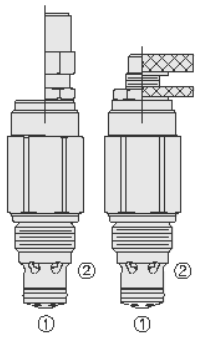
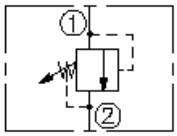
RELIEF VALVE

Overview



SYMBOL



Description

The xrvd50-20x is a screw-in, cartridge style, direct acting poppet type relief valve intended for use as a pressure limiting device for common hydraulic circuit protection.

Operation

The xrvd50-20x blocks flow from port 1 to port 2 until sufficient pressure is present at port 1 to force the poppet off its seat. The cartridge offers fast response to load changes in circuits requiring low hysteresis, low pressure rise, and low internal leakage.

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 345 bar (5000 psi).
- Rapid response to pressure changes.
- Industry-common cavity.

Ratings

Pressure Ratings

Pressure rating: 413.7 bar (6000 psi)

Proof pressure: 785.4 bar (11000 psi)

Burst pressure: 1515.8 bar (22000 psi)

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

Reseat pressure: Nominal 85% of crack pressure

1 ml/min (20 drops/min)

Flow Ratings

Flow rating: 113.6 lpm (30 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 polyurethane seals

-54 to 107 °C (-65 to 225 °F) note: With urethane 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: 960 hr salt spray per ASTM b117 (grvd50-20x)

Operating Parameters

Fluids: Mineral based or synthetic with lubricating properties

Fluid viscosity range: 7.4 to 420 cSt

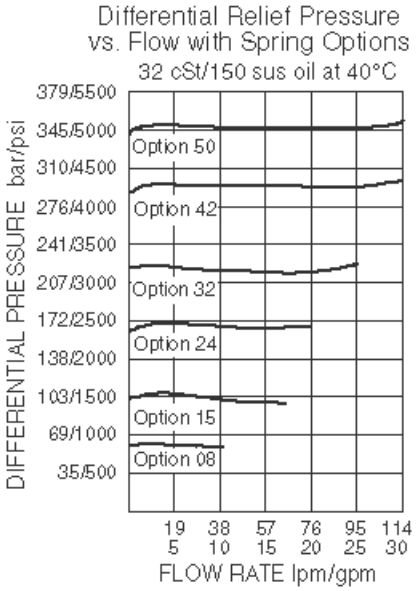
Maximum operating contamination level: 18/16/13 per ISO 4406

RELIEF VALVE

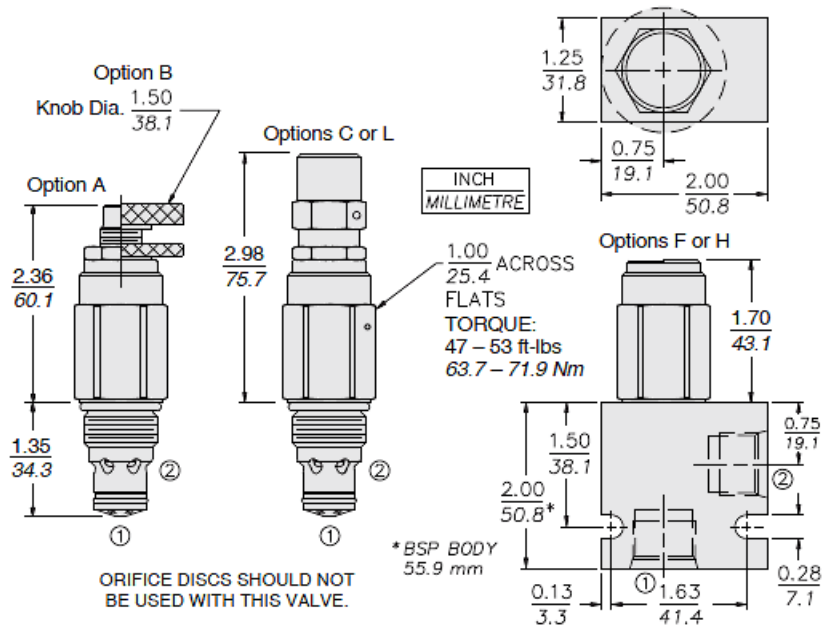
Properties

Unit weight: 0.21 kg (0.46 lb) note: A
0.23 kg (0.51 lb) note: B
0.25 kg (0.56 lb) note: C I
0.20 kg (0.44 lb) note: F h
Internal wetted surface area: 158 cm^2 (24.6 in^2) note: A b c I
151 cm^2 (23.3 in^2) note: F h

