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Единый адрес: btk@nt-rt.ru **Веб-сайт:** www.burkert.nt-rt.ru

Электромагнитные клапаны для нейтральных и слабоагрессивных сред Burkert

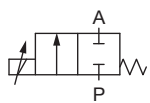


2/2-Way Solenoid Control Valve

- Made for custom engineered applications
- DN 0.8 ... 2.0 mm
- 1/8", sub-base or custom engineered armature

Type 2861 is an extremely compact solenoid control valve and is available with an orifice up to 2mm. It is based on the standard version of Type 2871 (see datasheet). It is used as an actuator in closed control loops (pressure, flow, temperature, etc.). Compared with the standard version, the valve is essentially of simpler construction and assembly and testing procedures are optimized, easing high volume series production with shorter delivery times. Please follow the instructions for a customised design on page 5 of this datasheet.

Circuit function A



direct acting 2-way
solenoid control valve,
normally closed

Valve control takes place through a PWM signal¹⁾. The duty cycle of the PWM signal determines the coil current and hence the position of the plunger.

The Bürkert control electronics Type 8605 (see relevant datasheet) converts an analog signal to a reference value corresponding to the valve type PWM signal and provides additional functions such as temperature compensation (coil heating), ramp function and the adjustment of min. and max. duty cycle/coil current for the control range.

Please note the sizing comments for such a control valve on page 2.

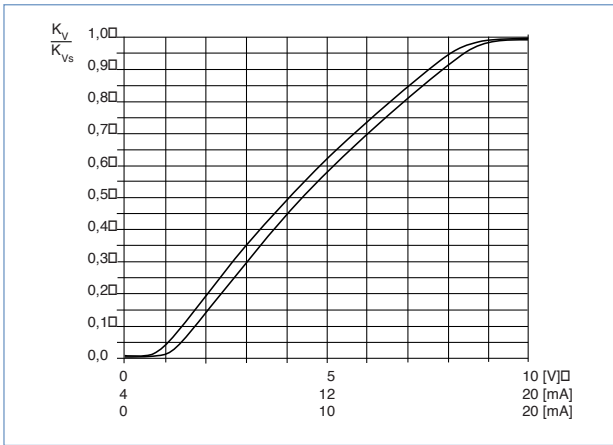
Technical Data - Valve	
Body material	Brass, stainless steel
Seal material	FKM, EPDM on request
Medium	Neutral gases, liquids on request
Pressure range	0 ... -12 bar ²⁾
Medium temperature	-10 ... +90 °C
Ambient temperature	max. +55 °C
Power supply	24 V DC
Max. current	220mA (at 24V-hold)
Power consumption	5 W
Duty cycle	100% continuously rated
PWM control frequency	800 Hz
Port connection	Sub-base , G 1/8, NPT 1/8, others on request
Electrical connection	Cable plug Type 2507, Form B industrial standard Item no. 423 845
Installation	As required, preferably with actuator in upright position
Typical control data³⁾	
Hysteresis	< 5%
Repeatability	< 1.0 % of F.S.
Sensitivity	< 1.0 % of F.S.
Span	1:25
Protection class - valve	IP65

¹⁾ PWM pulse-width modulation

²⁾ Pressure values [bar]: Measured as overpressure to the atmospheric pressure, orifice further depends on nominal pressure

³⁾ Characteristic data of control behaviour depends on process conditions

Characteristics of a proportional valve



Advice for valve sizing

In continuous flow applications, the choice of appropriate valve size is much more important than with on/off valves. The optimum size should be selected such that the resulting flow in the system is not unnecessarily reduced by the valve. However, a sufficient part of the pressure drop should be taken across the valve even when it is fully opened.

Recommended value: $\Delta p_{\text{valve}} > 25\%$ of total pressure drop within the system

Otherwise, the ideal, linear valve curve characteristic is changed.

For that reason take advantage of Bürkert competent engineering services during the planning phase!

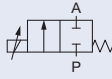
Determination of the k_v value

Pressure drop	k_v value for liquids [m ³ /h]	k_v value for gases [m ³ /h]
Subcritical $p_2 > \frac{p_1}{2}$	$= Q \sqrt{\frac{\rho}{1000 \Delta p}}$	$= \frac{Q_N}{514} \sqrt{\frac{T_1 \rho_N}{p_2 \Delta p}}$
Supercritical $p_2 < \frac{p_1}{2}$	$= Q \sqrt{\frac{\rho}{1000 \Delta p}}$	$= \frac{Q_N}{257 p_1} \sqrt{T_1 \rho_N}$

- k_v Flow coefficient [m³/h]⁴⁾
- Q_N Standard flow rate [m³/h]⁵⁾
- p_1 Inlet pressure [bar]⁶⁾
- p_2 Outlet pressure [bar]⁶⁾
- Δp Differential pressure $p_1 - p_2$ [bar]
- ρ Density [kg/m³]
- ρ_N Standard density [kg/m³]
- T_1 Medium temperature [(273+t)K]

⁴⁾ measured for water, $\Delta p = 1$ bar, via the device
⁵⁾ Standard conditions at 1.013 bar⁶⁾ and 0 °C (273K)
⁶⁾ Absolute pressure

Standard orifice

Circuit function	Orifice [mm]	Port connection	k_{vs} value water [m ³ /h ⁷⁾	Q_{Nin} value [l/min ⁸⁾	Nominal pressure ⁹⁾ [bar]
	0.8	sub-base FK01	0.018	19	12
		G 1/8	0.018	19	12
		NPT 1/8	0.018	19	12
	1.0	sub-base FK01	0.027	29	10
		G 1/8	0.027	29	10
		NPT 1/8	0.027	29	10
	1.2	sub-base FK01	0.038	41	8
		G 1/8	0.038	41	8
		NPT 1/8	0.038	41	8
	1.6	sub-base FK01	0.055	59	6
		G 1/8	0.055	59	6
		NPT 1/8	0.055	59	6
2.0	sub-base FK01	0.090	97	3	
	G 1/8	0.090	97	3	
	NPT 1/8	0.090	97	3	

⁷⁾ k_{vs} value: Flow rate value for water, measured at +20 °C and 1 bar pressure differential over a fully opened valve.

⁸⁾ Q_{Nin} value: Flow rate for air with inlet pressure of 6 bar, 1 bar pressure differential and +20 °C.

⁹⁾ Pressure data [bar]: Overpressure with respect to atmospheric pressure.

Please use page 5 of this datasheet to inquire about your individual requirements

i Further versions on request

Material
 Other seal materials
 Valve body with special armature

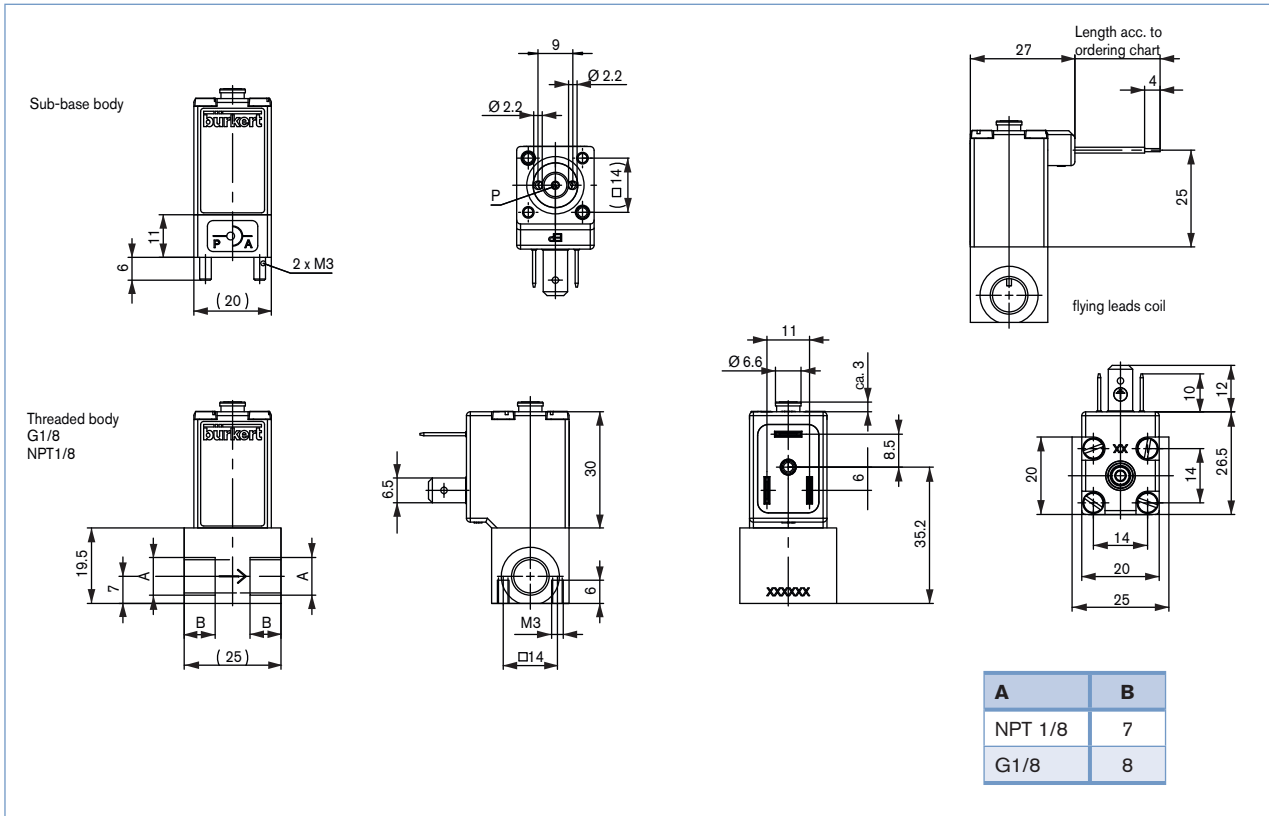
Analytical
 Oxygen version
 Parts oil-, fat- and silicon free

Coil
 Other coil power
 Specific, power setting for lower pressure
 Other operating voltages
 coil with flying leads

Valve armature
 Special valve orifice

Approvals
 UL
 CSA
 DVGW/ Gas Appliances Directive (GAD)

Dimensions for sub-base and threaded body versions [mm]



Note

You can fill out the fields directly in the PDF file before printing out the form.

Design data for custom engineered solenoid control valves

▶ Please fill out this form and send to your local Bürkert Sales Centre* with your inquiry or order

Company	Contact person
Customer No	Department
Address	Tel./Fax
Postcode/Town	E-mail

<input type="checkbox"/> = Mandatory fields	<input type="text"/> Quantity	<input type="text"/> Requested delivery date
Process data		
<input type="checkbox"/> Medium	<input type="text"/>	
<input type="checkbox"/> State of medium	<input type="checkbox"/> liquid	<input type="checkbox"/> gaseous
<input type="checkbox"/> Medium temperature	<input type="text"/> °C	
<input type="checkbox"/> Maximum flow rate	$Q_{nom} =$ <input type="text"/>	Unit: <input type="text"/>
<input type="checkbox"/> Minimum flow rate	$Q_{min} =$ <input type="text"/>	Unit: <input type="text"/>
<input type="checkbox"/> Inlet pressure at nominal operation	$p_1 =$ <input type="text"/>	barg
<input type="checkbox"/> Outlet pressure at nominal operation	$p_2 =$ <input type="text"/>	barg
<input type="checkbox"/> Max. inlet pressure (nominal pressure)	$p_{1max} =$ <input type="text"/>	barg
<input type="checkbox"/> Ambient temperature	<input type="text"/> °C	
Additional specifications		
<input type="checkbox"/> Body material	<input type="checkbox"/> Brass	<input type="checkbox"/> Stainless steel <input type="checkbox"/> other _____
<input type="checkbox"/> Seal material	<input type="checkbox"/> FKM	<input type="checkbox"/> other _____

Note Please state all pressure values as **overpressures with** respect to atmospheric [barg].

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

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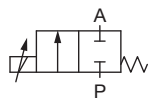


2/2-Way Solenoid Control Valve

- Made for custom engineered applications
- DN 0.8 ... 4 mm
- 1/8", 1/4" sub-base or custom engineered armature

Type 2863 is an extremely compact solenoid control valve and is available with an orifice up to 4mm. It is based on the standard version of Type 2873 (see datasheet). It is used as an actuator in closed control loops (pressure, flow, temperature, etc.). Compared with the standard version, the valve is essentially of simpler construction and assembly and testing procedures are optimized, easing high volume series production with shorter delivery times. Please follow the instructions for a customised design on page 5 of this datasheet.

Circuit function A



direct acting 2-way
solenoid control valve,
normally closed

Valve control takes place through a PWM signal¹⁾. The duty cycle of the PWM signal determines the coil current and hence the position of the plunger.

The Bürkert control electronics Type 8605 (see relevant datasheet) converts an analog signal to a reference value corresponding to the valve type PWM signal and provides additional functions such as temperature compensation (coil heating), ramp function and the adjustment of min. and max. duty cycle/coil current for the control range.

Please note the sizing comments for such a control valve on page 2.

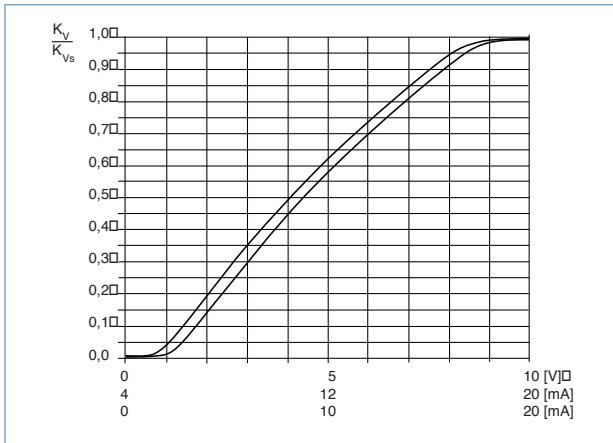
Technical Data - Valve	
Body material	Brass, stainless steel
Seal material	FKM, EPDM on request
Medium	Neutral gases, liquids on request
Pressure range	0 ... -16 bar ²⁾
Medium temperature	-10 ... +90 °C
Ambient temperature	max. +55 °C
Power supply	24 V DC
Max. current	420mA (at 24V-hold)
Power consumption	9 W
Duty cycle	100% continuously rated
PWM control frequency	400 Hz
Port connection	Sub-base, G 1/8, G 1/4, NPT 1/8, NPT 1/4, further on request
Electrical connection	Cable plug Type 2508, Form B industrial standard Item no. 008 376
Installation	As required, preferably with actuator in upright position
Typical control data ³⁾	
Hysteresis	< 5%
Repeatability	< 1.0 % of F.S.
Sensitivity	< 1.0 % of F.S.
Span	1:25
Protection class - valve	IP65

¹⁾ PWM pulse width modulation

²⁾ Pressure data [bar]: Measured as overpressure to the atmospheric pressure, orifice further depends on nominal pressure

³⁾ Characteristic data of control behaviour depends on process conditions

Characteristics of a proportional valve



Advice for valve sizing

In continuous flow applications, the choice of appropriate valve size is much more important than with on/off valves. The optimum size should be selected such that the resulting flow in the system is not unnecessarily reduced by the valve. However, a sufficient part of the pressure drop should be taken across the valve even when it is fully opened.

Recommended value: $\Delta p_{\text{valve}} > 25\%$ of total pressure drop within the system

Otherwise, the ideal, linear valve curve characteristic is changed.

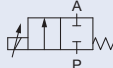
For that reason take advantage of Bürkert competent engineering services during the planning phase!

Determination of the k_v value

Pressure drop	k_v value for liquids [m ³ /h]	k_v value for gases [m ³ /h]
Subcritical $p_2 > \frac{p_1}{2}$	$= Q \sqrt{\frac{\rho}{1000 \Delta p}}$	$= \frac{Q_N}{514} \sqrt{\frac{T_1 \rho_N}{p_2 \Delta p}}$
Supercritical $p_2 < \frac{p_1}{2}$	$= Q \sqrt{\frac{\rho}{1000 \Delta p}}$	$= \frac{Q_N}{257 p_1} \sqrt{T_1 \rho_N}$

- k_v Flow coefficient [m³/h]⁴⁾
 - Q_N Standard flow rate [m³/h]⁵⁾
 - p_1 Inlet pressure [bar]⁶⁾
 - p_2 Outlet pressure [bar]⁶⁾
 - Δp Differential pressure $p_1 - p_2$ [bar]
 - ρ Density [kg/m³]
 - ρ_N Standard density [kg/m³]
 - T_1 Medium temperature [(273+t)K]
- ⁴⁾ measured for water, $\Delta p = 1$ bar, via the device
⁵⁾ Standard conditions at 1.013 bar⁶⁾ and 0 °C (273K)
⁶⁾ Absolute pressure

Standard orifice

Circuit function	Orifice [mm]	Port connection	k_{vs} value water [m ³ /h] ⁷⁾	Q_{Nn} value [l/min] ⁸⁾	Nominal pressure [bar] ⁹⁾
<p>A</p> 	0.8	sub-base FK01	0.018	19	16
		G 1/8	0.018	19	16
		NPT 1/8	0.018	19	16
	1.2	sub-base FK01	0.040	43	12
		G 1/8	0.040	43	12
		NPT 1/8	0.040	43	12
	1.5	sub-base FK01	0.060	65	10
		G 1/8	0.060	65	10
		NPT 1/8	0.060	65	10
	2.0	sub-base FK01	0.100	108	8
		G 1/8	0.100	108	8
		NPT 1/8	0.100	108	8
		G 1/4	0.100	108	8
	2.5	sub-base FK01	0.100	108	8
		NPT 1/4	0.100	108	8
G 1/4		0.100	108	8	
2.5	sub-base FK01	0.150	162	5	
	G 1/4	0.150	162	5	
	NPT 1/4	0.150	162	5	
3.0	sub-base FK01	0.220	237	3.5	
	G 1/4	0.220	237	3.5	
	NPT 1/4	0.220	237	3.5	
4.0	sub-base FK01	0.320	345	2	
	G 1/4	0.320	345	2	
	NPT 1/4	0.320	345	2	

⁷⁾ k_{vs} value: Flow rate value for water, measured at +20 °C and 1 bar pressure differential over a fully opened valve.

⁸⁾ Q_{Nn} -value: Flow rate for air with inlet pressure of 6 bar, 1 bar pressure differential and +20 °C.

⁹⁾ Pressure data [bar]: Overpressure with respect to atmospheric pressure.

