

2/2-Way Motor Valve



Type 3275 can be combined with ...



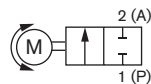
Type 8611

Compact PI Controller

Type 3275 is a direct-acting and general purpose motor valve for shut-off, used as regulating unit in control loops. The valve is powered by a stepper motor, which is incorporated in the compact and robust housing. The input signals are processed by the integrated control electronics. The drive shaft shifts a very smooth ceramic disc over a second fixed ceramic disc. The fixed ceramic disc is simultaneously the valve seat. By turning the ceramic disc the valve opens. The seat tightness is optimized by high quality surfaces of the stacked ceramic discs (but still not comparable with seat valves). In case of power failure the actual valve position will be kept. Therefore, this valve is not suitable as safety shut-off valve. The motor's power consumption in opened or closed position is nearly zero. Only during valve switching does the motor need power. This key feature can reduce the energy consumption of a plant dramatically and thus make it more efficient.

Circuit function

2-way valve, motor driven, remains in position without further electrical power



- Disc valve with stepper motor - Actuator isolated from flow path
- Low power consumption
- Fast response times
- Orifice sizes 8 ... 25 mm
- Port connection 1/2", 3/4" and 1"

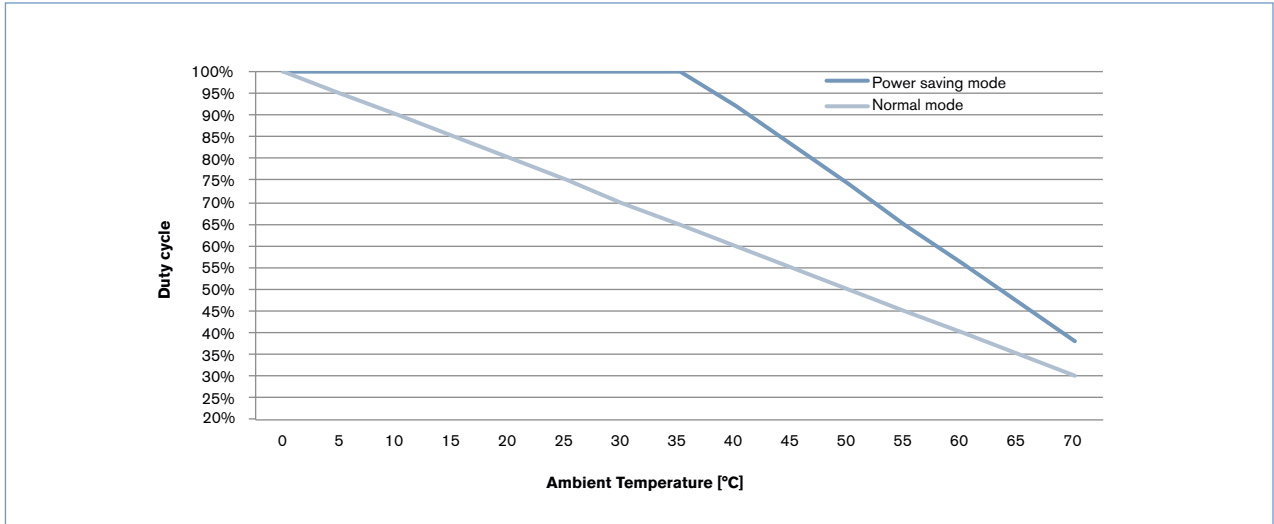
| Technical data | |
|---|---|
| Materials | |
| Body | Brass or stainless steel |
| Housing | PC (Polycarbonate), PPS (Polyphenylene sulfide) |
| Seals | FKM or NBR, others on request |
| Seat sealing | Technical ceramics |
| Medium | Neutral gases, liquids |
| Seat leakage based on IEC / EN 60534-4 | Shut-off class IV |
| Pressure Range ¹⁾ | 0...6 bar |
| Closure time | Ca. 4 sec |
| Medium temperature | 0...+70 °C |
| Ambient temperature | -10 ... +60 °C |
| Power supply | 24 V DC ± 10% (max. residual ripple 10%) |
| Power consumption | Max. 12 W (depending on motor control) Ca. 1 W in holding position |
| Duty cycle | Up to 100 % (depending on fluid and ambient temperature) |
| Port connection | G 1/2, G 3/4, G 1, NPT 1/2, NPT 3/4, NPT 1 |
| Electrical connection | M12 connector, 8-pin, male |
| Input signal | Binary signal, PNP, 0-5V (log. 0, valve close) or 10-30V (log. 1, valve open) |
| Output signal | Load capacity 10...30V, PNP, max. 100mA (Output signal active, if valve is closed) |
| Protection class - valve | IP 50 |
| Installation | As required, preferably with actuator upright |
| Status of LED | White: Normal operation and powered, Yellow: Valve opened, Green: Valve closed, Red: Failure |
| Dimensions | See drawings |
| Weight | ~ 800g (DN8) ... 1500g (DN25) |

