


FABCO-AIR SOFT START VALVE

FAV Series



How to order

FAV **30** **3** **D24**

| Soft start valve | Body size | Port size | Pressure gauge | Voltage | Electrical entry |
|---|-----------|-----------|--------------------------------|---|---|
|  | 30 | 3 3/8 NPT | * No gauge G Pressure gauge | A11 110V (50/60)Hz A22 220V (50/60)Hz D24 24VDC | * Standard connector DIN 43650 |
| | 40 | 4 1/2 NPT | | | S Plug connector DIN 43650 with lamp & surge suppressor |

* LEAVE BLANK

Features

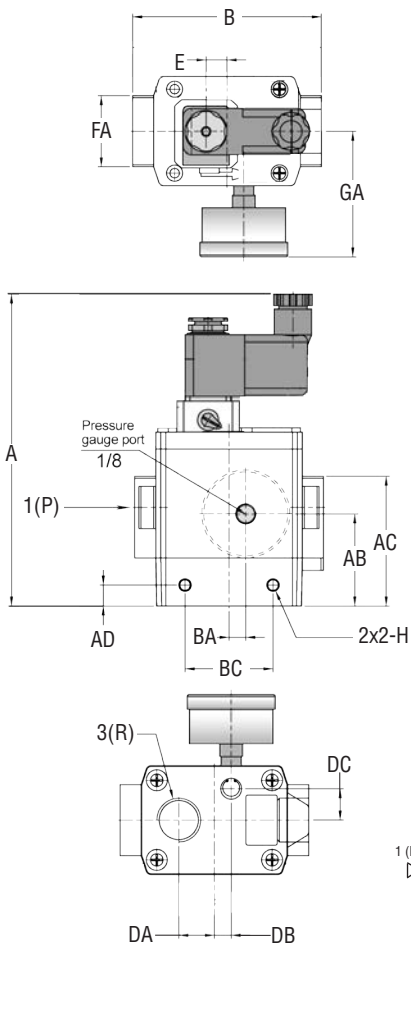
1. In an air system, soft start valve gradually raises incoming pressure for low speed air supply to ensure the safety of the air system.
2. When cutting off air supply, soft start valve exhausts quickly.
3. Connectable with FABCO-AIR air prep products.

Specification

| Model | FAV30 | FAV40 |
|-------------------------|------------------------------|-------------------|
| Port Size | 3/8 NPT | 1/2 NPT |
| Operating fluid | Compressed air | |
| Operating pressure | 0.25 to 1MPa (36 to 145 psi) | |
| Temperature range | 0 to +60°C (32° to +140°F) | |
| Effective area | 1(P)>2(A) | 37mm ² |
| | 2(A)>3(R) | 49mm ² |
| Voltage | AC110V | AC220V DC24V |
| Power consumption | 6 VA | 4.9 VA 2.6 W |
| Available voltage range | ±10% | |
| Coil insulation class | F class | |
| Weight | 520g | 800g |

Dimensions

| Size | A | AB | AC | AD | B | BA | BC | C | CA | DA | DB | DC | E | FA | GA | H |
|------|-----|----|------|-----|----|----|----|------|----|----|----|----|----|----|----|----------------|
| 30 | 134 | 34 | 50.5 | 8.5 | 78 | 5 | 28 | 47.6 | 36 | 14 | 5 | 14 | 11 | 29 | 55 | M5x0.8x5 depth |
| 40 | 149 | 44 | 62 | 10 | 90 | 8 | 42 | 52 | 47 | 17 | 8 | 15 | 10 | 34 | 60 | M6x1.0x6 depth |



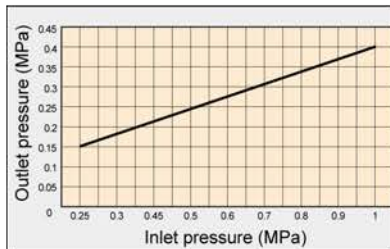
FABCO-AIR

SOFT START-UP VALVE

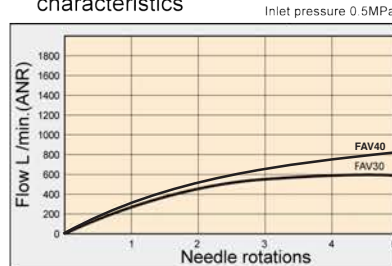
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Flow characteristics

