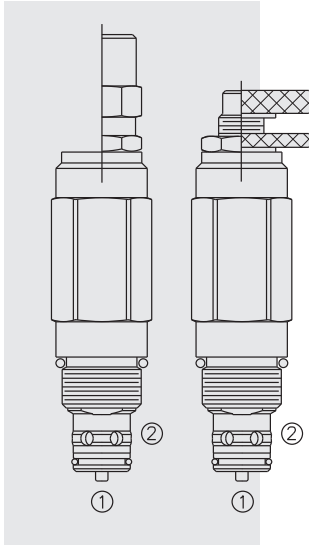


RV50-28 Relief, Pilot-Operated w/Reverse Check



DESCRIPTION

A screw-in, cartridge-style, pilot-operated, two-stage, hydraulic relief valve with reverse flow check valve. It is intended for use as a pressure limiting device in demanding hydraulic circuits which require fast response, low hysteresis, low leakage, low pressure overshoot and reverse free flow features.

OPERATION

The **RV50-28** blocks flow from 1 to 2 until sufficient pressure is present at 1 to force the pilot stage open, allowing the main stage to shift, opening 1 to 2.

The relief flow path is from 1 to 2. Reverse flow, from 2 to 1, occurs when the pressure at 2 is at least 2.1 bar (30 psi) higher than at port 1.

FEATURES

- Adjustments cannot be backed out of the valve.
- Hardened spool and cage for long life.
- Fast response.
- Industry common cavity.

RATINGS

Operating Pressure Range: 344 bar (5000 psi)

Proof Pressure: 621 bar (9000 psi)

Burst Pressure: 241 bar (8000 psi)

Flow: 113.6 lpm (30 gpm) from port 1 to port 2

Adjustable Pressure Range: 17 bar (250 psi) to 345 bar (5000 psi)

Internal Leakage: 0.5 ml/minute (10 drops/minute) max. to 80% of nominal setting

Crack Pressure Defined: bar (psi) evident at 7.6 lpm (2.0 gpm) attained

Reseat Pressure: Nominal 90% of crack pressure

Check Valve Mode Crack Pressure: 2.1 bar (30 psi)

Approximate Pressure Increment per Adjuster Turn: 99 bar (430 psi)/turn

Response Time: Relief Valve to Check Valve at 24 bar/53 lpm (3500 psi/14 gpm) condition: 0.6 seconds

Response Time: Check Valve to Relief Valve at 24 bar/53 lpm (3500 psi/14 gpm) condition: 0.3 seconds

Operating Temperature: with polyurethane seals: -54 to 107°C (-65 to 225°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

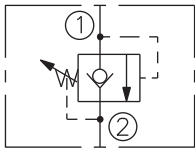
Installation: No restrictions; See page 9.020.1

Cavity: VC10-2; See page 9.110.1

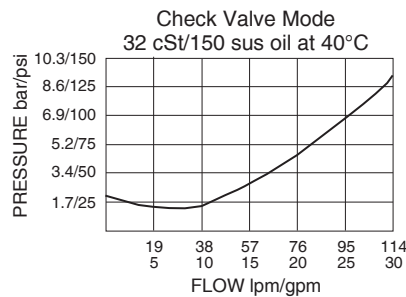
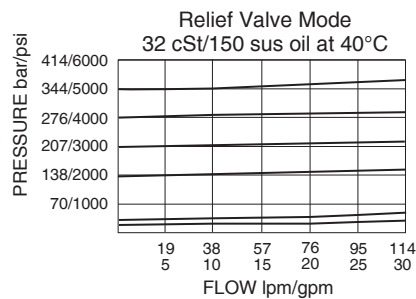
Cavity Tool: CT10-2XX; See page 8.600.1

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

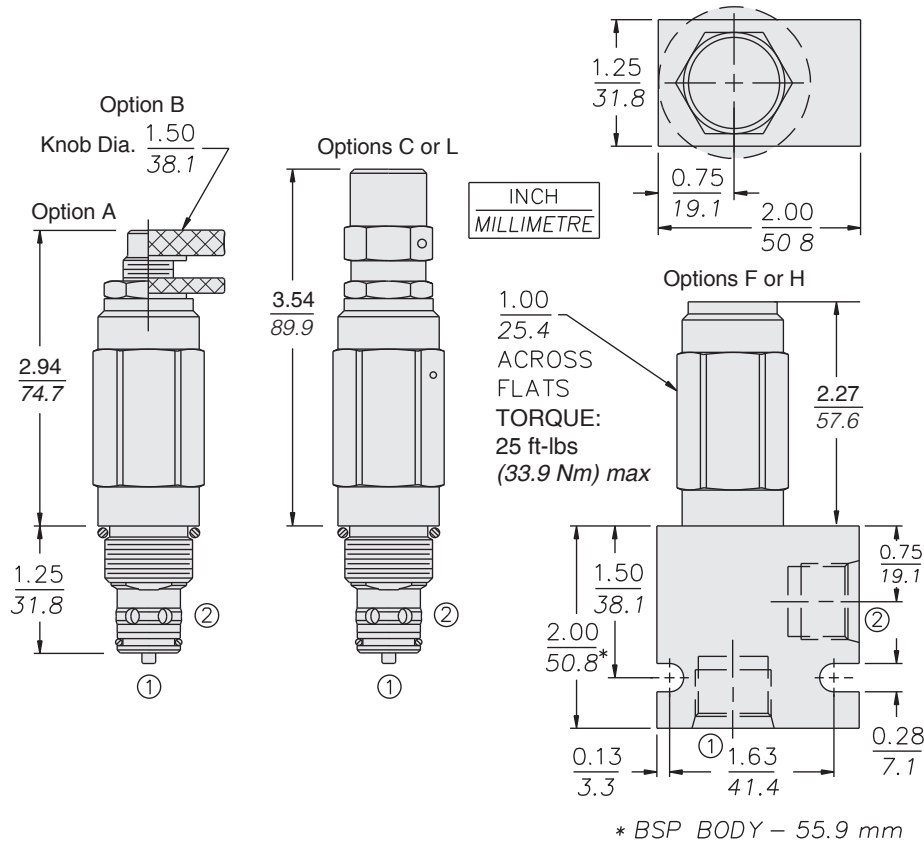
ISO SYMBOL



PERFORMANCE (Cartridge Only)



DIMENSIONS



MATERIALS

Cartridge:

Weight:

Option	A	B	C,L	F,H
lb	1.10	1.10	0.11	0.22
kg	0.23	0.23	0.24	0.10

Steel with hardened work surfaces.
Zinc-plated exposed surfaces. Buna N
O-rings and polyester elastomer
back-ups standard. Anodized
aluminum knobs.

Ported Body: Weight: 0.16 kg.
(0.35 lbs.) Anodized high-strength
6061 T6 aluminum alloy, rated to 207
bar (3000 psi). Ductile iron bodies
available; dimensions may differ.
See page 8.010.1

TO ORDER

RV50-28 - - - / - - -

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. **H**
- Option C w/
Lockwire Holes **L**

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

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

Setting in bar[†]

(Blank) for Adjustable, or
Specify, for example:
M52 52 bar (Minimum)
M100 100 bar

Setting in psi[†]

(Blank) for Adjustable, or
Specify, for example:
30 3000 psi

Spring Range

50 17.2 to 344.7 bar
(250 to 5000 psi)

NOTE: Polyurethane seals required for operation
at pressures over 241 bar/3500 psi.