¹⁾ Pressure data [bar]: Overpressure with respect to atmospheric pressure

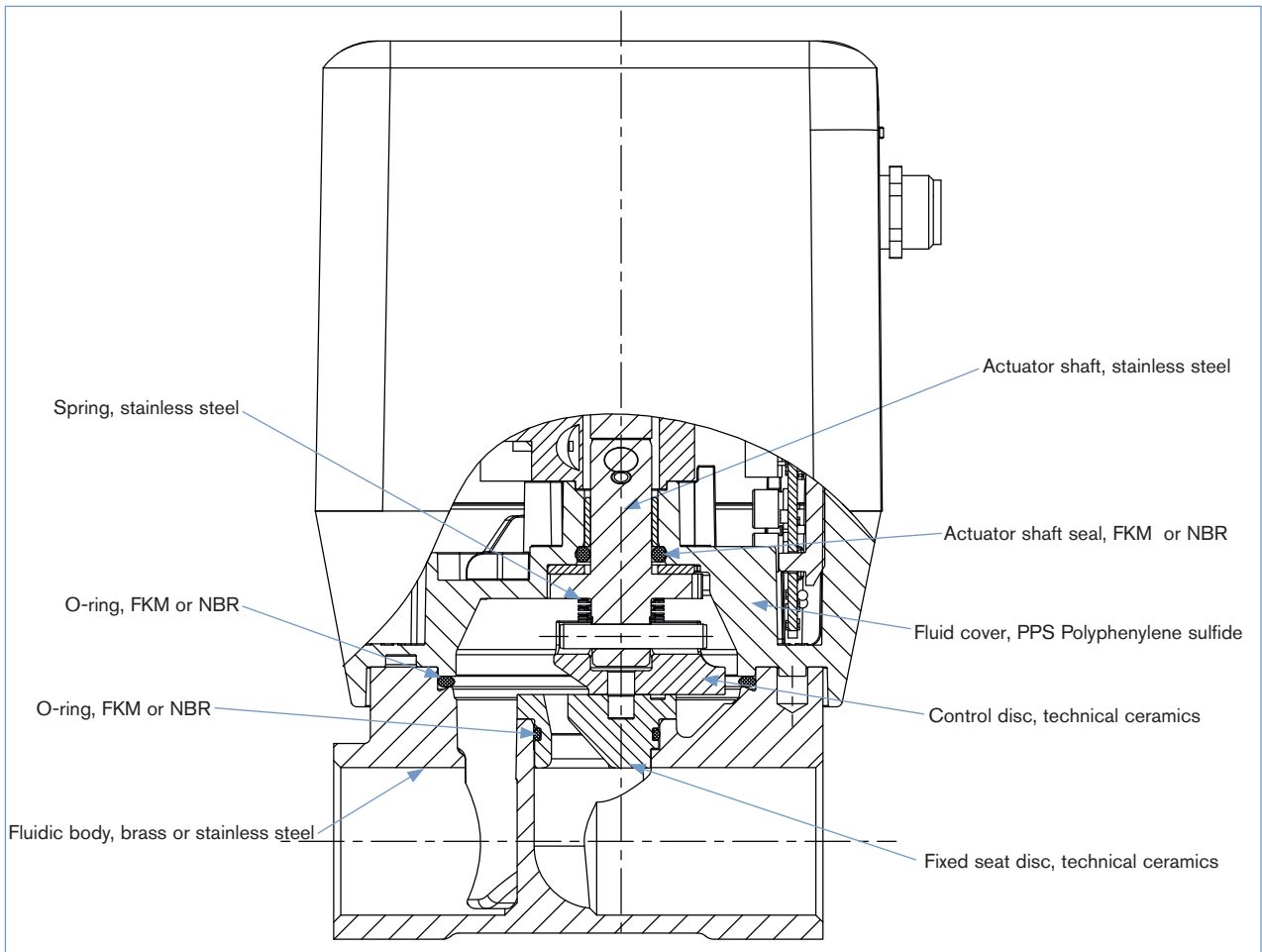
Duty Cycle Derating Curve

For motor valves it is essential to know the duty cycle during operation. Self-heating of the motor limits the maximum duty cycle. High ambient temperatures amplify the risk of damage due to overheating. The diagram below shows the suggested duty cycles dependent on the ambient temperature. Running the motor control valve in the power saving mode (lower actuator force) allows higher duty cycles. The motor is optimized for the valve function regarding dimensions, power consumption and costs.