Performance



Dimensions



RELIEF VALVE

Installation Specifications

Cavity: VC10-2

10-size-2-way Cavities

Cartridge installation torque: 63.7 to 71.9 N-m (47 to 53 ft-lb)

Orientation restriction: None

Accessories

Seal kit: SK10-2X-B note: X = n, v, HV, P

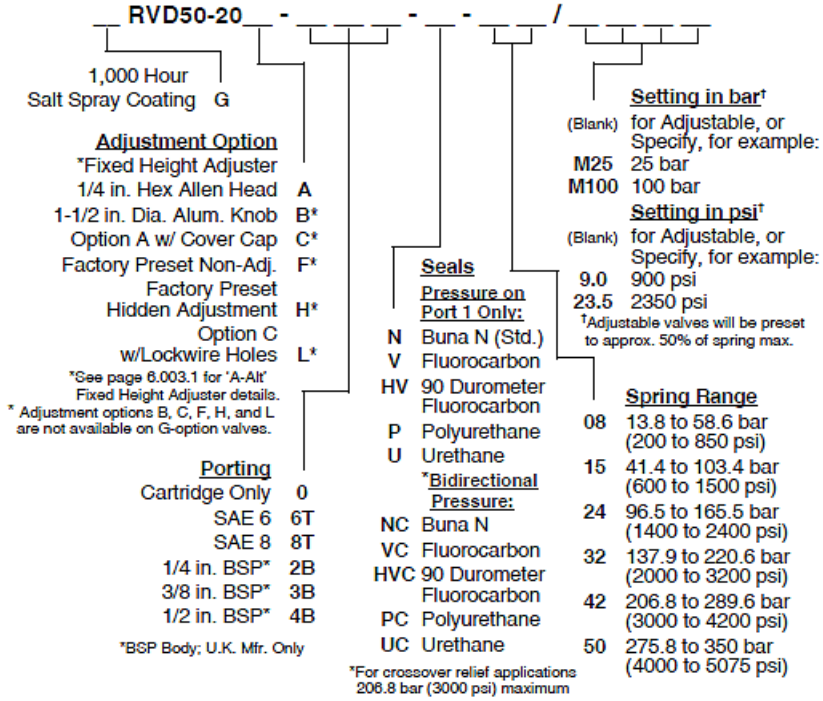
SK10-2X-M note: X = NC, VC, HVC, PC

SK10-2X-O note: X = U

Seal kit installation instructions

Housings: Available 10-2w valve bodies

Order Code



Model Options

RVD50-20F-H-J-R/S

F Adjustment Option

CODE	DESCRIPTION
A	1/4" Hex Allen Head
B	1-1/2" Diameter Aluminum 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
P	PED 2014/68/EC

RELIEF VALVE

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
HV	High Durometer Fluorocarbon
VC	Fluorocarbon for Crossover Applications
P	Polyurethane
U	PPDI Urethane

R Spring

CODE	DESCRIPTION
08	13.7 to 58.6 bar (200 to 850 psi) Spring Range
15	41.4 to 103.4 bar (600 to 1500 psi) Spring Range
24	96.5 to 165.5 bar (1400 to 2400 psi) Spring Range
32	137.9 to 220.6 bar (2000 to 3200 psi) Spring Range
42	206.8 to 289.6 bar (3000 to 4200 psi) Spring Range
50	275.8 to 350 bar (4000 to 5075 psi) Spring Range

S Setting

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