

# Needle Valves (SN6 Series)

*Catalog 4110-SN  
January 2001*



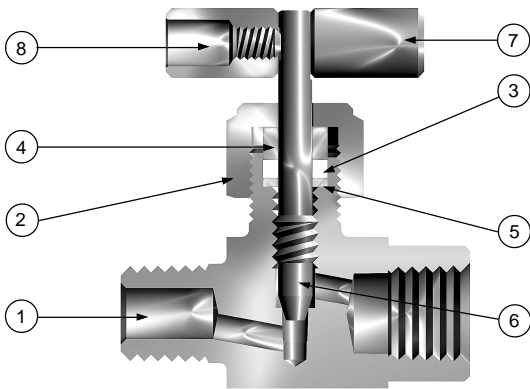
# SN6 Series Needle Valves

## Introduction

Parker compact SN6 Needle Valves provide shut-off and coarse regulation of liquids and gases utilized in process and instrumentation applications. These rugged valves are manufactured from stainless steel barstock and are integral bonnet designs with packing above the stem threads.

## Features

- Integral bonnet design
- 316 stainless steel construction
- Choice of two stem types:
  - R-Stem – All metal, blunt stem tip
  - K-Stem – PCTFE stem tip
- Choice of PTFE (standard) packing, Grafoil® packing, or elastomeric O-ring stem seals
- Inline and angle patterns
- 100% factory tested



Model Shown: 4F4M-SN6LR-SS

## Materials of Construction

Item #	Description	Material
1	Body	ASTM A 276 Type 316
2	Packing Nut	ASTM A 479 Type 316
3	Packing*	PTFE
4	Packing Gland	ASTM A 479 Type 316
5	Packing Washer	Stainless Steel
6	Stem (R-Stem)	ASTM A 276 Type 316
6	Stem (K-Stem)	ASTM A 276 Type 316, with PCTFE
7	Handle**	Aluminum
8	Handle Screw	Stainless Steel

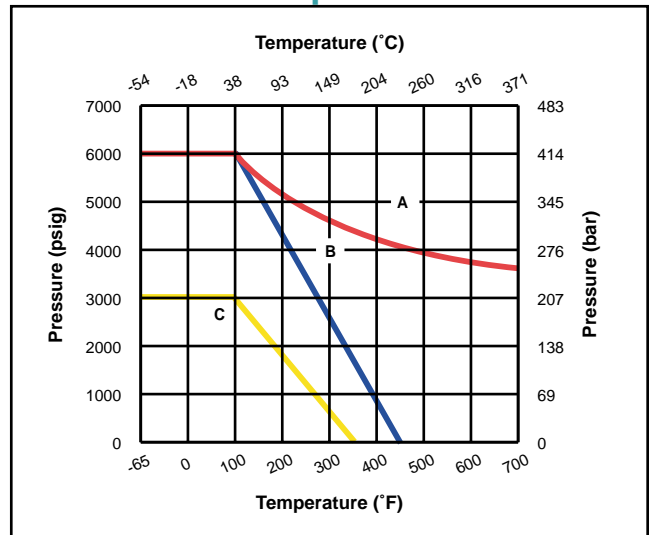
\* Optional elastomeric O-ring stem seals and Grafoil® packing are available - See How to Order

\*\* Handles for Grafoil® packed valves and valves with R stem types are stainless steel T-bars  
Lubrication: Graphite filled hydrocarbon

## Specifications

- **Pressure Rating:**
  - R Stem: 6000 psig (414 bar) CWP
  - K Stem: 3000 psig (207 bar) CWP
- **Temperature Rating:**
  - PTFE Packing:
    - 65 °F to 450 °F (-54 °C to 232 °C)
  - PCTFE Stem Tip:
    - 65 °F to 350 °F (-54 °C to 177 °C)
  - Buna-N Rubber (**BN**) Stem Seal:
    - 30 °F to 250 °F (-34 °C to 121 °C)
  - Ethylene Propylene Rubber (**EPR**) Stem Seal:
    - 65 °F to 275 °F (-54 °C to 135 °C)
  - Fluorocarbon Rubber (**V**) Stem Seal:
    - 15 °F to 400 °F (-26 °C to 204 °C)
  - Grafoil® (**G**) Packing:
    - 65 °F to 700 °F (-54 °C to 371 °C)

