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**Электромагнитные клапаны для  
агрессивных и чистых сред Burkert**



### Circuit function

- A** 2/2-way direct acting valve, normally closed
- B** 2/2-way direct acting valve, normally open
- C** 3/2-way valve, direct acting, when de-energised Port A exhausted
- D** 3/2-way valve, servo-assisted, outlet B normally pressurized
- E** Mixer valve, direct-acting, in de-energized position, P2→A open, P1 closed
- F** Distribution valve, direct-acting, in de-energized position, P→B open, A closed
- T** 3/2 way valve, universal function, flow direction as required

## Explosion proofed version

Technical data	
<b>Available body material</b>	Brass, stainless steel (1.4401), PP (Polypropylene) PVDF (Polyvinyl fluoride), PEEK
<b>Port connection</b>	Flange interface acc. to Bürkert standard 1000225877 (see also sectional dimensions)
<b>Seal material</b>	EPDM / FKM / FFKM / NBR
<b>Medium</b>	
<b>for NBR</b>	Neutral mediums such as compressed air, town gas, water, hydraulic oil, oils and greases without additives, oxygen
<b>for EPDM</b>	Alkalis, acids to medium concentrations, alkaline washing and bleaching lyes
<b>for FKM</b>	Oxidizing acids and substances, hot oils with additives, salt solutions, waste gases, oxygen
<b>for FFKM</b>	Aggressive mediums, hot air, hot oils
<b>All materials</b>	For more detailed information please refer to our compatibility chart
<b>Medium temperature for body material</b>	NBR 0 to +80°C
<b>Brass, Stainless steel or PEEK</b>	EPDM -30 to +90°C
<b>Medium temperature for body material</b>	FKM 0 to +90°C
<b>PP or PVDF</b>	FFKM +5 to 90°C
<b>Viscosity</b>	Max. 37 mm <sup>2</sup> /s
<b>Ambient temperature</b>	Max. +55 °C
<b> Voltages</b>	24V; 230V (further voltages on request)
<b>Frequency</b>	AC/DC
<b>Voltage tolerance</b>	+/- 10%
<b>Duty cycle</b>	100%
<b>Electrical connection</b>	Moulded cable (HO5RN-F3G,3x0.75 mm <sup>2</sup> ) Terminal box without safety fuse
<b>Type of protection</b>	IP65
<b>Coil thermal isolation class</b>	H
<b>Ignition protection</b>	II 2 G Ex d e IIC T4 bzw. T5 II 2 G Ex d e mb IIC T4 bzw. T5 II 2 D Ex tD A21 IP65 T135°C bzw. 100°C
<b>Certificate</b>	PTB 03 ATEX 1030 X IECEX PTB 05.0026
<b>Safety fuse</b>	Appropriate inrush current (see also chart recommended fusing rate)
<b>Installation</b>	As required, preferably with actuator upright

### Cycling rate

	Max. cycling rate	Mediums temp.	Ambient temp.
Variant 1	20/min	Up to +70 °C	Up to +40 °C
Variant 2	5/min	Up to +90 °C	Up to +40 °C

### Power consumption

Inrush [W]	Operation [W]
40	3

### Response times

Orifice [mm]	Opening [ms]	Closing [ms]
2 - 4	30	40

### Response times [ms]:

Measured at valve outlet at 6 bar and +20 °C

Opening: Pressure rise 0 to 90%,

Closing: Pressure relief 100 to 10%

## Technical data (continued)

## Pressure range and flow rate metal body

Circuit function	DN	Kv value water [m <sup>3</sup> /h]	Standard Pressure range <sup>23)</sup> [bar]	Vacuum Pressure range [bar]
A / B / C / D / F	2.0	0.11	0 – 16	-0.98 – 10
	3.0	0.18	0 – 10	-0.98 – 6
	4.0	0.23	0 – 5	-0.98 – 3
	5.0	0.29	0 – 4	-0.98 – 2.5
E	2.0	0.11	0 – 10	-0.98 – 8
	3.0	0.18	0 – 6	-0.98 – 5
	4.0	0.23	0 – 3.5	-0.98 – 2.5
	5.0	0.29	0 – 3	-0.98 – 2
T	2.0	0.11	0 – 10	-0.98 – 8
	3.0	0.18	0 – 6	-0.98 – 5

