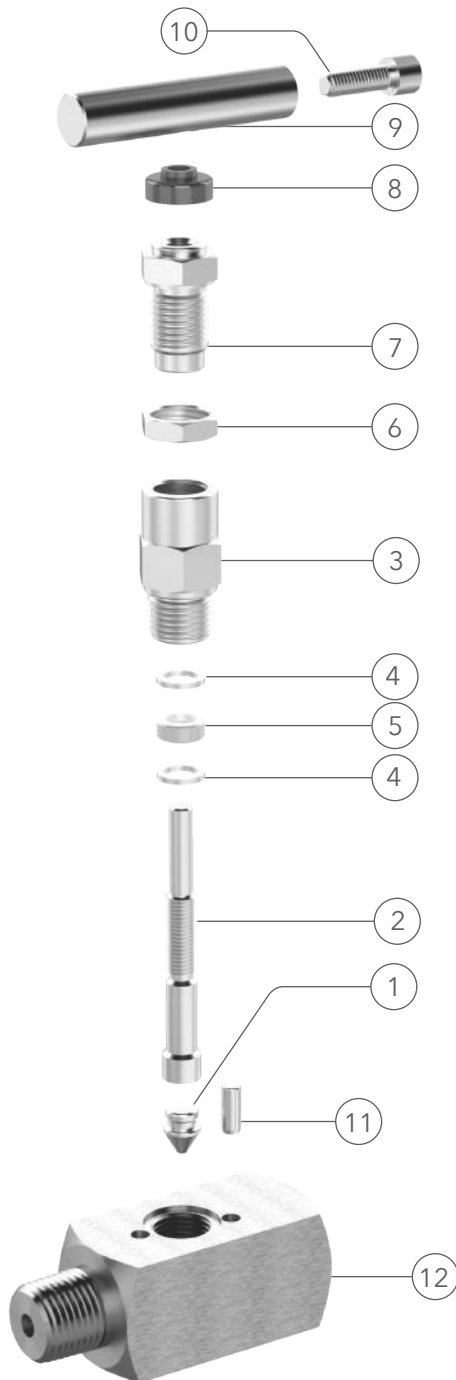


Vent/Drain Valve



Equalize Valve

BONNET ASSEMBLY



COMPONENT	MATERIAL GRADE/ASTM SPECIFICATION
1. Spindle Tip	316 SS/A479
2. Spindle	316 SS/A276
3. Bonnet	316 SS/A479
4. Metal Washer	316 SS/A479
5. Packing	PTFE
6. Lock Nut	SS
7. Gland Nut	316 SS/A479
8. Dust Cap	PVC
9. T-Handle	SS
10. Handle Screw	SS
11. Stop Pin	SS
12. Body	316 SS/A479
Lubricant	Molybdenum Disulphide Based

