



# Needle Valves



# Needle Valves

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# Needle Valves

Are designed for use in a wide variety of applications including Oil and Gas, Refineries, Chemical processing, Power and Utilities. The product line consists of Instrumentation valves such as Double block & bleed valves, 2-3-5 Valve Manifolds, Needle Valves, Gauge Valves, Globe Valves & Ball Valves. Baxcell valve products are the most technically advanced instrument valves available and are designed in accordance with ASME VIII and ANSI B16.34 standards. BAXCELL valve products are recognized by our end-users for their high quality, innovative and cost saving designs. The companies QA/QC systems are fully equipped with all testing arrangements. BAXCELL valve products have been subjected to extensive testing by major oil and gas companies with very satisfactory results. At BAXCELL, we have a policy of continual design and product development and reserve the right to make changes without prior notice.

BAXCELL needle valves have excellent flow regulation and leak tightness. The operation is smooth, easy, low-torque & long life. Internal surfaces & threads are 100% free from burrs & other foreign particles. Needle valves have stainless steel red color coded identity tags affixed to the head units. Needle Valves have Non-Rotating Tip Stem (NRT) thereby providing tight, repeatable shutoff without the galling or cross-scoring that occurs on V & ball-type stems. The NRT conical stem tip stops rotating when it contacts the seat so that any further torque turns the stem and not the tip. Furthermore, the conical stem tip seats in the same place every time - the more often the valve is seated, the better the mating with the seat is achieved. By contrast, the “V” & ball-type tip does not seat in the same place every time, as the tip has no consistent axis of rotation. Consequently, every time the valve seats, a new seat mark is scored on the tip, creating multiple potential leak paths.

Needle valves are available as per NACE MR-01-75 (latest revision) for sour service. We also manufacture custom made Needle Valves to suit customer design requirement.

# Needle Valves

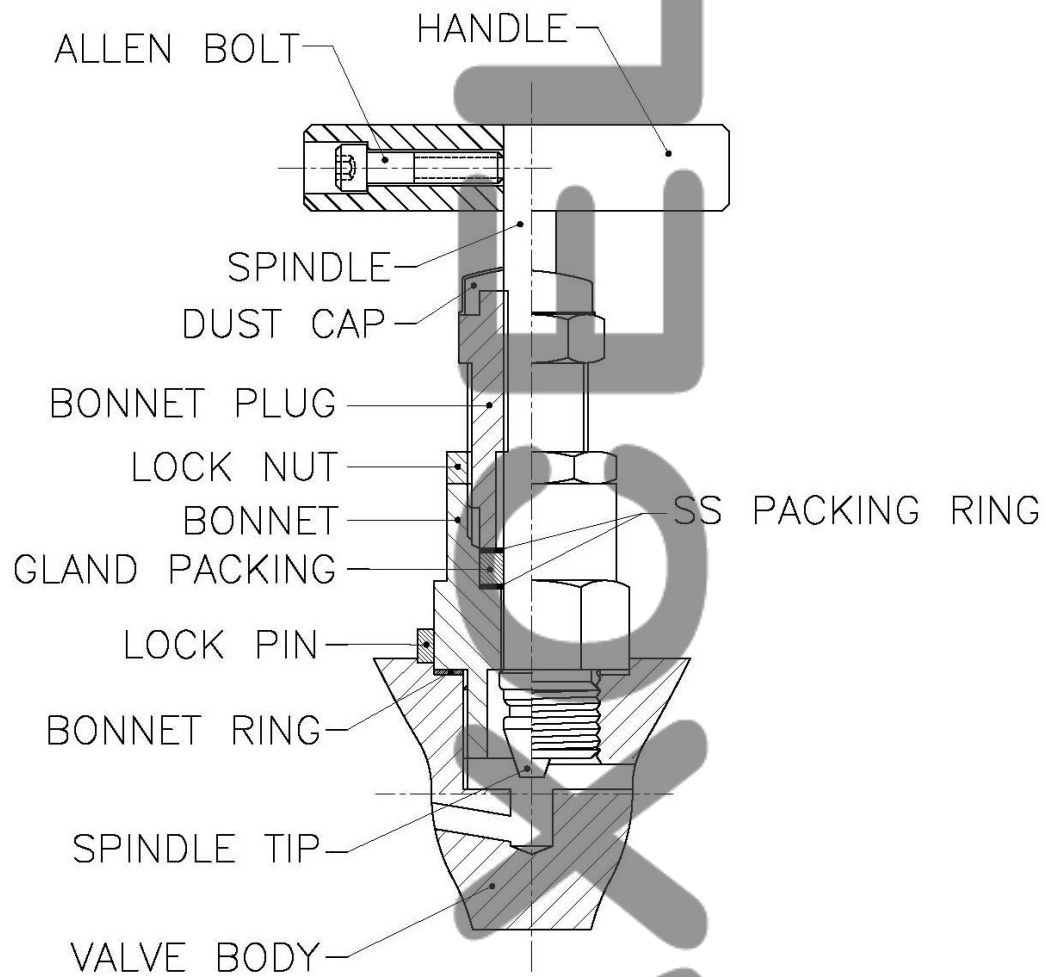
## Key Features:

