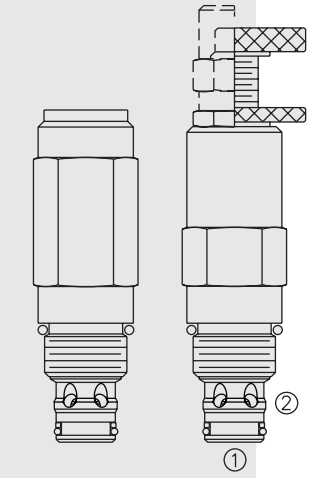
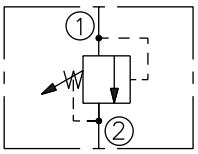
RV10-26 Relief, Pilot-Operated Spool

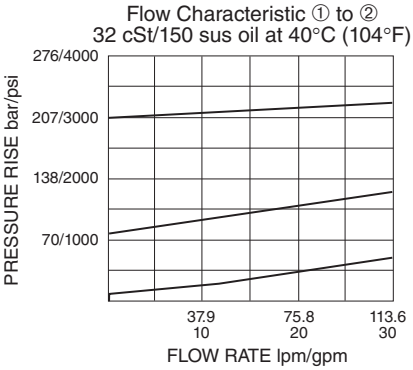
U.S. Patent 7,137,406



ISO SYMBOL



PERFORMANCE (Cartridge Only)



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. The cartridge offers smooth transition in response to load changes in demanding hydraulic circuits. **NOTE: The RV10-26 cannot be used in crossover relief applications.**

OPERATION

The **RV10-26** 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.

FEATURES

- Adjustments cannot be backed out of the valve.
- Adjustment options A, B and C: positive stops prevent springs from going solid.
- Hardened spool and cage for long life.
- Optional spring ranges to 207 bar (3000 psi).
- Fast, smooth response to pressure surges.
- Industry common cavity.

RATINGS

Pressure Rating: 344 bar (3500 psi)

Proof Pressure: 517 bar (7500 psi)

Burst Pressure: 1038 bar (5000 psi)

Flow Rating: 113.6 lpm (30 gom) at max pressure

Relief Pressure Setting Defined: bar (psi) evident at 7.57 lpm (2 gpm)

Reseat Pressure: Nominal 90% of crack

Relief Pressure Range: 6.9 to 207 bar (100 to 3000 psi); Due to manufacturing tolerances, it may be possible to adjust the valve either lower or higher. **If the valve is adjusted beyond the recommended maximum pressure range for F and H style adjuster options, the valve may not open to relieve pressure.**

Pressure Setting Below 137.9 bar (2000 psi): 115 ml/min. (7 cu.in./min)

Pressure Setting 137.9 bar (2000) psi and above: 197 ml/min (12 cu.in./min)

Temperature: -40 to 120°C (-40 to 250°F) for Buna N seals; -35 to 204°C (-31 to 400°F) for fluorocarbon seals; -54 to 107°C (-65 to 225°F) for polyurethane adn urethane 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

