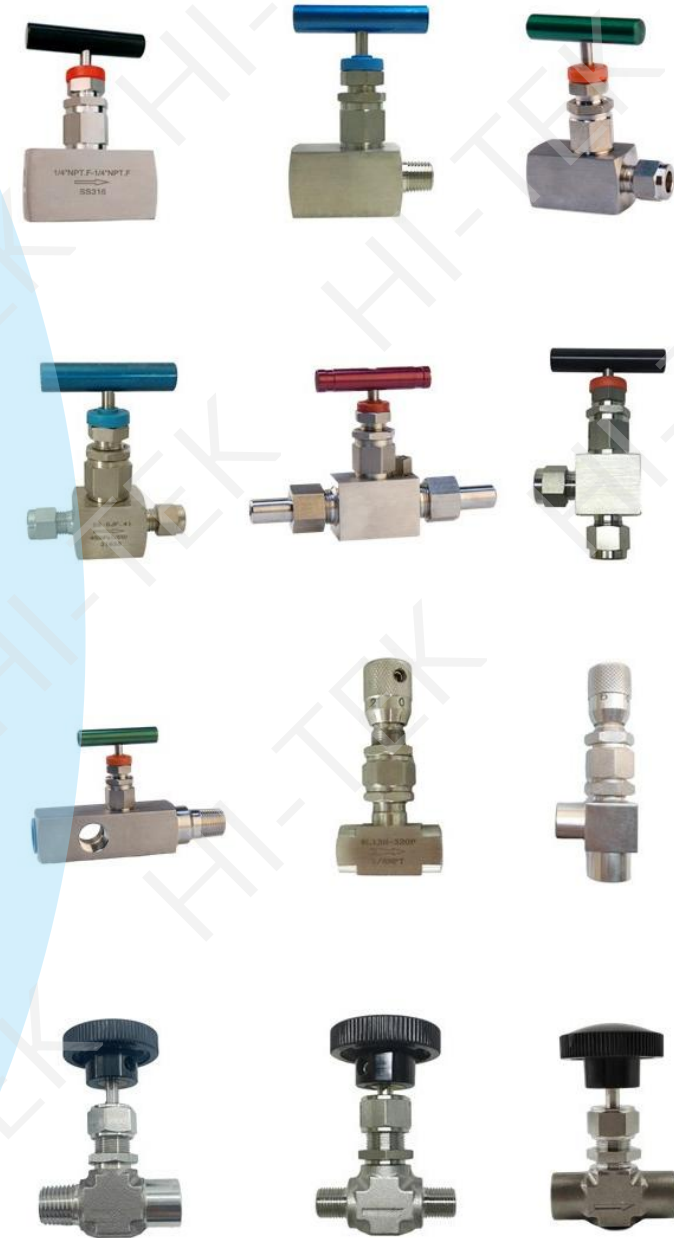


Professional Manufacturer in Needle Valve

Needle valve



Application



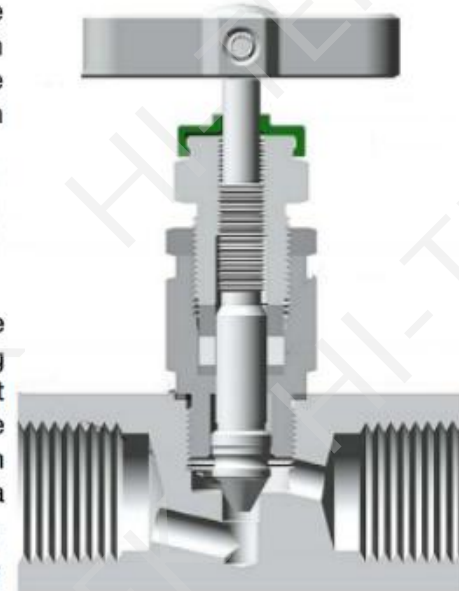
Feature

Stainless steel handle with square drive stem and lock nut to ensure positive actuation

Stem threads are cold rolled for high strength and smooth operation

Two-piece knuckle joint provides nonrotating needle feature. Joint is located above the packing, protected from system media

