



Flow Control/ Check Valves

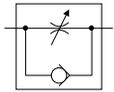
Series F flow control valves from Pioneer allow the end user to utilize the color-band reference on the valve stem as a great convenience and time-saver when resetting the valves. The Series N needle valves have the same Colorflow feature and are ideal as speed controls on hydraulic and pneumatic circuits where a reverse flow check is not needed. Finally, Pioneer offers Series C and Series DT check valves to allow free flow in one direction and shut-off in the reverse direction. The Series C has a soft-seal option and Series DT is very small and compact to fit into any application.

Flow Control Valves

F Series.....	B-2
N Series.....	B-5

Check Valves

C Series.....	B-8
DT Series.....	B-10



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.

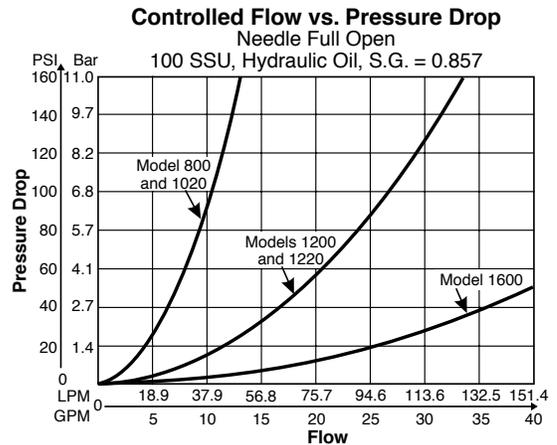
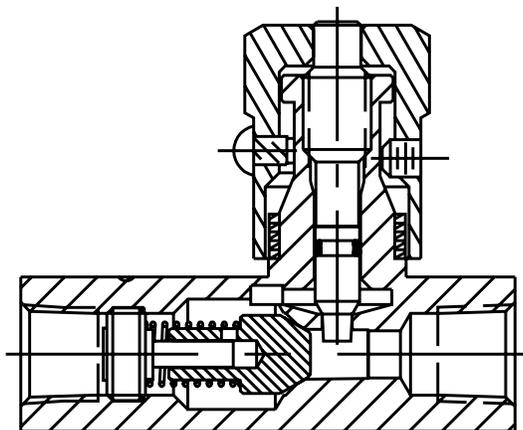
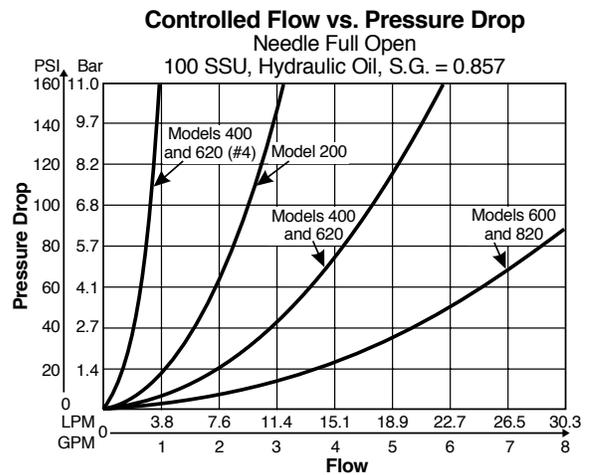
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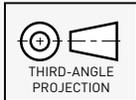
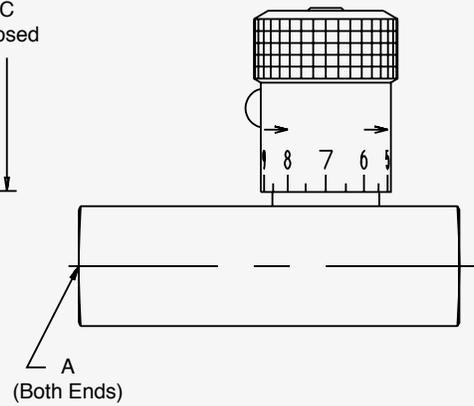
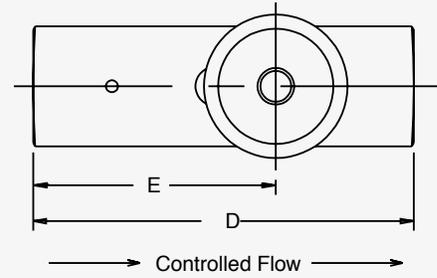
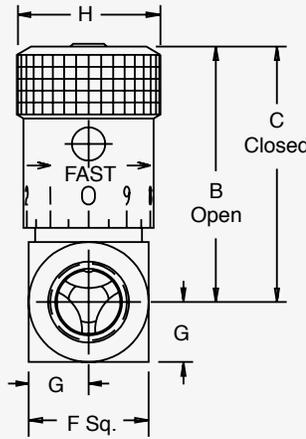
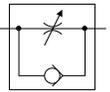
- The exclusive "Colorflow" color-band reference scale on the valve stem is a great convenience and time-saver in setting the valve originally and in returning it to any previous setting.
- A simple set screw locks the valve on any desired setting.
- A tamperproof option (T) feature is also available 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: 345 Bar (5000 psi) for 200 thru 820; 207 Bar (3000 psi) for all other sizes
Return Check Poppet, Nominal Cracking Pressure	0.4 Bar (5 PSI)
Poppets	Soft seal poppet in brass 200-1020 sizes Solid metal 416 stainless steel poppet on all other sizes and styles
Operating Temperature	-40°C to +121°C (-40°F to +250°F)

