RV10-21F  Pressure-Regulating Relief Valve,

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

OPERATION
The RV10-21F blocks flow from 1 to 2 until sufficient pressure is present at 1 to force the poppet off its seat. The cartridge offers fast response to load changes in typical hydraulic circuits requiring low internal leakage.

FEATURES
• Several pressure codes available.
• Rapid response to pressure surges.
• Low internal leakage.
• Industry common cavity.
• Hardened spool and cage for long life.

RATINGS
Operating Pressure: 228 bar (3300 psi)
Internal Leakage: 10 drops/minute max. at 85% of crack pressure.
Crack (Set) Pressure Defined (at 0.76 lpm (0.2 gpm)):
  Pressure Code 30: 1.38 bar to 2.76 bar (20 psi to 40 psi)
  Pressure Code 100: 6.21 bar to 7.59 bar (90 psi to 110 psi)
  Pressure Code 150: 9.66 bar to 11.04 bar (140 psi to 160 psi)
Flow Limit:
  Pressure Code 30: 11.36 lpm (3 gpm)
  Pressure Code 100: 20.82 lpm (5.5 gpm)
  Pressure Code 150: 24.60 lpm (6.5 gpm)
Reseat Pressure: Nominal 85% of crack pressure
Storage Temperature: -40 to 100°C (-40 to 212°F) with standard Buna N seals;
  -26 to 204°C (-15 to 400°F) with fluorocarbon seals;
  -54 to 107°C (-65 to 225°F) with polyurethane 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: VC10-2; See page 9.110.1
Cavity Tool: CT10-2XX; See page 8.600.1
Seal Kit: SK10-2X-B; See page 8.650.1

FLOW RATE lpm/gpm

Differential Pressure vs Flow
32 cSt/150 sus oil at 40°C (104°F)
## Spool-Type

### RV10-21F

#### DIMENSIONS

![Dimensions Diagram](image)

#### MATERIALS

**Cartridge:** Weight: 0.09 kg. (0.20 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:
0.16 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

**RV10-21F**

<table>
<thead>
<tr>
<th>Porting</th>
<th>Pressure Code</th>
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<tbody>
<tr>
<td>Cartridge Only</td>
<td>30</td>
</tr>
<tr>
<td>SAE 6</td>
<td>1.4 to 2.8 bar (20 to 40 psi)</td>
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<tr>
<td>SAE 8</td>
<td>100</td>
</tr>
<tr>
<td>1/4 in. BSP*</td>
<td>6.2 to 7.6 bar (90 to 110 psi)</td>
</tr>
<tr>
<td>3/8 in. BSP*</td>
<td>150</td>
</tr>
<tr>
<td>1/2 in. BSP*</td>
<td>9.7 to 11.0 bar (140 to 160 psi)</td>
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</tbody>
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*BSP Body; U.K. Mfr. Only

**Seals**

- Buna N (Std.) N
- Fluorocarbon V
- Polyurethane P