END CONNECTION LEGENDS

TUBE FITTING

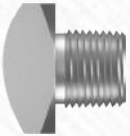


Single Ferrule Tube Fitting




Double Ferrule Tube Fitting

TAPERED PIPE THREADS

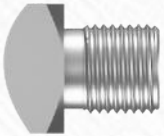


NPT Male Threads

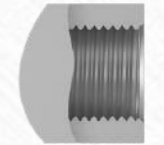


NPT Female Threads

PARALLEL PIPE THREADS




BSP Parallel Male Threads




BSP Parallel Female Threads

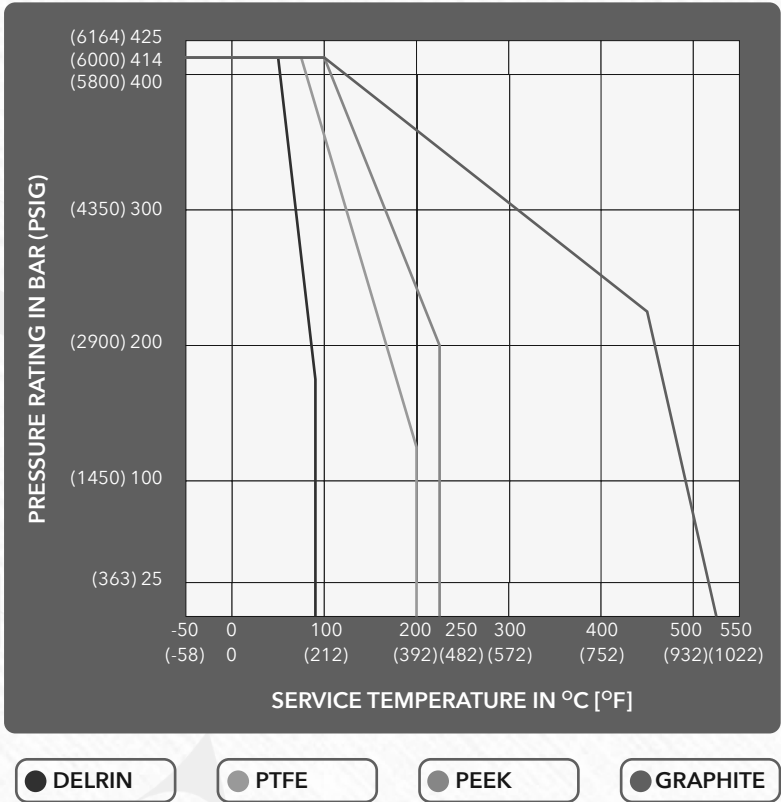
WELD ENDS



Socket Welds Ends for Pipe & Tubes acc. to ASME B16.11



Butt Welds Ends for Pipe & Tubes acc. to ASME B16.9





ORDERING INFORMATION

BSS - NV - HB - MF - V - 8N - SS6 - N

MANUFACTURER

(BSS)

CATEGORY

(NV-HB) Hex Body Series
(NV-SB) Square Body Series
(ANV) Angle Needle Valve Series
(MNV) Mini Needle Valve Series
(NV-IB) Integral Bonnet Series

THREAD DESIGNATION

(MF) Male x Female (MM) Male x Male
(FF) Female x Female (TE) Tube OD

BLEED / VENT PORT (OPTIONAL)

(V) - Vent

END CONNECTION SIZE

(4) 1/4" (12) 3/4"
(6) 3/8" (16) 1"
(8) 1/2" (20) M20 x 1.5

END CONNECTION TYPE

(N) NPT (M) METRIC
(G) BSPP (GT) BSPT

MATERIAL

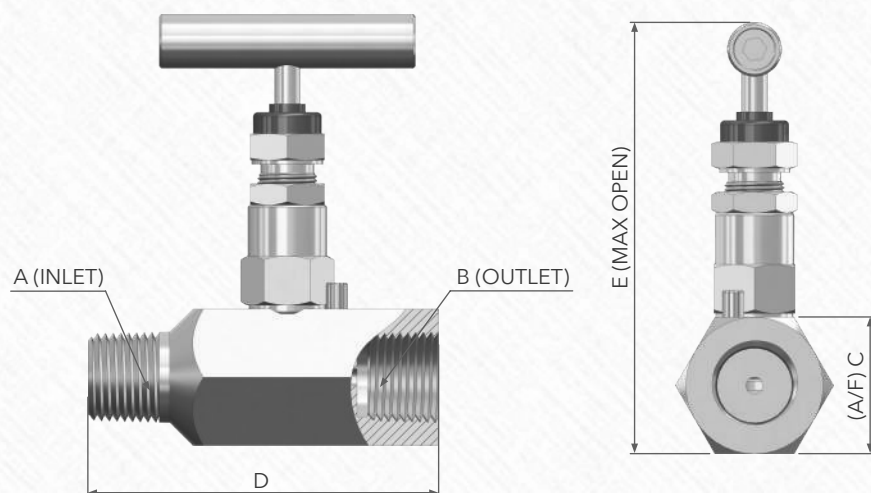
(SS6) SS316 (M) MONEL 400
(SS6L) SS316L (HC-276) Hastelloy C-276
(SS4) SS304 (IC625) Inconel 625
(D) Duplex (IC825) Inconel 825
(SD) Super Duplex (CS) Carbon Steel

SPECIAL REQUIREMENT (MULTIPLE OPTIONS AVAILABLE)

(AT) Anti Tamper (HL) Handle Locking
(N) NACE Compliance Graphite (G) Graphite
(S) Soft Seat (TB) Through Bore (Soft Seat)
(OS) Oxygen Service

