



## Proportional Valves

	Series	Material	Connection	Pressure	Temperature	Function	Page
	82880	Brass	G 1/2 - G 1	-0.9 - 10 bar	+90 °C	2/2	222
	Flatprop	Brass, Stainless steel	Cartridge, Subbase	0 - 12 bar	+50 °C	2/2	224

## Motorised valve

For neutral gases and liquids  
 Internal thread G 1/2 to G 1  
 Cartridge system  
 Operating pressure: -0.9 to 10 bar (see technical data)

## Description (standard valve)

Motorised valve for hot water, oil, air and other neutral fluids  
 Flow direction: determined  
 Fluid temperature: max. +90 °C  
 Ambient temperature: max. +40 °C  
 Mounting position: as required, preferably with drive vertical on top

## Material

Body: Brass  
 Seat seal: NBR  
 Control disc: Oxide-ceramic

## Features

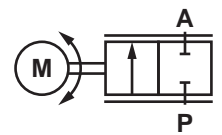
- Low power consumption
- Choice of compact drives
- Valve remains on last setting if power lost
- Will handle contaminated fluids
- Throttle setting achieved by wear-resistant control discs

## Technical data

Connection size G (motor*)	DN mm	kv-Value m <sup>3</sup> /h	Part number	Operating pressure bar					
				NBR	FPM kvs-Value = 1.1	EPDM kvs-Value = 1.1	NBR kvs-Value = 3.4	FPM kvs-Value = 3.4	EPDM kvs-Value = 3.4
			→	<b>00</b>	<b>60</b>	<b>61</b>	<b>62</b>	<b>63</b>	<b>64</b>
1/2	15	1.1	82882XX.96XX.00000	-0.9 - 10	-0.9 - 10	-0.9 - 10	-0.9 - 6	-0.9 - 6	-0.9 - 6
3/4	20	4.4	82883XX.96XX.00000	-0.9 - 6	-0.9 - 6	-0.9 - 6**	-	-	-
1	20	4.4	82884XX.96XX.00000	-0.9 - 6	-0.9 - 6	-0.9 - 6**	-	-	-

\* For motor catalogue number and supply voltage see electric motor actuators (p 223), for example, 8288200.9636.02400

\*\* Operating pressure up to 10 bar with motor 9624 and 9651

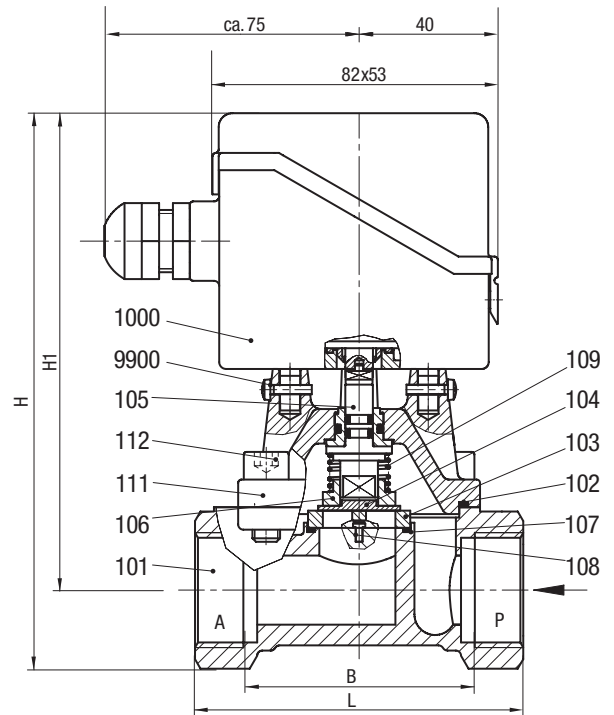


## Drawing legend

Index	Description
101	Valve body
*102	O-ring
103	Ceramic disc
104	Round plate
*105	Valve spindle
106	Mechanical fixture
*107	O-ring
108	Pin
*109	Pressure spring
*110	Wiper gasket
111	Valve cover
112	Mounting screws
1000	Motor drive
9900	Oval head screw

\* A service kit consists of these individual parts.

Connection size DN	L mm	B mm	H mm	H1 mm
1/2	65	55	147	134
3/4	95	70	164	140
1	95	70	164	140



## Technical data motor drives

Motor type	Standard voltage	Frequency Hz	Power consumption W	Torque N cm	Operating time s*	Part number
DC motor with feedback potentiometer	24		1.5	120	10 - 14	9615.02400
DC motor with positioner	24		1.5	120	10 - 16	9650.02400
Synchronous motor	24	50	3.0	120	10	9636.02450
Stepper motor	24	**	5.0	120	10	9638.02400
DC motor with feedback potentiometer	24		2.0	200	13	9624.02400***
DC motor with positioner	24		2.5	200	13 - 16	9651.02400***

\* Operating time depends on operating pressure

\*\* Nominal stepping frequency 200Hz

\*\*\* Only in conjunction with G 3/4 and G 1

## Further options available at extra cost

XXXXX75.96XX Oxygen model,  
assembled without oil and grease,  
sealing material: FPM

## Further options on request

- Stainless steel model
- Motor drive separated: maximum fluid temperature 130 °C
- Control discs for other kv values

Please turn to page 276 for technical information on our valves.

