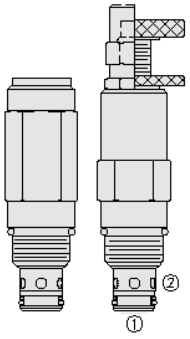
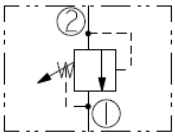
# RELIEF VALVE CARTRIDGE DIRECT ACTING POPPET

## Overview




*SYMBOL*




### Description

RV10-22X is a screw in, cartridge style, direct acting, differential area, poppet type hydraulic relief valve intended for use as a pressure limiting device in more demanding hydraulic circuits requiring low hysteresis and low internal leakage.

### Operation

The RV10-22X blocks flow from port 2 to port 1 until sufficient pressure is present at port 2 to force the poppet from its seat. The cartridge offers smooth transition in response to loads in common hydraulic circuits.

### Features

- Adjustments cannot be backed out of the valve.
- Adjustments options A, B, and C: positive stops prevent springs from going solid.
- Hardened poppet and cage for long life.
- Optional spring ranges to 241 bar (3500 psi).
- Rapid response to pressure surges.
- Industry-common size.

## Ratings

### Pressure Ratings

**Pressure rating:** 241.3 bar (3500 psi)

**Proof pressure:** 482.6 bar (7000 psi)

**Burst pressure:** 965.3 bar (14000 psi)

**Relief pressure defined:** Pressure evident at 0.95 lpm (0.25 gpm)

### Flow Ratings

**Flow rating:** 113.6 lpm (30 gpm)

**Maximum internal leakage:** 5 drops/min

### Temperature Ratings

**Operating fluid temperature:** -40 to 100 °C (-40 to 212 °F) note: With buna N seals

-26 to 204 °C (-15 to 400 °F) note: With fluorocarbon seals

-54 to 107 °C (-65 to 225 °F) note: With polyurethane seals

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

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

### Other Ratings

**Corrosion protection:** GRV10-22X 960 hr salt spray per ASTM b117

## Operating Parameters

**Fluids:** Mineral based or synthetic hydraulic fluid with lubricating properties

**Fluid viscosity range:** 7.4 to 420 cSt

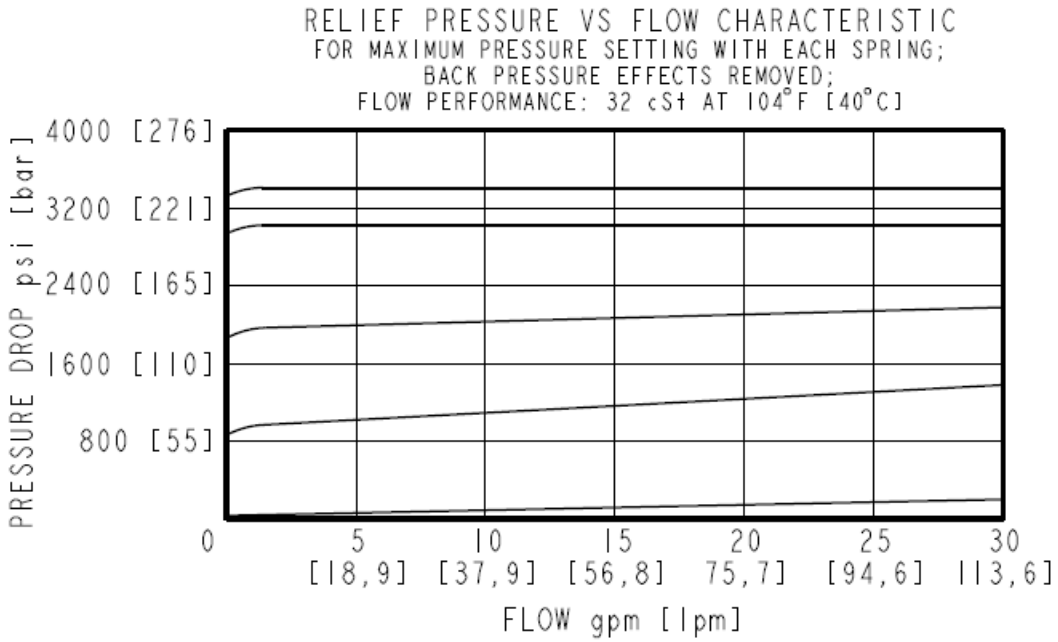
**Maximum operating contamination level:** 18/16/13 per ISO 4406