HEX BODY SERIES

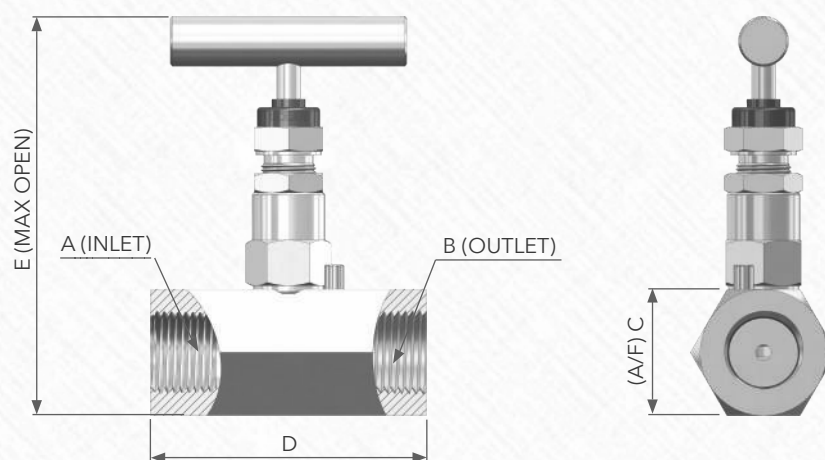
MALE X FEMALE



PART NO.	INLET(A)	OUTLET(B)	C	D [± 1.0]	E [± 1.0]	Ø F
BSS-NV-HB-MF-4N	1/4" NPT	1/4" NPT	25.4	60	89	4
BSS-NV-HB-MF-6N	3/8" NPT	3/8" NPT	25.4	60	89	4
BSS-NV-HB-MF-8N	1/2" NPT	1/2" NPT	32.0	82	106	4
BSS-NV-HB-MF-12N	3/4" NPT	3/4" NPT	36.0	85	110	6.35
BSS-NV-HB-MF-16N	1" NPT	1" NPT	45.0	95	119	6.35

ORIFICE : Ø F

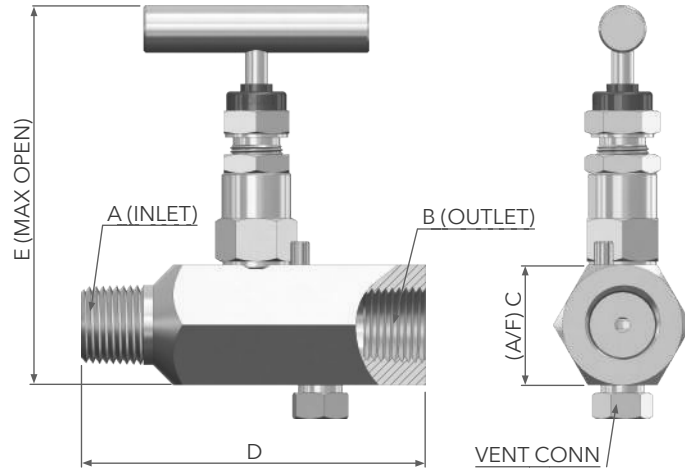
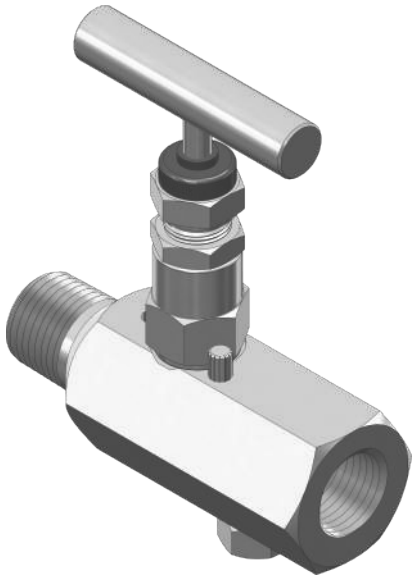
FEMALE X FEMALE



PART NO.	INLET(A)	OUTLET(B)	C	D [± 1.0]	E [± 1.0]	Ø F
BSS-NV-HB-FF-4N	1/4" NPT	1/4" NPT	25.4	55	89	4
BSS-NV-HB-FF-6N	3/8" NPT	3/8" NPT	25.4	55	89	4
BSS-NV-HB-FF-8N	1/2" NPT	1/2" NPT	32.0	70	106	4
BSS-NV-HB-FF-12N	3/4" NPT	3/4" NPT	38.0	80	112	6.35
BSS-NV-HB-FF-16N	1" NPT	1" NPT	45.0	90	119	6.35

ORIFICE : Ø F

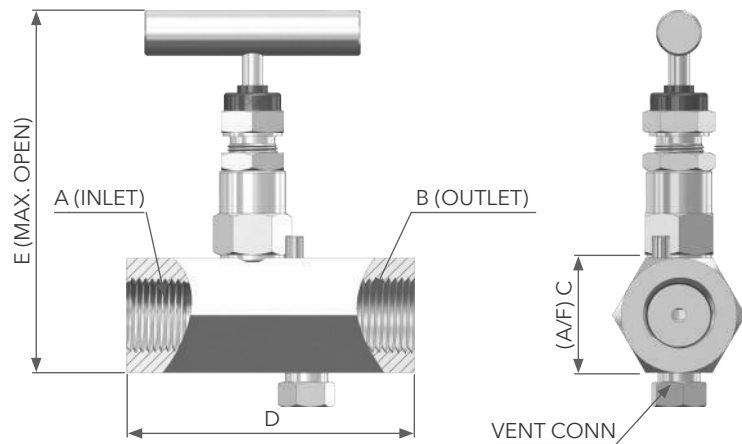
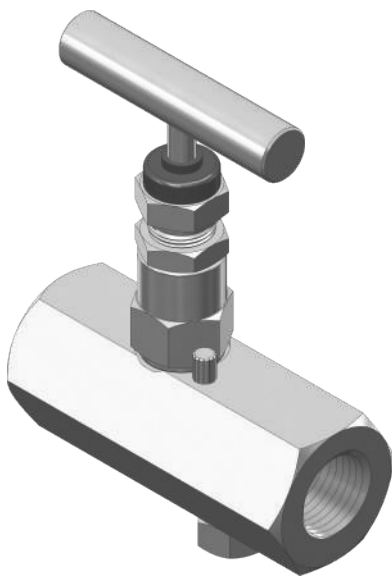
MALE X FEMALE (WITH VENT)



