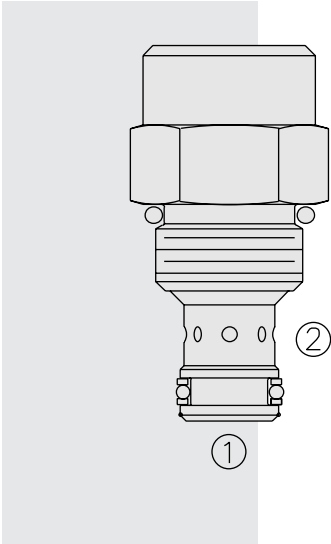


# FR08-20F Regulator, Pressure-Compensated



## DESCRIPTION

A screw-in, cartridge-style, fixed orifice, pressure-compensated, hydraulic flow regulating valve (restrictive type).

## OPERATION

The **FR08-20F** maintains a constant flow rate out of 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 psid), with accurate flow maintenance from 7.6 to 240 bar (110 to 3500 psid). Reverse flow (② to ①) returns through the control orifice and is non-compensated.

## FEATURES

- Hardened parts for long life.
- Quiet, modulated response.
- Compact size.

## RATINGS

**Operating Pressure:** 240 bar (3500 psi)

**Flow Settings:** 0.4 lpm (0.1 gpm) min., 7.5 lpm (2.0 gpm) max.

**Standard Compensator Bias Spring:** 5.5 bar (80 psid) differential

**Flow Maintenance Setting Range:** 0.2 to 1.8 lpm (0.05 to 0.49 gpm) to accuracy of  $\pm 15\%$ ; 1.9 to 7.5 lpm (0.5 to 2.0 gpm) to accuracy of  $\pm 10\%$

**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

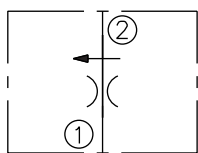
**Cavity:** VC08-2; See page 9.108.1

**Cavity Tool:** CT08-2XX; See page 8.600.1

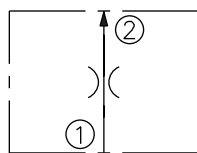
**Seal Kit:** SK08-2X-M; See page 8.650.1

## SYMBOLS

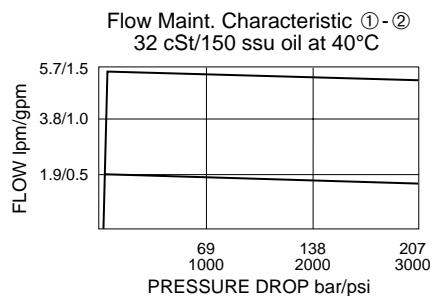
USASI:



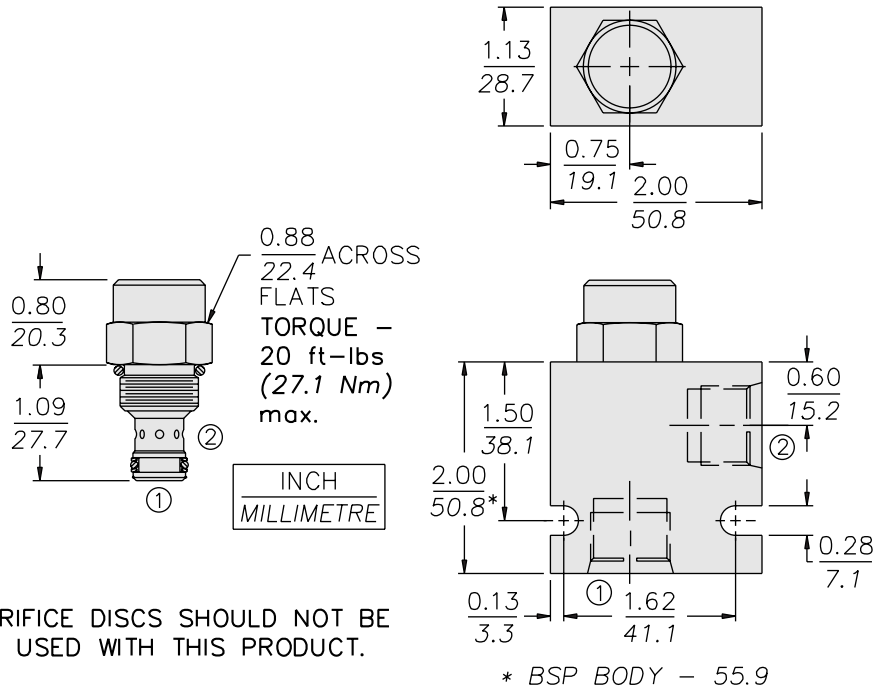
ISO:



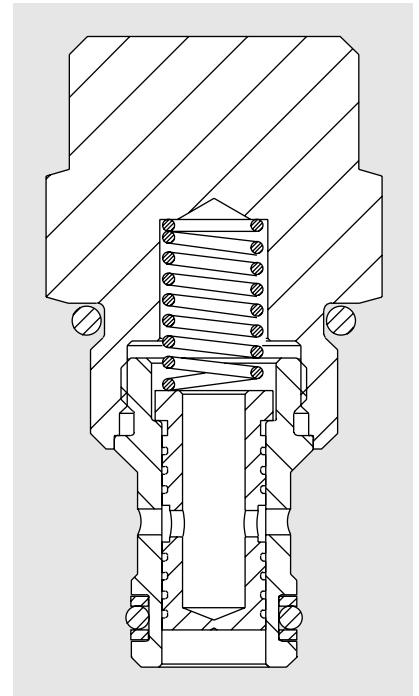
## PERFORMANCE (Cartridge Only)



**DIMENSIONS**



ORIFICE DISCS SHOULD NOT BE USED WITH THIS PRODUCT.



**MATERIALS**

**Cartridge:** Weight: 0.07 kg. (0.15 lbs.)  
Steel with hardened work surfaces.  
Zinc-plated exposed surfaces.  
Buna N O-rings and fluorocarbon 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 8.008.1

**TO ORDER**

FR08-20F - - /

- Porting**
- Cartridge Only **0**
  - SAE 4 **4T**
  - SAE 6 **6T**
  - 1/4 in. BSP\* **2B**
  - 3/8 in. BSP\* **3B**
- \*BSP Body; U.K. Mfr. Only

- Seals**
- Buna N (Std.) **N**
  - Fluorocarbon **V**

- Setting in lpm**
- Range: 0.4 to 7.5 lpm  
Specify, for example:

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

- Setting in gpm**
- Range: 0.1 to 2.0 gpm  
Specify, for example:

- 1.3** 1.3 gpm
- 2.0** 2.0 gpm
- etc.

- Drill Size Method**
- In thousandths of an inch.  
Specify, for example:
- D030** 0.030 in. control orifice hole
  - etc.

Note: Compensator spring values may be varied for OEM application to provide changed differential pressure/output flow relationships. Consult factory.

Note: Minimum drill diameter is 0.020 in. For smaller orifice sizes consult factory.