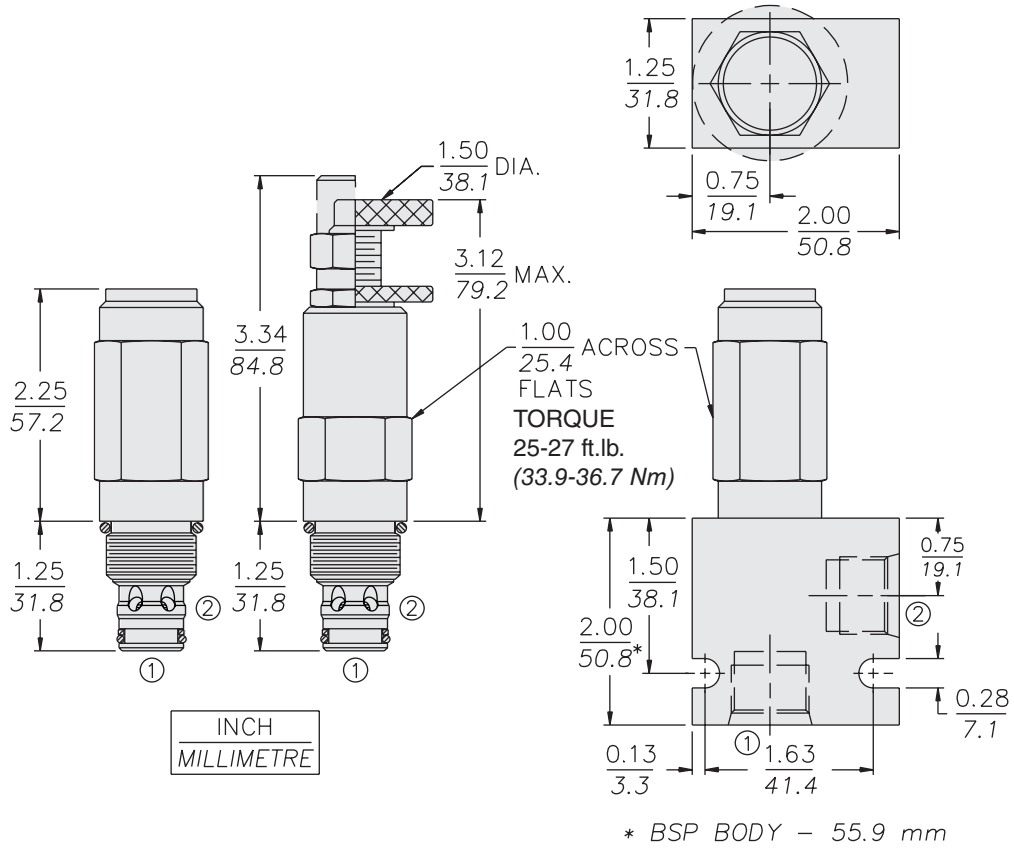
Installation: Cartridge torque 25-27 ft.lb. (33.9-36.7 Nm) Maximum allowable 50 ft.lb. (66.7 Nm). H-Style Plug per seal option: N, V, P, U 8-10 ft.lb. (0.8-13.6 Nm); NC, VC 23-25 ft.lb. (31.2-33.9 Nm) 25 ft.lb (33.9 Nm) maximum. No orientation restrictions. See page 9.020.1

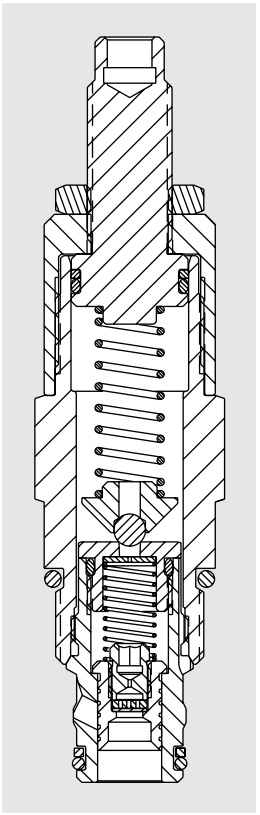
Cavity: VC10-2; See page 9.110.1

Cavity Tool: CT10-2XX; See page 8.600.1

Seal Kit: SK10-2N-B; See page 8.650.1

DIMENSIONS





MATERIALS

Cartridge: Weight: with Adjustment Option A: 0.25 kg. (0.55 lb.) B: 0.27 kg. (0.60 lb.) C,L: 0.29 kg. (0.65 lb.) F,H: 0.24 kg. (0.53 lb.) Steel with hardened work surfaces. Zinc-plated exposed surfaces. Buna N seals standard. Anodized aluminum knobs. Optional polyurethane seals recommended for pressures over 240 bar (3500 psi).

Standard Ported Body: Weight: 0.16 kg. (0.35 lbs.) Anodized high-strength aluminum alloy, rated to 207 bar (3000 psi). Ductile iron bodies available; dimensions may differ. See page 8.010.1.

TO ORDER

RV10-26__ - __ __ __ - __ - __ __ / __ __ __ __

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**

*** If the valve is adjusted beyond the recommended maximum pressure range for the F and H style adjuster options, the valve may not open to relieve system pressure.**

Porting

Cartridge Only	**0**
SAE 6	**6T**
SAE 8	**8T**
3/8 in. BSP*	**3B**
1/2 in. BSP*	**4B**

*BSP Body; U.K. Mfr.Only

Seals

N	Buna N (Std.)
V	Fluorocarbon
P	Polyurethane
U	Urethane
NC	Buna N
VC	Fluorocarbon

Spring Range

4	6.9 to 27.6 bar (100 to 400 psi)
15	10.3 to 103.4 bar (150 to 1500 psi)
30	27.6 to 206.9 bar (400 to 3000 psi)

Due to manufacturing tolerances, it may be possible to adjust the valve either lower or higher than the nominal ratings shown above.

Setting in bar

(Blank)† for Adjustable, or Specify, for example:
M100 100 bar

Setting in psi

(Blank)† for Adjustable, or Specify, for example:
26.5 2650 psi

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