- Piston B switching pressure (Close→Open)



- Needle valve flow characteristics



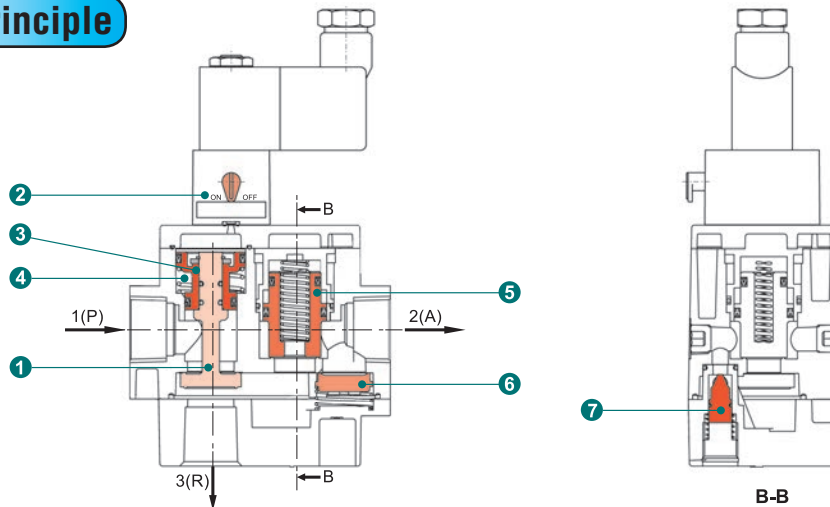
Piping note

When the air flow is restricted or insufficient pressure, the main valve will not function or switch normally and it may cause air to leak from the R port.

The composite effective area of the piping material and component on the P port side:

| | |
|--------------|---|
| FAV30 | Composite effective area ≥ 22mm ² |
| FAV40 | Composite effective area ≥ 35mm ² |

Working principle



CONVERSIONS

| |
|----------------------------|
| 0.1 MPa = 15 PSI |
| 0.2 29 |
| 0.3 43 |
| 0.4 58 |
| 0.5 72 |
| 0.6 87 |
| 0.8 116 |
| 1.0 145 |
| 200L/MIN = 7.0 cu.ft./min. |

| Working condition | Pilot valve | Pressure conditions | Working description | Pressure time chart (Meter-out control) example | Cylinder drive circuit (Meter-out control) example |
|-------------------|-------------|-------------------------------|---|---|--|
| Low speed supply | ON | $\frac{1}{2}P_P > P_A$ | When pilot valve ② is turned ON by energization or manual override, the pilot air moves piston A ③ and main valve ① downward and opens main valve ① while R port closes at the same time. The air from P port moves to needle valve ⑦, where its flow is adjusted, and flows to A port. The meter-in control of needle valve ⑦ slowly moves the cylinder from A to B. | <p>Initial Operation Return Stroke</p> | |
| High speed supply | | $\frac{1}{2}P_P \leq P_A$ | When $\frac{1}{2}P_P \leq P_A$, after the cylinder reaches B, piston B ⑤ fully opens and PA increases quickly as shown from C to D and becomes the same pressure as PP. | | |
| Normal operation | | approx $\frac{1}{2}P_P = P_A$ | Since piston B ⑤ holds the fully open condition, during normal operation the cylinder's speed will be controlled by the usual meter-out control. | | |
| Quick exhaust | OFF | — | When pilot valve ② is turned OFF, spring ④ moves piston A ③ and main valve ① upward and opens R port while shutting off the air supply from P port. The pressure difference generated at this time lets the check valve ⑥ open and the residual pressure on the A port side is rapidly exhausted from R port. | | |