

Features

- Multiple porting options including push-ins
- Space saving
- Long service life
- Low cracking pressure
- Porting versatility-eliminates excess fitting requirements



Shuttle Valves

A shuttle valve is a simple device but also a necessary part of many pneumatic systems. It is a passive device having no air supply (power supply) of its own.

Shuttle valves are used when a signal is required to be selected from two or more different sources. Also known as “OR” valves, they allow a signal to pass through from either input A or B (or both) and will allow the reverse flow of system exhaust through these same inputs. A shuttle valve selects the higher of two pressures, a function that is to be considered when designing circuitry.

Performance Data

Product Prefix	Temperature Range	Operating Pressure	C _v	Flow Rate (scfm)		Pressure to Shift
				50 psi	125 psi	
SSV-10A	-20° to 160° F	0 to 125 psi	.17	5.2	11.4	less than 1.0 psi
SV11	-20° to 160° F	0 to 125 psi	.48	15.0	33	less than 1.0 psi

C_v per ANSI / (NFPA) T3.21.3

Porting Options

Valve	SSV-10A-xxx		SV11-xxx-xx
Port A Input	● 062 Barb ● 110 Barb	● 170 Barb ● 10-32 (F)	● 1/8 NPT (F) ● 1/4 Push-in ● 5/32 Push-in
Port B Input	● 062 Barb ● 110 Barb	● 170 Barb ● 10-32 (F)	● 1/8 NPT (F) ● 1/4 Push-in ● 5/32 Push-in
Port C Output	● 062 Barb ● 110 Barb ● 170 Barb	● 10-32 (F) ● 10-32 (M)	● 1/8 NPT (F) ● 1/4 Push-in ● 5/32 Push-in

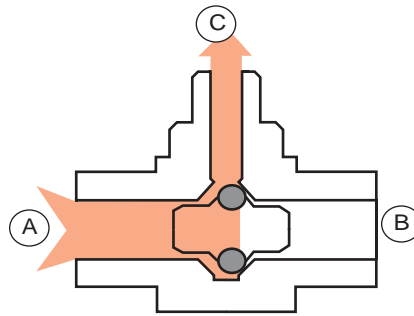
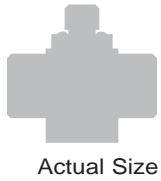
- See **Product Number Diagram** on page 50

Materials

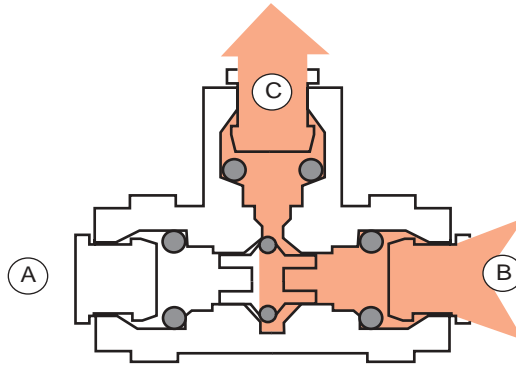
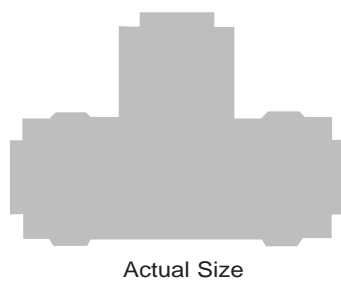
SSV-10A- Brass/ Electroless Nickel, Buna-N
 SV11- Aluminum/ Anodize, Buna-N, Acetal, Brass/ Electroless Nickel

Shuttle Valve Cut-away

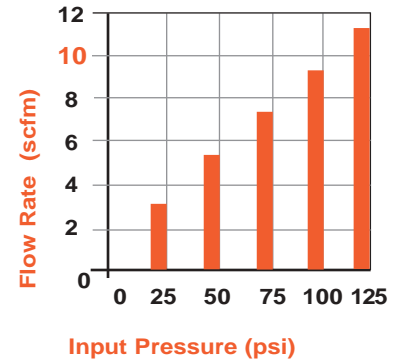
SSV-10A-MFF



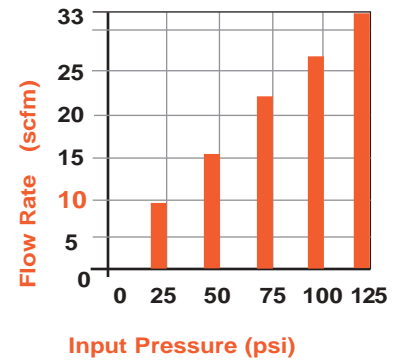
SV11-1/4PI-66



SSV-10A Series Flow Chart



SV-11 Series Flow Chart



Function

As pressure is applied to ports A or B it shifts the metal core allowing flow out port C.

The **SSV-10A Series** shuttle is very small and compact, allowing it to be used in the most minute operations. Direct connection to a machine member is made possible by the 10-32 adjustable male threaded output port. The available barb connectors eliminate extra fittings and potential leak points.

Pneumadyne's **SV11 Series** shuttles feature 1/8 NPT female and 1/4" push-in connections contributing to high flow rates. A variety of space saving built-in port connectors reduce installation time by a minimum of 40%.



Built-in port connectors, including push-in connectors, reduce installation time by a minimum of 40%

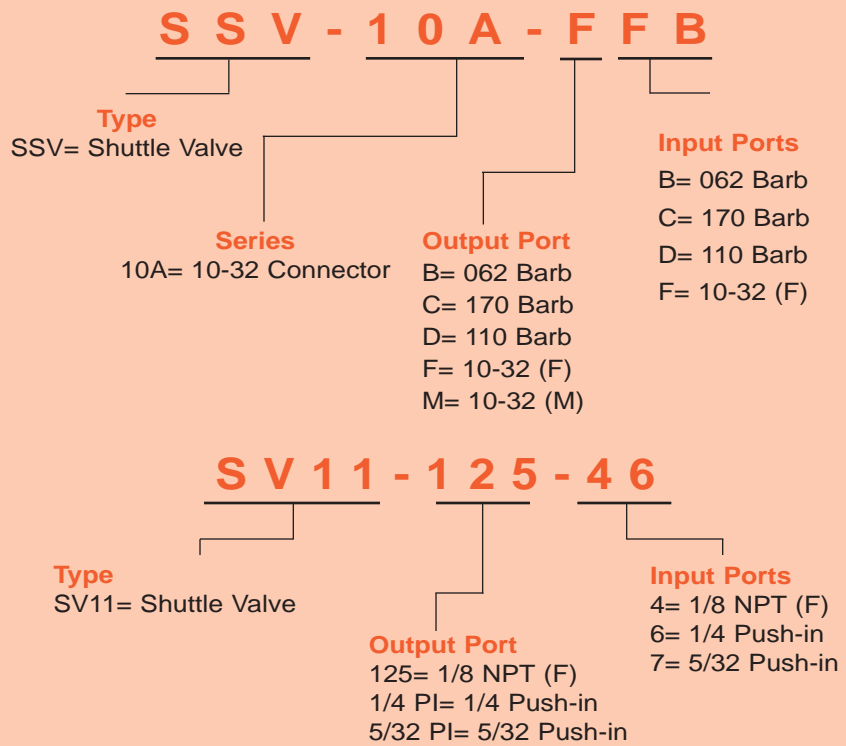
Product Information

SSV-10A-xxx

Part Number	Output x Input /Input
SSV-10A-BBB	062 x 062 / 062
SSV-10A-BBC	062 x 062 / 170
SSV-10A-BBD	062 x 062 / 110
SSV-10A-BBF	062 x 062 / 10-32 F
SSV-10A-BCC	062 x 170 / 170
SSV-10A-BCD	062 x 170 / 110
SSV-10A-BCF	062 x 170 / 10-32 F
SSV-10A-BDD	062 x 110 / 110
SSV-10A-BDF	062 x 110 / 10-32 F
SSV-10A-BFF	062 x 10-32 F / 10-32 F
SSV-10A-CBB	170 x 062 / 062
SSV-10A-CBC	170 x 062 / 170
SSV-10A-CBD	170 x 062 / 110
SSV-10A-CBF	170 x 062 / 10-32 F
SSV-10A-CCC	170 x 170 / 170
SSV-10A-CCD	170 x 170 / 110
SSV-10A-CCF	170 x 170 / 10-32 F
SSV-10A-CDD	170 x 110 / 110
SSV-10A-CDF	170 x 110 / 10-32 F
SSV-10A-CFF	170 x 10-32 F / 10-32 F
SSV-10A-DBB	110 x 062 / 062
SSV-10A-DBC	110 x 062 / 170
SSV-10A-DBD	110 x 062 / 110
SSV-10A-DBF	110 x 062 / 10-32 F
SSV-10A-DCC	110 x 170 / 170
SSV-10A-DCD	110 x 170 / 110
SSV-10A-DCF	110 x 170 / 10-32 F
SSV-10A-DDD	110 x 110 / 110
SSV-10A-DDF	110 x 110 / 10-32 F
SSV-10A-DFF	110 x 10-32 F / 10-32 F
SSV-10A-FBB	10-32 F x 062 / 062
SSV-10A-FBC	10-32 F x 062 / 170
SSV-10A-FBD	10-32 F x 062 / 110
SSV-10A-FCC	10-32 F x 170 / 170
SSV-10A-FCD	10-32 F x 170 / 110
SSV-10A-FDD	10-32 F x 110 / 110
SSV-10A-FFB	10-32 F x 10-32 F / 062
SSV-10A-FFC	10-32 F x 10-32 F / 170
SSV-10A-FFD	10-32 F x 10-32 F / 110
SSV-10A-FFF	10-32 F x 10-32 F / 10-32 F
SSV-10A-MBB	10-32 x 062 / 062
SSV-10A-MBC	10-32 x 062 / 170
SSV-10A-MBD	10-32 x 062 / 110
SSV-10A-MCC	10-32 x 170 / 170
SSV-10A-MCD	10-32 x 170 / 110
SSV-10A-MDD	10-32 x 110 / 110
SSV-10A-MFB	10-32 x 10-32 F / 062
SSV-10A-MFC	10-32 x 10-32 F / 170
SSV-10A-MFD	10-32 x 10-32 F / 110
SSV-10A-MFF	10-32 x 10-32 F / 10-32 F