Nonrotating, hardened needle for positive shutoff



Stainless steel shroud protects stem threads against ingress of dirt and dust

Stem threads above packing, protected from system media

Safety back-seating needle seals in fully open position

Application

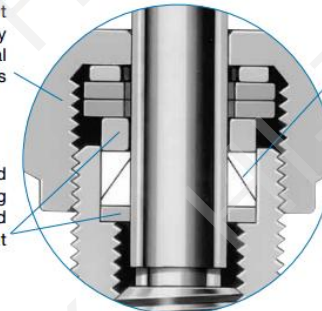


Feature

Live-Loaded Packing System

Packing nut enables easy external adjustments

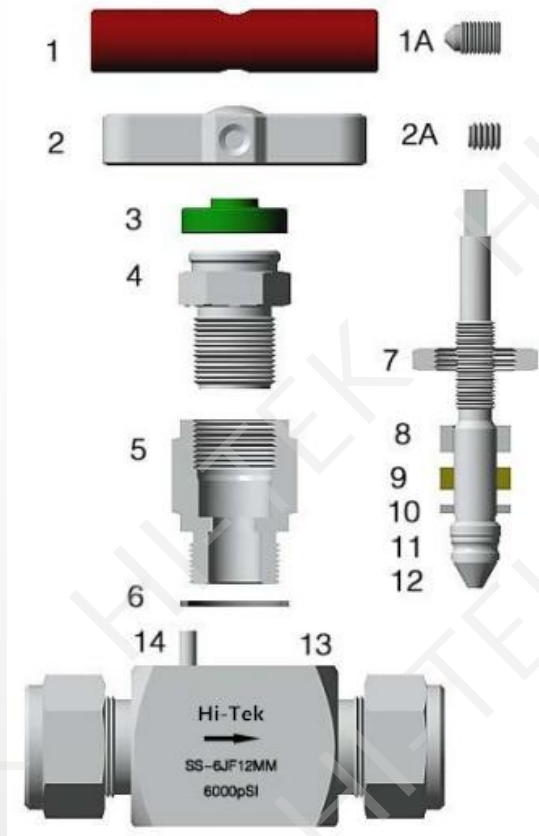
Fully supported packing reduces need for adjustment



- 2-piece chevron packing with disc springs
 - improves seal
 - reduces friction wear
 - compensates for wear
 - reduces operating torque



General Utility Service Needle Valves



Parts materials and standards (ASTM)

Component	Material
1 Bar handle	Anodized aluminum
1A Set screw	High strength alloy steel (Grade 13.9)
2 Square long handle	Powder metallurgy 316SS
2A Set screw	High strength alloy steel (Grade 13.9)
3 Dust cap	Plastic
6 Packing Gland	SS
7 Gland lock nut	SS
8 Packing Gland	SS
9 Packing	PTFE / graphite
10 Shroud	SS
11 Stem	SS
12 Spool	SS
13 Body	SS
14 Locking pin	SS

Features

Needle valves are for use in general-purpose applications to isolate or vent system media. The hardened stainless steel, nonrotating needle promotes leak-tight shutoff and long service life. The valve stem threads are isolated from the media.

- Compact design
- Stainless steel stop pin
- High-temperature packing and bonnet seal option available
- Antitamper and lockable handle features available
- Suitable for sour gas service; materials are selected in accordance with NACE MR0175/ISO 15156.

Technical parameters

- Connection type: Double ferrules (3-15mm/1/8"-1/2")
- Male and female thread:1/8"-1/2"
- Butt weld,Socket weld:10-25mm
- Material:Stainless Steel
- Working pressures:6000 psig (688 bar)
- Temperatures:-53-1000°F (10-537°C)

Testing

Every Severe Service Union Bonnet Needle Valve is factory tested with nitrogen at 1000 psig (69 bar). Seats have a maximum allowable leak rate of 0.1 std cm³/min. Shell testing is performed to a requirement of no detectable leakage with a liquid leak detector.

Integral-Bonnet Needle Valves



Technical parameters

- Orifice: 2.0-9.5mm
- Connection type: Double ferrules, male and female thread
- Flow Patterns: Straight, angle, and cross patterns
- Flow Coefficients (Cv): From 0.09 to 1.80"
- Stem Designs: Vee type, Soft-seat, regulation type
- Material: CF3, CF8, 304, 316, Brass, Alloy 400
- Working pressures: 3000 psig (413 bar)
- Temperatures: 600°F (315°C)

Features

- Live-loaded packing system
- Compact design (Cast and forging body)
- Usage: throttle, cut-off
- Compact design
- Stainless steel stop pin
- High-temperature packing and bonnet seal option available
- Antitamper and lockable handle features available
- Suitable for sour gas service; materials are selected in accordance with NACE MR0175/ISO 15156.

