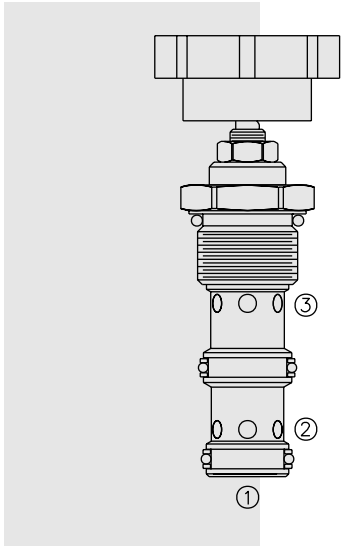


## FR12-33 Flow Regulator, Pressure Compensated



### DESCRIPTION

A screw-in, cartridge-style, adjustable orifice, pressure-compensated, manually-operated, bypass-type hydraulic flow regulating valve. It can be used as a priority-type flow regulator or a restrictive-type 2-way flow regulator when the bypass port is blocked.

### OPERATION

The **FR12-33** 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. Reverse flow (③ to ①) bypasses the control orifice.

The regulated flow increases from closed to fully open, with counter-clockwise rotation of the knob.

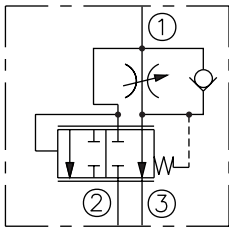
**Note:** When used as a bypass flow control in applications where the priority flow port will be blocked by external valving, bypass pressure drop will increase unless a small amount of leakage is provided for the priority port. Consult factory.

### FEATURES

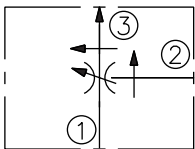
- Bypass port ② may be fully pressurized.
- Hardened steel parts for long life.
- Quiet, modulated response.
- Industry common cavity.

### SYMBOLS

#### USAS/ISO:



#### 3-Ported:



### RATINGS

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

**Flow Rate:** 3-ported regulated flow: 0 to 68 lpm (0 to 18 gpm)  
2-ported regulated flow: 0 to 45 lpm (0 to 12 gpm)

**Input Flow:** 3-ported: 76 lpm (20 gpm) nominal; 114 lpm (30 gpm) max.

**Internal Leakage:** 100 cc/minute (6 cu. in./minute) at 207 bar (3000 psi)

**Adjustment Torque Required:** 1.7 Nm (15 inch-pounds) at 207 bar (3000 psi)

**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 ssu)

**Installation:** No restrictions; See page 9.020.1

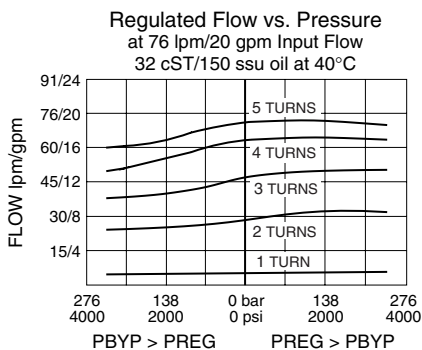
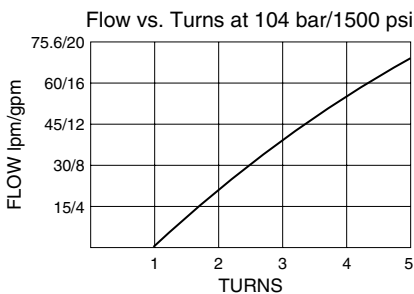
**Cavity:** VC12-3; See page 9.112.1

