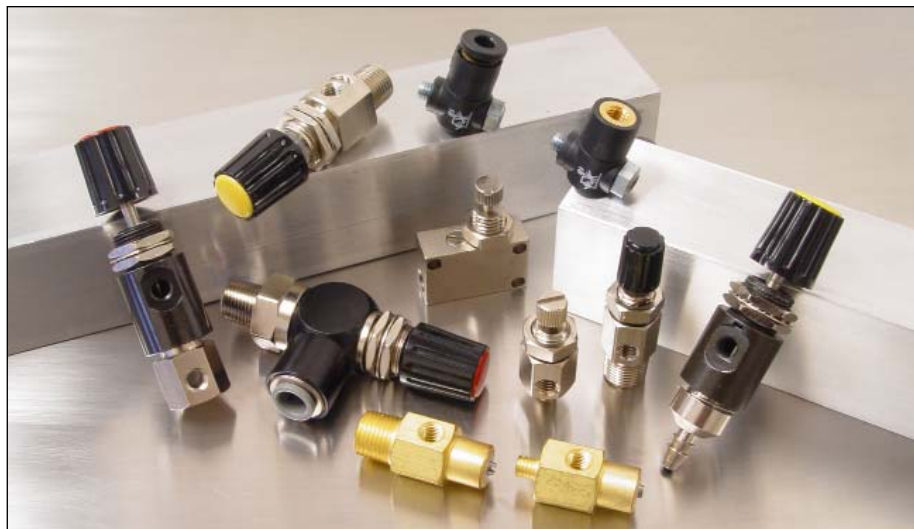


### Features

- Multiple porting options-including push-to-connect fittings
- Flow controls available in *reverse flow*
- Compact size
- Panel mountable
- Instrument quality collet knob



## Flow Control & Needle Valves

Flow controls and Needle valves are used to reduce the rate of flow in a leg of a system, consequently the restriction slows cylinder speed.

Finely threaded stems allow gradual adjustment of controlled flow to match system requirements.

Although the **basic function** is flow restriction, the fundamental difference between the two is the **needle valve** con-

trols flow in *both directions* (bi-directional) and the **flow control valve** controls flow in *only one direction* (allowing free flow in the opposite direction).

### Function

In both the flow control and needle valve a finely threaded stem allows gradual adjustment of the amount of **controlled flow** passing through the valve. Flow enters port 1, travels through an orifice sized by the tapered stem and out port 2. The flow control features a by-pass check which allows rapid **free flow out** port 1.

Pneumadyne offers a **variety of configurations** with several flow rate options. Choose from twenty-five needle valves and thirty-nine flow controls- *the multiple porting options virtually eliminate the need for additional fittings.*

### Identification

"O" Series	Flow Control:	Needle Valve:
"11" Series	Red Cap	Yellow Cap
"700" Series knob	Low Flow: Brass	General Flow: Brass/ Electroless Nickel
Mini	Contact factory	

### Materials

**"O" Series:** Brass/ Black Dichromate, Brass/ Electroless Nickel, Stainless Steel, Nylon, Buna-N, Acetal collets

**"11" Series:** Aluminum/ Black Anodize, or Brass/ Electroless Nickel, Stainless Steel, Nylon, Buna-N, Acetal collets

**"700" Series:** Brass/ Electroless Nickel, Stainless Steel, Buna-N

**Mini (non-mount):** Brass, Acetal, Stainless Steel, Buna-N

**Banjo:** Brass/ Electroless Nickel, Buna-N, Stainless Steel, PA6 (plastic)

- Optional seals available- contact factory
- Pneumadyne Flow Controls and Needle Valves are not leak tight. Not to be used as a shut-off device.

