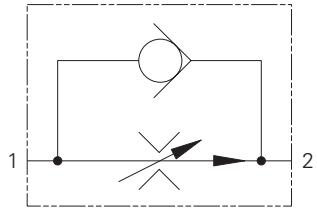
# FAR1-16 - Flow Regulator

Fully adjustable, pressure compensated with free reverse flow
3.8-114 L/min (1-30 USgpm) • 310 bar (4500 psi)




## Operation

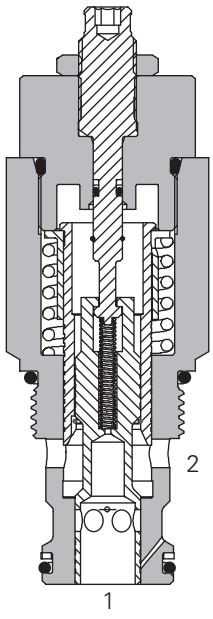
Flow into the inlet of the valve passes through the adjustable orifice and out of the regulated port. The pressure drop across the orifice is sensed on the regulating sleeve and produces a force which, at the required flow rate, overcomes the spring force. The resultant movement of the sleeve regulates the flow by closing the radial valve ports.

The inbuilt check allows free return of flow (2 to 1).

## 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) |
| Min. pressure differential across valve | | 17 bar (250 psi) |
| Max. pressure differential across valve | | 328 bar (4750 psi) |
| Cartridge fatigue pressure (infinite life) | | 310 bar (4500 psi) |
| Rated flow | | 3,8–113,6 L/min (1–30 USgpm) |
| Temperature range | | 40° to 120°C (–40° to 248°F) |
| Flow regulation accuracy | 3,8–15,1 L/min (1.0–4.0 USgpm)<br>above 15,1–30,3 L/min (above 4.0–8.0 USgpm)<br>above 30,3–113,6 L/min (above 8.0–30.0 USgpm) | ±30% @5000 psi<br>±20% @5000 psi<br>±10% @5000 psi |
| Factory set maximum flow rate accuracy under standard test conditions and within the above ranges | | |
| Reverse check crack pressure | | 1.7 bar (25 psi) |
| Leakage at shutoff position | | 0,55 L/min (33.5 in3/min) |
| Cavity | | C–16–2 |
| Fluids | | All general purpose hydraulic fluids such as: MIL-H-5606, SAE 10, SAE 20 etc. |
| Filtration | | Cleanliness code 18/16/13 |
| Standard housing material | | Aluminum or steel |
| Weight cartridge only | | "S" 0,67 kg (1.48 lbs)<br>"K" 0,70 kg (1.55 lbs)<br>"H" 0,74 kg (1.62 lbs) |
| Seal kit | | 565810 (Buna-N)<br>889609 (Viton®) |

Viton is a registered trademark of E.I. DuPont

## Description

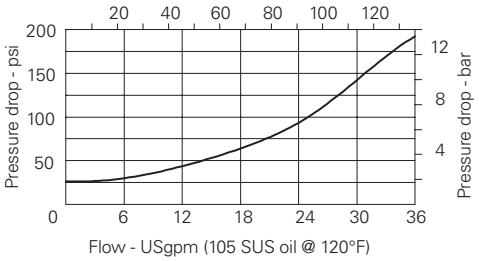
This is a two-port, restrictive flow regulator with a built in free flow check valve. Typical uses include the control of actuator speed by regulating the flow into or out of the actuator (meter-in or meter-out).

The flow (and actuator speed) will be largely independent of the load and the pressure conditions. If used to restrict 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 normally pass over the system relief valve.

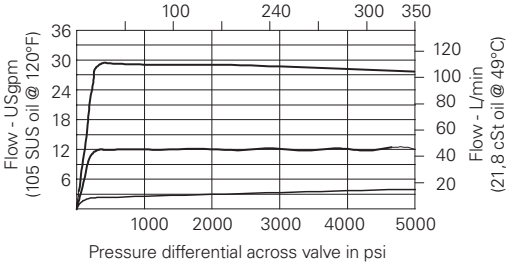
## Typical Flow Regulation

Cartridge only

PRESSURE DROP FOR REVERSE FLOW
Flow - L/min (21,8 cSt oil @ 49°C)




TYPICAL FLOW REGULATION
Pressure differential across valve in bar





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Model Code

FAR1 – 16 (V) – * – * – ** – *.* – 00

1 2 3 4 5 6 7 8

**1 Function**

FAR1 - Flow adjustable, pressure compensated flow regulator with reverse flow check

