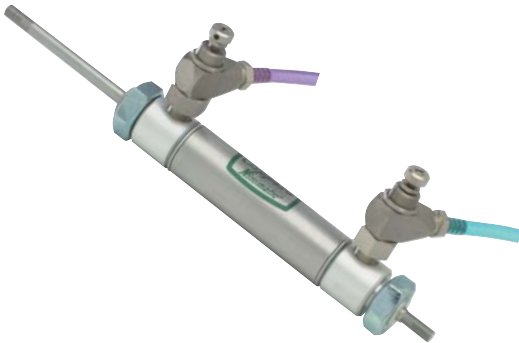




# FLOW CONTROL VALVES

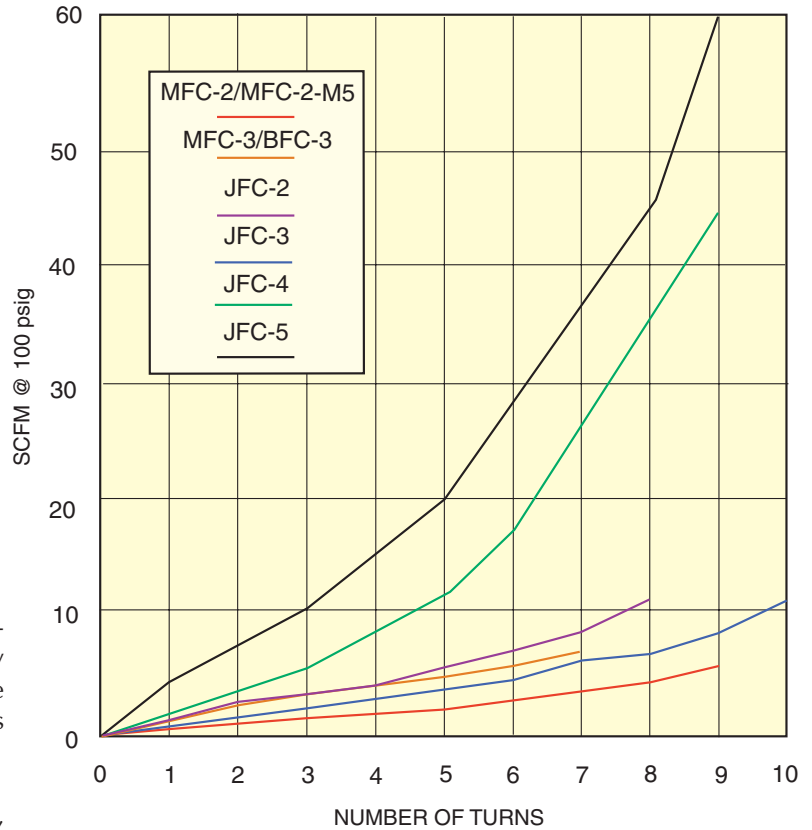
## Flow Controls Flow vs. Needle Turns



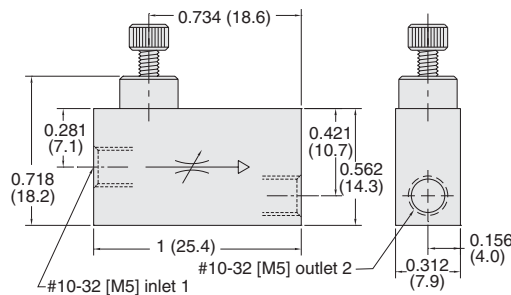
Clippard offers five models of adjustable flow controls with #10-32 through 3/8" NPT ports. They feature a combination needle and check valve that controls flow in one direction and allows free flow in the opposite direction.

They are an ideal valve for use with a cylinder, providing a slow extend stroke while allowing a fast retract stroke. The chart on this page illustrates the flow versus the number of needle adjustments turns for the MFC-2, MFC-2-M5, MFC-3, BFC-3, JFC-2, JFC-3, JFC-4 and JFC-5.