PART NO.	INLET(A)	OUTLET(B)	C	D [± 1.0]	E [± 1.0]	Ø F
BSS-NV-HB-MF(V)-4N	1/4" NPT	1/4" NPT	25.4	65	89	4
BSS-NV-HB-MF(V)-6N	3/8" NPT	3/8" NPT	25.4	65	89	4
BSS-NV-HB-MF(V)-8N	1/2" NPT	1/2" NPT	32.0	90	106	4
BSS-NV-HB-MF(V)-12N	3/4" NPT	3/4" NPT	36.0	90	112	6.35
BSS-NV-HB-MF(V)-16N	1" NPT	1" NPT	45.0	105	119	6.35

ORIFICE : ØF

FEMALE X FEMALE (WITH VENT)

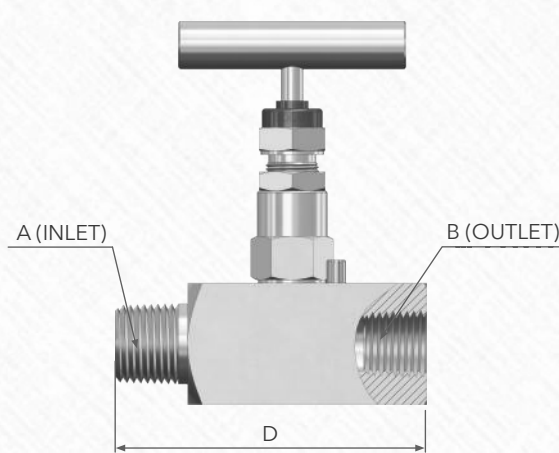


PART NO.	INLET(A)	OUTLET(B)	C	D [± 1.0]	E [± 1.0]	Ø F
BSS-NV-HB-FF(V)-4N	1/4" NPT	1/4" NPT	25.4	60	89	4
BSS-NV-HB-FF(V)-6N	3/8" NPT	3/8" NPT	25.4	60	89	4
BSS-NV-HB-FF(V)-8N	1/2" NPT	1/2" NPT	32.0	75	106	4
BSS-NV-HB-FF(V)-12N	3/4" NPT	3/4" NPT	38.0	85	112	6.35
BSS-NV-HB-FF(V)-16N	1" NPT	1" NPT	45.0	95	119	6.35

ORIFICE : ØF

SQUARE BODY SERIES

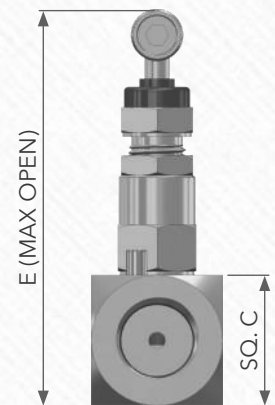
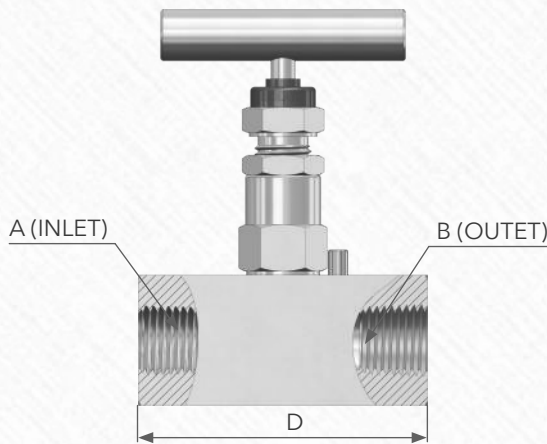
MALE X FEMALE



PART NO.	INLET(A)	OUTLET(B)	C	D [± 1.0]	E [± 1.0]	Ø F
BSS-NV-SB-MF-4N	1/4" NPT	1/4" NPT	25.4	60	88	4
BSS-NV-SB-MF-6N	3/8" NPT	3/8" NPT	25.4	60	88	4
BSS-NV-SB-MF-8N	1/2" NPT	1/2" NPT	32.0	70	106	4
BSS-NV-SB-MF-20M	M20 x 1.5	M20 x 1.5	32.0	70	106	4
BSS-NV-SB-MF-12N	3/4" NPT	3/4" NPT	36.0	85	110	6
BSS-NV-SB-MF-16N	1" NPT	1" NPT	45.0	95	119	6

