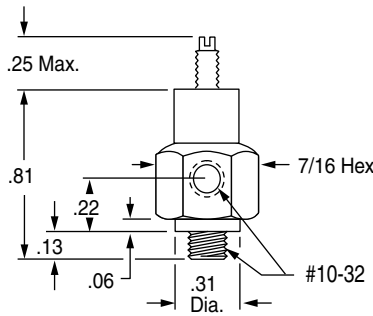


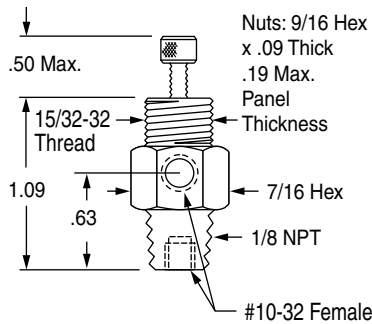
- Needle Valve**
- Controls both ways
  - Full range adjustability
  - Knurled control knob
  - Dual tapered needle
  - Gasket included (GA-10)
  - Brass construction
  - Buna-N seal
  - For infinite positioning of side port direction use a thread sealant/adhesive.

- FN-32**
- Options:
- Slotted knurled knob **-KS**
  - Screwdriver slot (MN-32 type) **-S**
  - Locknut on stem **-L**
  - Adaptor knob **-B**
  - Viton seal **-V**



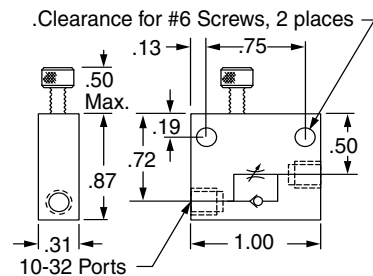
- Needle Valve**
- Controls both ways
  - Full range adjustability
  - Screwdriver slot
  - Dual tapered needle
  - Gasket included (GA-10)
  - Brass construction
  - Buna-N seal
  - For infinite positioning of side port direction use a thread sealant/adhesive.

- MN-32**
- Options:
- Knurled knob (FN-32 type) **-K**
  - Slotted knurled knob **-KS**
  - Locknut on stem **-L**
  - Adaptor knob **-B**
  - Viton seal **-V**



- Panel Mount Needle Valve**
- Controls both ways
  - Full range adjustability
  - Knurled control knob
  - Dual tapered needle
  - Brass construction
  - Buna-N seal
  - Mount in panel or directly into valve or cylinder port
  - 2 Nuts & 1 Washer included

- FN-18**
- Options:
- Slotted knurled knob **-KS**
  - Screwdriver slot (MN-32 type) **-S**
  - Locknut on stem **-L**
  - Adaptor knob **-B**
  - Without panel nuts **-C**
  - Viton seal **-V**

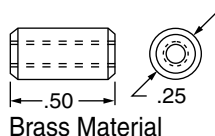


- Flow Control Valve**
- Controls one way – Full flow return
  - Full range adjustability
  - Knurled control knob
  - Dual tapered needle
  - Brass construction
  - Buna-N seals
  - For quick exhaust order without spring, Option -W
  - Flow rates - see page 12.5

- FC-32**
- Options:
- Slotted knurled knob **-KS**
  - Screwdriver slot (MN-32 type) **-S**
  - Locknut on stem **-L**
  - Adaptor knob **-B**
  - Viton seals **-V**
  - Without spring **-W**

12

Order any Control Valve with this Knob by specifying Option -B



- Adapter Knob**
- Allows the incorporation of decorative knobs with .25" I.D. and set screw

**Option -B**



**NV-55**  
Needle Valve

These precision machined valves are designed and manufactured to provide Micro-Fine™ control of gasses and liquids. They have a micrometer pitch (40 threads per inch) adjusting thread and precision machined tapered needle and seat. They are available as needle valves and flow control valves.

The precision is shown on the chart below. You can see how close the actual flow (plotted dots) approaches a straight line. Also note that it takes 9 full turns to go from bubble tight shut-off to its full flow of 100 Standard Cubic Feet per Hour (1.67 SCFM) at 80 psi inlet.



