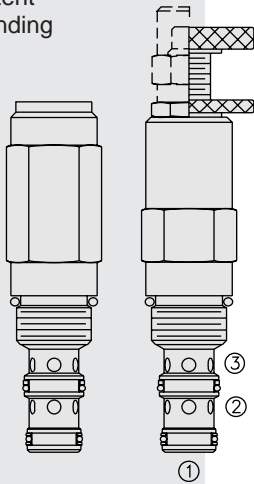


# PRESSURE CONTROLS

## PR50-36 Pressure Reducing/Relieving, Pilot-Operated

Patent Pending



### DESCRIPTION

A screw-in, cartridge-style, pilot-operated, spool-type, hydraulic pressure reducing/relieving valve with internal pilot and internal spring chamber drain, designed to act as a pressure-regulating device for secondary circuits.

### OPERATION

In its steady state, the **PR50-36** allows flow to pass bidirectionally from ② to ①, with the spring chamber constantly drained at ③.

On attainment of a pre-determined pressure at ①, the cartridge shifts to restrict input flow at ②, thereby regulating pressure at ①. In this mode, the valve will also relieve ① to ③.

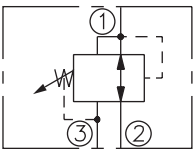
Deadband (from reducing to relieving) pressure rise over reduced pressure setting:  
Non-flow condition: approximately 0.55 bar (8 psi); with flow: approximately 2.1 bar (30 psi).

### FEATURES

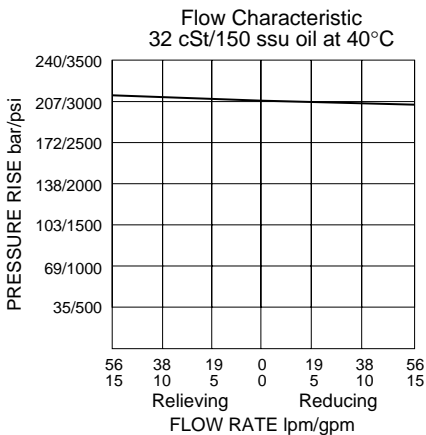
- Adjustments cannot be backed out of the valve.
- Adjustments prohibit springs from going solid.
- Optional spring ranges to 345 bar (5000 psi).
- Hardened spool and cage for long life.
- Industry common cavity.

### SYMBOLS

#### USASI/ISO:



### PERFORMANCE (Cartridge Only)



### RATINGS

**Operating Pressure:** 345 bar (5000 psi)

**Flow:** See Performance Chart

**Pilot Orifice:** Pilot-operated through 0.51 mm (0.020 inch) hole

**Standard Spring Ranges (Reducing Function):** 27.6 to 103.4 bar (400 to 1500 psi);  
103.4 to 206.9 bar (1500 to 3000 psi); 206.9 to 344.8 bar (3000 to 5000 psi)

**Temperature:** -40 to 120°C with standard Buna 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 sus); See Temperature and Oil Viscosity, page 9.060.1