### Performance Data

Temperature Range	Operating Pressure
-20° to 160° F	0 to 125 psi

### Flow Control & Needle Valve

Product Group	Flow Rate (scfm)		C <sub>v</sub>	Cracking Pressure (FC Only)	Function Code
	50 psi	125 psi			
"O" Series	4.4	9.4	.13	.1 psi	MO, BI
"11" Series	12.0	27.0	.29	.1 psi	MO, BI
"700" Series	3.2	6.2	.09	.1 psi	MO, BI
Mini (FC & NV Series)	3.3	6.8	.10	.1 psi	MO, BI
Banjo Flow Control	4.0	8.7	.11	.1 psi	MO

Performance data operating full open at 125 psi

### Flow Control: Reverse Control Flow (from 2-1)

Product Group	Flow Rate (scfm)		C <sub>v</sub>	Cracking Pressure	Function Code
	50 psi	125 psi			
Banjo	5.1	11.3	.13	.1 psi	MI
"11" Series	12.0	27.0	.29	.1 psi	MI

C<sub>v</sub> per ANSI / (NFPA) T3.21.3

### Function Code

Code	Function	Controlled Flow	Free Flow
MO	*Meter Out	1 to 2	2 to 1
MI	Meter In	2 to 1	1 to 2
BI	Meter Bi-Directional	metered flow in both directions	N/A

\*Standard product

### Mounting Method

Product Group	Panel Nominal Mounting Hole Dimension	Surface
"O"	31/64"	MB-1 or MB-1F
"11"	31/64"	MB-1 or MB-1F
"700" FC	11/32"	(3) .14 diam. holes
"700" NV	11/32"	N/A
Mini	N/A	Inline/ direct port mount
Banjo	N/A	Inline/ direct port mount

#### Banjo flow control mounting requirements:

Ø 3/8 min. x .10 max. deep counter-bore required when mounting to a cylindrical surface

Nut(s) and lockwasher provided

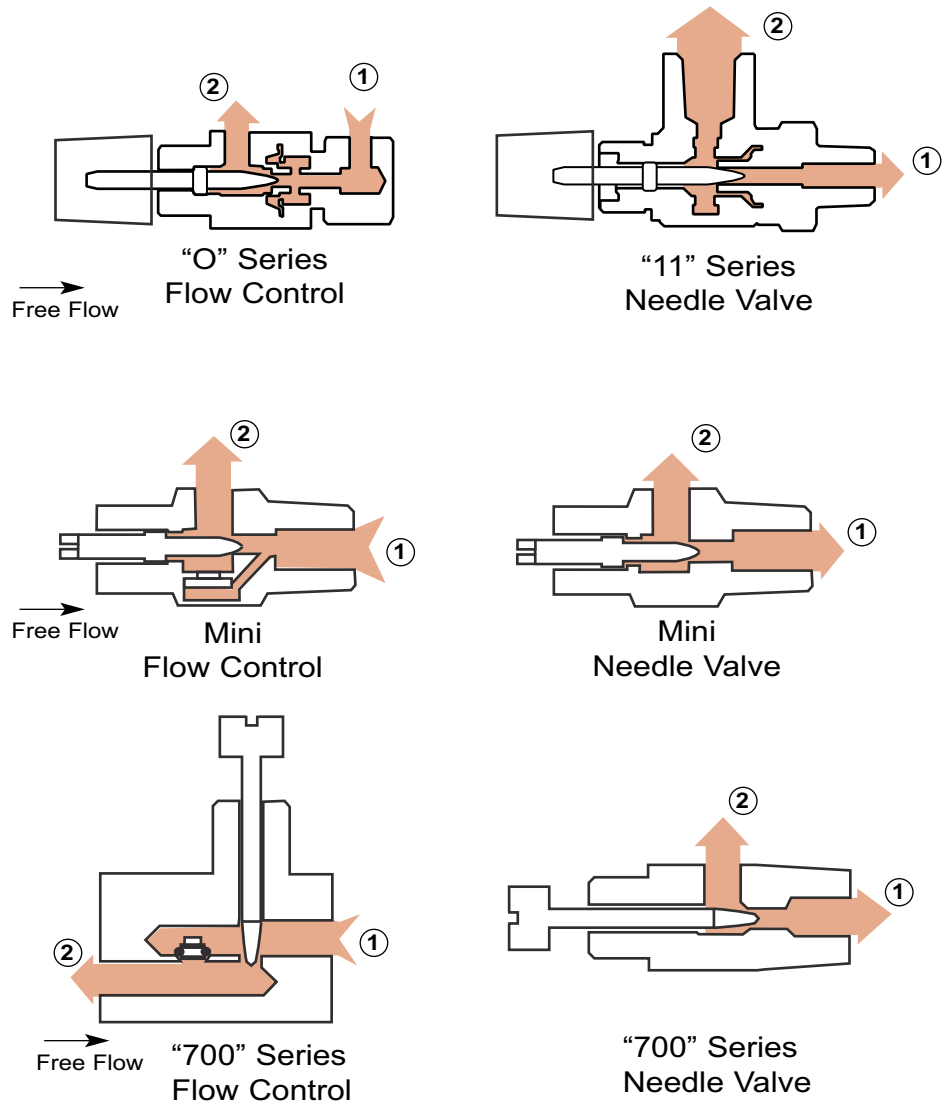
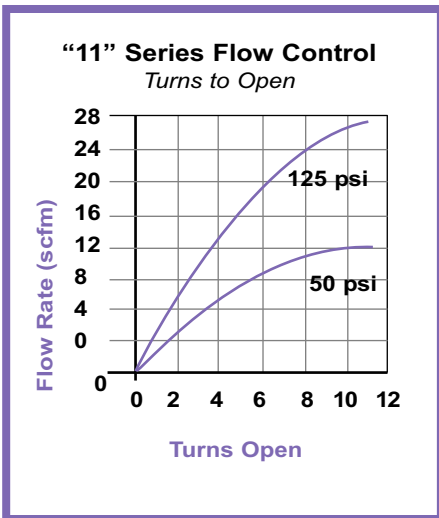
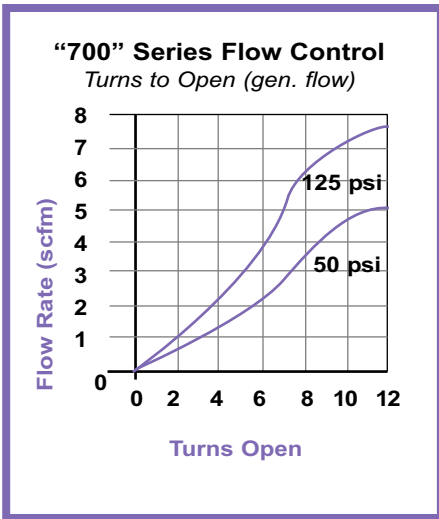
### Port Options