**2 Size**

16 - 16 Size

**3 Seal material**

Blank - Buna-N
V - Viton®

**4 Adjustment**

H - Calibrated handknob with locknut
K - Handknob with locknut
S - Screw with locknut

**5 Valve Housing Material**

Omit for cartridge only
A - Aluminum
S - Steel

**6 Port Size**

| Code | Port Size | Housing Number | | |
|---|---|---|---|---|
| | | Aluminium Light duty | Aluminium Fatigue rated | Steel Fatigue rated |
| 4G | 1/2" BSPP | – | 876716 | 02-175106 |
| 6B | 3/4" BSPP | 02-175463 | – | – |
| 6G | 3/4" BSPP | – | 876718 | 02-175107 |
| 10T | SAE 10 | – | – | – |
| 10H | SAE 10 | – | 876717 | 02-175104 |
| 12T | SAE 12 | 566149 | – | – |
| 12H | SAE 12 | – | 566113 | 02-175105 |

See section J for housing details.

**7 Factory Set Flow Rate**

Blank - Normal factory setting at 15 USgpm User requested setting Within 1-30 USgpm (3,8-113,6 L/min.)

**8 Special features**

00 – None

(Only required if valve has special features, omitted if "00")

## Dimensions

mm (inch)

Torque cartridge in housing
A - 108–122 Nm (80–90 ft lbs)
S - 136–149 Nm (100–110 ft lbs)

Note: To reset scale and knob to an optimum viewing position:

1. Loosen the set screw
2. Rotate zero point on scale to a desired orientation.
3. Align mark on knob with zero on scale.
4. Tighten the set screw firmly.

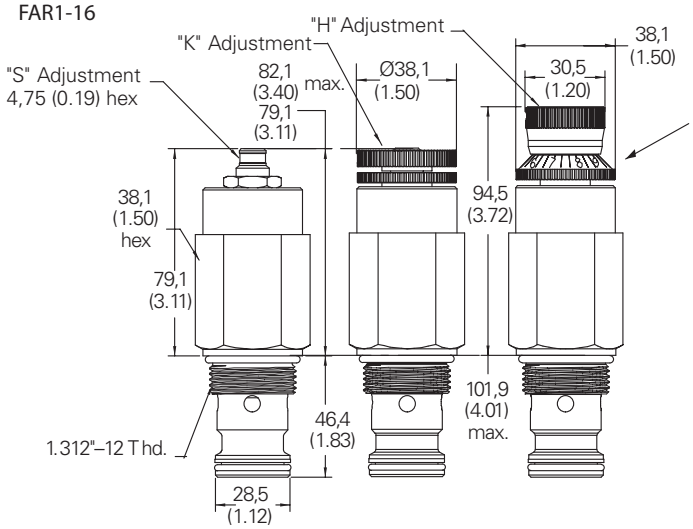
Note: To change the setting:

1. Loosen the set screw
2. Loosen jamnut while holding the knob steady, or move the knob along the axis slightly.
3. Turn adjusting screw (jam nut and knob will turn at the same time).
4. At the new adjusting screw position, tighten jamnut firmly while holding the knob steady, or move the knob along the axis slightly.
5. Tighten the set screw firmly.

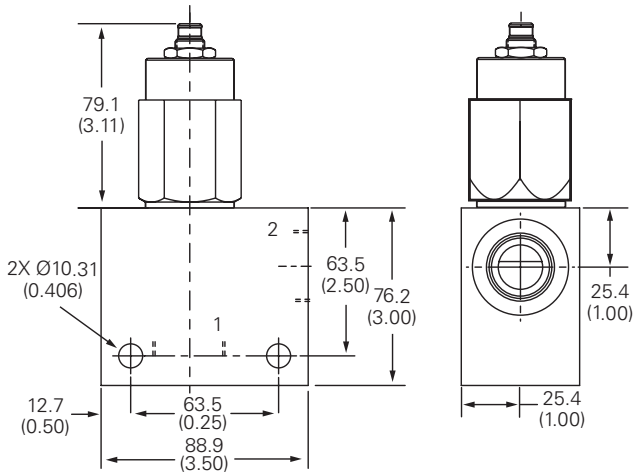
WARNING

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).

Cartridge
Basic Code
FAR1-16




Installation Drawing (Steel)




H

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