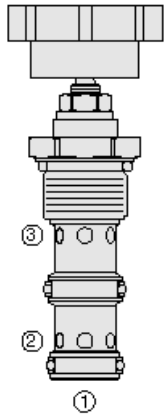


Adjustable pressure compensated priority flow regulator valve cartridge

Overview



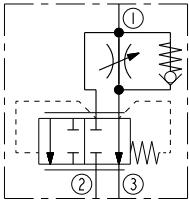
Description

FR12-33X is a screw-in, an adjustable, pressure compensated, type with reverse flowcheck flow control valve

Operation

The regulated flow increases from closed to fully open with counter-clockwise adjustment rotation. The valve will maintain the set flow regardless of pressure variations on the regulated or bypass port.

SYMBOL



Ratings

Pressure Ratings

Pressure rating: 3500 psi [242 bar]

Proof pressure: 5000 psi [345 bar]

Burst pressure: 13000 psi [896 bar]

Flow Ratings

Maximum internal leakage: 7.3 in³ [0.12 lpm] Port 3 note: With 3000 psi [207 bar] at port 1 Port 2 closed

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]

Input flow rate: 20.0 gpm [76 lpm] note: Nominal

30.0 gpm [114 lpm] note: Maximum

Priority flow rate: 18.0 gpm [68 lpm] note: Maximum

Operating Parameters

Fluids: Mineral based or synthetic hydraulic fluid note: With Lubricating properties.

Fluid viscosity range: 7.4 to 420 cSt

Maximum operating contamination level: 4.0 lpm - M4.0 18/16/13 per ISO 4406

Adjustable pressure compensated priority flow regulator valve cartridge

Properties

Unit weight: 0.54 lb [0.24 kg] (FR12-33/A)

0.58 lb [0.26 kg] (FR12-33C)

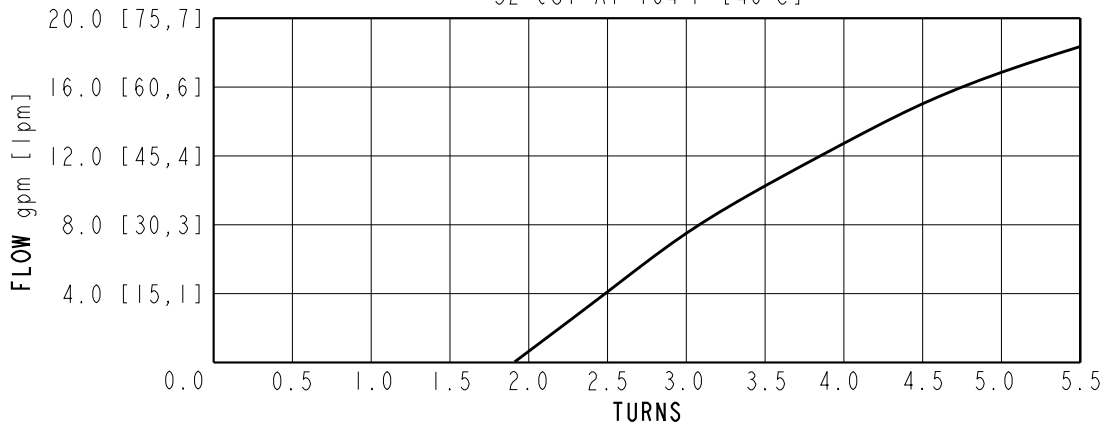
0.61 lb [0.28 kg] (FR12-33E)

Internal wetted surface area: 35 in² [226 cm²]

Performance

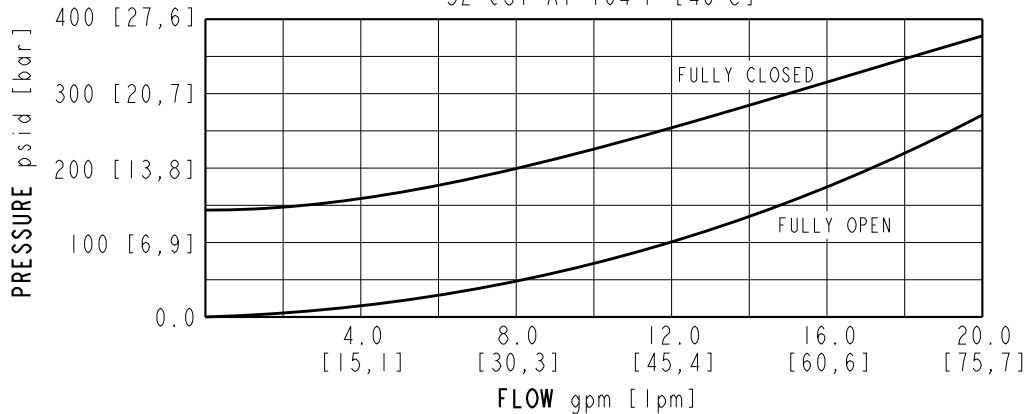
PRIORITY FLOW VS TURNS

20.0 gpm [75,7 lpm] INLET FLOW
1500 psi [103 bar] PRESSURE AT PORT 3
32 cSt AT 104°F [40°C]