	Def.	Options
"O" Series	Port 1 Swivel Input	● 10-32 (F) ● 1/8 NPT (F) ● 5/32 Push-in ● 1/8 NPT ● 1/4 Push-in ● 170 Barb*
	Port 2 Output	● 10-32 (F)
"11" Series	Port 1 Input	● 5/32 Push-in ● 1/8 NPT (F) ● 1/4 Push-in ● 1/8 NPT
	Port 2 Swivel Output	● 5/32 Push-in ● 1/4 Push-in ● 1/8 NPT (F) <i>Additional options available-contact factory</i>
"700" Series FC	Port 1 Input	● 10-32 (M)
	Port 2 Output	● 10-32 (F)
"700" Series NV	Port 1 Input	● 10-32 (M) ● 1/8 NPT
	Port 2 Output	● 10-32 (F)
Mini	Port 1 Input	● 10-32 (M) ● 1/8 NPT
	Port 2 Output	● 10-32 (F)
Banjo	Port 1 Input	● 10-32 (M)
	Port 2 Output	● 10-32 (F) ● 5/32 Push-in

\*170 Barb recommended for use with .170 ID PUR or .170 ID PE

*Mini Flow Controls and Needle Valves are ideal for use with miniature cylinders*

### Flow Control / Needle Valve Cross Section



**Instrument quality panel knob now available for all "700" Series Valves - prevents excess seat stress**

Flow Control Valve illustrations represent the controlled flow path; free flow is 2 to 1.

Note: Needle Valves control flow in both directions.

Standard Flow Control Valves meter out, flowing from 1 to 2.