Product Number Diagram

Shuttle Valves



Tubing Recommendations:

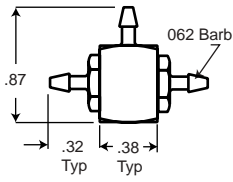
- 062 barb for use with 1/16 ID Polyurethane Tubing
- 170 barb for use with 170 ID Polyethylene or 1/8 ID Polyurethane
- 110 barb for use with 7/64 ID Nylon or 5/64 ID Polyurethane

SV11-xxx-xx

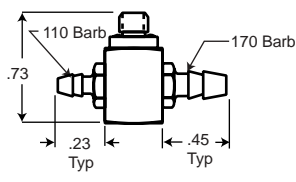
Part Number	Output x Input/Input
SV11-1/4 PI-44	1/4 PI x 1/8 F/ 1/8 F
SV11-1/4 PI-46	1/4 PI x 1/8 F/ 1/4 PI
SV11-1/4 PI-66	1/4 PI x 1/4 PI/ 1/4 PI
SV11-1/4 PI-74	1/4 PI x 5/32 PI/ 1/8 F
SV11-1/4 PI-76	1/4 PI x 5/32 PI/ 1/4 PI
SV11-1/4 PI-77	1/4 PI x 5/32 PI/ 5/32 PI
SV11-125-44	1/8 F x 1/8 F/ 1/8 F
SV11-125-46	1/8 F x 1/8 F/ 1/4 PI
SV11-125-47	1/8 F x 1/8 F/ 5/32 PI
SV11-125-66	1/8 F x 1/4 PI/ 1/4 PI
SV11-125-67	1/8 F x 5/32 PI/ 1/4 PI
SV11-125-77	1/8 F x 5/32PI/ 5/32 PI
SV11-5/32 PI-44	5/32 PI x 1/8 F/ 1/8 F
SV11-5/32 PI-46	5/32 PI x 1/8 F/ 1/4 PI
SV11-5/32 PI-47	5/32 PI x 1/8 F/ 5/32 PI
SV11-5/32 PI-66	5/32 PI x 1/4 PI/ 1/4 PI
SV11-5/32 PI-67	5/32 PI x 1/4 PI/ 5/32 PI
SV11-5/32 PI-77	5/32 PI x 5/32PI/ 5/32 PI

1/8 NPT male output ports available- contact factory

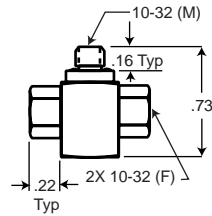
SSV-10A-xxx



SSV-10A-BBB



SSV-10A-MCD

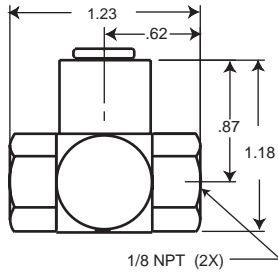


SSV-10A-MFF

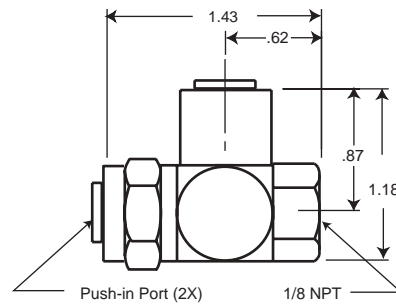
Ordering Information

- To order standard product use part number listing.
- Optional seals available- contact factory.

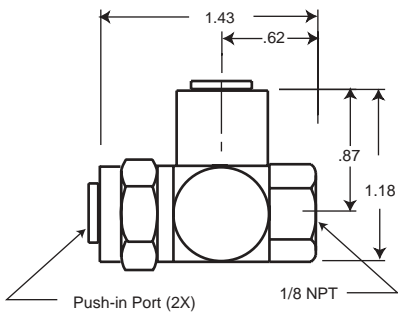
SV11-xxx-xx



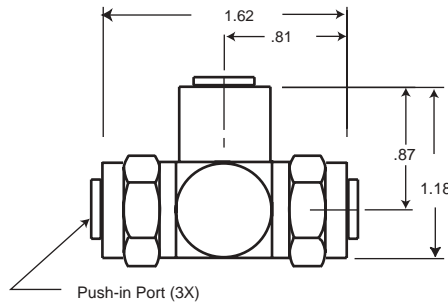
SV11-5/32 PI-44



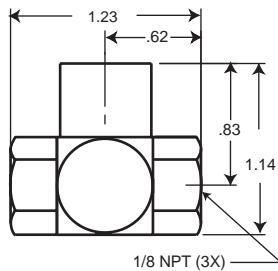
SV11-5/32 PI-47



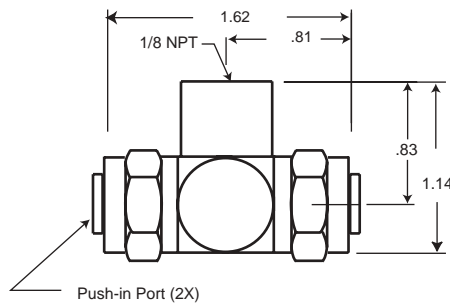
SV11-1/4 PI-46



SV11-1/4 PI-77



SV11-125-44



SV11-125-66

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

Features

- Multiple porting options
- Durable brass construction
- Low cracking pressure
- Compact in-line or port mounting styles



Check Valves

Check valves are used in pneumatic circuits which require free flow in one direction and no flow in the opposite direction.

Function

When system pressure at the check valve input 1 is high enough to overcome the low spring force (1/2 psi) the poppet is moved off its seat (figure A) allowing flow out port 2. The flow of a fluid through the check valve is defined as “free flow”. When fluid flow reverses the poppet is pushed into its seat, blocking or “checking” the system flow (figure B).

Application

Check valves are generally used in systems as a bypass valve, allowing flow around components like needle valves which otherwise restrict flow in both directions.

Performance Data

Temperature Range		Operating Pressure			
-20° to 160° F		0 to 125 psi			
Porting Option	C _v	Flow Rate (scfm)		Cracking Pressure	Fill sec/ in ³ 0-90 psi
		50 psi	125 psi		
*062 Barb	.02	.9	2.2	.1	.15
10-32 Thread	.20	5.0	10.0	.1	.02
1/8 NPT	.41	14.3	30.0	.5	.01

* 062 barb recommended for use with 1/16 PUR tubing

C_v per ANSI / (NFPA) T3.21.3

Materials

Brass/ Electroless Nickel, Buna-N, Stainless Steel

Check Valve Cut-away

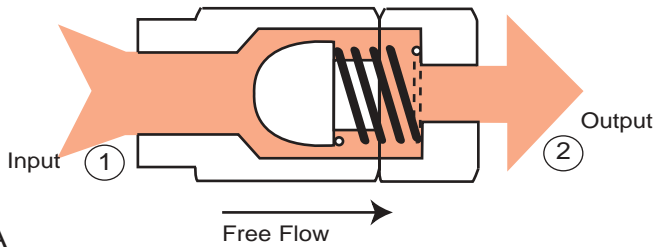


figure A

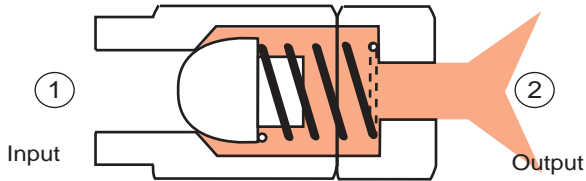


figure B

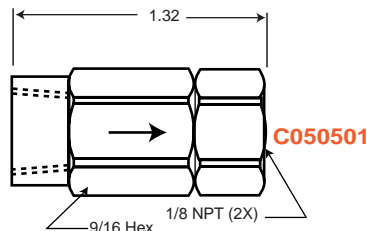
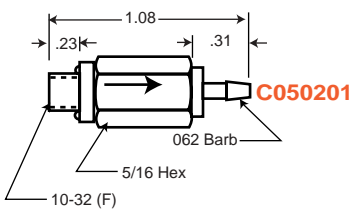
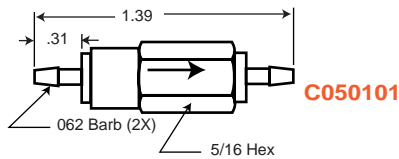
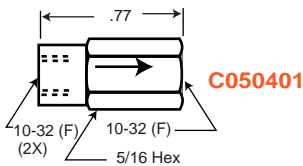
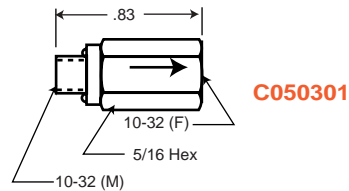
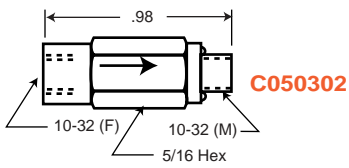
Product Information

Part Number	Input	Output
C050101	062 Barb	062 Barb
C050201	10-32 (M)	062 Barb
C050301	10-32 (M)	10-32 (F)
C050302	10-32 (F)	10-32 (M)
C050401	10-32 (F)	10-32 (F)
C050501	1/8 NPT (F)	1/8 NPT (F)

Ordering Information

- To order standard product use part number listing.
- With Ethylene Propylene O-ring seal, change the "CO" in the part number to "CE".
- With Viton® O-ring seal, change the "CO" in the part number to "CV".
- Custom barbs available- contact factory.