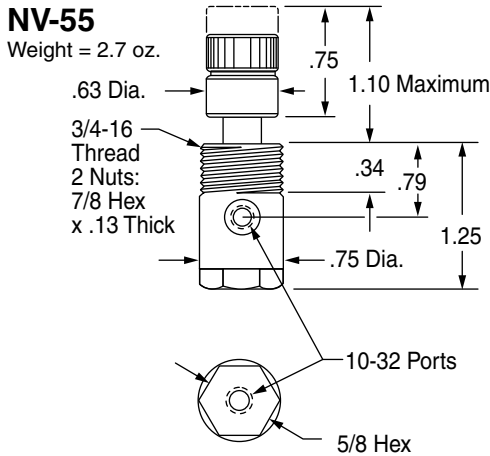
**FC-55**  
Flow Control Valve

## Features

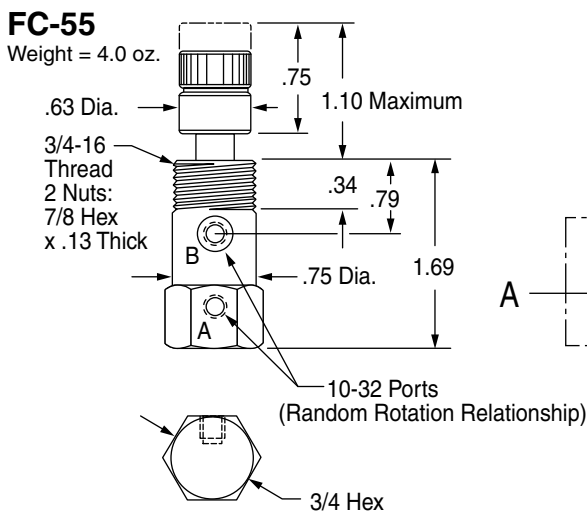
- Linear control to 100 SCFH @ 80 psi (see chart below).
- Micrometer pitch adjusting thread, 40 TPI, .025 per turn.
- 10-32 ports.
- Stainless steel needle - 3° taper.
- Friction O-Ring provides "stay-put" adjustment.
- Knurled adjusting knob with set screw lock.
- White Delrin® knob, colors available.
- Brass body.
- Buna-N seals.
- Operating temperature (0° to + 180°F).
- Panel mounting standard.
- 2 Brass panel mount nuts included as standard.
- 100% tested, "Bubble-tight" shut-off.
- Air or Hydraulic service to 150 psi.

## Options

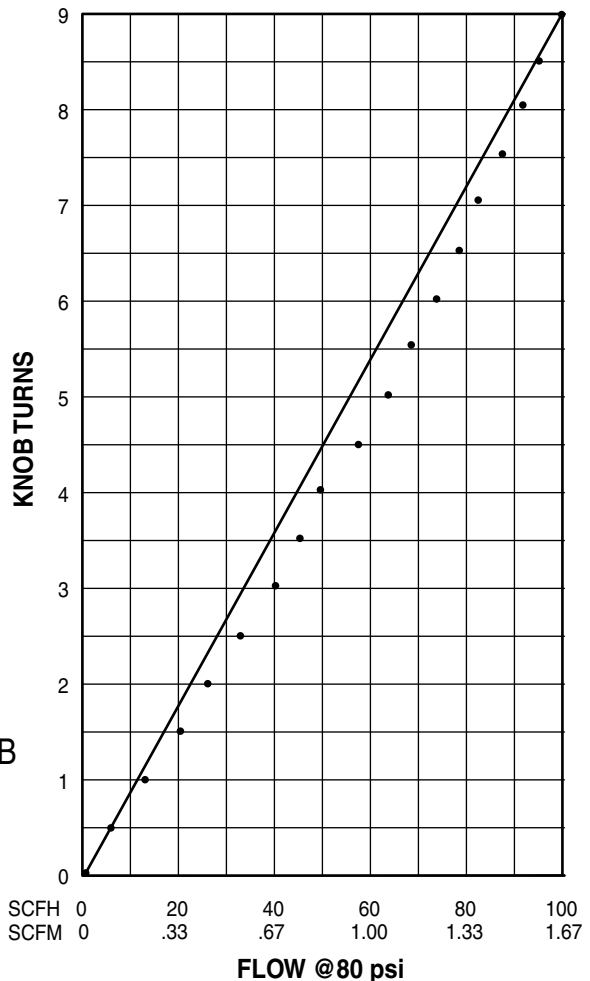
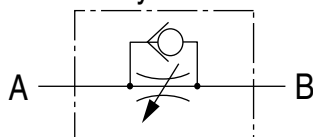
- Viton seals for media compatibility, specify Option -V.