**Medium:** Air, Water or Oil



### Adjustable Flow Control Valve



**Materials:** Brass body and stainless steel needle; Buna-N seals

**Input Pressure:** 300 psig max.

**Air Flow:** 4 scfm max. @ 50 psig; 7 scfm max. @ 100 psig

**Pressure To Open:** Cracks at approx. 2 psig

**Mounting:** In-line

**Flow Direction:** Arrow in valve body shows direction of controlled flow

**Adjustment:** Knurled knob on needle shaft



Part No.	Description
MFC-2	Adjustable Flow Control Valve, #10-32
MFC-2-M5	Adjustable Flow Control Valve, M5

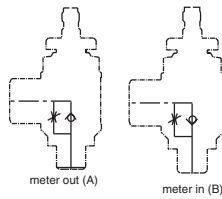
**Input Pressure:** 150 psig max.

**Mounting:** Directly into #10-32 port

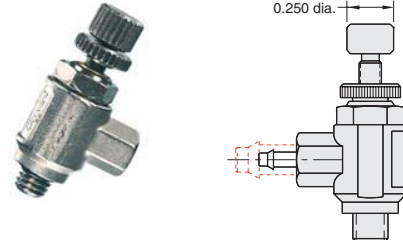
**Ports:** Rotating input port allows 360° positioning #10-32 port

**Flow Direction:** Arrow on valve body shows direction of controlled flow

**Adjustment:** Screwdriver slot; slotted knurled knob with lock nut on #10-80 threaded needle shaft for fine adjustment; or recessed slotted needle

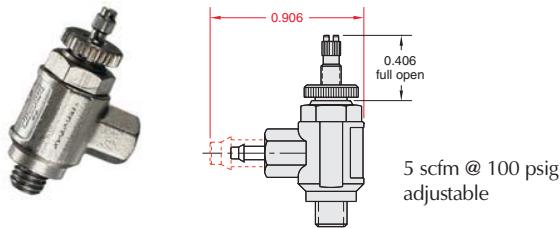


## #10-32 Valves, Knurled Knob



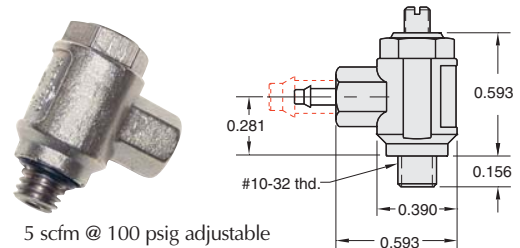
Part No.	Description
MFC-3AK	Meter Out Control Valve, #10-32 Female Side Port
MFC-3AK1	Meter Out Control Valve, 1/16" Barb Side Port
MFC-3AK2	Meter Out Control Valve, 1/8" Barb Side Port
MFC-3BK	Meter In Control Valve, #10-32 Female Side Port
MFC-3BK1	Meter In Control Valve, 1/16" Barb Side Port
MFC-3BK2	Meter In Control Valve, 1/8" Barb Side Port

## #10-32 Valves, Screwdriver Slot



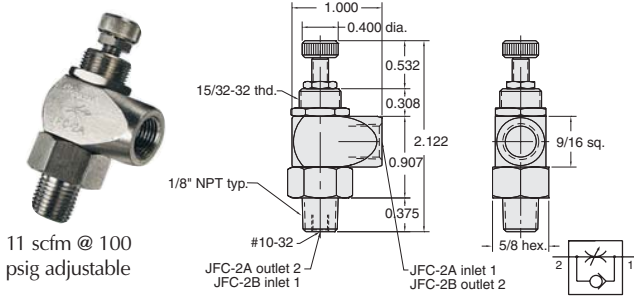
Part No.	Description
MFC-3A	Meter Out Control Valve, #10-32 Female Side Port
MFC-3A1	Meter Out Control Valve, 1/16" Barb Side Port
MFC-3A2	Meter Out Control Valve, 1/8" Barb Side Port
MFC-3B	Meter In Control Valve, #10-32 Female Side Port
MFC-3B1	Meter In Control Valve, 1/16" Barb Side Port
MFC-3B2	Meter In Control Valve, 1/8" Barb Side Port