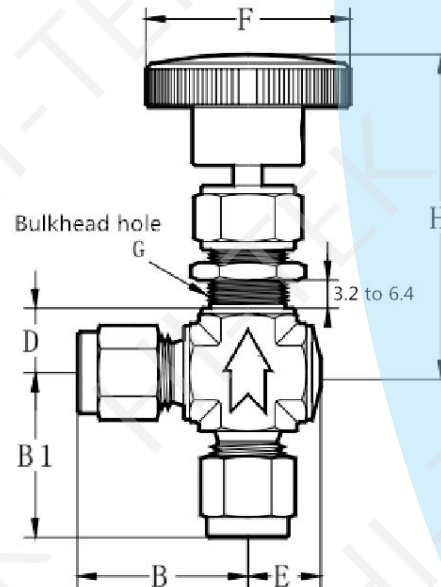
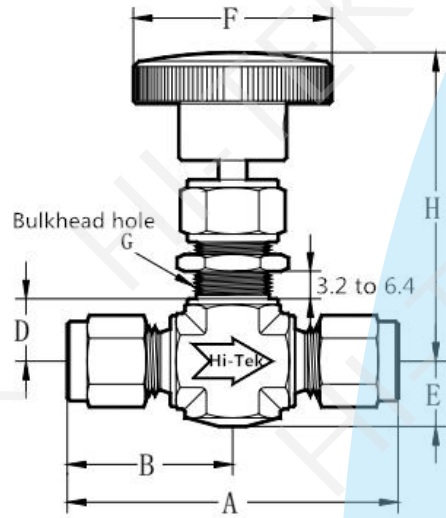
Parts materials and standards (ASTM)

Component	Material
1 Round handle-1A	Phenolic with brass insert
2 Bar handle-2A	Anodized aluminum
3 Packing nut	SS
4 Packing springs	SS
5 Packing springs	SS
6 Packing Gland	SS
7 Upper packing	PFA
8 Lower packing	PFA
9 Lower gland	SS
10 Panel nut	SS
11 Vee stem	SS
11B Regulating stem	SS
11C Soft-seat stem	SS with PCTFE
12 Body	SS

Testing

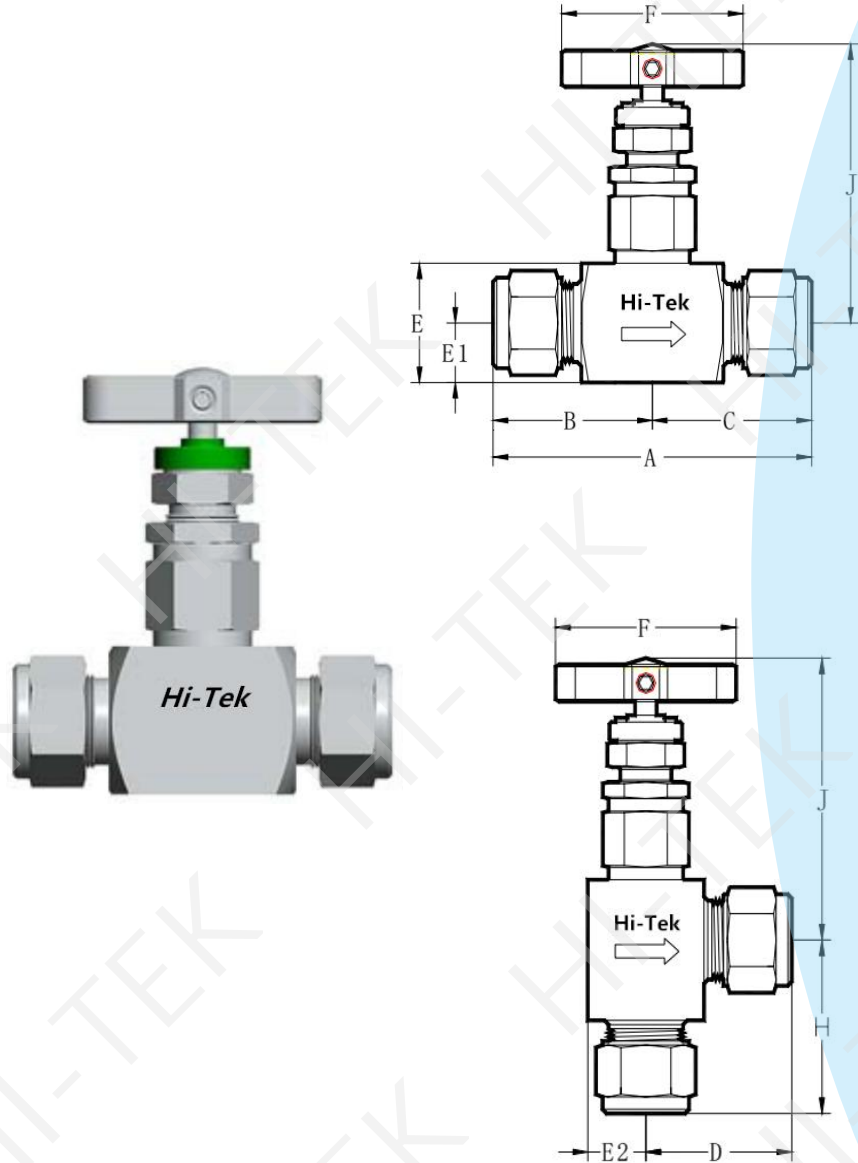
Every Severe Service Union Bonnet Needle Valve is factory tested with nitrogen at 1000 psig (69 bar). Seats have a maximum allowable leak rate of 0.1 std cm³/min. Shell testing is performed to a requirement of no detectable leakage with a liquid leak detector.

