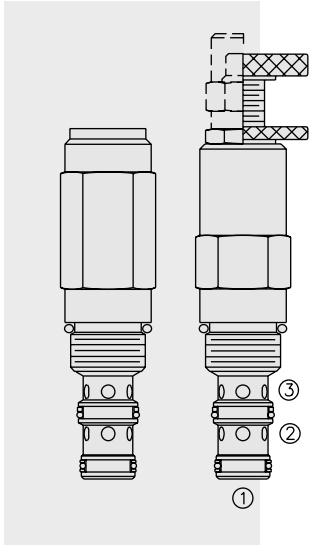


PRESSURE CONTROLS

PR50-38 Pressure Reducing/Relieving Spool Valve



DESCRIPTION

A screw-in, cartridge-style, direct-acting, spool-type, hydraulic pressure reducing/relieving valve, with internal pilot and internal spring-chamber drain. It is designed to act as a pressure regulating valve for secondary circuits. Internal damping makes this valve particularly suitable for use in circuits with unstable input flows in demanding applications requiring enhanced stability..

OPERATION

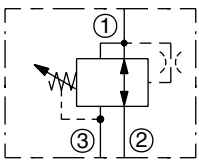
In its steady state, the **PR50-38** allows flow to pass bidirectionally from port ② to port ①, with the spring chamber constantly drained at port ③. Upon attainment of a predetermined pressure at ①, the spool shifts to block flow at ②, thereby regulating pressure at ①. In this mode, the valve will also relieve from port ① to port ③, at a variable value over the set reducing pressure. Tank port pressure is additive to the pressure setting at a ratio of 1:1.

FEATURES

- Adjustments cannot be backed out of the valve.
- Adjustments prohibit springs from going solid.
- Optional spring ranges to 227.5 bar (3300 psi).
- Hardened parts for long life.
- Industry common cavity.

SYMBOLS

USASI/ISO:



RATINGS

Maximum Rated Pressure at Supply Port: 345 bar (5000 psi)

Regulated Pressure Range: 10.3 to 227.5 bar (150 to 3300 psi)

Maximum Rated Flow: See Performance Chart

Maximum Internal Leakage to Port ③: 82 ml per minute (5.0 cu. in. per minute)

Temperature: -40 to 120°C with standard Buna seals;
-35 to 204°C with Fluorocarbon seals

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 ssu)

Installation: No restrictions; See page 9.020.1

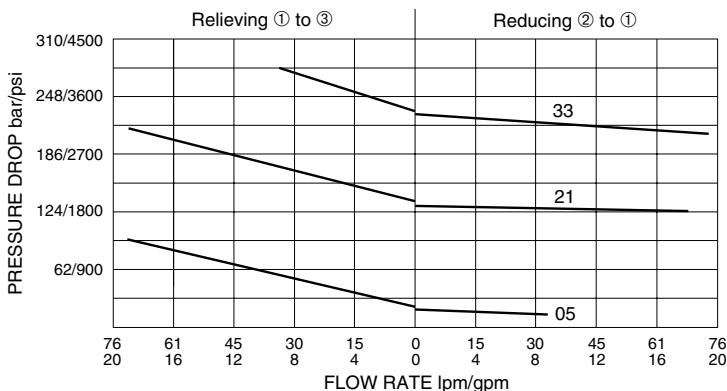
Cavity: VC10-3; See page 9.110.1

Cavity Tool: CT10-3XX; See page 8.600.1

Seal Kit: SK10-3X-BM; See page 8.650.1

PERFORMANCE (Cartridge Only)

