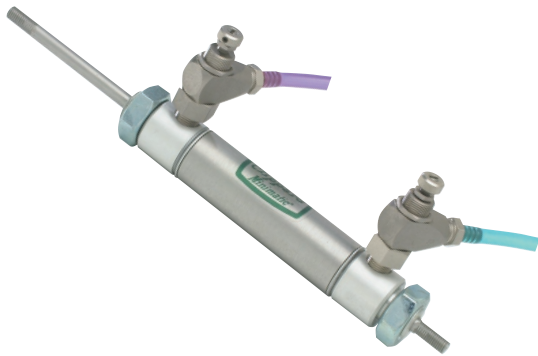




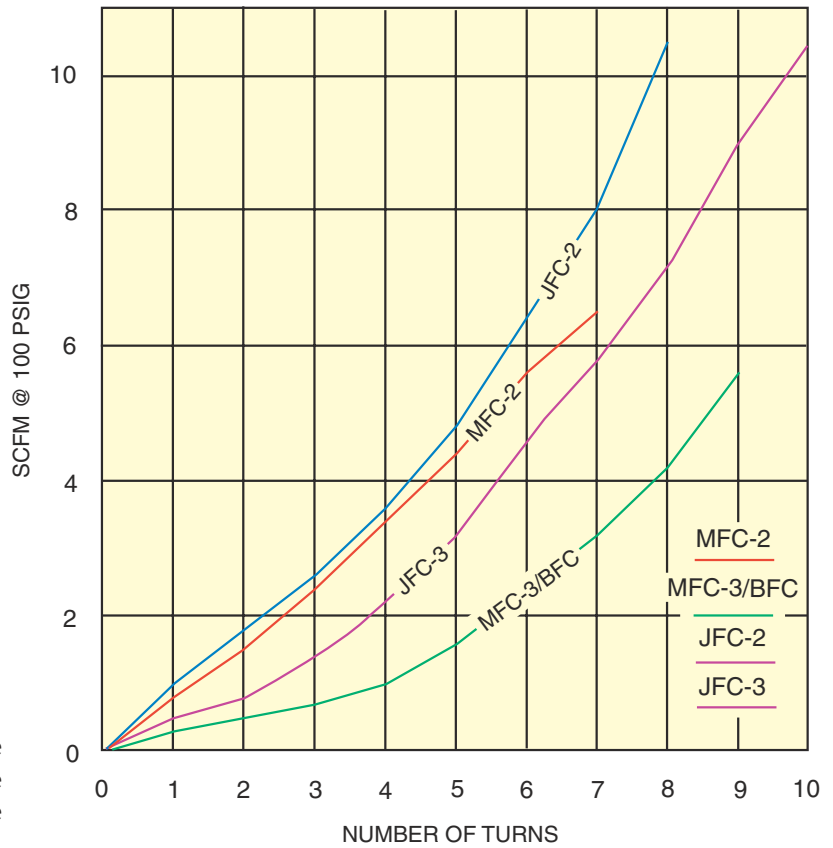
FLOW CONTROL VALVES

Flow Controls Flow vs. Needle Turns



Clippard offers (5) models of adjustable flow controls with 10-32 through 1/8 NPT ports. They feature a combination needle and check valve which controls flow in one direction and allows free flow in the opposite direction.

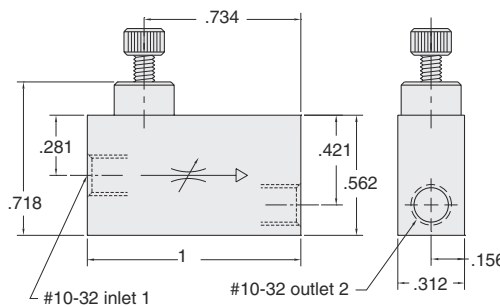
They are an ideal valve for use with a cylinder, providing a slow extend stroke while allowing a fast retract stroke. The chart on this page illustrates the flow versus the number of needle adjustments turns for the MFC-2, MFC-3, BFC-3, JFC-2, and JFC-3.



MFC-2



Adjustable flow control valve; brass body and stainless steel needle; Buna-N seals



Medium: air, water, or oil

Input Pressure: 300 psig max.

