

Needle Valves (SN6 Series)

*Catalog 4110-SN
Revised, May 2003*



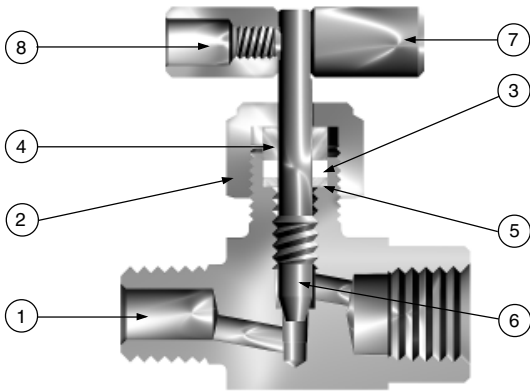
SN6 Series Needle Valves

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 or Grafoil® packing
- Inline and angle patterns
- 100% factory tested



Model Shown: 4F4M-SN6LR-SS

Materials of Construction

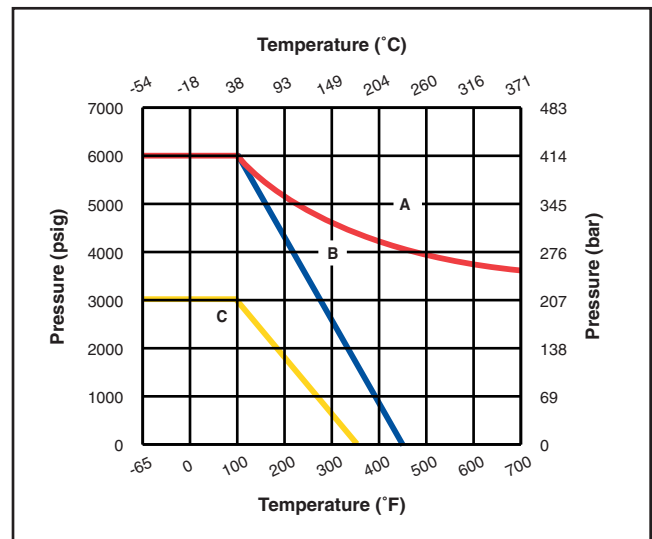
Item #	Description	Material
1	Body	ASTM A 276 Type 316
2	Packing Nut	ASTM A 479 Type 316
3	Packing*	PTFE
4	Packing Gland	ASTM A 479 Type 316
5	Packing Washer	Stainless Steel
6	Stem (R-Stem)	ASTM A 276 Type 316
6	Stem (K-Stem)	ASTM A 276 Type 316, with PCTFE
7	Handle**	Aluminum
8	Handle Screw	Stainless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

* Optional Grafoil® packing 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)
 - 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

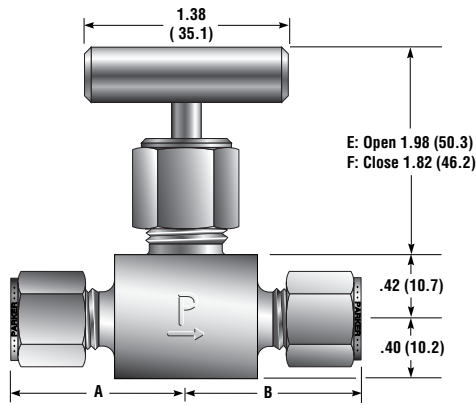
Note: When combining seat and seal materials, the most restrictive temperature rating becomes the limiting factor on temperature range.

Pressure Rating and Tubing Selection:

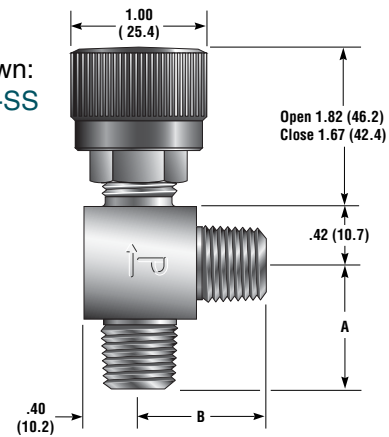
For working pressures of A-LOK® and CPI™ tube connections, please see the [Instrument Tubing Selection Guide \(Bulletin 4200-TS\)](#), found in the Technical Section of the Parker Instrumentation Process Control Binder, or the Parker Instrument Tube Fitting Installation Manual (Bulletin 4200-B4).

For working pressures of valves with external or internal pipe threads, please see [Catalog 4260, Instrumentation Pipe Fittings](#).

SN6 Series Needle Valves



Model Shown:
4M-SN6AK-SS



Model Shown:
4Z-SN6LR-G-SS

() Denotes dimensions in millimeters

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_v	X_T^*	C_v	X_T^*	C_v	X_T^*	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. Eliminate the Stem Packing product characteristic if PTFE Packing is ordered. 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 - G - SS
 ① ② ③ ④ ⑤ ⑥
 Inlet Outlet Valve Stem Stem Body
 Port Port Series Type Packing Material

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

Note: This valve is not panel mountable.

Grafoil® is a registered trademark of Union Carbide

! WARNING

FAILURE, IMPROPER SELECTION OR IMPROPER USE OF THE PRODUCTS AND/OR SYSTEMS DESCRIBED HEREIN OR RELATED ITEMS CAN CAUSE DEATH, PERSONAL INJURY AND PROPERTY DAMAGE.

This document and other information from Parker Hannifin Corporation, its subsidiaries and authorized distributors provide product and/or system options for further investigation by users having technical expertise. It is important that you analyze all aspects of your application and review the information concerning the product or system in the current product catalog. Due to the variety of operating conditions and applications for these products or systems, the user, through its own analysis and testing, is solely responsible for making the final selection of the products and systems and assuring that all performance, safety and warning requirements of the application are met.

The products described herein, including without limitation, product features, specifications, designs, availability and pricing, are subject to change by Parker Hannifin Corporation and its subsidiaries at any time without notice.

Offer of Sale

The items described in this document are hereby offered for sale by Parker Hannifin Corporation, its subsidiaries or its authorized distributors. This offer and its acceptance are governed by the provisions stated in the "Offer of Sale" located in Catalog 4110-U Needle Valves (U Series).

© Copyright 2003, Parker Hannifin Corporation. All Rights Reserved.



Catalog 4110-SN, 20M, 05/03

Parker Hannifin Corporation
Instrumentation Valve Division
2651 Alabama Highway 21 North
Jacksonville, AL 36265-9681
USA
Phone: (256) 435-2130
Fax: (256) 435-7718
www.parker.com/ivd

Parker Hannifin plc
Instrumentation Products Division
Riverside Road
Pottington Business Park
Barnstaple, Devon EX31 1NP
England
Phone: +44 (0) 1271 313131
Fax: +44 (0) 1271 373636
Email: ipd@parker.com
www.parker.com/ipd