Straight Type



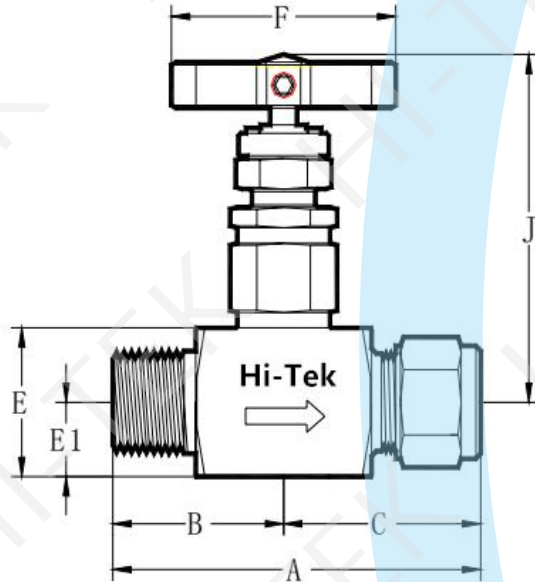
End Connections	Size	Cv	Dimensions, in. (mm)								
			Orifice in. (mm)	A	B	B1	D	E	F	G	H
Hi-Tek (Inch) tube fittings	1/8 in	0.09	2	11.9	24.8	11.2	7.9	25.4	11.9	57.9	
	1/4 in	0.37	4.4	57.8	28.75		9.7	35.1	13.5	63.5	
	3/8 in	0.73	6.4	65.6	32.8	14	12.7	47.8	19.8	75.4	
	1/2 in			71	35.5						
	1/2 in	1.8	9.5	96.5	48.25	19.1	19.1	76.2	26.2	99.3	
	3/4 in										
Hi-Tek (MM) tube fittings	3 MM	0.09	2	49.3	24.9	11.2	7.9	25.4	11.9	57.9	
	6 MM	0.37	4.4	57.6	28.7	11.2	9.7	35.1	13.5	63.5	
	8 MM			59.4	29.7	11.2	9.7	35.1	13.5	63.5	
	10 MM	0.73	6.4	66	33	14	12.7	47.8	19.8	75.4	
	12 MM			71.1	35.6						
	12 MM	1.8	9.5	96.5	48.3	19.1	19.1	76.2	26.2	99.3	
	14 MM										
Female NPT	1/8 in	0.09	2	47.8	23.9	11.2	7.9	25.4	11.9	57.9	
	1/8 in	0.37	4.4	41.4	20.6	11.2	9.7	35.1	13.5	63.5	
	1/4 in	0.73	6.4	53.8	26.9	14	12.7	47.8	19.8	75.4	
	3/8 in	1.8	9.5	76.2	38.1	19.1	19.1	76.2	26.2	99.3	
	1/2 in			76.2	38.1						
Male NPT	1/8 in	0.09	2	38.1	19.1	11.2	7.9	25.4	11.9	57.9	
	1/8 in	0.37	4.4	41.1	20.6	11.2	9.7	35.1	13.5	63.5	
	1/4 in	0.37	4.4	50	24.9	14	12.7	47.8	19.8	75.4	
	3/8 in	0.73	6.4	62.5	28.4	19.1	19.1	76.2	26.2	99.3	
	1/2 in	1.8	9.5	76.2	38.1						
Male NPT/ Hi-Tek tube fittings	1/8 to 1/8"	0.09	2	43.9	24.9	19.1	11.2	7.9	25.4	11.9	57.9
	1/4 to 1/4"	0.37	4.4	49.5	28.7	24.9	11.2	9.7	35.1	13.5	63.5
	1/4 to 1/4"	0.73	6.4	61.5	32.8	28.4	14	12.7	47.8	19.8	75.4
	3/8 to 3/8"			61.5	32.8	28.4	14	12.7	47.8	19.8	75.4
	1/2 to 3/8"			64	35.6	28.4	14	12.7	47.8	19.8	75.4
Male/ female NPT	1/4" to 1/4"	0.73	6.4	55.6	26.9	28.4	14	12.7	47.8	19.8	75.4
	1/2" to 1/2"	1.8	9.5	76.2	38.1	38.1	19.1	19.1	76.2	26.2	99.3