Air Flow: @50 psig - 4 SCFM max.
@100 psig - 7 SCFM max.

Pressure To Open: Cracks at approx. 2 psig

Mounting: direct or inline

Ports: Inlet - 10-32, Outlet - 10-32

Temperature Range: 32° to 230° F

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

Adjustment: knurled knob on needle shaft

10-32 FLOW CONTROL VALVES



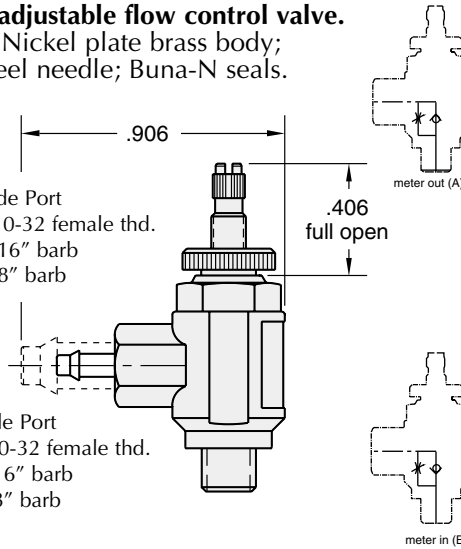
MFC-3A

Meter Out



Meter out adjustable flow control valve.
Electroless Nickel plate brass body;
stainless steel needle; Buna-N seals.

| Part # | Side Port |
|---------|--------------------|
| MFC-3A | #10-32 female thd. |
| MFC-3A1 | 1/16" barb |
| MFC-3A2 | 1/8" barb |



Medium: air, water, or oil

Input Pressure: 150 psig max.

Air Flow: @100 psig - 5 SCFM adjustable

Mounting: Directly into 10-32 port

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

Temperature Range: 32° to 230° F

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

Adjustment: Screwdriver Slot

MFC-3B

Meter In



| Part # | Side Port |
|---------|--------------------|
| MFC-3B | #10-32 female thd. |
| MFC-3B1 | 1/16" barb |
| MFC-3B2 | 1/8" barb |

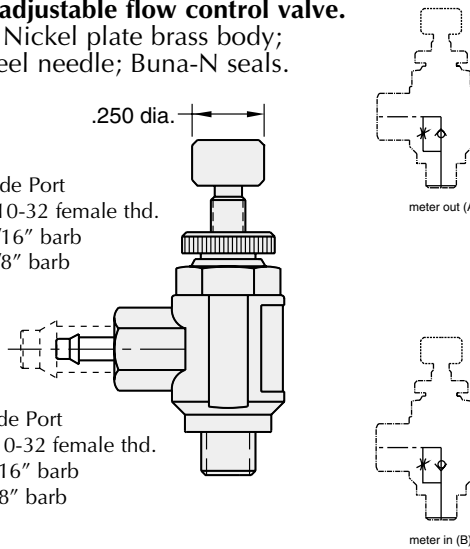
MFC-3AK

Meter Out



Meter out adjustable flow control valve.
Electroless Nickel plate brass body;
stainless steel needle; Buna-N seals.

| Part # | Side Port |
|----------|--------------------|
| MFC-3AK | #10-32 female thd. |
| MFC-3AK1 | 1/16" barb |
| MFC-3AK2 | 1/8" barb |



Medium: air, water, or oil

Input Pressure: 150 psig max.

Air Flow: @100 psig - 5 SCFM adjustable

Mounting: Directly into 10-32 port

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

Temperature Range: 32° to 230° F

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

Adjustment: Slotted knurled knob with lock nut on #10-80 threaded needle shaft for fine adjustment

MFC-3BK

Meter In



| Part # | Side Port |
|----------|--------------------|
| MFC-3BK | #10-32 female thd. |
| MFC-3BK1 | 1/16" barb |
| MFC-3BK2 | 1/8" barb |

