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Электромагнитные клапаны для нейтральных и слабоагрессивных 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 proof version

Technical data	
Available body materials	Brass, stainless steel (1.4401), PP (Polypropylene) PVDF (Polyvinylfluoride)
Port connection	G 1/4; NPT 1/4; (RC 1/4 and G 1/8 on request)
Seal material	EDPM / FKM / FFKM / NBR
Medium	
for NBR	Neutral medium such as compressed air, town gas, water, hydraulic oil, oils and fats without additives, oxygen
for EPDM	Alkalis, acids to medium concentrations, alkaline washing and bleaching lyes
for FKM	Oxydizing acids and substances, hot oils with additives, salt solutions, waste gases, oxygen
for FFKM	Aggressive mediums, hot air, hot oils
All Materials - For more exact info. please refer to our chemical resistance chart	
Medium temperature for body material brass or stainless steel	NBR 0 to +80 °C EPDM -30 to +90°C FKM 0 to +90 °C FFKM +5 to 90°C
Medium temperature for body material PP or PVDF	NBR 0 to +80 °C EPDM -30 to +80°C FKM 0 to +80 °C FFKM +5 to +80°C
Viscosity	Max. 37mm ² /s
Ambient temperature.	Max. +55°C
Voltages	24V, 230V (further voltages on request)
Frequency	AC/DC
Voltage tolerance	+/- 10%
Duty cycle	100%
Electrical connection	Moulded cable (HO5RN-F3G,3x0.75 mm ²) Terminal box without safety fuse (on request also terminal box with Fuse (Tpye 1058/PTB 01 ATEX 2064 U))
Protection class	IP65
Coil insulation class	H
Type of protection	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
Certificate	PTB 03 ATEX 1030 X IECEX PTB 05.0026X
Fuse	According to inrush current (see also ordering chart)
Installation	As required, preferably with actuator upright

Cycling rate

	Max. cycling rate	For mediums temp	For 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 drop 100 to 10%

Technical data (continued)

Pressure range and flow rate for metal body

Circuit function	DN	Kv value water [m ³ /h]	Standard Pressure range ^{2) 3)} [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 ³ /h]	Standard Pressure range ^{2) 3)} [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

¹⁾ Measured at +20 °C, 1 bar²⁾ pressure at valve inlet and free outlet.

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

³⁾ Pressure data [bar]: Measured as overpressure to the atmospheric pressure

Other circuit functions

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

Metal body																		
Valve operation	Max. operating pressure [bar] when using the valve in a new circuit function																	
	Orifice 2mm						Orifice 3mm						Orifice 4mm					
	A ¹⁾	B ¹⁾	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

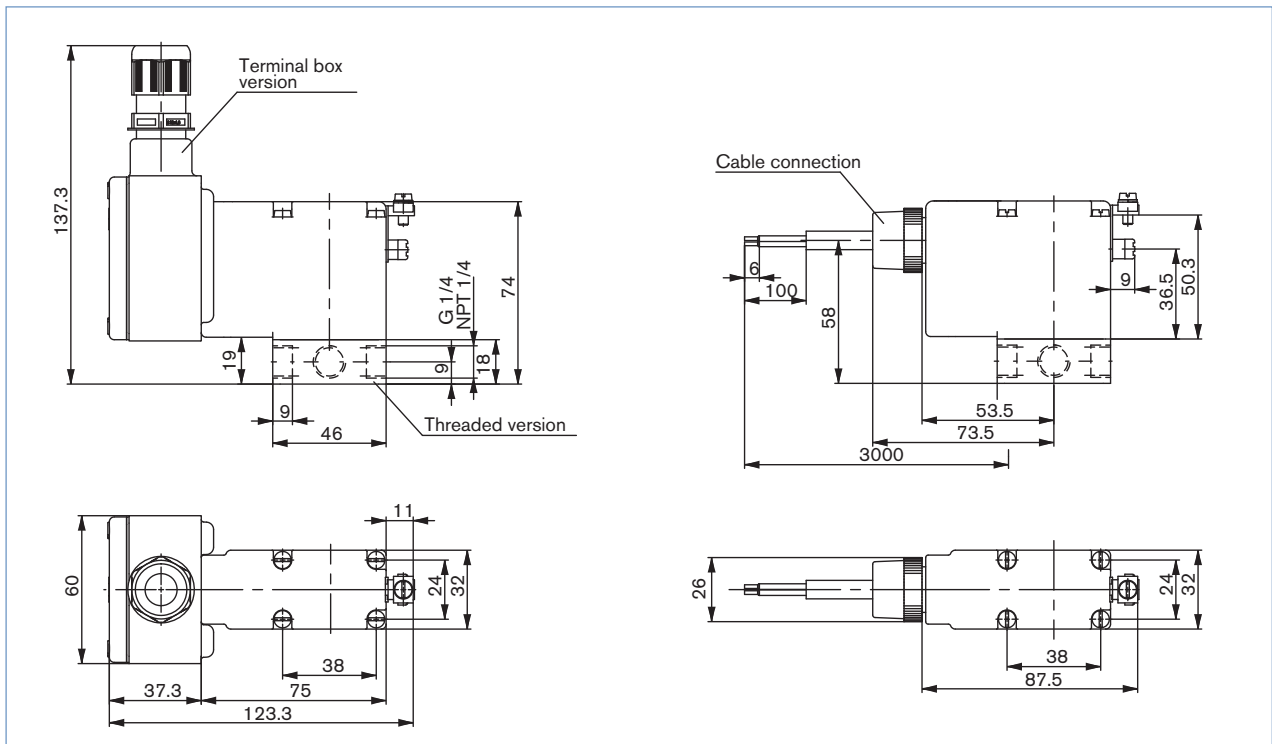
Plastic body																		
Valve operation	Max. operating pressure [bar] when using the valve in a new circuit function																	
	Orifice 2mm						Orifice 3mm						Orifice 4mm					
	A ¹⁾	B ¹⁾	C	D	E	F	A	B	C	D	E	F	A	B	C	D	E	F
C	16	1.5	16	1.5	1.5	16	10	1	10	1	1	10	5	0.8	5	0.8	0.8	5
D	4	16	4.5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