## #10-32 Valves, Recessed Needle



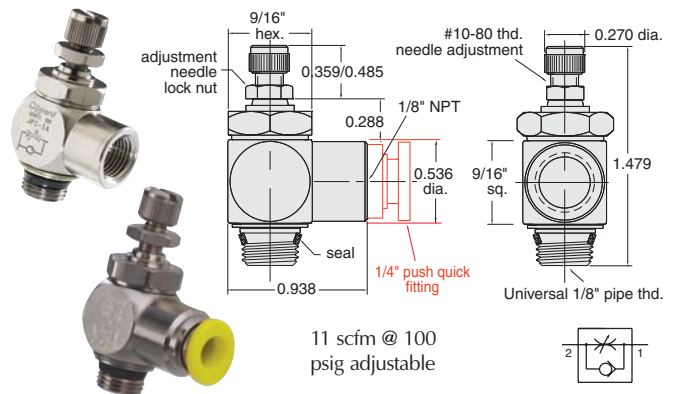
Part No.	Description
MFC-3AR	Meter Out Control Valve, #10-32 Female Side Port
MFC-3AR1	Meter Out Control Valve, 1/16" Barb Side Port
MFC-3AR2	Meter Out Control Valve, 1/8" Barb Side Port
MFC-3BR	Meter In Control Valve, #10-32 Female Side Port
MFC-3BR1	Meter In Control Valve, 1/16" Barb Side Port
MFC-3BR2	Meter In Control Valve, 1/8" Barb Side Port

## 1/8" NPT Control Valves, Knurled Knob



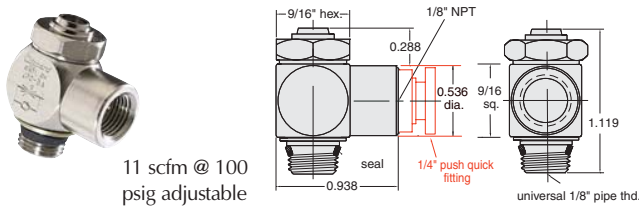
Part No.	Description
JFC-2A	Meter Out Control Valve, 1/8" NPT
JFC-2B	Meter In Control Valve, 1/8" NPT

## 1/8" NPT Valves, Knurled Knob



Part No.	Description
JFC-3A	Meter Out Control Valve, 1/8" NPT
JFC-3B	Meter In Control Valve, 1/8" NPT
JFC-3AP08	Meter Out Control Valve, 1/4" Push-Quick Fitting
JFC-3BP08	Meter In Control Valve, 1/4" Push-Quick Fitting

## 1/8" NPT Valves, Recessed Needle



Part No.	Description
JFC-3AR	Meter Out Control Valve, 1/8" NPT
JFC-3BR	Meter In Control Valve, 1/8" NPT
JFC-3AP08	Meter Out Control Valve, 1/4" Push-Quick Fitting
JFC-3BP08	Meter In Control Valve, 1/4" Push-Quick Fitting



# FLOW CONTROL VALVES



These combination needle and check valve flow controls are typically used to control air flow from air cylinders, thereby controlling the speed at which

the piston strokes, either while extending or retracting, depending on their location in the circuit.

J-Series Flow Control Valves allow free flow in one direction. In the opposite direction the flow is metered by the needle valve.

Models listed in the chart have either a 1/4" NPT (JFC-4) or 3/8" NPT (JFC-5) male threaded outlets, recessed screwdriver slot (R) or knurled knob (K) flow adjustment needles and female NPT or push-to-connect tubing (Push-Quick) inlets. The P08 models feature a 1/4" Push-Quick fitting, and the P12 versions have a 3/8" Push-Quick fitting.

