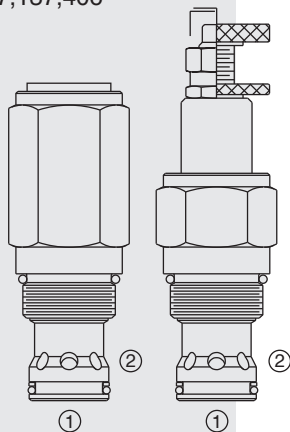


# RV16-26 Relief, Pilot-Operated Spool

U.S. Patent  
7,137,406



## DESCRIPTION

A screw-in, cartridge-style, pilot-operated (two-stage), spool-type hydraulic relief valve, intended for use as a pressure limiting device in demanding hydraulic circuits which require fast response and low hysteresis.

## OPERATION

The RV16-26 blocks flow from 1 to 2 until sufficient pressure is present at 1 to force the piloting relief off its seat, allowing the main (second stage) spool to shift, opening 1 to 2.

The cartridge offers smooth transition in response to load changes in demanding hydraulic circuits.

**NOTE: The RV16-26 cannot be used in cross-over relief applications.**

## FEATURES

- Adjustments cannot be backed out of the valve.
- Adjustments prohibit springs from going solid.
- Hardened spool and cage for long life.
- Optional spring ranges to 275.8 bar (4000 psi).
- Fast, smooth response to pressure surges.

## RATINGS

**Operating Pressure:** 275.8 bar (4000 psi)

**Flow:** See Performance Chart

**Internal Leakage:** 115 cc/minute (7 cu. in./minute) max. for pressure settings below 138 bar (2000 psi); 197 cc/minute (30 cu. in./minute) for pressure settings of 138 bar (2000 psi) or higher. Leakage measured at 85% of nominal setting.

**Crack Pressure Defined:** bar (psi) evident at 7.61 lpm (2 gpm) attained

**Reseat Pressure:** Nominal 90% of crack pressure

### Standard Spring Ranges:

- 03:** 9.66–20.70 bar (140–300 psi);
- 06:** 15.87–41.41 bar (230–600 psi);
- 15:** 36.63–103.52 bar (530–1500 psi);
- 35:** 82.82–241.55 bar (1200–3500 psi)

**Temperature:** -40 to 70°C (-40 to 160°F)

**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

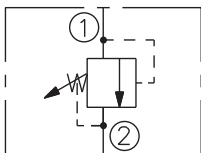
**Cavity:** VC16-2; See page 9.116.1

**Cavity Tool:** CT16-2XX; See page 8.600.1

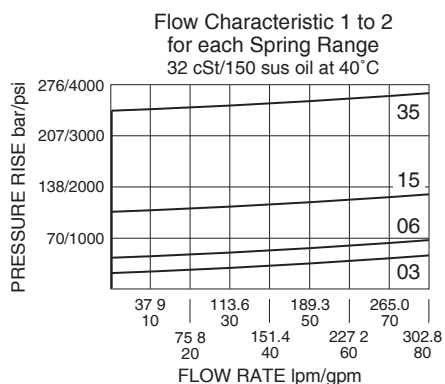
**Seal Kit:** SK16-2X-B; See page 8.650.1