Please use page 5 of this datasheet to inquire about your individual requirements

i Further versions on request

Materials
Other seal materials
Valve body with special armature

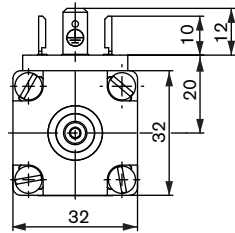
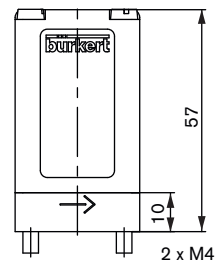
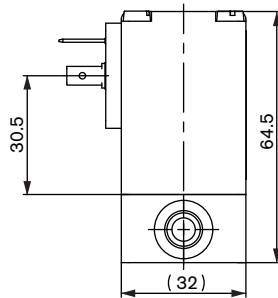
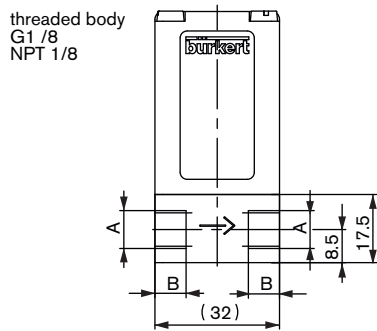
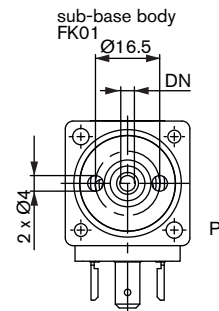
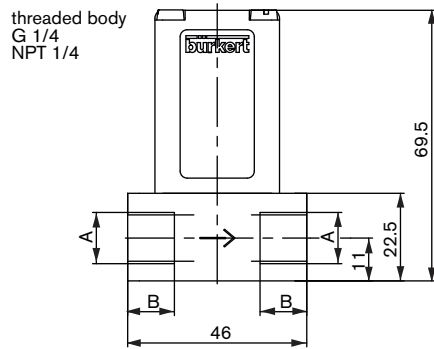
Analytical
Oxygen version
Parts oil-, fat- and silicon free

Coil
Other coil power
Specific, power setting for lower pressure
Other operating voltages
Coil with flying leads

Valve armature
Special valve orifice

Approvals
ATEX
UL
CSA
DVGW/ Gas Appliances Directive (GAD)

Dimensions [mm]



Valve body version	Threaded port			
	G 1/4	NPT 1/4	G 1/8	NPT 1/8
A	G 1/4	NPT 1/4	G 1/8	NPT 1/8
B	12	10	8	7

Note

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Design data for custom engineered solenoid control valves

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Company	Contact person
Customer No	Department
Address	Tel./Fax
Postcode/Town	E-mail

<input type="checkbox"/> = Mandatory fields	<input type="text"/> Quantity	<input type="text"/> Requested delivery date
Process data		
<input type="checkbox"/> Medium	<input type="text"/>	
<input type="checkbox"/> State of medium	<input type="checkbox"/> liquid	<input type="checkbox"/> gaseous
<input type="checkbox"/> Medium temperature	<input type="text"/> °C	
<input type="checkbox"/> Maximum flow rate	$Q_{nom} =$ <input type="text"/>	Unit: <input type="text"/>
<input type="checkbox"/> Minimum flow rate	$Q_{min} =$ <input type="text"/>	Unit: <input type="text"/>
<input type="checkbox"/> Inlet pressure at nominal operation	$p_1 =$ <input type="text"/>	barg
<input type="checkbox"/> Outlet pressure at nominal operation	$p_2 =$ <input type="text"/>	barg
<input type="checkbox"/> Max. inlet pressure (nominal pressure)	$p_{1max} =$ <input type="text"/>	barg
<input type="checkbox"/> Ambient temperature	<input type="text"/> °C	
Additional specifications		
<input type="checkbox"/> Body material	<input type="checkbox"/> Brass	<input type="checkbox"/> Stainless steel <input type="checkbox"/> other _____
<input type="checkbox"/> Seal material	<input type="checkbox"/> FKM	<input type="checkbox"/> other _____

Note Please state all pressure values as **overpressures with respect to atmospheric pressure** [barg].

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

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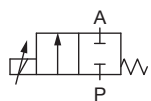


2/2-Way Solenoid Control Valve

- Made for custom engineered applications
- DN 2 ... 8 mm
- Port connection 3/8", 1/2" or customer specific

Type 2865 is an extremely compact solenoid control valve and is available with an orifice up to 8mm. It is based on the standard version of Type 2875 (see datasheet). It is used as an actuator in closed control loops (pressure, flow, temperature, etc.). Compared with the standard version, the valve is essentially of simpler construction and assembly and testing procedures are optimized, easing high volume series production with shorter delivery times. Please follow the instructions for a customised design on page 5 of this datasheet.

Circuit function A



direct acting 2-way
solenoid control valve,
normally closed

Valve control takes place through a PWM signal¹⁾. The duty cycle of the PWM signal determines the coil current and hence the position of the plunger.

The Bürkert control electronics Type 8605 (see relevant datasheet) converts an analog signal to a reference value corresponding to the valve type PWM signal and provides additional functions such as temperature compensation (coil heating), ramp function and the adjustment of min. and max. duty cycle/coil current for the control range.

Please note the sizing comments for such a control valve on page 2.

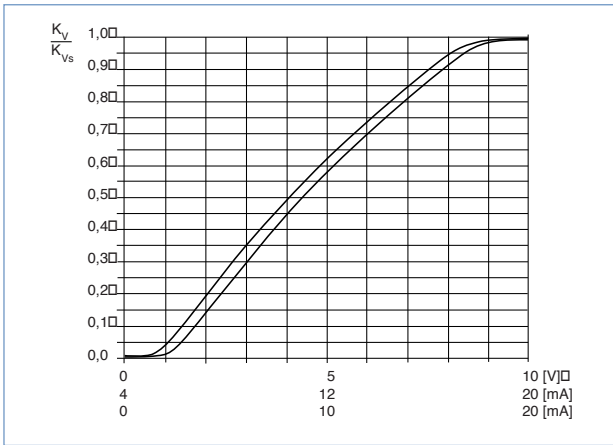
Technical Data - Valve	
Body material	Brass, stainless steel
Seal material	FKM, EPDM on request
Medium	Neutral gases, liquids on request
Pressure range	▪ 0 ... -25 bar ²⁾
Medium temperature	-10 ... +90 °C
Ambient temperature	max. +55 °C
Power supply	24 V DC
Max. current	750mA (at 24V-hold)
Power consumption	16 W
Duty cycle	100% continuously rated
PWM control frequency	280 Hz
Port connection	3/8", 1/2" others on request
Electrical connection	Cable plug Type 2508, Form B industrial standard Item no. 008 376
Installation	As required, preferably with actuator in upright position
Typical control data³⁾	
Hysteresis	< 5%
Repeatability	< 1.0 % of F.S.
Sensitivity	< 1.0 % of F.S.
Span	1:25
Protection class - valve	IP65

¹⁾ PWM pulse width modulation

²⁾ Pressure data [bar]: Measured as overpressure to the atmospheric pressure, orifice further depends on nominal pressure

³⁾ Characteristic data of control behaviour depends on process conditions

Characteristics of a proportional valve



Advice for valve sizing

In continuous flow applications, the choice of appropriate valve size is much more important than with on/off valves. The optimum size should be selected such that the resulting flow in the system is not unnecessarily reduced by the valve. However, a sufficient part of the pressure drop should be taken across the valve even when it is fully opened.

Recommended value: $\Delta p_{\text{valve}} > 25\%$ of total pressure drop within the system

Otherwise, the Ideal, linear valve curve characteristic is changed.

For that reason take advantage of Bürkert competent engineering services during the planning phase!

Determination of the k_v value

Pressure drop	k_v value for liquids [m ³ /h]	k_v value for gases [m ³ /h]
Subcritical $p_2 > \frac{p_1}{2}$	$= Q \sqrt{\frac{\rho}{1000 \Delta p}}$	$= \frac{Q_N}{514} \sqrt{\frac{T_1 \rho_N}{p_2 \Delta p}}$
Supercritical $p_2 < \frac{p_1}{2}$	$= Q \sqrt{\frac{\rho}{1000 \Delta p}}$	$= \frac{Q_N}{257 p_1} \sqrt{T_1 \rho_N}$

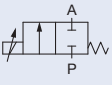
- k_v Flow coefficient [m³/h]⁴⁾
- Q_N Standard flow rate [m³/h]⁵⁾
- p_1 Inlet pressure [bar]⁶⁾
- p_2 Outlet pressure [bar]⁶⁾
- Δp Differential pressure $p_1 - p_2$ [bar]
- ρ Density [kg/m³]
- ρ_N Standard density [kg/m³]
- T_1 Medium temperature [(273+t)K]

⁴⁾ measured for water, $\Delta p = 1$ bar, via the device

⁵⁾ Standard conditions at 1.013 bar⁶⁾ and 0 °C (273K)

⁶⁾ Absolute pressure

Standard orifice

Circuit function	Orifice [mm]	Port connection	k_{vs} value water [m ³ /h] ⁷⁾	Q_{th} value [l/min] ⁸⁾	Nominal pressure ⁹⁾ [bar]
A 2/2-way normally closed (NC) 	2	G 3/8	0.12	129	25
		NPT 3/8	0.12	129	25
	3	G 3/8	0.25	270	10
		NPT 3/8	0.25	270	10
	4	G 3/8	0.45	485	8
		NPT 3/8	0.45	485	8
		G 1/2	0.45	485	8
		NPT 1/2	0.45	485	8
	6	G 1/2	0.80	862	4
		NPT 1/2	0.80	862	4
	8	G 1/2	1.10	1186	2
		NPT 1/2	1.10	1186	2

⁷⁾ k_{vs} value: Flow rate value for water, measured at +20 °C and 1 bar pressure differential over a fully opened valve.

⁸⁾ Q_{th} value: Flow rate for air with inlet pressure of 6 bar, 1 bar pressure differential and +20 °C.

⁹⁾ Pressure data [bar]: Overpressure with respect to atmospheric pressure.

Please use page 5 of this datasheet to inquire about your individual requirements

i Further versions on request

Materials
 Other seal materials
 Valve body with special armature

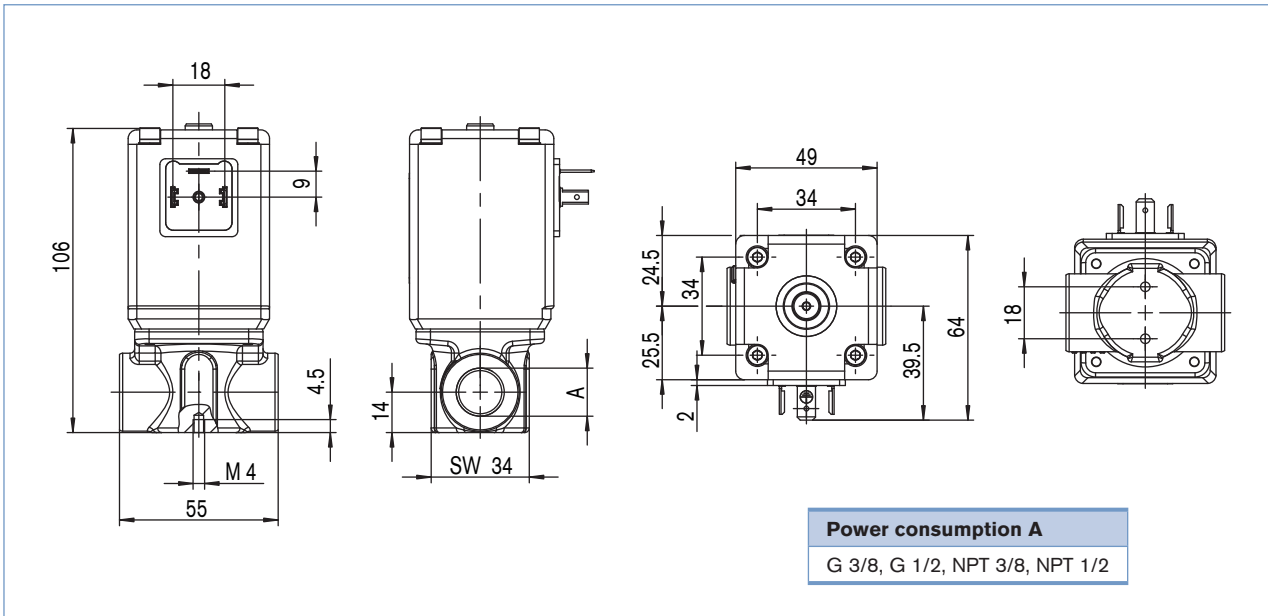
Analytical
 Oxygen version
 Parts oil-, fat- and silicon free

Coil
 Other coil power
 Specific, power settings for lower Pressure
 Other operating voltages
 Coil with flying leads

Valve armature
 Special valve orifice

Approvals
 ATEX
 UL
 CSA
 DVGW/ Gas Appliances Directive (GAD)

Dimensions [mm]



Note

You can fill out the fields directly in the PDF file before printing out the form.

Design data for custom engineered solenoid control valves

▶ Please fill out this form and send to your local Bürkert Sales Centre* with your inquiry or order

Company	Contact person
Customer No	Department
Address	Tel./Fax
PLZ-Ort	E-mail

<input type="checkbox"/> = Mandatory fields	<input type="text"/> Quantity	<input type="text"/> Requested delivery date
Process data		
<input type="checkbox"/> Medium	<input type="text"/>	
<input type="checkbox"/> State of medium	<input type="checkbox"/> liquid	<input type="checkbox"/> gaseous
<input type="checkbox"/> Medium temperature	<input type="text"/> °C	
<input type="checkbox"/> Maximum flow rate	$Q_{nom} =$ <input type="text"/>	Unit: <input type="text"/>
<input type="checkbox"/> Minimum flow rate	$Q_{min} =$ <input type="text"/>	Unit: <input type="text"/>
<input type="checkbox"/> Inlet pressure at nominal operation	$p_1 =$ <input type="text"/>	barg
<input type="checkbox"/> Outlet pressure at nominal operation	$p_2 =$ <input type="text"/>	barg
<input type="checkbox"/> Max. inlet pressure (nominal pressure)	$p_{1max} =$ <input type="text"/>	barg
<input type="checkbox"/> Ambient temperature	<input type="text"/> °C	
Additional specifications		
<input type="checkbox"/> Body material	<input type="checkbox"/> Brass	<input type="checkbox"/> Stainless steel <input type="checkbox"/> other _____
<input type="checkbox"/> Seal material	<input type="checkbox"/> FKM	<input type="checkbox"/> other _____

Note Please state all pressure values as **overpressures with respect to atmospheric pressure** [barg].

To find your nearest Bürkert facility, click on the orange →



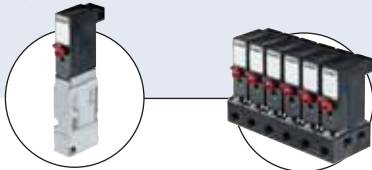
In case of special application conditions, please consult for advice.

Subject to alteration.
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1203/0_EU-en_00895219



Type 6144 can be combined with...



Type 6524

Servo-assisted pneumatic valve

Type 6144

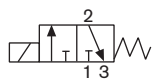
Multiple manifolds (e.g. 6 valves)

3/2-way Flipper Solenoid Valve

- Direct-acting
- 0 to 10 bar
- Low power consumption
- Sub-base connection
- 10mm width per station
- Standard, EEx ia Version

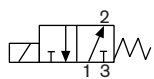
Type 6144 is a direct-action 3/2-way solenoid valve designed for neutral gases and liquids. Through the movement between the 2 end positions, the switching element (flipper) seals one of the two opposing valve seats and connects the other to the working port. This movement is caused by the solenoids magnetic field pushing a permanent magnet that is fixed to the flipper element. In addition to its exceptional performance characteristics, the flipper principle is especially marked by its very low switching noise and its low wear level. Furthermore, integrated medium separation enables use above and beyond pneumatic applications. Depending on the case of operation, various flange connections are available that are suitable for both individual and block mounting. Installation advice: The valve must have a minimum distance of 5 mm from other ferromagnetic materials in order to avoid malfunctioning during operating conditions.

Circuit function C



3/2-way valve, direct acting, de-energized port 2 exhausted

Circuit function D



3/2-way valve, direct acting, de-energized port 2 pressurized

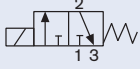
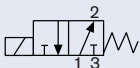
Technical data	
Body material	PPS (Polyphenylensulfide)
Seal material	FKM
Media	Compressed air lubricated, oil-free or dry; neutral gases and liquids (5µm filtering); technical vacuum
Media temperature	0 to +55°C
Ambient temperature	0 to +55°C
Port connection	· Bürkert flange · Lateral flange
Electrical connection	Rectangular plug as standard; on request: · Circular plug M8x1 · Flying lead 0.2 mm ² , 300 mm · Blank connector (5.08 mm)
Type of protection	without II 2G Ex ia IIC T4 T5 T6 PTB01 ATEX 2048 IECEX PTB 07.0063
Operating voltage	24V/DC ¹⁾ 12V/DC ¹⁾ on request Further voltages on request
Voltage tolerance	±10% ²⁾ (Further voltages on request)
Nominal power	0.8W
Switching function	Monostable Bistable (impulse) on request
Duty cycle	100% continuous rating
Installation	As required, preferably with actuator upright; 5mm minimum distance to ferromagnetic materials
Insulation class	3 acc. VDE 0580
Protection class	IP 40, IP 65 by flying leads (without hand lever)
Cycling rate	ca. 1000/min
Electrical control	with SPS possible
Response times	Measurement at the valve outlet, at 20°C and 6 bar inlet pressure, according to DIN ISO 12238: Open (Pressure rise 0 to 10%) ca. 8 ms (Standard) ca. 14 ms (Ex version) Close (Pressure rise 100 to 90%) ca. 10 ms (Standard) ca. 18 ms (Ex version)

¹⁾ Battery voltage; observe polarity as shown on top of the valve

²⁾ Max. allowed ripple

Ordering chart, standard version (other versions on request)

All valves with mounting screws and flange seal; without plug connection (see Accessories)

Circuit function	Port connection	Orifice [mm]	QnN value 1-2 air [l/min] ¹⁾	QnN value 2-3 air [l/min] ¹⁾	Pressure range ²⁾ [bar]	Manual override	Voltage [V]	Nominal power [W]	Item no. rectangular plug	Item no. flying leads with 500mm length
C  3/2-way valve NC	Bürkert flange	0.6	7.0	8.5	0-10 ³⁾	with	12 24	0.8	182 862 181367	215 686 202 578
	Lateral flange	0.6	6.0	7.5	0-10 ³⁾	with	24	0.8	175682	214 196
D  3/2-way valve NO	Bürkert flange	0.6	7.0	8.5	0-10	with	24	0.8	175653	■
	Lateral flange		6.0	7.5					179098	■

¹⁾ QnN value air [l/min]: Measurement with +20°C, 6 bar pressure on the valve input and 1 bar pressure differential

²⁾ Pressure values [bar]: Measured as overpressure to the atmospheric pressure

³⁾ Application with vacuum on request

Mounting screws for Bürkert flange: M1.6x5 for Lateral flange: M1.6x20

i Further versions on request



Electrical connection

Electrical connection left or right-sided alternatively. Possible electrical connections are 2 single flying leads, M8x1 round plugs or plug for contacting circuit board.