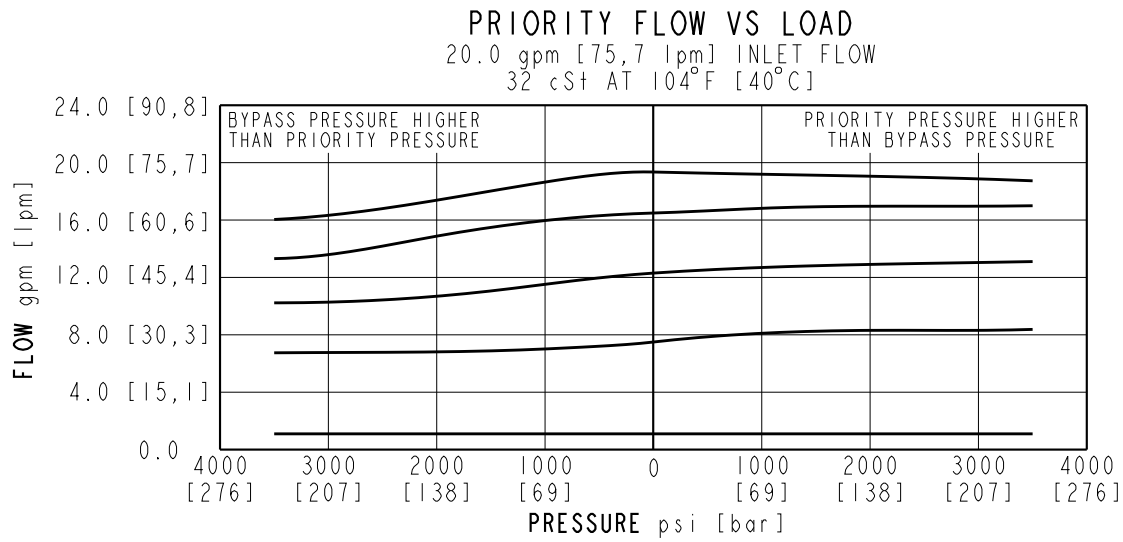


PRESSURE DROP VS REVERSE FLOW

PORT 3 TO PORT 1, PORT 2 BLOCKED
32 cSt AT 104°F [40°C]

