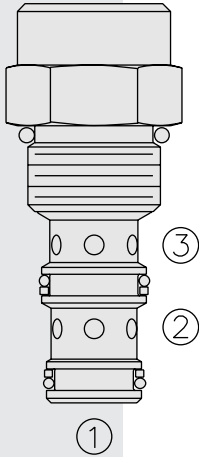


## FR10-30F Regulator, Pressure-Compensated



### DESCRIPTION

A screw-in, cartridge-style, pressure-compensated, non-adjustable flow regulator, intended for use in fixed displacement hydraulic circuits requiring partial pump flow diversion on a priority basis.

### OPERATION

The **FR10-30F** maintains a constant flow rate from ③ regardless of load pressure changes in the system downstream of ③, or in the bypass leg at ②.

The valve's spool maintains a constant differential pressure of 6.5 bar (95 psi) across a fixed internal orifice, thereby regulating the hydraulic flow rate from ① to ③.

The FR10-30F is a priority type regulator, delivering the pump flow to ③ first, then bypassing excess to ②. All ports may be fully pressurized.

Flow out of priority port ③ may vary based on input flow amount, particularly with lower temperatures and increased fluid viscosities. Settings may need to be established through correlation study. Consult factory.

### FEATURES

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

### RATINGS

**Operating Pressure:** 207 bar (3000 psi)

**Flow Rate:** 22.7 lpm (6.0 gpm) max. regulated; 37.8 lpm (10.0 gpm) max. input.  
Pressure at ① begins to rise higher than compensating pressure differential when bypass flow exceeds 23 lpm (6 gpm).

**Standard Compensator Bias Spring:** 6.5 bar (95 psid) differential

**Flow Maintenance Setting Range:** 0.4 to 5.9 lpm (0.10 to 1.5 gpm) to accuracy of  $\pm 15\%$ ; 6 to 22.7 lpm (1.6 to 6.0 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

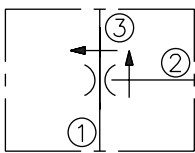
**Cavity:** VC10-3; See page 9.110.1

**Cavity Tool:** CT10-3XX; See page 8.600.1

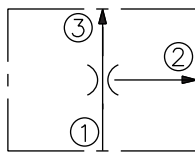
**Seal Kit:** SK10-3X-TB; See page 8.650.1

### SYMBOLS

#### USASI:

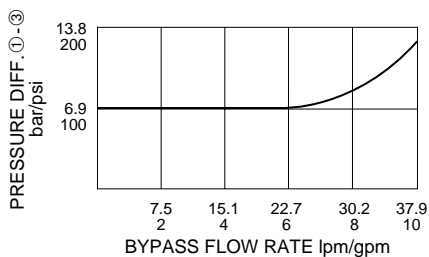
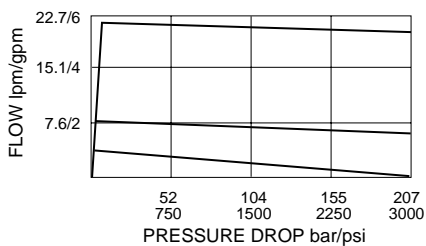