Circuit functions

Circuit function A, B and T



Additional

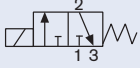
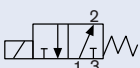
On request, the valve can be delivered with a manual control on the left or right side, but also without.

Version without hand lever and with round plug M8x1 electrical connection or single flying lead has IP65 protection class.

Ordering chart, Ex version

Approval acc. to II 2G Ex ia IIC T4 T5 T6 PTB01 ATEX 2048 and IECx PTB 07.0063

All valves with rectangular plug, mounting screws and flange seal; without plug connection (see Accessories)

Circuit function	Port connection	Orifice [mm]	QnN value 1-2 air [l/min] ¹⁾	QnN value 2-3 air [l/min] ¹⁾	Pressure range ²⁾ [bar]	Manual override	Resistance at 20°C +/-4% [Ω]	Minimum holding current [mA]	Item no.
C  3/2-way valve NC	Bürkert Flange	0.6	7	8.5	0-7	yes	320	29	175 657
	Bürkert Flange	0.6	7	8.5	0-7	yes	510	23	175 656
D  3/2-Wege-Ventil NO	Bürkert Flange	0.6	7	8.5	0-7	yes	320	29	183 550

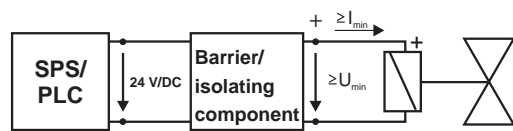
¹⁾ QnN value air [l/min]: Measurement with +20°C, 6 bar pressure on the valve input and 1 bar pressure differential

²⁾ Pressure values [bar]: Measured as overpressure to the atmospheric pressure

³⁾ Vacuum up to 10 bar on request

Mounting screws for Bürkert flange: M1.6x5 for Lateral flange: M1.6x20

Electrical data:

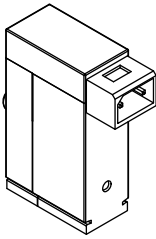


Functional values for valve switching function at 0 °C to +55°C	Permitted maximum values/ value pairs acc. to operating instructions
Min. holding current: 29mA	U _i 35V
Nominal coil resistance 320Ω ±4%	I _i 0.9A
Min. Holding current: 23mA	
Nominal coil resistance 510Ω ±4%	

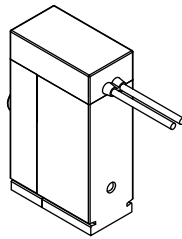
Ordering chart for accessories

Device	Characteristics	Item no.
Bürkert flange		
Single manifold	for Bürkert flange under M3	639 873
Manifold 2-fold	for Bürkert flange, M5	641 911
Manifold 4-fold	for Bürkert flange, M5	641 912
Manifold 6-fold	for Bürkert flange, M5	639 874
Blanking plate kit	for multiple manifolds, Bürkert flange	645 512
Lateral flange		
Single manifold	for lateral flange, M3	639 234
Manifold 2-fold	for lateral flange, M5	641 915
Manifold 4-fold	for lateral flange, M5	641 916
Manifold 6-fold	for lateral flange, M5	639 235
Blanking plate kit	for multiple manifolds, lateral flange	645 513
Tube connector plug		
Screw in fitting connection	Brass, straight, for M3 and tube - \varnothing 4 mm	782 534
Screw in fitting connection	Brass, straight, for M5 and tube - \varnothing 4 mm	787 810

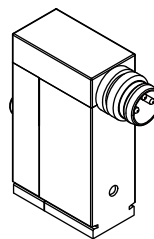
Options for the electrical connection, rectangular plug as standard, other connections on request



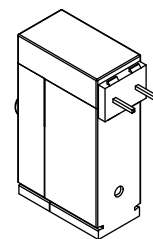
Rectangular plug
Raster 5.08 mm



2 flying leads
0.2 mm², 300 mm long





Circular plug
M8x1, 3-pin



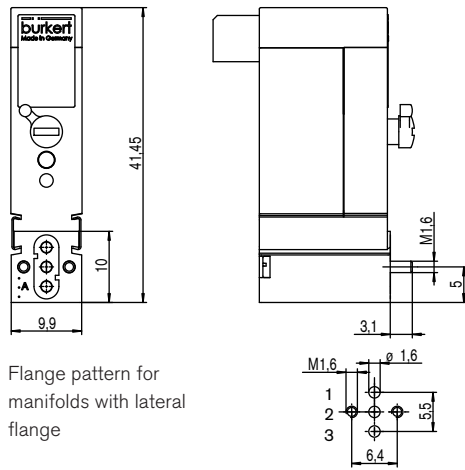
Blank connector
Raster 5.08 mm
(e.g. for board mounted connection 0,63 x 0,63)

Cable plug, Type 2505

	Type 2505, cable version	Item no.
	with 3m	133 486
	with 5m	167 494
	Type 2505, flying lead version	Item no.
	with 300 mm	644 068
	with 600 mm	162 144

Dimensions [mm]

Type 6144 with lateral flange

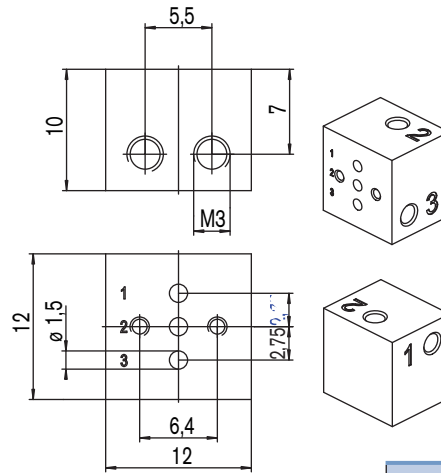


Flange pattern for manifolds with lateral flange

The valve can optionally be delivered with manual override on the left or right hand side (standard: opposite the electrical connection).

Single manifold for lateral flange

Material: Aluminium, M3 threaded

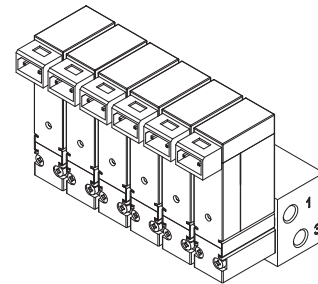
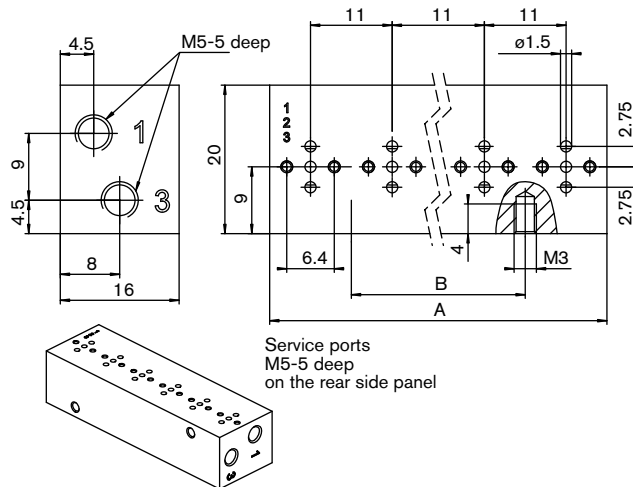


Item no.

639 234

Multiple manifolds for lateral flange

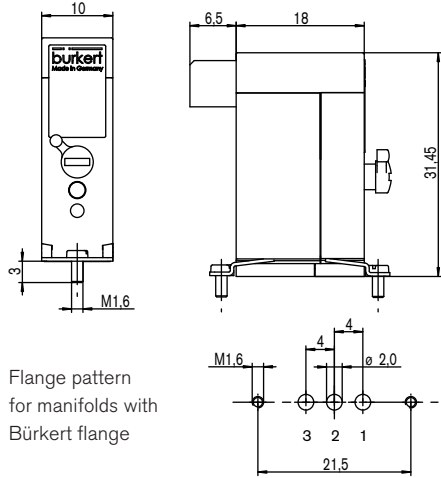
Material: Aluminium, M5 threaded



	A	B	Item no.
2 valves	22	-	641 915
4 valves	44	22	641 916
6 valves	66	44	639 235
8 valves	88	66	672 676
Blanking plate kit			645 513

Dimensions [mm] (cont.)

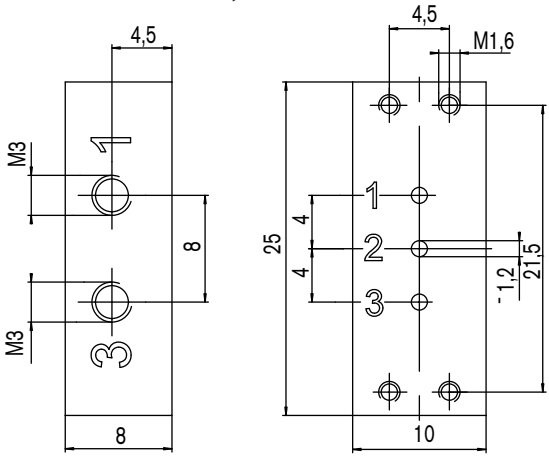
Type 6144 with Bürkert flange



Flange pattern for manifolds with Bürkert flange

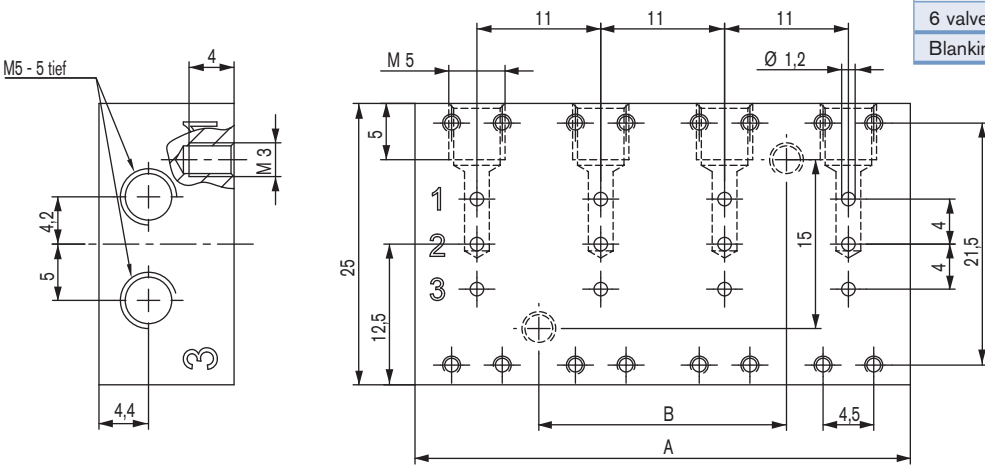
The valve can optionally be delivered with manual override on the left or right hand side (standard: opposite the electrical connection).

Single manifold for Bürkert flange
Material: Aluminium, M3 threaded



Item no.
639 873

Multiple manifolds for Bürkert flange,
Material: Aluminium, M5 threaded



	A	B	Item no.
2 valves	22	-	641 911
4 valves	44	22	641 912
6 valves	66	44	639 874
Blanking plate kit			645 512

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

We reserve the right to make technical changes without notice.
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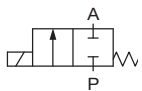
2/2 and 3/2-way Rocker Solenoid Valve for analytical applications

- 10 mm width
- Orifice DN 0.8 to DN 1.6
with pressure range vacuum to 5 bar
- Medium separation, for aggressive fluids
- Direct acting

Type 6624 combines the reliable and successful Rocker principle with a highly innovative new actuator. The TwinPower concept of this actuator reduces the size greatly without loss in performance. Hence the 10 mm wide medium isolated rocker valve, 6624, with a 1.6 mm orifice and a pressure resistance of 2 bar, provides the same performance as a traditional 16 mm valve. In addition, the integrated power reduction decreases the energy consumption by 75%. In combination with other design features the heat transfer into the medium can be reduced to a minimum.

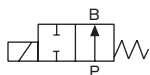
In the design of the 6624, the main benefits lie in its excellent cleanability and a high reliability. By using high performance materials the 6624 suits the handling of aggressive medium perfectly. The valve is available in a 2-way and 3-way version.

Circuit function A



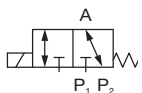
2/2-way valve,
normally closed

Circuit function B



2/2-way valve,
normally open

Circuit function T



3/2-way valve,
universal function

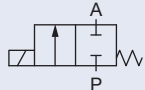
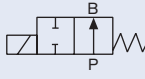
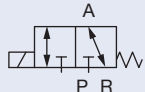
Technical Data	
Orifice	DN 0.8 mm (Vac-5 bar), DN 1.6 mm (Vac-2 bar)
Body material	PEEK / PPS
Seal material	FFKM / FKM / EPDM
Medium	Resistant to neutral and aggressive gases and liquids acc. to our chemical resistance chart
Medium temperature	
FFKM	+15° C to +50° C
FKM	- 5° C to +50° C
EPDM	- 5° C to +50° C
Ambient temperature	
FFKM	+15° C to +55° C
FKM	-10° C to +55° C
EPDM	-10° C to +55° C
Internal volume	<100 µl
Port connection	Sub-base / UNF / Tube connection
Electrical connection	Flying leads, Rectangular plug
Power supply	24 V ¹⁾ / 12V ¹⁾
Voltage tolerance	
24V	±10% ²⁾
12V	+10% / -5% ²⁾
Nominal power consumption	4W inrush power 1W nominal holding power (internal power reduction)
Duty cycle	100% continuous rating
Installation	As required
Protection class	IP 40
Switching frequency	max. 5 Hz ³⁾
Response times	
opening	Acc. DIN 12238 ca. 10 ms (Pressure rise 0-10%)
closing	ca. 13 ms (Pressure drop 100-90%)

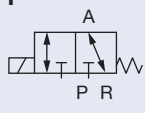
¹⁾ Battery voltage, observe polarity (red= +, black = -)

²⁾ Max. allowed ripple

³⁾ with ambient temperature of 20° C

Ordering chart (Sample of available versions. Others on request.)

Circuit function	Orifice [mm]	Port connection	Kv value water [m ³ /h] ¹⁾	Pressure range [bar] ²⁾	Max. pressure difference [bar]	Seal material	Body material	Electrical connection	Voltage/Frequency [V/Hz]	Item no.
A  2/2-way valve, NC	0,8	Sub-base	0,01	Vac-5	5	EPDM	PPS	Flying leads	12	241 341
	0,8	Sub-base	0,01	Vac-5	5	EPDM	PPS	Rectangular plug ³⁾	12	241 398
	0,8	Sub-base	0,01	Vac-5	5	EPDM	PPS	Flying leads	24	241 342
	0,8	Sub-base	0,01	Vac-5	5	EPDM	PPS	Rectangular plug ³⁾	24	241 399
	0,8	Sub-base	0,01	Vac-5	5	FFKM	PEEK	Flying leads	12	241 344
	0,8	Sub-base	0,01	Vac-5	5	FFKM	PEEK	Flying leads	24	227 015
	0,8	Sub-base	0,01	Vac-5	5	FKM	PPS	Rectangular plug ³⁾	12	241 405
	0,8	Sub-base	0,01	Vac-5	5	FKM	PPS	Flying leads	24	241 351
	0,8	UNF	0,01	Vac-5	5	FFKM	PEEK	Flying leads	24	241 346
	0,8	UNF	0,01	Vac-5	5	FKM	PEEK	Flying leads	24	241 349
	0,8	UNF	0,01	Vac-5	5	FKM	PEEK	Rectangular plug ³⁾	24	241 404
	1,6	Sub-base	0,04	Vac-2	2	EPDM	PPS	Rectangular plug ³⁾	12	241 412
	1,6	Sub-base	0,04	Vac-2	2	EPDM	PPS	Rectangular plug ³⁾	24	241 413
	1,6	Sub-base	0,04	Vac-2	2	FFKM	PEEK	Flying leads	12	241 359
	1,6	Sub-base	0,04	Vac-2	2	FFKM	PEEK	Rectangular plug ³⁾	24	229 429
	1,6	Sub-base	0,04	Vac-2	2	FKM	PPS	Flying leads	12	241 367
	1,6	Sub-base	0,04	Vac-2	2	FKM	PPS	Rectangular plug ³⁾	12	241 424
	1,6	Sub-base	0,04	Vac-2	2	FKM	PPS	Flying leads	24	241 368
	1,6	UNF	0,04	Vac-2	2	EPDM	PEEK	Rectangular plug ³⁾	24	241 411
	1,6	UNF	0,04	Vac-2	2	FFKM	PEEK	Flying leads	24	241 361
1,6	UNF	0,04	Vac-2	2	FKM	PEEK	Flying leads	24	241 366	
1,6	UNF	0,04	Vac-2	2	FKM	PEEK	Rectangular plug ³⁾	24	241 423	
1,6	Tube	0,04	Vac-2	2	EPDM	PEEK	Rectangular plug ³⁾	24	241 409	
1,6	Tube	0,04	Vac-2	2	FFKM	PEEK	Flying leads	24	237 705	
1,6	Tube	0,04	Vac-2	2	FKM	PEEK	Flying leads	24	241 363	
1,6	Tube	0,04	Vac-2	2	FKM	PEEK	Rectangular plug ³⁾	24	241 421	
B  2/2-way valve, NO	0,8	Sub-base	0,01	Vac-5	5	FFKM	PEEK	Flying leads	24	on request
	1,6	Sub-base	0,04	Vac-2	2	FFKM	PEEK	Flying leads	24	on request
	1,6	Sub-base	0,04	Vac-2	2	FFKM	PEEK	Rectangular plug ³⁾	24	on request
T  3/2-way valve, Universal version	0,8	Sub-base	0,01	Vac-5	5	EPDM	PPS	Rectangular plug ³⁾	12	241 428
	0,8	Sub-base	0,01	Vac-5	5	EPDM	PPS	Rectangular plug ³⁾	24	241 429
	0,8	Sub-base	0,01	Vac-5	5	FFKM	PEEK	Flying leads	12	241 373
	0,8	Sub-base	0,01	Vac-5	5	FFKM	PEEK	Flying leads	24	222 936
	0,8	Sub-base	0,01	Vac-5	5	FKM	PPS	Flying leads	24	241 379
	0,8	Sub-base	0,01	Vac-5	5	FKM	PPS	Rectangular plug ³⁾	12	241 435
	0,8	UNF	0,01	Vac-5	5	FFKM	PEEK	Flying leads	24	241 375
	0,8	UNF	0,01	Vac-5	5	FKM	PEEK	Flying leads	24	241 377
	0,8	UNF	0,01	Vac-5	5	FKM	PEEK	Rectangular plug ³⁾	24	241 434
	1,6	Sub-base	0,04	Vac-2	2	EPDM	PPS	Rectangular plug ³⁾	12	241 442
	1,6	Sub-base	0,04	Vac-2	2	EPDM	PPS	Rectangular plug ³⁾	24	241 443
	1,6	Sub-base	0,04	Vac-2	2	FFKM	PEEK	Flying leads	12	239 935
	1,6	Sub-base	0,04	Vac-2	2	FFKM	PEEK	Flying leads	24	227 815
	1,6	Sub-base	0,04	Vac-2	2	FFKM	PEEK	Rectangular plug ³⁾	24	229 430
	1,6	Sub-base	0,04	Vac-2	2	FKM	PPS	Flying leads	12	241 394
	1,6	Sub-base	0,04	Vac-2	2	FKM	PPS	Rectangular plug ³⁾	12	241 453
	1,6	Sub-base	0,04	Vac-2	2	FKM	PPS	Flying leads	24	241 395
	1,6	UNF	0,04	Vac-2	2	EPDM	PEEK	Rectangular plug ³⁾	24	241 441
	1,6	UNF	0,04	Vac-2	2	FFKM	PEEK	Flying leads	24	241 389
	1,6	UNF	0,04	Vac-2	2	FKM	PEEK	Rectangular plug ³⁾	24	241 452
1,6	UNF	0,04	Vac-2	2	FKM	PEEK	Flying leads	24	241 393	

