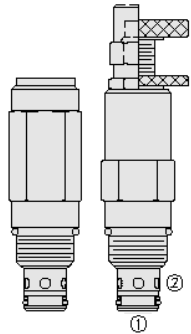
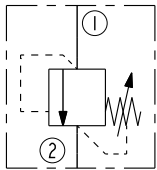


Relief valve cartridge direct acting poppet

Overview



SYMBOL



Description

RV10-20X 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. It is intended for use in mineral based or synthetic (with lubricating properties) hydraulic fluids. GRV10-20 not recommended for crossover applications

Operation

The RV10-20X blocks flow from port 1 to 2 until sufficient pressure is present at port 1 to force the poppet from its seat. The cartridge offers fast response to load changes in typical hydraulic circuits requiring low internal leakage.

Ratings

Pressure Ratings

Pressure rating: 3300 psi [228 bar] note: RV10-20X

3300 psi [228 bar] note: GRV10-20X (port 1)

500 psi [34.5 bar] note: GRV10-20X (port 2)

Proof pressure: 7500 psi [517.1 bar]

Burst pressure: 15000 psi [1037.7 bar]

Flow Ratings

Flow rating: 10 gpm [38 lpm] note: At Max pressure

Maximum internal leakage: 5 drops/min [0.25 ml/min]

Temperature Ratings

Operating fluid temperature: -40 °f to 212 °f [-40 °c to 100 °c] note: With Buna N seals

-15 °f to 400 °f [-26 °c to 204 °c] note: With fluorocarbon seals

-65 °f to 225 °f [-54 °c to 107 °c] note: With polyurethane seals

Storage temperature: -40 °f to 160 °f [-40 °c to 70 °c]

Ambient temperature: -40 °f to 160 °f [-40 °c to 70 °c]

Operating Parameters

Control pressure setting: Pressure evident at 0.25 gpm [0.95 lpm]

Adjustable pressure range: 100-3000 psi [6.9-206.8 bar]

Fluids: Mineral based or synthetic with Lubricating properties.

Fluid viscosity range: 7.4-420 cSt

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

Relief valve cartridge direct acting poppet

Properties

Corrosion protection: Type iii clear zinc plating per ASTM B633 note: RV10-20X

960 hour salt spray per ASTM B117 note: GRV10-20X

Unit weight: 0.51 lb [0.231 kg] note: A

0.56 lb [0.254 kg] note: B

0.61 lb [0.277 kg] note: C/I

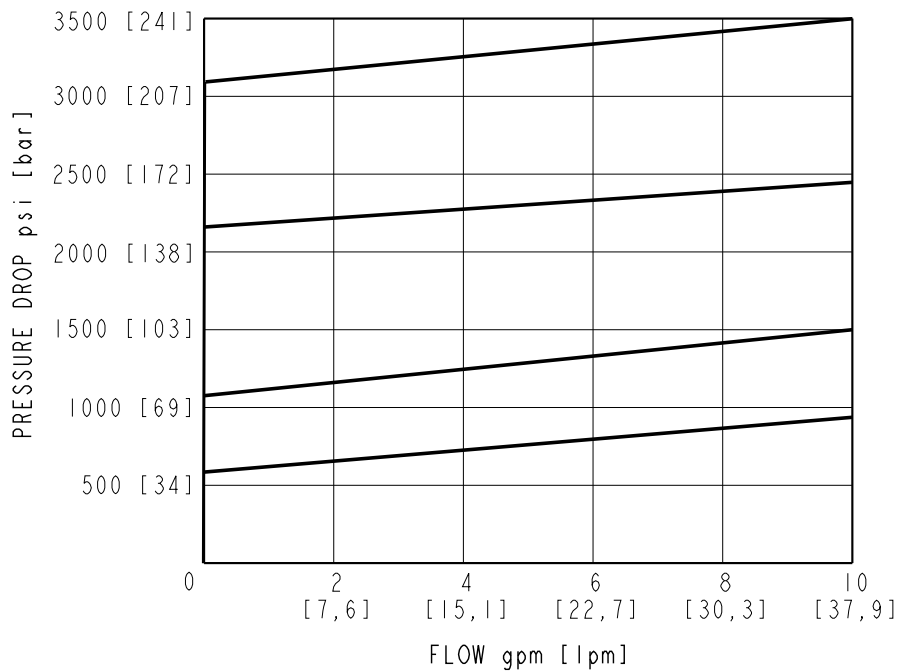
0.49 lb [0.222 kg] note: F/h

Internal wetted surface area: 20.6 in² [133 cm²] note: A/b/c/I

23.3 in² [150 cm²] note: F/h

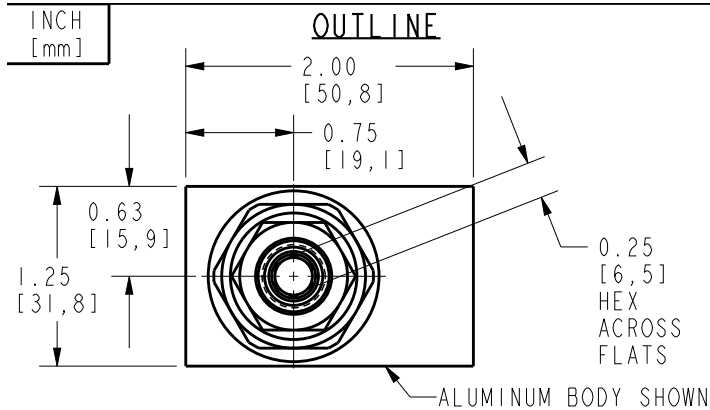
Performance

RELIEF PRESSURE VS FLOW CHARACTERISTIC
FOR MAXIMUM PRESSURE SETTING WITH EACH SPRING;
BACK PRESSURE EFFECTS REMOVED
FLOW PERFORMANCE: 32 cSt AT 104°F [40°C]