- Blowout Proof stem that provides a secondary stem seal in the full open position.
- Rolled Spindle operating threads for greater strength & low torque operation.
- Stem Packing below the threads prevent thread galling and contamination/solation from the process.
- Self centering crimped Needle/Ball Tip for bubble tight sealing.
- Adjustable gland with easy access & Gland lock nut for vibration protection.
- Standard construction for maximum pressure rating with replaceable bonnet sealing washer arrangement.
- Annealed washer for complete positive sealing.
- Bonnet lock pin to prevent accident loosening.
- Color coded dust caps to prevent spindle thread from contamination & providing functional identification.
- T-Bar operating handle for low torque function.
- Electro Polish finish on SS Valves. Electroless Nickel plated finish on CS valves

## BAXCELL NEEDLE VALVES are manufactured in

Design	Screwed Bonnet / Integral (Union) Bonnet.
Spindle Tip	Non-Rotating Tip: "Vee" Type & Ball Type (Tungsten Carbide)
	Rotating Tip: "Vee" Type only.
Seat	Metal to Metal, Stellite, Teflon.
Packing	Standard – PTFE. Optional GRAPHOL, PEEK, CET etc.
Size	1/8" to 1"
Patterns	Straight / Angle
Pressure Rating	PTFE – 6,000 PSI & High Pressure up to 15,000 PSI. GRAPHITE – 6,000 Psi.
End Connections	NPT, BSPT, BSPP, Butt Weld, Socket Weld, Compression Fittings.
Handle	Standard- CS Powder coated / SS Bar Type
M.O.C	Body-ASTM A182 F 316(L), 304(L) etc. All other spares in ASTM A 479/A276 Gr. 316(L), 304(L). Other M. O. C's: Titanium, Monel, Hastelloy C. etc. Products can be supplied to conform to NACE MR 0175.
Temperature	PTFE: Max. up to 250 Deg. C GRAPHITE: Max. up to 648 Deg. C.
Orifice Dia.	3 mm to 9 mm
Lubricant/Sealant	Anti-Seize: NEVER-SEEZ. Thread Sealant: LOCTITE 542
Testing	Standard : Hydro Test, Pneumatic Test, Nitrogen Test Optional : Vibration, Temperature Cycling, Helium etc.

## Bonnet Assembly:



# Needle Valves

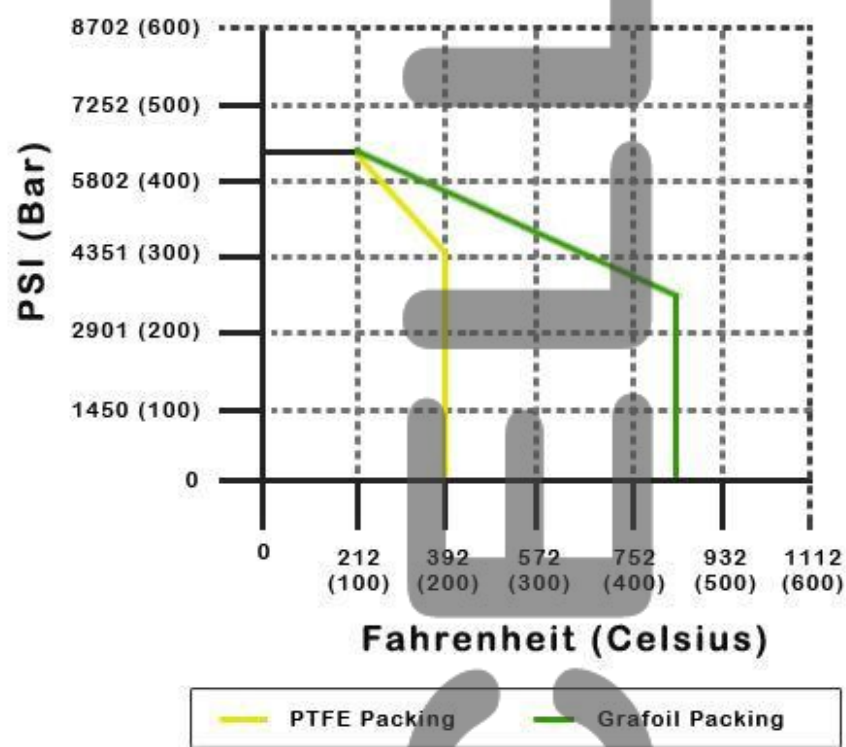
## Material :

BAXCELL Needle valves are available in SS 316 & SS 304, Brass, Steel, Monel, Hastelloy C, Incoloy 825, Inconel 600 & Titanium. Manifold spares are machined from cold finished bar stock and manifold bodies are machined from close grain forgings. The raw materials used fully conform the chemical requirements of one or more of the specification listed below.