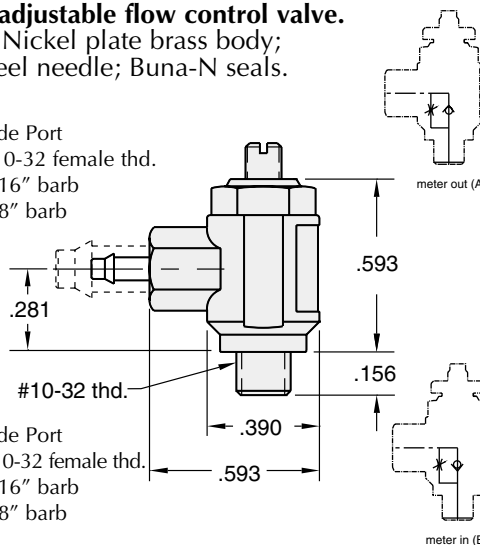
MFC-3AR

Meter Out



Meter out adjustable flow control valve.
Electroless Nickel plate brass body;
stainless steel needle; Buna-N seals.

| Part # | Side Port |
|----------|--------------------|
| MFC-3AR | #10-32 female thd. |
| MFC-3AR1 | 1/16" barb |
| MFC-3AR2 | 1/8" barb |



Medium: air, water, or oil

Input Pressure: 150 psig max.

Air Flow: @100 psig - 5 SCFM adjustable

Mounting: Directly into 10-32 NPT port

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

Temperature Range: 32° to 230° F

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

Adjustment: Recessed slotted needle

MFC-3BR

Meter In



| Part # | Side Port |
|----------|--------------------|
| MFC-3BR | #10-32 female thd. |
| MFC-3BR1 | 1/16" barb |
| MFC-3BR2 | 1/8" barb |



1/8 NPT FLOW CONTROL VALVES

JFC-2A



Meter out adjustable flow control valve.
Electroless Nickel plate brass body;
stainless steel needle; Buna-N seals.



Medium: air, water, or oil

Input Pressure: 150 psig max.

Air Flow: @100 psig - 10.5 SCFM adjustable

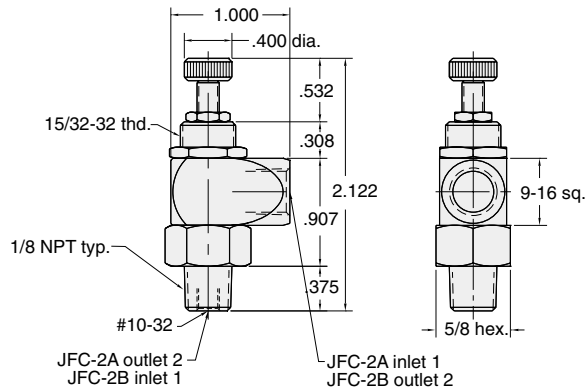
Mounting: Directly into cylinder.
Panel or inline

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

Temperature Range: 32° to 230° F

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

Adjustment: Knurled knob with lock nut
on needle shaft



JFC-2B



JFC-3A



Meter out adjustable flow control valve.
Electroless Nickel plate brass body;
stainless steel needle; Buna-N seals.



Medium: air, water, or oil

Input Pressure: 150 psig max.

Air Flow: @100 psig - 10.5 SCFM adjustable

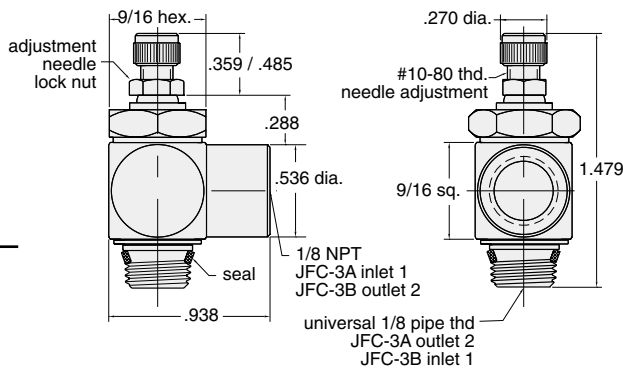
Mounting: Directly into cylinder.
Panel or inline

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

Temperature Range: 32° to 230° F

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

Adjustment: Slotted knurled knob with
lock nut on #10-80 threaded needle
shaft for fine adjustment



JFC-3B



JFC-3AR



Meter out adjustable flow control valve.
Electroless Nickel plate brass body;
stainless steel needle; Buna-N seals.