**Installation:** No restrictions; See page 9.020.1

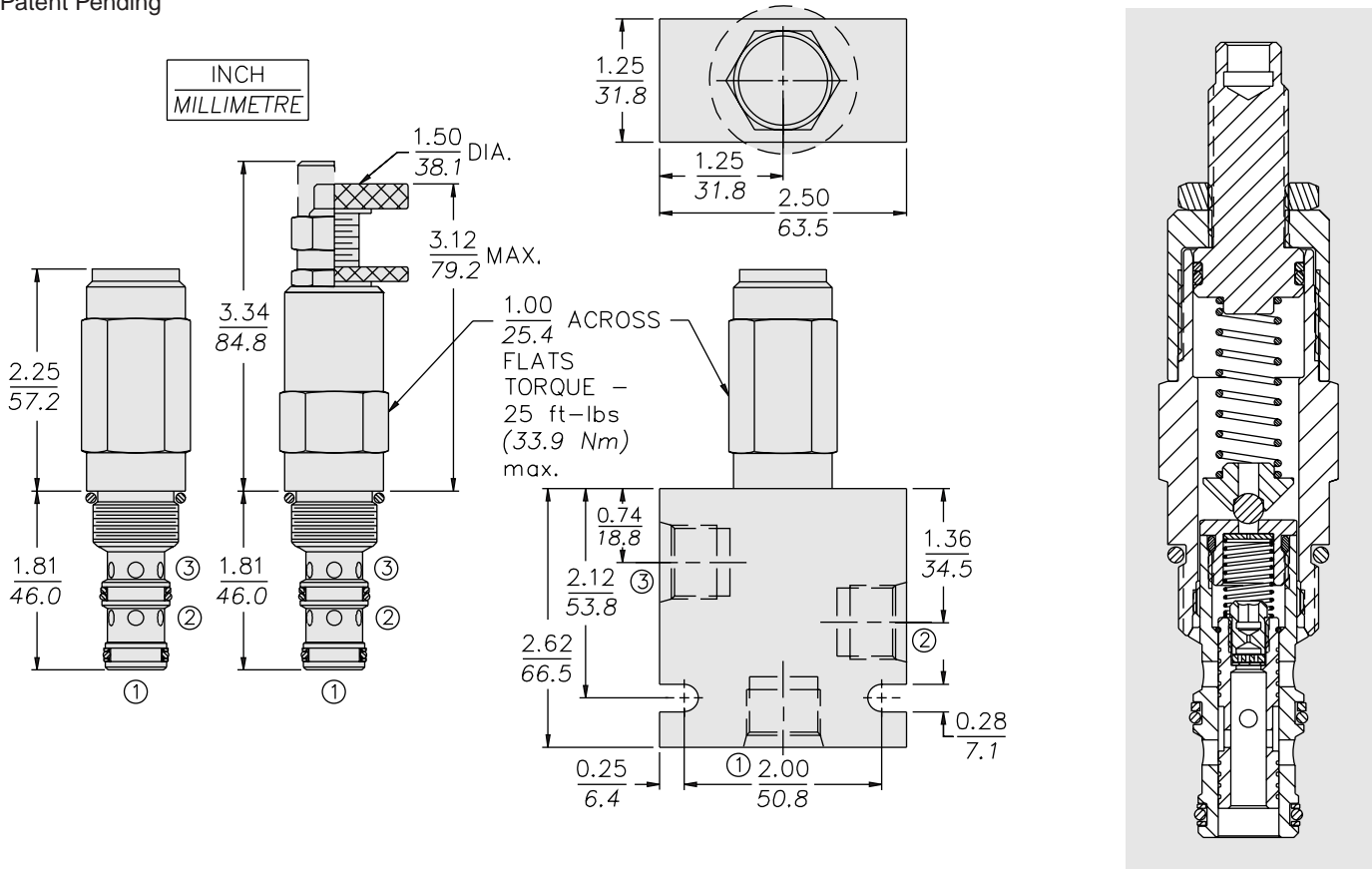
**Cavity:** VC10-3; See page 9.110.1

**Cavity Tool:** CT10-3XX; See page 8.600.1

**Seal Kit:** SK10-3P-BM; See page 8.650.1

**DIMENSIONS**

Patent Pending



**MATERIALS**

**Cartridge:** Weight: 0.27 kg. (0.60 lbs.)  
Steel with hardened work surfaces.  
Zinc-plated exposed surfaces.  
Polyurethane O-rings and Fluorocarbon back-ups standard.  
Anodized aluminum knobs and caps.

**Ported Body:** Weight: 0.64 kg. (1.41 lbs.) Ductile Iron (code "D") standard, consult factory for weight, dimensions may differ.  
Rated to 345 bar (5000 psi).  
See page 8.010.1

**TO ORDER**

**PR50-36** - - - /

|                               |              |  |
|-------------------------------|--------------|--|
| <b>Adjustment Option</b>      |              | <b>Setting in bar<sup>†</sup></b>  |
| 1/4 in. Hex Allen Head        | <b>A</b>     | (Blank) for Adjustable, or   |
| 1-1/2 in. Dia. Alum. Knob     | <b>B</b>     | Specify, for example:  |
| Option A w/Cover Cap          | <b>C</b>     | <b>M25</b> 25 bar  |
| Factory Preset Non-Adj.       | <b>F</b>     | <b>M100</b> 100 bar  |
| Factory Preset Hidden Adjust. | <b>H</b>     | <b>Setting in psi<sup>†</sup></b>  |
| (See page 6.003.1)            |              | (Blank) for Adjustable, or   |
| Option C                      | <b>L</b>     | Specify, for example:  |
| w/Lockwire Holes              |              | <b>9.0</b> 900 psi   |
|                               |              | <b>23.5</b> 2350 psi   |
|                               |              | <sup>†</sup> Adjustable valves will be preset to approx. 50% of spring max. potential. |
| <b>Porting</b>                |              | <b>Spring Range</b>  |
| Cartridge Only                | <b>0</b>     | <b>15</b> 27.6 to 103.4 bar (400 to 1500 psi)  |
| SAE 6 (Ductile)               | <b>6TD</b>   | <b>30</b> 103.4 to 206.9 bar (1500 to 3000 psi)  |
|                               |              | <b>50</b> 206.9 to 344.8 bar (3000 to 5000 psi)  |
|                               | <b>Seals</b> |  |
|                               | Polyurethane | <b>P</b>   |