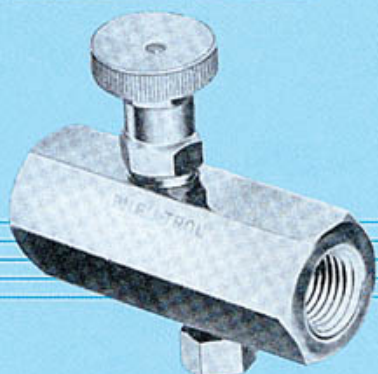




FLOW CONTROL VALVES



NEEDLE VALVES



CHECK VALVES

SPECIFICATIONS

Maximum Operating Pressure (Non-Shock Service)

Brass – 2,000 PSI (138 Bar)
Carbon Steel – 5,000 PSI (345 Bar)
Stainless Steel – 5,000 PSI (345 Bar)

Operating Temperature Range (O-Ring Packing)

Viton: -15° to +400° F (-26° to 203°C)

Threads

NPTF Standard, 1/8", 1/4", 3/8" 1/2", and
3/4". SAE Threads on special order.

Materials

Housing, Plug, Body – Hexagon Brass,
Hexagon Carbon Steel, Hexagon 303
Stainless Steel
Needle – 416 Stainless Steel on Steel and
Stainless Steel Valves
Needle – Brass on Brass Valves
Back-up Washer – Teflon
Knob – Aluminum
Tamperproof Key – Cadmium Plated Steel
Ball – Stainless Steel
Retainer – Stainless Steel
Poppet – Brass or Stainless Steel with Viton
(Standard) O-Ring

Pneu-Trol®

FLOW CONTROL, NEEDLE AND CHECK VALVES

- Optional Bubble-Tight Check Valve Available

FLOW CONTROL

A spring biased ball or optional poppet check provides full flow in one direction; a stainless steel, tapered needle provides a wide range of adjustment of flow in the controlled direction. A locknut prevents unwanted changes in adjustment. A tamperproof adjustment key is standard; a knurled knob is optional at slight extra cost.

NEEDLE

A wide range of flow adjustment is possible because of the fine thread, tapered needle. Unwanted changes in adjustment are prevented by a locknut. A tamperproof adjustment key is standard; a knurled knob is available at slight extra cost.

CHECK

A slight pressure differential fully opens or closes the ball or poppet check valve. This valve is available with either ball check or bubble-tight poppet check.

FLOW RATE CHART

Cv FACTORS

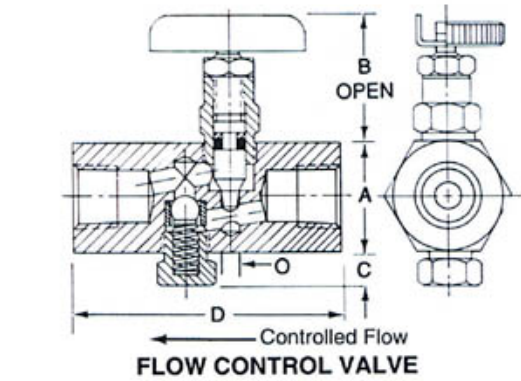
Size	Cv Max. Open Needle	Cv Flow Check
1/8"	.20	.23
1/4"	.43	.54
3/8"	.78	.83
1/2"	1.24	1.47
3/4"	1.93	1.90

MAX. RECOMMENDED FLOW GPM (L/min)

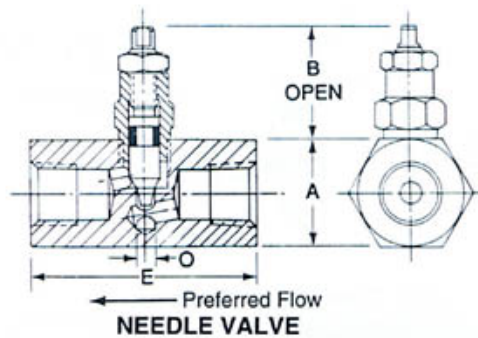
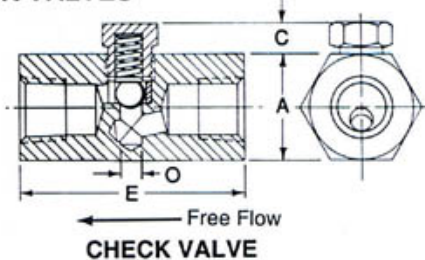
Size	Flow & Check Valves	Needle Valves
1/8"	1.5 (5.7)	3.2 (12.2)
1/4"	3.0 (11.4)	7.0 (26.5)
3/8"	5.0 (19)	13.5 (51.1)
1/2"	8.0 (30.3)	22.5 (85.2)
3/4"	12.0 (45.5)	34.0 (128.7)

