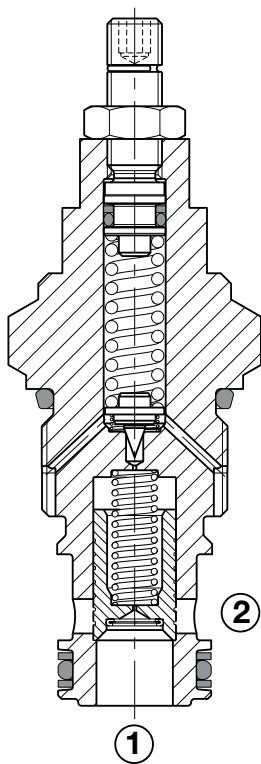
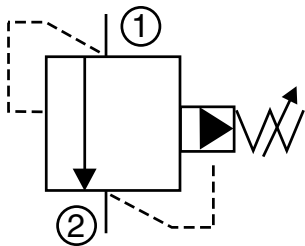


PRESSURE CONTROL VALVES

DB12P-01

Pressure Relief, Pilot Operated, Spool Type

Up to 53 gpm (200 l/min) • 5000 psi (350 bar)



Description

A screw-in cartridge, pilot operated (two stage), spool type relief valve intended for use as pressure limiting device in hydraulic circuits requiring fast response and low pressure rise in a wide flow range.

Operation

The DB12P blocks flow from port 1 to port 2 until the pressure setting is reached at port 1 to lift the pilot poppet, creating a pressure drop across the main spool. This allows the main spool to shift, opening port 1 to port 2. Pressure at port 2 is directly additive to valve pressure setting.

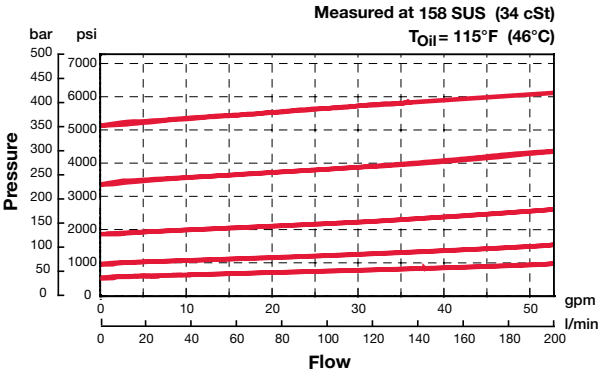
Features

- Spring ranges up to 5000 psi (350 bar)
- Positive stop prevents spring from over adjustment (options V,H)
- Adjustable under full pressure
- One-piece body maximizes reliability and minimizes the effect of eccentricity
- Low pressure drop due to an optimized flow-path
- Screen protected pilot control orifice to enhance safety
- Fast response with excellent stability
- All external surfaces zinc-plated
- Hardened spool & pilot poppet to ensure minimal wear & extend service life
- Industry common cavity

