

2/2-Way, G 1/2 - G 1 1/2, Flange (DN25)



Design/Function

The Type 406 is a servo-assisted on-off solenoid valve with servo piston operated in circuit function A, normally closed. When the pilot valve is closed, the pressure builds up above the piston via a bleed hole.

The piston closure is assisted by spring action. When the pilot valve opens, the pressure above the piston is relieved via a pilot channel.

Assisted by the pressure of the fluid, the piston moves upwards and opens the valve. A minimal differential pressure of 1 bar is required for complete opening.

Advantages/Benefits

- High reliability
- Erosion resistance
- Body materials:
Brass (threaded),
Grey cast iron (flange)
- Long service life of seal

Applications

- Fluids at high temperatures, such as hot air and steam
- Autoclaves (steam side)
- Ironing machines
- Steam cleaning systems
- Steam heating systems
- Large kitchens
- Plastic processing
- Injection moulding machines (thermal oil)

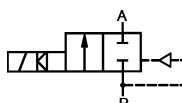
Solenoid Valve for steam and media at high temperatures up to 180 °C

Type 406

Technical Data

Circuit Function

A 2/2-way valve,
normally closed,
servo piston valve with 2-way pilot
control



Body Material

- Threaded body of brass, seat 1.4303
- Flanged body of grey cast iron
- Internal parts of solenoid 1.4105
- Servo piston of brass

Specifications

| Orifice DN [mm] | Kv-Value Water [m³/h] | QNn-Value Air [l/min] | Pressure Range AC [bar] | DC [bar] | Weight Threaded [kg] | Flanged body [kg] |
|-----------------------|-----------------------------|-----------------------------|-------------------------------|-------------|----------------------------|----------------------|
| 13 | 3,7 | 4000 | 1-12 | 1-4 | 0,8 | - |
| 20 | 5,0 | 5400 | 1-12 | 1-4 | 1,2 | - |
| 25 | 10,0 | 10800 | 1-12 | 1-4 | 1,7 | 4,4 |
| 32 | 18,0 | 19400 | 1-12 | - | 2,9 | - |
| 40 | 18,0 | 19400 | 1-12 | - | 3,3 | - |

A min. differential pressure of 1 bar is required for complete opening.
All pressures quoted are gauge pressures with respect to the prevailing atmospheric pressure.

Operating Data (Valve)

Seal Materials/Fluids Handled/Temp.- Range

PTFE Neutral fluids, e.g. steam
0 to +180 °C

For more detailed information please refer to resistance chart (Leaflet-No. 1896009).

Max. ambient temperature +55 °C

Max. viscosity 21 mm²/s

Response times closing
DN opening
13-25 [ms] 0,1 - 0,4 [ms] 0,3 - 0,5
32-40 0,2 - 1,2 1,0 - 3,0

Times measured at nominal pressure or at max. 6 bar operating pressure with water. They depend upon the orifice of the valve, as well as upon the pressure and viscosity of the handled fluid.

Operating Data (Actuator)

Operating voltages 240, 230, 110, 24 V / 50 Hz
24 V/=

Voltage tolerance ±10 %

Power consumption AC DN 13-25 21 VA (inrush),
12 VA/8 W (hold)
DN 32-40 35-40 VA

(inrush) 16/VA 10 W (hold)
DC 8 W

Duty cycle 100 % continuously rated

Cycling rate 10-60 c.p.m.

Rating with cable plug IP 65

Installation /Accessories

Installation as required, but preferably
upright with solenoid system

Electrical connection

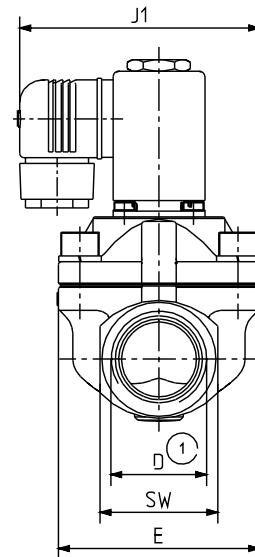
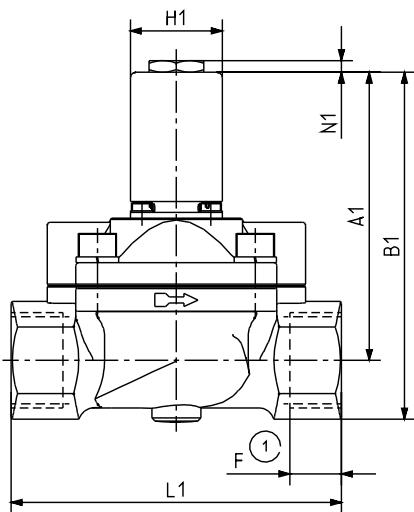
- cable plug for 7mm ø
cable (supplied as
standard)
- Silicone cable on request