## Product Information

### Flow Controls

Part Number	Input	Output
<b>"O" Series</b>		
PFC0-1	1/8 NPT / 10-32(F)	10-32(F)
PFC0-2	10-32 (F) Elbow	10-32(F)
PFC0-3	10-32 (F) Tee	10-32(F)
PFC0-4	1/8 NPT (F)	10-32(F)
PFC0-5	170 Barb	10-32(F)
PFC0-6	1/4 Push-in	10-32(F)
PFC0-7	5/32 Push-in	10-32(F)

### "11" Series

PFC11-14		1/8 NPT (F)
PFC11-16	1/8 NPT / 10-32 (F)	1/4 Push-in
PFC11-17		5/32 Push-in
PFC11-44	1/8	1/8 NPT (F)
PFC11-46	NPT	1/4 Push-in
PFC11-47	(F)	5/32 Push-in
PFC11-64		1/8 NPT (F)
PFC11-66	1/4 Push-in	1/4 Push-in
PFC11-67		5/32 Push-in
PFC11-74	5/32	1/8 NPT (F)
PFC11-76	Push-in	1/4 Push-in
PFC11-77		5/32 Push-in

### Reverse Flow

PFC11R-14		1/8 NPT (F)
PFC11R-16	1/8 NPT / 10-32 (F)	1/4 Push-in
PFC11R-17		5/32 Push-in
PFC11R-44	1/8	1/8 NPT (F)
PFC11R-46	NPT	1/4 Push-in
PFC11R-47	(F)	5/32 Push-in
PFC11R-64		1/8 NPT (F)
PFC11R-66	1/4 Push-in	1/4 Push-in
PFC11R-67		5/32 Push-in
PFC11R-74	5/32	1/8 NPT (F)
PFC11R-76	Push-in	1/4 Push-in
PFC11R-77		5/32 Push-in

### "700" Series - panel knob available

C070501 <i>low</i>	10-32 (F)	10-32 (F)
C070503 <i>gen.</i>	10-32 (F)	10-32 (F)

### Mini

FC-32	10-32 (M)	10-32 (F)
FC-52	1/8 NPT	10-32 (F)

### Banjo Flow Control (Right Angle)

BFC-32	10-32 UNF	10-32 (F)
BFC-32P	10-32 UNF	5/32 Push-in

### Reverse Flow

BFCR-32	10-32 UNF	10-32 (F)
BFCR-32P	10-32 UNF	5/32 Push-in

\*170 Barb recommended use .170 ID PUR or .170 ID PE

### Needle Valves

Part Number	Input	Output
<b>"O" Series</b>		
PNV0-0	10-32 (F)	10-32 (F)
PNV0-1	1/8 NPT / 10-32(F)	10-32 (F)
PNV0-2	10-32 (F) Elbow	10-32 (F)
PNV0-3	10-32 (F) Tee	10-32 (F)
PNV0-4	1/8 NPT (F)	10-32 (F)
PNV0-5	170 Barb	10-32 (F)
PNV0-6	1/4 Push-in	10-32 (F)
PNV0-7	5/32 Push-in	10-32 (F)
PNV0-1/8	1/8 NPT / 10-32 (F)	10-32 (F)

### "11" Series

PNV11-14		1/8 NPT (F)
PNV11-16	1/8 NPT / 10-32 (F)	1/4 Push-in
PNV11-17		5/32 Push-in
PNV11-44	1/8	1/8 NPT (F)
PNV11-46	NPT	1/4 Push-in
PNV11-47	(F)	5/32 Push-in
PNV11-64		1/8 NPT (F)
PNV11-66	1/4 Push-in	1/4 Push-in
PNV11-67		5/32 Push-in
PNV11-74	5/32	1/8 NPT (F)
PNV11-76	Push-in	1/4 Push-in
PNV11-77		5/32 Push-in

### "700" Series - panel knob available

C070301 <i>low</i>	10-32 (M)	10-32 (F)
C070303 <i>gen.</i>	10-32 (M)	10-32 (F)
C070601 <i>low</i>	1/8 NPT	10-32 (F)
C070603 <i>gen.</i>	1/8 NPT	10-32 (F)

### Note:

The **Low Flow** option flows 1.2 scfm at 5 turns and 125 psi.

The **General Flow** option provides increased flow with fewer needle turns: 3.4 scfm at 5 turns and 125 psi.

Full open, both valves offer the same flow rate.