RELIEF VALVE CARTRIDGE DIRECT ACTING POPPET

## Properties

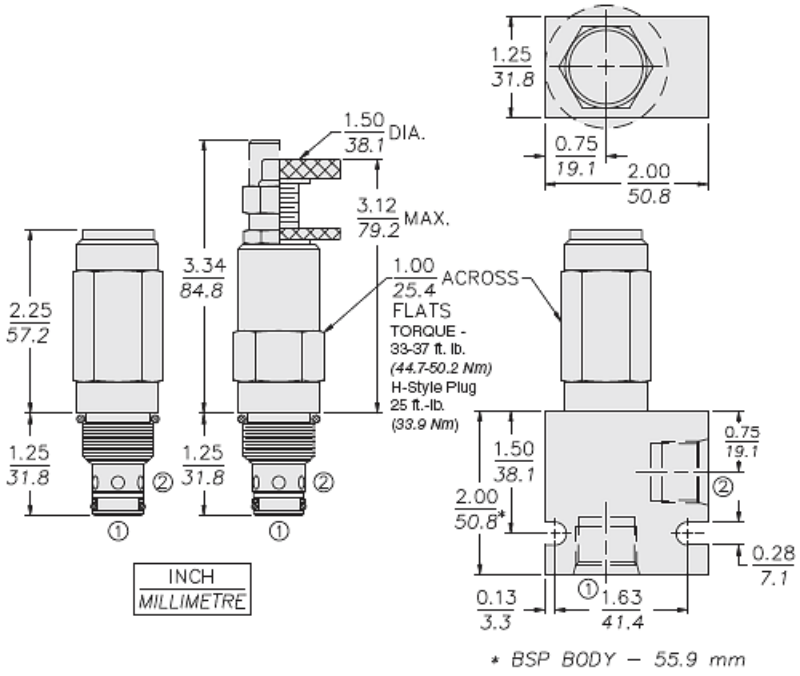
**Unit weight:** 0.231 kg (0.51 lb) note: RV10-22A
0.254 kg (0.56 lb) note: RV10-22B
0.276 kg (0.61 lb) note: RV10-22C, RV10-22L
0.222 kg (0.49 lb) note: RV10-22F, RV10-22H
**Internal wetted surface area:** 114 $cm^2$ (17.7 $in^2$) note: A, B, C and L
126 $cm^2$ (19.5 $in^2$) note: F and H

## Performance



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## Dimensions




## Installation Specifications

**Cavity:** VC10-2

10-size-2-way Cavities

**Cartridge installation torque:** 33.9 to 36.7 N-m (25 to 27 ft-lb)

66.7 N-m (50 ft-lb) note: Maximum allowable

**Adjuster cap torque:** 32.5 to 35.3 N-m (24 to 26 ft-lb)

**Orientation restriction:** None

## Accessories

**Seal kit:** SK10-2X-T note: X = N, V, P

SK10-2X-M note: For bidirectional operation

SK10-2X-O note: X = U

Seal kit installation instructions

**Housings:** Available 10-2w valve bodies

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## Order Code

ORDERING INFORMATION:
XRV10-22X-X-XX-XX/XXXX

**PROTECTION OPTION:**
STANDARD PLATING - OMIT
960 HOUR PROTECTION - G

**BASE MODEL NUMBER:**

**ADJUSTMENT OPTIONS:**
0.25 [6,4] HEX ALLEN HEAD - A
Ø1.50 [38,1] ALUMINUM KNOB - B
OPTION "A" WITH COVER CAP - C
FACTORY PRESET NONADJUSTABLE - F
FACTORY PRESET HIDDEN ADJUSTMENT - H
OPTION "C" WITH LOCK WIRE HOLES - L

**PORTING:**
CARTRIDGE ONLY - 0

**SEAL OPTION:**
PRESSURE ON PORT 2 ONLY
BUNA N - N
FLUOROCARBON - V
POLYURETHANE - P
URETHANE - U
BIDIRECTIONAL PRESSURE
BUNA N - NC
FLUOROCARBON - VC
POLYURETHANE - PC

**SPRING RANGE:**
100 TO 600 psi - 06
[6,9 TO 41,4 bar]
150 TO 1300 psi - 13
[10,3 TO 89,6 bar]
250 TO 2500 psi - 25
[17,2 TO 172,4 bar]
300 TO 3500 psi - 35
[20,7 TO 241,3 bar]

**PRESSURE SETTING:**
FOR EXAMPLE:
(IN psi)
3500 psi - 35
(IN bar)
150 bar - M150

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## Model Options

**RV10-22F-H-J-R/S**

*F Adjustment Option*

| CODE | DESCRIPTION |
|---|---|
| A | 1/4" Hex Allen Head |
| B | 1-1/2" Diameter Aluminum Knob with Aluminum Lock Knob |
| C | 1/4" Hex Allen Head with Cover Cap |
| F | Factory Preset Non-Adjustable |
| H | Factory Preset Hidden Adjustment |
| L | 1/4" Hex Allen Head with Cover Cap and Lockwire Holes |

*H Line Body*

| CODE | DESCRIPTION |
|---|---|
| 0 | No Body |
| 6T | Aluminum SAE 6 |
| 8T | Aluminum SAE 8 |
| 6TD | Ductile Iron SAE 6 |
| 8TD | Ductile Iron SAE 8 |
| 2B | Aluminum BSPP 1/4" (2) |
| 3B | Aluminum BSPP 3/8" (3) |
| 4B | Aluminum BSPP 1/2" (4) |
| 4BD | Ductile Iron BSPP 1/2" (4) |

*J Seal*

| CODE | DESCRIPTION |
|---|---|
| N | Buna-N |
| NC | Buna-N for Crossover Applications |
| V | Fluorocarbon |
| VC | Fluorocarbon for Crossover Applications |
| P | Polyurethane |
| PC | Polyurethane for Crossover Applications |
| U | PPDI Urethane |

*R Spring*

| CODE | DESCRIPTION |
|---|---|
| 06 | 6.9 to 41.5 bar (100 to 600 psi) Spring Range |
| 13 | 10.3 to 89.6 bar (150 to 1300 psi) Spring Range |
| 25 | 17.2 to 172.4 bar (250 to 2500 psi) Spring Range |
| 35 | 20.7 to 241.3 bar (300 to 3500 psi) Spring Range |

*S Setting*

| CODE | DESCRIPTION |
|---|---|
| MXXX | Spring Setting in XXX bar |
| XX | Spring Setting in XX psi (x 100) |