Circuit function	Orifice [mm]	Port connection	Kv value water [m ³ /h] ¹⁾	Pressure range [bar] ²⁾	Max. pressure difference [bar]	Seal material	Body material	Electrical connection	Voltage/Frequency [V/Hz]	Item no.
T  3/2-way valve, Universal version	1,6	Tube	0,04	Vac-2	2	EPDM	PEEK	Rectangular plug ³⁾	24	241 439
	1,6	Tube	0,04	Vac-2	2	FFKM	PEEK	Flying leads	24	241 387
	1,6	Tube ⁴⁾	0,04	Vac-2	2	FFKM	PEEK	Flying leads	24	242 320
	1,6	Tube	0,04	Vac-2	2	FFKM	PEEK	Rectangular plug ³⁾	24	241 445
	1,6	Tube	0,04	Vac-2	2	FKM	PEEK	Flying leads	24	241 391
	1,6	Tube	0,04	Vac-2	2	FKM	PEEK	Rectangular plug ³⁾	24	241 450

¹⁾ Measured at +20 °C, 1 bar pressure at value inlet and free outlet.




²⁾ Measured as overpressure with respect to atmospheric pressure.

³⁾ Rectangular cable plug with 300mm flying leads; Item no. 644068 (order separately)

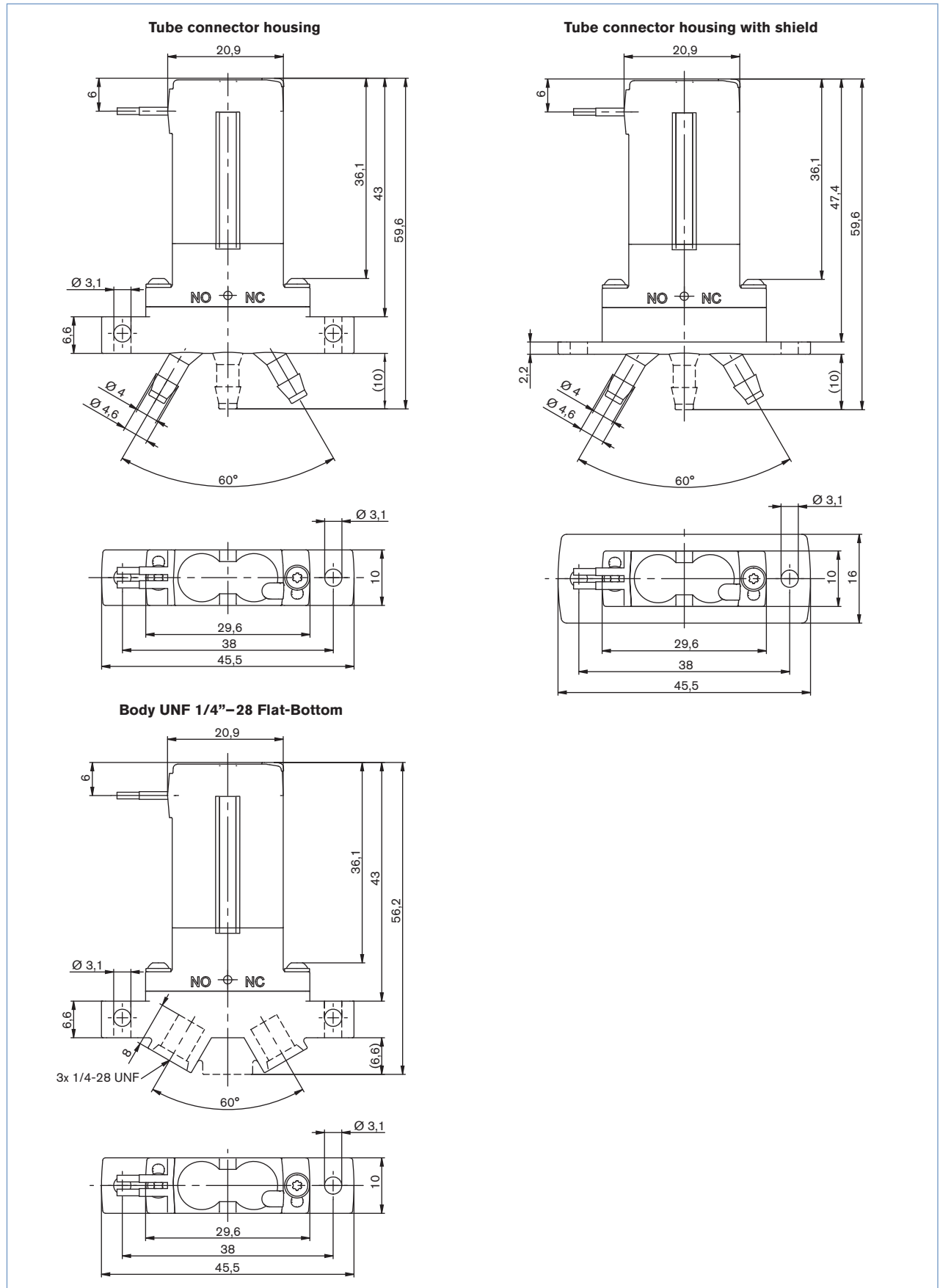
⁴⁾ Housing has a shield for easy separation of electronics and fluids.

Mounting screws: 2 pieces of VA-screws M2x10 (supplied as standard)

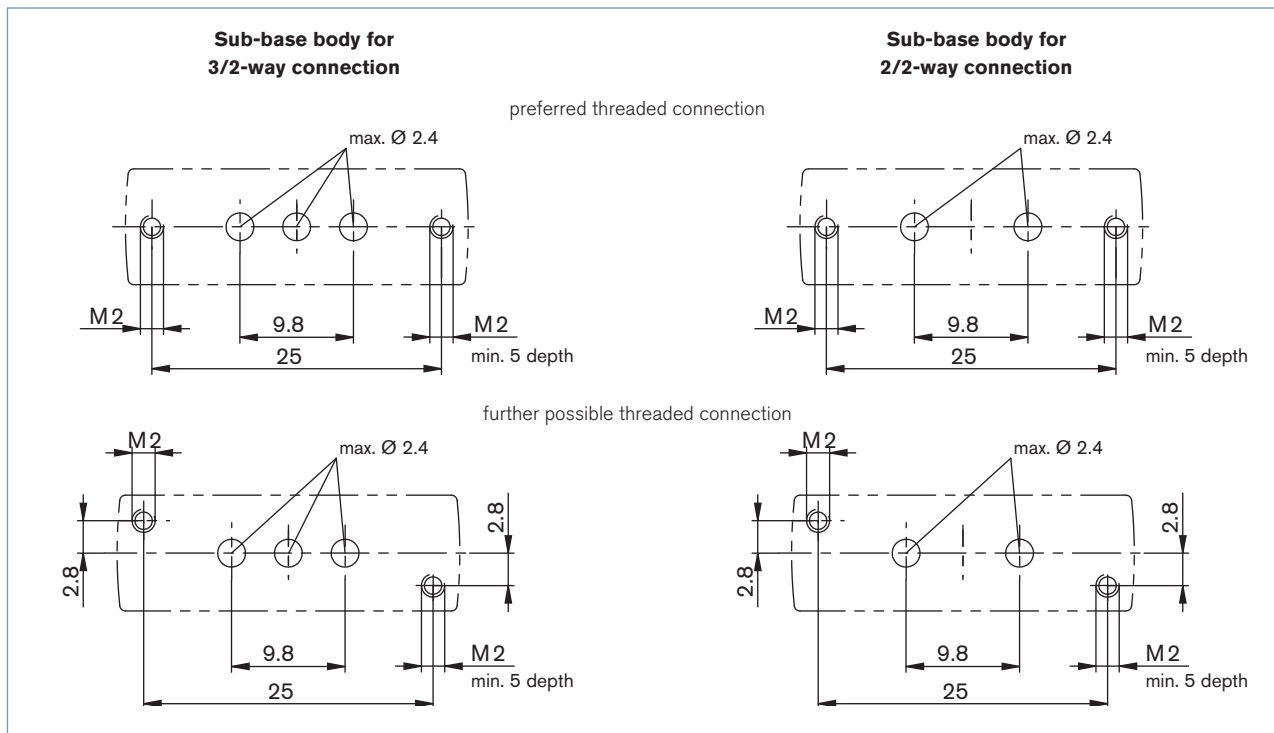
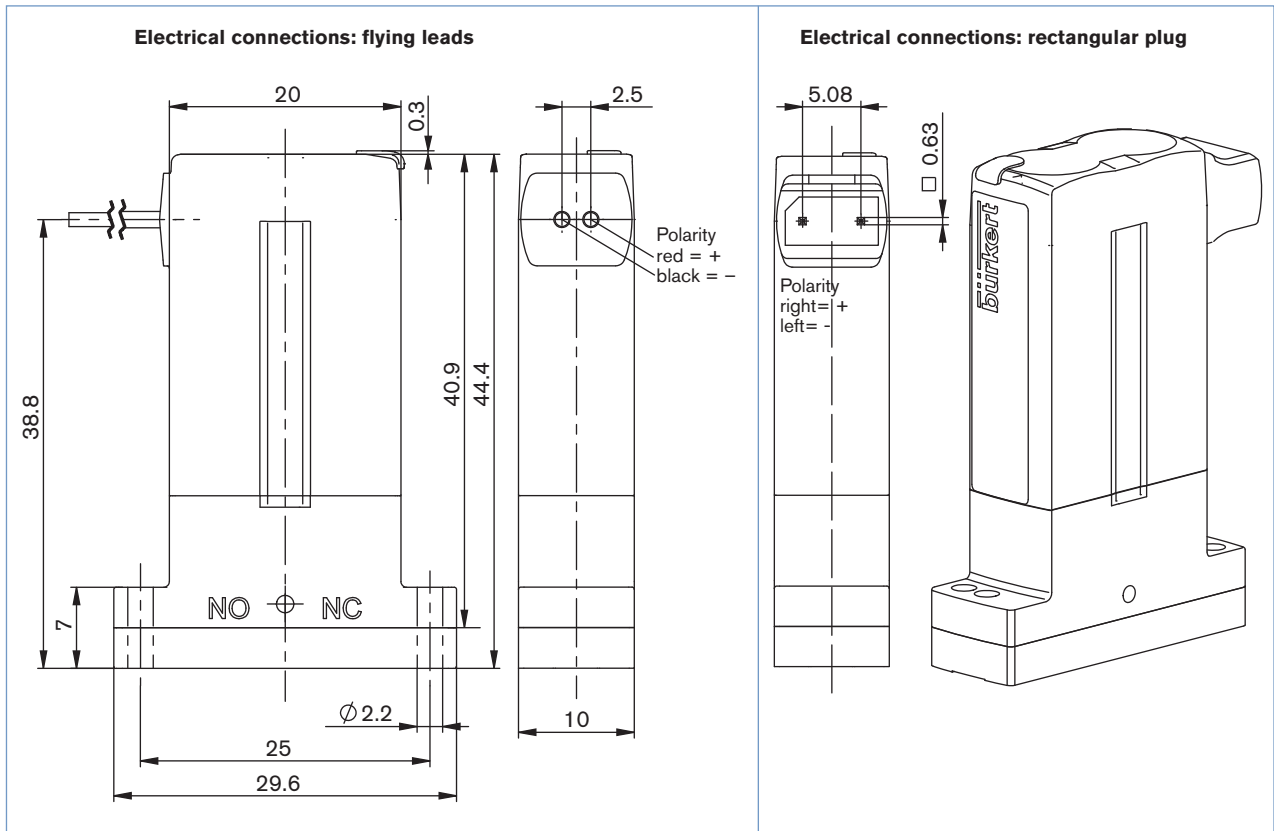
Ordering chart accessories

Accessories	Features	Item no.
	Rectangular plug Type 2505 with 3 m cable	133 486
	Rectangular plug Type 2505 with 300 mm flying leads	644 068
	Rectangular plug Type 2505, single contact for individual mounting	644 067
Gasket for tube connector housing with shield	EPDM, foamed	685 294

Dimensions [mm]



Dimensions [mm]



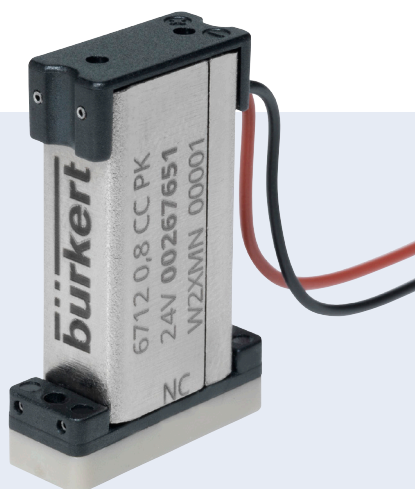
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In case of special application conditions, please consult for advice.

Subject to alterations
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1406/4_EU-en_00895183

2/2-way fast switching solenoid valve with media separation



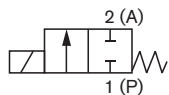
- Highest chemical resistance with minimal internal volume
- Compact design with 7 mm width
- Orifice size 0.8 mm (3 bar)
- Switching noise < 36 dB
- For dosing applications with excellent flush ability

Fluidical „point-of-care“ applications, as dialysis or artificial respiration, and applications at the „point-of-use“ for example at pipetting arms in biological analysis have special requirements. The new media separated solenoid valve type 6712 was particularly developed for these applications. Especially the reduced switching noise and the good flush ability set a new benchmark. But also in industrial applications like inkjet printers, the type 6712 is the first choice due to the high lifecycle and the excellent switching dynamic.

With the modular design and the available material variants this valve is applicable with virtually all liquids and gases in life science and industrial applications.

A valve that combines dosing accuracy and flush ability.

Circuit function A



2/2-way valve, direct-acting, normally closed

Technical data	
Orifice sizes and pressure ranges	DN 0.8 mm with 0 to 3 bar ¹⁾ (DN 0.4 mm with 0 to 5 bar on request)
Tightness to outside	8 bar (rel.)
Body material	PEEK, PPS
Seal material	FFKM (EPDM and FKM on request)
Medium	Resistant to neutral and aggressive gases and liquids (acc. to Bürkert resistance chart)
Media temperature FFKM, FKM and EPDM	+15 to +55 °C
Ambient temperature FFKM, FKM and EPDM	+15 to +55 °C
Typical service life	30.000.000 (acc. to laboratory duration tests) ²⁾
Internal volume	< 5 µl
Viscosity	Max. 21 mm ² /s
Port connection	Bürkert flange (7 x 18.2 mm)
Electrical connection	Single flying leads, AWG26, 500 mm (Plug connector on request)
Power supply	24 V DC (12 V on request)
Voltage tolerance	±10 %
Power consumption	0.9 W ³⁾
Duty cycle	100 % continuous operation
Installation	As required, preferably with actuator upright
Protection class	IP40
Response times	Measurement at valve output with 1 bar and 20 °C acc. to DIN ISO 12238:2001 1 ms (pressure build-up 0-10 %) 5 ms (pressure build-up 100-90 %)
Switching frequency	50 Hz
Switching noise	< 36 dB ⁴⁾
Approvals and compliance (on request)	FDA KTW

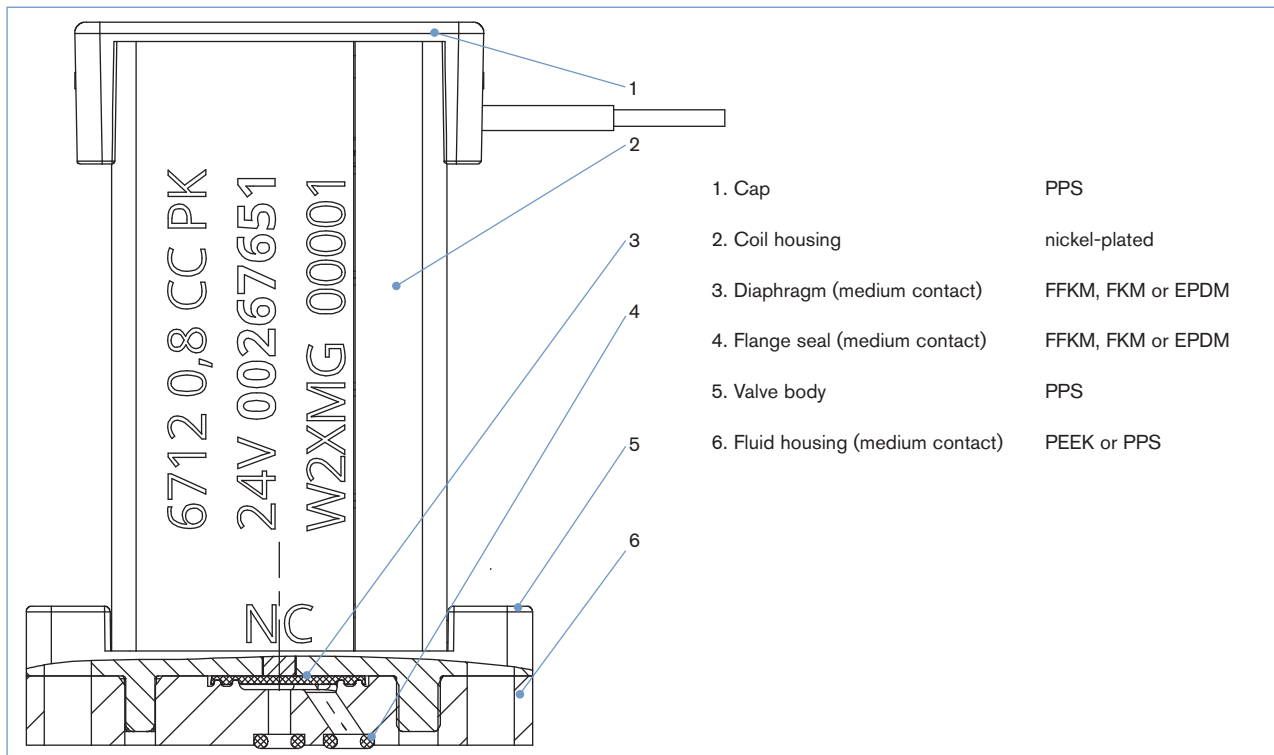
¹⁾ Maximum tightened relative pressure at the seat. Max. pressure at the outlet: 1,5 bar (rel.).