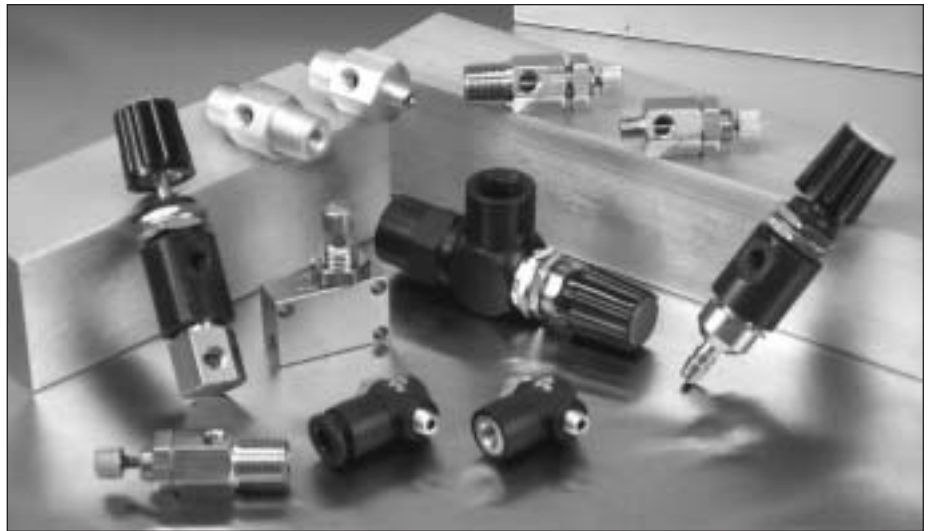
Check Valves



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

Features

- Multiple porting options- including push-in 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.

Pneumadyne offers adjustable needle and flow control valves allowing adjustments to be made to match the requirements of a system.

Although the **basic function** is flow restriction, the fundamental difference between the

two is the **needle valve** controls 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" & "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

Performance Data

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

Flow Control & Needle Valve

Product Group	Max. Flow		C _v	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	Max. Flow		C _v	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_v 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	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

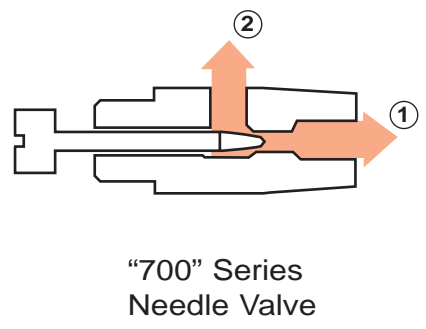
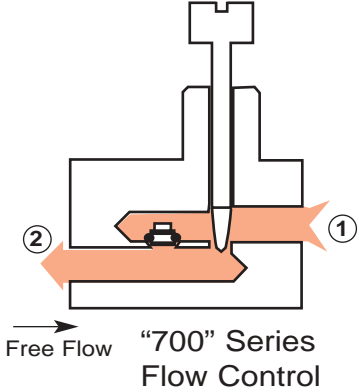
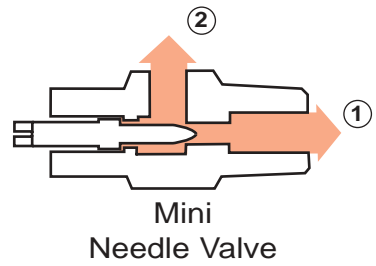
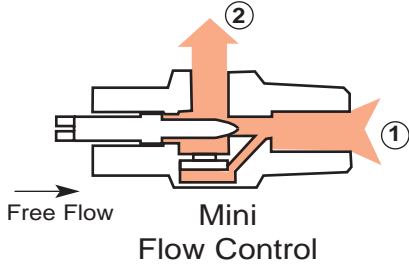
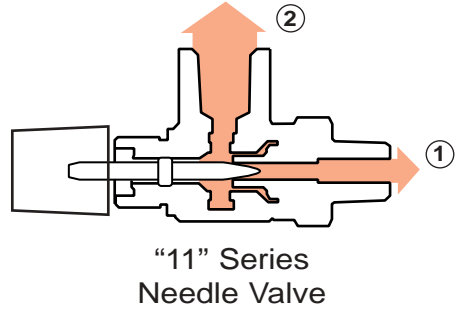
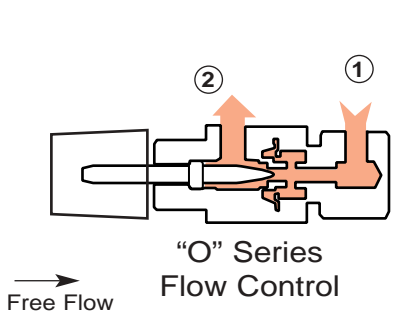
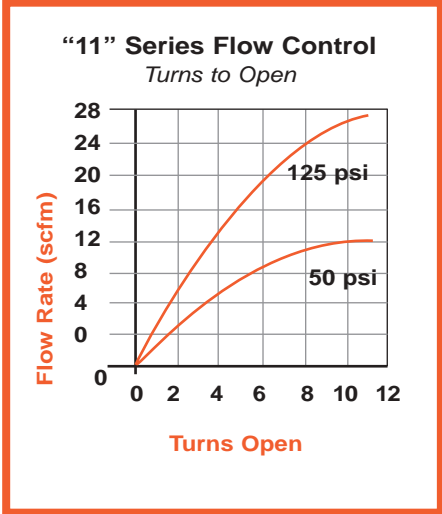
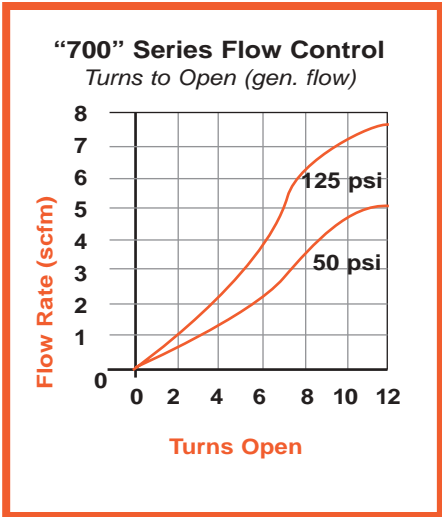
Port Options

	Def.	Options
“O” Series	Port 1 Swivel Input	● 10-32 (F) ● 1/8 NPT (F) ● 5/32 Push-in ● 1/8 NPT (M) ● 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 (M)
	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 (M)
	Port 2 Output	● 10-32 (F)
Mini	Port 1 Input	● 10-32 (M) ● 1/8 NPT (M)
	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 use 1/8 ID PUR or .170 ID PE

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

Flow Control / Needle Valve Cut-away



● **Flow Control free flow direction is from port 2 to port 1**

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
"O" Series		
PFC0-1	1/8 NPT (M)/ 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 (M)/ 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 (M)/ 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

C070501	low	10-32 (F)	10-32 (F)
C070503	gen.	10-32 (F)	10-32 (F)

Mini

FC-32	10-32 (M)	10-32 (F)
FC-52	1/8 NPT (M)	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 1/8 ID PUR or .170 ID PE

Needle Valves

Part Number	Input	Output
"O" Series		
PNV0-1	1/8 NPT (M)/ 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)

"11" Series

PNV11-14		1/8 NPT (F)
PNV11-16	1/8 NPT (M)/ 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

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

Mini

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

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

Custom at right: "11" Series regulators with extended gauge port for point-of-pressure readings- see page 82 for additional information.

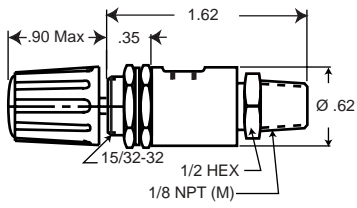
Ordering Information

- To order standard product use part number listing.
- Optional seals available- contact factory.
- Contact factory for reverse flow applications.

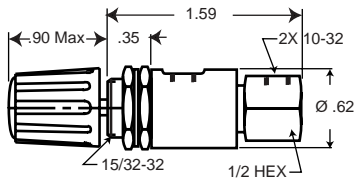
**Instrument quality
collet knob prevents
excess seat stress**