#### ISO:

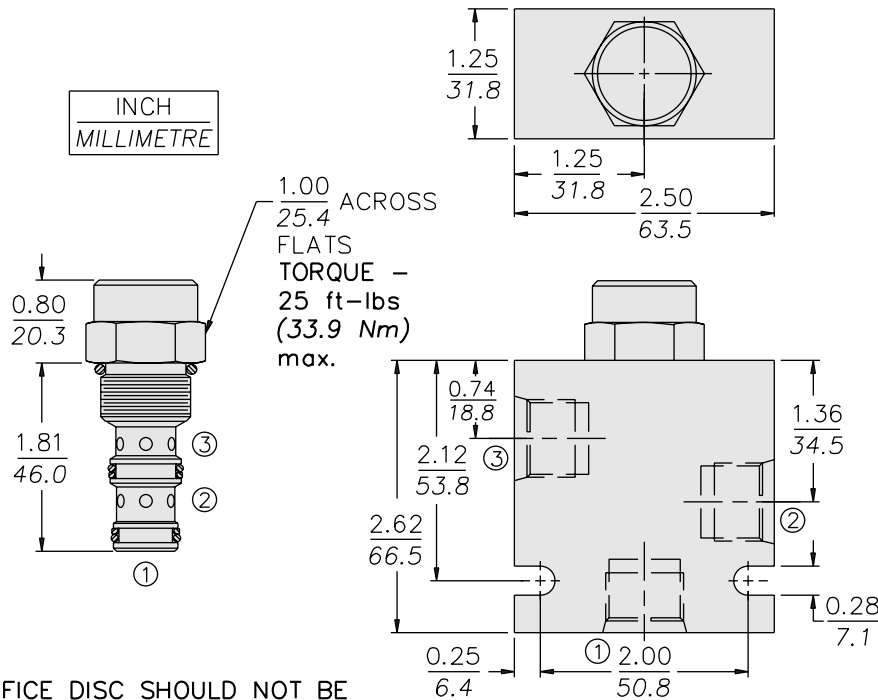


### PERFORMANCE (Cartridge Only)

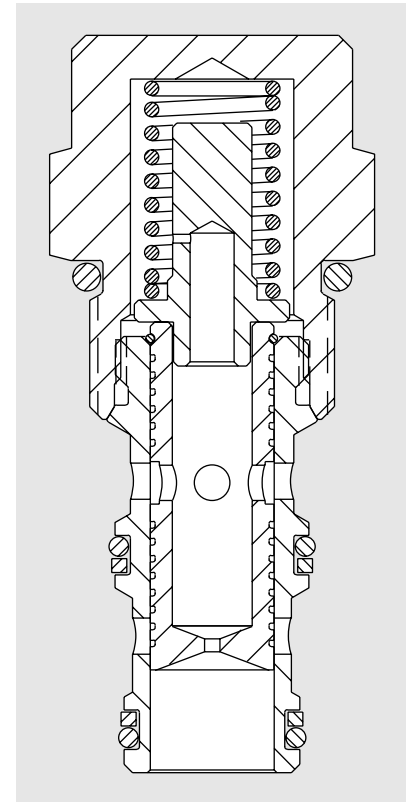
Flow Maint. Characteristic ①-③  
32 cSt/150 ssu oil at 40°C



**DIMENSIONS**



ORIFICE DISC SHOULD NOT BE USED WITH THIS PRODUCT.

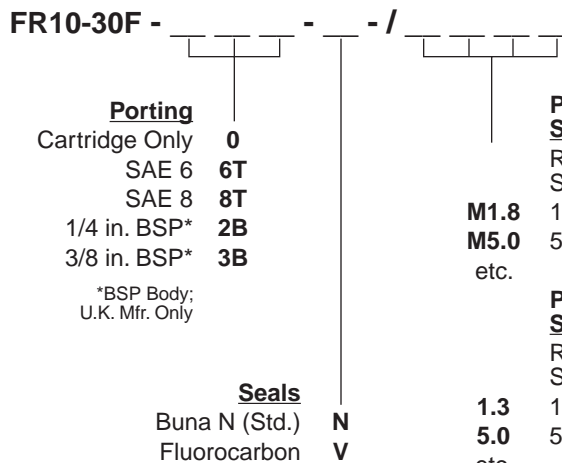


**MATERIALS**

**Cartridge:** Weight: 0.16 kg. (0.35 lbs.)  
Steel with hardened work surfaces.  
Zinc-plated exposed surfaces.  
Buna N O-rings and polyester elastomer back-ups standard.

**Standard Ported Body:** Weight:  
0.36 kg. (0.80 lbs.) Anodized high-strength 6061 T6 aluminum alloy, rated to 240 bar (3500 psi). Ductile iron bodies available; dimensions may differ. See page 8.010.1

**TO ORDER**



**Priority Flow Setting in lpm**  
Range: 0.38 to 22.7 lpm;  
Specify, for example:

**M1.8**  
**M5.0**  
etc.

**Priority Flow Setting in gpm**  
Range: 0.1 to 6.0 gpm  
Specify, for example:

**1.3**  
**5.0**  
etc.

**Priority Flow 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.