²⁾ Service life depends on the type of medium, the temperature, the pressure, the seal material and the specific operational conditions.

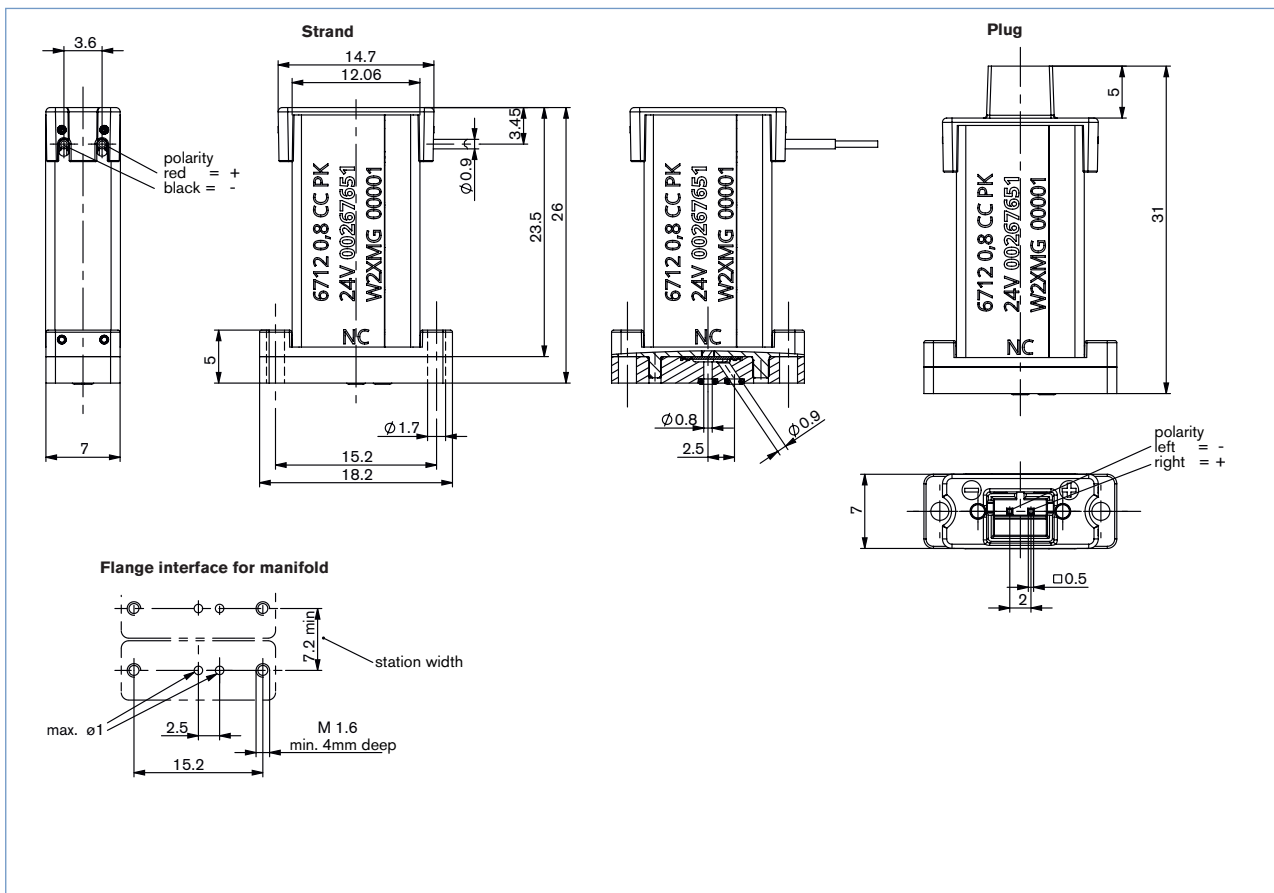
³⁾ No further power reduction possible.

⁴⁾ Tested under Bürkert test conditions. The switching noise may vary with conditions.

Materials



Dimensions [mm]



Ordering chart for valves

Circuit function	Orifice [mm]	Port connection	Kv value water [m ³ /h] ¹⁾	Cv value water [gpm]	QnN value air [l/min]	Pressure range [bar]	Max. pressure difference [bar]	Seal material	Body material	Electrical connection ²⁾	Voltage/frequency [V/Hz]	Item no.
A 2/2-way valve, direct acting, NC 	0.4	Bürkert flange	0.004	0.005	4.8	0-5	5	EPDM	PPS	Plug	12 V/DC	273 226 ³⁾
								FFKM	PEEK	Strand	24 V/DC	273 206 ³⁾
	EPDM		PPS	Plug	12 V/DC	273 232 ³⁾						
	FFKM					273 233 ³⁾						
	FFKM		PEEK	Strand		273 231 ³⁾						
	EPDM		PPS			273 188 ³⁾						
	FFKM		PEEK	273 189 ³⁾								
	FFKM		PEEK	273 187 ³⁾								
	EPDM		PPS	Plug	24 V/DC	273 236 ³⁾						
	FFKM					273 237 ³⁾						
	FFKM		PEEK	273 235 ³⁾								
	EPDM		PPS	Strand		273 190 ³⁾						
	FFKM					273 191 ³⁾						
	FFKM		PEEK	267 651								

¹⁾ Kv value water [m³/h]: water flow rate measured at +20° C, 1 bar relative pressure. Kv value 0.013 m³/h only applies for p > 0.5 bar.
²⁾ Valves with plug connection are delivered without a mating plug. Suitable plug on request (compatibility to W+P, JST, Würth and Molex).
³⁾ On request.

i Further versions on request

Ordering chart for Manifold

Manifold with UNF connection; Delivery without valves; Material: PEEK

Manifold	Description	Item no.
1-fold	Manifold UNF 1/4"-28 PEEK	694 895

Other versions on request. UNF connectors and tubes are available as type TVU003.

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Direct-acting 2/2- or 3/2-way pivoted armature valve

- Direct-acting, media-separated valve with diameter of up to DN 5
- Maintenance-free pivoted armature technology
- Vibration-proof, block screwed coil system
- Suitable for aggressive alkaline and acidic solutions
- Service-friendly, robust manual operation
- Explosion proof versions

The 0330 valve is a direct-acting, media-separated pivoted armature valve. It is available in 3/2- and 2/2-way versions. As a 3/2-way version, it can be used as a distributor or mixing valve. Various diaphragm material combinations and methods of operation are available depending on the application. The standard brass housing satisfies all European drinking water requirements. Stainless steel (316), PVDF, and polypropylene housing versions complete the offering. The solenoid coils are moulded with a chemically resistant epoxy. The 0330 is equipped with manual override for commissioning and testing. For reduced energy requirements all coils can be delivered with electronic power reduction or as an impulse version. The switching status can be indicated with position feedback as a binary or NAMUR signal. In combination with a plug in accordance with DIN EN 17301-803 Form A, the valves satisfy protection class IP65/67 – in combination with a stainless steel or plastic housing NEMA 250 Cat. 4X.

Content:

Standard version

Technical data	p. 1
Additional options	p. 4
Dimensions & Pin Assignment	p. 5
Ordering chart	p. 6

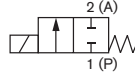
Explosion proof version

Technical data	p. 7
Additional options	p. 9
Dimensions & Pin Assignment	p. 10
Ordering chart	p. 11

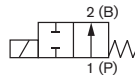
Technical data	
Available housing materials	Brass Stainless steel (1.4401) PP (Polypropylene) PVDF (Polyvinylfluoride)
Port connection	G 1/4; NPT 1/4; (RC 1/4 and G 1/8 on request)
Seal material	EDPM / FKM / FFKM / NBR
Medium for NBR	Neutral medium such as compressed air, town gas, water, hydraulic oil, oils and fats without additives, oxygen Alkalis, acids to medium concentrations, alkaline washing and bleaching lyes Oxydizing acids and substances, hot oils with additives, salt solutions, waste gases, oxygen aggressive mediums, hot air, hot oils
EPDM	
for FKM	
for FFKM	
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 50Hz; 110V 50Hz; 230V 50Hz; 120V 60Hz; 240V 60Hz; 12V DC; 24V DC; (further voltages on request)
Voltage tolerance	+/- 10%
Duty cycle for brass and stainless steel.	100%
Duty cycle for PP and PVDF	40% ED (60% intermittent operation) in 30min for 8W version 100% ED for 5W version

Circuit function

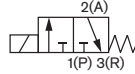
- A** 2/2-way direct acting valve, normally closed



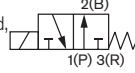
- B** 2/2-way direct acting valve, normally open



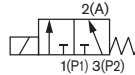
- C** 3/2-way valve, direct acting, when de-energised Port A exhausted



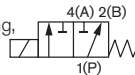
- D** 3/2-way valve, servo-assisted, outlet B normally pressurized



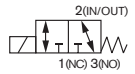
- E** Mixer valve, direct-acting, in de-energized position, P2→A open, P1 closed



- 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

**Technical data (continued)**

Electrical connection	Pin terminal acc. to DIN EN 175301-803 Form A for cable pug Type 2508/2509 (also on request with moulded cable or terminal box)
Protection class	IP65 with Cable Plug
Coil insulation class	H
Installation	As required, preferably with actuator upright
Weight [kg]	
with metal body	0.47
with plastic housing	0.40

Standard power consumption

Frequency AC Inrush [VA]	Hold [VA]	Operation [W]	Frequency DC Cold [W]	Warm [W]
30	15	8	11	8

Impulse (inrush winding)

Frequency AC Hold [VA]	Operation [W]	Frequency DC Cold [W]	Warm [W]
20	11	11	8

Response times

Orifice [mm]	Frequency AC Opening [ms]	Closing [ms]	Frequency DC Opening [ms]	Closing [ms]
2-4	8-15	8-15	10-20	10-20

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%

Pressure range and flow rate for metal body

Circuit function	DN	Kv value water [m³/h]:		Standard ¹⁾			Impulse ²⁾
		DC	AC [50 or 60Hz]	Pressure range ⁴⁾ [bar]	Vacuum ³⁾ Pressure range ⁴⁾ [bar]	Pressure range ⁴⁾ [bar]	
A / B / C / D / F	2.0	0.08	0.11	0 - 16	-0.98 - 10	0 - 16	
	3.0	0.14	0.18	0 - 10	-0.98 - 6	0 - 10	
	4.0	0.17	0.23	0 - 5	-0.98 - 3	0 - 5	
	5.0	0.29	0.29	0 - 2.5	-0.98 - 1	0 - 2.5	
E	2.0	0.08	0.11	0 - 10	-0.98 - 8	0 - 10	
	3.0	0.14	0.18	0 - 6	-0.98 - 5	0 - 6	
	4.0	0.17	0.23	0 - 3	-0.98 - 2.5	0 - 3	
	5.0	0.29	0.29	0 - 1.5	-0.98 - 1	0 - 1	
T	2.0	0.08	0.11	0 - 12	-0.98 - 8	0 - 10	
	3.0	0.14	0.18	0 - 8	-0.98 - 5	0 - 6	
	4.0	0.17	0.23	0 - 4	-0.98 - 2.5	0 - 5	
	5.0	0.29	0.29	0 - 2.5	-0.98 - 1	-	

Pressure range and flow rate for plastic body

Circuit function	DN	Kv value water [m³/h]	Standard ¹⁾		Vacuum Pressure range ⁴⁾ [bar]	Impulse ²⁾ Pressure range ⁴⁾ [bar]
			Pressure range ⁴⁾ [bar] AC [50 or 60Hz]	Pressure range ⁴⁾ [bar] DC		
A / B / C / D / F	2.0	0.13	0 - 16	0 - 12	-0.98 - 10	0 - 12
	3.0	0.25	0 - 10	0 - 8	-0.98 - 6	0 - 8
	4.0	0.30	0 - 5	0 - 4	-0.98 - 3	0 - 4
	5.0	0.40	0 - 4.5	0 - 3.5	-0.98 - 1	0 - 3
E / T	2.0	0.13	0 - 10	0 - 7	-0.98 - 7	0 - 7
	3.0	0.25	0 - 6	0 - 4	-0.98 - 5	0 - 4
	4.0	0.30	0 - 3	0 - 2	-0.98 - 2.5	0 - 2

¹⁾ Rated power consumption 8W

²⁾ Inrush power 11W

³⁾ Vacuum possible for all seal materials

⁴⁾ Pressure values [bar] with respect to atmospheric pressure

Other circuit functions

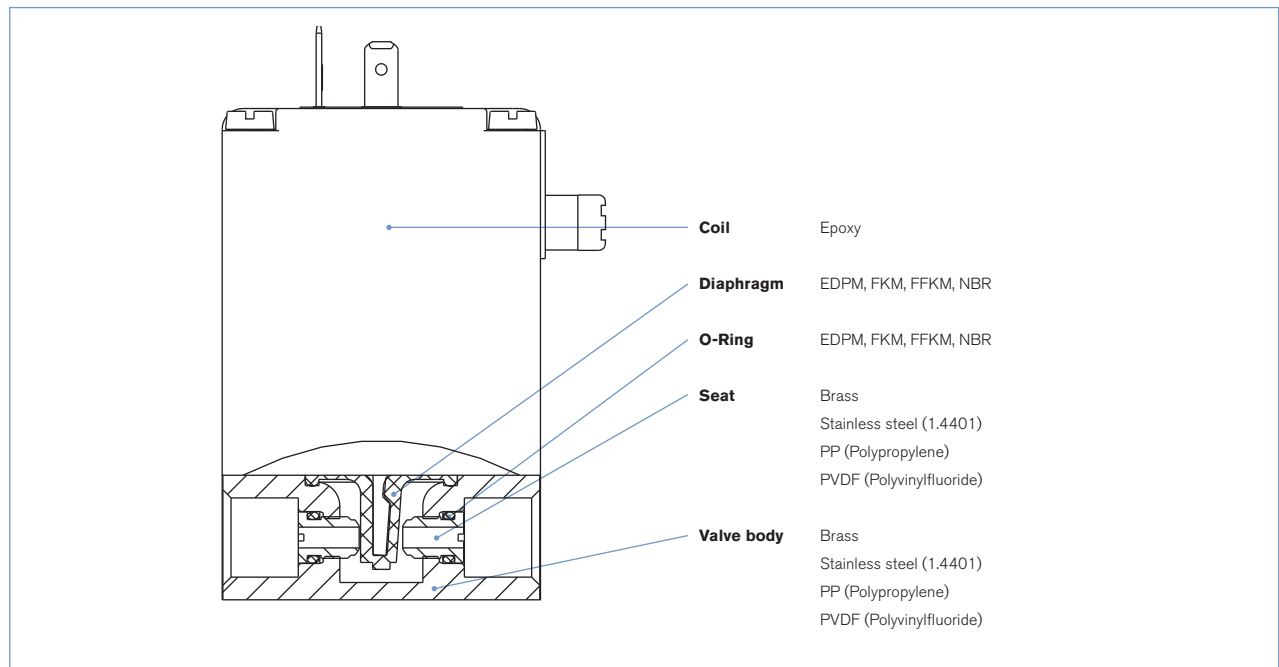
The valves are fitted with different springs for a specific circuit function. When used in other circuit functions the permissible operating pressure changes acc. to the following table.