() Parentheses = L/min

DIMENSIONS



CHECK VALVES



PIPE SIZE	A HEX	B	C	D	E	O
1/8"	11/16 (17.5)	7/8 (22.3)	13/64 (5.2)	1-3/4 (44.5)	1-15/32 (37.4)	.107 (2.8)
1/4"	7/8 (22.3)	1 (25.4)	23/64 (9.2)	2-3/8 (60.4)	2 (50.8)	.156 (4.0)
3/8"	1-1/16 (27.0)	1-13/16 (46.1)	11/32 (8.8)	2-3/4 (69.9)	2-1/4 (57.2)	.219 (5.6)
1/2"	1-5/16 (33.4)	1-7/16 (36.6)	15/32 (12.0)	3-3/16 (81.0)	2-21/32 (67.5)	.281 (7.2)
3/4"	1-5/8 (41.3)	1-5/8 (41.3)	17/32 (13.5)	3-9/16 (90.5)	2-15/16 (74.7)	.343 (8.8)

() Parentheses = Millimeters.

ORDERING INFORMATION

Size	FLOW CONTROL VALVES			NEEDLE VALVES			CHECK VALVES			Crack Press PSI (Bar)++
	Brass	Carbon Steel	Stainless Steel	Brass	Carbon Steel	Stainless Steel	Brass	Carbon Steel	Stainless Steel	
1/8"	FP10BK F10B F10BK	F10S F10SK	— F10SSK	N10B N10BK	N10S N10SK	— N10SSK	C10B CP10B	C10S —	C10SS CP10SS	1 to 2.5++ (.07 to 17)
1/4"	FP20BK F20B F20BK	F20S F20SK	— F20SSK	N20B N20BK	N20S N20SK	— N20SSK	C20B CP20B	C20S —	C20SS CP20SS	1 to 2.5++ (.07 to 17)
3/8"	FP25BK F25B F25BK	F25S F25SK	— F25SSK	N25B N25BK	N25S N25SK	— N25SSK	C25B CP25B	C25S —	C25SS —	1 to 2.5++ (.07 to 17)
1/2"	F30B F30BK	F30S F30SK	— F30SSK	N30B N30BK	N30S N30SK	— N30SSK	C30B CP30B	C30S —	C30SS —	1 to 2.5++ (.07 to 17)
3/4"	F35B —	— F35SK	— —	N35B N35BK	— N35SK	— —	C35B —	C35S —	— —	1 to 2.5++ (.07 to 17)

ISO 7/1 - RS* — BSP TAPER THREAD

Size	Flow Control Valves		Needle Valves	
	Brass	Steel	Brass	Steel
1/8"	FB10BK	FB10SK	NB10BK	NB10SK
1/4"	FB20BK	FB20SK	NB20BK	NB20SK
3/8"	FB25BK	FB25SK	NB25BK	NB25SK
1/2"	—	FB30SK	—	NB30SK
3/4"	—	FB35SK	—	NB35SK

* Agrees with BS21:1995 and JIS B0203.

SAE THREAD

Size	FC Valves		Needle	Check
	Steel	Brass	Steel	Steel
SAE-4	—	—	NM425SK	—
SAE-6	FM620S	—	—	—
SAE-6	FM620SK	FM620BK	NM620SK	—
SAE-6	—	FM625BK	—	—
SAE-8	—	—	NM830SK	—
SAE-12	—	—	NM1235SK	—

ORDERING INFORMATION

SERIES **THREAD** **SIZE** **MATERIAL** **Knob**

F **B** **10** **B** **K**

F = Flow Control
N = Needle
C = Ball Check
CP = Poppet Check
FP = Poppet Flow Control

— = NPTF
B = BSPT
M = SAE
BP = BSBP

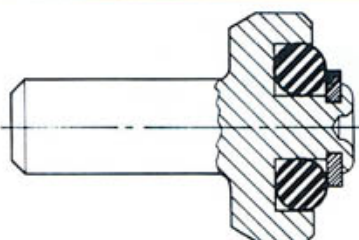
10 = 1/8"
20 = 1/4"
25 = 3/8"
30 = 1/2"
35 = 3/4"

B = Brass
S = Carbon
SS = Stainless Steel

Example:

For 1/4" brass flow control valves with knob, specify F20BK.

++Soft seat check valves if left seated for a period of time, will have the rubber adhere to the metal it is in contact with. This results in an initial high crack point due to sticking. The degree depends on many things (time seated, pressure, etc.).



Flow Control and Check Valve

Optional bubble-tight poppet check available in 1/8", 1/4", 3/8" and 1/2". (For application requiring 60 PSI (4 bar) or more, consult factory.)