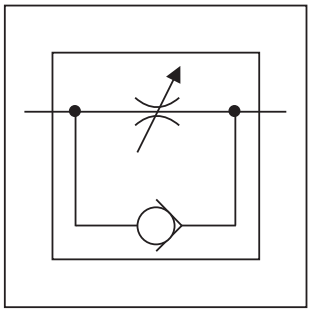
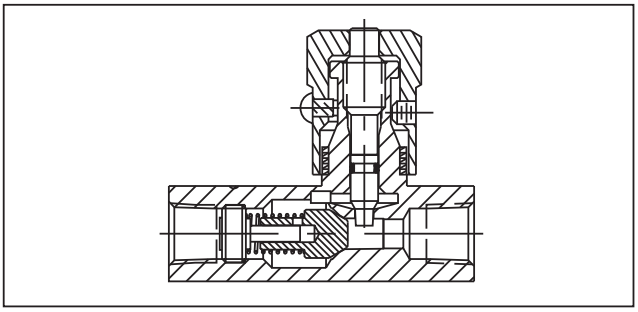
General Description

Series F flow control valves provide precise control of flow and shut-off in one direction, and automatically permit full flow in the opposite direction.





Operation

A two-step needle allows fine adjustment at low flow by using the first three turns of the adjusting knob. The next three turns open the valve to full flow, and also provide standard throttling adjustments.

Features

- The exclusive “Colorflow” color-band reference scale on the valve stem is a great convenience and time-saver in setting the valve originally and in returning it to any previous setting.
- A simple set screw locks the valve on any desired setting.
- A tamperproof option (T) feature is also available to prevent accidental or intentional adjustment of flow setting.

Specifications

Maximum Operating Pressure	Brass:	140 Bar (2000 PSI); except for F1600 brass which is 35 Bar (500 PSI)
	Steel & Stainless Steel:	345 Bar (5000 PSI) for 200 thru 1220; 207 Bar (3000 PSI) for all other sizes
Material	Body	See ordering code
	Knob	Steel - Zinc plated
	Spring	316 Stainless Steel
	Needle	416 Stainless Steel
	Poppet	416 Stainless Steel
	Retainer	416 Stainless Steel
	Stainless Steel Bodies	303 Stainless Steel

Poppets	Soft seal poppet in brass 200 - 820 sizes Solid metal 416 stainless steel poppet on all other sizes and styles
Nominal Cracking Pressure	0.4 Bar (5 PSI) standard
Temperature Range of Seal Compound	-40°C to +121°C (-40°F to +250°F) Nitrile (standard) -26°C to +205°C (-15°F to +400°F) Fluorocarbon

Ordering Information

Flow Control Valves
Series F

Options | Series **F** | Size | Material | Needle Options | Other Options | — | Seal Compound | Design Series

NOTE: Not required when ordering.

Code	Description
Omit	NPTF/SAE
★8	BSPT
★★9	BSPP

★ Code 8 can be used with sizes 200, 400, 600, 800, 1200 Steel only

★★ Code 9 can be used with sizes 200, 400, 600, 800, 1200, 1600, 2000, 2400.

Code	Size	Code	Size	Code	Size
200 *	1/8"	820 *†	#8 SAE	2000	1 1/4"
400 *†	1/4"	1020	#10 SAE	2020	#20 SAE
420	#4 SAE	1200 *	3/4"	2400	1 1/2"
600 *†	3/8"	1220	#12 SAE	2420	#24 SAE
620	#6 SAE	1600 *	1"	3200	2"
800 *†	1/2"	1620	#16 SAE	3220	#32 SAE

* Sizes available in Brass.

† Sizes available in Stainless Steel.

Code	Description
B	Brass
S	Steel
SS*	Stainless Steel

Series F Brass and Stainless Steel Valves can be used for both air and oil service.

* Available in 400, 600 800, and 820 sizes only.

Code	Description
Omit	Standard
4	Fine Metering (200, 400, 420, 600, 620, 820 sizes)

Code	Description
Omit	Standard Knob
T *	Tamperproof
F	Finger Screw

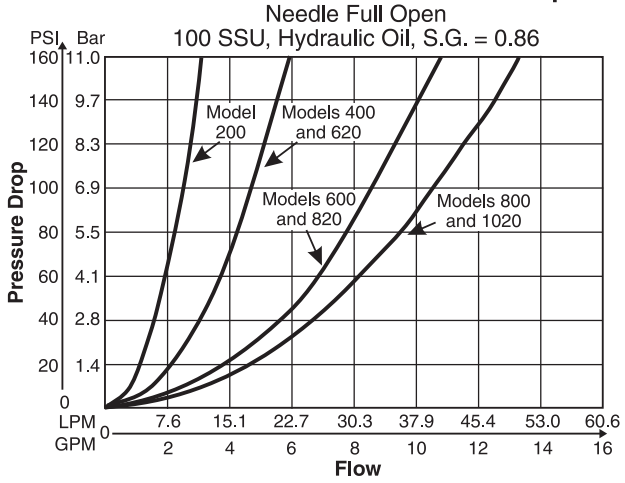
* Not available above 1200 size.

Code	Description
Omit	Nitrile (Standard)
V	Fluorocarbon (Standard on Stainless Steel)

Model Number	Free Flow Rate, Max. LPM (GPM)	Free Flow Orifice Area in.²	Free Flow C_v	Effective Orifice Area, Control Flow in.²	Effective Control Flow C_v
F200	11 (3)	0.023	0.53	0.0102	0.230
F420	11 (3)	0.023	0.53	0.0102	0.230
F400	19 (5)	0.068	1.56	0.0194	0.433
F620	19 (5)	0.068	1.56	0.0194	0.433
F600	30 (8)	0.099	2.27	0.0344	0.787
F820	30 (8)	0.099	2.27	0.0344	0.787
F800	57 (15)	0.224	5.11	0.0427	0.976
F1020	57 (15)	0.224	5.11	0.0427	0.976
F1200	95 (25)	0.348	7.95	0.1080	2.470
F1220	95 (25)	0.348	7.95	0.1080	2.470
F1600	151 (40)	0.453	10.35	0.2300	5.250
F1620	151 (40)	0.453	10.35	0.3070	7.000
F2000	265 (70)	0.855	19.52	0.2300	5.250
F2020	265 (70)	0.855	19.52	0.3710	8.470
F2400	379 (100)	0.955	21.82	0.2300	5.250
F2420	379 (100)	0.955	21.82	0.3710	8.470
F3200	568 (150)	1.046	23.90	0.2300	5.250
F3220	568 (150)	1.046	23.90	0.6010	13.410

Model Number	Effective Orifice Area Control Flow in.²	Effective Control Flow C_v
F400-4	0.0044	0.0758
F600-4	0.0097	0.153
F620-4	0.0044	0.0758
F820-4	0.0097	0.153

Controlled Flow vs. Pressure Drop
Needle Full Open
100 SSU, Hydraulic Oil, S.G. = 0.86



Controlled Flow vs. Pressure Drop
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