Symbol



Symbol



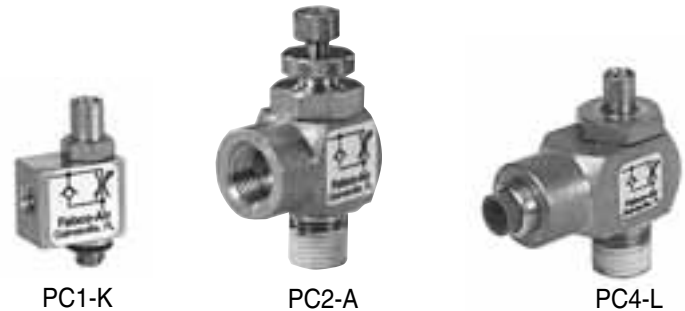
## Port Mounted, Swivel, Brass Body Flow Controls (See next page 12.4)

- Full 360° Swivel • Compact Size • Pre-applied Thread Sealant

### SPECIFICATIONS

- Male sizes:
  - #10-32, 1/8 NPT, 1/4 NPT
- Female NPT or instant tube connections:
  - 10-32, 1/8 NPT, 1/4 NPT,
  - 5/32" T, 1/4" T, 3/8" T
- Choice of controlled flow direction
  - Valve mount – Meter in
  - Cylinder mount – Meter out
- Operating pressure to 150 PSI (10 bar)
- Operating temperature: -25° to 250°F

### Easy Disassembly for Maintenance



See dimensions on next page. See flow information on page 12.5.

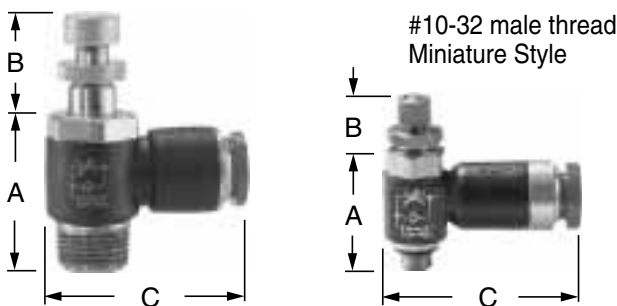
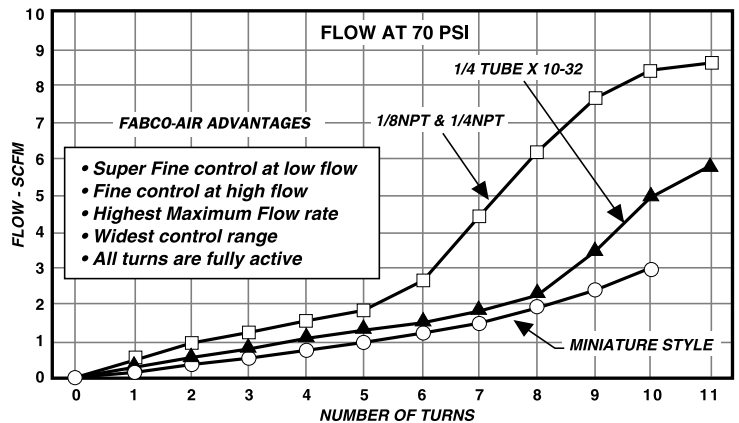
## Port Mounted, Swivel, Molded Body Flow Controls.

- Full 360° Swivel • Compact Size • Pre-applied Thread Sealant

### SPECIFICATIONS

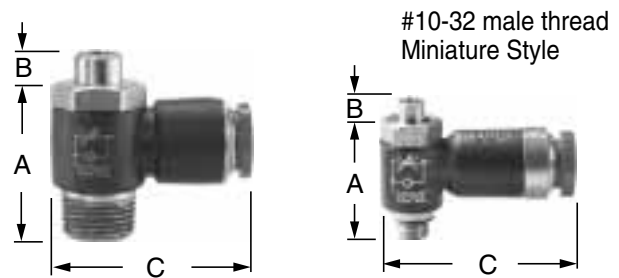
- Male sizes:
  - #10-32, 1/8 NPT, 1/4 NPT, 3/8 NPT
- Female instant tube connections:
  - 5/32" T, 1/4" T, 3/8" T
- Operating pressure to 150 PSI (10 bar)
- Operating temperature:
  - 0 to 160°F (-18°C to 70°C)
- High flow rates (see chart at right)
- Use with air or other inert gas only
- Not recommended for use with liquids
- Meter out only

