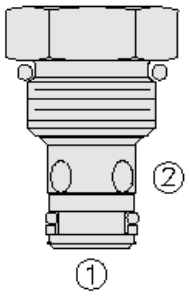
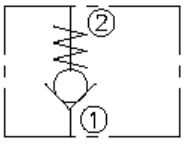
CHECK VALVE

Overview



SYMBOL



Description

The CV08-20 is a screw-in, cartridge style, hydraulic check valve for use as a blocking or load-holding device.

Operation

The cartridge valve allows flow from port 1 to 2, while normally blocking flow in the opposite direction. The cartridge valve has a fully guided check which is spring biased closed until sufficient pressure is applied at port 1 to open to port 2.

Features

- Hardened seat for long life and low leakage.
- Optional bias springs for back-pressure application flexibility.
- Fully guided check assembly.
- Compact size.
- Fast closing and seating.

Ratings

Pressure Ratings

Pressure rating: 241 bar (3500 psi)

Proof pressure: 350 bar (5075 psi)

Burst pressure: 1034 bar (15000 psi)

Flow Ratings

Flow rating: See graph

Maximum internal leakage: 0.10 ml/min (2 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 and polyurethane seals

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

Ambient temperature: -40 to 90 °C (-40 to 194 °F)

Other Ratings

Corrosion protection: 960 hour 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: 20/18/14 per ISO 4406

