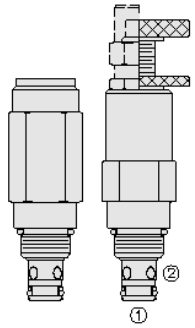
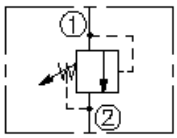
RELIEF VALVE CARTRIDGE DIRECT ACTING POPPET TYPE

Overview



SYMBOL



Description

RV08-20X is a screw in, cartridge style, direct acting, poppet type, hydraulic relief valve intended for lower flow circuits requiring low internal leakage.

Operation

RV08-20X blocks flow from port 1 to port 2 until sufficient pressure is present at port 1 to force the spring opposed poppet off its seat.

Features

- Adjustments cannot be backed out of the valve.
- Variety of pressure adjustment options including non-adjustable factory preset.
- Adjustments options A, B, and C: positive stops prevent springs from going solid.
- Optional spring ranges to 248 bar (3600 psi).
- Rapid response to pressure changes.
- Optional bi-directional pressure (requires bi-directional pressure seal option).
- Compact size.

Notes

- Comparable pressure and flow ratings
- Comparable response rate
- Better pressure rise characteristics
- Smaller size
- No dynamic seal
- Competitive cost
- VC08-2B cavity variation is required. Some manifolds may allow drop-in replacement.
- Assistance is available to evaluate your application

Ratings

Pressure Ratings

Pressure rating: 275.8 bar (4000 psi)
482.6 bar (7000 psi)
Burst pressure: 896.3 bar (13000 psi)
Relief pressure defined: Pressure evident at
0.95 lpm (0.25 gpm)
Reseat pressure: Nominal 80% of crack

Flow Ratings

Flow rating: 22.7 lpm (6 gpm)
Maximum internal leakage: 0.25 ml/min (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 urethane seals with polyurethane seals
Storage temperature: -40 to 70 °C (-40 to 160 °F)
Ambient temperature: -40 to 70 °C (-40 to 160 °F)

RELIEF VALVE CARTRIDGE DIRECT ACTING POPPET TYPE

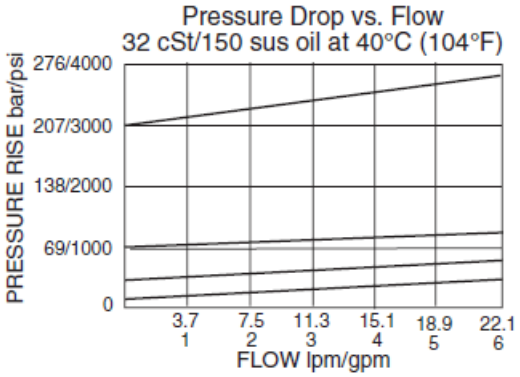
Operating Parameters

Fluids: Mineral based or synthetic with lubricating properties
Fluid viscosity range: 7.4 to 420 cSt
Maximum operating contamination level: 18/16/13 per ISO 4406