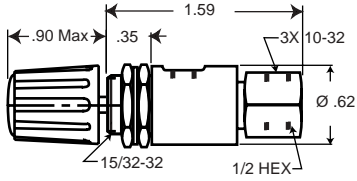
"O" Series



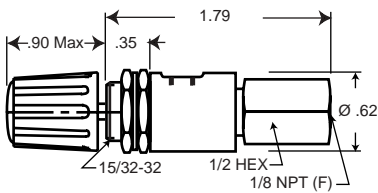
"-1" Input



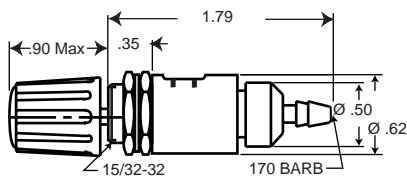
"-2" Input



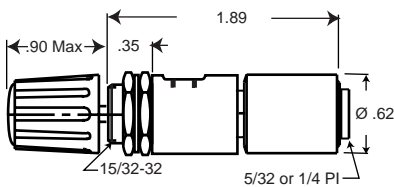
"-3" Input



"-4" Input

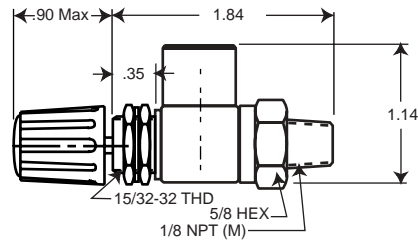


"-5" Input

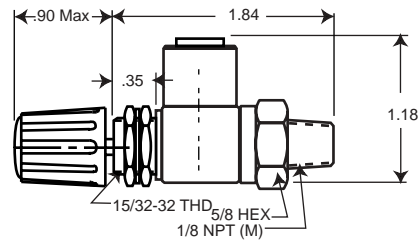


**"-6" Input
"-7" Input**

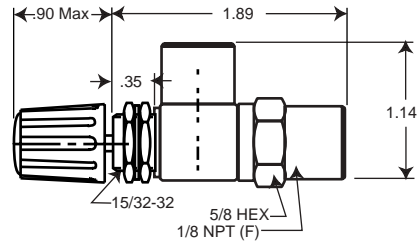
"11" Series



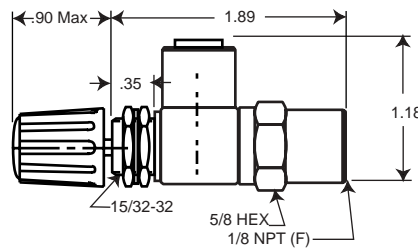
"-14" Porting



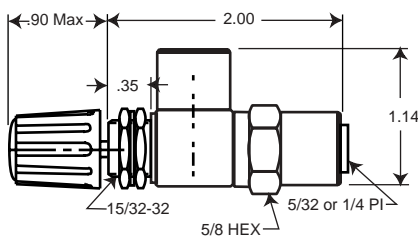
**"-16" Porting
"-17" Porting**



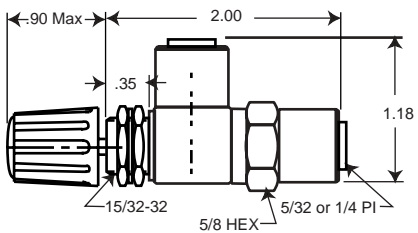
"-44" Porting



**"-46" Porting
"-47" Porting**



**"-64" Porting
"-74" Porting**

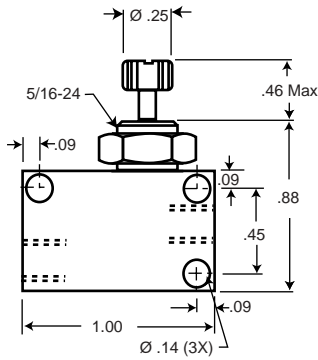


**"-66" Porting
"-67" Porting
"-76" Porting
"-77" Porting**

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

"700" Series

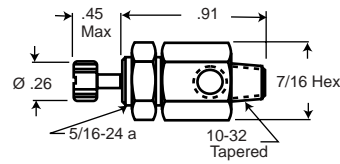
Flow Control



Product Number
C070501 low
C070503 general

"700" Series

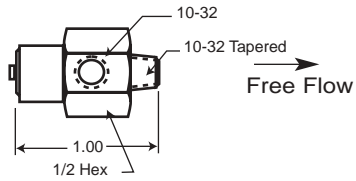
Needle Valves



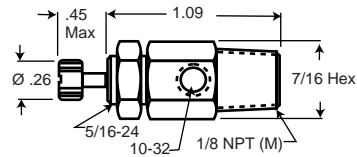
Product Number
C070301 low
C070303 general

Mini

Flow Control



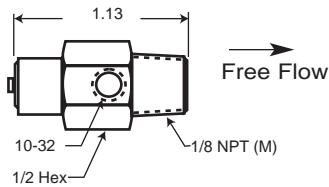
Product Number
FC-32



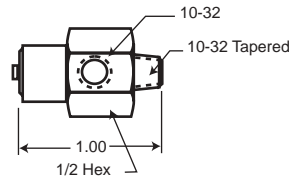
Product Number
C070601 low
C070603 general

Mini

Needle Valves



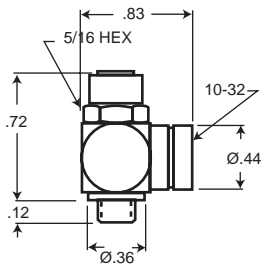
Product Number
FC-52



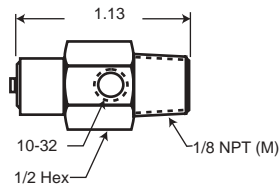
Product Number
NV-32

Banjo

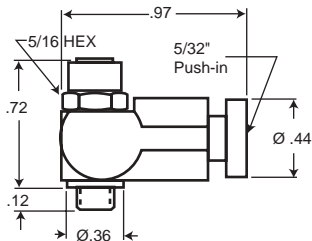
Flow Control



Product Number
BFC-32
BFCR-32



Product Number
NV-52



Product Number
BFC-32P
BFCR-32P

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

Features

- 10-32 (F) ports
- Low cracking pressure
- Slotted knob for precision control
- Mounting versatility
- Compact size



Double Flow Control Valve

This unique Pneumadyne component replaces two flow controls in a pneumatic system and allows the adjustment of cylinder extension and retraction from one location.

Function

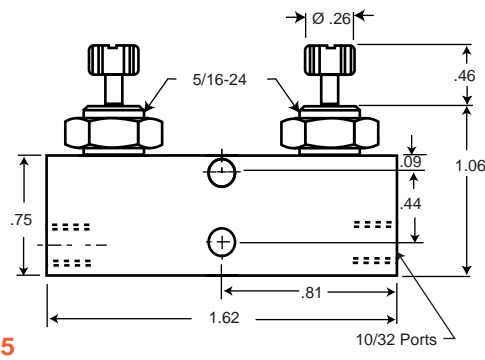
The cylinder may be plumbed to either port of the Pneumadyne Double Flow Control. The adjustment knob closest to the cylinder controls the input or extension speed, the knob furthest from the cylinder controls the exhaust or retraction speed.

Performance Data

Temperature Range		Operating Pressure		
-20°F to 160°F		Range: 0-125 psi		
Part Number	C _v Full Open	Flow Rate		Cracking Pressure
		50 psi	125 psi	
C070505	.07	2.75	6.2	.1 psi

C_v per ANSI / (NFPA) T3.21.3

Double Flow Control



C070505

Ordering Information

- To order standard product use part number **C070505**

Materials

Brass/ Electroless Nickel, Stainless Steel, Buna-N



Features

- Convenient parallel porting
- Compact- 1.21” overall
- **Warning:** This product is **not intended** to serve as a two hand anti-tie down device

Performance Data

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

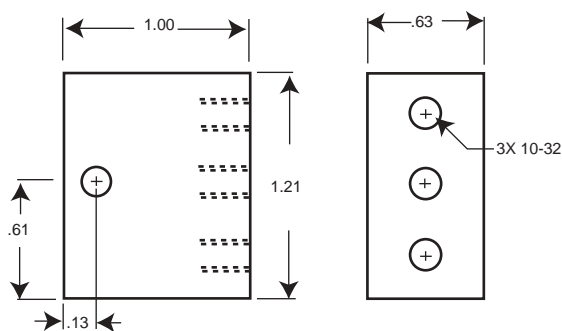
Part Number	Porting Information	C _v	Flow Rate		Fill Time sec/ in ³ 0-90 psi	Exhaust Time sec/ in ³ 100-10 psi
			50 psi	125 psi		
PAV-10	10-32 (F)	.13	4.8 scfm	10.6 scfm	.03	.03

- Performance data shown for flow paths 1-2 and 3-2; C_v per ANSI / (NFPA) T3.21.3

The “AND” Valve

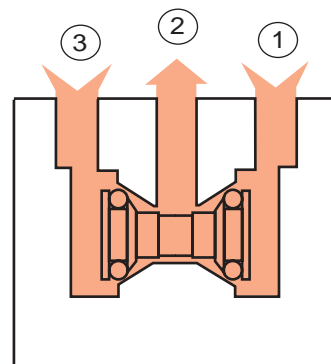
“AND” valves are used in circuit control applications that require a combination of inputs to produce a single output. This compact (overall 1.21”) and durable valve has been Pneumadyne tested to assure high performance and dependability.

“AND” Valve



Function

When a signal is supplied to port 1 “AND” port 3 the output flows from port 2. The output flow will always be the lower of the two pressures. Both input pressures are required to open the valve (loss of input will cancel the output signal).



Ordering Information

- To order standard product use part number **PAV-10**
- Optional seals available- contact factory

Materials

Aluminum/ Black Anodize, Brass/ Electroless Nickel, Buna-N

Features

- ± 2% Repeatability
- Mounting versatility
- Push-in connections available
- Output port rotates 360°
- Direct cylinder mount
- Direct gauge mount to output



Pressure Control Valve

The Pneumadyne Pressure Control Valve is ideal for applications requiring reduced pressure to a cylinder. It is designed for use between a valve output and a cylinder or other volume, where a reduced pressure is desired. A high volume check valve is built in to allow for rapid reverse flow. It is also ideal for continuous flow applications where reverse flow is *not* required. Pressure Controllers are available as independent valves, cylinder port mount or multiple block mount to meet all circuit design applications.

Function

Output pressure is selected by adjusting the control knob when pressure is off (locking nut provided). Pneumadyne's gauge port and micro gauge are ideal for accurately setting output pressure. Air flowing through port 1 unseats the poppet and continues through port 2, pressurizing a downstream vessel (figure A). The flow stops when the down-

stream pressure is equal to the set pressure. As the cylinder retracts the Pressure Control acts as a free reverse check, downstream pressure enters port 2 unseating the O-ring and allowing air to pass through the hollow stem and out port 1 (figure B).

