

2/2-Way Motor Valve



Type 3275 can be combined with ...



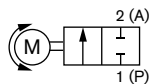
Type 8611

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. Analogue 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"

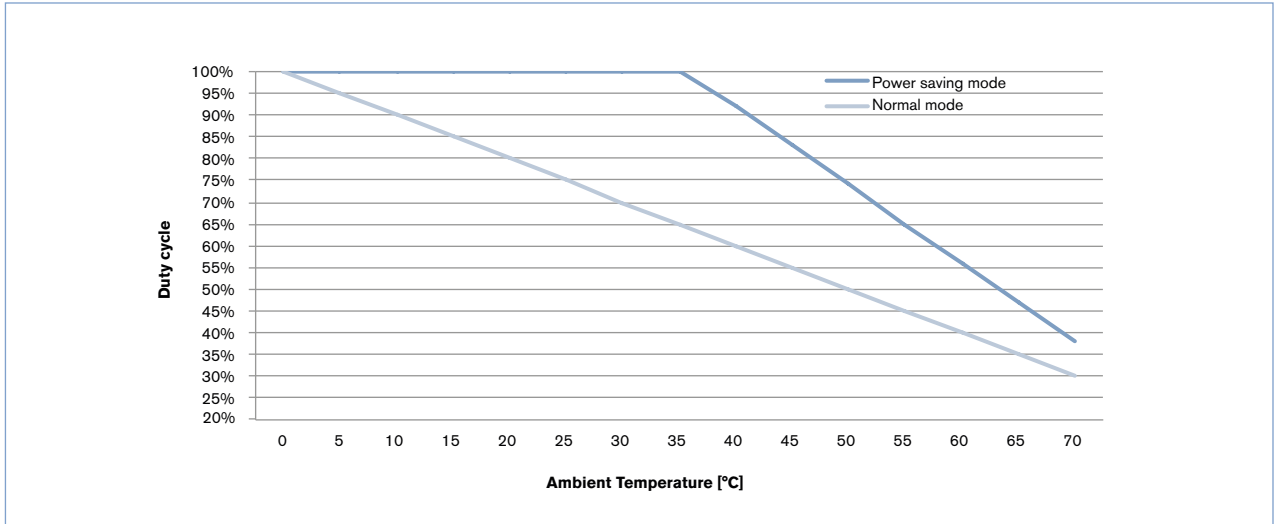
Technical data	
Materials	
Body	Brass or stainless steel
Housing	PC (Polycarbonate), PPS (Polyphenylene sulfide)
Seals	FKM or NBR, others on request
Seat sealing	Technical ceramics
Medium	Neutral gases, liquids
Seat leakage based on IEC / EN 60534-4	Shut-off class IV
Pressure Range ¹⁾	0...6 bar
Closure 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