**Medium:** Air, Water or Oil

**Material:** Electroless nickel plated brass needle and stem, anodized aluminum body, Buna-N seals

**Input Pressure:** 150 psig max.

**Air Flow:** JFC-4 - 45 scfm @ 100 psig adjustable  
JFC-5 - 60 scfm @ 100 psig adjustable

**Mounting:** Directly into cylinder. Panel or in-line.

**Ports:** Rotating input port allows 360° positioning 1/8" NPT

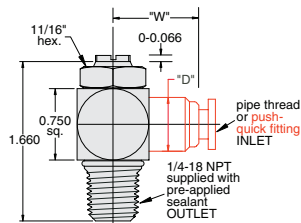
**Adjustment:** Recessed slotted needle or knurled knob

Part #	"D"	"W"
JFC-4K & JFC-4R	0.710"	0.890"
JFC-4K-P08 & JFC-4R-P08	0.562"	0.890"
JFC-4K-P12 & JFC-4R-P12	0.710"	1.062"
JFC-5K & JFC-5R	0.827"	1.125"
JFC-5K-P12 & JFC-5R-P12	0.750"	1.124"

## 1/4" NPT Valves, Recessed Needle



(JFC-4R shown)

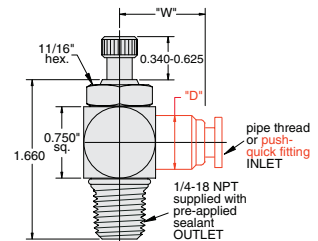


Part No.	Description
JFC-4R	Meter Out Control Valve, 1/4" NPT
JFC-4R-P08	Meter Out Control Valve, 1/4" Push-Quick Fitting
JFC-4R-P12	Meter Out Control Valve, 3/8" Push-Quick Fitting

## 1/4" NPT Valves, Adjusting Knob



(JFC-4K shown)

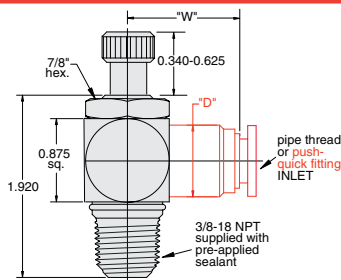


Part No.	Description
JFC-4K	Meter Out Control Valve, 1/4" NPT
JFC-4K-P08	Meter Out Control Valve, 1/4" Push-Quick Fitting
JFC-4K-P12	Meter Out Control Valve, 3/8" Push-Quick Fitting

## 3/8" NPT Valves, Adjusting Knob



(JFC-5K-P12 shown)

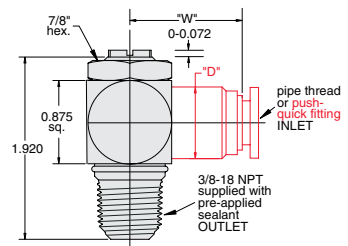


Part No.	Description
JFC-5K	Meter Out Control Valve, 3/8" NPT
JFC-5K-P12	Meter Out Control Valve, 3/8" Push-Quick Fitting

## 3/8" NPT Valves, Recessed Needle



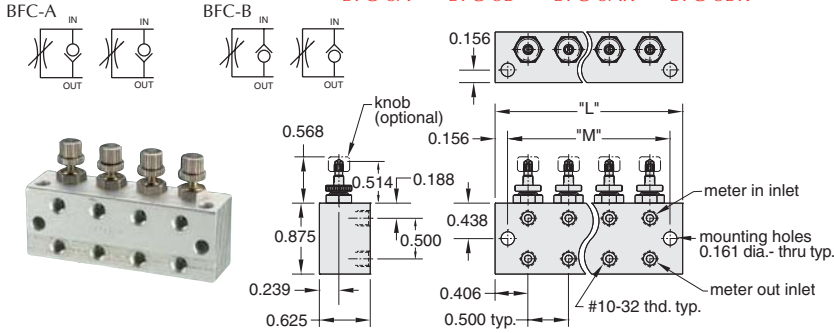
(JFC-5R-P12 shown)



Part No.	Description
JFC-5R	Meter Out Control Valve, 3/8" NPT
JFC-5R-P12	Meter Out Control Valve, 3/8" Push-Quick Fitting

