



FLOW CONTROL VALVES

Flow control valves have an adjustable orifice which restricts the flow of air in one direction through the valve. Free, unrestricted flow is allowed in the opposite direction. The restricted flow can be used at the outlet of a cylinder, for example, (see diagram on the facing page) to control the speed with which the cylinder's piston can move. Air returning to the cylinder is unrestricted. In such an application a flow control valve is sometimes called a speed control valve. For versatility in installation flow control valves are available for straight-through flow (V55 models) or for right-angle flow (V50 models).



SHUTTLE VALVES

MASTER PNEUMATIC - DETROIT, INC.

SV20-2

MAXPE

Shuttle valves have two inlet ports, but only one outlet port. The inlet port with the higher pressure is automatically connected to the outlet port. This allows an output signal to be initiated from two different locations. See circuit on the facing page.

SV20 shuttle valves are available with either 1/8 or 1/4 ports.

CHECK VALVES

Check valves are flow actuated. They are used to allow air flow in one direction only, and to prevent flow in the opposite direction. V60 check valves are available with ports from 1/8 to 1.



Shuttle Valves

SV20 Models

Port Size: 1/8, 1/4

Model Shown: SV20-2



- Valve has two inlets and one outlet. Valve is pressure actuated so that the inlet with the higher pressure is connected to the outlet.
- ◆ Nitrile or Teflon seals. Teflon seals are resistant

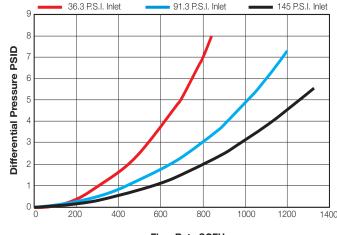
SPECIFICATIONS

Fluid Media: Compressed air.

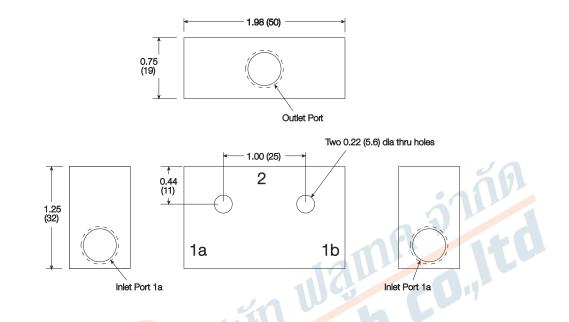
Inlet Pressure:
5 to 150 psig (0.00)

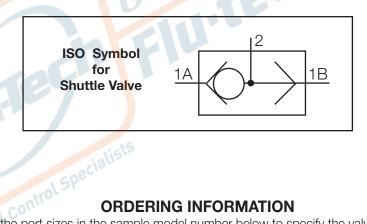
Seals: Nitrile or Teflon.

SV20-2 FLOW CHARACTERISITICS



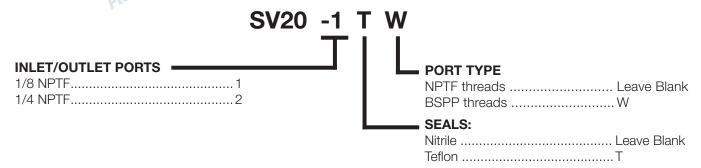
Flow Rate SCFH





ORDERING INFORMATION

Select the port sizes in the sample model number below to specify the valve you want.



Right-Angle Flow Control Valves

V50 Models Port Size: 1/8 to 1/2 and Tube Fittings

Model Shown: V50-4



- Screws directly into a cylinder port.
- Inlet port swivels for optimum placement.
- Models available with either knurled-knob adjustment or screwdriver-slot adjustment.
- NPTF port threads; optional BSPP threads. Also

Specialists SPECIFICATIONS

Ambient/Media Temperature:

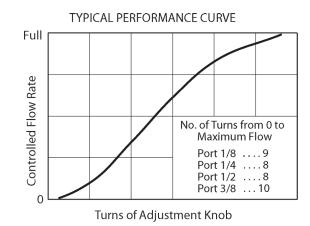
40° to 175°F (4° to 79°C).

Flow Adjustment: Knurled knob or screwdriver slot.

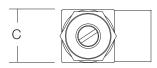
Fluid Media: Compressed air.

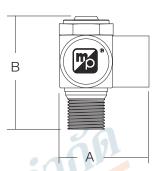
Inlet Pressure:

5 to 150 psig (0.3 to 10 bar) maximum.



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Port or Tube OD Size	Average C _v (Full Flow)	Type of Adjustment	A	В	С
1/8	0.3	Slot Knob	1.0 (25) 1.0 (25)	` '	0.63 (16) 0.63 (16)
1/4	0.6	Slot	1.3 (33)	. ,	0.79 (20)
1/4	0.6	Knob	1.0 (25)	2.2 (56)	0.63 (16)
3/8	1.9	Slot Knob	1.5 (38) 1.5 (38)	2.2 (56) 3.0 (77)	0.94 (24) 0.94 (24)
1/2	2.8	Slot Knob	1.9 (47) 1.9 (47)	2.7 (68) 3.7 (93)	1.2 (30) 1.2 (30)





Flow adjustment by screw-driver slot or knurled knob (dotted line).

O-ring seals on adjusting stem provide friction to keep stem in its set position.

Inlet is a swivel port which rotates 360° for optimum placement.

Removable tubing release ring.

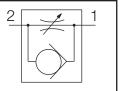
Threads are coated with pipe sealant. Screw directly into cylinder port.

ORDERING INFORMATION

Order by the model number given below.

For **BSPP** port threads add **W** to the end of the model number.