Medium: air, water, or oil

Input Pressure: 150 psig max.

Air Flow: @100 psig - 10.5 SCFM adjustable

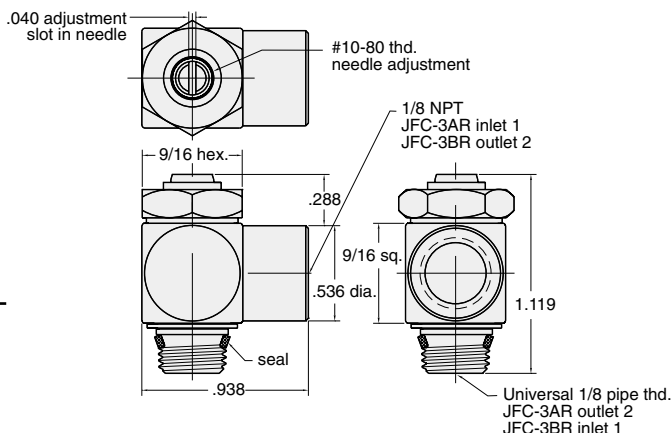
Mounting: Directly into cylinder.
Panel or inline

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

Temperature Range: 32° to 230° F

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

Adjustment: Recessed slotted needle

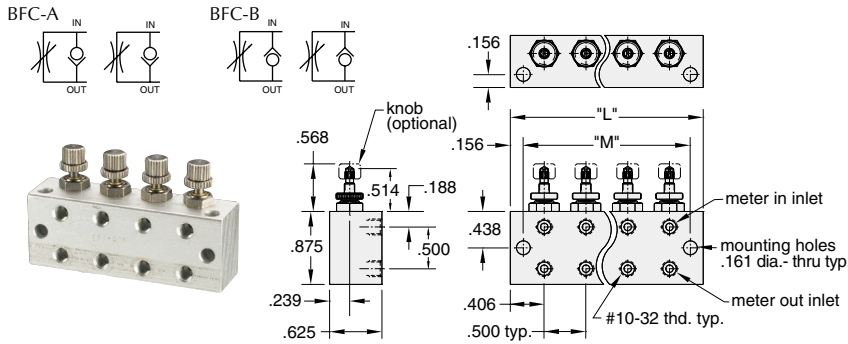


JFC-3BR



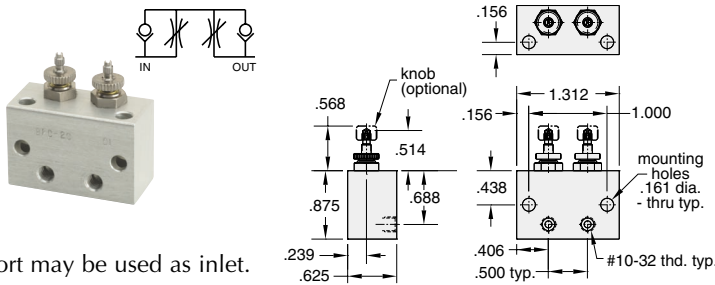
BFC-□□(□)

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



BFC-2C(□)

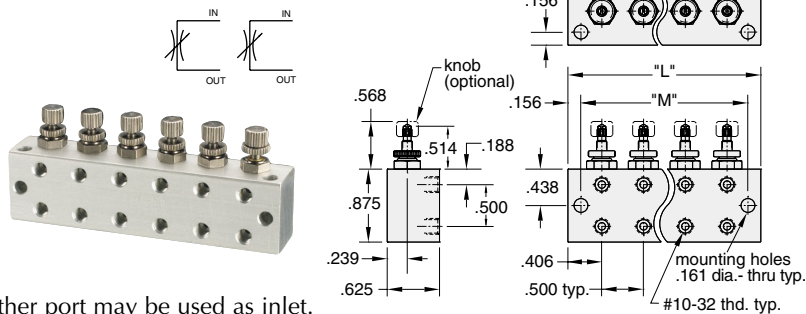
- BFC-2C BFC-2CK
- (2) Valves common meter in and meter out.



Either port may be used as inlet.