### Mini

NV-32	10-32 (M)	10-32 (F)
NV-52	1/8 NPT	10-32 (F)

## Ordering Information

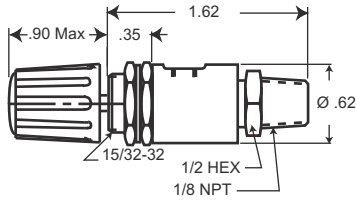
- To order standard product refer to Product Information listing.
- To order "700" Series valves with instrument quality panel knob- add a -PK suffix to the part number.
- Optional seals available- contact factory.
- Contact factory for reverse flow applications.

**System 11** is a method of consolidating 2 to 10 components with a common pressure source.

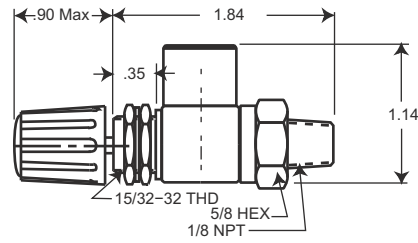


**“O” Series**

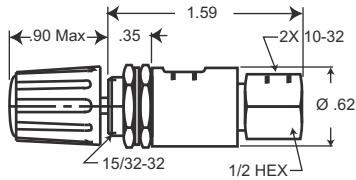
**“11” Series**



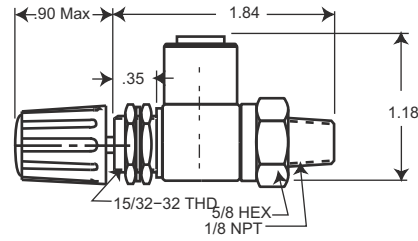
**“-1” Input**



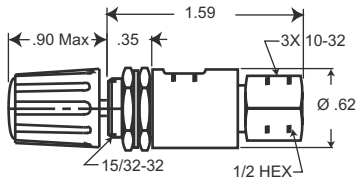
**“-14” Porting**



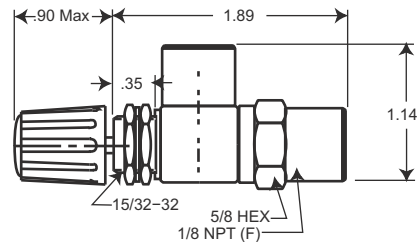
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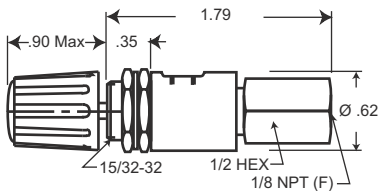
**“-16” Porting  
“-17” Porting**



