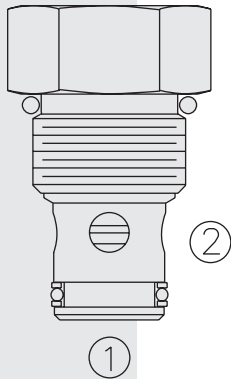


FR50-20F Regulator, Pressure-Compensated,



DESCRIPTION

A screw-in, cartridge-style, fixed orifice, pressure compensated, hydraulic flow regulating valve (restrictive type) for operation up to 345 bar (5000 psi).

OPERATION

The **FR50-20F** maintains a constant flow rate from ① to ② regardless of load pressure changes in the circuit downstream of ②.

The fixed control orifice is factory preset to customer flow specification. The valve begins to respond to load changes when the flow through the valve creates a pressure differential across the control orifice greater than 5.5 bar (80 psi), with accurate flow maintenance from 7.6 to 345 bar (110 to 5000 psi). Reverse flow (② to ①) returns through the control orifice and is non-compensated.

FEATURES

- Hardened parts for long life.
- Quiet, modulated response.
- Industry common cavity.

RATINGS

Operating Pressure: 345 bar (5000 psi)

Flow Settings: 0.8 lpm (0.2 gpm) minimum; 22.7 lpm (6.0 gpm) maximum

Flow Maintenance: 0.37 to 1.85 lpm (0.1 to 0.49 gpm) settings $\pm 20\%$

1.89 to 5.63 lpm (0.5 to 1.49 gpm) settings $\pm 15\%$

5.68 to 22.71 lpm (1.5 to 6.00 gpm) settings $\pm 10\%$

Temperature: -40 to 120°C

Filtration: See page 9.010.1

Fluids: Mineral-based or synthetics with lubricating properties at viscosities of 7.4 to 420 cSt (50 to 2000 sus); See Temperature and Oil Viscosity, page 9.060.1

Installation: No restrictions; See page 9.020.1

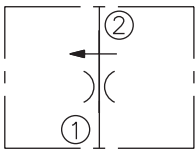
Cavity: VC10-2; See page 9.110.1

Cavity Tool: CT10-2XX; See page 8.600.1

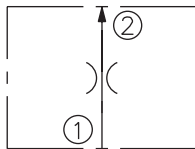
Seal Kit: SK10-2X-M; See page 8.650.1

SYMBOLS

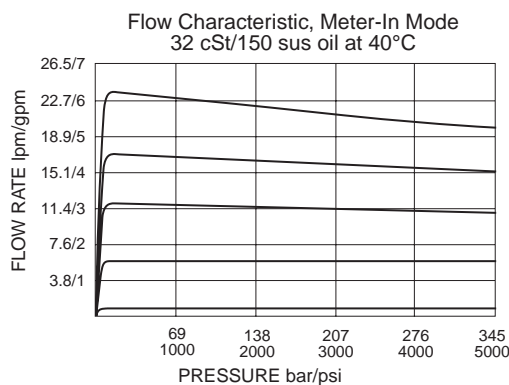
USASI:



ISO:



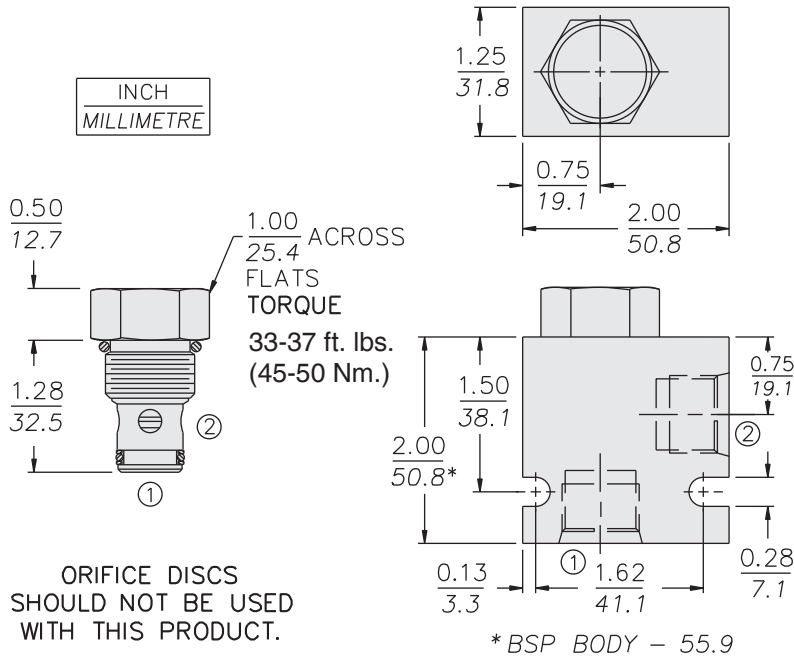
PERFORMANCE (Cartridge Only)



High Pressure

FR50-20F

DIMENSIONS



MATERIALS

Cartridge: Weight: 0.1 kg. (0.21 lbs.)
Steel with hardened work surfaces.
Zinc-plated exposed surfaces.
Buna N O-rings and polyester
elastomer back-ups standard.

Standard Ported Body: Weight:
0.16 kg. (0.35 lbs.) Anodized high-
strength 6061 T6 aluminum alloy,
rated to 207 bar (3000 psi) Ductile
iron bodies available; dimensions
may differ. See page 8.010.1.

TO ORDER

FR50-20F - - - / - - -

Porting

Cartridge Only **0**
SAE 6 **6T**
SAE 8 **8T**
1/4 in. BSP* **2B**
3/8 in. BSP* **3B**
1/2 in. BSP* **4B**

*BSP Body; U.K. Mfr. Only

Seals

Buna N (Std.) **N**
Fluorocarbon **V**
Polyurethane **P**

Polyurethane seals are required for
operation over 241 bar (3500 psi)

Setting in lpm

Range: 0.8 to 22.7 lpm
Specify, for example:

M1.8 1.8 lpm
M5.0 5.0 lpm
etc.

Setting in gpm

Range: 0.2 to 6.0 gpm
Specify, for example:

1.3 1.3 gpm
5.0 5.0 gpm
etc.

Drill Size Method

Dia. in thousandths of an inch.
Range is 0.021 to 0.154 in.
Specify, for example:

D030 0.030 in. control orifice hole
etc.