Note: Operating the valve beyond the suggested duty cycles leads to a drastically reduced lifetime of the valve.



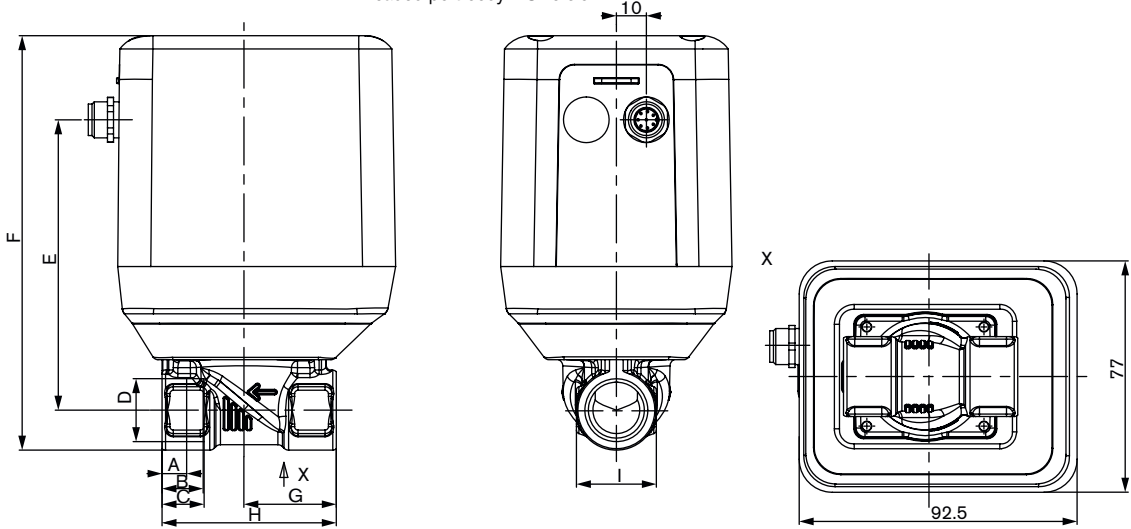
Materials



Dimensions [mm]