General Utility Service Needle Valves



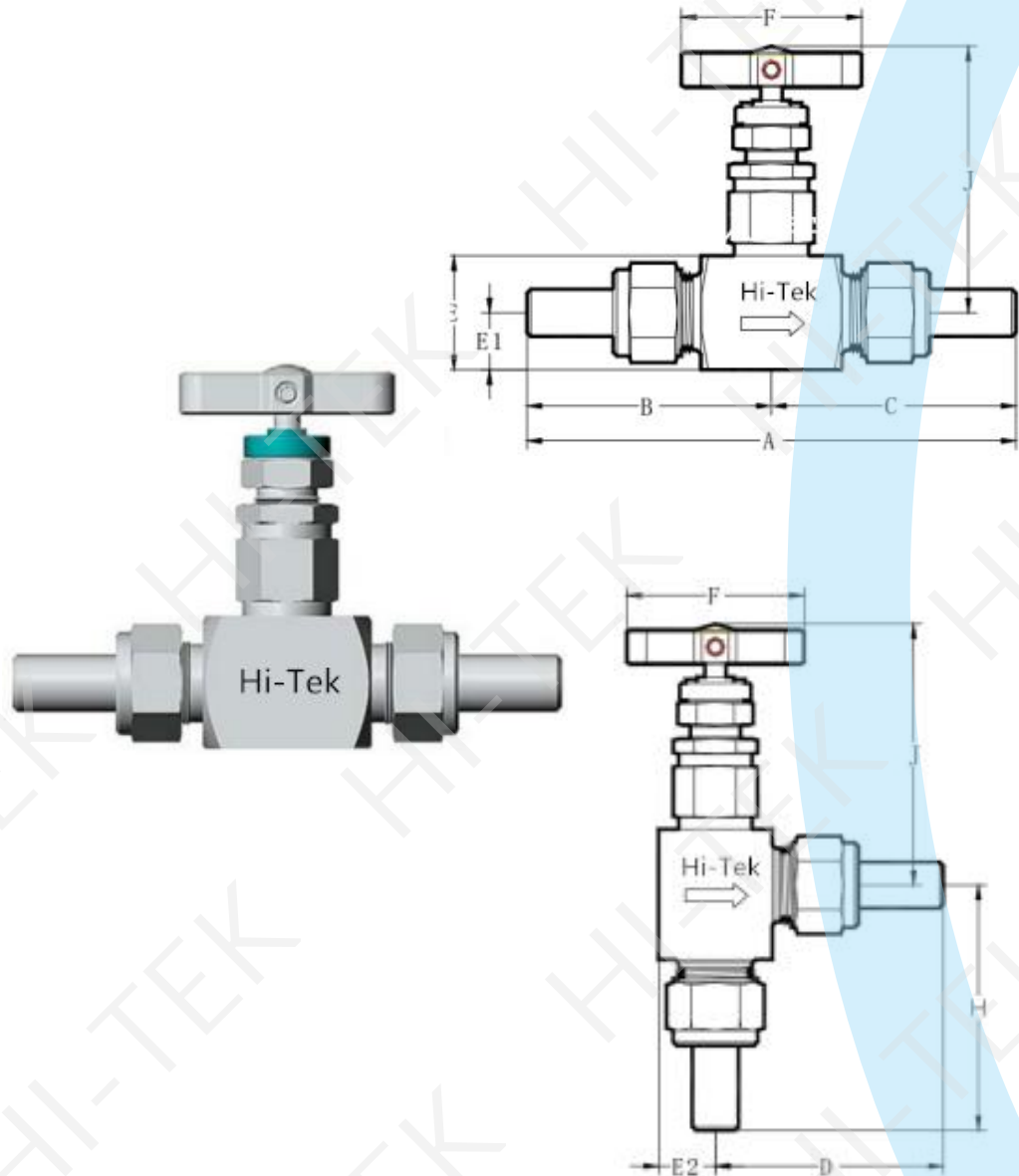
End Connections Inlet/Outlet	Size (Inch)	Orifice in. (mm)	Dimensions, in. (mm)									
			A	B	C	D	H	E	E1	E2	J	F
Hi-Tek (Inch) tube fittings	1/8 in	2	65.2	32.6	32.6	30.6	32.6	25.4	12.7	25.47	67	44
	1/4 in	4	68.6	34.3	34.3	32.3	34.3	25.4	12.7	25.47	67	44
	3/8 in	6	70.4	35.2	35.2	33.2	35.2	25.4	12.7	25.47	67	44
	1/2 in	6	76.3	38.2	38.2	38.2	38.2	25.4	12.7	25.47	67	44
	1/2 in	8	79.2	39.6	39.6	35.6	39.6	33	15	33	77	70
	3/4 in	13	93.7	46.9	46.9	42.9	46.9	28.6	24	28.6	90	94
	1 in	13	102.3	51.2	51.2	47.2	51.2	32	16	32	90	94
	1 in	17	128.4	64.2	64.2	58.2	64.2	64	32	64	122	125
Hi-Tek (MM) tube fittings	6	4	68.6	34.3	34.3	32.3	34.3	25.4	12.7	25.4	67	44
	8	6	70.4	35.2	35.2	33.2	35.2	25.4	12.7	25.4	67	44
	10	6	76.3	38.2	38.2	38.2	38.2	25.4	12.7	25.4	67	44
	12	6	76.3	38.2	38.2	38.2	38.2	25.4	12.7	25.4	67	44
	14	6	76.3	38.2	38.2	38.2	38.2	25.4	12.7	25.4	67	44
	14	8	79.2	39.6	39.6	35.6	39.6	33	15	33	77	70
	18	8	79.2	39.6	39.6	35.6	39.6	33	15	33	77	70
	18	13	93.7	46.9	46.9	42.9	46.9	28.6	24	28.6	90	94
	22	13	93.7	46.9	46.9	42.9	46.9	28.6	24	28.6	90	94
	25	17	128.4	64.2	64.2	58.2	64.2	64	32	64	122	125

