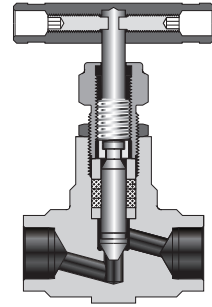


## Forged Needle Valves

### TN3, TNH3 Series

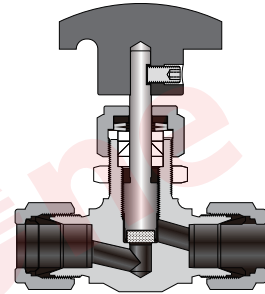
- ◆ Working pressure up to: TN3 Series: 6000 psig (414 bar)  
TNH3 Series: 10000 psig (690 bar)
- ◆ Panel mounting available
- ◆ A variety of materials are available.
- ◆ Every valve leak tested with Nitrogen or compressed air at the maximum allowable working pressure (Not more than 6000 psig)
- ◆ Working temperature: PTFE packing: -65°F to 450°F (-54°C to 232°C)  
Graphite packing: -65°F to 1200°F (-54°C to 649°C)
- ◆ End connections: 1/8" to 1" threaded or welded, etc.  
1/4" to 1" Tube Fitting  
6mm to 25 mm Tube Fitting



## Integral Bonnet Needle Valves

### TN4, TNH4 Series

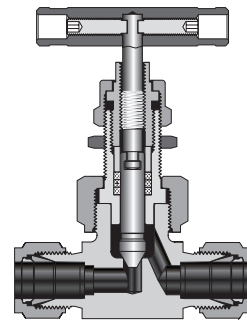
- ◆ Working pressure up to: TN4 Series: 3000 psig (207 bar)  
TNH4 Series: 5000 psig (345 bar)
- ◆ One stem design, compact structure, dynamic load packing reliable sealing, can compensate for wear.
- ◆ One-piece forged body
- ◆ Panel mounting available
- ◆ A variety of materials are available.
- ◆ Working temperature: PTFE packing: -65°F to 450°F (-54°C to 232°C)  
PEEK packing: -65°F to 500°F (-54°C to 260°C)
- ◆ End connections: 1/8" to 3/4" threaded or welded, etc.  
1/8" to 3/4" Tube Fitting  
6mm to 18 mm Tube Fitting



## Union Bonnet Needle Valves

### TN5, TNH5 Series

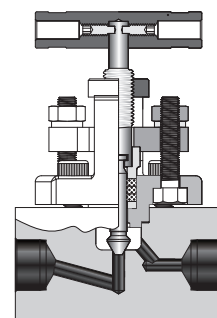
- ◆ Working pressure up to: TN5 Series: 6000 psig (414 bar)  
TNH5 Series: 10000 psig (690 bar)
- ◆ Combined valve cap structure design
- ◆ Panel mounting available
- ◆ A variety of materials are available.
- ◆ Every valve leak tested with Nitrogen or compressed air at the maximum allowable working pressure (Not more than 6000 psig)
- ◆ Working temperature: PTFE packing: -65°F to 450°F (-54°C to 232°C)  
Graphite packing: -65°F to 1200°F (-54°C to 649°C)
- ◆ End connections: 1/8" to 1" threaded or welded, etc.  
1/4" to 1" Tube Fitting  
6mm to 25mm Tube Fitting



## OS&Y Needle Valves

### TN6 Series

- ◆ Cold drawn bar
- ◆ Body materials: 316 SS, 316L SS, 304 SS, 304L SS, Duplex 2205, Alloy 400, Alloy C- 276 and brass, etc.
- ◆ Orifice (mm): 4
- ◆ Working pressure up to: 6000 psig (414 bar)
- ◆ Working temperature: -65°F to 1200°F (-54°C to 649°C)
- ◆ Sealing face materials: same as body and tip materials, Stellite available
- ◆ Externally adjustable gland independent of spindle thread
- ◆ End connections:  
1/4" to 1/2", M10 to M20 thread  
1/4" to 1/2", 6 mm to 12 mm tube fitting  
3/8" to 1/2", 10 mm to 20 mm weld



## Ordering Number Description

**A B C D E F G H I J K L M N**  
**SS - TN3 - M 12 - N 8 - 9 - G Y - A - O - P - S - W**

<b>A</b>	<b>Body Material</b>
SS=316 SS	
4S=304 SS	
21S=321 SS	
904L=904L SS	
6L=316L SS	
M=Alloy 400	
D5=Duplex 2205	
D7=Duplex 2507	
B=Brass	
HC=Alloy C-276	

<b>B</b>	
TN1 Series	
TN2 Series	
TN3/TNH3 Series	
TN4/TNH4 Series	
TN5/TNH5 Series	
TN6 Series	