Material	Bar	Forging
Stainless steel	BS 970 316-S 31 DIN 4401 ASME SA 479/276-316	BS 970 316-S 31 DIN 4401 ASME SA 182-316
Brass	B S 2874 C Z 121 ASTM B16 ALLOY 360 IS 319 Grade-I & II	BS 2872 C Z 122 ASTM B124 ALLOY 377 IS 6192
MONEL	BS 3076 NA 13 ASTM B 164	BS 3076 NA 13 ASTM B 164
Hastelloy C276	ASTM B 575	ASTM B 574
Incoloy 825	BS 3076 NA16 ASTM B 425	BS 3076 NA16 ASTM B 425
Inconel 600	ASTM B 166	ASTM B 564

# Needle Valves

## Pressure vs. Temperature Curves



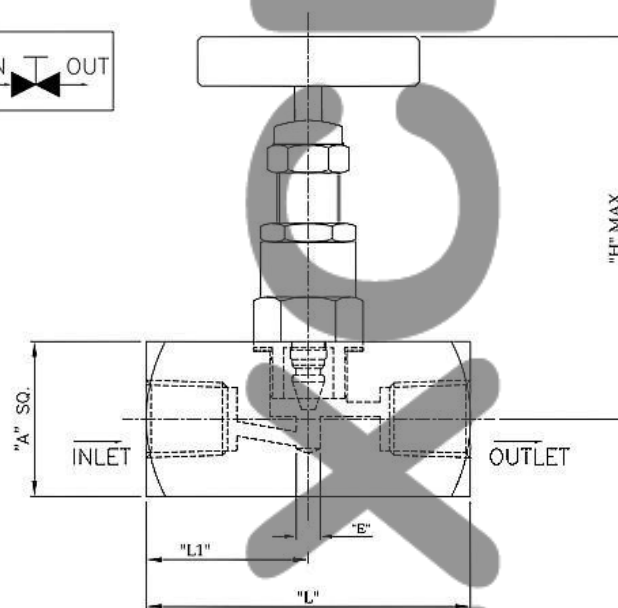
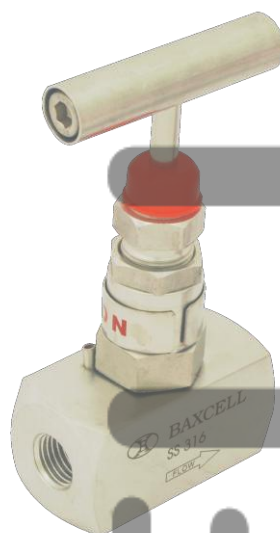
PTFE PACKING	Maximum pressure 6000 psi (413 bar) at 212° F (100° C) Maximum pressure 4000 psi (275 bar) at 392° F (200° C)
GRAFOIL® PACKIN	Maximum pressure 6000 psi (413 bar) at 212° F (100° C) Maximum pressure 3300 psi (230 bar) at 842° F (450° C)



# Needle Valves

## BAX-NVFF-01

FEMALE - FEMALE



### DIMENSIONAL DETAILS

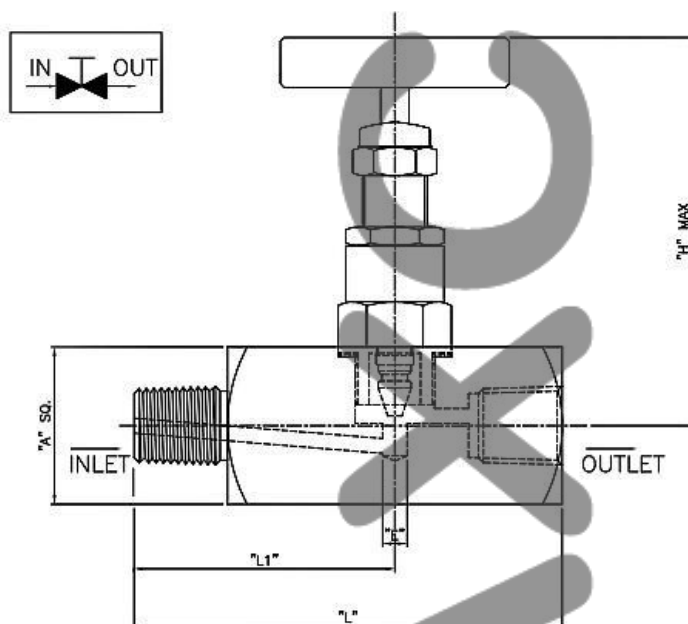
Model No	Size	A	L	L1	H	E Orifice
BAX - 2NVFF	1/8"	28.00	56.00	28.00	92.00	3.20
BAX - 4NVFF	1/4"	28.00	56.00	28.00	92.00	3.20
BAX - 6NVFF	3/8"	28.00	56.00	28.00	92.00	3.20
BAX - 8NVFF	1/2"	32.00	64.00	32.00	95.00	4.80
BAX - 12NVFF	3/4"	38.00	64.00	32.00	97.00	4.80
BAX - 16NVFF	1"	45.00	78.00	39.00	118.00	4.80
BAX - 24NVFF	1 1/2"	65.00	85.00	42.50	110.00	4.80
BAX - 32NVFF	2"	75.00	90.00	45.00	115.00	4.80