ORIFICE : Ø F

FEMALE X FEMALE

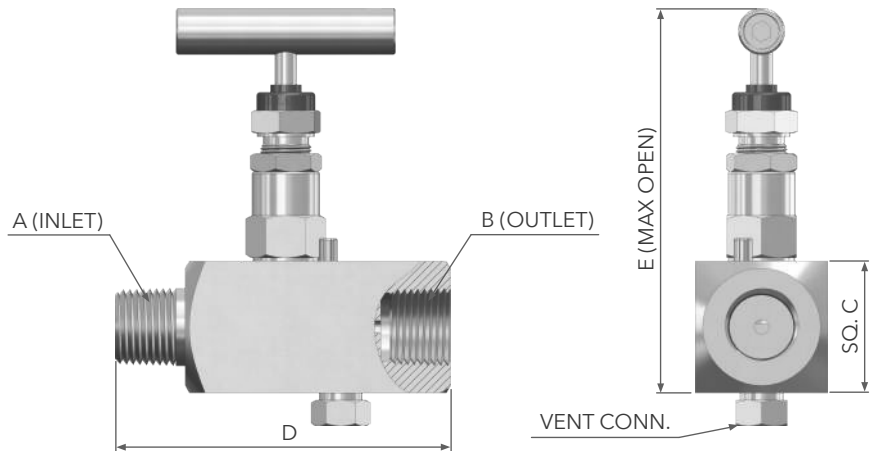


PART NO.	INLET(A)	OUTLET(B)	C	D [± 1.0]	E [± 1.0]	Ø F
BSS-NV-SB-FF-4N	1/4" NPT	1/4" NPT	25.4	55	88	4
BSS-NV-SB-FF-6N	3/8" NPT	3/8" NPT	25.4	55	88	4
BSS-NV-SB-FF-8N	1/2" NPT	1/2" NPT	32.0	65	106	4
BSS-NV-SB-FF-20M	M20 x 1.5	M20 x 1.5	32.0	65	106	4
BSS-NV-SB-FF-12N	3/4" NPT	3/4" NPT	36.0	80	110	6
BSS-NV-SB-FF-16N	1" NPT	1" NPT	45.0	95	119	6

ORIFICE : Ø F



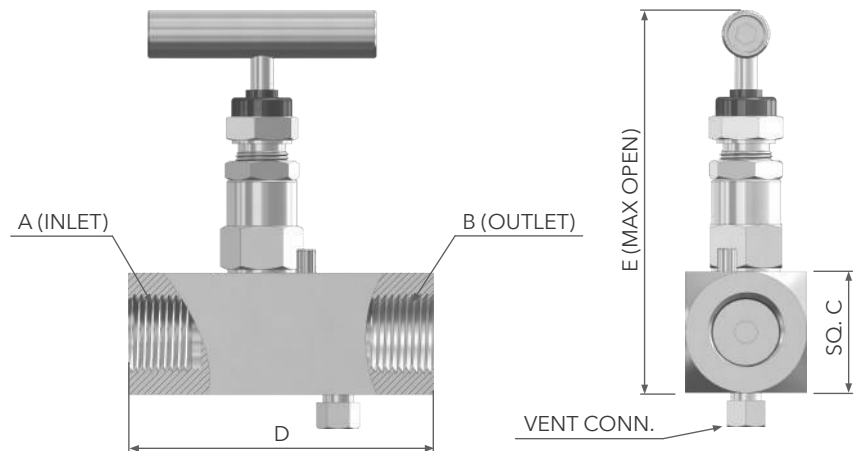
MALE X FEMALE (WITH VENT)



PART NO.	INLET(A)	OUTLET(B)	C	D [± 1.0]	E [± 1.0]	Ø F
BSS-NV-SB-MF(V)-4N	1/4" NPT	1/4" NPT	25.4	65	88	4
BSS-NV-SB-MF(V)-6N	3/8" NPT	3/8" NPT	25.4	65	88	4
BSS-NV-SB-MF(V)-8N	1/2" NPT	1/2" NPT	32.0	75	106	4
BSS-NV-SB-MF(V)-20M	M20 x 1.5	M20 x 1.5	32.0	75	106	4
BSS-NV-SB-MF(V)-12N	3/4" NPT	3/4" NPT	36.0	90	110	6
BSS-NV-SB-MF(V)-16N	1" NPT	1" NPT	45.0	100	119	6