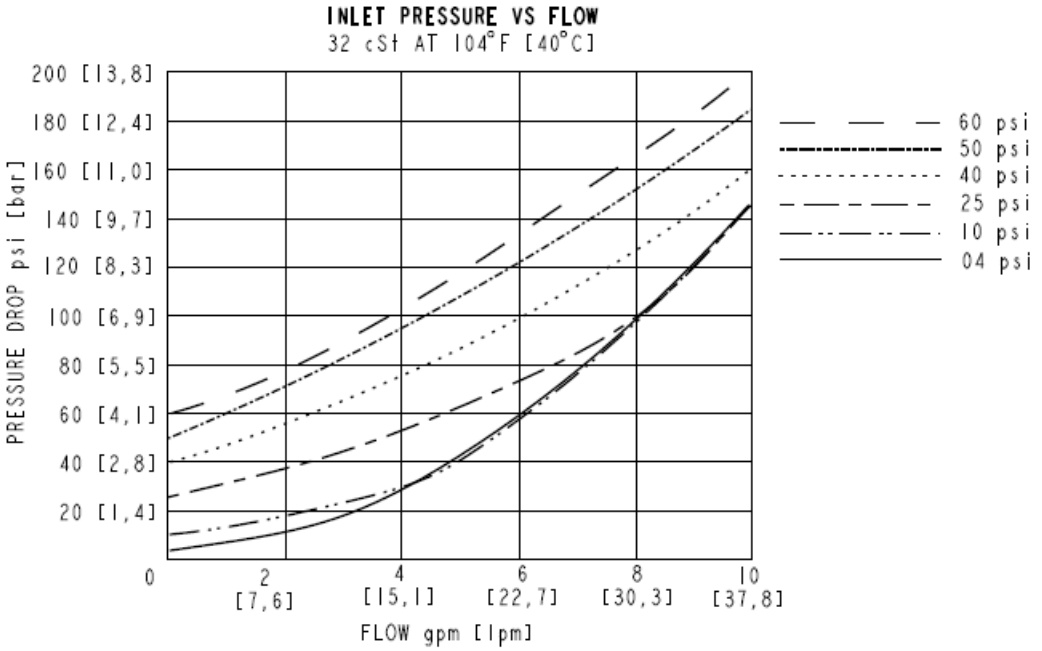
Properties

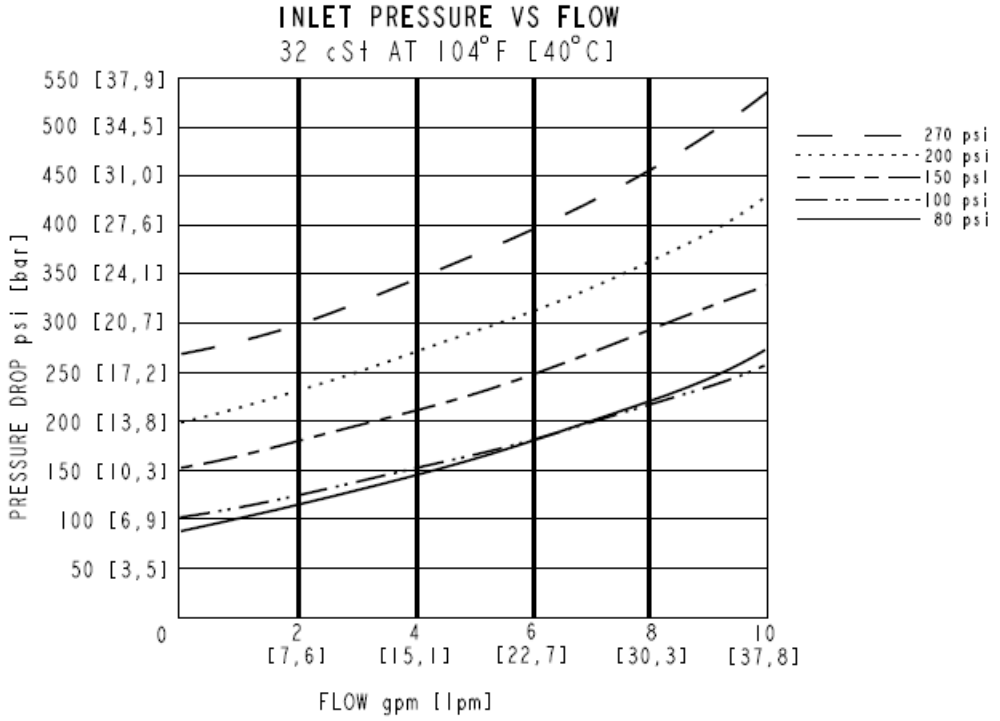
Unit weight: 0.05 kg (0.12 lb)

Internal wetted surface area: 60 cm^2 (9.3 in^2)