General Utility Service Needle Valves



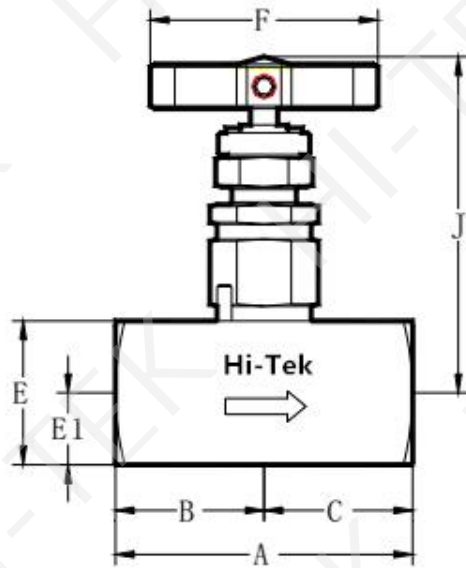
End Connections	Size (Inch)	Orifice in. (mm)	Dimensions, in. (mm)									
			A	B	C	D	H	E	E1	E2	J	F
Male NPT/ Hi-Tek tube fittings	1/4 in	4	65.2	30	35.2	33.2	35.2	25.4	12.7	25.4	67	44
	3/8 in	6	65.2	30	35.2	33.2	35.2	25.4	12.7	25.4	67	44
	1/2 in	6	69.2	34	35.2	33.2	35.2	25.4	12.7	25.4	67	44
	1/4 in-6	4	65.2	30	35.2	33.2	35.2	25.4	12.7	25.4	67	44
	1/2 in-14	6	69.2	34	35.2	33.2	35.2	25.4	12.7	25.4	67	44
Female NPT/ Hi-Tek tube fittings	1/4 in	6	62.7	27.5	35.2	33.2	35.2	25.4	12.7	25.4	67	44
	3/8 in	6	62.7	27.5	35.2	33.2	35.2	25.4	12.7	25.4	67	44
	1/2 in	6	62.7	27.5	35.2	33.2	35.2	25.4	12.7	25.4	67	44
	1/2 in-14	6	62.7	27.5	35.2	33.2	35.2	25.4	12.7	25.4	67	44