ORIFICE : ØF

FEMALE X FEMALE (WITH VENT)

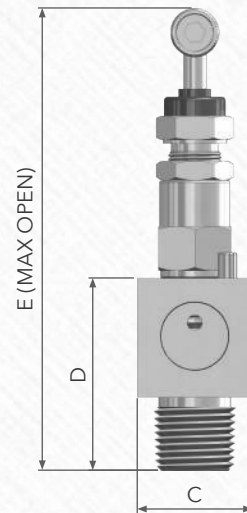
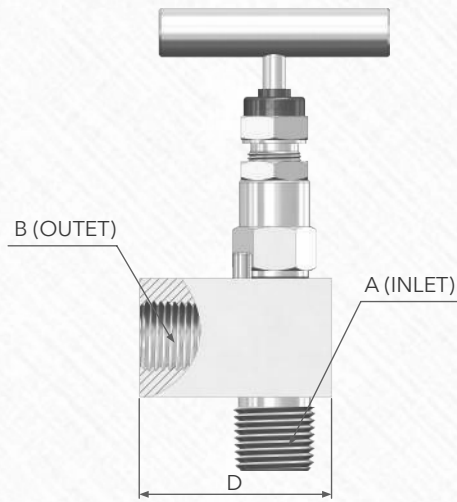


PART NO.	INLET(A)	OUTLET(B)	C	D [± 1.0]	E [± 1.0]	Ø F
BSS-NV-SB-FF(V)-4N	1/4" NPT	1/4" NPT	25.4	60	88	4
BSS-NV-SB-FF(V)-6N	3/8" NPT	3/8" NPT	25.4	60	88	4
BSS-NV-SB-FF(V)-8N	1/2" NPT	1/2" NPT	32.0	70	106	4
BSS-NV-SB-FF(V)-20M	M20 x 1.5	M20 x 1.5	32.0	70	106	4
BSS-NV-SB-FF(V)-12N	3/4" NPT	3/4" NPT	36.0	85	110	6
BSS-NV-SB-FF(V)-16N	1" NPT	1" NPT	45.0	100	120	6

ORIFICE : ØF

ANGLE PATTERN SERIES

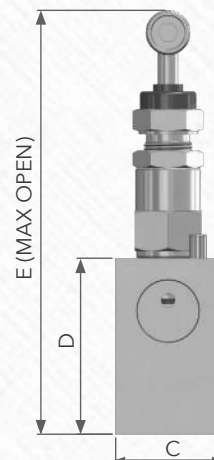
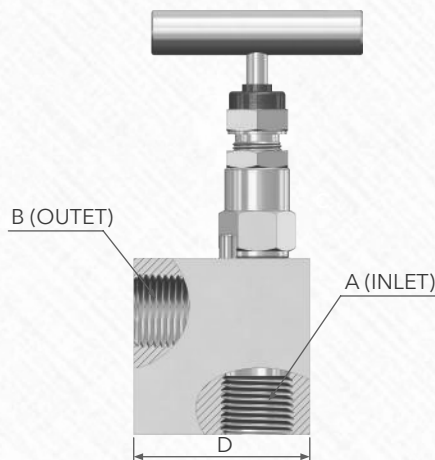
MALE X FEMALE



PART NO.	INLET(A)	OUTLET(B)	C	D [± 1.0]	E [± 1.0]	Ø F
BSS-ANV-MF-4N	1/4" NPT	1/4" NPT	28	45	108	4
BSS-ANV-MF-6N	3/8" NPT	3/8" NPT	28	45	108	4
BSS-ANV-MF-8N	1/2" NPT	1/2" NPT	30	50	124	4
BSS-ANV-MF-12N	3/4" NPT	3/4" NPT	36	65	140	6

ORIFICE : Ø F

FEMALE X FEMALE



PART NO.	INLET(A)	OUTLET(B)	C	D [± 1.0]	E [± 1.0]	Ø F
BSS-ANV-FF-4N	1/4" NPT	1/4" NPT	28	40	103	4
BSS-ANV-FF-6N	3/8" NPT	3/8" NPT	28	40	103	4
BSS-ANV-FF-8N	1/2" NPT	1/2" NPT	30	50	124	4
BSS-ANV-FF-12N	3/4" NPT	3/4" NPT	36	60	135	6