Solenoid Valve for steam and media at high temperatures up to 180 °C

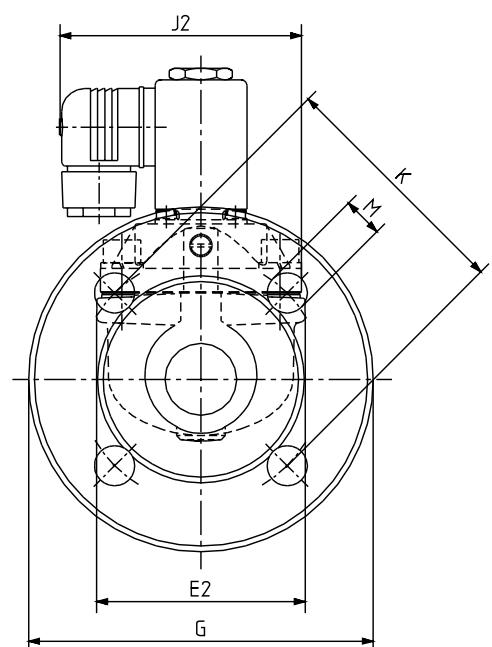
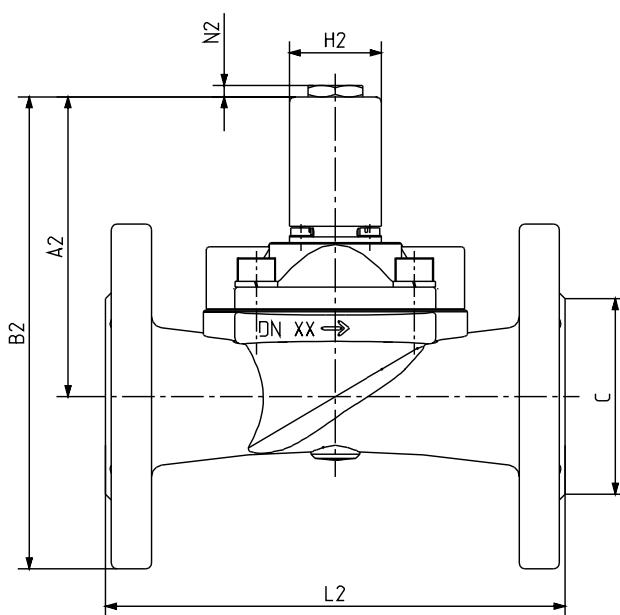
Type 406

Dimensions in mm

Ported Version



Flanged Version



| Orifice | Ported Version | | | | | | | | | | | Flanged Version | | | | | | | | | | |
|---------|----------------|-----|--------|----|----|-----|----|----|----|----|-----|-----------------|----|----|-----|-----|----|----|----|----|----|----|
| | DN | A1 | B1 | D1 | F1 | E1 | L1 | SW | J1 | H1 | N1 | A2 | B2 | C | E2 | G | L2 | M | K | J2 | H2 | N2 |
| 13 | 95 | 109 | G 1/2 | 14 | 40 | 65 | 27 | 69 | 32 | 4 | - | - | - | - | - | - | - | - | - | - | - | - |
| 20 | 95 | 111 | G 3/4 | 16 | 60 | 100 | 32 | 79 | 32 | 4 | - | - | - | - | - | - | - | - | - | - | - | - |
| 25 | 100,5 | 121 | G 1 | 18 | 70 | 115 | 41 | 84 | 32 | 4 | 105 | 165 | 68 | 73 | 120 | 160 | 14 | 85 | 86 | 32 | 4 | |
| 32 | 141 | 166 | G 11/4 | 20 | 85 | 126 | 50 | 96 | 40 | 9 | - | - | - | - | - | - | - | - | - | - | - | - |
| 40 | 145 | 175 | G 11/2 | 22 | 85 | 126 | 60 | 96 | 40 | 9 | - | - | - | - | - | - | - | - | - | - | - | - |

Solenoid Valve for steam and media at high temperatures up to 180 °C

Type 406

Ordering Chart (Other Version on Request)

| Circuit Function | Orifice DN [mm] | Flow Rate Water Kv-Value [m³/h] | Flow Rate Air Q/Nn [l/min] | Port Connection | Pressure Range [bar] | Body Material | Seal Material | Weight [kg] | Voltage/ Frequency [V/Hz] | Order-No. |
|------------------|-----------------|---------------------------------|----------------------------|-----------------|----------------------|---------------|---------------|-------------|---------------------------|-------------------------|
| A | 13,0 | 3,7 | 4 000 | G 1/2 | 1-12 | Brass | PTFE | 0,8 | 024/50 | 020 541 T |
| | | | | | 1- 4 | Brass | PTFE | 0,8 | 024/= | 019 310 A |
| | | | | | 1-12 | Brass | PTFE | 0,8 | 110/50 | 023 200 H |
| | | | | | | | | | 230/50 | 061 305 C |
| | | | | | | | | | 240/50 | 021 690 S |
| | 20,0 | 5,0 | 5 400 | G 3/4 | 1-12 | Brass | PTFE | 1,2 | 024/50 | 019 818 U |
| | | | | | 1- 4 | Brass | PTFE | 1,2 | 024/= | 021 004 J |
| | | | | | 1-12 | Brass | PTFE | 1,2 | 110/50 | 021 838 J |
| | | | | | | | | | 230/50 | 061 303 A |
| | | | | | | | | | 240/50 | 021 691 P |
| | 25,0 | 10,0 | 10 800 | Flanged | 1- 4 | Cast iron | PTFE | 4,4 | 024/= | 078 255 J ¹⁾ |
| | | | | | 1-12 | Cast iron | PTFE | 4,4 | 230/50 | 022 126 H |
| | | | | G 1 | 1-12 | Brass | PTFE | 1,7 | 024/50 | 021 440 X |
| | | | | | 1- 4 | Brass | PTFE | 1,7 | 024/= | 019 983 J |
| | | | | | 1-12 | Brass | PTFE | 1,7 | 110/50 | 023 896 F |
| | | | | | | | | | 230/50 | 061 304 B |
| | | | | | | | | | 240/50 | 018 643 B |
| | 32,0 | 18,0 | 19 400 | G 1 1/4 | 1-12 | Brass | PTFE | 2,9 | 230/50 | 058 142 D |
| | 40,0 | 18,0 | 19 400 | G 1 1/2 | 1-12 | Brass | PTFE | 3,3 | 230/50 | 085 367 S |

¹⁾ Without cable plug