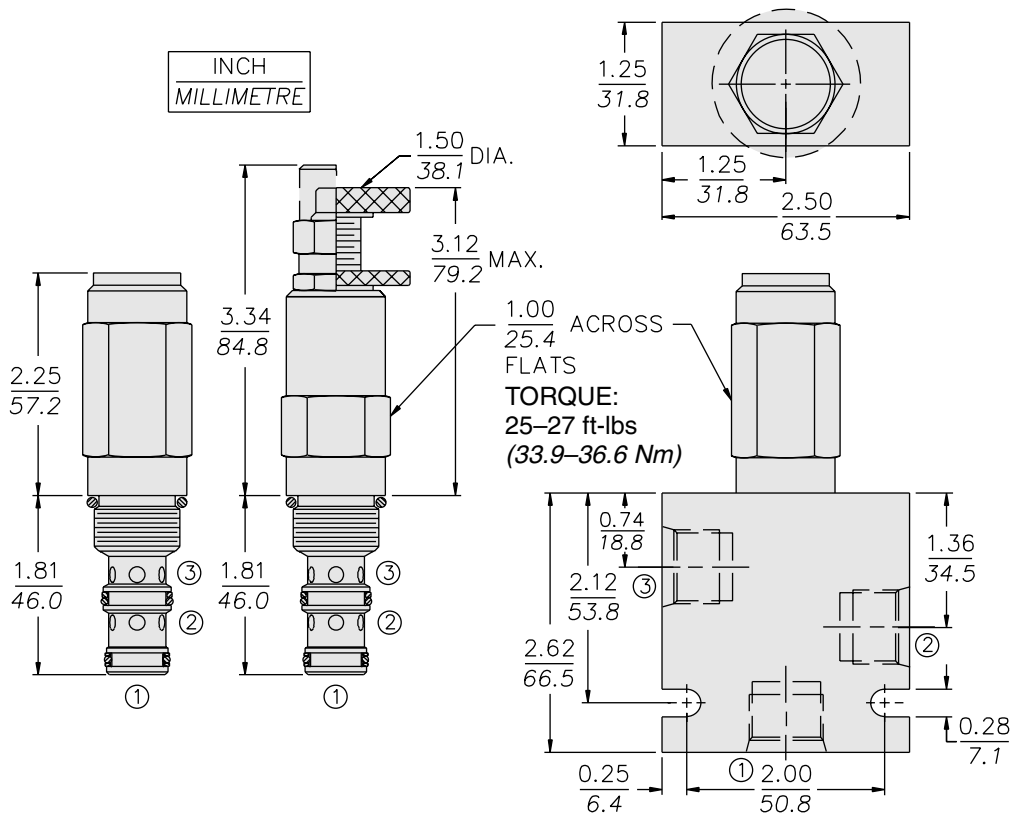
Typical Relieving and Reducing Pressure vs. Flow
at Maximum Pressure Setting for Different Spring Ranges
32 cSt/150 sus oil at 40°C



Damped, Direct-Acting

PR50-38

DIMENSIONS



MATERIALS

Cartridge: Weight: 0.27 to 0.31 kg. (0.59 to 0.69 lbs.) depending on adjustment type; Steel with hardened work surfaces. Zinc-plated exposed surfaces. Buna N O-rings and polyester elastomer back-ups standard. Anodized aluminum knobs and caps.

Standard Ported Body: Weight: 0.36 kg. (0.80 lbs.); Anodized high-strength 6061 T6 aluminum alloy, rated to 241 bar (3500 psi); see page 8.010.1. **Steel (code S) and Ductile Iron (code D) bodies are required for operation over 240 bar (3500 psi),** dimensions may differ; consult factory.

Note: Orifice Disc should not be used with this valve.

TO ORDER

PR50-38

Adjustment Option

- 1/4 in. Hex Allen Head **A**
- 1-1/2 in. Dia. Alum. Knob **B**
- Option A w/Cover Cap **C**
- Factory Preset Non-Adj. **F**
- Factory Preset Hidden Adj. (See page 6.003.1) **H**
- Option C w/Lockwire Holes **L**

Porting

- Cartridge Only **0**
- SAE 6 **6T**
- SAE 6 **6TD**
- SAE 6 **6TS**
- SAE 8 **8T**
- SAE 8 **8TD**
- SAE 8 **8TS**
- 1/4 in. BSP* **2B**
- 1/4 in. BSP* **2BD**
- 1/4 in. BSP* **2BS**
- 3/8 in. BSP* **3B**
- 3/8 in. BSP* **3BD**
- 3/8 in. BSP* **3BS**

Seals

- Buna N (Std.) **N**
- Fluorocarbon **V**
- Polyurethane **P**

Note: Polyurethane seals are required for operation over 241 bar (3500 psi).

Setting in bar[†]

(Blank) for Adjustable, or Specify, for example:

M25 25 bar

M100 100 bar

Setting in psi[†]

(Blank) for Adjustable, or Specify, for example:

9.0 900 psi

23.5 2350 psi

Spring Range

05 10.3 to 34.5 bar (100 to 500 psi)

21 34.5 to 144.8 bar (500 to 2100 psi)

33 55.2 to 227.5 bar (800 to 3300 psi)

[†]Adjustable valves will be preset to approx. 50% of spring max. potential.

*BSP Body; U.K. Mfr Only