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

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

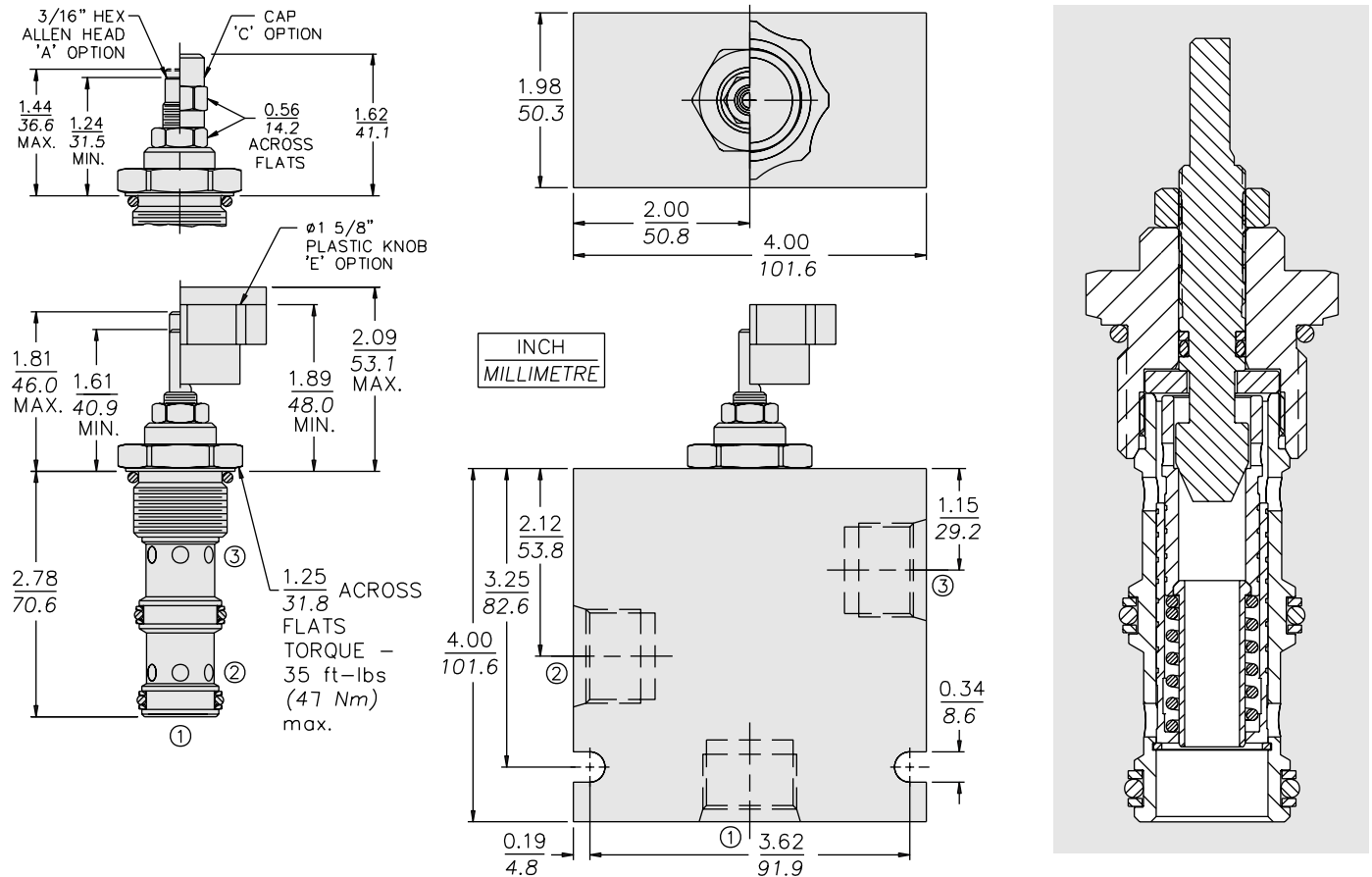
**Knob Kit:** Part Number 6113160

### PERFORMANCE (Cartridge Only)



# FR12-33

## DIMENSIONS



## MATERIALS

**Cartridge:** Weight: 0.34 kg. (0.70 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 240 bar (3500 psi); see page 8.012.1. Ductile iron and steel bodies available; consult factory.

## TO ORDER

FR12-33 - - -

### Adjustment Option

Extended Shaft Only Blank  
 3/16" Hex Allen Head **A**  
 Option "A" with Cover Cap **C**  
 Plastic Knob **E**

### Seals

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

### Porting

Cartridge Only **0**  
 SAE 10 **10T**  
 SAE 12 **12T**  
 SAE 16 **16T**  
 1/2 in. BSP\* **4B**  
 3/4 in. BSP\* **6B**

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