# Needle Valves

## BAX-NVMF-02

MALE - FEMALE

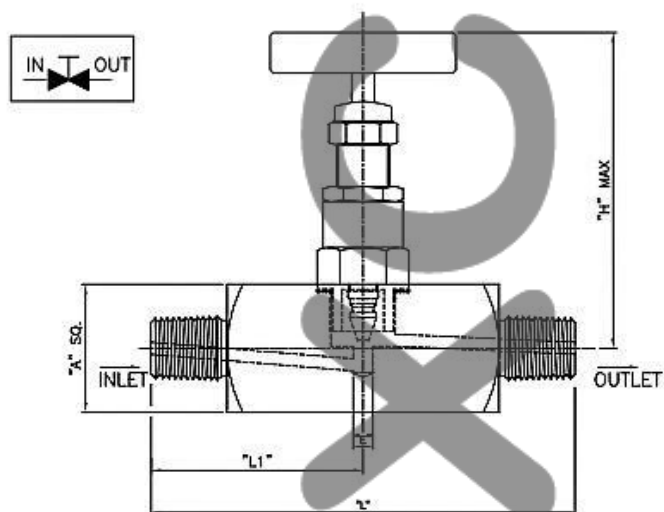


SIZE	A	B	L	L1	H	PART NO.
1/8"	28	10	56	28	87	BX-2NVMF
1/4"	28	14	60	32	87	BX-4NVMF
3/8"	28	14	60	32	87	BX-6NVMF
1/2"	32	19	72	38	89	BX-8NVMF
3/4"	38	19	72	38	92	BX-10NVMF
1"	45	24	84	44	96	BX-16NVMF

# Needle Valves

## BAX-NVMM-03

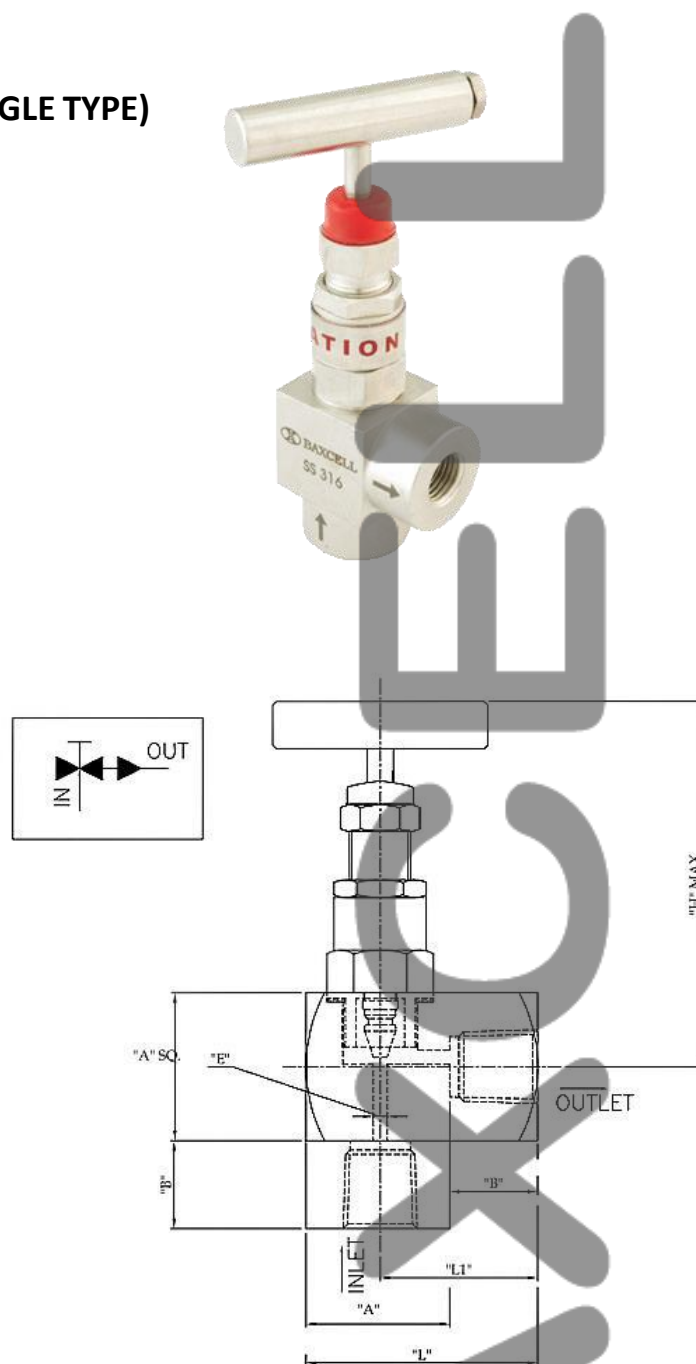
MALE - MALE



SIZE	A	B	L	L1	H	PART NO.
1/8"	28	10	58	28	87	BAX-2NVMM
1/4"	28	14	60	30	87	BX-4NVMM
3/8"	28	14	60	30	87	BX-6NVMM
1/2"	32	19	72	36	88	BX-8NVMM
3/4"	38	19	72	36	92	BX-10NVMM
1"	45	24	88	44	96	BX-16NVMM

## BAX-NVAFF-04

FEMALE – FEMALE (ANGLE TYPE)