Port or			Model	Numbers
Tube OD	Average C _v	Type of	Threaded	Tube
Size	(Full Flow)	Adjustment	Inlet	Fitting
1/8	0.0	Slot	V50S-1	V50S-02
1/0	0.3	Knob	V50-1	V50-02
4 / 4	0.0	Slot	V50S-2	V50S-04
1/4	0.6	Knob	V50-2	V50-04
3/8	1.0	Slot	V50S-3	V50S-06
3/0	1.9	Knob	V50-3	V50-06
1 /0	0.0	Slot	V50S-4	_
1/2	2.8	Knob	V50-4	_



Inline Flow Control Valves

V55 Models

Port Size: 1/4 to 1-1/4



Model Shown: V55-6

- Straight-through design provides high air flow into a cylinder.
- Flow out of a cylinder can be precisely controlled. Adjustable flow can range from near zero to full flow.
- ◆ Adjustment control can be locked in position to prevent a change due to vibration.
- Three body sizes.
- NPTF port threads; optional BSPP threads.

itrol Specialists **SPECIFICATIONS**

Ambient/Media Temperature:

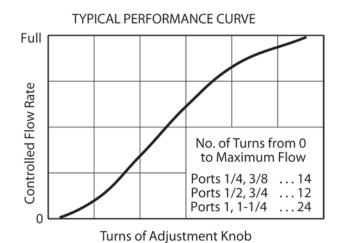
40° to 175°F (4° to 79°C).

Body: Aluminum with brass adjusting stem.

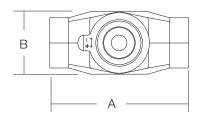
Fluid Media: Compressed air.

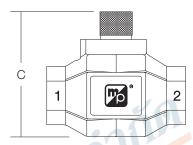
Inlet Pressure:

5 to 150 psig (0.3 to 10 bar) maximum.

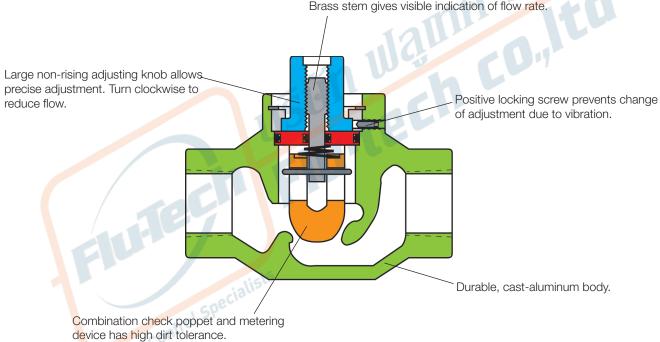


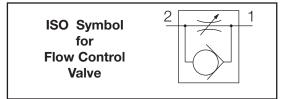
	DIMENS		ies (mm)	
Port	Average C _v			_
Size	(Full Flow)	Α	В	С
1/4	2.3	2.8	1.3	2.5
3/8	2.6	(70)	(32)	(64)
1/2	7.5	3.8	1.6	3.1
3/4	8.3	(95)	(40)	(78)
1	17	5.0	2.5	4.4
1-1/4	22	(127)	(64)	(111)





Brass stem gives visible indication of flow rate.





ORDERING INFORMATION

Order by the model number given below. For BSPP port threads add W to the end of the model number.

Port Size	Average C_v (Full Flow)	Model Number
1/4	2.3	V55-2
3/8	2.6	V55-3
1/2	7.5	V55-4
3/4	8.3	V55-6
1	17	V55-8
1-1/4	22	V55-10



Check Valves

V60 Models Port Size: 1/8 to 1

Model Shown: V60-4



- ◆ Flow-actuated so that they allow full air flow in one direction, but are fully closed to air flow in the opposite direction.
- Self-cleaning poppet design tolerates dirty air.



Control Specialists SPECIFICATIONS

Ambient/Media Temperature:

40° to 175°F (4° to 79°C).

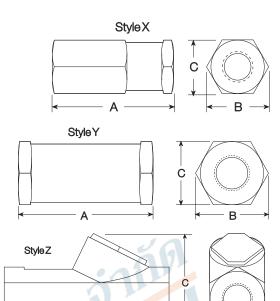
Fluid Media: Compressed air.

Inlet Pressure:

5 to 150 psig (0.3 to 10 bar) maximum.

Cracking Pressure: Less than 1.5 psi (0.1 bar).

Valve Style	Port Size	Average C _v	Α	В	С	Weight lb (kg)
Χ	1/8 1/4	0.5 0.5	2.71 (69)	.2 (30)	1.0 (25)	0.5 (0.23)
Υ	1/4 3/8 1/2	2.9 3.7 3.9	2.8 (71) 2.8 (71) 3.7 (94)	1.6 (40) 1.6 (40) 1.6 (40)	1.4 (35) 1.4 (35) 1.4 (35)	0.5 (0.23)
Z	1	3/4 8.3	8.6 (122)	4.8 (46)	1.8 (81)	3.2 0.9 (0.41)



ISO Symbol for Check Valve



ORDERING INFORMATION

Order by the model number given in the chart below.

For **BSPP** port threads add W to the end of the model number.

Valve	Port		Model
Style	Size	Average C _v	Number
V	1/8	0.5	V60-1
Χ	1/4	0.5	V60-2
	1/4	2.9	V60M-2
Υ	3/8	3.7	V60-3
	1/2	3.9	V60-4
	1/2	5.2	V60M-4
7	3/4	8.6	V60-6
Z	1	8.3	V60-8
	1	17	V60M-8