<b>C</b>	<b>Connection 1 Type</b>
M=Metric Ferrule	
F=Fractional Ferrule	
FN=NPT female tapered threads	
N=NPT male tapered threads	
FRT=ISO tapered female threads	
RT=ISO tapered male threads	
FRP= Inch parallel female threads (suitable for RP gasket)	
BP=ISO parallel male threads(suitable for RG gasket)	
FMS=Metric female threads (suitable for RG gasket)	
MS=Metric male threads (suitable for RG-M gasket)	
TMS=Metric tube socket weld	
TWS=Inch tube socket weld	
TMB= Metric tube butt weld	
TWB=Inch tube butt weld	
PWS=Pipe socket weld	
PWB= Pipe butt weld	
UPB= nut + gasket +Pipe	

<b>D</b>		<b>Connection 1 Size</b>
Fractional in.		Metric mm
2=1/8"		3=3
3=3/16"		4=4
4=1/4"		6=6
5=5/16"		8=8
6=3/8"		10=10
8=1/2"		12=12
10=5/8"		14=14
12=3/4"		15=15
14=7/8"		16=16
16=1"		18=18
		20=20
		22=22
		25=25

<b>E</b>	<b>F</b>	<b>P2 Type/Size</b>
Specify in the same way as the P1		
Except the same as the P1 the other size follows:		
6	M6x1	or 3/8-24
7	7/16-20	
8	M8x1	or 1/2-20
9	9/16-18	
10	M10x1	
12	M12x1.5	or 3/4-16
14	M14x1.5	or 7/8-14
16	M16x1.5	
17	1 1/16-12	
18	M18x1.5	
20	M20x1.5	
22	M22x1.5	
24	M24x1.5	
26	1 5/8-12	
27	M27x2	

<b>G</b>	<b>Orifice size</b>
5=0.08"(2.0mm)	
7=0.16"(4.0 mm)	
8=0.25"(6.4 mm)	
9=0.39"(10 mm)	
6=0.59"(15 mm)	
0=0.71"(18 mm)	

<b>H</b>	<b>Fillers and reinforcements</b>
Default =PTFE	
G=Graphite	
P=PEEK	
F=FKM	
B= Butyl rubber	

<b>I</b>	<b>Panel mounting</b>
Default = None	
Y=Yes	

<b>J</b>	<b>Circulation mode</b>
Default =straight in	
A=Angle	
3=Three way	

<b>K</b>	<b>Handle mode</b>
Default = Black alumina bar handle	
C= stainless steel bar handle	
O= Black round handle	

<b>L</b>	<b>Valve tip type</b>
Default =Conical valve tip	
R= regulating tip	
K=soft valve tip -PCTFE	
P=soft valve tip -PEEK	
O=spherical valve tip	

<b>M</b>	<b>Special Application</b>
Default = None	
S=NACE MR 0175	
LH=Sulfur passivation	

<b>N</b>	<b>Cleaning and Packaging</b>
Default = Standard cleaning and packaging for general industrial use	
W=Degreasing	
W2=Oxygen-rich cleaning	

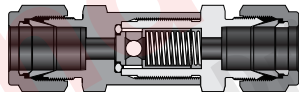
# CHECK VALVES



## C1 Series

- ◆ Working pressure up to: 3000 psig (207 bar)
- ◆ Working temperature: -10°F to 400°F (-23°C to 204°C)
- ◆ Opening pressure: 1/3 to 25 psig (0.02 to 1.7 bar)
- ◆ Variety of end connections and materials available
- ◆ End connections: 1/8" to 1" thread

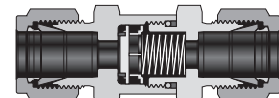
1/8" to 1" Tube Fitting  
3mm to 25mm Tube Fitting  
1/4" to 1" VCR Fitting



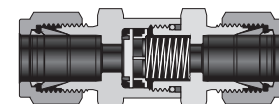
## C3/CH Series

- ◆ Working pressure up to: 6000 psig (414 bar)
- ◆ Working temperature: -10°F to 400°F (-23°C to 204°C)
- ◆ Opening pressure: 1/3 to 25 psig (0.02 to 1.7 bar)
- ◆ Variety of end connections and materials available
- ◆ Apply to liquids or gases
- ◆ End connections: 1/8" to 1" thread

1/4" to 1" Tube Fitting  
6mm to 25mm Tube Fitting  
1/4" to 1" VCR Fitting



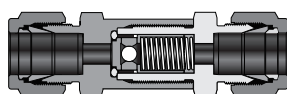
C3 Series



CH Series

## C2 Series

- ◆ Working pressure up to: 3000 psig (207 bar)
- ◆ Working temperature: -10°F to 400°F (-23°C to 204°C)
- ◆ Opening pressure: 1/3 to 25 psig (0.02 to 1.7 bar)
- ◆ Variety of end connections and materials available
- ◆ Compact design, one piece body
- ◆ End connections: 1/4" to 1/2" thread



## C4 Series

- ◆ Working pressure up to: 3000 psig (207 bar)
- ◆ Working temperature: -10°F to 400°F (-23°C to 204°C)
- ◆ Opening pressure: 3 to 600 psig (0.2 to 41.4 bar)
- ◆ Variety of end connections and materials available
- ◆ End connections: 1/4" to 3/8" thread

1/4" to 1" Tube Fitting  
6mm to 12mm Tube Fitting  
1/4"至 1" VCR Fitting