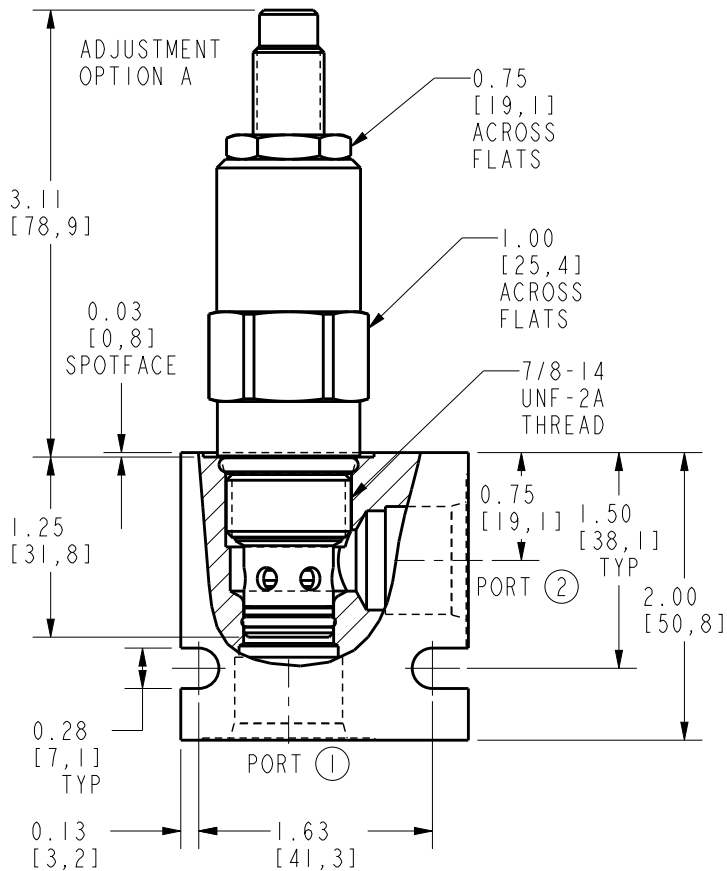


Relief valve cartridge direct acting poppet

Dimensions



FOR OTHER ADJUSTMENT OPTION INFORMATION, SEE PRESSURE CONTROL ADJUSTMENT OPTION OUTLINE DRAWING



ALL DIMENSIONS ARE FOR REFERENCE ONLY

Installation Specifications

Cavity: VC10-2

Cartridge installation torque: 25-27 ft-lb [33.9-36.7 N-m]

Maximum allowable torque: 50 ft-lb [66.7 N-m]

24-26 ft-lb [32.5-35.3 N-m] note: "H" style plug

Relief valve cartridge direct acting poppet

Orientation restriction: None

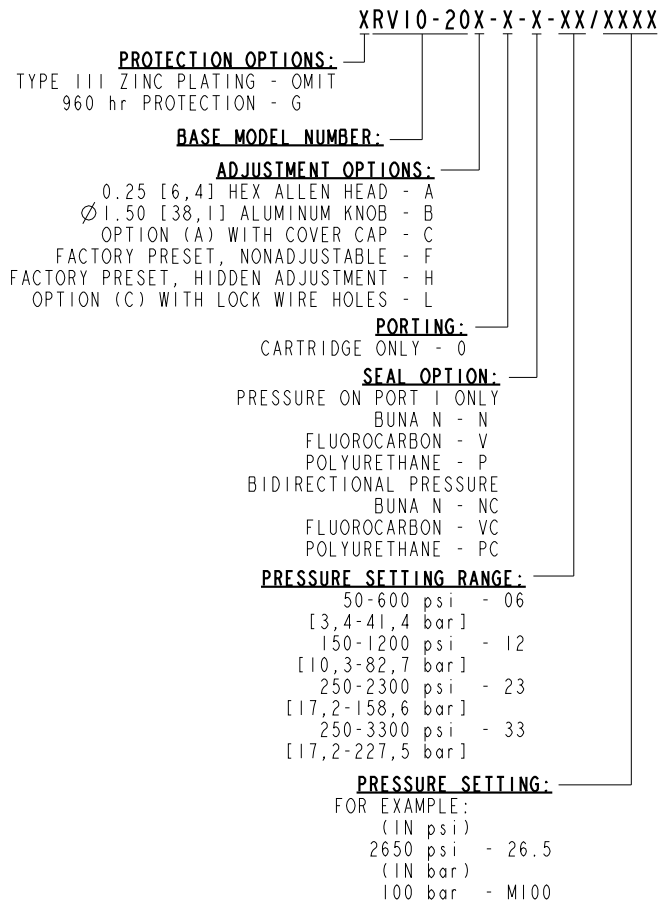
Accessories

Seal kit: SK10-2X-B note: Pressure at Port 1 only (X = seal option)

SK10-2X-M note: Crossover relief application (X = seal option)

Order Code

ORDERING INFORMATION:



Model Options

RV10-20F-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

Relief valve cartridge direct acting poppet

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	3.4 to 41.4 bar (50 to 600 psi) Spring Range
12	10.3 to 82.7 bar (150 to 1200 psi) Spring Range
23	17.2 to 158.6 bar (250 to 2300 psi) Spring Range
33	17.2 to 227.5 bar (250 to 3300 psi) Spring Range

S Setting

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