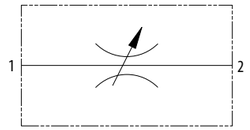
# NV1-8 - Flow restrictor valve

Needle
45 L/min (12 USgpm) • 210 Bar (3000 psi)

## Dynamic signal (PFRD)



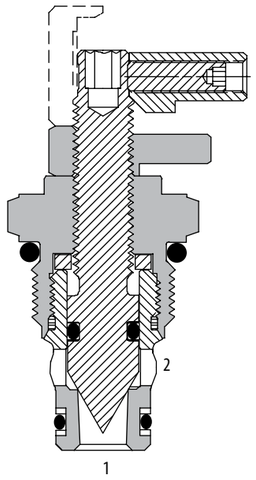

## Operation

This needle valve is a variable orifice used to create a pressure drop when flow passes from port 1 to port 2 or port 2 to 1. Clockwise rotation of the adjust screw decreases the orifice size to completely closed and anti-clockwise increases the orifice. The setting can be locked using the lock nut on the adjust screw.

## Features

Hardened and ground working components. Cartridge construction for maximum mounting flexibility.

## Sectional view




## Performance data

**Ratings and specifications**

| *Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49°C (120°F)* | |
|---|---|
| Typical application pressure (all ports) | 350 bar (5000 psi) steel housing<br>210 bar (3000 psi) aluminum housing |
| Cartridge fatigue pressure (infinite life) | 280 bar (4000 psi) |
| Rated flow | 45 L/min (12 USgpm) |
| Internal leakage | 5 drops/min. maximum @ 350 bar (5000 psi) |
| Temperature range | -40° to 120°C (-40° to 248°F) |
| Cavity | C–8–2 |
| Fluids | All general purpose hydraulic fluids such as: MIL–H–5606, SAE 10, SAE 20, etc. |
| Filtration | Cleanliness code 18/**16/13** |
| Standard housing materials | Aluminum or steel |
| Weight cartridge only | 0,07 kg. (0.15 lbs.) |
| Seal Kits | 02-165875 Buna–N<br>02-165877 Viton® |

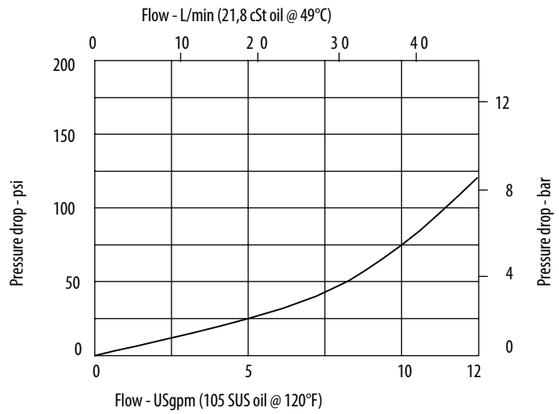
Viton is a registered trademark of E.I. DuPont

## Description

This is a manually adjusted cartridge type needle valve. With fine control it is ideal for none compensated speed control of actuators or as a control orifice in conjuntion with a pressure compensator. Total shut off can be achieved allowing the valve to be used as a shut off valve.

## Pressure drop

Cartridge only




Fully open port 1 to port 2 or port 2 to port 1



NV1-8 - Flow restrictor valve

Needle
45 L/min (12 USgpm) • 210 Bar (3000 psi)

## Model code

**NV1 – 8 – (V) – * – (*) – ** – 00**

1 2 3 4 5 6 7

### 1 Function

**NV1** - Needle valve

### 2 Size

**8** - 8 size

### 3 Seal material

**Blank** - Buna-N
**V** - Viton®

### 4 Style

**S** - Screw
**C** - Cap
**K** - Knob

### 5 Valve housing material

**Omit** - Cartridge only
**S** - Steel
**A** - Aluminum

### 6 Port size

| Code | Port size | Housing number | |
|---|---|---|---|
| | | Aluminium fatigue duty | Aluminium fatigue rated |
| **0** | Cartridge only | | |
| **4T** | SAE 4 | 02–160730 | 02-160736 |
| **6T** | SAE 6 | 02–160731 | 02-160737 |
| **8T** | SAE 8 | 02–160732 | 02–160738 |
| **2G** | 1/4" BSPP | 02–160727 | 02-160733 |
| **3G** | 3/8" BSPP | 02–160728 | 02-160734 |

See section J for housing details.

### 7 Special features

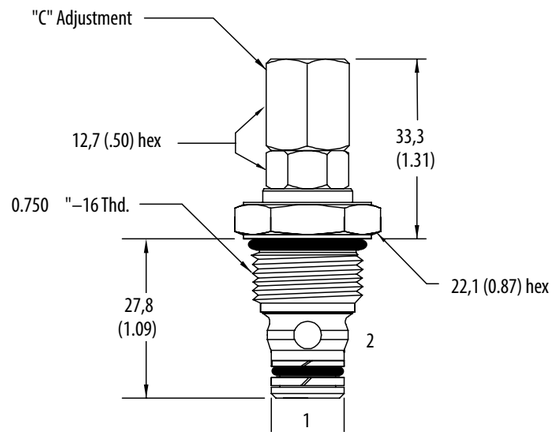
**00** - None
(Only required if valve has special features, omit if ("00")

## Dimensions

mm (inch)

**Cartridge only**
Basic code
NV1-8

Torque cartridge in aluminum or steel housing 34-41 Nm (25-30 ft lbs)




**⚠ Warning**

Aluminum housings can be used for pressures up to 210 bar (3000 psi). Steel housings **must** be used for operating pressures **above** 210 bar (3000 psi).