Performance Data

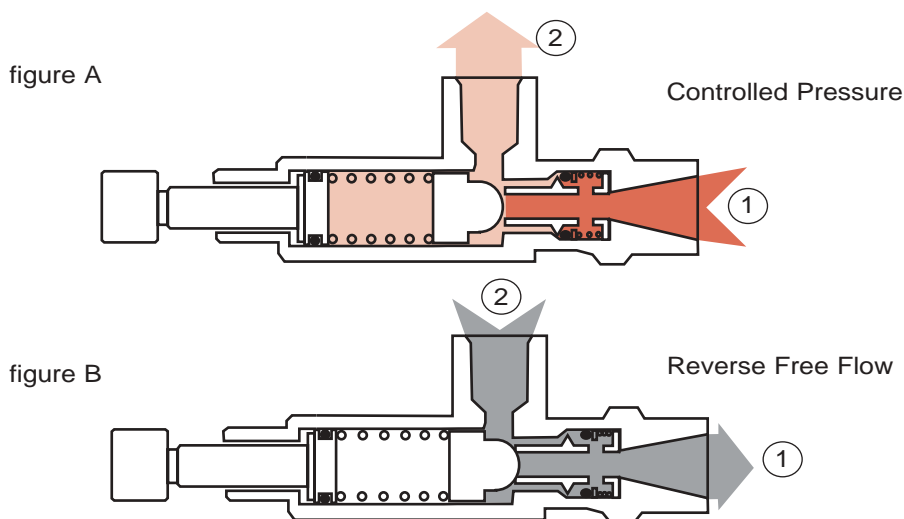
Temperature Range	Maximum Input Pressure		C _v		Fill Time 100 in ³ sec.
	Standard	Low	1-2	2-1	
-20°F to 160°F	150 psi	80 psi	.15	.26	3.47

C_v per ANSI / (NFPA) T3.21.3

Materials

Aluminum/ Red Anodize and Black Anodize, Brass and Steel/ Electroless Nickel, Brass/ Black Dichromate, Stainless Steel, Buna-N, Acetal Copolymer

Pressure Controller Cut-away



Product Information

Pressure Control Valve

Part Number	Input	Output
PPC11-14	1/8 NPT (M)	1/8 NPT (F)
PPC11-16	1/8 NPT (M)	1/4 Push-in
PPC11-17	1/8 NPT (M)	5/32 Push-in
PPC11-18	1/8 NPT (M)	1/4 NPT (M)
PPC11-41	1/8 NPT (F)	1/8 NPT (M)
PPC11-44	1/8 NPT (F)	1/8 NPT (F)
PPC11-46	1/8 NPT (F)	1/4 Push-in
PPC11-47	1/8 NPT (F)	5/32 Push-in
PPC11-48	1/8 NPT (F)	1/4 NPT (M)
PPC11-61	1/4 Push-in	1/8 NPT (M)
PPC11-64	1/4 Push-in	1/8 NPT (F)
PPC11-66	1/4 Push-in	1/4 Push-in
PPC11-67	1/4 Push-in	5/32 Push-in
PPC11-68	1/4 Push-in	1/4 NPT (M)
PPC11-71	5/32 Push-in	1/8 NPT (M)
PPC11-74	5/32 Push-in	1/8 NPT (F)
PPC11-76	5/32 Push-in	1/4 Push-in
PPC11-77	5/32 Push-in	5/32 Push-in
PPC11-78	5/32 Push-in	1/4 NPT (M)

Locking nut, mounting nuts and lock-washer provided

Warnings

- **NOT to be used as a Pressure Regulator**
- **For use with AIR ONLY**
- **Does NOT have a downstream vent**

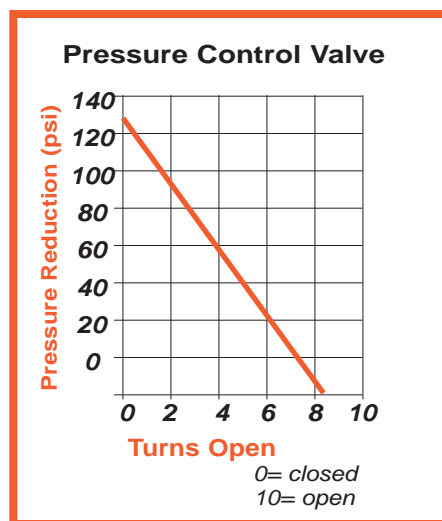
Ordering Information

- To order pressure control valves and junction blocks use the Product Information listing to select part number (factory assembled).
- To order Pressure Control valve with a maximum pressure reduction of 80 psi add a "-80" suffix to the standard part number.
- To order gauge port option add a "-G" suffix to the part number.

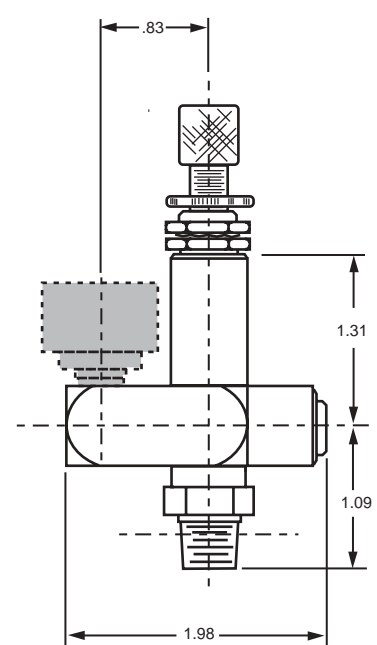
Junction Block

Part Number	Description
PPCJ-2	2 station, 1/8, 2" OAL
PPCJ-2-156	2 station, 5/32 PI, 2" OAL
PPCJ-2-250	2 station, 1/4 PI, 2" OAL
PPCJ-3	3 station, 1/8, 3" OAL
PPCJ-3-156	3 station, 5/32 PI, 3" OAL
PPCJ-3-250	3 station, 1/4 PI, 3" OAL
PPCJ-4	4 station, 1/8, 4" OAL
PPCJ-4-156	4 station, 5/32 PI, 4" OAL
PPCJ-4-250	4 station, 1/4 PI, 4" OAL
PPCJ-5	5 station, 1/8, 5" OAL
PPCJ-5-156	5 station, 5/32 PI, 5" OAL
PPCJ-5-250	5 station, 1/4 PI, 5" OAL
PPCJ-6	6 station, 1/8, 6" OAL
PPCJ-6-156	6 station, 5/32 PI, 6" OAL
PPCJ-6-250	6 station, 1/4 P, 6" OAL

Pressure Control valve with a maximum pressure reduction of 80 psi available add a "-80" suffix to standard part number.



Pressure Control



The Pressure Control Valve with extended gauge port housing and micro gauge installed (to prevent damage the gauge is packaged and sold separately). See page 79 for gauge data

Catalog drawing represents the maximum overall measurement(s); for specific porting configuration drawings- contact factory.

Features

- Mounting versatility
- Knurled knob or Instrument quality knob
- Push-in connections available
- Series “O” input port rotates 360°
- Series “11” output port rotates 360°
- Direct gauge mount to output (System 11)



Pressure Regulators

Pneumadyne’s “0” & “11” Series Pressure Regulators are dynamic devices used to maintain a *downstream settable pressure*.

The Pneumadyne regulators can be panel mounted using the 15/32-32 threaded neck (nuts and lockwashers provided). The “11” Series regulator is manifoldable allowing system designers to consolidate components with varying output pressures on a common pressure source see figure C-System 11.

Choose either the electroless nickel plated knurled knob or the acetal instrument quality knob. Both offer precision adjustment.

Pneumadyne regulators feature a variety of swivel input and output options. “O” Series regulators have seven available input options with a 10-32 female output. The “11” Series regulators feature four input options and three output options. Push-in connectors are available on both *Series* to ease the connection and disconnection of tubing.

Performance Data

Temperature Range	Operating Pressure	C _v Full Open	Flow Rate (scfm)	
			50 psi	125 psi
-20°F to 160°F	30 psi to 125 psi	.27	9.8	22

C_v per ANSI / (NFPA) T3.21.3

Materials

Aluminum/ Black Anodize, Brass and Steel/ Electroless Nickel, Brass/ Black Dichromate, Buna-N, Stainless Steel, Acetal

Function

Relieving Regulator

Figure A - Adjustment of the control knob to a pre-determined level shifts the piston, unseating the Buna-N poppet and allowing air to flow through port 1 to port 2. When the set pressure is reached, the pressure under the piston and the force exerted by the spring are balanced producing a regulated output at port 2. A minimum of 30 psi input is required to maintain regulation.

Figure B - When downstream pressure exceeds the set level the poppet is seated -blocking input flow 1. The back pressure flows *in* output 2 lifting the Buna-N cup seal and piston allowing air to pass through the hollow stem and out the exhaust port 3.

Non-relieving Regulator

The non-relieving regulator flow path- input 1 to output 2- is the same as the relieving regulator, however the non-relieving regulator contains a solid piston that does not permit backflow at output port 2 to be exhausted.

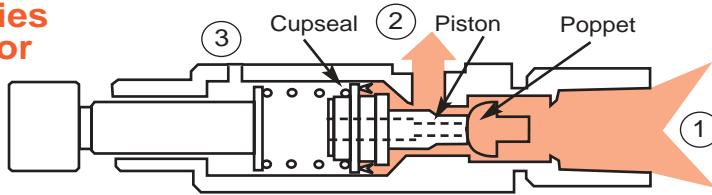
Warning: for safety reasons non-relieving regulators are recommended for use with liquids only and with adequate means of downstream relief.

