



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

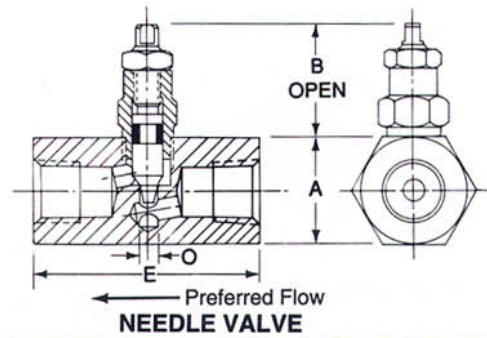
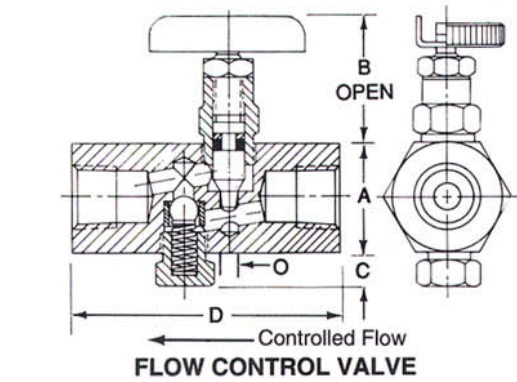
| Size | Cv Max. Open Needle | Cv Flow Check |
|------|---------------------------|---------------------|
| 1/8" | .20 | .23 |
| 1/4" | .43 | .54 |
| 3/8" | .78 | .83 |
| 1/2" | 1.24 | 1.47 |
| 3/4" | 1.93 | 1.90 |

MAX. RECOMMENDED FLOW GPM (L/min)

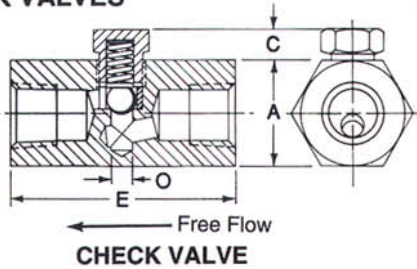
| Size | Flow & Check Valves | Needle Valves |
|------|---------------------------|------------------|
| 1/8" | 1.5 (5.7) | 3.2 (12.2) |
| 1/4" | 3.0 (11.4) | 7.0 (26.5) |
| 3/8" | 5.0 (19) | 13.5 (51.1) |
| 1/2" | 8.0 (30.3) | 22.5 (85.2) |
| 3/4" | 12.0 (45.5) | 34.0 (128.7) |

() 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 |

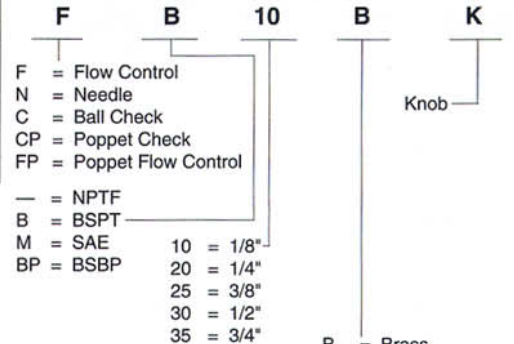
* Agrees with BS21:1995 and JIS B0203.

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

— = NPTF
B = BSPT
M = SAE
BP = BSBP

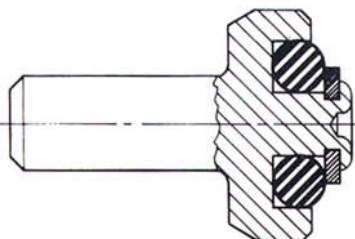
10 = 1/8"
20 = 1/4"
25 = 3/8"
30 = 1/2"
35 = 3/4"

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.)