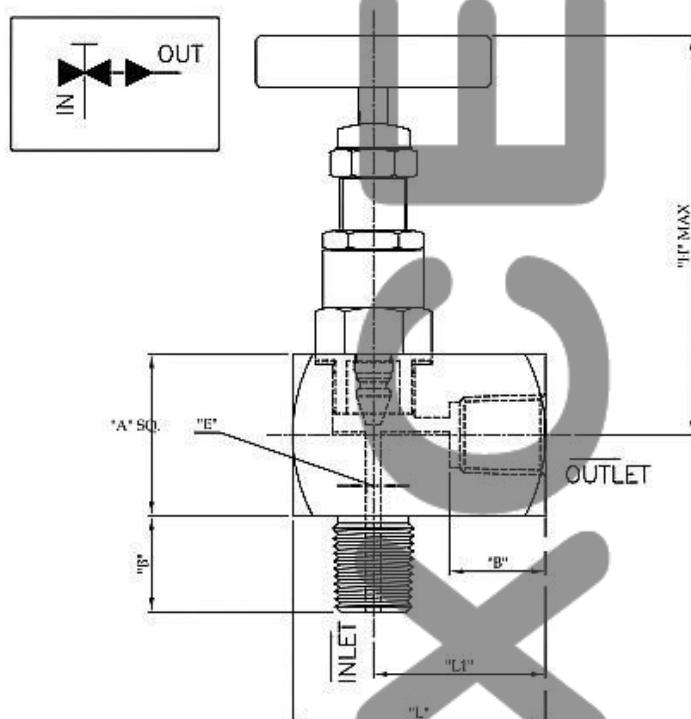
**DIMENSIONAL DETAILS**

Model No	Size	A	B	L	L1	H	E Orifice
BAX - 2NVAFF	1/8"	28.00	10.00	42.00	28.00	90.00	3.20
BAX - 4NVAFF	1/4"	28.00	14.00	42.00	28.00	90.00	3.20
BAX - 6NVAFF	3/8"	28.00	14.00	42.00	28.00	90.00	3.20
BAX - 8NVAFF	1/2"	32.00	19.00	50.00	34.00	92.00	4.80
BAX - 12NVAFF	3/4"	38.00	19.00	56.00	37.00	95.00	4.80
BAX - 16NVAFF	1"	45.00	24.00	68.00	46.00	100.00	8.00

## BAX-NVAMF-05

MALE – FEMALE (ANGLE TYPE)

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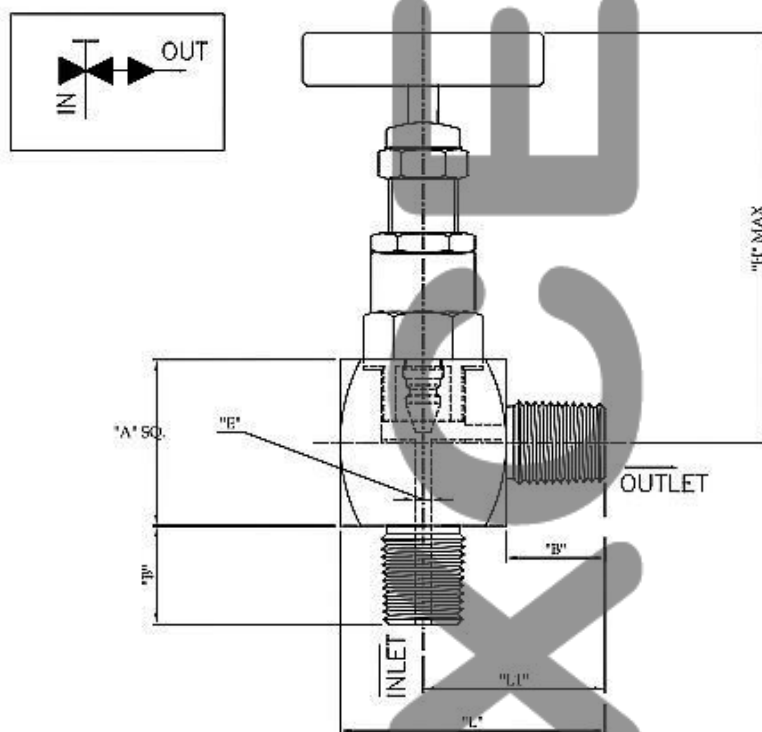
DIMENSIONAL DETAILS							
Model No	Size	A	B	L	L1	H	E Orifice
BAX - 2NVAMF	1/8"	28.00	10.00	38.00	24.00	90.00	3.20
BAX - 4NVAMF	1/4"	28.00	14.00	42.00	28.00	90.00	3.20
BAX - 6NVAMF	3/8"	28.00	14.00	42.00	28.00	90.00	3.20
BAX - 8NVAMF	1/2"	32.00	19.00	50.00	35.00	92.00	4.80
BAX - 12NVAMF	3/4"	38.00	19.00	57.00	38.00	95.00	4.80
BAX - 16NVAMF	1"	45.00	24.00	68.00	46.00	100.00	8.00

# Needle Valves

## BAX-NVAMM-06

MALE - MALE(ANGLE TYPE)

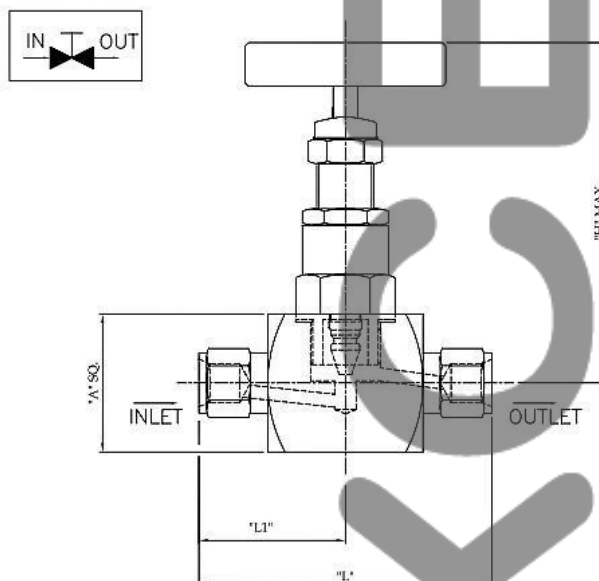
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DIMENSIONAL DETAILS							
Model No	Size	A	B	L	L1	H	E Orifice
BAX - 2NVAMM	1/8"	28.00	10.00	38.00	24.00	90.00	3.20
BAX - 4NVAMM	1/4"	28.00	14.00	42.00	28.00	90.00	3.20
BAX - 6NVAMM	3/8"	28.00	14.00	42.00	28.00	90.00	3.20
BAX - 8NVAMM	1/2"	32.00	19.00	50.00	35.00	92.00	4.80
BAX - 12NVAMM	3/4"	38.00	19.00	57.00	38.00	95.00	4.80
BAX - 16NVAMM	1"	45.00	24.00	68.00	46.00	100.00	8.00