## Pressure range and flow rate for plastic body

Circuit function	DN	Kv value water [m <sup>3</sup> /h]	Standard Pressure range <sup>23)</sup> [bar]	Vacuum Pressure range [bar]
A / B / C / D / F	2.0	0.13	0 – 16	-0.98 – 10
	3.0	0.25	0 – 10	-0.98 – 6
	4.0	0.30	0 – 5	-0.98 – 3
	5.0	0.40	0 – 4.5	-0.98 – 1
E / T	2.0	0.13	0 – 10	-0.98 – 7
	3.0	0.25	0 – 6	-0.98 – 5
	4.0	0.30	0 – 3	-0.98 – 2.5

<sup>1)</sup> Measured at +20 °C, 1 bar<sup>2)</sup> pressure at valve inlet and free outlet.

<sup>2)</sup> Devices with FKM or FFKM diaphragm are reduced to a max. pressure of 12 bar

<sup>3)</sup> Pressure values [bar]: Measured as overpressure to the atmospheric pressure

## Other circuit functions

The valves are fitted with different springs for a particular circuit function. When used in other circuit functions the permissible operating pressure changes acc. to the following table.

Metal body																		
Circuit function	Max. operating pressure [bar] when using the valve in a new circuit function																	
	Orifice 2 mm						Orifice 3 mm						Orifice 4 mm					
	A <sup>1)</sup>	B <sup>1)</sup>	C	D	E	F	A	B	C	D	E	F	A	B	C	D	E	F
C	16	1.5	16	1.5	1.5	16	10	1	10	1	1	10	5	0.8	5	0.8	0.8	5
D	4	16	4.5	16	4	4	2.5	10	2.5	10	2	3	2	5	2	5	2	2
T	8	8	10	10	10	8	6	6	6	6	6	6	3	3	3	3	3	3

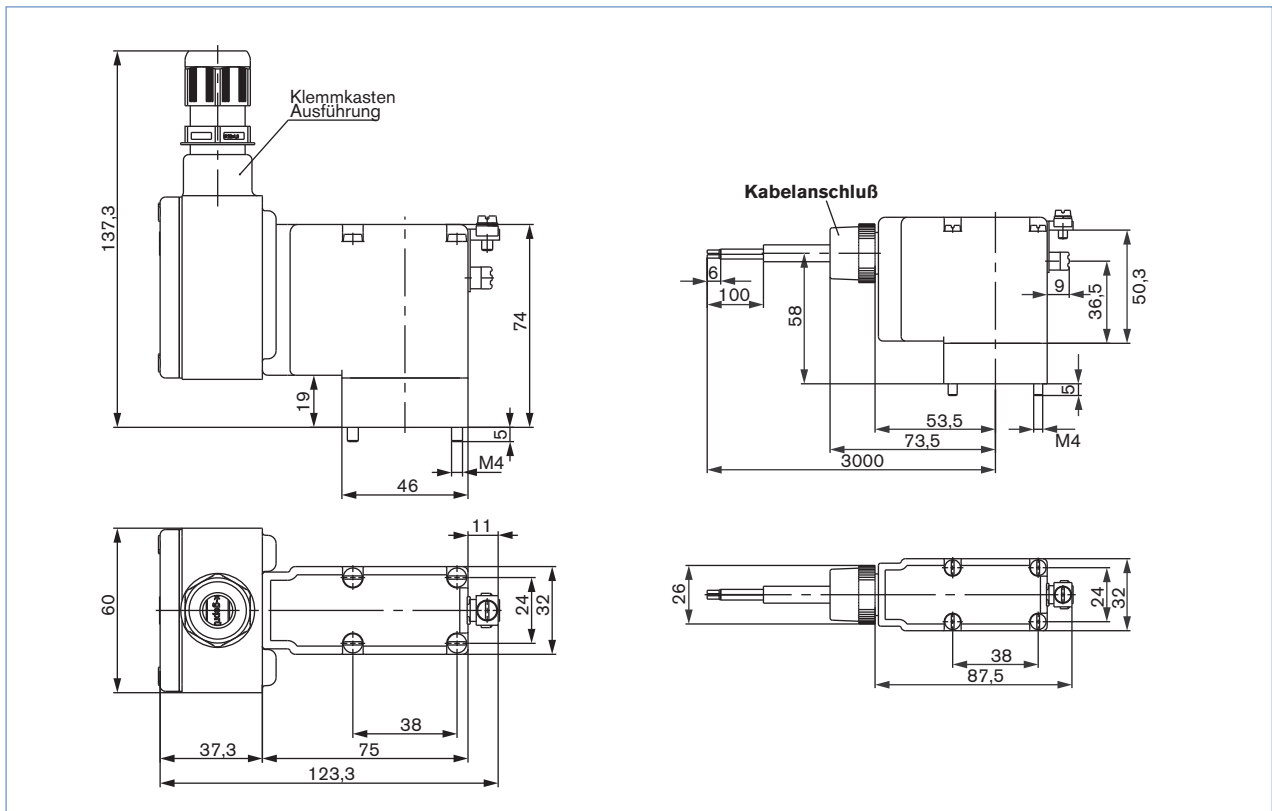
Plastic body																		
Circuit function	Max. operating pressure [bar] when using the valve in a new circuit function																	
	Orifice 2 mm						Orifice 3 mm						Orifice 4 mm					
	A <sup>1)</sup>	B <sup>1)</sup>	C	D	E	F	A	B	C	D	E	F	A	B	C	D	E	F
C	16	1.5	16	1.5	1.5	16	10	1	10	1	1	10	5	0.8	5	0.8	0.8	5
D	4	16	4.5	16	4	4	2.5	10	2.5	10	2	3	2	5	2	5	2	2
F	16	1.5	10	1.5	1.5	16	6	1	6	1	1	10	4	1	4	1	1	