Metal body (8W respectively 11W)																		
Circuit function	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 (8W respectively 11W)																		
Circuit function	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	5

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

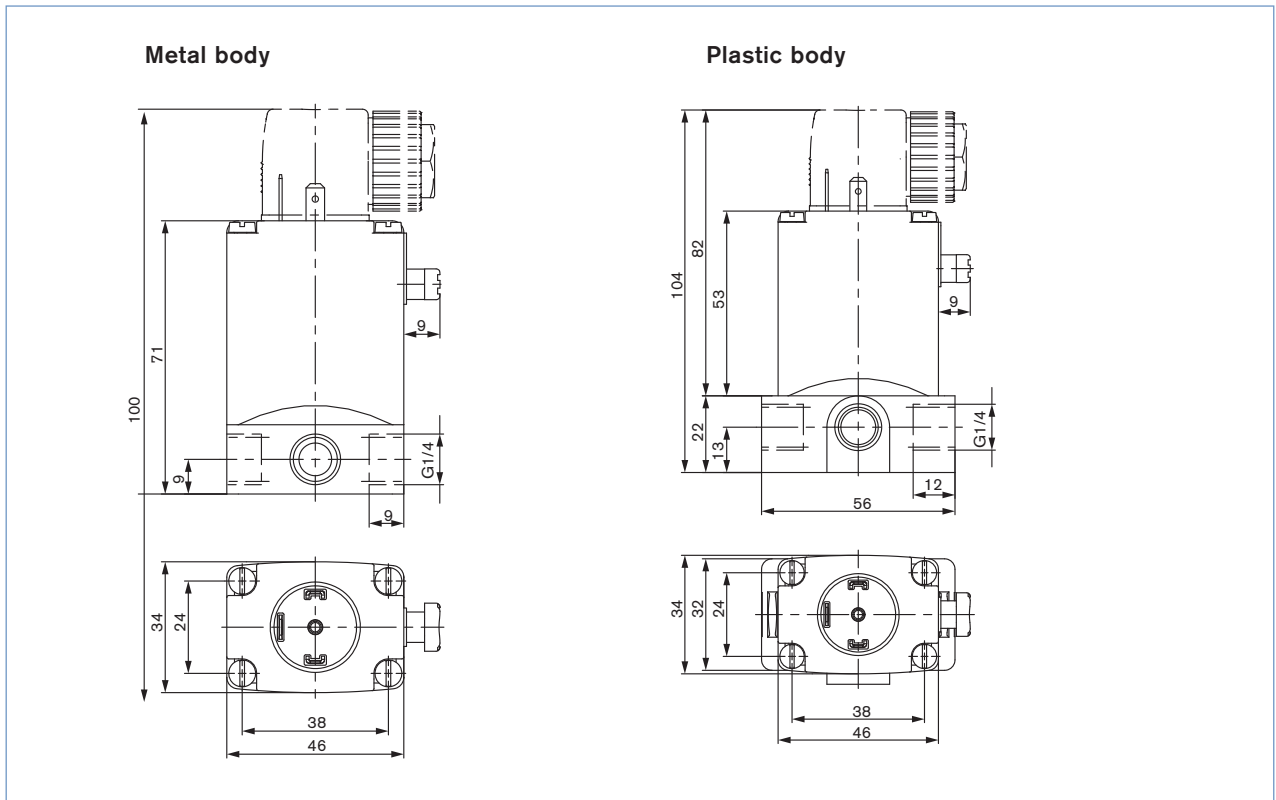
Additional options



Additional options

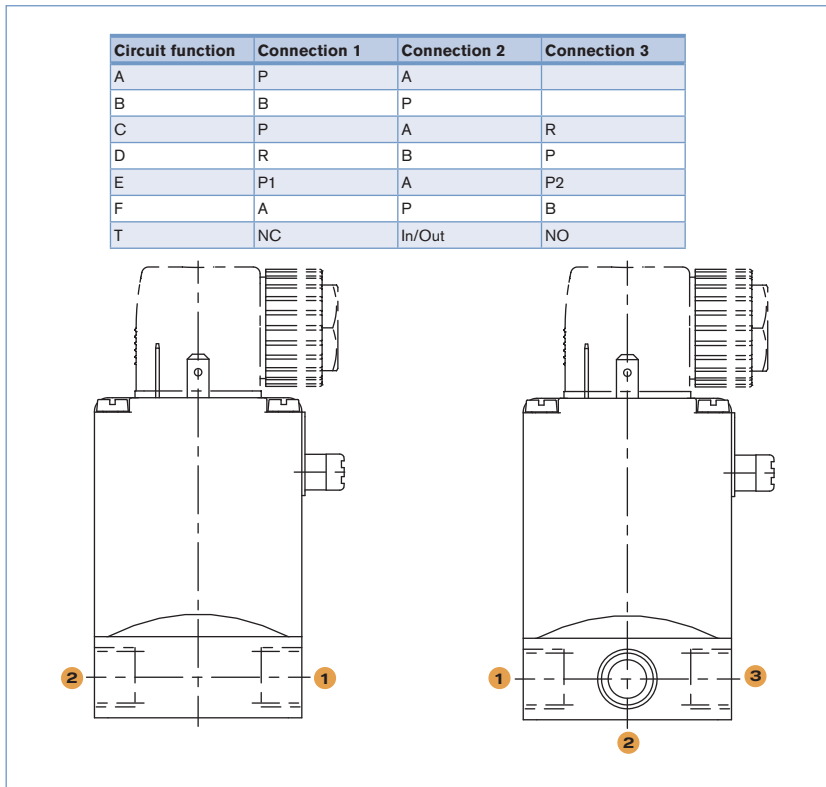
Option	Variable Code	Description
Impulse version	CF02	Bistable magnetic system with inrush and drop-off coil; Continuous operation or operation with short current pulses (min. 150 ms) possible
Oxygen versions	NL02	Suitable for applications with oxygen (non-metal materials that are in contact with the 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 tightness requirements	PCxx	Standard units are tested at 10^{-2} mbar x l / sec; feasible up to 10^6 mbar
Electrical feedback	LF02 / LF03	See Type 1060
High-power electronics	CZ05	Inrush power 60 W, nominal holding current 3 W; with plastic versions 100% ED is now feasible
Vacuum version	NA02	Suitable for vacuums up to -0.98bar
Increased purity and tightness requirements	NA03	Wetted parts are specially cleaned and leak tested to 10^{-4} mbar x l/sec
Increased purity and tightness 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
Coil with reduced power (5W)		Devices have lower pressure range; with plastic versions 100% ED is now feasible
Cable plug	JFxx / JGxx	Cable plug is included in delivery. Cable plug versions (acc. to DIN EN 175301-803 Form A), see datasheet Type 2508 and 2509
Approvals	PD01	CSA General Purpose valve
	PD02	CSA General Purpose valve UL recognized General Purpose valve
	PD24	UL listed General Purpose valve CSA General Purpose valve FM non-incendive for class I / II / III Div.2 T4
	PD45	FM explosionproof for class I Div. 1 and dust-ignitionproof for class II / III Div. 1 T4 CSA General Purpose valve for hazardous location class I / II Div. 2 and class III T4
	PD07	DNV-GL (formerly Germanischer Lloyd)
possible conformities (depending on the assembly)		EAC, drinking water, FDA

Dimensions [mm]



Port connections

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



Ordering chart (products with reduced delivery time)

All devices with connection thread G 1/4, manual override and cable plug Type 2508

Circuit function	Orifice [mm]	Seal Material	Housing or seat material	Item no. per voltage/frequency [V/Hz]		
				024/DC	024/50	230/50
A ²⁾	3.0	FKM	Brass	020 293	022 883	124 909
	3.0	FKM	Stainless steel	020 292	023 984	024 563
	3.0	FKM	PP	018 410	088 496	045 653
	3.0	FKM	PVDF	018 188	020 286	069 006
	3.0	NBR	Brass	020 294	086 553	024 902
	3.0	EPDM	PP	067 214	022 105	062 398
	4.0	FKM	Brass	024 019	025 246	124 912
	4.0	FKM	Stainless steel	018 276	018 857	020 873
	4.0	FKM	PP	062 695	043 005	063 116
	4.0	FKM	PVDF	023 472	069 079	087 837
	4.0	NBR	Brass	025 084	-	046 007
	4.0	EPDM	PP	021 660	067 731	063 118
	4.0	EPDM	PVDF	057 573	-	125 507
	5.0	FKM	PP	062 624	067 007	022 619
	5.0	FKM	PVDF	064 512	-	063 786
	5.0	EPDM	PP	061 321	054 261	049 969
5.0	EPDM	PVDF	120 184	059 802	130 117	
B ²⁾	3.0	FKM	Brass	141 917	130 146	141 919
	4.0	FKM	Brass	141 920	141 921	141 923
	3.0	FKM	Stainless steel	141 928	141 929	141 931
	4.0	FKM	Stainless steel	141 932	141 933	141 935
C	2.0	NBR	Brass	041 103	042 129	041 105
	3.0	NBR	Brass	041 107	041 108	041 116
	3.0	FKM	Stainless steel	052 344	045 024	052 059
	4.0	NBR	Brass	042 218	042 695	042 329
	4.0	FKM	Stainless steel	050 483	043 324	050 979
	4.0	FKM	PP	-	088 240	-
	4.0	FKM	PVDF	055 788	-	019 078
	4.0	EPDM	PP	-	-	063 625
D	2.0	NBR	Brass	056 984	041 858	041 137
	3.0	NBR	Brass	041 139	041 141	041 147
	4.0	NBR	Brass	043 129	042 696	042 903
E	3.0	FKM	PP	069 917	066 230	022 294
	3.0	EPDM	PP	078 556	-	078 559
	4.0	FKM	PP	061 077	086 921	053 406
	4.0	FKM	PVDF	022 340	020 550	085 599
	4.0	EPDM	PP	067 160	044 693	066 033
F	4.0	FKM	PP	020 528	-	-
	4.0	EPDM	PP	-	-	066 032
T	2.0	FKM	Brass	124 922	138 316	124 925
	3.0	FKM	Brass	124 927	124 928	124 930
	2.0	FKM	Stainless steel	124 932	124 933	124 935
	3.0	FKM	Stainless steel	124 937	124 938	124 940

²⁾ The listed ID numbers and circuit functions have a body with a straight channel**Note:** Further versions on request



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

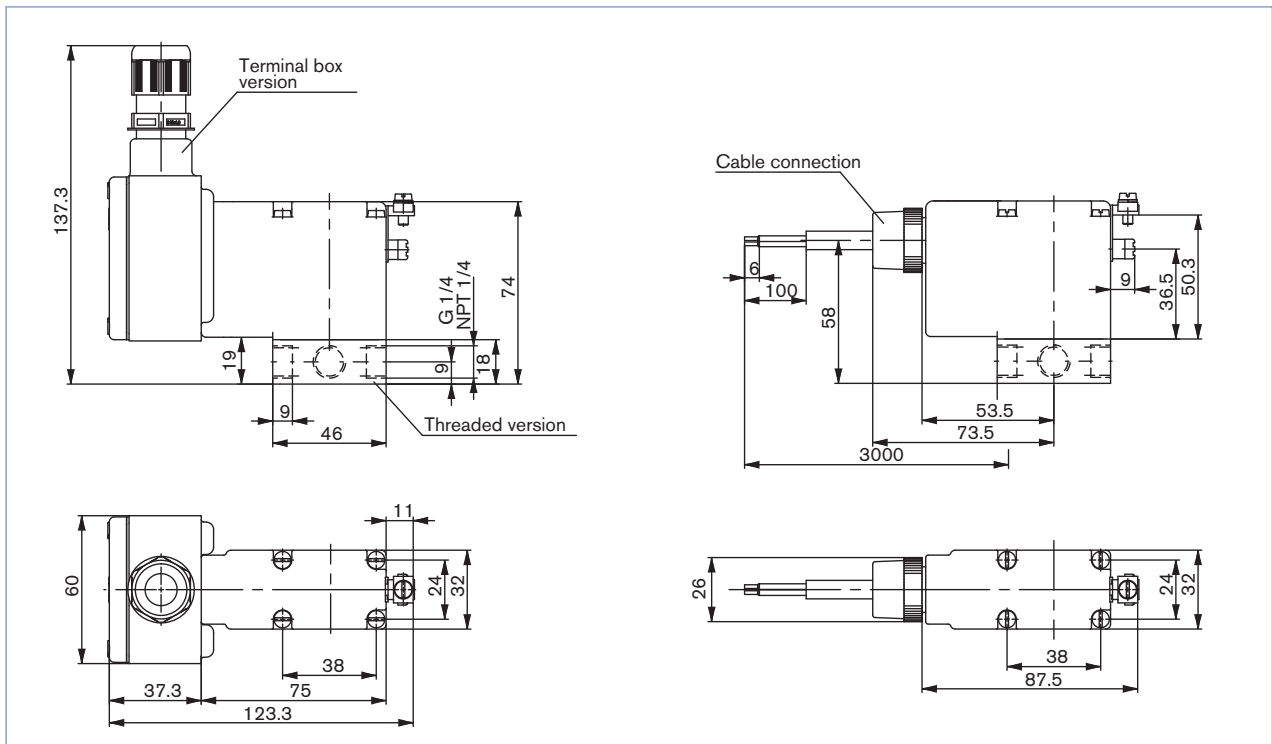
Plastic body																		
Valve operation	Max. operating pressure [bar] when using the valve in a new circuit function																	
	Orifice 2mm						Orifice 3mm						Orifice 4mm					
	A ¹⁾	B ¹⁾	C	D	E	F	A	B	C	D	E	F	A	B	C	D	E	F
C	16	1.5	16	1.5	1.5	16	10	1	10	1	1	10	5	0.8	5	0.8	0.8	5
D	4	16	4.5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

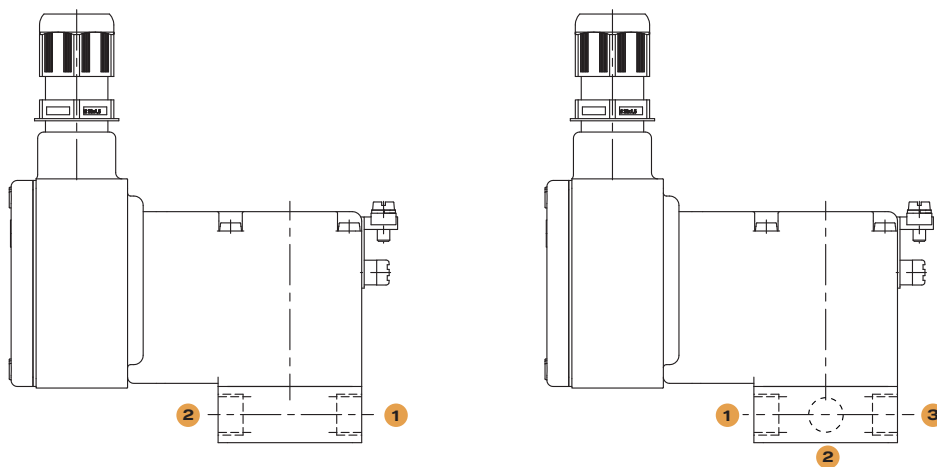
Dimensions [mm]



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

To find your nearest Bürkert facility, click on the orange box →

2/2-Way Solenoid Control Valve



Type 2871 can be combined with...



Type 8605

Digital control electronics
DIN-rail version



Type 2507

Cable plug



Type 8611

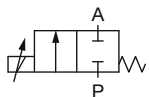
Universal controller

- Excellent range (1:200)
- Very good response
- Compact valve design
- Orifice sizes 0.05 ... 2.0 mm
- Port connection 1/8" or sub-base

The direct-acting solenoid control valve Type 2871 (20mm installation width) is used as the regulating unit in control loops. Due to an elastomeric seat seal the valve closes tight (integrated shut-off function), up to the DN specific nominal pressure, see ordering chart on page 3.

The plunger of the valve is assembled frictionless, which leads to an extraordinary adjustment characteristic. This valve is particularly suitable for demanding control tasks (high control range, dry gases, etc.).

Circuit function A



direct acting 2-way
solenoid control valve,
normally closed

Valve control takes place through a PWM signal¹⁾. The duty cycle of the PWM signal determines the coil current and hence the position of the plunger. Optionally the valve can also be driven with DC voltage.

Please note the sizing comments for such a control valve on page 2.

¹⁾ PWM pulse width modulation

²⁾ Pressure data [bar]: Measured as overpressure to the atmospheric pressure, nominal pressure further depends on orifice size

³⁾ Maximum value, value depends on operating pressure

⁴⁾ Characteristic data of control behaviour depends on process conditions

⁵⁾ By flow measurement

Technical Data - Valve

Body material	Brass, stainless steel
Seal material	FKM, EPDM on request
Medium	Neutral gases, liquids on request
Pressure range	0 ... 12 bar ²⁾ – also applicable for technical vacuum
Medium temperature	-10 ... +90 °C
Ambient temperature	max. +55 °C
Power supply	24 V DC
PWM frequency	1500 Hz
Max. coil current	220mA ³⁾
Power consumption	2 W (up to DN 0,6), 5 W (from DN 0,8)
Duty cycle	100% continuously rated
Port connection	Sub-base , G 1/8, NPT 1/8, others on request
Electrical connection	Cable plug Type 2507, Form B industrial standard
Installation	As required, preferably with actuator in upright position
Typical control data⁴⁾ at PWM control	
Hysteresis	< 5%
Repeatability	< 0.25% FS ⁵⁾
Sensitivity	< 0.25% FS – <0.1% FS with DN <0.8 mm ⁵⁾
Span	1:200 (DN0.8-2), 1:500 (DN0.05-0.6)
Response time (10 -90%)	< 15 ms
Protection class valve	IP65

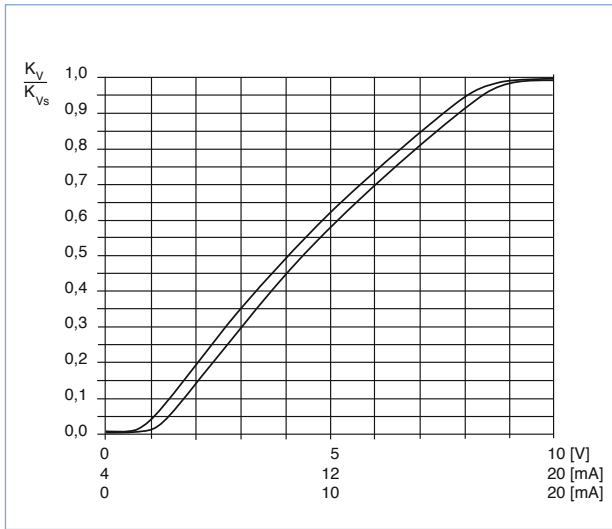
Technical data - Control electronics Type 8605 (see separate datasheet)

The valve control can take place through the control electronics of Type 8605, which converts an analogue input signal into a PWM signal.

Further functional features of the Type 8605 electronic control unit:

- Temperature compensation for coil heating by internal current regulation
- Simple adaptation of zero and span settings
- Ramp function to dampen fast set point changes

Characteristics of a solenoid control valve



Advice for valve sizing

In continuous flow applications, the choice of an appropriate valve size is much more important than with on/off valves. The optimum size should be selected such that the resulting flow in the system is not unnecessarily reduced by the valve. However, a sufficient part of the pressure drop should be taken across the valve even when it is fully opened.

Recommended value: $\Delta p_{\text{valve}} > 25\%$ of total pressure drop within the system

Otherwise, the ideal, linear valve curve characteristic is changed.

If the differential pressure (difference between inlet and outlet pressure) exceeds half the value of the nominal pressure, the characteristics may change.

For that reason take advantage of Bürkert competent engineering services during the planning phase!