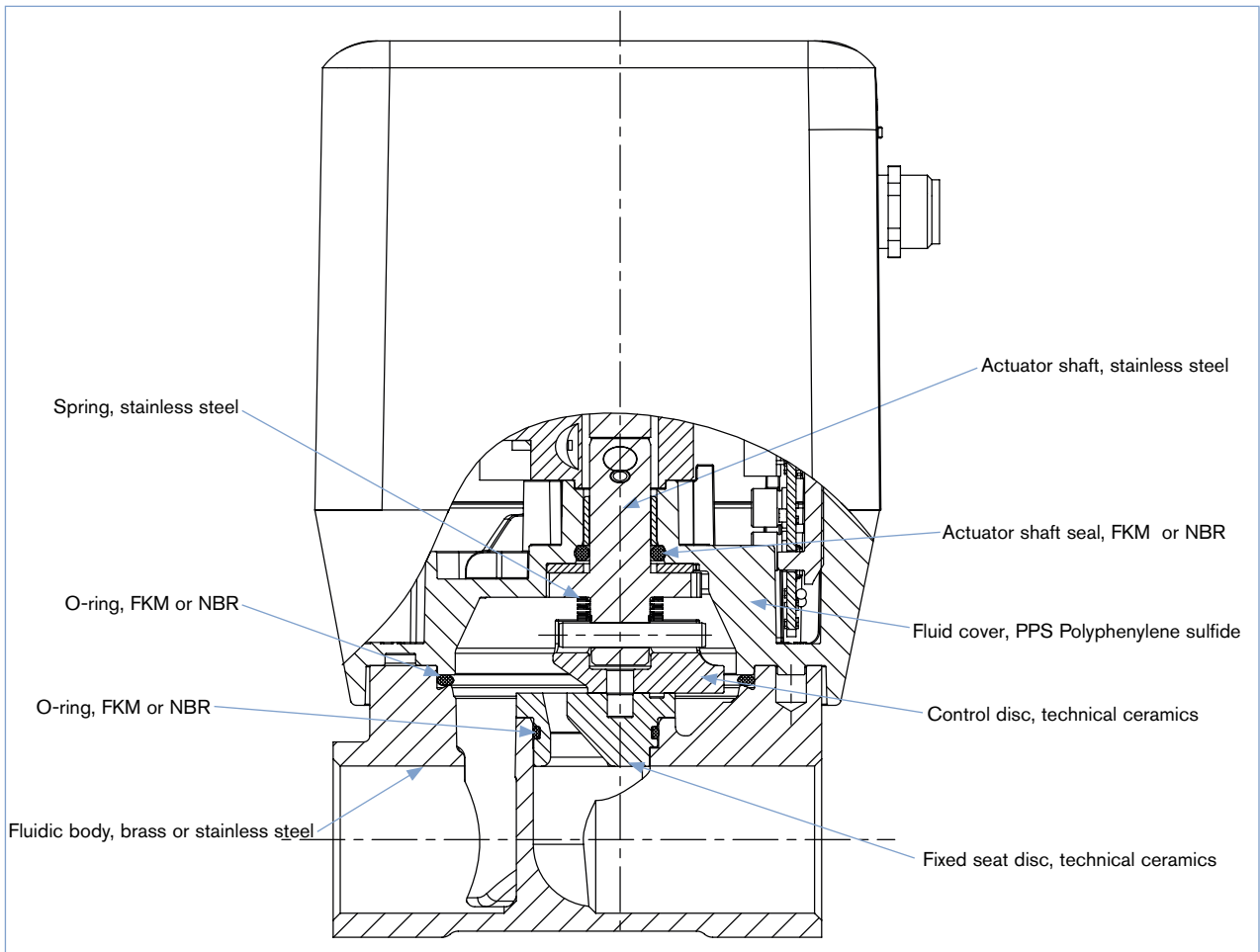
Duty Cycle Derating Curve

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.



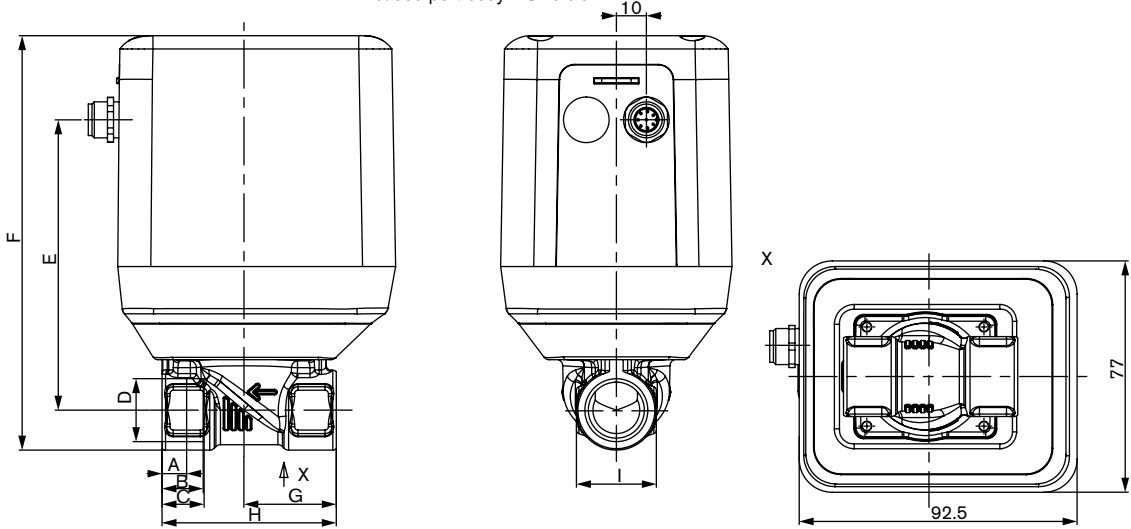
Materials



Dimensions [mm]