## Flatprop 16 mm 2/2-way proportional valve

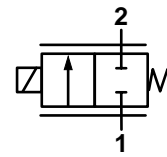
For air and neutral gases  
 Directly actuated or pressure compensated with spring return  
 Long life - in excess of 100 million cycles (triangular, not on - off)  
 Cartridge or flange mounted  
 Response time: 10 ms  
 Operating pressure: 0 - 12 bar (see technical data)

### Description

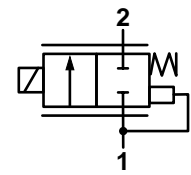
Proportional valves for neutral gases  
 Switching function: normally closed  
 Flow direction: determined  
 Fluid temperature: 10 °C up to +50 °C  
 Ambient temperature: 10 °C up to +50 °C  
 Mounting position: as required

### Materials

Body: Brass, Stainless steel,  
 PEEK (flange mounted models only)  
 Seat seal: NBR  
 Actuator: Stainless steel



Symbol 1: 2/2 NC



Symbol 2: 2/2 NC  
 Pressure compensated

NC: Normally closed

### Technical data

Connection	DN mm	kv-Value		Part number	Operating pressure bar	Function	Manual override	Hit & Hold	Power / Resistance	Power consumption	Symbol / Drawing
		l/min	m³/h								
<b>2/2 Proportional valve / cartridge / normally closed</b>											
Cartridge	0.2	0.025*	0.002*	12-216C-00220+D3WFIL+BDO	0 - 12	NC	-	-	42 mA / 288 Ohm	0.5W	1 / 1
Cartridge	0.8	0.330*	0.020*	12-216C-01-20+D3WFIL+BED	0 - 10	NC	-	-	211 mA / 57 Ohm	2.5W	1 / 1
Cartridge	1.6	0.800*	0.048*	12-216C-03-20+D3WFIL+BED	0 - 5	NC	-	-	211 mA / 57 Ohm	2.5W	1 / 1
Cartridge	4.5	2.800*	0.168*	12-216C-04520+EQIFIL+BED	0 - 7	NC	-	-	211 mA / 57 Ohm	2.5W	2 / 1
<b>2/2 Proportional valve / flanged / normally closed</b>											
Flange	0.2	0.025*	0.002*	12-216P-00220+D3WFIL+BDO	0 - 12	NC	-	-	42 mA / 288 Ohm	0.5W	1 / 2
Flange	0.8	0.330*	0.020*	12-216P-01-20+D3WFIL+BED	0 - 10	NC	-	-	211 mA / 57 Ohm	2.5W	1 / 2
Flange	1.6	0.800*	0.048*	12-216P-03-20+D3WFIL+BED	0 - 5	NC	-	-	211 mA / 57 Ohm	2.5W	1 / 2
Flange	4.5	2.800*	0.168*	12-216P-04520+EQIFIL+BED	0 - 7	NC	-	-	211 mA / 57 Ohm	2.5W	2 / 2

Note: electrical connection flying leads

\* Kv is not constant over the entire pressure range. Please see diagrams for details.

### Electrical characteristics

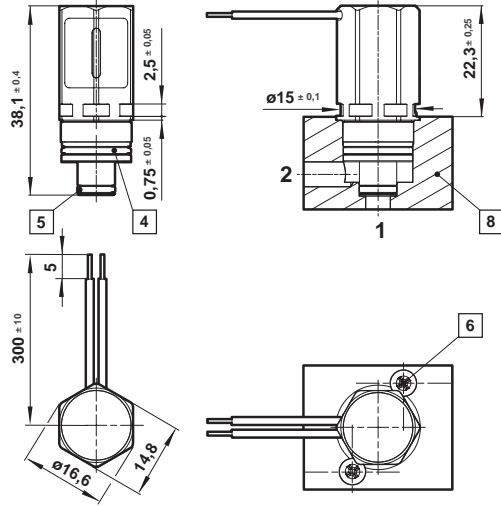
Rated voltage (U max.) \*\* 12V (18V),  
 Electrical insulation: 1000V AC  
 Insulation class F (155 °C)  
 Electrical connection: 300 mm long wire (other connections upon request)