### FLOW CHARACTERISTICS OF FABCO-AIR VALVES



### Knob Adjustable Valves

Model No.	Description	A	B max	C	Flow (Cv)
PK-82010	5/32 tubing x 10-32 miniature	0.68	0.45	1.08	0.05
PK-82012	5/32 tubing x 1/8 NPT	1.05	0.75	1.25	0.13
PK-82014	5/32 tubing x 1/4 NPT	1.17	0.75	1.37	0.13
PK-82040	1/4 tubing x 10-32	0.95	0.75	1.30	0.08
PK-82042	1/4 tubing x 1/8 NPT	1.05	0.75	1.30	0.13
PK-82044	1/4 tubing x 1/4 NPT	1.17	0.75	1.40	0.13
PK-82046	1/4 tubing x 3/8 NPT	1.38	0.92	1.75	0.27
PK-82064	3/8 tubing x 1/4 NPT	1.34	0.92	1.70	0.27
PK-82066	3/8 tubing x 3/8 NPT	1.38	0.92	1.75	0.27

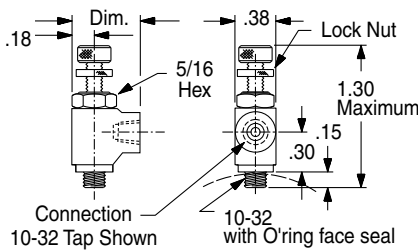


### Recessed Screw Adjustable Valves

Model No.	Description	A	B max	C	Flow (Cv)
PR-82110	5/32 tubing x 10-32 miniature	0.68	0.11	1.08	0.05
PR-82112	5/32 tubing x 1/8 NPT	1.05	0.20	1.25	0.13
PR-82114	5/32 tubing x 1/4 NPT	1.17	0.20	1.37	0.13
PR-82140	1/4 tubing x 10-32	0.95	0.20	1.30	0.08
PR-82142	1/4 tubing x 1/8 NPT	1.05	0.20	1.30	0.13
PR-82144	1/4 tubing x 1/4 NPT	1.17	0.20	1.40	0.13
PR-82146	1/4 tubing x 3/8 NPT	1.38	0.28	1.75	0.27
PR-82164	3/8 tubing x 1/4 NPT	1.34	0.28	1.70	0.27
PR-82166	3/8 tubing x 3/8 NPT	1.38	0.28	1.75	0.27

## Size 1 #10-32 Male Thread

## Knob Adjustment



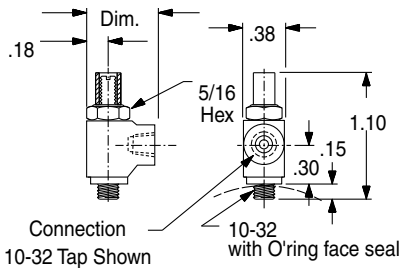
Valve Mount		
Model	Connection	Dim.
PV1-A	#10-32 Tap	.63
PV1-C	5/32" Tube*	1.16

Cylinder Mount		
Model	Connection	Dim.
PC1-A	#10-32 Tap	.63
PC1-C	5/32" Tube*	1.16

\* Note! Use 5/32" Tube Models for 4mm OD Tubing.

## Size 1 #10-32 Male Thread

## Screw Driver Adjustment



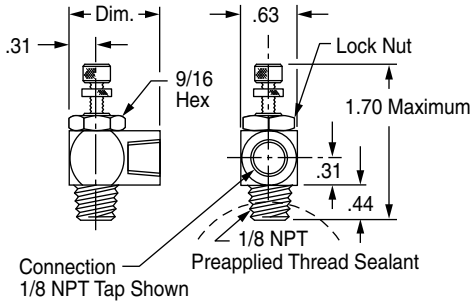
Valve Mount		
Model	Connection	Dim.
PV1-K	#10-32 Tap	.63
PV1-M	5/32" Tube*	1.16

Cylinder Mount		
Model	Connection	Dim.
PC1-K	#10-32 Tap	.63
PC1-M	5/32" Tube*	1.16

\* Note! Use 5/32" Tube Models for 4mm OD Tubing.