<sup>1)</sup> For circuit function A and B the valve must be connected acc. to the pin assignment of 3/2-way valve.

## Additional options

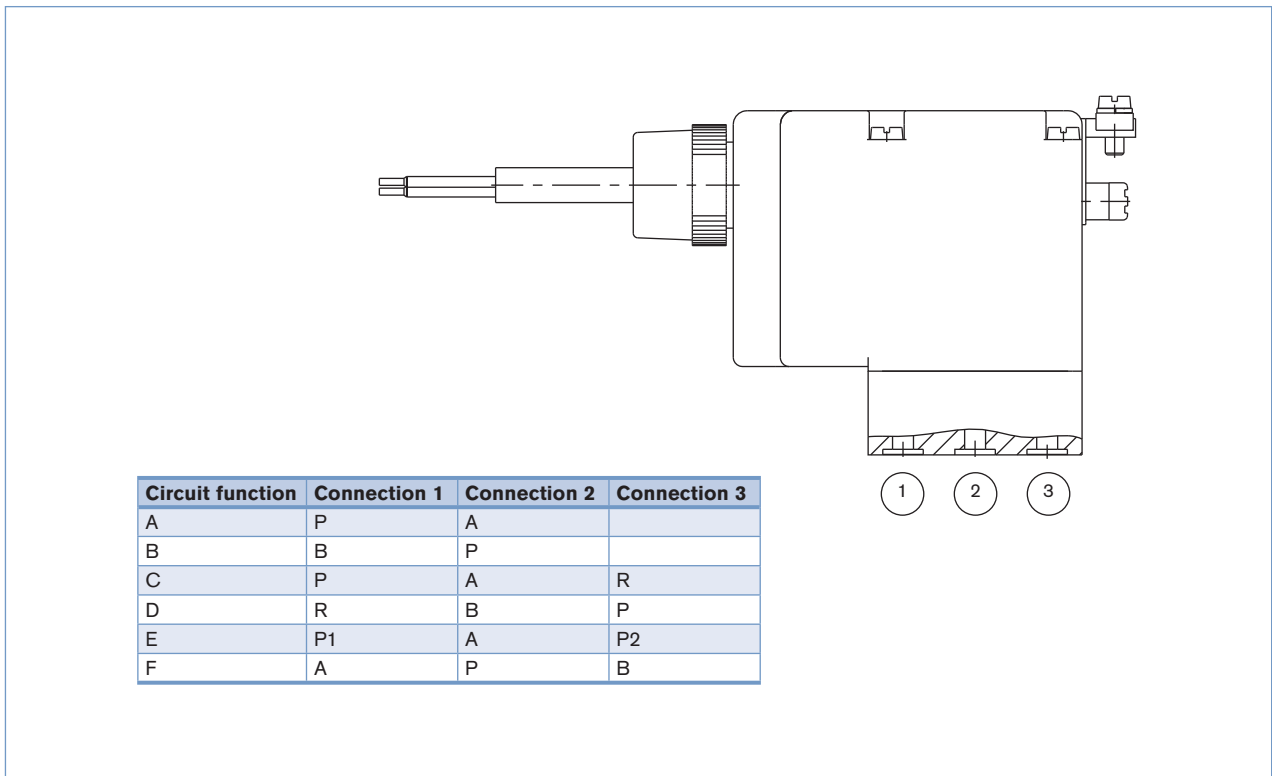
Option	Variable Code	Description
Terminal box with G 1/2" or NPT 1/2" threaded nipple	JA09 respectively. JA10	Instead of the cable gland a threaded nipple with internal thread is installed in the terminal box. Thereby laying the cable in a closed steel pipe system is possible.
Oxygen versions	NL02	Suitable for applications with oxygen (non-metal materials that are in contact with the medium, are tested and approved according to BAM)
Increased purity requirements e.g. oil, grease and silicone-free	NL50/NL05	Wetted parts are specially cleaned and packaged in accordance with the valves
Increased hermetic requirements	PCxx	Standard units are tested at 10 <sup>-2</sup> mbar x l / sec; feasible up to 10 <sup>-6</sup> mbar
Vacuum version	NA02	Suitable for vacuums up to -0.98bar
Increased purity and hermetic requirements	NA03	Wetted parts are specially cleaned and leak tested to 10 <sup>-4</sup> mbar x l/sec
Increased purity and hermetic requirements and vacuum version	NA01	Wetted parts are specially cleaned and leak tested up to 10 <sup>-4</sup> mbar x l / sec and suited for vacuum up to -0.98 bar
Electrical feedback	CF15	Coil with intrinsically safe proximity switches (PTB 00 ATEX 2048X) instead of manual override
Manifold with banjo bolt	LG09	Due to the banjo bolt a direct attachment is possible (for example, to externally controlled pneumatic drives)
potential conformities (depending on design)		EAC ; drinking water; FDA;