\*\* Depending on the ambient temperature, the voltage can increase by up to 50%

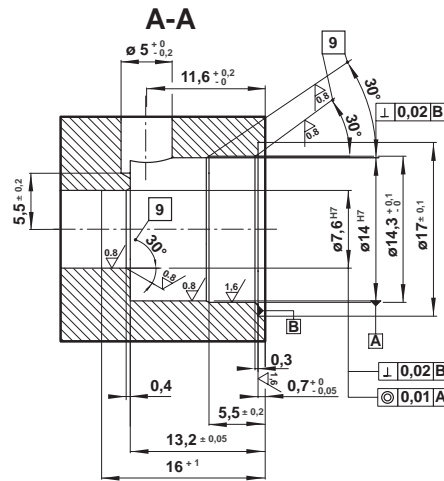
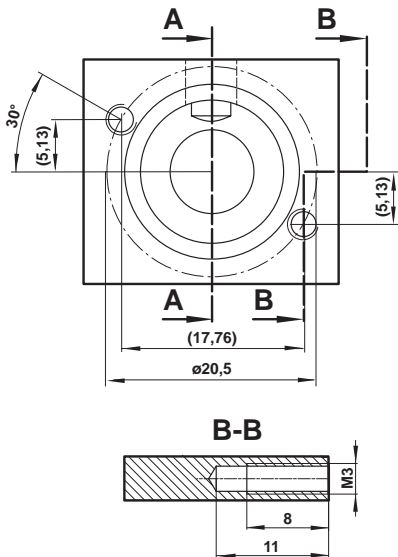
## Drawing legend

Index	Description
3	O-ring 4 x 1 (2x)
4	O-ring 12 x 1 (1x)
5	O-ring 6 x 1 (1x)
6	Screw, M3 x 6 (2x)
7	Screw, M3 x 18 (2x)
8	Base plate, not included
9	Burr-free

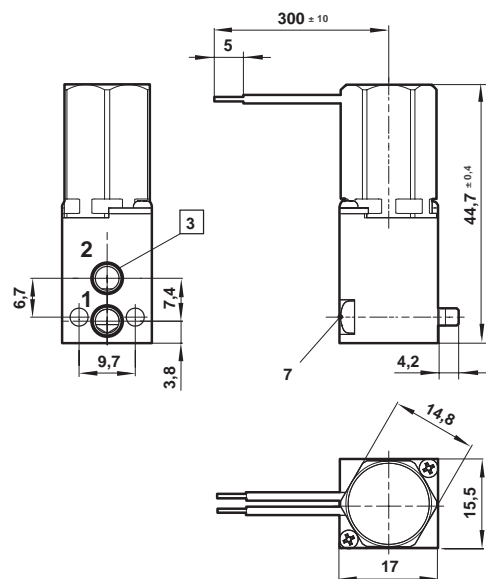
## Drawing 1\*



## Mounting dimensions\*



## Drawing 2\*



\* Dimensions in mm

## Key flow diagram

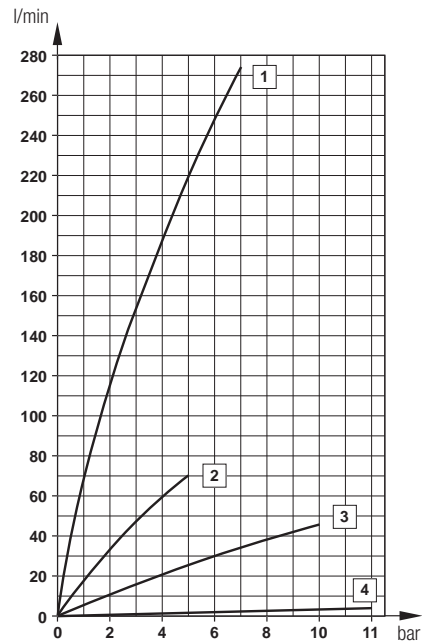
Index	Description
1	Nominal diameter 4.5 mm kv 2.8
2	Nominal diameter 1.6 mm kv 0.8
3	Nominal diameter 0.8 mm kv 0.33
4	Nominal diameter 0.2 mm kv 0.025

## Further options on request

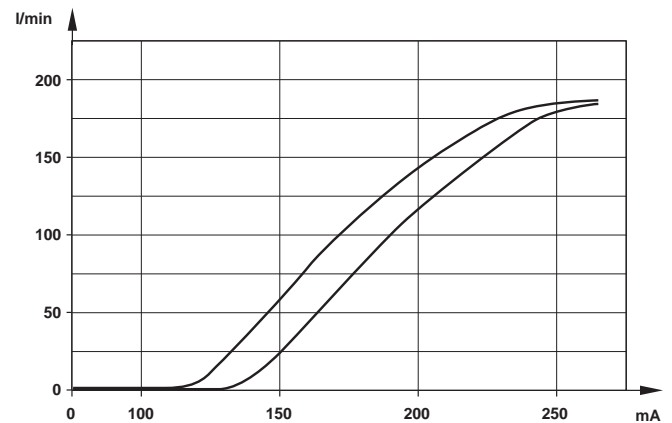
- Other orifice sizes
- Other voltages

Please find the safety instructions for the FAS range on page 318.

## Flow diagram



## Hysteresis example



## Further options

G 1/4" test manifold, available on request