## Size 2 1/8 NPT Male Thread

## Knob Adjustment



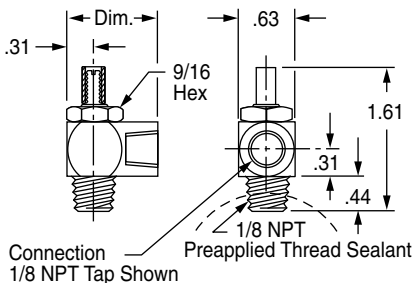
Valve Mount		
Model	Connection	Dim.
PV2-A	1/8 NPT Tap	1.00
PV2-C	5/32" Tube*	1.65
PV2-D	1/4" Tube	1.63

Cylinder Mount		
Model	Connection	Dim.
PC2-A	1/8 NPT Tap	1.00
PC2-C	5/32" Tube*	1.65
PC2-D	1/4" Tube	1.63

\*Note! Use 5/32" Tube Models for 4mm OD Tubing.

## Size 2 1/8 NPT Male Thread

## Screw Driver Adjustment



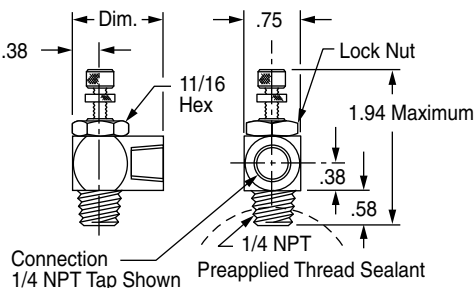
Valve Mount		
Model	Connection	Dim.
PV2-K	1/8 NPT Tap	1.00
PV2-M	5/32" Tube*	1.65
PV2-N	1/4" Tube	1.63

Cylinder Mount		
Model	Connection	Dim.
PC2-K	1/8 NPT Tap	1.00
PC2-M	5/32" Tube*	1.65
PC2-N	1/4" Tube	1.63

\*Note! Use 5/32" Tube Models for 4mm OD Tubing.

## Size 4 1/4 NPT Male Thread

## Knob Adjustment

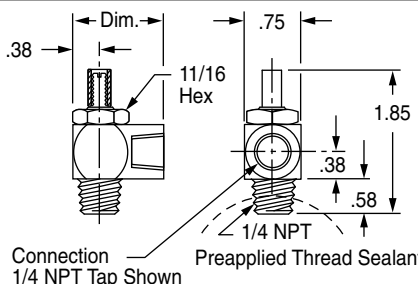


Valve Mount		
Model	Connection	Dim.
PV4-A	1/4 NPT Tap	1.25
PV4-B	1/4" Tube	1.75
PV4-C	3/8" Tube	2.00

Cylinder Mount		
Model	Connection	Dim.
PC4-A	1/4 NPT Tap	1.25
PC4-B	1/4" Tube	1.75
PC4-C	3/8" Tube	2.00