## SYMBOLS

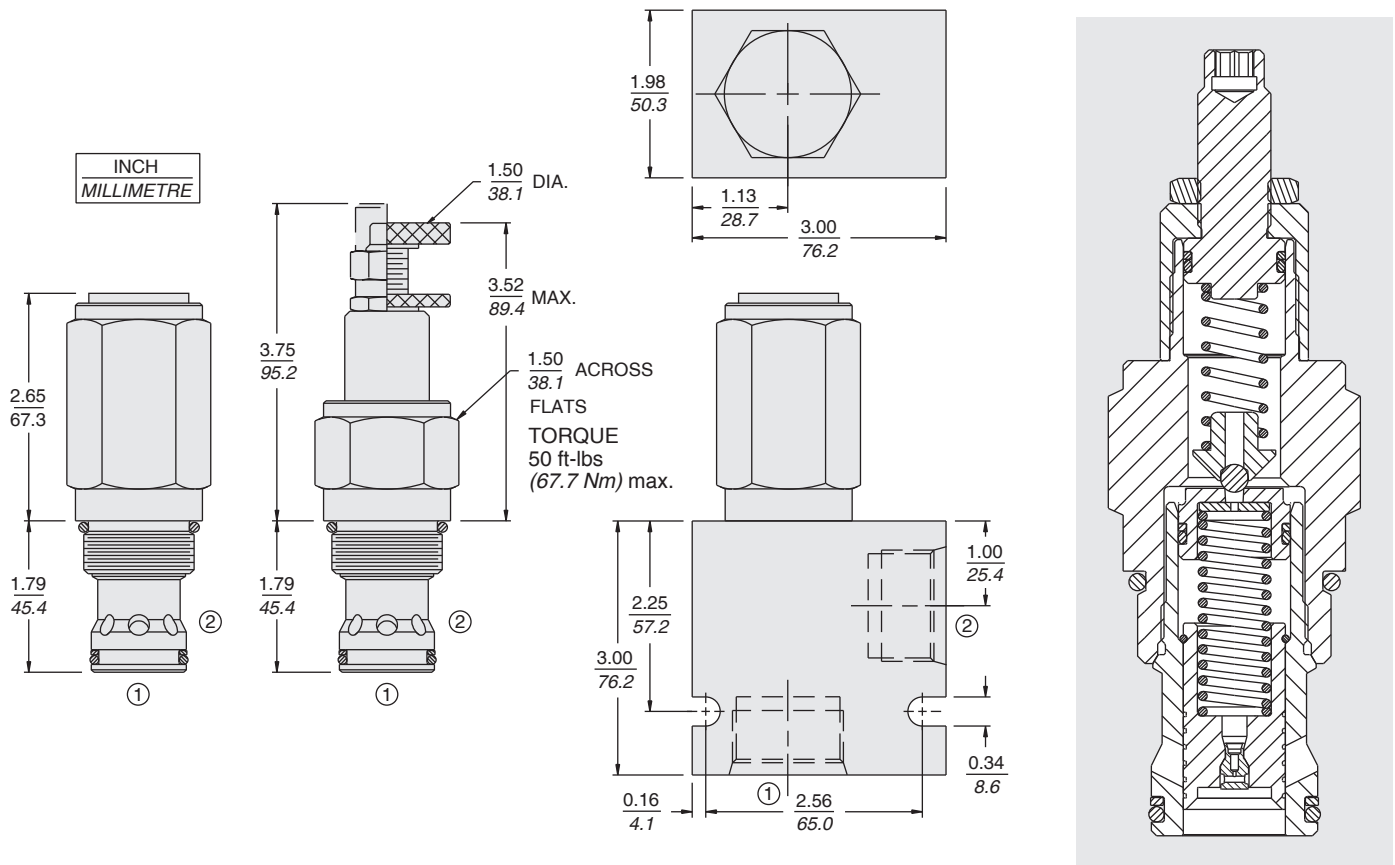
### USASI/ISO:



## PERFORMANCE (Cartridge Only)



## DIMENSIONS



## MATERIALS

**Cartridge:** Weight: 0.73 kg. (1.60 lbs.)  
Steel with hardened work surfaces.  
Zinc-plated exposed surfaces.  
Buna N O-rings and polyester elastomer back-up standard.  
Anodized aluminum knobs.

**Standard Ported Body:** Weight:  
0.57 kg. (1.25 lbs.) Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi). Ductile iron bodies available; dimensions may differ. See page 8.016.1

## TO ORDER

### RV16-26

**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 Adjustment **H**  
Option (C) with Lockwire Holes **L**

**Porting**  
Cartridge Only **0**  
SAE 12 **12T**  
SAE 16 **16T**  
3/4 in. BSP\* **6B**  
1 in. BSP\* **8B**

\*BSP Body; UK Mfr. Only

**Seals**  
**Pressure on P Only:**  
**N** Buna N (Std.)  
**V** Fluorocarbon  
**P** Polyurethane

**Setting in bar<sup>†</sup>**  
(Blank) for Adjustable, or Specify, for example:  
**M25** 25 bar  
**M100** 100 bar  
**Setting in psi<sup>†</sup>**  
(Blank) for Adjustable, or Specify, for example:  
**9.0** 900 psi  
**23.5** 2350 psi

**Spring Range**  
**03** 9.7 to 20.7 bar (140 to 300 psi)  
**06** 15.9 to 41.4 bar (230 to 600 psi)  
**15** 36.6 to 103.5 bar (530 to 1500 psi)  
**35** 82.8 to 241.6 bar (1200 to 3500 psi)

<sup>†</sup>Adjustable valves will be preset to approx. 50% of spring max. potential.