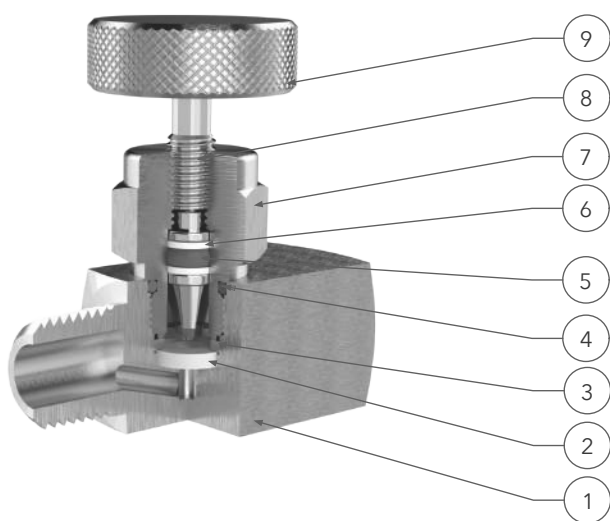
ORIFICE : Ø F

MINI NEEDLE VALVE SERIES



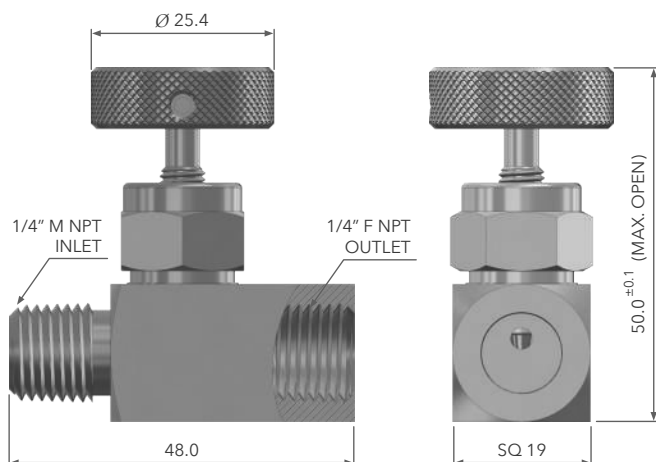
FEATURES

- Bubble tight Shut-off.
- Rolled Stem threads for smooth acting, strength and long life.
- Packing below stem threads: Prevents lubricant washout, threads corrosion, and keeps solids from entering the thread area, which can cause galling. It also prevents contamination.
- Mirror finished stem enables smooth stem operation and extended packing life.
- Low operating torque.
- Panel Mount options available.

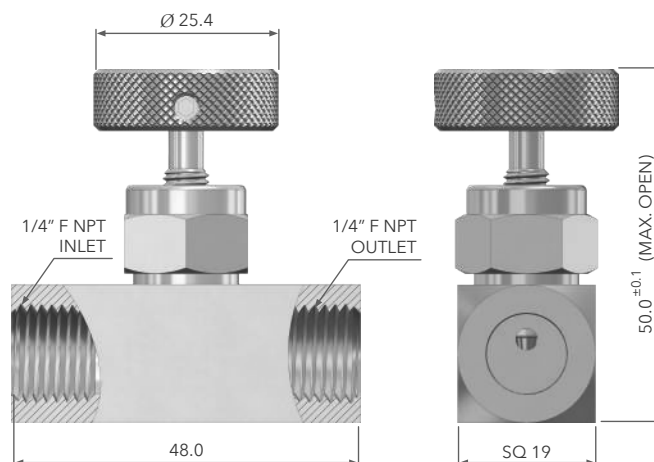


NO.	PART NO.	MATERIAL
1	BODY	ASTM A182 F 316
2	STEM	ASTM A276 Gr 316
3	BONNET	ASTM A276 Gr 316
4	BODY SEAL O-RING	VITON
5	STEM SEAL O-RING	VITON
6	BACK-UP RING	PTFE
7	SPRING WASHER	ASTM A276 Gr 316
8	SEAT	DELTRIN
9	HANDLE	SS 304

MALE X FEMALE BSS-MNV-MF-4N



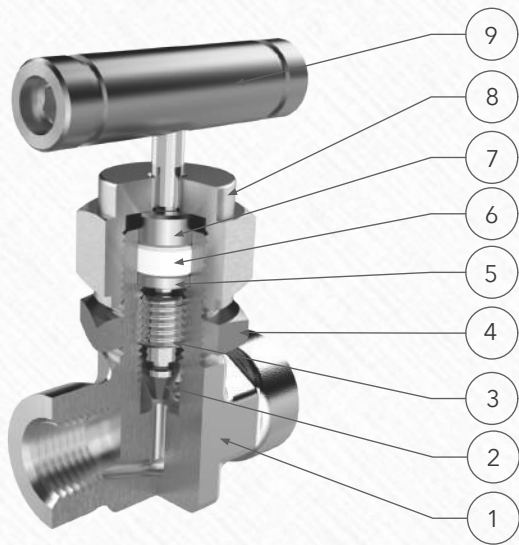
FEMALE X FEMALE BSS-MNV-FF-4N



INTEGRAL BONNET SERIES

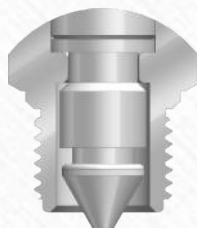
FEATURES

- Removable T Handle aids proper actuation.
- Low torque operation.
- Fully supported packing reduces need for adjustment.
- Rolled stem threads for smooth acting, strength and long life.
- Stellited stem tip available on request.
- Mirror finished stem through packing giving ease of operation and less packing wear.
- One-piece construction no welding used - For high strength and safety.
- Self centering, non-rotating tip gives successive positive consistent shut off assuring leak free performance.