BNV-□N(□)

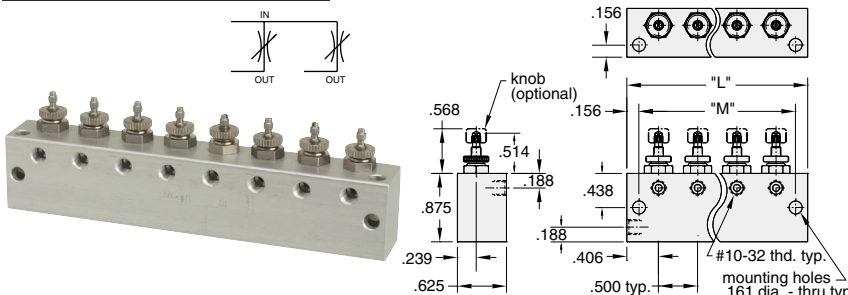
- BNV-2N BNV-4N BNV-6N BNV-8N
- BNV-2NK BNV-4NK BNV-6NK BNV-8NK



Either port may be used as inlet.

BNM-□N(□)

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



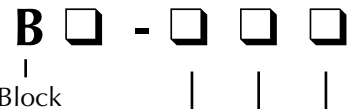
Either port may be used as inlet.

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

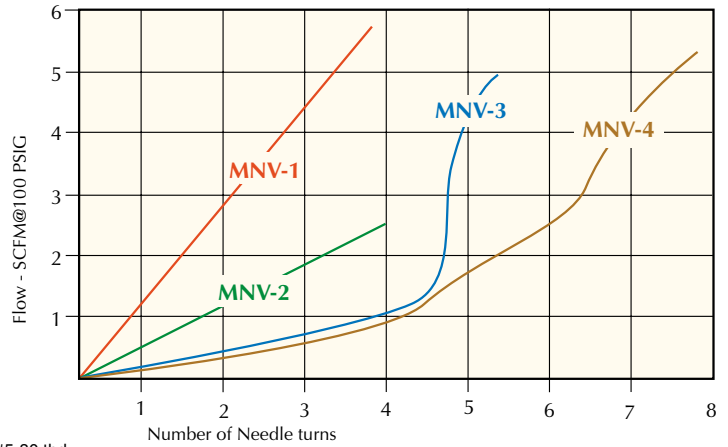
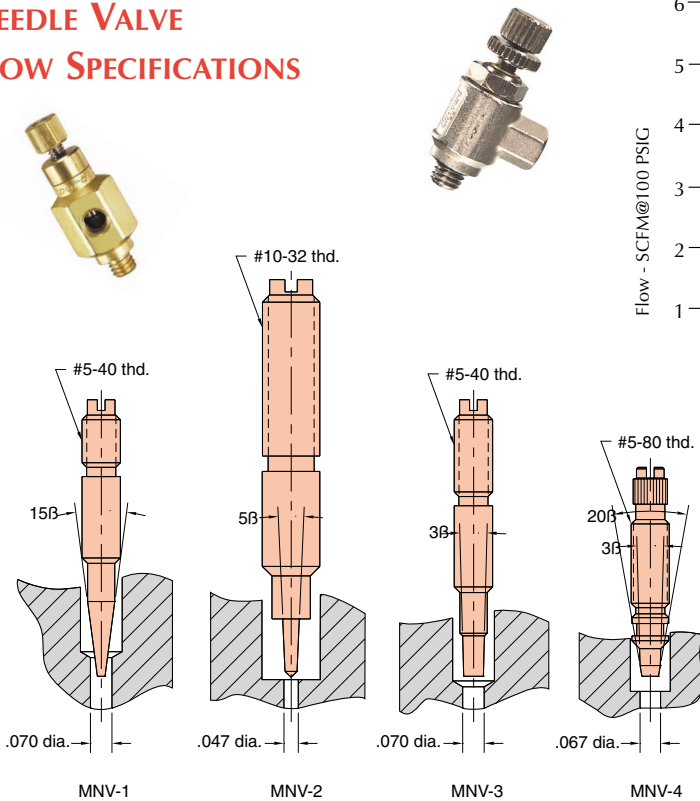
K - adjustment knob

| 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 |



NEEDLE VALVES

NEEDLE VALVE FLOW SPECIFICATIONS



Adjustable control needle valves restrict flow in both directions. There are (4) four models offered by Clippard, all with 10-32 ports, but with various needle configurations to provide coarse or fine flow adjustment. The diagram of needle shapes and the chart on this page show the difference between these models.