Performance Curves





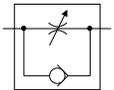
Flow Control / Check Valves

Ordering Information

Model Number	Max Flow LPM (gpm)	A	B	C	D	E	F	G	H
F400	19 (5)	1/4-18 NPTF	45.5 (1.79)	40.4 (1.59)	66.8 (2.63)	42.2 (1.66)	20.6 (0.81)	10.4 (0.41)	20.6 (0.81)
F600	30 (8)	3/8-18 NPTF	55.4 (2.18)	49.5 (1.95)	69.9 (2.75)	44.5 (1.75)	25.4 (1.00)	12.7 (0.50)	25.4 (1.00)
F800	57 (15)	1/2-14 NPTF	68.6 (2.70)	61.5 (2.42)	87.4 (3.44)	56.6 (2.23)	31.8 (1.25)	16.0 (0.63)	30.2 (1.19)
F1200	95 (25)	1/2-14 NPTF	85.9 (3.38)	71.4 (2.81)	98.6 (3.88)	65.5 (2.58)	38.1 (1.50)	19.1 (0.75)	35.1 (1.38)

*Inch equivalents for millimeter dimensions are shown in (**)





Ordering Information

Options

Code	Description
Omit	NPTF
8	BSPT
9	BSPP

Series



Size

Sizes available: Brass			
400	600	800	1200
Sizes available: Stainless Steel			
400	600	800	

Material

Needle Options

Code	Description
Omit	Standard Knob
B	Brass
S	Steel
*SS	Stainless Steel

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

* Available in 400, 600 and 800 sizes.

Other Options

Code	Description
Omit	Standard Knob
T*	Tamperproof
F	Finger Screw

* Not available above 1200 size.

Seal Compound

Code	Description
Omit	Nitrile (Standard)
V	Fluorocarbon

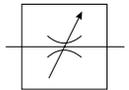
Design Series

NOTE: Not required when ordering.

Flow Control / Check Valves

Model Number	Weight Kg (lbs.)
F400	0.2 (0.5)
F600	0.3 (0.7)
F800	0.7 (1.5)
F1200	1.2 (2.6)





General Description

Series "N" needle valves are ideal as speed controls on hydraulic and pneumatic systems where a reverse flow check is not needed. They provide excellent control and a reliable shutoff in a very small envelope.

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.

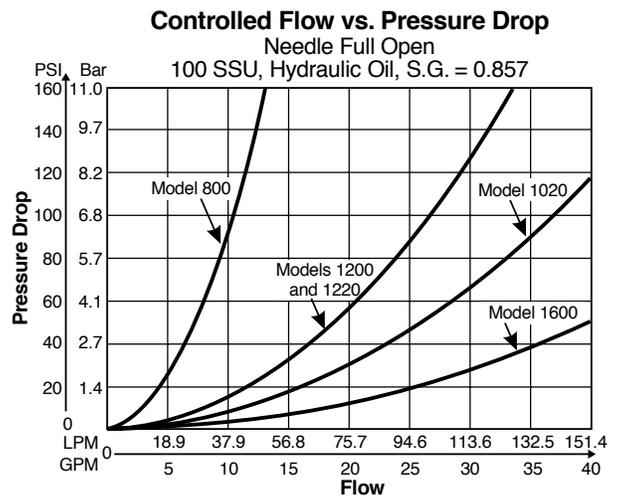
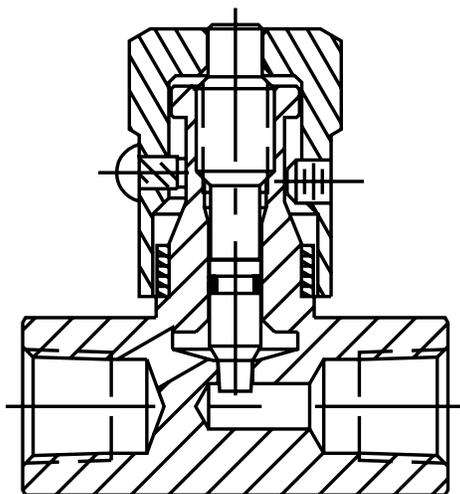
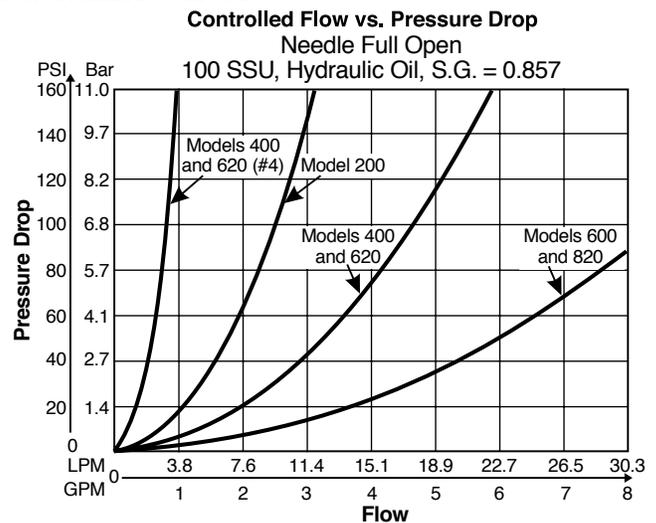
Features