## BAX-NVOD-07

TUBE END - TUBE END

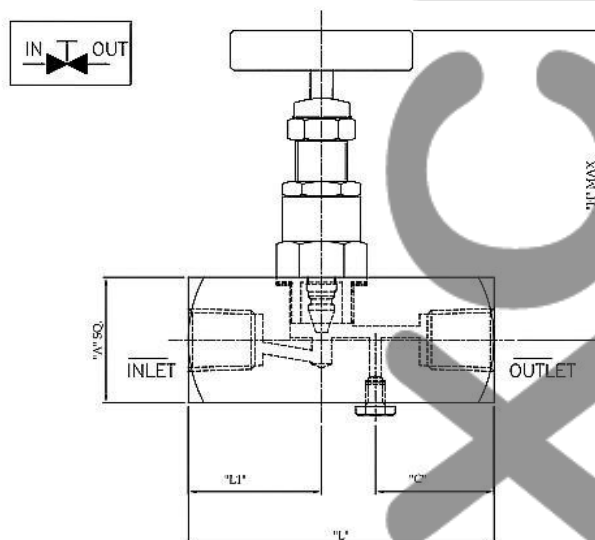


**DIMENSIONAL DETAILS**

Model No.	Size	A	L	L1	H	E Orifice
BAX-4NVOD	1/4"	28.00	64.00	32.00	87.00	3.20
BAX-6NVOD	3/8"	28.00	68.00	34.00	87.00	3.20
BAX-8NVOD	1/2"	28.00	72.00	36.00	87.00	4.80
BAX-12NVOD	3/4"	32.00	76.00	38.00	89.00	4.80
BAX-16NVOD	1"	42.00	96.00	48.00	94.00	8.00
BAX-6MNVOD	6 MM	28.00	64.00	32.00	87.00	3.20
BAX-8MNVOD	8 MM	28.00	68.00	34.00	87.00	3.20
BAX-10MNVOD	10 MM	28.00	72.00	38.00	87.00	4.80
BAX-12MNVOD	12 MM	32.00	76.00	43.00	89.00	4.80
BAX-20MNVOD	20 MM	42.00	96.00	48.00	94.00	8.00
BAX-25MNVOD	25 MM	42.00	96.00	48.00	94.00	8.00

## BAX-NVFFD-08

FEMALE - FEMALE (WITH VENT PLUG)

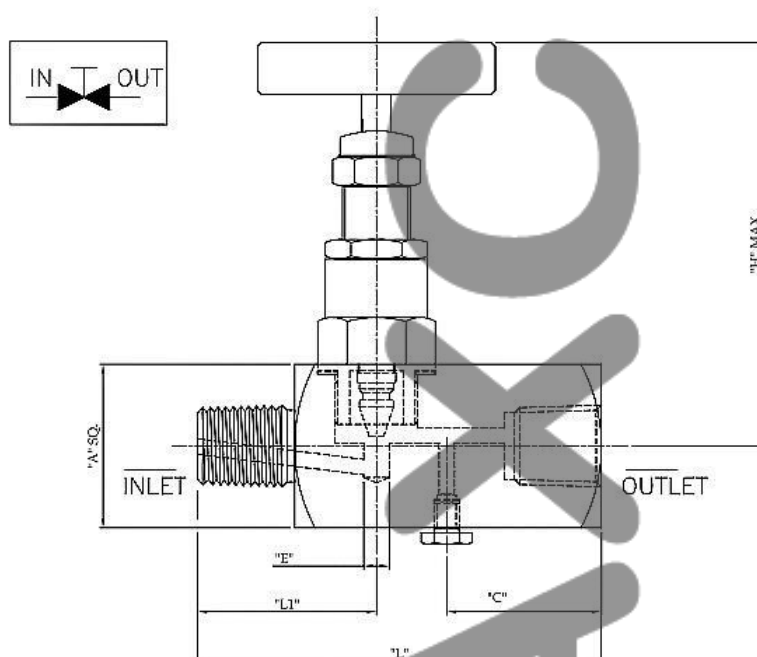


DIMENSIONAL DETAILS							
Model No	Size	A	C	L	L1	H	"E" Orifice
BAX-4NVFFD	1/4"	28.00	25.00	74.00	28.00	87.00	3.20
BAX-6NVFFD	3/8"	28.00	25.00	74.00	28.00	87.00	3.20
BAX-8NVFFD	1/2"	32.00	30.00	84.00	35.00	87.00	4.80