Dimensions [mm]



PIN Assignments

The connections marked with 1, 2 and 3 are labelled in the drawing according to the circuit function table on the left.



## Recommended fusing rate

Voltage [V]	Max. current [A]
24	2
230	0.5
110 resp. 120	0.8

## Ordering chart – selection table (articles with reduced delivery time)

## All devices with manual override

Circuit function	Orifice [mm]	Seal Material	Housing or seat material	Electrical connection	Item no. per voltage/frequency [V/Hz]		
					024/UC	110/UC	230 resp. 240 /UC
A	03.0	FKM	Stainless steel	Cable	145 702	–	143 730
C	02.0	NBR	Stainless steel	Terminal box	–	153 748	–
C	02.0	FKM	Stainless steel	Terminal box	–	137 604	–
C	02.0	NBR	Stainless steel	Cable	141 687	–	–
C	02.0	FKM	Brass	Terminal box	–	–	142 705
C	03.0	NBR	Brass	Cable	–	–	088 747
C	03.0	NBR	Brass	Terminal box	–	140 105	–
C	03.0	FKM	Stainless steel	Cable	145 703	–	–
D	02.0	NBR	Brass	Terminal box	–	136 704	137 983
D	02.0	NBR	Brass	Cable	–	–	138 151
D	02.0	NBR	Stainless steel	Cable	138 365	–	132 080
D	02.0	NBR	Stainless steel	Terminal box	–	153 747	160 701
D	03.0	NBR	Brass	Cable	140 579	–	–
F	04.0	FKM	Brass	Terminal box	–	–	132 435
T	02.0	FKM	Stainless steel	Cable	138 264	–	137 899
T	02.0	FKM	Stainless steel	Terminal box	–	138 267	138 268
T	02.0	NBR	Stainless steel	Cable	138 258	–	–
T	02.0	EPDM	Stainless steel	Terminal box	–	–	148 146
T	02.0	NBR	Brass	Cable	138 246	–	138 248
T	02.0	NBR	Brass	Terminal box	–	138 250	138 251
T	02.0	FKM	Brass	Cable	138 252	–	138 254
T	02.0	FKM	Brass	Terminal box	–	138 256	138 257
T	03.0	FKM	Stainless steel	Terminal box	–	157 201	157 202
T	03.0	FKM	Brass	Terminal box	–	157 204	157 205

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

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