Determination of the k_v value

Pressure drop	k_v value for liquids [m ³ /h]	k_v value for gases [m ³ /h]
Subcritical $p_2 > \frac{p_1}{2}$	$= Q \sqrt{\frac{\rho}{1000 \Delta p}}$	$= \frac{Q_N}{514} \sqrt{\frac{T_1 \rho_N}{p_2 \Delta p}}$
Supercritical $p_2 < \frac{p_1}{2}$	$= Q \sqrt{\frac{\rho}{1000 \Delta p}}$	$= \frac{Q_N}{257 p_1} \sqrt{T_1 \rho_N}$

- k_v Flow coefficient [m³/h]⁶⁾
- Q_N Standard flow rate [m³/h]⁷⁾
- p_1 Inlet pressure [bar]⁸⁾
- p_2 Outlet pressure [bar]⁸⁾
- Δp Differential pressure $p_1 - p_2$ [bar]
- ρ Density [kg/m³]
- ρ_N Standard density [kg/m³]
- T_1 Medium temperature [(273+t)K]

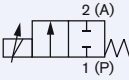
⁶⁾ measured for water 20°C, Δp 1 bar over the valve

⁷⁾ At reference conditions 1.013 bar and 0°C (273K)

⁸⁾ Absolute pressure

Ordering chart

All valves with FKM seals (DN 0.05 and DN 0.1 with PCTFE seat seal)

Circuit function	Orifice [mm]	Port connection	k_{vs} value water [m ³ /h ⁹⁾	Nominal pressure ¹⁰⁾ [bar]	Max. differential pressure [bar]	Item no. Brass	Item no. Stainless steel
	0.05	sub-base FK01	0.00006	10	10	254 985	254 986
		G 1/8	0.00006	10	10	254 443	254 444
		NPT 1/8	0.00006	10	10	254 968	254 971
	0.1	sub-base FK01	0.00025	10	10	254 987	254 988
		G 1/8	0.00025	10	10	254 446	254 447
		NPT 1/8	0.00025	10	10	254 972	254 973
	0.2	sub-base FK01	0.001	10	10	254 989	254 990
		G 1/8	0.001	10	10	254 448	254 450
		NPT 1/8	0.001	10	10	254 974	254 975
	0.3	sub-base FK01	0.002	10	10	254 991	254 992
		G 1/8	0.002	10	10	254 451	254 452
		NPT 1/8	0.002	10	10	254 977	254 978
	0.4	sub-base FK01	0.004	8	8	254 993	254 994
		G 1/8	0.004	8	8	254 453	254 454
		NPT 1/8	0.004	8	8	254 979	254 980
	0.6	sub-base FK01	0.01	6	6	254 995	254 996
		G 1/8	0.01	6	6	254 455	254 457
		NPT 1/8	0.01	6	6	254 981	254 982
	0.8	sub-base FK01	0.018	12	6	235 992	235 993
		G 1/8	0.018	12	6	235 994	235 995
		NPT 1/8	0.018	12	6	235 996	235 997
	1.0	sub-base FK01	0.027	10	5	235 998	235 999
		G 1/8	0.027	10	5	236 000	236 001
		NPT 1/8	0.027	10	5	236 002	236 003
1.2	sub-base FK01	0.038	8	4	236 004	236 260	
	G 1/8	0.038	8	4	236 261	236 262	
	NPT 1/8	0.038	8	4	236 263	236 264	
1.6	sub-base FK01	0.055	6	3	236 265	236 266	
	G 1/8	0.055	6	3	236 267	236 268	
	NPT 1/8	0.055	6	3	236 269	236 270	
2.0	sub-base FK01	0.090	3	1.5	236 271	236 272	
	G 1/8	0.090	3	1.5	236 273	236 274	
	NPT 1/8	0.090	3	1.5	236 275	236 276	

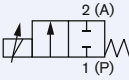
⁹⁾ k_{vs} value: Flow rate value for water, measured at +20 °C and 1 bar pressure differential over a fully opened valve.

¹⁰⁾ Pressure data [bar]: Overpressure with respect to atmospheric pressure, with a differential pressure (difference between inlet and outlet pressure) above half of the nominal pressure there are discontinuities in the valve's characteristics possible."

▪ **Please note** that the valves are delivered without control electronics and cable plug (see accessory ordering information).

Ordering chart - variants with approvals

All valves with FKM seals (DN 0.05 and DN 0.1 with PCTFE seat seal)

Circuit function	Orifice [mm]	Approvals ¹¹⁾	Port connection ¹²⁾	k_{vs} value water [m ³ /h]	Nominal pressure [bar]	Max. differential pressure [bar]	Item no. Brass	Item no. Stainless steel	
	0.05	UR	G 1/8	0.00006	10	10	274 900	274 904	
			NPT 1/8	0.00006	10	10	274 901	274 905	
	0.1	UR	G 1/8	0.00025	10	10	274 902	274 906	
			NPT 1/8	0.00025	10	10	274 903	274 907	
	0.2	UR	G 1/8	0.001	10	10	274 908	274 926	
			NPT 1/8	0.001	10	10	274 909	274 927	
	0.3	UR	DVGW	G 1/8	0.001	10	10	on request	on request
			DVGW	NPT 1/8	0.002	10	10	274 910	274 928
	0.4	UR	DVGW	G 1/8	0.002	10	10	274 911	274 929
			DVGW	NPT 1/8	0.002	10	10	on request	on request
	0.6	UR	DVGW	G 1/8	0.004	8	8	274 912	274 930
			DVGW	NPT 1/8	0.004	8	8	274 913	274 931
	0.8	UR	DVGW	G 1/8	0.004	8	8	on request	on request
			DVGW	NPT 1/8	0.01	6	6	274 914	274 932
	1.0	UR	DVGW	G 1/8	0.01	6	6	274 915	274 933
			DVGW	NPT 1/8	0.01	6	6	on request	on request
	1.2	UR	DVGW	G 1/8	0.018	12	6	274 916	274 934
			DVGW	NPT 1/8	0.018	12	6	274 917	274 935
	1.6	UR	DVGW	G 1/8	0.018	12	6	275 039	on request
			DVGW	NPT 1/8	0.027	10	5	274 918	274 936
2.0	UR	DVGW	G 1/8	0.027	10	5	274 919	274 937	
		DVGW	NPT 1/8	0.027	10	5	275 040	on request	
2.0	UR	DVGW	G 1/8	0.038	8	4	274 920	274 938	
		DVGW	NPT 1/8	0.038	8	4	274 921	274 939	
2.0	UR	DVGW	G 1/8	0.038	8	4	275 041	on request	
		DVGW	NPT 1/8	0.055	6	3	274 922	274 940	
2.0	UR	DVGW	G 1/8	0.055	6	3	274 923	274 941	
		DVGW	NPT 1/8	0.055	6	3	275 042	on request	
2.0	UR	DVGW	G 1/8	0.090	3	1.5	274 924	274 942	
		DVGW	NPT 1/8	0.090	3	1.5	274 925	274 943	
2.0	UR	DVGW	G 1/8	0.090	3	1.5	275 043	on request	
		DVGW	NPT 1/8	0.090	3	1.5			

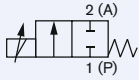
¹¹⁾ Approvals: UR (UL recognized)
DVGW - Approval acc. to European gas device guidelines (DIN 3394-1)

¹²⁾ Port connection: others on request.

Note: Delivered without electronic control, Type 8605 and cableplug (see ordering table for accessories).

Ordering chart - variants for higher differential pressures

All valves with FKM seal

Circuit function	Orifice [mm]	Approvals	Port connection	k_{vs} value water [m ³ /h]	Nominal pressure [bar]	Item no. Brass	Item no. Stainless steel
	0.8		G 1/8	0.018	12	238 928	238 930
		UR	G 1/8	0.018	12	275 025	275 030
	1.0		G 1/8	0.027	10	238 936	238 931
		UR	G 1/8	0.027	10	275 026	275 031
	1.2		G 1/8	0.038	8	238 937	238 932
		UR	G 1/8	0.038	8	275 027	275 032
	1.6		G 1/8	0.055	6	238 939	238 933
		UR	G 1/8	0.055	6	275 028	275 033
	2.0		G 1/8	0.090	3	238 940	238 934
		UR	G 1/8	0.090	3	275 029	275 034

Note: The following technical data changes compared with the data on page 1
 PWM frequency 800 Hz, span 1:100.
 Other connection variations (sub-base, NPT) on request.

Ordering chart for accessories

Cable plug Type 2507, form B

The delivery of a cable plug includes the flat seal and fixing screw

Circuitry	Voltage / frequency	Item no.
Without circuitry	0 ... 250 V AC/DC	423 845

Control electronics, Type 8605 – see separate datasheet

i Further versions on request



Materials

Seal materials EPDM, FFKM



Analytical

Oxygen version
 Parts oil-, fat- and silicon free



Electrical connection

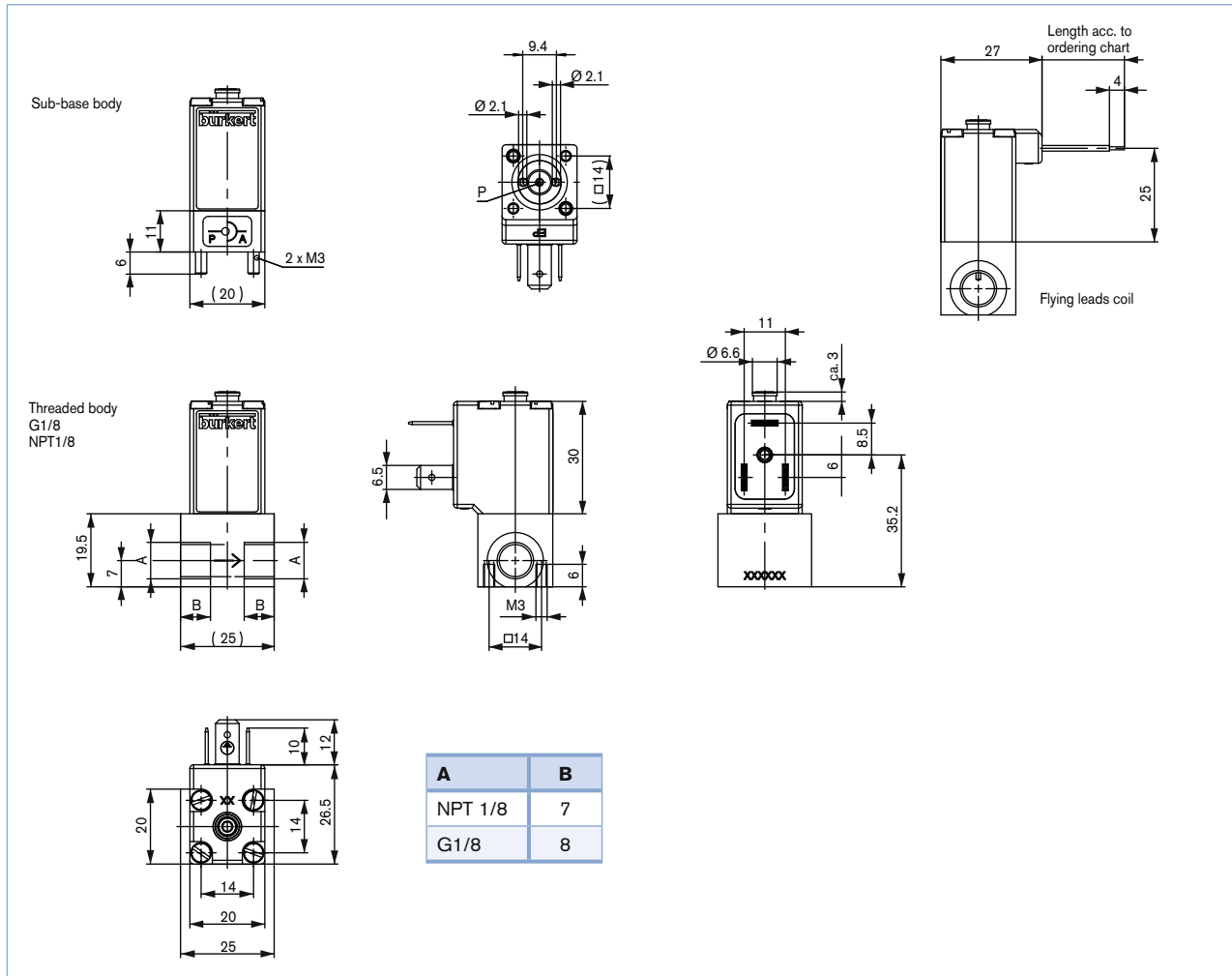
12 V Coil
 Wire leads 300mm



Approvals

UR (UL recognized)
 DVGW / device guidelines

Dimensions [mm]



Note

You can fill out the fields directly in the PDF file before printing out the form.

Design data for solenoid control valves

▶ Please fill out this form and send to your local Bürkert Sales Centre* with your inquiry or order

Company	Contact person
Customer No	Department
Address	Tel./Fax
Postcode/Town	E-mail

= Mandatory fields Quantity Requested delivery date

Process data

Medium

State of medium liquid gaseous

Medium temperature °C

Maximum flow rate $Q_{nom} =$ Unit:

Minimum flow rate $Q_{min} =$ Unit:

Inlet pressure at nominal operation $p_1 =$ barg

Outlet pressure at nominal operation $p_2 =$ barg

Max. inlet pressure (nominal pressure) $p_{1max} =$ barg

Ambient temperature °C

Additional specifications

Body material Brass Stainless steel

Seal material FKM other

Note Please state all pressure values as **overpressures with respect to atmospheric pressure** [barg].

Standard series of solenoid control valves



To find your nearest Bürkert facility, click on the orange →

2/2-Way Solenoid Control Valve



- Excellent range (1:200)
- Very good response
- Compact valve design
- Orifice sizes 0.8 ... 4 mm
- Port connection 1/8", 1/4" or sub-base

Type 2873 can be combined with...



Type 8605

Digital control electronics
Cable plug version



Type 8605

Digital control electronics
DIN-rail version



Type 2508

Cable plug

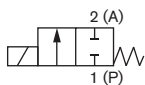


Type 8611

Universal controller

The direct-acting solenoid control valve Type 2873 (32mm installation width) is used as the regulating unit in control loops. Due to an elastomeric seat seal the valve closes tight (integrated shut-off function), up to the DN specific nominal pressure, see ordering chart on page 3. The plunger of the valve is assembled frictionless, which leads to an extraordinary adjustment characteristic. This valve is particularly suitable for demanding control tasks (high control range, dry gases, etc.).

Circuit function A



Direct-acting,
2-way solenoid control
valve, normally closed

Valve control takes place through a PWM signal¹⁾. The duty cycle of the PWM signal determines the coil current and hence the position of the plunger. Optionally the valve can also be driven with DC voltage.

Please note the sizing comments for such a control valve on page 2.

¹⁾ PWM pulse width modulation

²⁾ Pressure data [bar]: Measured as overpressure to the atmospheric pressure, orifice further depends on nominal pressure

³⁾ Maximum value, value depends on operating pressure

⁴⁾ Characteristic data of control behaviour depends on process conditions

⁵⁾ by flow measurement

Technical Data - Valve

Body material	Brass, stainless steel
Seal material	FKM, EPDM on request
Medium	Neutral gases, liquids on request
Pressure range	0 ... 16 bar ²⁾
Medium temperature	-10 ... +90 °C
Ambient temperature	max. +55 °C
Power supply	24 V DC
PWM frequency	1200 Hz
Power consumption	9 W
Max. coil current³⁾	420 mA
Duty cycle	100 % continuously rated
Port connection	Sub-base, G 1/8, G 1/4, NPT 1/8, NPT 1/4, further on request
Electrical connection	Cable plug Type 2508 according to DIN EN 175301-803, industrial standard Form A
Installation	As required, preferably with actuator in upright position
Typical control data⁴⁾ at PWM control	
Hysteresis	< 5 %
Repeatability	< 0.5 % FS ⁵⁾
Sensitivity	< 0.25 % of FS ⁵⁾
Span	1:200
Response time (10 - 90%)	< 20ms
Protection class - valve	IP65

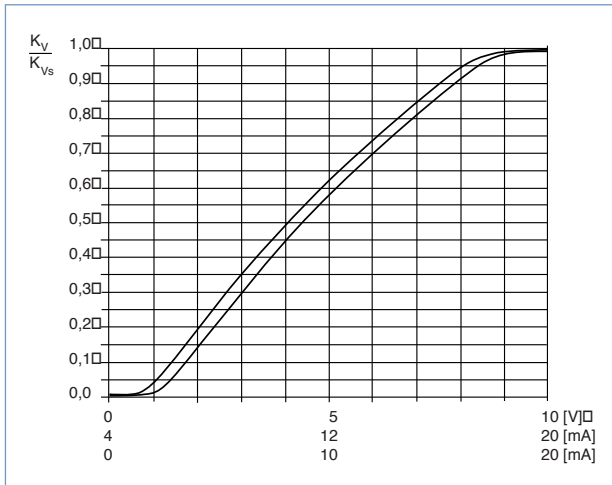
Technical data - Control electronics Type 8605 (see separate datasheet)

The valve control can take place through the control electronics of Type 8605, which converts an analogue input signal into a PWM signal.

Further functional features of the Type 8605 electronic control unit:

- Temperature compensation for coil heating by internal current regulation
- Simple adaptation of zero and span settings
- Ramp function to dampen fast set point changes

Characteristics of a solenoid control valve



Advice for valve sizing

In continuous flow applications, the choice of appropriate valve size is much more important than with on/off valves. The optimum size should be selected such that the resulting flow in the system is not unnecessarily reduced by the valve. However, a sufficient part of the pressure drop should be taken across the valve even when it is fully opened.

Recommended value: $\Delta p_{\text{valve}} > 25\%$ of total pressure drop within the system

Otherwise the ideal linear valve curve characteristic is changed

If the differential pressure (difference between inlet and outlet pressure) exceeds half the value of the nominal pressure, the characteristics may change.

For that reason take advantage of Bürkert competent engineering services during the planning phase!