## Block Flow Controls

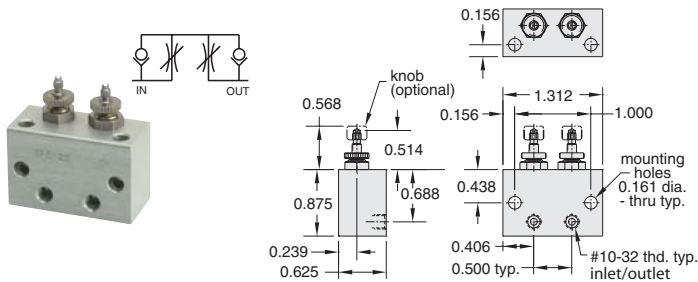
- BFC-2A
- BFC-2B
- BFC-2AK
- BFC-2BK
- BFC-4A
- BFC-4B
- BFC-4AK
- BFC-4BK
- BFC-6A
- BFC-6B
- BFC-6AK
- BFC-6BK
- BFC-8A
- BFC-8B
- BFC-8AK
- BFC-8BK



## Block Flow Controls

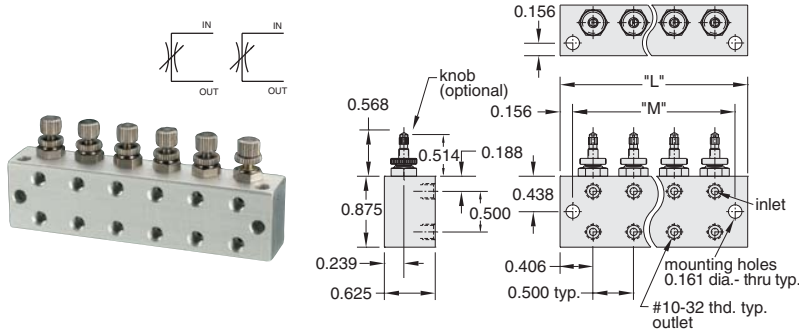
- BFC-2C
- BFC-2CK

Two valves common meter in and meter out.



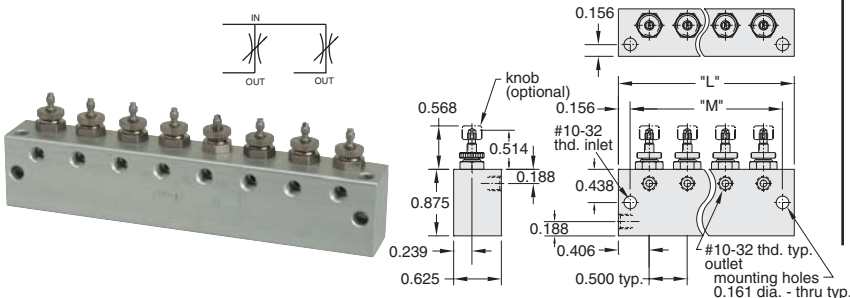
## Block Needle Valves

- BNV-2N
- BNV-4N
- BNV-6N
- BNV-8N
- BNV-2NK
- BNV-4NK
- BNV-6NK
- BNV-8NK



## Block Needle Manifolds

- BNM-2N
- BNM-4N
- BNM-6N
- BNM-8N
- BNM-2NK
- BNM-4NK
- BNM-6NK
- BNM-8NK



**Precision flow controls and needle valves available in blocks for rigid mounting.**  
Specification same as MFC-3

Clippard's block flow control and needle valves have a variety of features that offer extra versatility for unique applications. These precision made valves offer high performance, low cost, reliability and ease of installation. Each valve is independent of the other (except the BFC-2C), sharing only a common body. This allows separate pressures and/or gases to be used while simplifying mounting. Each needle adjustment is smooth, exact, and includes a locking ring to prevent tampering. The valve body is machined and anodized aluminum; the compound angle needle stems are machined from 303 stainless steel; the valve sleeve is electroless nickel plated brass; and the seals are Buna-N rubber. Block flow controls and needle valves are ideal for controlling double acting cylinders.

FC - Flow Control  
NV - Needle Valve  
NM - Needle Manifold



Number of stations  
2 - 2 Stations  
4 - 4 Stations  
6 - 6 Stations  
8 - 8 Stations

A - Meter Out Flow  
B - Meter In Flow  
C - 2 Valves Common Meter In and Meter Out  
N - Needle Valve

Adjustment type  
Blank - Screwdriver Slot  
K - Adjustment Knob

Number of Stations "X"	"L"	"M"
2	1.312"	1.000"
4	2.312"	2.000"
6	3.312"	3.000"
8	4.312"	4.000"