MNV-1

Adjustable control needle valve; brass body; stainless steel needle; Buna-N seal

Medium: air, water, or oil

Input Pressure: 2000 psig max.

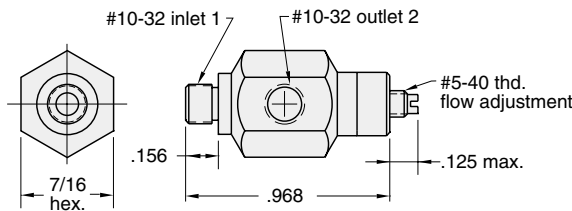
Air Flow: @50 psig - 3 SCFM
@100 psig - 6 SCFM

Mounting: Direct or inline

Ports: Inlet - 10-32, Outlet - 10-32

Temperature Range: 32° to 230° F

Adjustment: Screwdriver slot; clockwise adjustment provides less flow



MNV-1K

Adjustable control needle valve; brass body; stainless steel needle; Buna-N seal

Medium: air, water, or oil

Input Pressure: 2000 psig max.

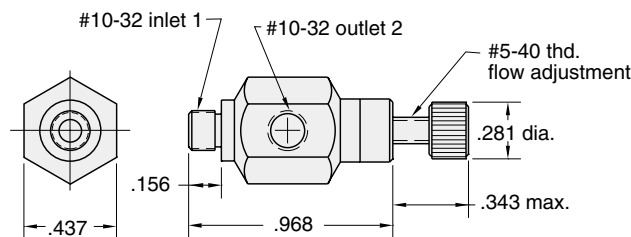
Air Flow: @50 psig - 3 SCFM
@100 psig - 6 SCFM

Mounting: Direct or inline

Ports: Inlet - 10-32, Outlet - 10-32

Temperature Range: 32° to 230° F

Adjustment: Knurled knob; clockwise adjustment provides less flow



MNV-1P



Adjustable control needle valve; brass body;
stainless steel needle; Buna-N seal



Medium: air, water, or oil

Input Pressure: 2000 psig max.

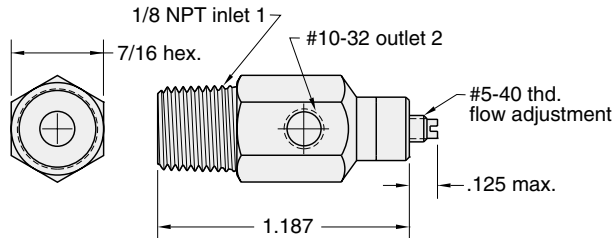
Air Flow: @50 psig - 3 SCFM
@100 psig - 6 SCFM

Mounting: Direct or inline

Ports: Inlet - 1/8 NPT, Outlet - 10-32

Temperature Range: 32° to 230° F

Adjustment: Screwdriver slot; clockwise adjustment provides less flow



MNV-1KP



Adjustable control needle valve; brass body;
stainless steel needle; Buna-N seal



Medium: air, water, or oil

Input Pressure: 2000 psig max.

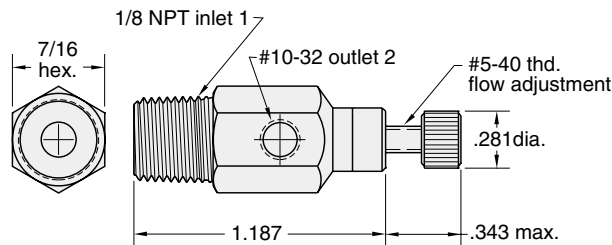
Air Flow: @50 psig - 3 SCFM
@100 psig - 6 SCFM

Mounting: Direct or inline

Ports: Inlet - 1/8 NPT, Outlet - 10-32

Temperature Range: 32° to 230° F

Adjustment: Knurled knob; clockwise adjustment provides less flow



MNV-2



Adjustable control needle valve; brass body;
stainless steel needle; Buna-N seal



Medium: air, water, or oil

Input Pressure: 300 psig max.

