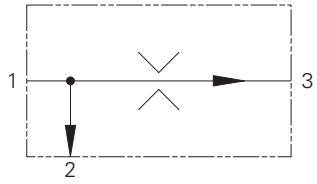
PFR11-12 - Flow Regulator

Fixed, priority type, pressure compensated
Up to 30 L/min (8 USgpm) • 350 bar (5000 psi)



Operation

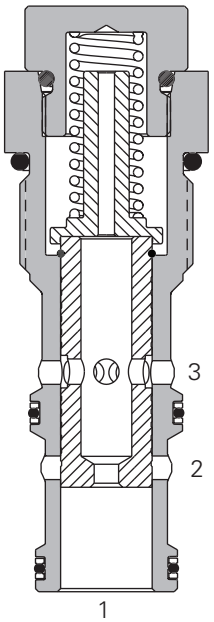
Inlet flow passes through the fixed orifice and the radial holes in the spool/sleeve assembly then out of the regulated port. The pressure drop across the orifice is sensed at each end of the spool, producing a force which, at the required flow rate, overcomes the spring force. The resultant movement of the spool regulates the flow by opening the radial valve ports to the bypass port and closing the regulated flow ports.

The valve will pass flow in the return direction but this is restricted by the flow path through the control orifice.

Features

Cartridge construction gives versatility of application. A valve may be fitted into a line body, a custom designed Hydraulic Integrated Circuit or directly into a cylinder or other actuator. Leakproof adjust screw gives easy, accurate adjustment to required flow setting. Hardened and ground working parts give accurate flow control and long working life.

Sectional View



Performance Data

Ratings and Specifications

Performance data is typical with fluid at 21,8 cSt (105 SUS) and 49° C (120° F)	
Typical Application pressure (all ports)	350 bar (5000 psi)
Cartridge fatigue pressure (infinite life)	350 bar (5000 psi)
Rated flow	Maximum inlet flow 76 L/min (20 USgpm) Maximum regulated flow 30 L/min (8 USgpm)
Flow regulation accuracy	1,9-10,9 L/min (0.5-2.9 USgpm) ±15% 11,4-114 L/min (3-30 USgpm) ±10% Factory set maximum priority flow rate accuracy under standard test conditions and within the above ranges
Temperature range	-40° to 120°C (-40° to 248°F)
Cavity	C-12-3
Fluids	All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20, etc.
Filtration	18/16/13
Standard housing materials	Aluminum or Steel
Weight cartridge only	0,25 kg (0.55 lbs)
Seal kit	9900171 (Buna-N) 9900172 (Viton®)

Viton is a registered trademark of E.I. DuPont

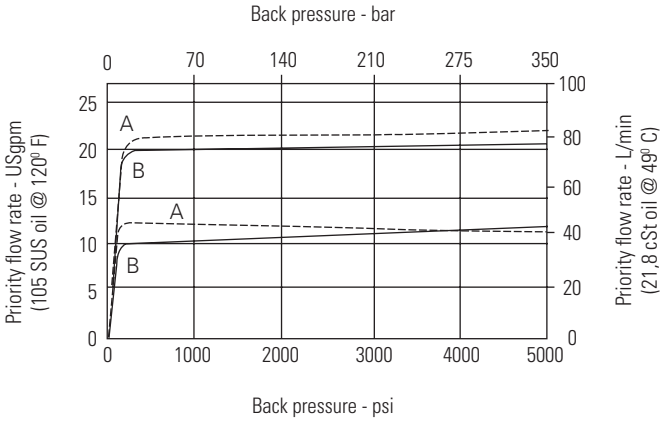
Description

These valves are priority flow regulators. The flow (and actuator speed) will be largely independent of the load and the pressure conditions.

If used to regulate flow from a fixed supply, for example a standard gear or piston pump, the valve will pass the required flow and any surplus flow will be diverted to the bypass port. The bypass flow may be used for a secondary circuit whether the secondary pressure requirement is higher or lower than the regulated pressure.

The valve inlet pressure will be approximately 7 bar (100 psi) more than the regulated or bypass pressure, whichever is higher.

Typical Flow Regulation



A - Port 3, priority (regulated outlet) pressurized.
B - Port 2, (bypass outlet) pressurized.

Where measurements are critical request certified drawings. We reserve the right to change specifications without notice.

EATON Powering Business Worldwide

Integrated Hydraulics An Eaton Brand

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Up to 30 L/min (8 USgpm) • 350 bar (5000 psi)

Model Code

PFR11 – 12 (V) – F – *** – *.* – 00

1 2 3 4 5 6 7

1 Function
PFR11 - Priority flow regulator

2 Size
12 - 12 Size

3 Seals
Blank - Buna-N
V - Viton®

4 Adjustment
F - Fixed orifice

5 Port Size
0 - Cartridge only

Code	Port Size	Housing Number - Body Only	
		Aluminium	Steel
A4G	1/2" BSPP	02-161817	
A6G	3/4" BSPP	02-161816	
A10H	SAE 10	02-160642	
A12H	SAE 12	02-160646	
S4G	1/2" BSPP		02-169815
S6G	3/4" BSPP		02-169814
S10T	SAE 10		02-161070
S12T	SAE 12		02-169816

See section J for housing details.

6 Factory set flow rate
(Specify in USgpm)
Range 1,9-76 L/min
(0.5-20 USgpm)

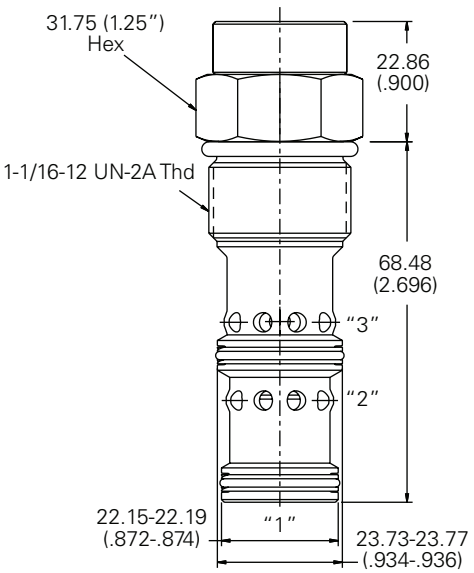
7 Special features
00 - None
(Only required if valve has special features, omitted if "00.")

H

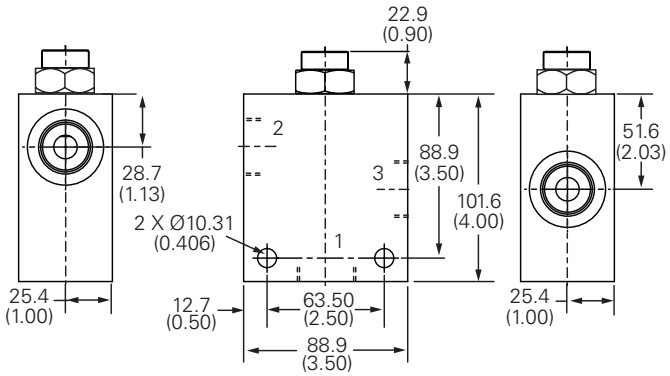
Dimensions

mm (inch)

Cartridge Only
Basic Code
PFR11-12



Installation Drawing (Steel)



Note: Torque cartridge in aluminum housing to 81-95 Nm (60-70 ft. lbs)

Note: Torque cartridge in steel housing to 102-115 Nm (75-85 ft. lbs)

WARNING

Aluminum housings can be used for pressures up to 210 bar (3000 psi) Steel housings must be used for operating pressures above 210 bar (3000 psi).