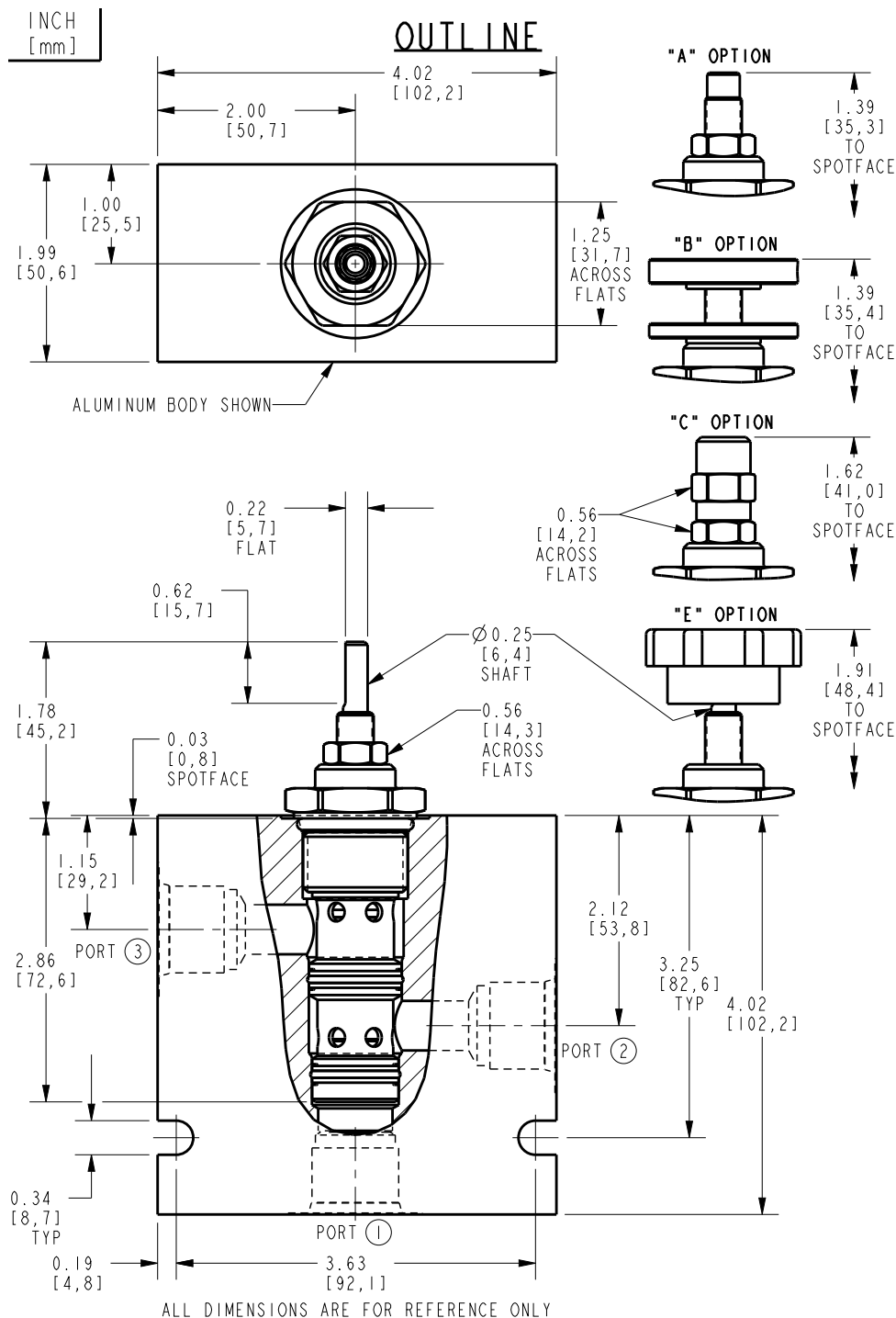


Adjustable pressure compensated priority flow reguator valve cartridge



Adjustable pressure compensated priority flow regulator valve cartridge

Dimensions



Installation Specifications

Cavity: VC12-3

Cartridge installation torque: 33-37 ft-lb [45-50 N-m]

Adjuster cap torque: 5-7 ft-lb [7-10 N-m]

Orientation restriction: None

Adjustable pressure compensated priority flow regulator valve cartridge

Accessories

Seal kit: SK12-3X-MM (X - seal option) installation

Order Code

ORDERING INFORMATION:

FR12-33X-X-X-XXXX

BASE MODEL NUMBER

ADJUSTMENT OPTIONS

EXTENDED SHAFT ONLY - (BLANK)
 3/16" HEX ALLEN HEAD - A
 1-1/2 ALUMINUM KNOB - B
 OPTION A WITH COVER CAP - C
 Ø 1.63 [41,4] PLASTIC KNOB - E

PORTING

CARTRIDGE ONLY - 0
 SAE 10 - 10T

SEAL OPTION

BUNA N - N
 FLUOROCARBON - V
 POLYURETHANE - P

PRESET FLOW (OPTIONAL)

NOT SPECIFIED
 6-7 gpm [22,7-26,5 lpm]
 FACTORY SET - (BLANK)

SETTING IN lpm

SPECIFY, FOR EXAMPLE:

4,0 lpm - M4.0
 20,0 lpm - M20.0

SETTING IN gpm

SPECIFY, FOR EXAMPLE:

5.0 gpm - 5.0
 15.0 gpm - 15.0

Model Options

FR12-33F-H-J/T

F Adjustment Option

CODE	DESCRIPTION
A	3/16" Hex Allen Head
BLANK	Extended Shaft Only
C	3/16" Hex Allen Head with Cover Cap
E	Plastic Knob

H Line Body

CODE	DESCRIPTION
0	No Body
8T	Aluminum SAE 8
10T	Aluminum SAE 10
12T	Aluminum SAE 12
12TD	Ductile Iron SAE 12
6B	Aluminum BSPP 3/4" (6)

J Seal

CODE	DESCRIPTION
N	Buna-N
V	Fluorocarbon
P	Polyurethane
U	PPDI Urethane

Adjustable pressure compensated priority flow regulator valve cartridge

T Flow setting

CODE	DESCRIPTION
XX	Flow setting