

Parker Product Datasheet



Parker offers standard needle valves and needle valves with a reverse free-flow check. Parker's needle valves are non-compensated adjustable orifices capable of flows up to 225 lpm (60 gpm) and pressures as high as 420 bar (6000 psi).

PART NUMBER: NVH101K
FLOW RATE: 16 GAL/MIN, 60 L/MIN
SEAL MATERIAL: D-Ring (Standard)
MAXIMUM INLET PRESSURE RATING: 5500 PSI, 380 BAR
ADJUSTMENT MECHANISM: Knob
NEEDLE TYPE: Coarse

PRODUCT OVERVIEW

Parker's family of needle valves feature a highly contamination tolerant design that allows for fine metering with manual adjustment to create and orifice and control flow. These valves can operate with hydraulic system flows as high as 225 lpm and pressures up to 420 bar with the option of an integrate reverse free-flow check valve. Parker's needle valves or needle-check valves are ideal for cylinder or motor control and/or bleed-off applications within a broad range of markets, such as the agriculture, construction, material handling, industrial, oil & gas, and several more.

Markets:

- Agriculture
- Construction Equipment
- Material Handling Equipment
- Miscellaneous Industrial
- Miscellaneous Mobile

- Oil & Gas

Features/Benefits:

- High flow capacity from a small cavity
- Manual shutoff with extremely low leakage
- Fine adjustment control/sensitivity
- Very tolerant to contamination
- Tamperproof options available
- Free-flow reverse check available
- All external parts zinc plated

Applications:

- Accumulator bleed-off
- Motor speed control
- Cylinder speed control

Additional Technical Insight:

Needle valves offer economical solutions for applications that require basic adjustable control of hydraulic flow. The effective orifice size inside the valve is varied with screw or knob adjustments and the valve can be made tamper resistant with the addition of an optional cap. Shutoff can be achieved when the valve is adjusted completely closed. Once the adjustment is set, the valve acts as a fixed orifice. Like all fixed orifices, any changes in pressure will cause changes in flow.

If constant flow is required regardless of system or load pressure, please consider Parker's pressure compensated flow controls. Parker's J02A2, NVH081, NVH101, and J06A2 cartridges are standard 2-port needle valves with fine adjustment options available. The orifice will meter in both directions, but flow from port 2 to 1 is preferred. If unrestricted reverse flow is required, an additional check valve will need to be used with these needle valve versions. Parker also offers J02B2, FV101, and FV102 needle valves with internal reverse free flow checks in order to reduce manifold size and component quantities.

TECH SPECIFICATIONS

MAXIMUM OPERATING TEMPERATURE

+200 °F

MAXIMUM OPERATING TEMPERATURE

+93 °C

DIVISION

Hydraulic Valve Systems Division

DIVISION	Hydraulic Valve Systems Division
MAXIMUM OPERATING PRESSURE	380 bar
MAXIMUM OPERATING PRESSURE	5500 psi
FLOW RATE	60 L/min
FLOW RATE	16 gal/min
MINIMUM OPERATING TEMPERATURE	-37 °C
MINIMUM OPERATING TEMPERATURE	-35 °F
FOR FLUID TYPE	Mineral-based or synthetic hydraulic fluids
CONNECTION TYPE	N/A
CONNECTION SIZE	N/A
BODY MATERIAL	N/A
SEAL MATERIAL	D-Ring (Standard)
WEIGHT	0.4 lb
WEIGHT	0.18 kg
OPERATING TEMPERATURE	-37 to +93 °C
OPERATING TEMPERATURE	-35 to +200 °F
MAXIMUM FLOW RATE	16 gal/min
MAXIMUM FLOW RATE	60 L/min
FUNCTION	2-Way
ACTUATION TYPE	Manual
OPERATION TYPE	Manually operated
LEAK RATE	5 @ 5000 PSI (345 BAR) drops/min
CONFIGURATION	Needle
MAXIMUM KINEMATIC VISCOSITY	45-2000 SSU (6 to 420 cSt)
FILTER EFFICIENCY RATING	ISO 4406 18/16/13, SAE Class 4

MAXIMUM INLET PRESSURE RATING	5500 psi
MAXIMUM INLET PRESSURE RATING	380 bar
ADJUSTMENT MECHANISM	Knob
VALVE MATERIAL	All parts steel. All operating parts hardened steel
NEEDLE TYPE	Coarse
CAVITY SIZE	C10-2
INSTALLATION TORQUE	50 to 56 Nm
INSTALLATION TORQUE	37 to 41 lb-ft