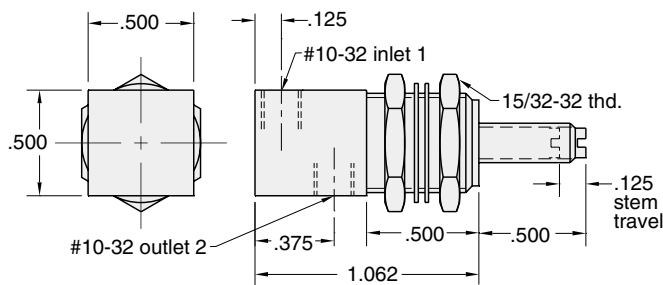
Air Flow: @50 psig - 1 SCFM
@100 psig - 2.5 SCFM

Mounting: 15/32-32 thread
Nut and lockwashers furnished

Ports: 10-32 female

Temperature Range: 32° to 230° F

Adjustment: Screwdriver slot; clockwise adjustment provides less flow



MNV-2K



Adjustable control needle valve; brass body;
stainless steel needle; Buna-N seal



Medium: air, water, or oil

Input Pressure: 300 psig max.

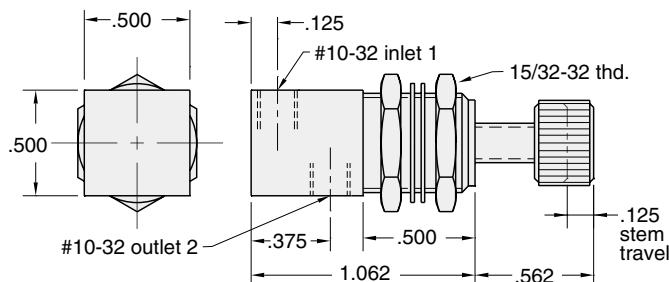
Air Flow: @50 psig - 1 SCFM
@100 psig - 2.5 SCFM

Mounting: 15/32-32 thread
Nut and lockwashers furnished

Ports: 10-32 female

Temperature Range: 32° to 230° F

Adjustment: Knurled knob; clockwise adjustment provides less flow



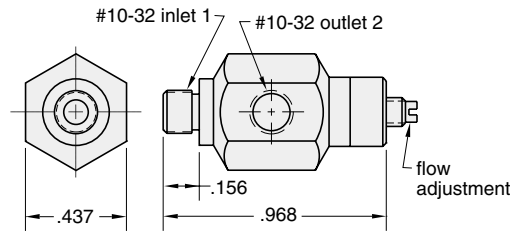


NEEDLE VALVES

MNV-3



Adjustable control needle valve; brass body; stainless steel needle; Buna-N seal



Medium: air, water, or oil

Input Pressure: 2000 psig max.

Air Flow: @50 psig - 2.5 SCFM
@100 psig - 5 SCFM

Mounting: Direct or inline

Ports: Inlet - 10-32, Outlet - 10-32

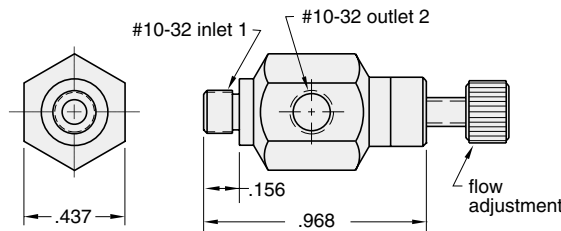
Temperature Range: 32° to 230° F

Adjustment: Screwdriver slot; clockwise adjustment provides less flow

MNV-3K



Adjustable control needle valve; brass body; stainless steel needle; Buna-N seal



Medium: air, water, or oil

Input Pressure: 2000 psig max.