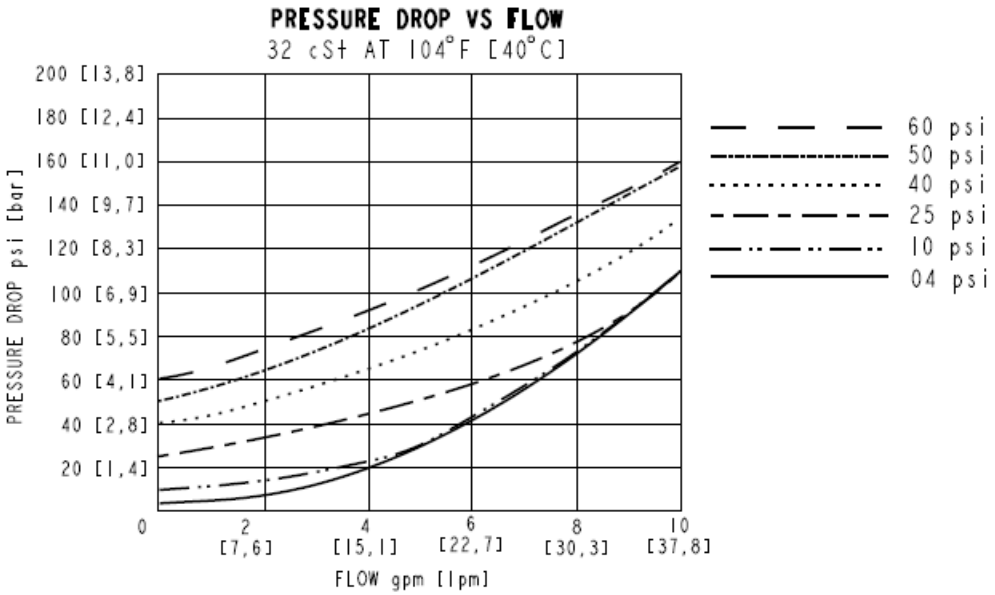
CHECK VALVE

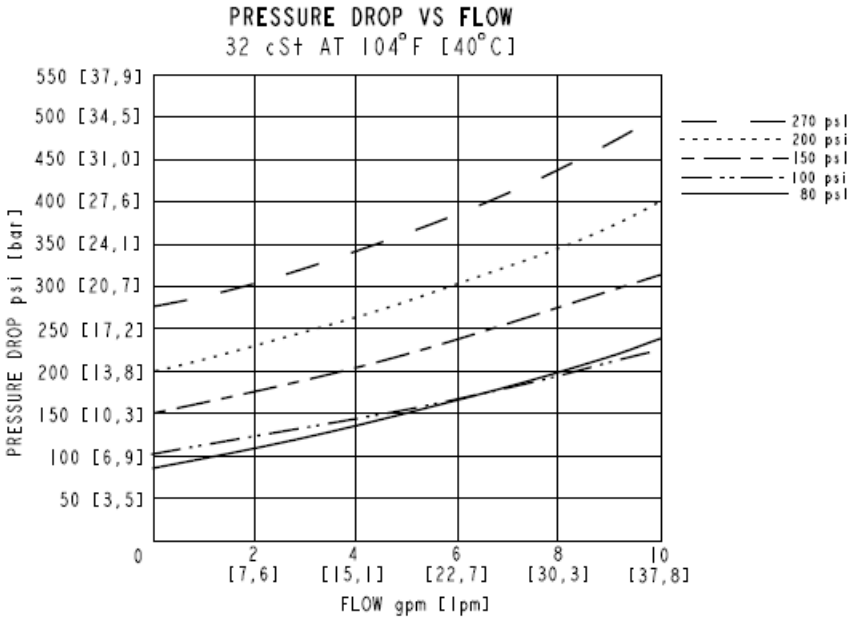
Performance





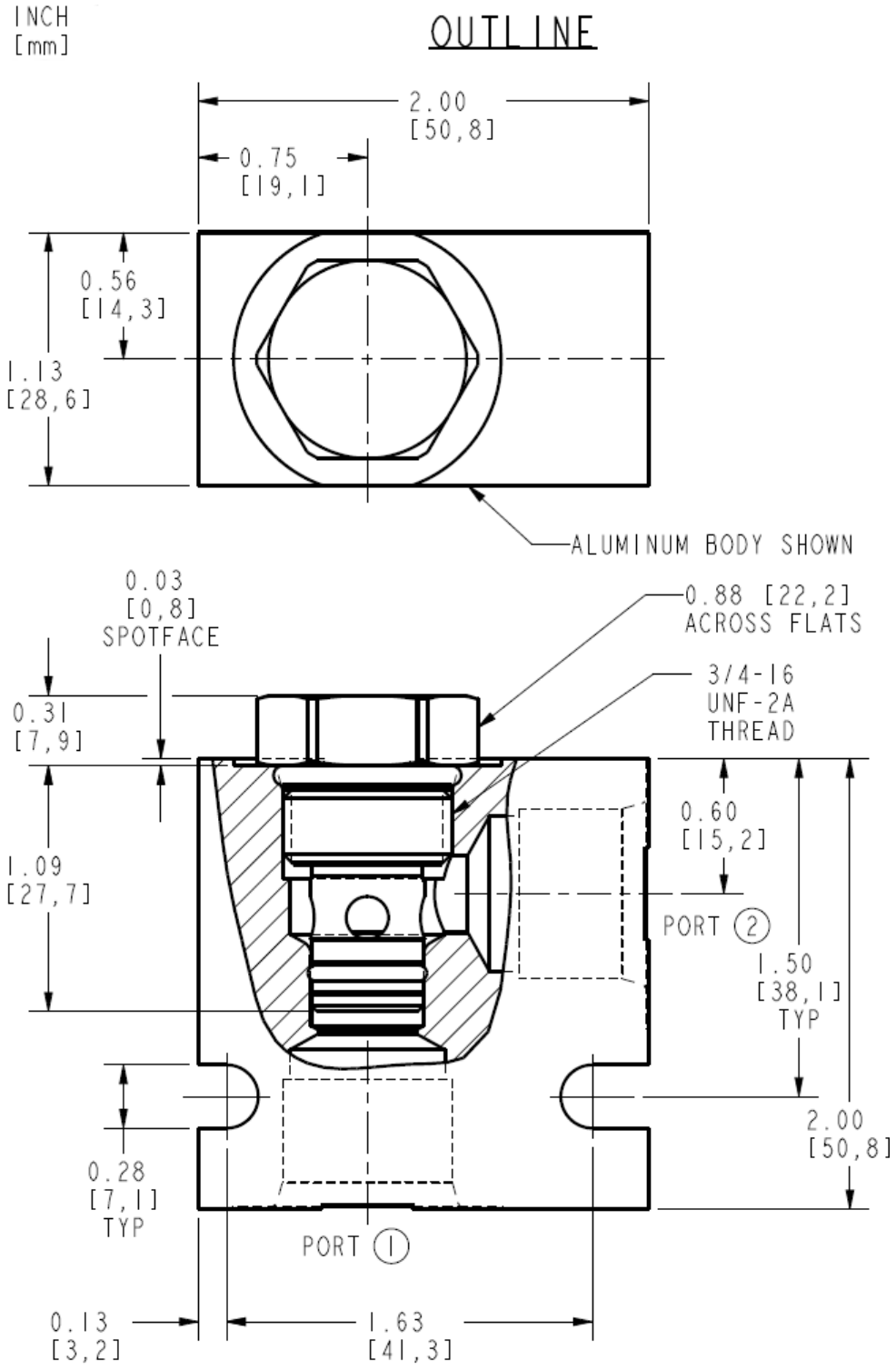
CHECK VALVE


PRESSURE DROP VS FLOW
32 cSt AT 104°F [40°C]
PRESSURE DROP psi [bar]
200 [13,8]
180 [12,4]
160 [11,0]
140 [9,7]
120 [8,3]
100 [6,9]
80 [5,5]
60 [4,1]
40 [2,8]
20 [1,4]
0
2 [7,6]
4 [15,1]
6 [22,7]
8 [30,3]
10 [37,8]
FLOW gpm [lpm]
60 psi
50 psi
40 psi
25 psi
10 psi
04 psi


PRESSURE DROP VS FLOW
32 cSt AT 104°F [40°C]
PRESSURE DROP psi [bar]
550 [37,9]
500 [34,5]
450 [31,0]
400 [27,6]
350 [24,1]
300 [20,7]
250 [17,2]
200 [13,8]
150 [10,3]
100 [6,9]
50 [3,5]
0
2 [7,6]
4 [15,1]
6 [22,7]
8 [30,3]
10 [37,8]
FLOW gpm [lpm]
270 psi
200 psi
150 psi
100 psi
80 psi

CHECK VALVE

Dimensions



ALL DIMENSIONS ARE FOR REFERENCE ONLY.

CHECK VALVE

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: 54 N-m (40 ft-lb)
Orientation restriction: None

Accessories

Seal kit: SK08-2N-T note: Buna N
SK08-2V-T note: Fluorocarbon
SK08-2HV-T note: Fluorocarbon
SK08-2P-T note: Polyurethane