## Pressure vs. Temperature

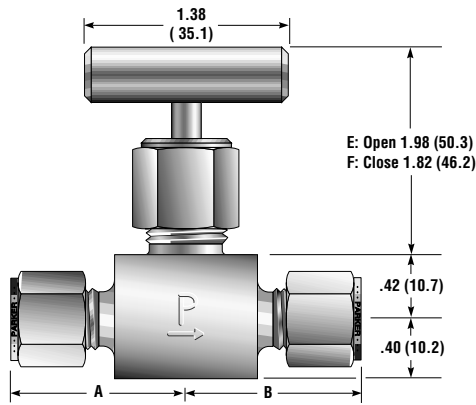


**Legend:** A - Grafoil® packing with R stem; B - PTFE packing with R stem; C - PTFE packing with K stem.

**Note:** To determine MPa, multiply bar by 0.1

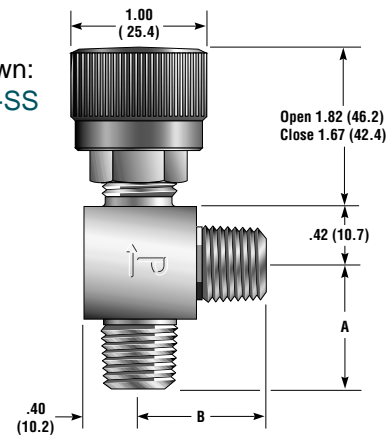
**Note:** When combining seat and seal materials, the most restrictive temperature rating becomes the limiting factor on temperature range.

# SN6 Series Needle Valves



Model Shown:  
4Z-SN6LR-G-SS

( ) Denotes dimensions in millimeters



Model Shown:  
4M-SN6AK-SS

## Dimensions / Flow Data

Basic Part Number		End Connections		Stem Type	Flow Data						Dimensions			
Inline	Angle	Inlet (Port 1)	Outlet (Port 2)		Orifice		Inline		Angle		A†		B†	
					Inch	mm	C <sub>v</sub>	X <sub>T</sub> *	C <sub>v</sub>	X <sub>T</sub> *	C <sub>v</sub>	X <sub>T</sub> *	Inch	mm
4A-SN6LR 4A-SN6LK	4A-SN6AR 4A-SN6AK	1/4" Compression A-LOK®		Blunt PCTFE	0.125	3.2	0.29 0.23	0.56 0.63	0.34 0.27	0.55 0.58	1.17	29.7	1.17	29.7
4F-SN6LR 4F-SN6LK	4F-SN6AR 4F-SN6AK	1/4" Female NPT		Blunt PCTFE	0.125	3.2	0.29 0.23	0.56 0.63	0.34 0.27	0.55 0.58	0.94	23.9	0.94	23.9
4M-SN6LR 4M-SN6LK	4M-SN6AR 4M-SN6AK	1/4" Male NPT		Blunt PCTFE	0.125	3.2	0.29 0.23	0.56 0.63	0.34 0.27	0.55 0.58	0.99	25.1	0.99	25.1
4Z-SN6LR 4Z-SN6LK	4Z-SN6AR 4Z-SN6AK	1/4" Compression CPI™		Blunt PCTFE	0.125	3.2	0.29 0.23	0.56 0.63	0.34 0.27	0.55 0.58	1.17	29.7	1.17	29.7
4M4A-SN6LR 4M4A-SN6LK	4M4A-SN6AR 4M4A-SN6AK	1/4" Male NPT	1/4" A-LOK®	Blunt PCTFE	0.125	3.2	0.29 0.23	0.56 0.63	0.34 0.27	0.55 0.58	0.99	25.1	1.17	29.7
4M4F-SN6LR 4M4F-SN6LK	4M4F-SN6AR 4M4F-SN6AK	1/4" Male NPT	1/4" Female NPT	Blunt PCTFE	0.125	3.2	0.29 0.23	0.56 0.63	0.34 0.27	0.55 0.58	0.99	25.1	0.94	23.9
4M4Z-SN6LR 4M4Z-SN6LK	4M4Z-SN6AR 4M4Z-SN6AK	1/4" Male NPT	1/4" CPI™	Blunt PCTFE	0.125	3.2	0.29 0.23	0.56 0.63	0.34 0.27	0.55 0.58	0.99	25.1	1.17	29.7

\* Tested in accordance with ISA S75.02. Gas flow will be choked when  $P_1 - P_2 / P_1 = X_T$ .

† For CPI™ and A-LOK®, dimensions are measured with nuts in the finger tight position

## How to Order

The correct part number is easily derived from the following number sequence. The six product characteristics required are coded as shown below. \*Note: If the inlet and outlet ports are the same, eliminate the outlet port designator.

**Example:**    4Z        \*        -        SN6L        K        -        BN        -        SS  
                   ①            ②                                    ③            ④                                    ⑤                                    ⑥  
                   Inlet        Outlet                                    Valve        Stem                                    Stem                                    Body  
                   Port        Port                                    Series        Type                                    Seal                                    Material

Describes a in-line pattern SN6 Series needle valve equipped with 1/4" CPI™ compression inlet and outlet ports, a PCTFE tipped stem, Buna-N seals, and stainless steel construction.

**Note:** This valve is not panel mountable.

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