Regulator Cut-away

Extended Port

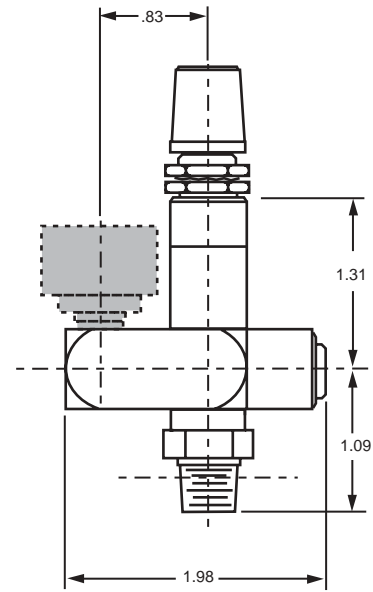
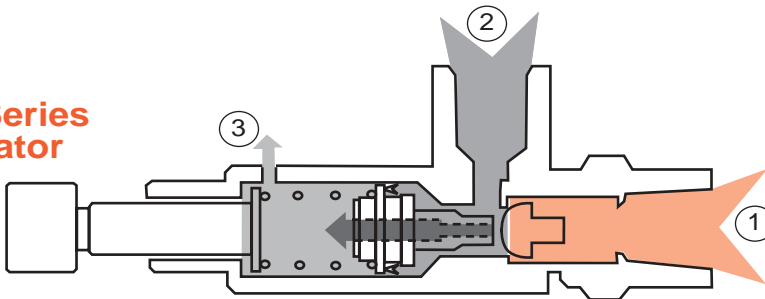
“O” Series Regulator

figure A



“11” Series Regulator

figure B *Relieving Mode*



The “11” Series regulator with extended gauge port housing and micro gauge installed (to prevent damage the gauge is packaged and sold separately). See page 79 for gauge data

Control Knob- select the knurled knob manufactured from steel or the panel knob molded from durable acetal -both are standard actuators.

Slotted adjustment screw- also available - contact factory.

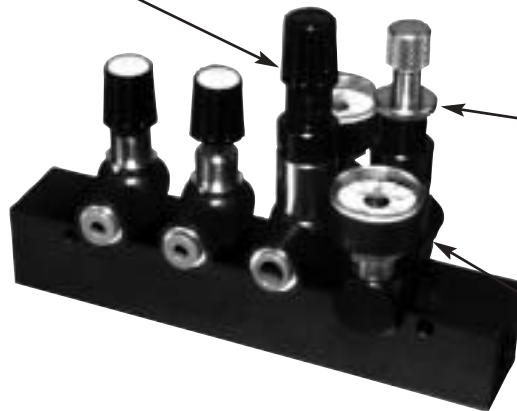


figure C

Locking Nut- RLN-40 (*sold separately*)- available to lock adjustment and eliminate possible setting variance, ideal for locations requiring infrequent adjustment.

Micro Gauge- PMG-60, PMG-160 (*sold separately*)- can be mounted on the “11” Series regulator with an extended gauge port providing an onsite pressure indicator. To order a gauge ready regulator add a “-G” suffix to the part number.

System 11- a method of consolidating 2 to 10 components with a common pressure source. Component selection includes button style valves, regulators, and needle valves. *Each System 11 is designed per order- contact factory. See page 82 for System 11 Information.*

Product Information

“O” Series Regulators Relieving

Part Number	Input x Output
RO-RK-1	1/8 NPT (M) 10-32 (F)
RO-RK-2	10-32 (F) Elbow 10-32 (F)
RO-RK-3	10-32 (F) Tee 10-32 (F)
RO-RK-4	1/8 NPT (F) 10-32 (F)
RO-RK-5	170 Barb 10-32 (F)
RO-RK-6	1/4 Push-in 10-32 (F)
RO-RK-7	5/32 Push-in 10-32 (F)
RO-RP-1	1/8 NPT (M) 10-32 (F)
RO-RP-2	10-32 (F) Elbow 10-32 (F)
RO-RP-3	10-32 (F) Tee 10-32 (F)
RO-RP-4	1/8 NPT (F) 10-32 (F)
RO-RP-5	170 Barb 10-32 (F)
RO-RP-6	1/4 Push-in 10-32 (F)
RO-RP-7	5/32 Push-in 10-32 (F)

Non-Relieving

RO-NK-1	1/8 NPT (M) 10-32 (F)
RO-NK-2	10-32 (F) Elbow 10-32 (F)
RO-NK-3	10-32 (F) Tee 10-32 (F)
RO-NK-4	1/8 NPT (F) 10-32 (F)
RO-NK-5	170 Barb 10-32 (F)
RO-NK-6	1/4 Push-in 10-32 (F)
RO-NK-7	5/32 Push-in 10-32 (F)
RO-NP-1	1/8 NPT (M) 10-32 (F)
RO-NP-2	10-32 (F) Elbow 10-32 (F)
RO-NP-3	10-32 (F) Tee 10-32 (F)
RO-NP-4	1/8 NPT (F) 10-32 (F)
RO-NP-5	170 Barb 10-32 (F)
RO-NP-6	1/4 Push-in 10-32 (F)
RO-NP-7	5/32 Push-in 10-32 (F)

Custom Products:
Contact factory for applications requiring 1/8 NPT male or 1/4 NPT male output port

Product Number Diagram:

“O” & “11” Series Regulators

R 1 1 - R K - 1 4

Model
R= Regulator

Series
O= “O” Series
11= “11” Series

Function
R= Relieving
N= Non-relieving

Actuator Style
K= Knurled Knob
P= Panel Knob

“O” Series Input

- 1= 1/8 NPT (M)/ 10-32 (F)
- 2= 10-32 (F) Elbow
- 3= 10-32 (F) Tee
- 4= 1/8 NPT (F)
- 5= 170 Barb*
- 6= 1/4 Push-in
- 7= 5/32 Push-in

* “O” Series Output
10-32 (F) ONLY
no designation

“11” Series Output

- 4= 1/8 NPT (F)
- 6= 1/4 Push-in
- 7= 5/32 Push-in

“11” Series Input

- 1= 1/8 NPT (M)/ 10-32 (F)
- 6= 1/4 Push-in
- 7= 5/32 Push-in

Example:

Regulator “11” Series, Relieving with Knurled Knob, 1/8 NPT (M) /10-32 (F) Input x 1/8 NPT (F) Output

*170 barb- recommended for use with 1/8 ID PUR or .170 ID PE tubing

“11” Series Regulators Relieving

Part Number	Input x Output
R11-RK-14	1/8 1/8 NPT (F)
R11-RK-16	NPT 1/4 Push-in
R11-RK-17	(M) 5-32 Push-in
R11-RK-44	1/8 1/8 NPT (F)
R11-RK-46	NPT 1/4 Push-in
R11-RK-47	(F) 5-32 Push-in
R11-RK-64	1/8 NPT (F)
R11-RK-66	1/4 Push-in 1/4 Push-in
R11-RK-67	5-32 Push-in
R11-RK-74	5/32 1/8 NPT (F)
R11-RK-76	Push-in 1/4 Push-in
R11-RK-77	5-32 Push-in
R11-RP-14	1/8 1/8 NPT (F)
R11-RP-16	NPT 1/4 Push-in
R11-RP-17	(M) 5-32 Push-in
R11-RP-44	1/8 1/8 NPT (F)
R11-RP-46	NPT 1/4 Push-in
R11-RP-47	(F) 5-32 Push-in
R11-RP-64	1/8 NPT (F)
R11-RP-66	1/4 Push-in 1/4 Push-in
R11-RP-67	5-32 Push-in
R11-RP-74	1/8 NPT (F)
R11-RP-76	5/32 1/4 Push-in
R11-RP-77	Push-in 5-32 Push-in

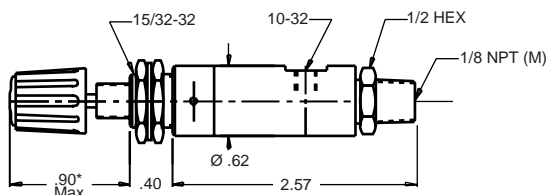
“11” Series Regulators Non-Relieving

Part Number	Input x Output
R11-NK-14	1/8 1/8 NPT (F)
R11-NK-16	NPT 1/4 Push-in
R11-NK-17	(M) 5-32 Push-in
R11-NK-44	1/8 1/8 NPT (F)
R11-NK-46	NPT 1/4 Push-in
R11-NK-47	(F) 5-32 Push-in
R11-NK-64	1/8 NPT (F)
R11-NK-66	1/4 Push-in 1/4 Push-in
R11-NK-67	5-32 Push-in
R11-NK-74	5/32 1/8 NPT (F)
R11-NK-76	Push-in 1/4 Push-in
R11-NK-77	5-32 Push-in
R11-NP-14	1/8 1/8 NPT (F)
R11-NP-16	NPT 1/4 Push-in
R11-NP-17	(M) 5-32 Push-in
R11-NP-44	1/8 1/8 NPT (F)
R11-NP-46	NPT 1/4 Push-in
R11-NP-47	(F) 5-32 Push-in
R11-NP-64	1/8 NPT (F)
R11-NP-66	1/4 Push-in 1/4 Push-in
R11-NP-67	5-32 Push-in
R11-NP-74	1/8 NPT (F)
R11-NP-76	5/32 1/4 Push-in
R11-NP-77	Push-in 5-32 Push-in