## BAX-NVMFD-09

MALE - FEMALE ( WITH VENT PLUG)



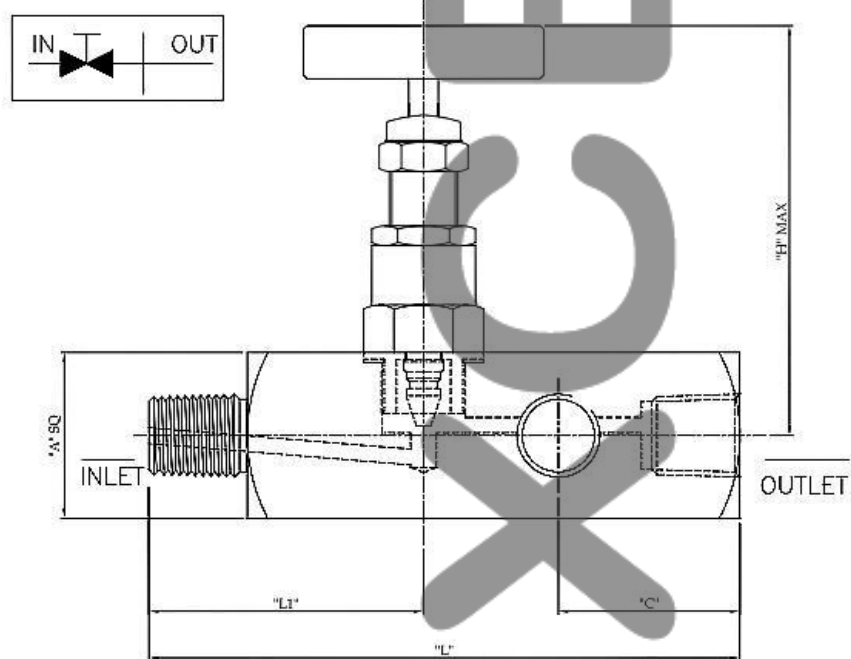
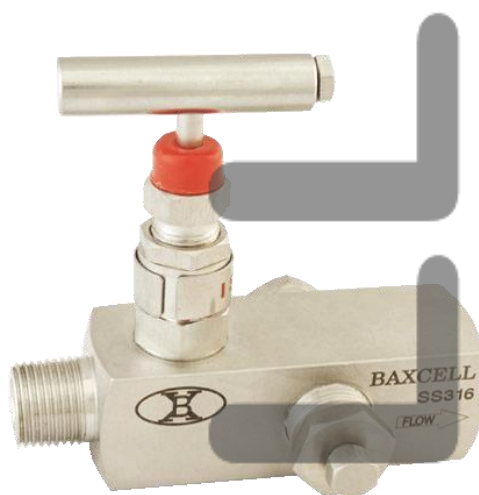
**DIMENSIONAL DETAILS**

Model No	Size	A	C	L	L1	H	E Orifice
BAX -4NVMFD	1/4"	28.00	25.00	74.00	28.00	87.00	3.20
BAX - 6NVMFD	3/8"	28.00	25.00	74.00	28.00	87.00	3.20
BAX - 8NVMFD	1/2"	32.00	30.00	84.00	35.00	89.00	4.80

