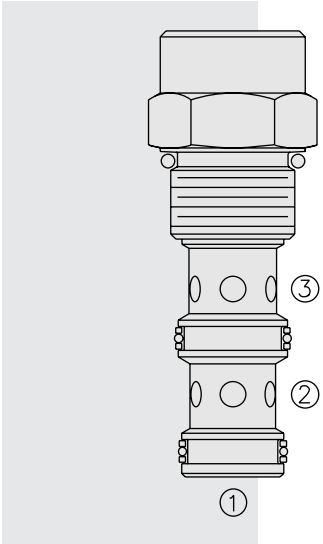


# FR12-30F Regulator, Pressure-Compensated



## 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 **FR12-30F** 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 ② to ③.

The FR12-30F 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.
- Cost effective cavity.

## RATINGS

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

**Flow Rate:** 49.2 lpm (13.0 gpm) max. regulated; 94.6 lpm (25.0 gpm) max. input

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

**Flow Maintenance Setting Range:** 3.8 to 11.4 lpm (1.0 to 3.0 gpm) to accuracy of ±15%; 11.4 to 45.4 lpm (3.0 to 12.0 gpm) to accuracy of ±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

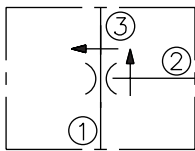
**Cavity:** VC12-3; See page 9.112.1

**Cavity Tool:** CT12-3XX; See page 8.600.1

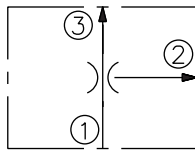
**Seal Kit:** SK12-3X-MM; See page 8.650.1

## SYMBOLS

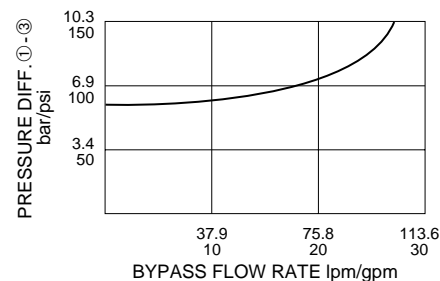
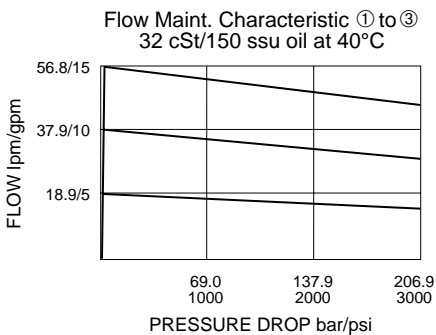
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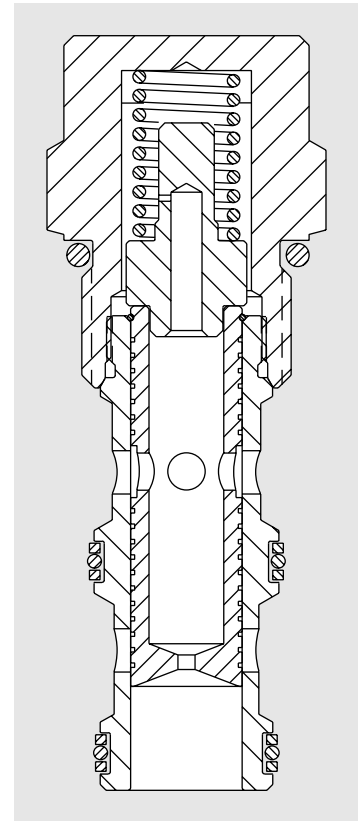
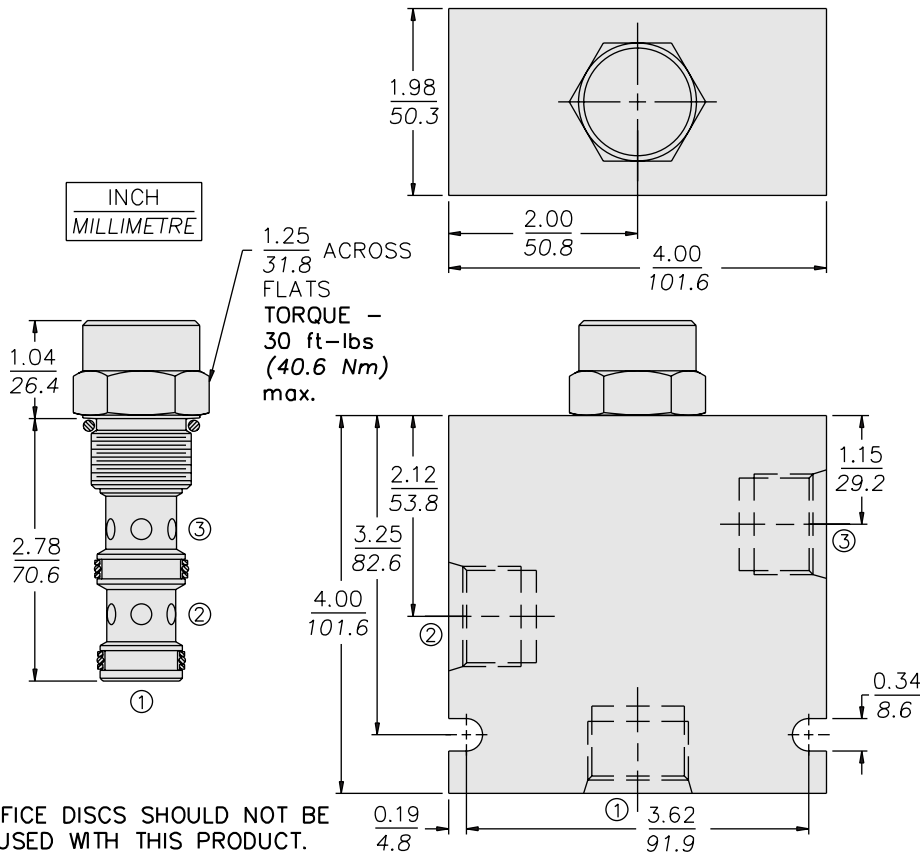
ISO:



## PERFORMANCE (Cartridge Only)



**DIMENSIONS**



ORIFICE DISCS SHOULD NOT BE USED WITH THIS PRODUCT.

**MATERIALS**

**Cartridge:** Weight: 0.30 kg. (0.68 lbs.)  
Steel with hardened work surfaces.  
Zinc-plated exposed surfaces.  
Buna N O-rings and polyester elastomer back-ups standard.

**Standard Ported Body:** Weight: 0.98 kg. (2.15 lbs.) Anodized high-strength 6061 T6 aluminum alloy, rated to 207 bar (3000 psi). Ductile iron bodies available; dimensions may differ. See page 8.012.1

**TO ORDER**

FR12-30F - - - /

**Porting**  
Cartridge Only **0**  
SAE 8 **8T**  
SAE 10 **10T**  
SAE 12 **12T**  
1/2 in. BSP\* **4B**  
3/4 in. BSP\* **6B**

\*BSP Body;  
U.K. Mfr. Only

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

**Priority Setting**  
**Setting in LPM**

Range: 4 to 50 lpm  
Specify, for example:

**M4.0** 4.0 lpm  
**M8.0** 8.0 lpm  
etc.

**Setting in GPM**  
Range: 1 to 13 gpm  
Specify, for example:

**1.5** 1.5 gpm  
**5.0** 5.0 gpm  
etc.

**Drill Size Method**

In thousandths of an inch.  
Specify, for example:

**D050** 0.050 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.