## Size 4 1/4 NPT Male Thread

## Screw Driver Adjustment

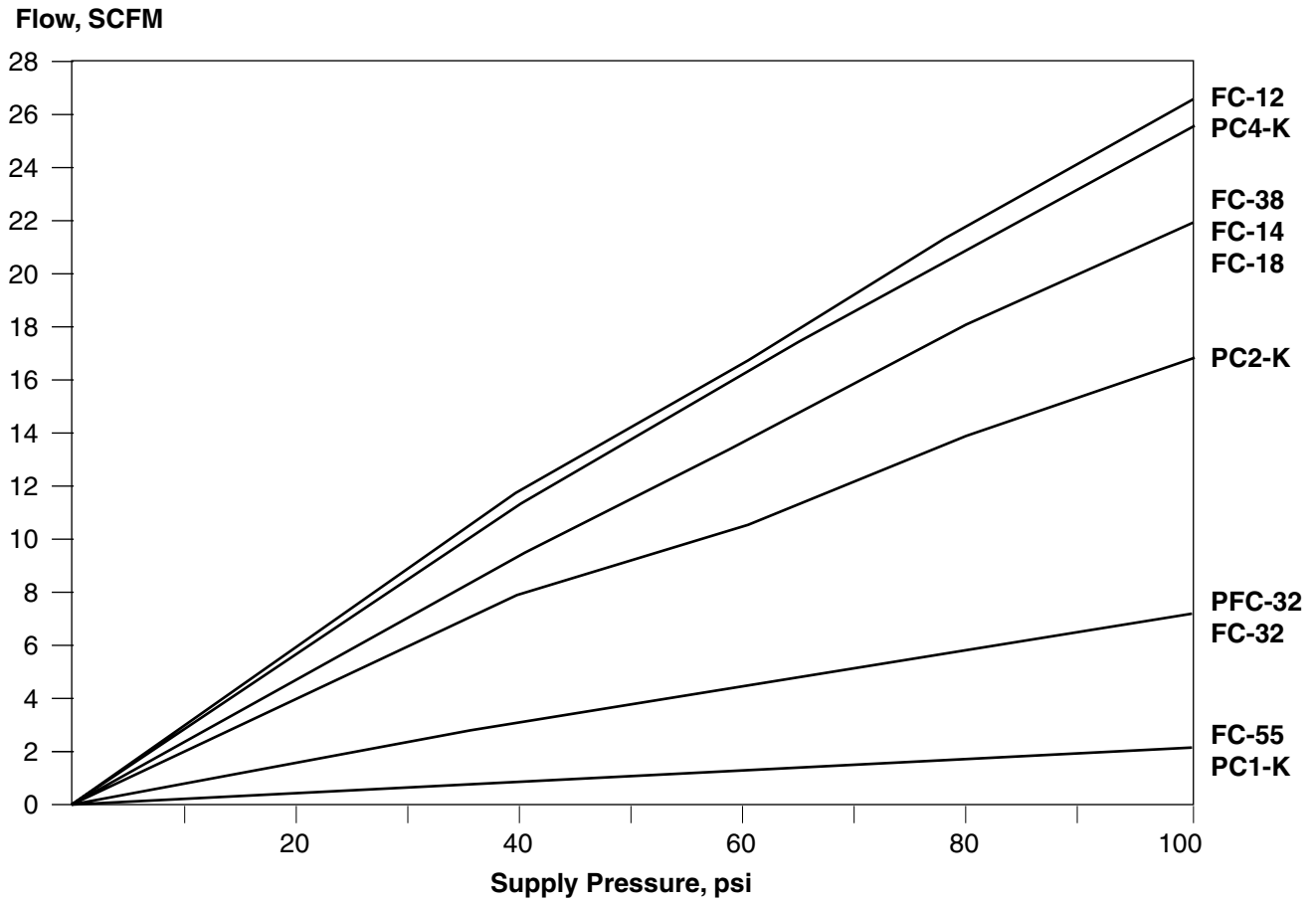


Valve Mount		
Model	Connection	Dim.
PV4-K	1/4 NPT Tap	1.25
PV4-L	1/4" Tube	1.75
PV4-M	3/8" Tube	2.00

Cylinder Mount		
Model	Connection	Dim.
PC4-K	1/4 NPT Tap	1.25
PC4-L	1/4" Tube	1.75
PC4-M	3/8" Tube	2.00

# Needle & Flow Control Valves

## Flow Control Valves, Typical Free Flow Maximum

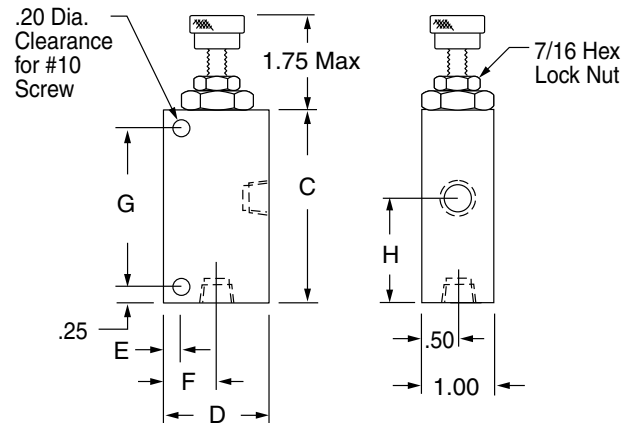


## 12 Super-Vee™ Needle Valve Dimensions

Super-Vee™ Needle Valve controls both directions



Model	FCB-18	FCB-14	FCB-38	FCB-12
Port Size, NPT	1/8	1/4	3/8	1/2
C	2.75	2.75	2.75	3.00
D	1.50	1.50	1.50	1.75
E	.25	.25	.25	1.50
F	.75	.75	.75	.56
G	2.25	2.25	2.25	2.50
H	1.50	1.50	1.50	1.75
Weight, lb.	.50	.50	.50	.56





**FCB-14**

The unique design of the **Super-Vee™** control results in SUPER adjustability from full flow to bubble tight shut-off with an orifice that provides precise repetition of selected flow rates.