General Utility Service Needle Valves



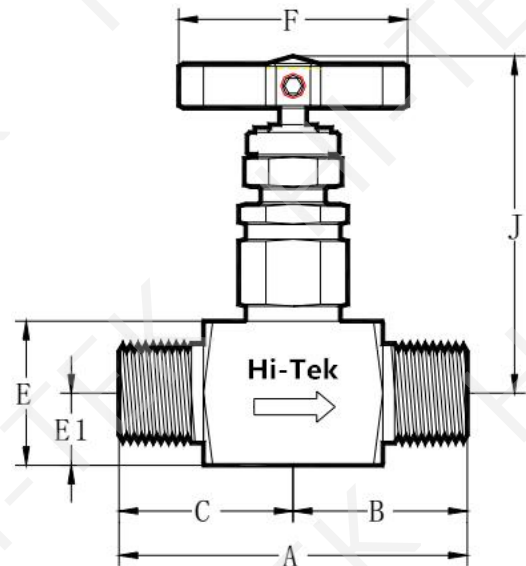
End Connections	Size (Inch)	Orifice in. (mm)	Dimensions, in. (mm)									
			A	B	C	D	H	E	E1	E2	J	F
Butt Weld to Butt Weld	10	6	112	56	56	53	56	28.6	14.3	14.3	67	44
	12	6	118	59	59	56	59	28.6	14.3	14.3	67	44
	14	6	126	63	63	60	63	28.6	14.3	14.3	67	44
	14	8	134	67	67	62	67	33	16.5	16.5	77	70
	18	10	142	71	71	66	71	38	19	19	80	70
	22	13	154	77	77	74	77	48	24	24	90	94
	25	13	160	80	80	74	80	48	24	24	90	94
	25	17	184	92	92	82	92	64	32	32	122	125

General Utility Service Needle Valves



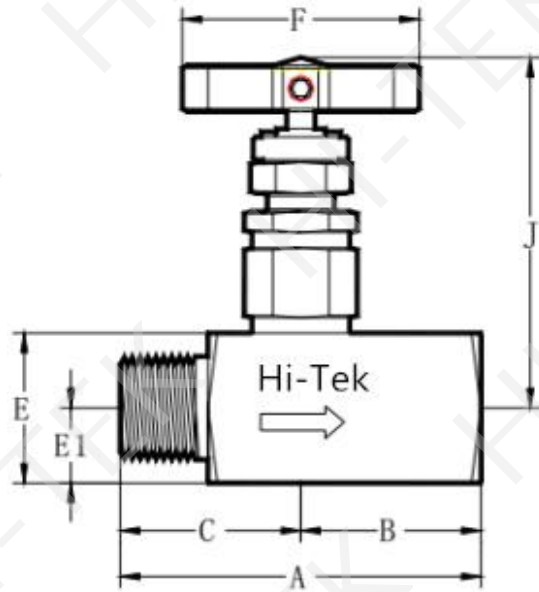
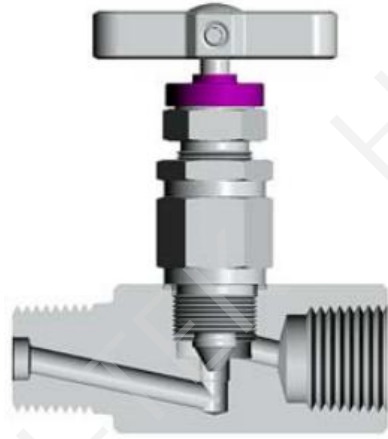
End Connections Inlet/Outlet	Size (Inch)	Orifice in. (mm)	Dimensions, in. (mm)						
			A	B	C	E	E1	J	F
Female NPT	1/4 in	6	55	27.5	27.5	28.6	14.3	67	44
	3/8 in	6	55	27.5	27.5	28.6	14.3	67	44
	1/2 in	6	65	32.5	32.5	28.6	14.3	67	44
	1/2 in	8	65	32.5	32.5	33	16.5	77	70
	3/4 in	13	80	40	40	48	24	90	94
	1 in	17	100	50	50	64	32	122	125

