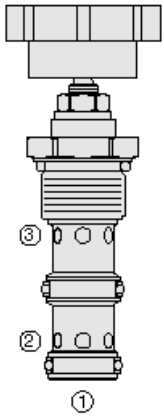




## Overview



### Description

FR12-33X is a screw-in, an adjustable, pressure compensated, priority type with reverse flowcheck flow control valve.

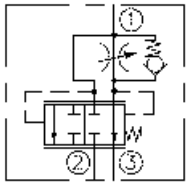
### Operation

The regulated flow increases from closed to fully open with counter-clockwise adjustment rotation. The valve will maintain the set flow regardless of pressure variations on the regulated or bypass port.

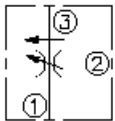
### Features

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

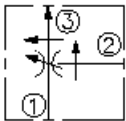
## Symbol



2-Ported:



3-Ported:



## Ratings

### Pressure Ratings

Pressure rating	241 bar (3500 psi)
Proof pressure	345 bar (5000 psi)
Burst pressure	896 bar (13000 psi)

### Flow Ratings

Inlet flow rating	76 lpm (20.0 gpm)	- <b>Note:</b> Nominal
	114 lpm (30.0 gpm)	- <b>Note:</b> Maximum
Priority flow rating	68 lpm (18.0 gpm)	- <b>Note:</b> Maximum
Maximum internal leakage	0.12 lpm (7.3 in <sup>3</sup> /min) (3000 psi)	- <b>Note:</b> At port 3 with at port 1 (port 2 closed) 207 bar

### Temperature Ratings

Operating fluid temperature	-40 to 100 °C (-40 to 212 °F)	- <b>Note:</b> With buna N seals
	-26 to 204 °C (-15 to 400 °F)	- <b>Note:</b> With fluorocarbon seals
	-54 to 107 °C (-65 to 225 °F)	- <b>Note:</b> With polyurethane seals
Storage temperature	-40 to 70 °C (-40 to 160 °F)	
Ambient temperature	-40 to 70 °C (-40 to 160 °F)	

## Operating Parameters

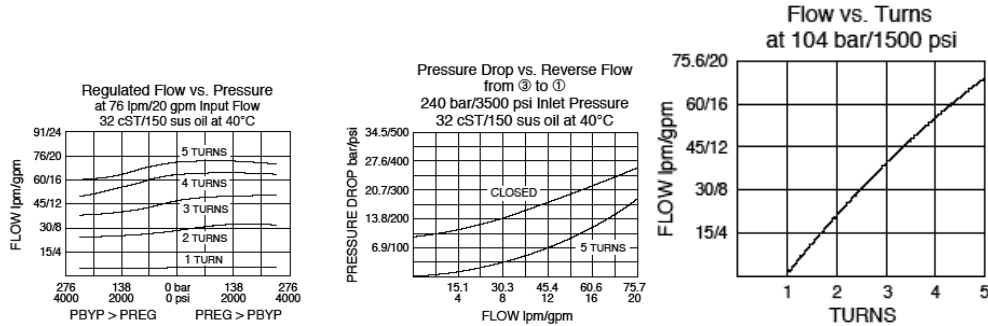
Fluids	Mineral based or synthetic hydraulic fluid with lubricating properties
Fluid viscosity range	7.4 to 420 cSt
Maximum operating contamination level	18/16/13 per ISO 4406



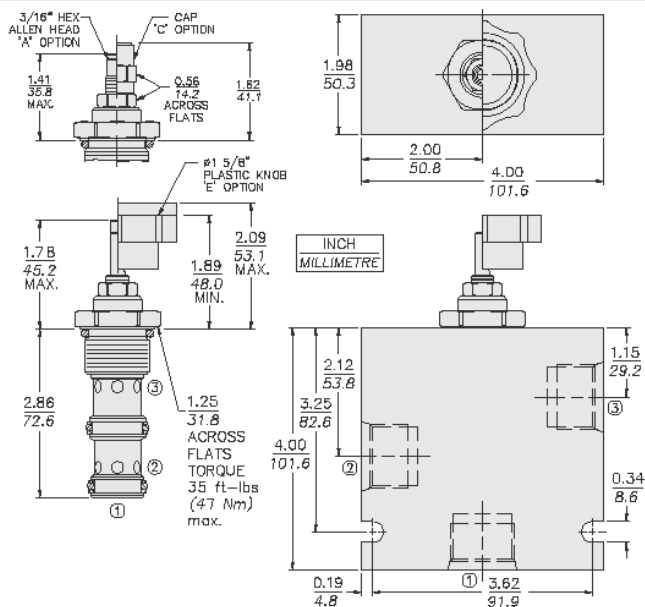
## Properties

Unit weight	0.24 kg (0.54 lb)	- <b>Note:</b> Fr12-33/a
	0.26 kg (0.58 lb)	- <b>Note:</b> FR12-33C
	0.28 kg (0.61 lb)	- <b>Note:</b> FR12-33E
Internal wetted surface area	226 cm <sup>2</sup> (35 in <sup>2</sup> )	

## Performance



## Dimensions



## Installation Specifications

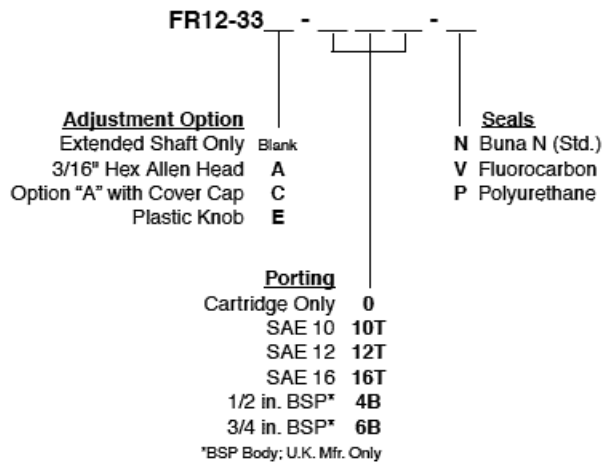
Cavity	VC12-3
Cartridge installation torque	45 to 50 N-m (33 to 37 ft-lb)
Cover cap torque	7 to 10 N-m (5 to 7 ft-lb)
Orientation restriction	None

## Accessories

Seal kit	SK12-3X-MM	- <b>Note:</b> X - seal option
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## Order Code

**Model Options**

FR12-33F-H-J-/T

**F Adjustment Option**

CODE	DESCRIPTION
A	3/16" Hex Allen Head
BLANK	Extended Shaft Only
C	3/16" Hex Allen Head with Cover Cap
E	Plastic Knob

**H Line Body**

CODE	DESCRIPTION
0	No Body
8T	Aluminum SAE 8
10T	Aluminum SAE 10
12T	Aluminum SAE 12
12TD	Ductile Iron SAE 12
6B	Aluminum BSPP 3/4" (6)

**J Seal**

CODE	DESCRIPTION
N	Buna-N
V	Fluorocarbon
P	Polyurethane
U	PPDI Urethane

**T Flow setting**

CODE	DESCRIPTION
XX	Flow setting