¹⁾ 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 ⁻² mbar x l / sec; feasible up to 10 ⁻⁶ 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 ⁻⁴ mbar x l/sec
Increased purity and hermetic requirements and vacuum version	NA01	Wetted parts are specially cleaned and leak tested up to 10 ⁻⁴ 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

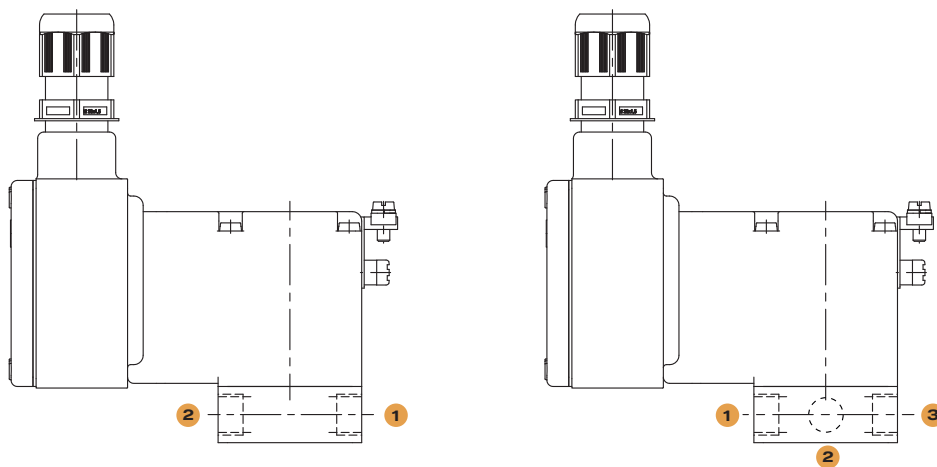
Dimensions [mm]



Port connections

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

Circuit function	Connection 1	Connection 2	Connection 3
A	P	A	
B	B	P	
C	P	A	R
D	R	B	P
E	P1	A	P2
F	A	P	B



Ordering chart for fuse

Voltage [V]	Max. current [A]	Item no.
24	2	153 740
230	0.5	153 735
110 resp. 120	0.8	153 737

Ordering chart - selection table (Articles with reduced delivery time)

All devices with connection thread G 1/4 and manual override

Circuit function	Orifice [mm]	Seal Material	Housing or seat material	Electrical connection	Item no. per voltage/frequency [V/Hz]	
					024/UC	230/UC
A ²⁾	3.0	NBR	MS	Terminal box	137 077	137 079
	3.0	NBR	MS	cable	137 076	137 078
	3.0	FKM	Stainless steel	Terminal box	137 081	137 083
	3.0	FKM	Stainless steel	cable	137 080	137 082
C	3.0	NBR	MS	Terminal box	124 619	125 567
	3.0	NBR	MS	cable	077 495	088 175
	3.0	FKM	Stainless steel	Terminal box	135 080	137 075
	3.0	FKM	Stainless steel	cable	137 073	137 074
E	3.0	FKM	Stainless steel	Terminal box	137 085	135 624
	3.0	FKM	Stainless steel	cable	137 084	137 086
F	3.0	FKM	Stainless steel	Terminal box	146 203	137 089
	3.0	FKM	Stainless steel	cable	137 087	137 088
T	4.0	FKM	Stainless steel	Terminal box	133 712	-
	4.0	FKM	Stainless steel	cable	141 556	-

Note: Further versions on request

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