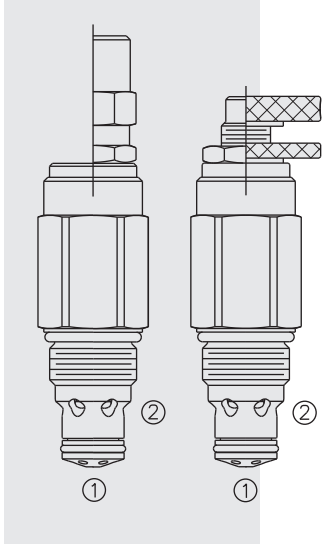
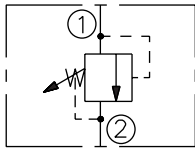


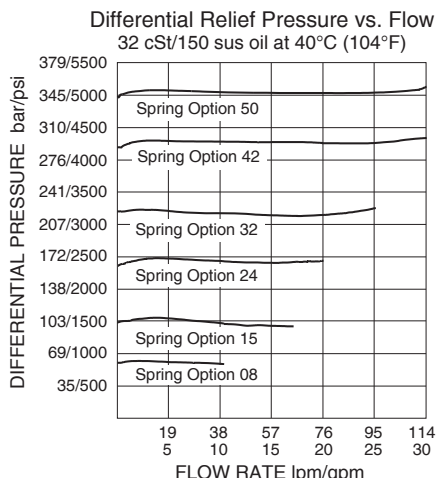
RVD50-20 Relief, Poppet-Type, High Pressure



ISO SYMBOL



PERFORMANCE (Cartridge Only)



DESCRIPTION

A screw-in, cartridge-style, direct-acting, poppet-type, hydraulic relief valve intended for use as a pressure limiting device for common hydraulic circuit protection.

OPERATION

The RVD50-20 blocks flow from 1 to 2 until sufficient pressure is present at 1 to force the poppet from its seat. The cartridge offers fast response to load changes in typical hydraulic circuits requiring low hysteresis, low pressure rise and low internal leakage.

For cross-over applications, maximum recommended flow is 37.9 lpm (10 gpm) and maximum pressure is 207 bar (3000 psi). See Ordering Table.

FEATURES

- Adjustments cannot be backed out of the valve.
- Height of the adjuster does not change when the pressure setting is adjusted.
- Hardened poppet and cage for long life.
- Optional spring ranges to 350 bar (5075 psi).
- Rapid response to pressure surges.
- Industry common cavity.

RATINGS

Pressure Rating: 413.7 bar (6000 psi)

Proof Pressure: 785.4 bar (11,000 psi)

Burst Pressure: 1515.8 bar (22,000 psi)

Flow Rating: Port 1 to 2: 113.6 lpm (30 gpm) at max pressure

The Performance Chart illustrates flow handling capacity at maximum setting for each spring range option. Pressure rise will vary with spring (range) and with setting within range due to flow forces. Consult factory for specific flow characteristic values.

Crack (Set) Pressure Defined: bar (psi) evident at 0.95 lpm (0.25 gpm)

Reseat Pressure: Nominal 85% of crack pressure; leakage to 1 ml/min (20 drops/min)

Maximum Internal Leakage: 0.25 ml/minute (5 drops/minute) max. to 80% of nominal setting

Operating Fluid Temperature: -40 to 100°C (-40 to 212°F) with standard Buna N seals; -26 to 204°C (-65 to 225°F) with fluorocarbon seals; -54 to 107°C (-65 to 225°F) with polyurethane or urethane seals

Standard Spring Ranges: 13.8 - 350 bar (200 - 5075 psi) Shown in To Order section. Due to manufacturing tolerances, it may be possible to adjust the valve either lower or higher than the nominal ratings shown. **If the valve is adjusted beyond the recommended maximum pressure range for any style adjuster option, the valve may not open to relieve system pressure.**

