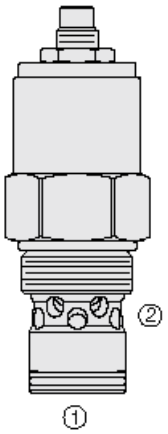
Overview



Description

The RVCV56-20X is a screw-in, cartridge, direct acting poppet relief valve with reverse flow check valve.

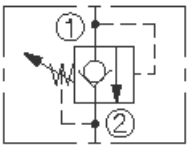
Operation

This device is intended for use as a pressure limiter and regulator in demanding hydraulic circuits which require fast response, low hysteresis, low leakage, low pressure override, and reverse free flow features. The RVCV56-20X blocks flow from port 1 to port 2 until sufficient pressure at port 1 will displace poppet from the seat. Relief flow discharges to port 2. Reverse flow occurs from port 2 to port 1 when differential pressure between port 2 and port 1 exceed check spring value.

Features

- Maximum pressure 420.6 bar (6100 psi) at port 1. Adjustments cannot be backed out of the valve. Adjustments prohibit springs from going solid. Hardened spool and cage for long life. Fast, smooth response to pressure surges.

Symbol



Ratings

Pressure Ratings

Pressure rating	420.6 bar (6100 psi)	**- Note:** Port 1
	68.9 bar (1000 psi)	**- Note:** Port 2
Proof pressure	482.6 bar (7000 psi)	
Burst pressure	965.3 bar (14000 psi)	
Overshoot	Less than 20% of setting	
Pressure setting range	137.9 to 420.6 bar (2000 to 6100 psi)	**- Note:** Port 1 to 2
Crack pressure defined	Pressure evident at 0.95 lpm (0.25 gpm)	
Reseat pressure	Port 1 to port 2 85% of crack maximum	
Crack pressure	0.34 bar (5 psi)	

Flow Ratings

Flow rating	113.6 lpm (30 gpm)	**- Note:** Port 1 to 2
	174.1 lpm (46 gpm)	**- Note:** Port 2 to 1
Maximum internal leakage	0.53 ml/min (10 drops/min)	**- Note:** Port 2 at 103.4 bar (1500 psi)

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 viton 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)	

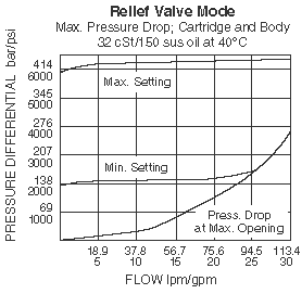
Operating Parameters

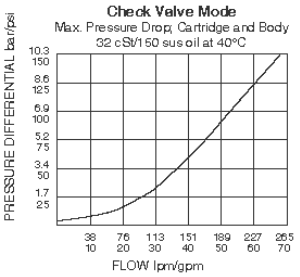
Fluids	Mineral based or synthetic with lubricating properties
Fluid viscosity range	7.4 to 420 cSt
Maximum operating contamination level	18/16/13 per ISO 4406

Properties

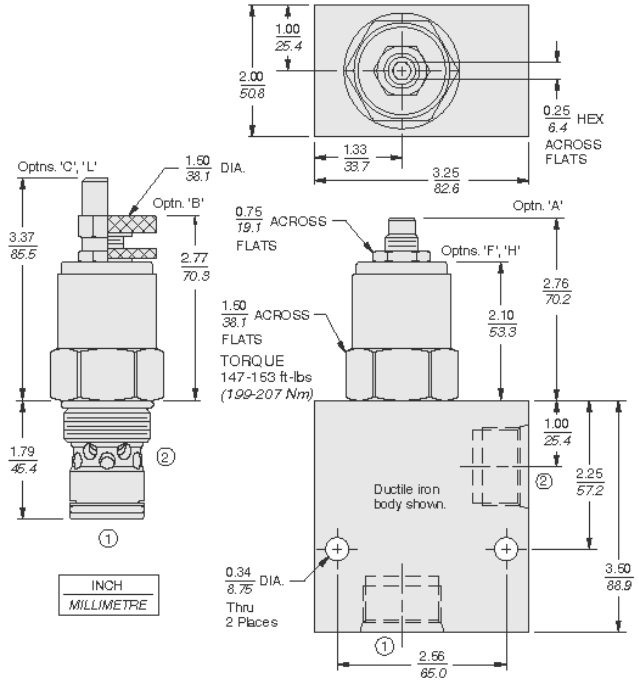
Unit weight	0.58 kg (1.28 lb)	**- Note:** A
	0.60 kg (1.33 lb)	**- Note:** B
	0.62 kg (1.36 lb)	**- Note:** C I
	0.56 kg (1.24 lb)	**- Note:** F h
Internal wetted surface area	0.68 cm² (48.2 in²)	**- Note:** A b c I
	0.68 cm² (46.2 in²)	**- Note:** F h

Performance





Dimensions



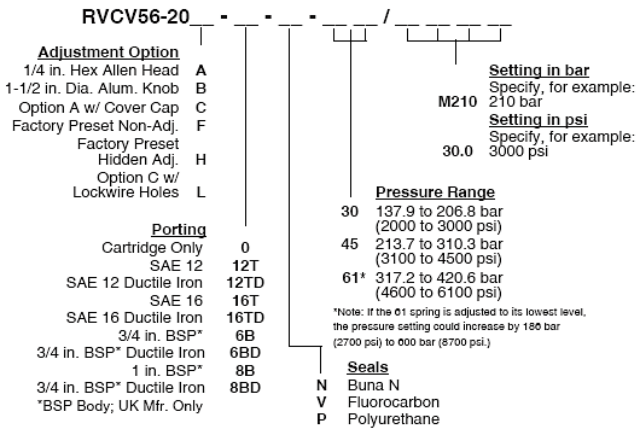
Installation Specifications

Cavity	VC16-2 variation 'a' (recommended for higher flows)
Cartridge installation torque	199 to 207.4 N-m (147 to 153 ft-lb)
Orientation restriction	None

Accessories

Seal kit	SK16-2X-B	**- Note:** X=seal option

Order Code



Model Options

RVCV56-20F-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
12T	Aluminum SAE 12
16T	Aluminum SAE 16
12TD	Ductile Iron SAE 12
16TD	Ductile Iron SAE 16
6B	Aluminum BSPP 3/4" (6)
8B	Aluminum BSPP 1" (8)
8BD	Ductile Iron BSPP 1" (8)

J Seal

CODE	DESCRIPTION
N	Buna-N
V	Fluorocarbon
P	Polyurethane

R Spring

CODE	DESCRIPTION
30	137.9 to 206.8 bar (2000 to 3000 psi) Spring Range
45	213.7 to 310.3 bar (3100 to 4500 psi) Spring Range
61	317.2 to 420.6 bar (4600 to 6100 psi) Spring Range

S Setting

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