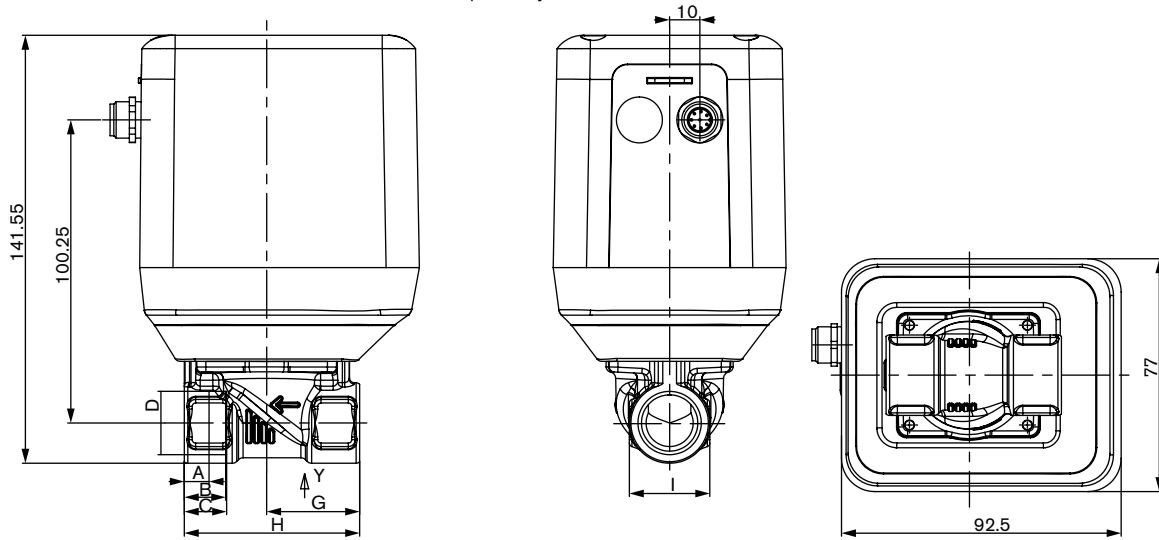
Standard version

Threaded port body MS version



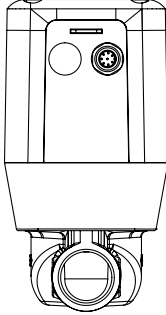
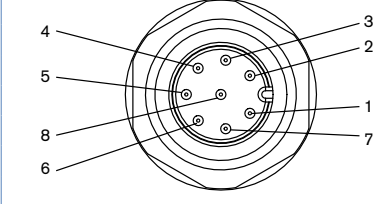
A	B	C	D	E	F	G	H	I
8.2	13.7	-	NPT 1/2	96.65	137.95	30.75	58	26.6
-	-	14	G 1/2	96.65	137.95	30.75	58	26.6
8.6	14	-	NPT 3/4	103.34	147.01	43	80	32
-	-	16	G 3/4	103.34	147.01	43	80	32
10.2	16.8	-	NPT 1	108.31	156.35	49	95	41
-	-	18	G 1	108.31	156.35	49	95	41

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																		
		<table border="1"> <thead> <tr> <th>Pin</th> <th>Assignment</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>24V DC</td> </tr> <tr> <td>2</td> <td>GND</td> </tr> <tr> <td>3</td> <td>Not connected</td> </tr> <tr> <td>4</td> <td>Not connected</td> </tr> <tr> <td>5</td> <td>Not connected</td> </tr> <tr> <td>6</td> <td>Analogue input +</td> </tr> <tr> <td>7</td> <td>Binary output</td> </tr> <tr> <td>8</td> <td>Analogue input GND</td> </tr> </tbody> </table>	Pin	Assignment	1	24V DC	2	GND	3	Not connected	4	Not connected	5	Not connected	6	Analogue input +	7	Binary output	8
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1	24V DC																		
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8	Analogue input 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
			NBR	3.9	6	269 198	269 210
	15	G 3/4	FKM	6.0	6	269 167	269 180
			NBR	6.0	6	269 174	269 186
		NPT 3/4	FKM	6.0	6	269 192	269 205
			NBR	6.0	6	269 199	269 211
20	G 1	FKM	8.8	6	269 168	269 181	
		NBR	8.8	6	269 175	269 187	
	NPT 1	FKM	8.8	6	269 193	269 206	
		NBR	8.8	6	269 200	269 212	
25	G 1	FKM	12.3	6	On request	On request	
		NBR	12.3	6	On request	On request	
	NPT 1	FKM	12.3	6	On request	On request	
		NBR	12.3	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

In case of special application conditions, please consult for advice.

Subject to alteration.
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