SK08-2U-O note: Urethane
Seal kit installation instructions
Housings: Available 08-2w valve bodies

Order Code

ORDERING INFORMATION:
XCV08-20-X-X-XXX

PLATING
STANDARD PLATING - BLANK
PLATING FOR 960 hr SALT SPRAY - G

BASE MODEL NUMBER

PORTING:
CARTRIDGE ONLY - 0

SEALS:
BUNA N - N
FLUOROCARBON - V
FLUOROCARBON - HV
URETHANE - U
POLYURETHANE - P

BIAS SPRING VALUE:
4 psi [0,3 bar] - 4
10 psi [0,7 bar] - 10
25 psi [1,7 bar] - 25
40 psi [2,8 bar] - 40
50 psi [3,4 bar] - 50
60 psi [4,1 bar] - 60
100 psi [6,9 bar] - 100
150 psi [10,3 bar] - 150
200 psi [13,8 bar] - 200
270 psi [18,3 bar] - 270
363 psi [25,0 bar] - M25

CHECK VALVE

Model Options

CV08-20-H-J-R

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
V	Fluorocarbon
P	Polyurethane
U	PPDI Urethane

R Spring

CODE	DESCRIPTION
4	4 psi Bias Spring
10	10 psi Bias Spring
25	25 psi Bias Spring
40	40 psi Bias Spring
50	50 psi Bias Spring
60	60 psi Bias Spring
80	80 psi Bias Spring
100	100 psi Bias Spring
150	150 psi Bias Spring
200	200 psi Bias Spring
270	270 psi Bias Spring
M25	25 bar Bias Spring