A straight stem with an angled “V” Notch fits snugly into a control bushing. The actual control orifice is one large hole compared to the narrow annular ring (see drawing below) that is the orifice formed by the typical tapered needle in a round hole.

When controlling air or liquid at a very low rate with a tapered needle and hole, the annular ring becomes minute and will catch even very small

dirt particles and create blockage. This changes the orifice size and causes the flow rate to vary. However, the Super-Vee™s large hole orifice will allow much larger particles to flow through freely; thus not changing flow rate.

Even with this large orifice advantage, we recommend that when you require extremely fine control and exact repetition every cycle, that you incorporate a filter on each side of the Super-Vee™ to assure that no particles can reach the “V” Notch orifice.



**FC-14**

## Features

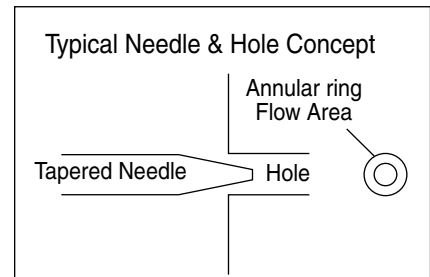
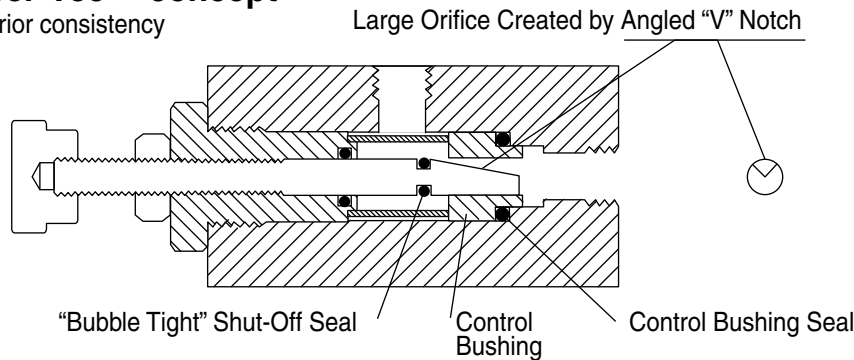
- Air service to 150 psi
- Hydraulic service to 150 psi
- No tapered needles
- Delrin® control bushing
- Repairable
- Knurled adjusting knob
- Adjustment lock nut
- Quality design
- Quality construction
- Buna-N seals
- Operating temperature (0° to + 180°F)
- Black anodized aluminum body
- Stainless steel stem
- Stainless steel spring (“FC-” Models)
- Brass cartridge and poppet
- Corrosion resistant construction
- “Bubble-tight” shut-off

## Options

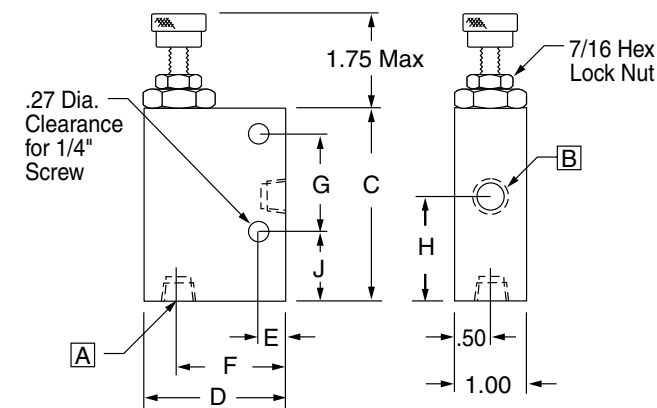
- Viton seals for media compatibility, Option -V

## Super-Vee™ concept

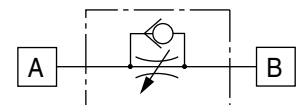
Superior consistency



## Super-Vee™ Flow Control Dimensions



Super-Vee™ Flow Control controls one direction – Free flow return



Model	FC-18	FC-14	FC-38	FC-12
Port Size, NPT	1/8	1/4	3/8	1/2
C	2.75	2.75	2.75	3.25
D	2.00	2.00	2.00	2.50
E	.38	.38	.38	.50
F	1.50	1.50	1.50	1.88
G	1.38	1.38	1.38	2.50
H	1.50	1.50	1.56	2.06
J	1.00	1.00	1.00	.38
Weight, lb.	.63	.63	.63	.83