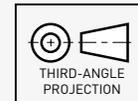
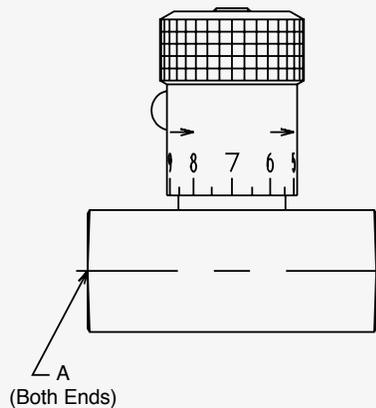
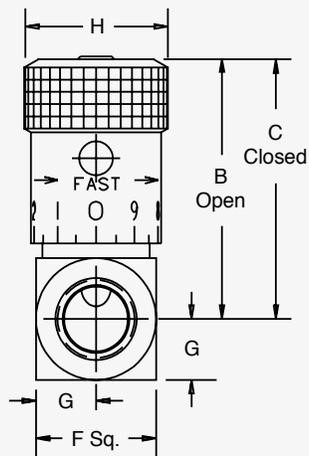
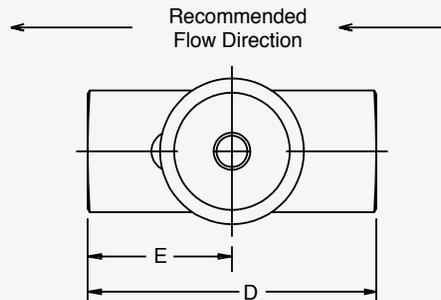
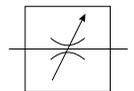
- The exclusive "Colorflow" color-band reference scale on the valve stem is a great convenience and time-saver in setting the valve originally and in returning it to any previous setting.
- A simple set screw locks the valve on any desired setting.
- A tamperproof option (T) feature is also available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



Specifications	
Maximum Operating Pressure	Brass: 140 Bar (2000 PSI); except for N1600 brass which is 35 Bar (500 psi)
	Steel & Stainless thru 1220; 207 Bar (3000 psi) Steel: for all other sizes
Operating Temperature	-40°C to +121°C (-40°F to +250°F)

Performance Curves



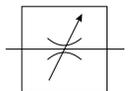


Needle Valves - Series N

Model Number	Max Flow LPM (gpm)	A	B	C	D	E	F	G	H
N400	19 (5)	1/4-18 NPTF	45.5 (1.79)	40.4 (1.59)	50.8 (2.00)	25.4 (1.00)	20.6 (0.81)	10.4 (0.41)	20.6 (0.81)
N600	30 (8)	3/8-18 NPTF	55.4 (2.18)	49.5 (1.95)	63.5 (2.50)	31.8 (1.25)	25.4 (1.00)	12.7 (0.50)	25.4 (1.00)
N800	57 (15)	1/2-14 NPTF	68.6 (2.70)	61.5 (2.42)	66.5 (2.62)	33.3 (1.31)	31.8 (1.25)	15.7 (0.62)	30.2 (1.19)
N1200	95 (25)	3/4-14 NPTF	85.9 (3.38)	71.4 (2.81)	82.6 (3.25)	41.1 (1.62)	38.1 (1.50)	19.1 (0.75)	35.1 (1.38)

*Inch equivalents for millimeter dimensions are shown in (**)





Ordering Information

Options Series **N** Size Material Needle Options Other Options Seal Compound Design Series

NOTE: Not required when ordering.

Code	Description
Omit	NPTF
8	BSPT
9	BSPP

Sizes available: Brass			
400	600	800	1200

Sizes available: Stainless Steel			
400	600	800	

Code	Description
Omit	Nitrile (Standard)
V	Fluorocarbon

Code	Description
Omit	Standard Knob
T*	Tamperproof
F	Finger Screw

* Not available above 1200 size.

Code	Description
Omit	Standard Knob
B	Brass
S	Steel
*SS	Stainless Steel

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

Series F Brass Valves can be used for both air and oil service.
* Available in 400, 600 and 800 sizes.

Model Number	Weight Kg (lbs.)
N400	0.2 (0.5)
N600	0.3 (0.7)
N800	0.7 (1.5)
N1200	1.0 (2.3)



Flow Control / Check Valves