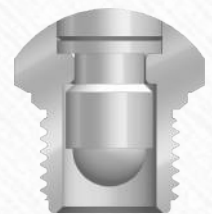
NO.	PART NO.	MATERIAL
1	BODY	ASTM A182 F316
2	SPINDLE TIP	ASTM A276 Gr 316
3	STEM	ASTM A276 Gr 316
4	PANEL MOUNT NUT	SS 304
5	GLAND WASHER	ASTM A276 Gr 316
6	GLAND PACKING	PTFE
7	GLAND WASHER	ASTM A276 Gr 316
8	GLAND NUT	ASTM A276 Gr 316
9	HANDLE	SS 304

NON ROTATING VEE TIP



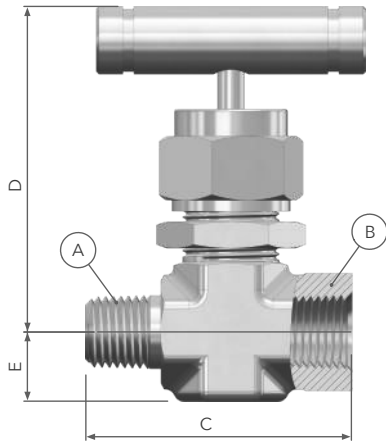
Self centering non rotating plug closer tip eliminates galling

NON ROTATING BALL TIP



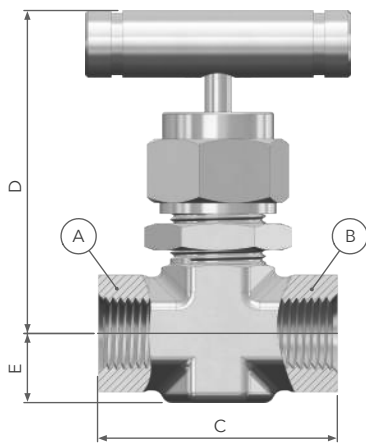
Superior hardness prevents deformation of the sealing tip and wear, significantly increasing the lifetime of the product for isolation purposes

MALE X FEMALE



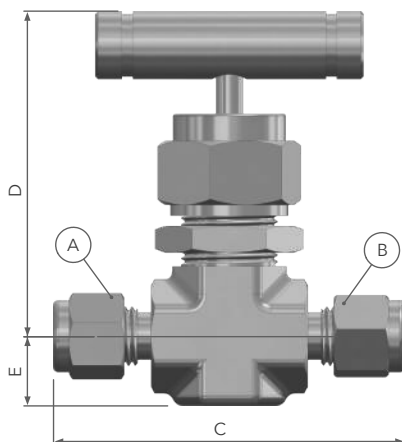
PART NO.	SIZE (NPT)		C [± 1.0]	D [± 2.0]	E
	A	B			
BSS-NV-IB-MF-4N	1/4"	1/4"	55	65	13
BSS-NV-IB-MF-6N	3/8"	3/8"	55	65	13
BSS-NV-IB-MF-8N	1/2"	1/2"	70	75	17
BSS-NV-IB-MF-12N	3/4"	3/4"	75	80	20
BSS-NV-IB-MF-16N	1"	1"	75	80	20

FEMALE X FEMALE



PART NO.	SIZE (NPT)		C [± 1.0]	D [± 2.0]	E
	A	B			
BSS-NV-IB-FF-4N	1/4"	1/4"	50	65	13
BSS-NV-IB-FF-6N	3/8"	3/8"	50	65	13
BSS-NV-IB-FF-8N	1/2"	1/2"	65	70	17
BSS-NV-IB-FF-12N	3/4"	3/4"	72	80	20
BSS-NV-IB-FF-16N	1"	1"	72	80	20

TUBE OD



PART NO.	SIZE (ODT)		C [± 1.0]	D [± 2.0]	E
	A	B			
BSS-NV-IB-TE-4	1/4"	1/4"	60	65	10
BSS-NV-IB-TE-6	3/8"	3/8"	65	75	13
BSS-NV-IB-TE-8	1/2"	1/2"	70	75	13
BSS-NV-IB-TE-12	3/4"	3/4"	95	100	19