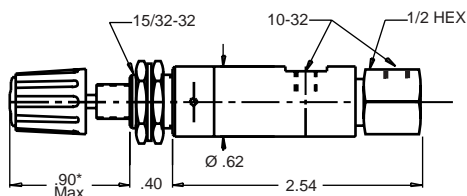


"O" Series

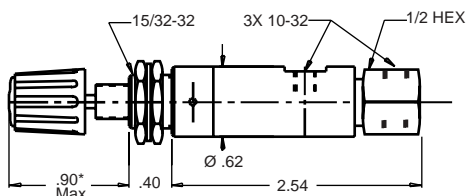
Shown with
Panel Knob



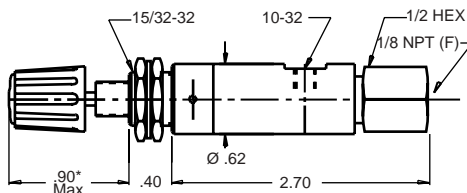
"-1" Input



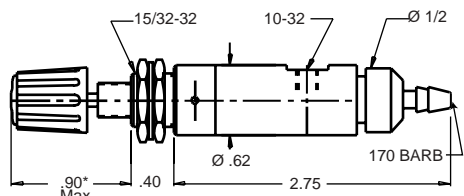
"-2" Input



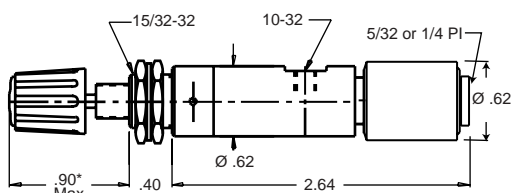
"-3" Input



"-4" Input



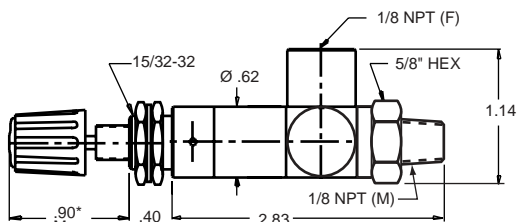
"-5" Input



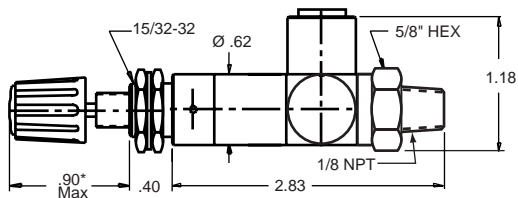
"-6" Input
"-7" Input

"11" Series

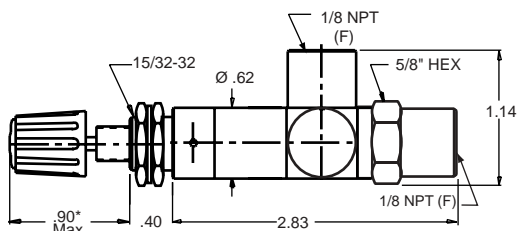
Shown with
Panel Knob



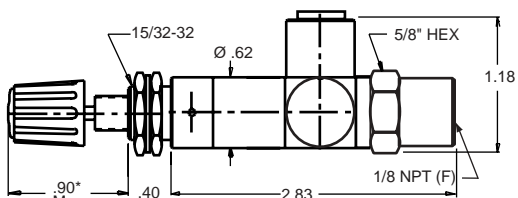
"-14" Porting



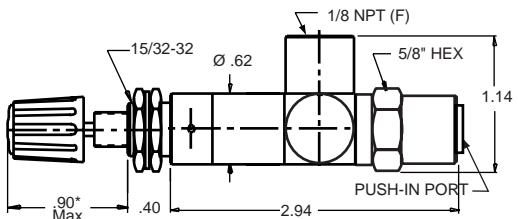
"-16" Porting
"-17" Porting



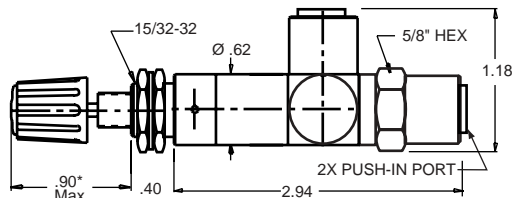
"-44" Porting



"-46" Porting
"-47" Porting



"-64" Porting
"-74" Porting



"-66" Porting
"-67" Porting
"-76" Porting
"-77" Porting

*.74 Max for knurled knob- all regulators

Features

- **In-line** or **Right Angle**
- Allows rapid cylinder return
- Multiple porting options
- Relieve 100 in³ in 2 seconds
- Male pipe thread for direct cylinder mount
- Threaded or controllable exhaust port
- Swivel cylinder port



Quick Exhaust Valves

In-line

The 570 in-line quick exhaust offers the convenience of in-line plumbing with a 1/8 NPT male output and 1/8 NPT female input. Six exhaust holes located on either side relieve large amounts of flow in a minimal amount of time. It is ideal for allowing rapid cylinder return without air traveling back through the system.

Function

As pressure is applied through input port 1 (figure A) the poppet and seal shift forward blocking the exhaust port and allowing flow through output port 2.

When pressure is removed from input port 1 (figure B) back flow at port 2 unseats the poppet and allows flow through exhaust port 3.

Performance Data

Part Number	Temperature Range	Operating Pressure	C _v	Flow Rate (scfm)		Fill Time sec/ in ³ 0-90 psi	Exhaust Time sec/ in ³ 100-10 psi
				50 psi	125 psi		
C570501	-20°F to 160°F	0-125 psi	.20	7.3	14.7	.02	.01
QE11-*-**			.20	8.2	20.2	.02	.02
* QE10-FMF			.15	5.0	10.8	.03	.06

*Not recommended for use with cylinders larger than 1" diameter; stroke up to 12".

- Flow information supplied for flow path 1-2.

C_v per ANSI / (NFPA) T3.21.3

"11" Series- Right Angle

Pneumadyne's "11" Series Quick Exhaust Valve allows rapid cylinder return without permitting air to travel back through the system. There are sixty possible porting configurations incorporating the standard Pneumadyne "11" Series design with the addition of the 1/4 NPT male and 1/8 NPT male **output** ports. The **exhaust port** options include the 1/8 NPT female for use with a sintered bronze or industrial muffler, the 1/4-28 UNF female for use with a speed control needle (see chart page 71), and the 1/4" Push-in fitting that is specially designed with a captive collet that is retained even when tubing is disconnected (recommended for use with 1/4 OD Polyurethane (95A) tubing).

Function

As pressure is applied through input port 1 (figure C) the poppet shifts forward blocking the exhaust port and allowing flow through output port 2.

When pressure is removed from input port 1 (figure D) back flow at port 2 unseats the poppet and allows flow through exhaust port 3.

Quick Exhaust Cut-away

figure A
Fill

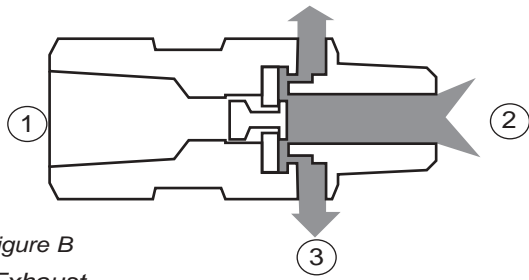
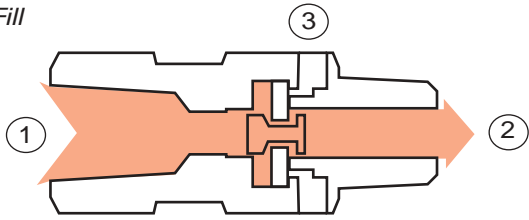


figure B
Exhaust

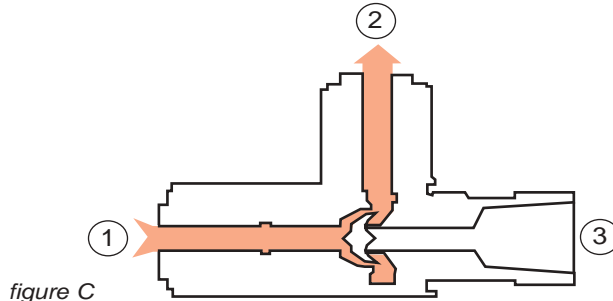


figure C
Fill

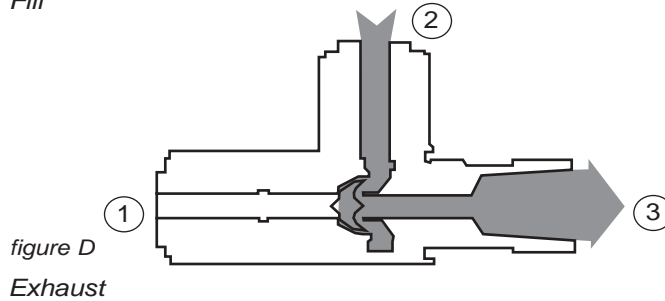


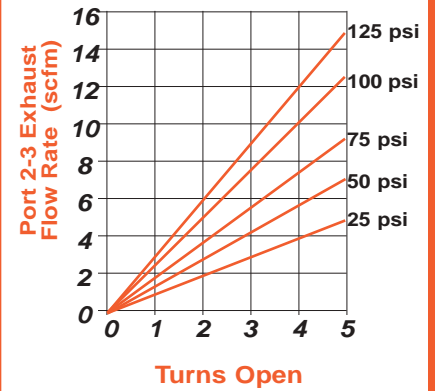
figure D
Exhaust

Materials

In-line: Brass/ Electroless Nickel, Buna-N, PUR

Right Angle: Aluminum/ Black Anodize, Brass/ Black Dichromate, Buna-N, Acetal, Stainless Steel, Brass/ Electroless Nickel

Quick Exhaust "11" Series with Locking Speed Control Needle



Port Options

		Definition	Options
Inline	Port 1 Input		● 1/8 NPT (F)
	Port 2 Output		● 1/8 NPT (M)
	Port 3 Exhaust		● Non-Threaded
Right Angle	Port 1 Input		● 10-32 (F) ● 1/8 NPT (M)/ 10-32 (F) ● 1/8 NPT (F) ● 1/4 Push-in ● 5/32 Push-in
	Port 2 Swivel Output		● 10-32 (M) ● 1/8 NPT (M) ● 1/8 NPT (F) ● 1/4 Push-in ● 5/32 Push-in ● 1/4 NPT (M)
	Port 3 Exhaust		● 10-32 (F) ● 1/8 NPT (F) ● 1/4-28 UNF ● 1/4 Push-in

Ordering Information

- To order standard **In-line** Quick Exhaust use part number **C570501**.
- To order **“11” Series** Quick Exhaust select product number from Component Information listing or use Product Number Diagram to develop required component configuration.
- To order **10-32 Quick Exhaust** use part number **QE10-FMF**.
- Contact factory for custom porting configurations.