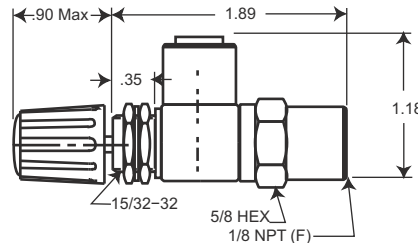
**“-3” Input**



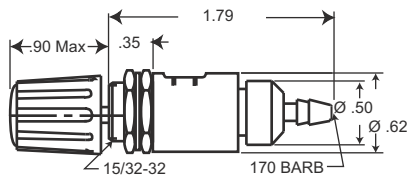
**“-44” Porting**



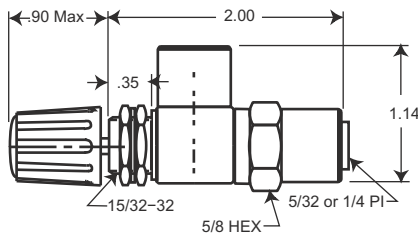
**“-4” Input**



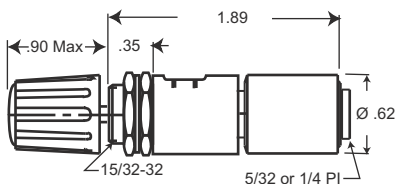
**“-46” Porting  
“-47” Porting**



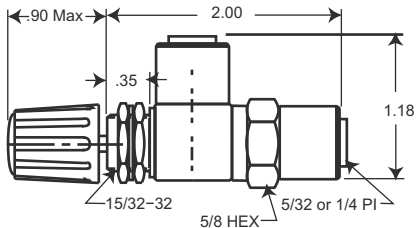
**“-5” Input**



**“-64” Porting  
“-74” Porting**



**“-6” Input  
“-7” Input**

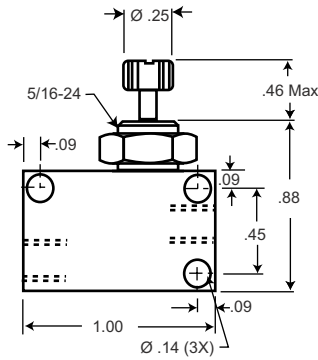


**“-66” Porting  
“-67” Porting  
“-76” Porting  
“-77” Porting**

● When design makes a dimension critical- contact factory for confirmation.  
All dimensions shown subject to change without notice.

**“700” Series**

*Flow Control*

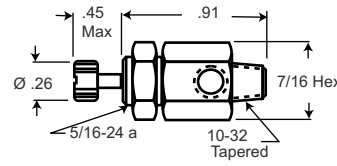


**Product Number**  
**C070501 low**  
**C070503 general**

Available with instrument quality panel knob, add **-PK** suffix to the part number (not shown)

**“700” Series**

*Needle Valves*

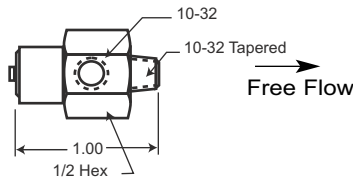


**Product Number**  
**C070301 low**  
**C070303 general**

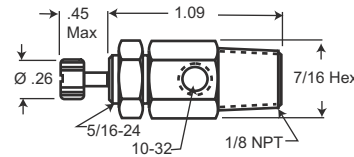
Available with instrument quality panel knob, add **-PK** suffix to the part number (not shown)

**Mini**

*Flow Control*



**Product Number**  
**FC-32**

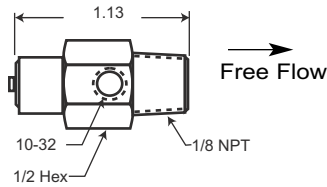


**Product Number**  
**C070601 low**  
**C070603 general**

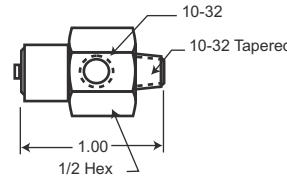
Available with instrument quality panel knob, add **-PK** suffix to the part number (not shown)

**Mini**

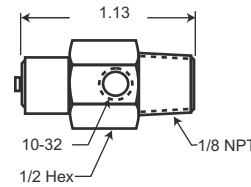
*Needle Valves*



**Product Number**  
**FC-52**



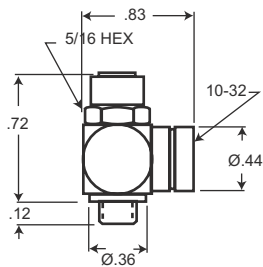
**Product Number**  
**NV-32**



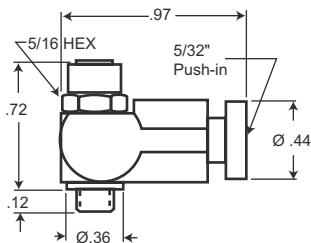
**Product Number**  
**NV-52**

**Banjo**

*Flow Control*



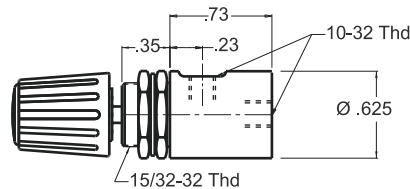
**Product Number**  
**BFC-32**  
**BFCR-32**



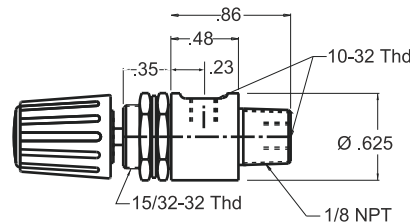
**Product Number**  
**BFC-32P**  
**BFCR-32P**

**“O” Series**

*Needle Valves*



**Product Number**  
**PNV0-0**



**Product Number**  
**PNV0-1/8**

● When design makes a dimension critical- contact factory for confirmation. All dimensions shown subject to change without notice.