Properties

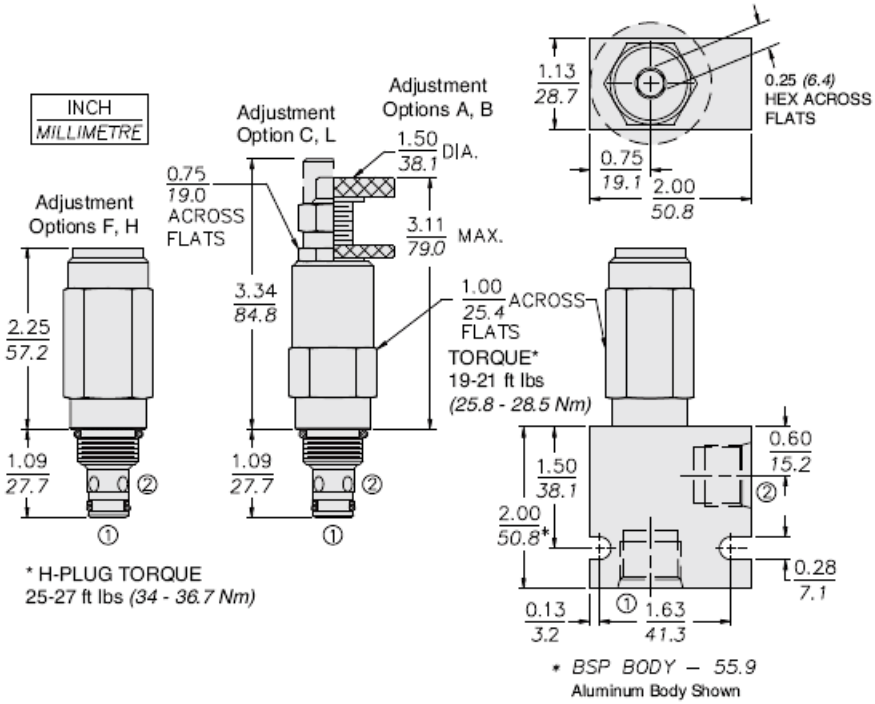
Unit weight: 0.17 kg (0.37 lb) note: A
0.19 kg (0.42 lb) note: B
0.22 kg (0.47 lb) note: C I
0.16 kg (0.35 lb) note: F h
Internal wetted surface area: 141 cm^2 (21.9 in^2) note: A b c I
166 cm^2 (25.7 in^2) note: F h

Performance



RELIEF VALVE CARTRIDGE DIRECT ACTING POPPET TYPE

Dimensions



Installation Specifications

Cavity: VC08-2

08-size-2-way Cavities

Cartridge installation torque: 25.8 to 28.5 N-m (19 to 21 ft-lb)

Maximum allowable torque: 40.7 N-m (30 ft-lb)

H style plug torque: 10.8 to 13.6 N-m (8 to 10 ft-lb) note: N V P U

34 N-m (25 ft-lb) note: NC VC PC max

Orientation restriction: None

Accessories

Seal kit: SK08-2X-B note: X=seal option

SK08-2X-M note: X=seal option

SK08-2U-O note: X=seal option

Seal kit installation instructions

Housings: Available 08-2w valve bodies

RELIEF VALVE CARTRIDGE DIRECT ACTING POPPET TYPE

Order Code

RV08-20__ - __ __ __ - __ - __ __ / __ __ __ __

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

*** 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 4	4T
SAE 6	6T
SAE 6	6TD
SAE 8	8T
SAE 8	8TD
1/4 in. BSP*	2B
3/8 in. BSP*	3B
3/8 in. BSP*	3BD

*BSP Body; U.K. Mfr. Only

Seals

Pressure on Port 1 Only:

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

Bidirectional Pressure:

NC	Buna N
VC	Fluorocarbon
PC	Polyurethane
U	Urethane

Setting in bar

(Blank)† for Adjustable, or Specify, for example:
M150 150 bar

Setting in psi

(Blank)† for Adjustable, or Specify, for example:
03.5 350 psi

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

Spring Range

5	3.4 to 41.4 ± 6.9 bar (50 to 600 ± 100 psi)
9	6.9 to 89.6 ± 13.8 bar (100 to 1300 ± 200 psi)
18	17.2 to 179.3 ± 20.7 bar (250 to 2600 ± 300 psi)
33	17.2 to 278.8 ± 27.6 bar (250 to 4000 ± 400 psi)

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

Model Options

RV08-20F-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
4T	Aluminum SAE 4
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)
3BD	Ductile Iron BSPP 3/8" (3)

J Seal

CODE	DESCRIPTION
N	Buna-N
NC	Buna-N for Crossover Applications
V	Fluorocarbon
VC	Fluorocarbon for Crossover Applications

RELIEF VALVE CARTRIDGE DIRECT ACTING POPPET TYPE

CODE	DESCRIPTION
P	Polyurethane
PC	Polyurethane for Crossover Applications
U	PPDI Urethane

R Spring

CODE	DESCRIPTION
05	3.4 to 34.5 bar (50 to 500 psi) Spring Range
09	6.9 to 75.8 bar (100 to 1300 psi) Spring Range
18	17.2 to 158.6 bar (250 to 2300 psi) Spring Range
33	17.2 to 251.2 bar (250 to 3600 psi) Spring Range

S Setting

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