General Utility Service Needle Valves



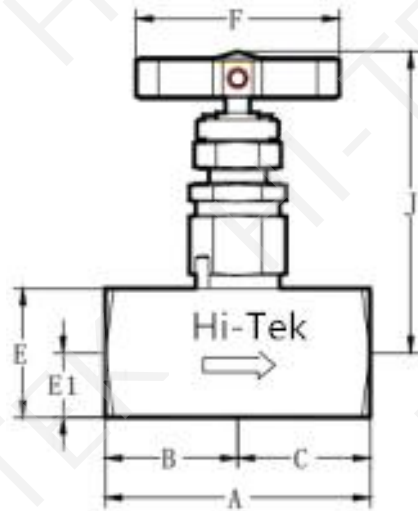
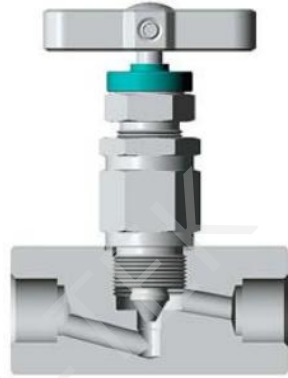
End Connections	Size (Inch)	Orifice in. (mm)	Dimensions, in. (mm)						
			A	B	C	E	E1	J	F
Male NPT	1/4 in	6	65	32.5	32.5	28.6	14.3	67	44
	3/8 in	6	65	32.5	32.5	28.6	14.3	67	44
	1/2 in	6	75	37.5	37.5	28.6	14.3	67	44
	1/2 in	8	75	37.5	37.5	33	16.5	77	70
	3/4 in	13	90	45	45	48	24	90	94

General Utility Service Needle Valves



End Connections	Size (Inch)	Orifice in. (mm)	Dimensions, in. (mm)						
			A	B	C	E	E1	J	F
Male NPT	1/4 in	6	65	32.5	32.5	28.6	14.3	67	44
	3/8 in	6	65	32.5	32.5	28.6	14.3	67	44
	1/2 in	6	75	37.5	37.5	28.6	14.3	67	44
	1/2 in	8	75	37.5	37.5	33	16.5	77	70
	3/4 in	13	90	45	45	48	24	90	94

General Utility Service Needle Valves



End Connections	Size		Orifice in. (mm)	Dimensions, in. (mm)						
	Inch	mm		A	B	C	E	E1	J	F
Tube Socket Weld (Inch Pipe)	3/8 in	9.53	6	50	25	25	28.6	14.3	67	44
	1/2 in	12.7	6	50	25	25	28.6	14.3	67	44
	3/4 in	19.05	10	66	33	33	38	19	80	70
	3/4 in	19.05	13	80	40	40	48	24	90	94
	1 in	25.4	13	80	40	40	48	24	90	94
	1 in	25.4	17	100	50	50	64	32	122	125
Pipe Socket Weld (Inch Pipe)	1/8 in	10.29	6	50	25	25	28.6	14.3	67	44
	1/4 in	13.71	6	50	25	25	28.6	14.3	67	44
	3/8 in	17.15	10	66	33	33	38	19	80	70
	1/2 in	21.34	13	80	40	40	48	24	90	94
	3/4 in	26.7	17	100	50	50	64	32	122	125
	1 in	33.4	17	100	50	50	64	32	122	125
Tube Socket Weld (MM Pipe)	10mm		6	50	25	25	28.6	14.3	67	44
	12mm		6	50	25	25	28.6	14.3	67	44
	14mm		8	50	25	25	28.6	14.3	67	44
	14mm		10	60	30	30	33	16.5	77	70
	18mm		13	66	33	33	38	19	80	70
	22mm		13	80	40	40	48	24	90	94
	22mm		17	100	50	50	64	32	122	125
	25mm		17	100	50	50	64	32	122	125
28mm		17	100	50	50	64	32	122	125	