1/4” Push-in exhaust port is specially designed with a captive collet that is retained even when tubing is disconnected

Product Diagram Quick Exhaust- “11” Series

QE 11 - S - 18

Series

QE= Quick Exhaust
11= “11” Series-
Right angle porting

Exhaust Option

M= 1/8 NPT (F)
P= 1/4 Push-in
S= 1/4-28 UNF (F)

Input Port

1= 1/8 NPT (M)/
10-32 (F)
4= 1/8 NPT (F)
6= 1/4 Push-in
7= 5/32 Push-in

Output Port

1= 1/8 NPT (M)
4= 1/8 NPT (F)
6= 1/4 Push-in
7= 5/32 Push-in
8= 1/4 NPT (M)

Example:

Quick Exhaust, “11” Series, 1/4-28 UNF (F) thread for use with Speed Control Needle (sold separately), 1/8 NPT /10-32 (F) input, 1/4 NPT (M) output.



“11” Series Quick Exhaust shown with accessories

Product Information

In-line

Part Number	Input	Output
C570501	1/8 NPT (F)	1/8 NPT (M)

Right Angle

QE10-FMF	10-32 (F)	10-32 (M)
-----------------	-----------	-----------

"11" Series- Right Angle

QE11-*-11	1/8 NPT (M)	1/8 NPT (M)
QE11-*-14	1/8 NPT (M)	1/8 NPT (F)
QE11-*-16	1/8 NPT (M)	1/4 Push-in
QE11-*-17	1/8 NPT (M)	5/32 Push-in
QE11-*-18	1/8 NPT (M)	1/4 NPT (M)
QE11-*-41	1/8 NPT (F)	1/8 NPT (M)
QE11-*-44	1/8 NPT (F)	1/8 NPT (F)
QE11-*-46	1/8 NPT (F)	1/4 Push-in
QE11-*-47	1/8 NPT (F)	5/32 Push-in
QE11-*-48	1/8 NPT (F)	1/4 NPT (M)
QE11-*-61	1/4 Push-in	1/8 NPT (M)
QE11-*-64	1/4 Push-in	1/8 NPT (F)

"11" Series Right Angle

Part Number	Input	Output
QE11-*-66	1/4 Push-in	1/4 Push-in
QE11-*-67	1/4 Push-in	5/32 Push-in
QE11-*-68	1/4 Push-in	1/4 NPT (M)
QE11-*-71	5/32 Push-in	1/8 NPT (M)
QE11-*-74	5/32 Push-in	1/8 NPT (F)
QE11-*-76	5/32 Push-in	1/4 Push-in
QE11-*-77	5/32 Push-in	5/32 Push-in
QE11-*-78	5/32 Push-in	1/4 NPT (M)

Additional Accessories

Part Number	Description
QE-MS	1/8 NPT Sintered Bronze Muffler
QE-MI	1/8 NPT Industrial Muffler
QE-S	1/4-28 UNF Speed Control Needle

To order "11" Series Quick Exhaust

1. Replace the "*" in the **Product Information** listing with one of the exhaust port codes listed below:

- M- for 1/8 NPT (F)
- S- for 1/4-28 UNF (F)
- P- for 1/4 Push-in connection

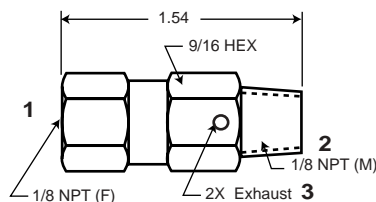
2. Select from the **Additional Accessories (sold separately)**

- **QE-MS** Sintered Bronze Muffler 1/8 NPT (M) for use with QE-M-xx.
- **QE-MI** Industrial Muffler 1/8 NPT (M) for use with QE-M-xx.
- **QE-S** Speed Control Needle 1/4-28 UNF with locking nut- for use with QE-S-xx.

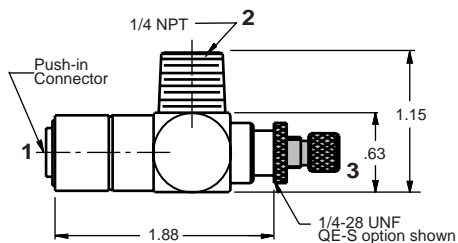
Quick Exhaust

C570501

Inline

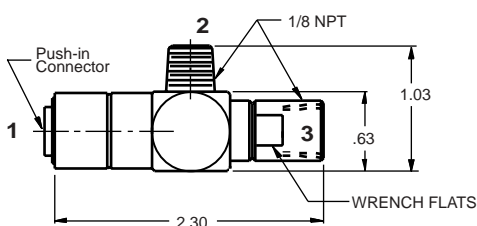
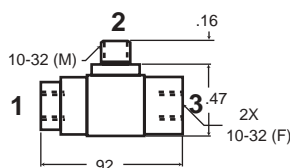


Right Angle



QE10-FMF

Right Angle



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

Quick Exhaust Port designation

1	Input
2	Cylinder Port
3	Exhaust

Typical drawings illustrate the overall *package size* of the Quick Exhaust "11" Series valve. There are **sixty** (60) possible configurations- contact factory for additional drawings.

Features

- Release 100 in³ in 4 seconds
- Durable construction- available with standard pipe thread

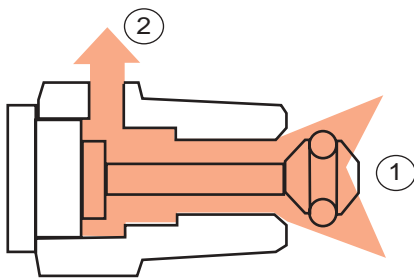


Bleed Valves

The bleed valve offers an easy solution for the release of excess pressure from a system. This compact and durable valve has been Pneumadyne tested to assure dependability and maximum flow.

Function

When the button is actuated the stem slides forward and air flow is vented through a non-threaded exhaust port located near the actuator. This valve makes it possible to release pressurized air at a rate of 100 in³ in 4 seconds.



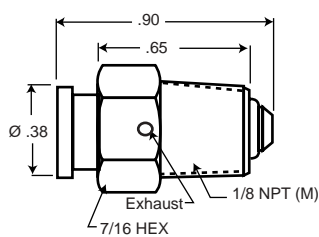
All dimensions and specifications are subject to change.

Performance Data

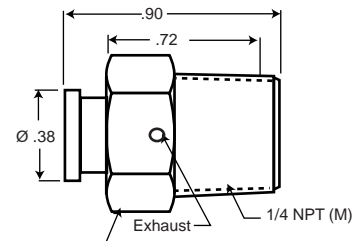
Temperature Range		Operating Pressure		
-20°F to 160°F		Range: 0-125 psi		
Part Number	Mount	Force to Actuate		Exhaust Time sec/ in ³ 100-10 psi
		50 psi	125 psi	
PBV-2	1/8 NPT (7/16" hex)	3 lbs	6 1/2 lbs	.03
PBV-4	1/4 NPT (9/16" hex)			

C_v per ANSI / (NFPA) T3.21.3

Bleed Valve



PBV-2



PBV-4

Ordering Information

- To order standard product use part number listed (sold separately)

Materials

Brass/ Electroless Nickel, Buna-N, Stainless Steel



Features

- UL approved switch
- Interface between a pneumatic system and electrical controls
- 18 gauge copper wire
- Mounting versatility

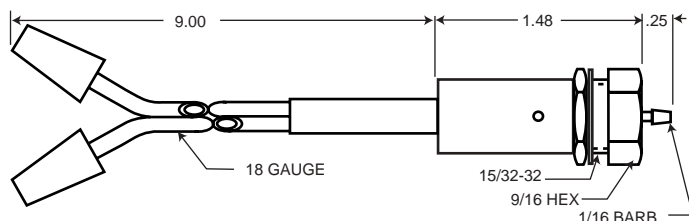
Performance Data

Part Number	Temperature Range	Function	* Minimum Actuation (psi)	Maximum Actuation (psi)
C520101	-20°F to 160°F	Contacts Open	40 psi	100 psi
C520102		Contacts Closed		

* Other pressure ranges available- contact factory

C_v per ANSI / (NFPA) T3.21.3

Air Operated Electric Switch



Ordering Information

- To order standard product use part number listed
- (1) nut and (1) lockwasher provided.
- 062 barb recommended for use with 1/16 ID PUR
- Optional barbs available- contact factory

All dimensions and specifications are subject to change without notice.

The Air-Operated Electric Switch

Pneumadyne's UL approved air operated electric switch is an excellent way to provide an interface between your pneumatic system and electrical controls. The primary function is to convert an air pressure signal to an electrical signal. This product can be panel mounted (31/64" nominal hole) or surface mounted using the MB-1 or MB-1F mounting bracket.

Switch Life Expectancy

	115 vac Resistive
5 amp	6 thousand cycles
1 amp	1 million cycles
	220 vac Resistive
2 1/2 amp	6 thousand cycles
1/2 amp	1 million cycles

Data provided by switch manufacturer

Materials

Acetal, Brass/ Electroless Nickel, Buna-N, Stainless Steel, 18 gauge copper wire, Steel