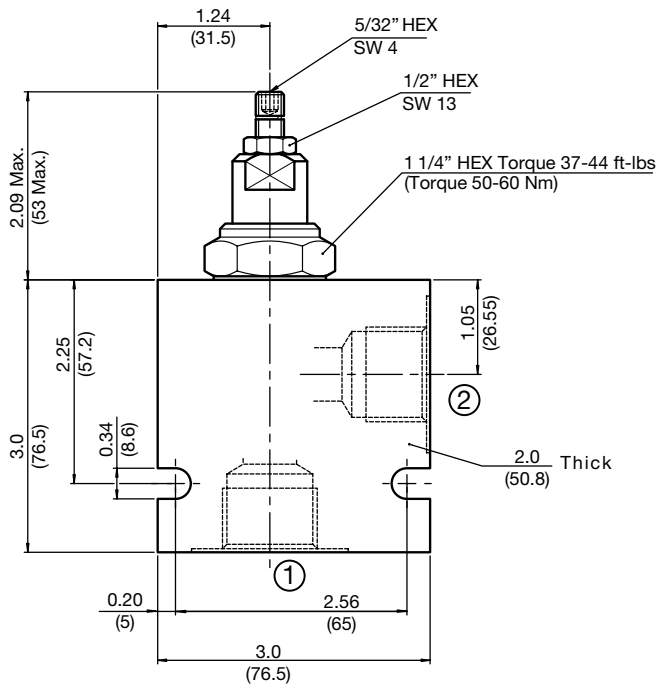
Specifications

Operating Pressure	5000 psi (350 bar)
Nominal Flow	53 gpm (200 l/min)
Internal Leakage	less than 30.5 cu in/min at 5000 psi (0.5 l/min at 350 bar)
Reseat Pressure (Nominal)	90% of crack pressure
Optional Pressure Ranges	45 to 500 psi (3 to 35 bar) 45 to 900 psi (3 to 60 bar) 45 to 1800 psi (3 to 125 bar) 60 to 3300 psi (4 to 230 bar) 60 to 5000 psi (4 to 350 bar)
% of Spring Pressure Range Actuated at 1 Revolution (Adjustment Type V, H)	24%
Fluid Operating Temp. Range	-4° to 248°F (-20° to +120°C) (Consult factory for usage at temp. outside range.)
Fluid Compatibility	Mineral-based or synthetics with lubricating properties
Viscosity	50 to 2000 SUS (7.4 to 420 cSt)
Filtration	21/19/16 or cleaner (per ISO 4406). Use with filter rated $\beta_{10} \geq 200$.
Installation	No orientation restrictions
Cavity	FC12-2 (see Line Bodies & Cavities section)
Cavity Tools	Rougher: 02580667 Finisher: 02580668
Cartridge Weight	0.59 Lbs. (0.270 kg)
Cartridge Material	Steel with hardened work surfaces. Zinc-plated exposed surfaces. Anodized aluminum knobs. (option H) Buna N or Viton® o-rings, and PTFE back-up rings.
Seal Kits	Buna-N P/N: 03071298 Viton® P/N: 03071299

Performance



Dimensions



Model Code

DB12P-01-C-N-180 V 100

Valve Model

Body & Ports

- C = Cartridge only
- AS12 = SAE-12 ports, aluminum body
- SS12 = SAE-12 ports, steel body

Seals

- N = Buna-N
- V = Viton®

Adjustment Range

- 050 = 45 to 500 psi (3 to 35 bar)
- 090 = 45 to 900 psi (3 to 60 bar)
- 180 = 45 to 1800 psi (3 to 125 bar)
- 330 = 60 to 3300 psi (4 to 230 bar)
- 500 = 60 to 5000 psi (4 to 350 bar)

Adjustment Options

- F = Factory pre-set, non-adjustable
(must specify setting below)
- H = Knurled Hand Knob
- K = Allen Head (HEX 5/32") w/ cover cap
- V = Allen Head (HEX 5/32")

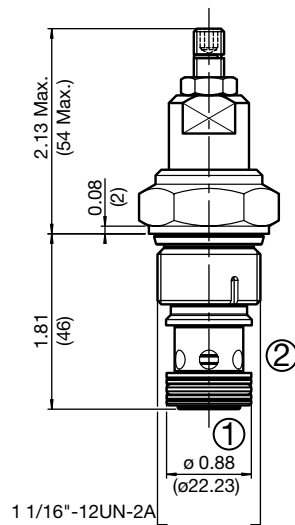
Setting (optional)

- (omit) = Set at min. pressure for the range
- XXX = Desired psi ÷ 10

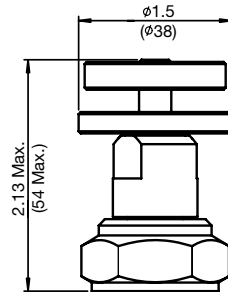
Example: 300 = 3000 psi

Adjustment Options

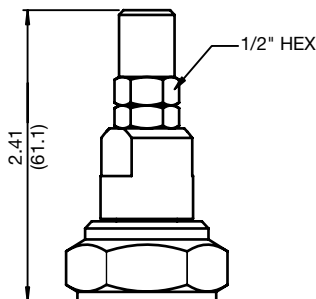
'V' - Allen Head (std)



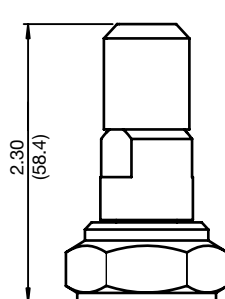
'H' - Hand Knob



'K' - Protective Cap



'F' - Tamper Proof Cap



All measurements in inches (mm).
Subject to technical modifications

Standard Line Bodies*

Code	Part No	Material	Pressure Rating	Weight
FH122-AS12	03053845	Aluminum, anodized	3500 psi (245 bar)	1.39 lb (0.63 kg)
FH122-SS12	03053772	Steel, Zinc plated	6000 psi (420 bar)	4.16 lb (1.89 kg)

*Please refer to Line Bodies & Cavities section for details