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

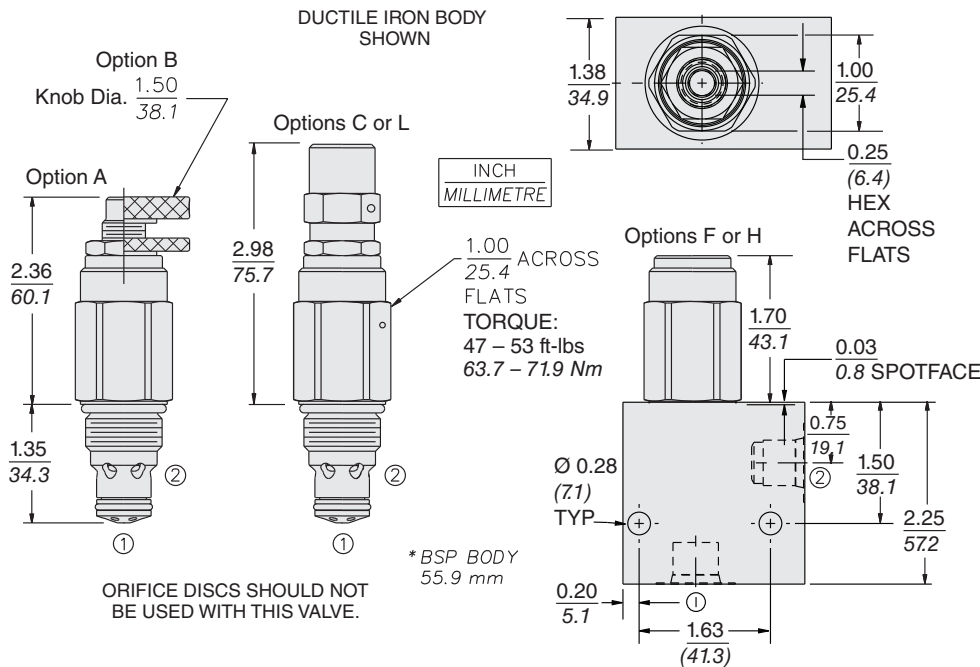
Installation: No restrictions; See page 9.020.1

Cavity: VC10-2; See page 9.110.1

Cavity Tool: CT10-2XX; See page 8.600.1

Seal Kit: SK10-2X-B; SK10-2X-M for cross-over relief application – max. pressure 207 bar (3000 psi); SK10-2U-0; See page 8.650.1.

DIMENSIONS



MATERIALS

Cartridge: Weight: Depending on adjustment option, cartridge weight varies from 0.20 to 0.25 kg. (0.44 to 0.56 lbs.) Steel with hardened work surfaces. Zinc-plated exposed surfaces. Anodized aluminum knobs.

Standard Ported Body: Weight: 0.54 kg. (1.2 lbs.). Ductile iron (Code D) rated for 350 bar (5,000 psi). Anodized, high-strength aluminum body rated to 207 bar (3000 psi) also available. See page 8.010.1

* See page 6.003.1 for A-Alt Fixed Height Adjuster details.

** If the valve is adjusted beyond the recommended maximum pressure range for any style adjuster option, the valve may not open to relieve system pressure.

TO ORDER

RVD50-20 - - - - /

Adjustment Option

Fixed Height Adjuster
1/4 in. Hex Allen Head
Option A w/ Cover Cap
Factory Preset Non-Adj.

Factory Preset
Hidden Adjustment
Option C
w/Lockwire Holes

Porting

Cartridge Only **0**
SAE 8 **8T**
1/2 in. BSP* **4B**
SAE 8 **8TD**
1/2 in. BSP* **4BD**

* BSP Body; U.K. Mfr. Only

A-Alt*

B

C

F**

H**

L

Seals

Pressure on Port 1 Only:

N Buna N (Std.)
V Fluorocarbon
HV 90 Durometer Fluorocarbon
P Polyurethane
U Urethane
***Bidirectional Pressure:**
NC Buna N
VC Fluorocarbon
HVC 90 Durometer Fluorocarbon
PC Polyurethane

*For crossover relief applications 206.8 bar (3000 psi) maximum

Setting in bar

(Blank)[†] for Adjustable, or Specify, for example:
M210 210 bar

Setting in psi

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

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

Spring Range**

08 13.8 to 58.6 bar (200 to 850 psi)
15 41.4 to 103.4 bar (600 to 1500 psi)
24 96.5 to 165.5 bar (1400 to 2400 psi)
32 137.9 to 220.6 bar (2000 to 3200 psi)
42 206.8 to 289.6 bar (3000 to 4200 psi)
50 275.8 to 350 bar (4000 to 5075 psi)

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