# Needle Valves

## BAX-GVMF-10

MALE INLET - 3 FEMALE OUTLET

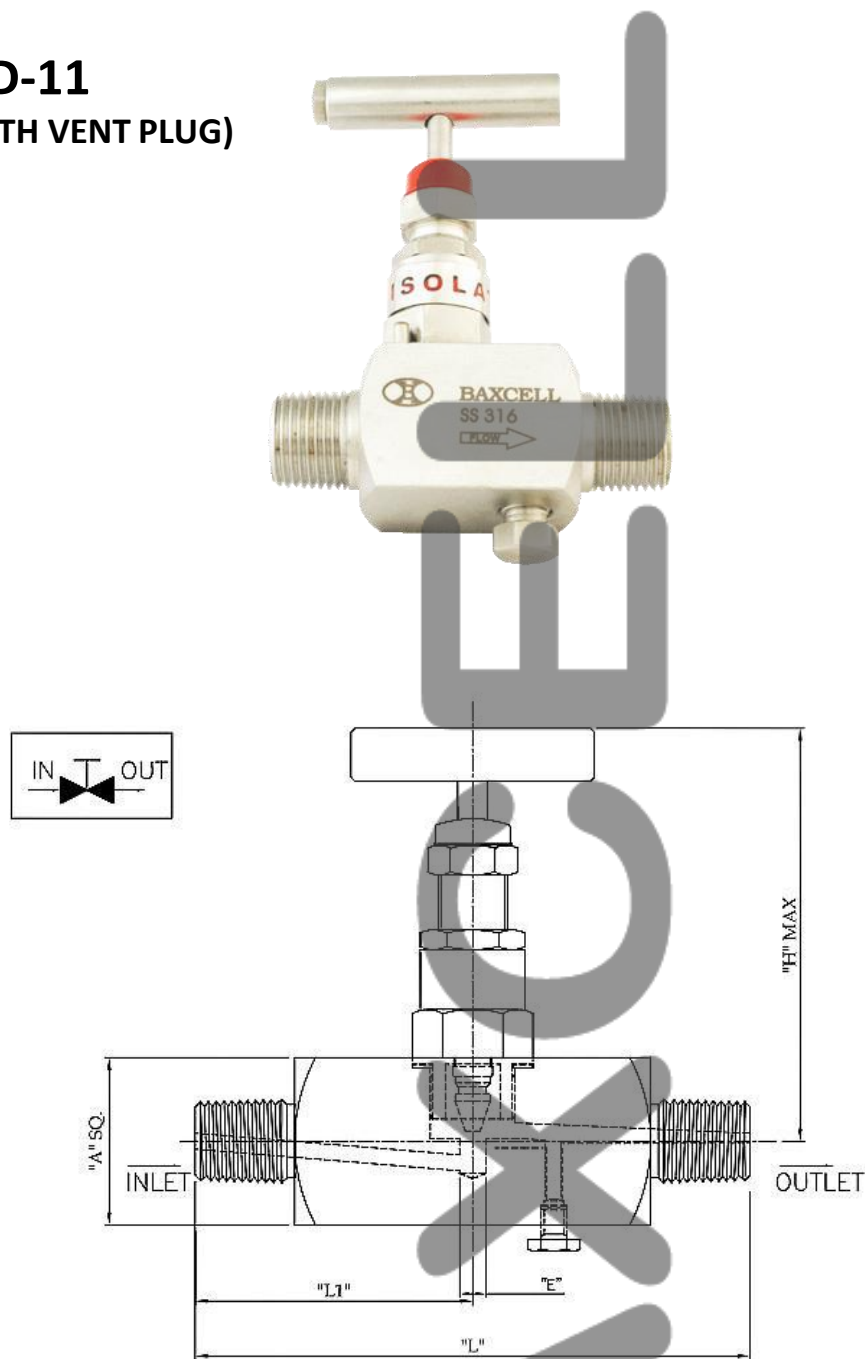


**DIMENSIONAL DETAILS**

Model No	Size	A	C	L	L1	H	H Orifice
BAX - 4GVMF	1/4"	28.00	28.00	82.00	28.00	87.00	3.20
BAX - 6GVMF	3/8"	28.00	28.00	82.00	28.00	87.00	3.20
BAX - 8GVMF	1/2"	32.00	32.00	117.00	35.00	89.00	4.80

## BAX-NVMMD-11

MALE - MALE ( WITH VENT PLUG)

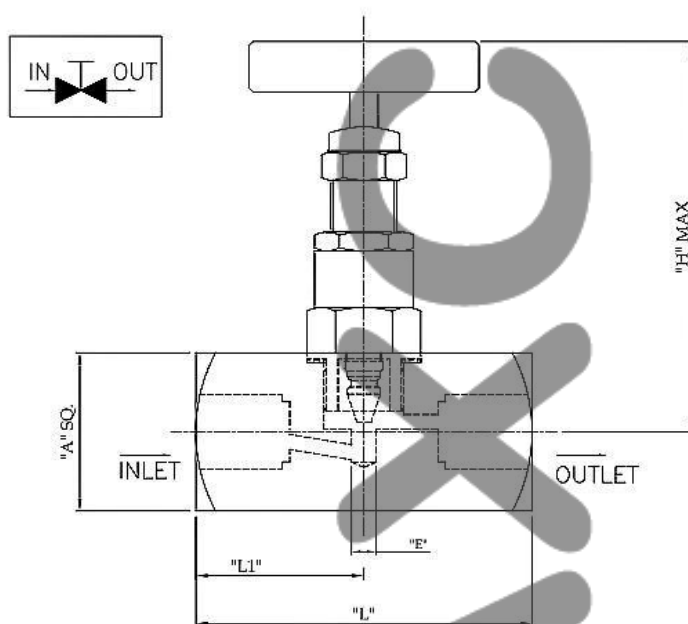


**DIMENSIONAL DETAILS**

Model No	Size	A	L	L1	H	E Orifice
BAX - 2NVMMD	1/8"	28.00	56.00	28.00	90.00	3.20
BAX - 4NVMMD	1/4"	28.00	60.00	32.00	90.00	3.20
BAX - 6NVMMD	3/8"	28.00	60.00	32.00	90.00	3.20
BAX - 8NVMMD	1/2"	32.00	72.00	38.00	92.00	4.80
BAX - 12NVMMD	3/4"	38.00	72.00	38.00	95.00	4.80
BAX - 16NVMMD	1"	45.00	88.00	44.00	100.00	8.00

## BAX-NVSW-12

SW X SW



DIMENSIONAL DETAILS						
Model No	Size	A	L	L1	H	E Orifice
BAX - 2NVSW	1/8"	28.00	56.00	28.00	92.00	3.20
BAX - 4NVSW	1/4"	28.00	56.00	28.00	92.00	3.20
BAX - 6NVSW	3/8"	28.00	56.00	28.00	92.00	3.20
BAX - 8NVSW	1/2"	32.00	64.00	32.00	95.00	4.80
BAX - 12NVSW	3/4"	38.00	64.00	32.00	97.00	4.80
BAX - 16NVSW	1"	45.00	78.00	39.00	118.00	4.80
BAX - 24NVSW	1 1/2"	65.00	85.00	42.50	110.00	4.80
BAX - 32NVSW	2"	75.00	90.00	45.00	115.00	4.80



## **Baxcell Instrument Valves & Fittings Pvt. Ltd.**

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