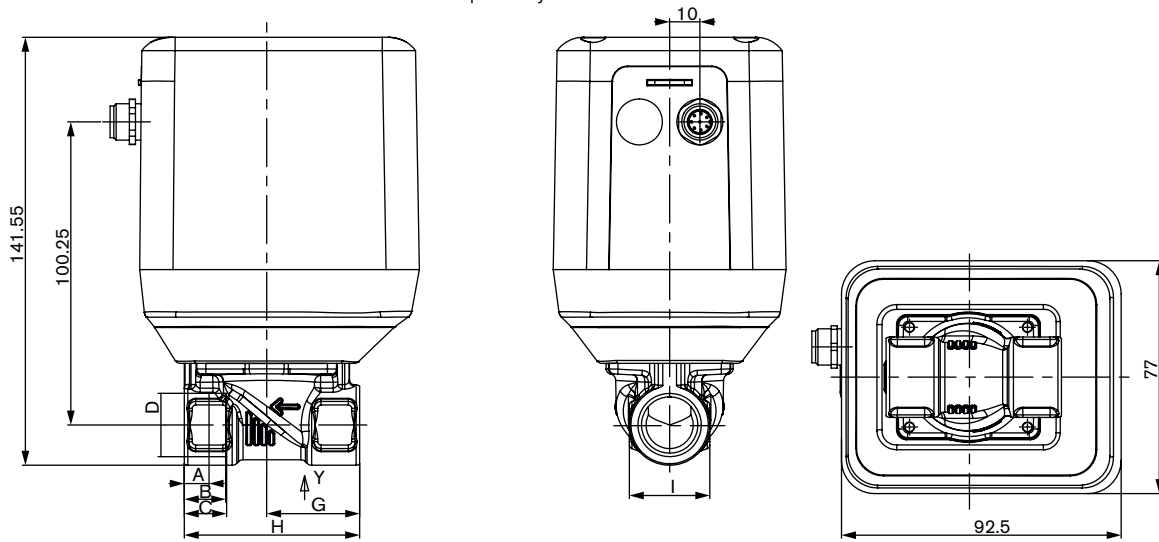
Standard version

Threaded port body MS version



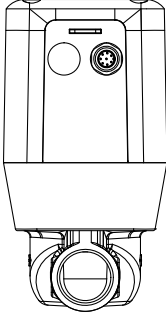
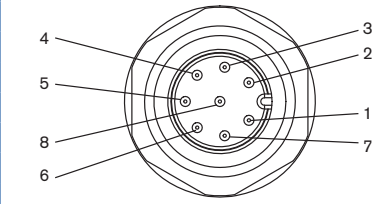
| A | B | C | D | E | F | G | H | I |
|------|------|----|---------|--------|--------|-------|----|------|
| 8.2 | 13.7 | - | NPT 1/2 | 96.65 | 137.95 | 30.75 | 58 | 26.6 |
| - | - | 14 | G 1/2 | 96.65 | 137.95 | 30.75 | 58 | 26.6 |
| 8.6 | 14 | - | NPT 3/4 | 103.34 | 147.01 | 43 | 80 | 32 |
| - | - | 16 | G 3/4 | 103.34 | 147.01 | 43 | 80 | 32 |
| 10.2 | 16.8 | - | NPT 1 | 108.31 | 156.35 | 49 | 95 | 41 |
| - | - | 18 | G 1 | 108.31 | 156.35 | 49 | 95 | 41 |

Threaded port body VA version



| A | B | C | D | E | F | G | H | I |
|------|------|----|---------|--------|--------|-------|----|------|
| 8.2 | 13.7 | - | NPT 1/2 | 100.25 | 141.55 | 30.75 | 58 | 26.6 |
| - | - | 14 | G 1/2 | 100.25 | 141.55 | 30.75 | 58 | 26.6 |
| 8.6 | 14 | - | NPT 3/4 | 107.81 | 151.35 | 43 | 80 | 32 |
| - | - | 16 | G 1/2 | 107.81 | 151.35 | 43 | 80 | 32 |
| 10.2 | 16.8 | - | NPT 1 | 113.09 | 161.15 | 49 | 95 | 41 |
| - | - | 18 | G 1 | 113.09 | 161.15 | 49 | 95 | 41 |

Pin Assignment

| | | | | |
|---|--|---------------------------------------|------------|---------------------|
|  |  | Circular connector M12 - 8-pin | Pin | Assignment |
| | | | 1 | 24V DC |
| | | | 2 | GND |
| | | | 3 | Not connected |
| | | | 4 | Not connected |
| | | | 5 | Not connected |
| | | | 6 | Valve actuating + |
| | | | 7 | Binary output |
| | | | 8 | Valve actuating GND |

Ordering Chart

| Valve function | Orifice [mm] | Port connection | Seal material | k_{vs} value water [m ³ /h] ⁶⁾ | Nominal pressure ⁷⁾ [barg] | Item no. Brass | Item no. Stainless steel | |
|--|--------------|-----------------|---------------|--|---------------------------------------|----------------|--------------------------|---------|
| Shut-off valve, without safety position in case of power failure | 8 | G 1/2 | FKM | 1.8 | 6 | 269 164 | 269 177 | |
| | | | NBR | 1.8 | 6 | 269 170 | 269 183 | |
| | | NPT 1/2 | FKM | 1.8 | 6 | 269 189 | 269 202 | |
| | | | NBR | 1.8 | 6 | 269 196 | 269 208 | |
| | 10 | G 1/2 | FKM | 2.5 | 6 | 269 165 | 269 178 | |
| | | | NBR | 2.5 | 6 | 269 171 | 269 184 | |
| | | NPT 1/2 | FKM | 2.5 | 6 | 269 190 | 269 203 | |
| | | | NBR | 2.5 | 6 | 269 197 | 269 209 | |
| | | 12 | G 3/4 | FKM | 3.9 | 6 | 269 166 | 269 179 |
| | | | | NBR | 3.9 | 6 | 269 173 | 269 185 |
| | NPT 3/4 | | FKM | 3.9 | 6 | 269 191 | 269 204 | |
| | 15 | G 3/4 | FKM | 5.4 | 6 | 269 167 | 269 180 | |
| | | | NBR | 5.4 | 6 | 269 174 | 269 186 | |
| | | NPT 3/4 | FKM | 5.4 | 6 | 269 192 | 269 205 | |
| | 20 | G 1 | FKM | 8.1 | 6 | 269 168 | 269 181 | |
| | | | NBR | 8.1 | 6 | 269 175 | 269 187 | |
| | | NPT 1 | FKM | 8.1 | 6 | 269 193 | 269 206 | |
| | 25 | G 1 | FKM | 9.6 | 6 | 269 200 | 269 212 | |
| | | | NBR | 9.6 | 6 | On request | On request | |
| | | NPT 1 | FKM | 9.6 | 6 | On request | On request | |
| | | | NBR | 9.6 | 6 | On request | On request | |

⁶⁾ Measured with water (20°C) and 1 bar pressure drop over valve

⁷⁾ Fuel gases may differ

Ordering Chart for Accessories

| Article | Item No. |
|--|----------|
| M12 connector with 2m cable, 8 pins | 919 061 |
| M12 connector with 2m cable, 8 pins (shielded cable) | 918 991 |