Air Flow: @50 psig - 2.5 SCFM
@100 psig - 5 SCFM

Mounting: Direct or inline

Ports: Inlet - 10-32 , Outlet - 10-32

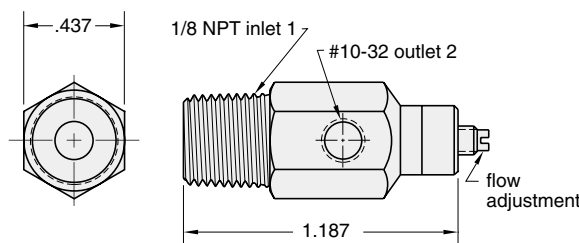
Temperature Range: 32° to 230° F

Adjustment: Knurled knob; clockwise adjustment provides less flow

MNV-3P



Adjustable control needle valve; brass body; stainless steel needle; Buna-N seal



Medium: air, water, or oil

Input Pressure: 2000 psig max.

Air Flow: @50 psig - 2.5 SCFM
@100 psig - 5 SCFM

Mounting: Direct or inline

Ports: Inlet - 1/8 NPT, Outlet - 10-32

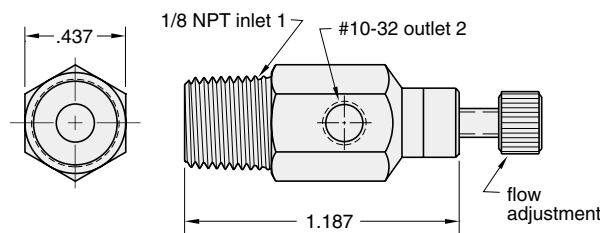
Temperature Range: 32° to 230° F

Adjustment: Screwdriver slot; clockwise adjustment provides less flow

MNV-3KP



Adjustable control needle valve; brass body; stainless steel needle; Buna-N seal



Medium: air, water, or oil

Input Pressure: 2000 psig max.

Air Flow: @50 psig - 2.5 SCFM
@100 psig - 5 SCFM

Mounting: Direct or inline

Ports: Inlet - 1/8 NPT, Outlet - 10-32

Temperature Range: 32° to 230° F

Adjustment: Knurled knob; clockwise adjustment provides less flow



MNV-4

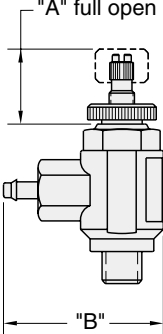
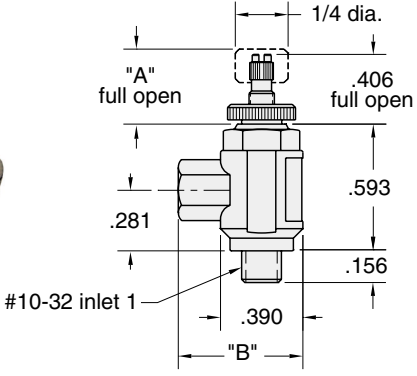
Adjustable control needle valve; brass body; stainless steel needle; Buna-N seal



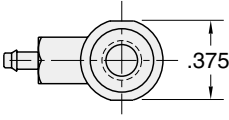
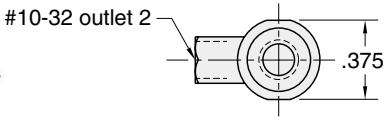
Medium: air, water, or oil
Input Pressure: 300 psig max.
Air Flow: @100 psig - 0 to 5 SCFM
Mounting: Direct or inline
Ports: Inlet - 10-32, Outlet - 10-32
Temperature Range: 32° to 230° F

Adjustment: Knurled locking nut standard; screwdriver slot; knurled locking nut standard; clockwise adjustment of either provides less flow

| Part # | Female Part | "A" | "B" |
|--------|-------------|------|------|
| MNV-4 | 10-32 thd. | .406 | .593 |
| MNV-41 | 1/16 barb | .406 | .750 |
| MNV-42 | 1/8 barb | .406 | .906 |



MNV-4K



Adjustment for MNV-4K: Knurled knob; clockwise adjustment of either provides less flow

| Part # | Female Part | "A" | "B" |
|---------|-------------|------|------|
| MNV-4K | 10-32 thd. | .406 | .593 |
| MNV-4K1 | 1/16 barb | .406 | .750 |
| MNV-4K2 | 1/8 barb | .406 | .906 |

Did you know...

Clippard was the first to use the 10-32 threaded port for miniature valves, cylinders, and fittings which continues to be the industry standard today.