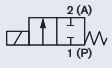
Determination of the k_v value

Pressure drop	k_v value for liquids [m ³ /h]	k_v value for gases [m ³ /h]
Subcritical $p_2 > \frac{p_1}{2}$	$= Q \sqrt{\frac{\rho}{1000 \Delta p}}$	$= \frac{Q_N}{514} \sqrt{\frac{T_1 \rho_N}{p_2 \rho}}$
Supercritical $p_2 < \frac{p_1}{2}$	$= Q \sqrt{\frac{\rho}{1000 \Delta p}}$	$= \frac{Q_N}{257 p_1} \sqrt{T_1 \rho_N}$

- k_v Flow coefficient [m³/h] ⁶⁾
 - Q_N Standard flow rate [m³/h] ⁷⁾
 - p_1 Inlet pressure [bar] ⁸⁾
 - p_2 Outlet pressure [bar] ⁸⁾
 - Δp Differential pressure $p_1 - p_2$ [bar]
 - ρ Density [kg/m³]
 - ρ_N Standard density [kg/m³]
 - T_1 Medium temperature [(273+t)K]
- ⁶⁾ Measured for water 20°C, $\Delta p = 1$ bar, via the device
⁷⁾ At reference conditions 1.013 bar and 0°C (273K)
⁸⁾ Absolute pressure

Ordering chart

All valves with FKM seal

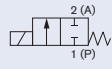
Circuit function	Orifice [mm]	Port connection	k_{vs} value water [m ³ /h] ⁹⁾	Nominal pressure [bar] ¹⁰⁾	Max. differential pressure [bar]	Item no. Brass	Item no. Stainless steel
	0.8	sub-base FK01	0.018	16	8	234 291	234 306
		G 1/8	0.018	16	8	234 289	234 305
		NPT 1/8	0.018	16	8	236 229	236 230
	1.2	sub-base FK01	0.040	12	6	234 293	234 308
		G 1/8	0.040	12	6	234 292	234 307
		NPT 1/8	0.040	12	6	236 231	236 232
	1.5	sub-base FK01	0.060	10	5	234 295	234 310
		G 1/8	0.060	10	5	234 294	234 309
		NPT 1/8	0.060	10	5	236 233	236 234
	2.0	sub-base FK01	0.100	8	4	234 298	234 313
		G 1/8	0.100	8	4	234 296	234 311
		NPT 1/8	0.100	8	4	236 235	236 236
		G 1/4	0.100	8	4	234 297	234 312
		NPT 1/4	0.100	8	4	236 237	236 238
	2.5	sub-base FK01	0.150	5	2.5	234 300	234 315
		G 1/4	0.150	5	2.5	234 299	234 314
		NPT 1/4	0.150	5	2.5	236 239	236 241
	3.0	sub-base FK01	0.220	3.5	1.8	234 302	234 317
		G 1/4	0.220	3.5	1.8	234 301	234 316
		NPT 1/4	0.220	3.5	1.8	236 242	236 243
	4.0	sub-base FK01	0.320	2	1	234 304	234 319
		G 1/4	0.320	2	1	234 303	234 318
		NPT 1/4	0.320	2	1	236 244	236 245

⁹⁾ k_{vs} value: Flow rate value for water, measured at +20 °C and 1 bar pressure differential over a fully opened valve.

¹⁰⁾ **Pressure data [bar]:** Overpressure with respect to atmospheric pressure, with a differential pressure (difference between inlet and outlet pressure) above half of the nominal pressure there are discontinuities in the valve's characteristics p

Ordering chart - variants for higher differential pressures

All valves with FKM seal

Circuit function	Orifice [mm]	Approvals	Port connection	k_{vs} value water [m ³ /h]	Nominal pressure [bar]	Item no. Brass	Item no. Stainless steel	
	0.8		G 1/8	0.018	16	239 070	239 072	
		UR	G 1/8	0.018	16	275 009	275 016	
		ATEX / IECEX	G 1/8	0.018	16	274 882	on request	
	1.2			G 1/8	0.040	12	239 073	239 074
		UR	G 1/8	0.040	12	275 010	275 018	
		ATEX / IECEX	G 1/8	0.040	12	274 883	on request	
	1.5			G 1/8	0.060	10	239 075	239 076
		UR	G 1/8	0.060	10	275 011	275 019	
		ATEX / IECEX	G 1/8	0.060	10	274 884	on request	
	2.0			G 1/8	0.100	8	239 077	239 078
		UR	G 1/8	0.100	8	275 012	275 020	
		ATEX / IECEX	G 1/8	0.100	8	274 885	on request	
	2.5			G 1/4	0.150	5	239 079	239 080
		UR	G 1/4	0.150	5	275 013	275 022	
		ATEX / IECEX	G 1/4	0.150	5	274 886	on request	
	3.0			G 1/4	0.220	3.5	239 081	239 082
		UR	G 1/4	0.220	3.5	275 014	275 023	
		ATEX / IECEX	G 1/4	0.220	3.5	274 887	on request	
	4.0			G 1/4	0.320	2	239 083	239 084
		UR	G 1/4	0.320	2	275 015	275 024	
		ATEX / IECEX	G 1/4	0.320	2	274 888	on request	

Note: The following technical data changes compared with the data on page 1

PWM frequency 800 Hz, span 1:100.

Other connection variations (sub-base, NPT) on request.

Ordering chart - variants with approvals

All valves with FKM seal

Circuit function	Orifice [mm]	Approvals	Port connection	k_v value water [m ³ /h]	Nominal pressure [bar]	Max. Differential pressure [bar]	Item no. Brass	Item no. Stainless steel	
	0.8	UR	G 1/8	0.018	16	8	274 944	274 960	
			NPT 1/8	0.018	16	8	274 945	274 961	
		DVGW	G 1/8	0.018	16	8	275 044	on request	
			ATEX / IECEx	G 1/8	0.018	16	8	276 539	on request
	1.2	UR	G 1/8	0.040	12	6	274 946	274 962	
			NPT 1/8	0.040	12	6	274 947	274 963	
		DVGW	G 1/8	0.040	12	6	275 045	on request	
			ATEX / IECEx	G 1/8	0.040	12	6	276 540	on request
	1.5	UR	G 1/8	0.060	10	5	274 948	274 964	
			NPT 1/8	0.060	10	5	274 949	274 965	
		DVGW	G 1/8	0.060	10	5	275 046	on request	
			ATEX / IECEx	G 1/8	0.060	10	5	276 542	on request
	2.0	UR	G 1/8	0.100	8	4	274 950	274 966	
			NPT 1/8	0.100	8	4	274 951	274 967	
		DVGW	G 1/8	0.100	8	4	275 047	on request	
				ATEX / IECEx	G 1/8	0.100	8	4	276 544
			UR	G 1/4	0.100	8	4	274 952	274 968
				NPT 1/4	0.100	8	4	274 953	274 969
	2.5	UR	G 1/4	0.150	5	2.5	274 954	274 970	
			NPT 1/4	0.150	5	2.5	274 955	274 971	
		DVGW	G 1/4	0.150	5	2.5	275 048	on request	
			ATEX / IECEx	G 1/4	0.150	5	2.5	276 545	on request
	3.0	UR	G 1/4	0.220	3.5	1.8	274 956	274 972	
			NPT 1/4	0.220	3.5	1.8	274 957	274 973	
DVGW		G 1/4	0.220	3.5	1.8	275 049	on request		
		ATEX / IECEx	G 1/4	0.220	3.5	1.8	276 546	on request	
4.0	UR	G 1/4	0.320	2	1	274 958	274 974		
		NPT 1/4	0.320	2	1	274 959	274 975		
	DVGW	G 1/4	0.320	2	1	275 051	on request		
			ATEX / IECEx	G 1/4	0.320	2	1	276 547	on request

¹⁾ Approvals: UR (UL recognized)
 DVGW - Approval acc. to the European gas device guidelines (DIN 3394-1)
 ATEX - II 2 G EEx m II T4 and T5
 IECEx - Ex mb e IIC T4, T5 Gb

²⁾ Port connection: Others on request.

Note: Delivery without electronic control, Type 8605 and cableplug (see ordering chart for accessories).

Ordering chart for accessories

Cable plug Type 2508 according to DIN EN 175301-803 Form A

The delivery of a cable plug includes the flat seal and fixing screw

Circuitry	Voltage/ Frequency	Item no.
None	0 - 250 V AC/DC	008 376
None, with 3 m cable	0 - 250 V AC/DC	783 573

Control electronics, Type 8605 - please see datasheet

i Further versions on request



Materials
 Seal materials EPDM, FFKM



Analytical
 Oxygen version
 Parts oil-, fat- and silicon free



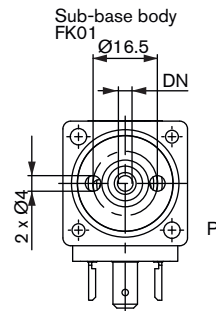
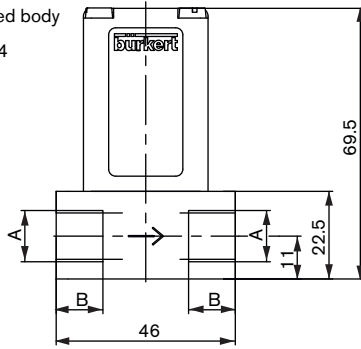
Electrical connection
 12 V Coil



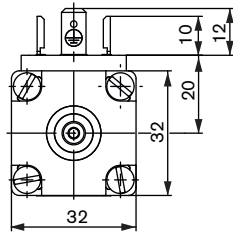
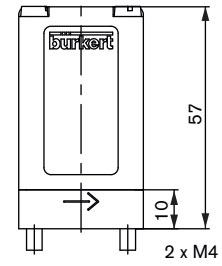
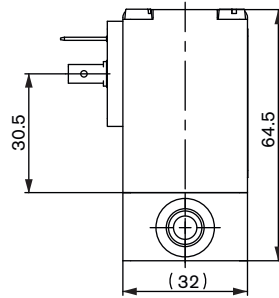
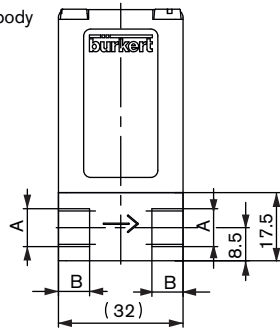
Approvals
 UR (UL recognized)
 DVGW / Gas device guidelines
 ATEX / IECEx

Dimensions [mm]

Threaded body
G 1/4
NPT 1/4



Threaded body
G 1/8
NPT 1/8



Valve body version	Threaded port			
	G 1/4	NPT 1/4	G 1/8	NPT 1/8
A	12	10	8	7
B				

Note

You can fill out the fields directly in the PDF file before printing out the form.

Design data for solenoid control valves

▶ Please fill out this form and send to your local Bürkert Sales Centre* with your inquiry or order

Company	Contact person
Customer No.	Department
Address	Tel./Fax
Postcode/Town	E-mail

= Mandatory fields Quantity Requested delivery date

Process data

Medium

State of medium liquid gaseous

Medium temperature °C

Maximum flow rate $Q_{nom} =$ Unit:

Minimum flow rate $Q_{min} =$ Unit:

Inlet pressure at nominal operation $p_1 =$ barg

Outlet pressure at nominal operation $p_2 =$ barg

Max. inlet pressure (nominal pressure) $p_{1max} =$ barg

Ambient temperature °C

Additional specifications

Body material Brass Stainless steel

Seal material FKM other

Note Please state all pressure values as **overpressures with respect to atmospheric pressure** [barg].

Standard series of solenoid control valves



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

Subject to alteration.
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2/2-Way Solenoid Control Valve

- Excellent range (1:200)
- Very good response
- Compact valve design
- Orifice sizes 2 ... 8 mm
- Port connection 3/8" and 1/2"

Type 2875 can be combined with...



Type 8605

Control Electronics,
Cable plug version



Type 8605

Digital control electronics
DIN-rail version



Type 2508

Cable plug

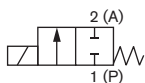


Type 8611

Universal controller

The direct-acting solenoid control valve Type 2875 is used as the regulating unit in control loops. Due to an elastomeric seat seal the valve closes tight (integrated shut-off function), up to the DN specific nominal pressure, see ordering chart on page 3. The plunger of the valve is assembled frictionless, which leads to an extraordinary adjustment characteristic. This valve is particularly suitable for demanding control tasks (high control range, dry gases, etc.).

Circuit function A



direct acting 2-way
solenoid control valve,
normally closed

Valve control takes place through a PWM signal¹⁾. The duty cycle of the PWM signal determines the coil current and hence the position of the plunger. Optionally the valve can also be driven with DC voltage.

Please note the sizing comments for such a control valve on page 2.

¹⁾ PWM pulse width modulation

²⁾ Pressure data [bar]: Measured as overpressure to the atmospheric pressure, orifice further depends on nominal pressure

³⁾ Maximum value, value depends on operating pressure

⁴⁾ Characteristic data of control behaviour depends on process conditions

⁵⁾ by flow measurement

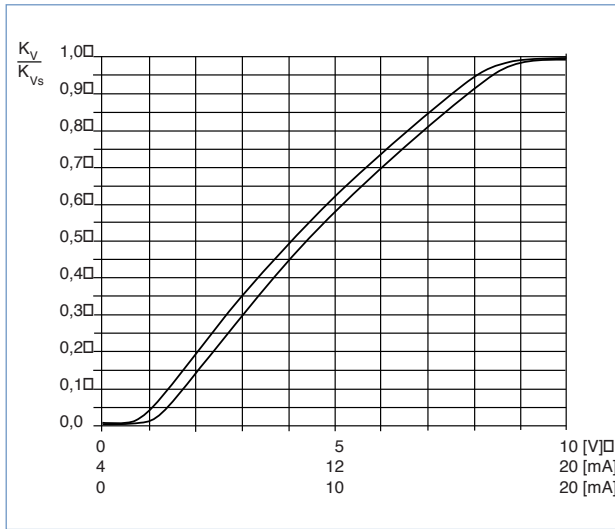
Technical Data - Valve	
Body material	Brass, stainless steel
Seal material	FKM, EPDM on request
Medium	Neutral gases, liquids on request
Pressure range	0 ... 25 bar ²⁾
Medium temperature	-10 ... +90 °C
Ambient temperature	max. +55 °C
Power supply	24 V DC
PWM frequency	900 Hz
Power consumption	16 W
Max. coil current³⁾	750 mA
Duty cycle	100% continuously rated
Port connection	G 3/8, G 1/2, NPT 3/8, NPT 1/2
Electrical connection	Tag connector (DIN EN 175301-803 Form A)
Installation	As required, preferably with actuator in upright position
Typical control data⁴⁾ at PWM-Control	
Hysteresis	< 5%
Repeatability	< 0.5% FS ⁵⁾
Sensitivity	< 0.25% FS ⁵⁾
Span	1:200
Response time (10 -90%)	25 ms
Protection class - valve	IP65

The valve control can take place through the control electronics of Type 8605, which converts an analogue input signal into a PWM signal.

Further functional features of the Type 8605 electronic control unit:

- Temperature compensation for coil heating by internal current regulation
- Simple adaptation of zero and span settings
- Ramp function to dampen fast set point changes

Characteristics of a solenoid control valve



Advice for valve sizing

In continuous flow applications, the choice of an appropriate valve size is much more important than with on/off valves. The optimum size should be selected such that the resulting flow in the system is not unnecessarily reduced by the valve. However, a sufficient part of the pressure drop should be taken across the valve even when it is fully opened.

Recommended value: $\Delta p_{\text{valve}} > 25\%$ of total pressure drop within the system

Otherwise, the ideal, linear valve curve characteristic is changed.

If the differential pressure (difference between inlet and outlet pressure) exceeds half the value of the nominal pressure, the characteristics may change.

For that reason take advantage of Bürkert competent engineering services during the planning phase!

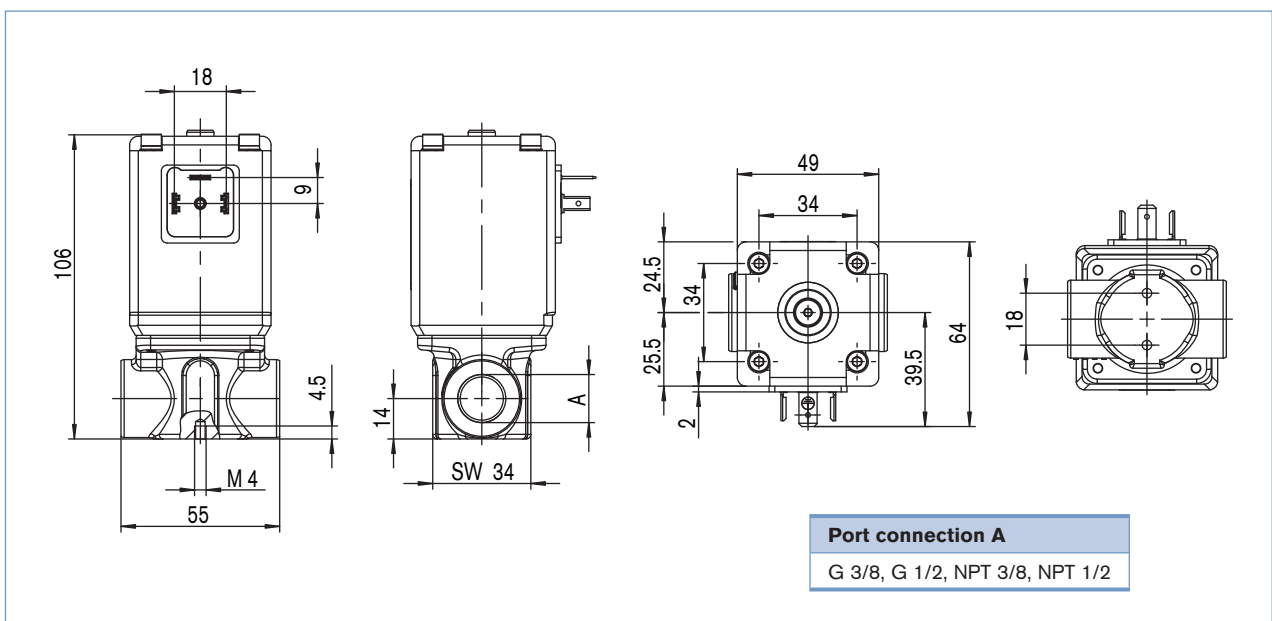
Determination of the k_v value

Pressure drop	k_v value for liquids [m ³ /h]	k_v value for gases [m ³ /h]
Subcritical $p_2 > \frac{p_1}{2}$	$= Q \sqrt{\frac{\rho}{1000 \Delta p}}$	$= \frac{Q_N}{514} \sqrt{\frac{T_1 \rho_N}{p_2 \Delta p}}$
Supercritical $p_2 < \frac{p_1}{2}$	$= Q \sqrt{\frac{\rho}{1000 \Delta p}}$	$= \frac{Q_N}{257 p_1} \sqrt{T_1 \rho_N}$

- k_v Flow coefficient [m³/h]⁶⁾
- Q_N Standard flow rate [m³/h]⁷⁾
- p_1 Inlet pressure [bar]⁸⁾
- p_2 Outlet pressure [bar]⁸⁾
- Δp Differential pressure $p_1 - p_2$ [bar]
- ρ Density [kg/m³]
- ρ_N Standard density [kg/m³]
- T_1 Medium temperature [(273+t)K]

- ⁶⁾ measured for water, $\Delta p = 1$ bar, over the value
- ⁷⁾ At reference conditions 1.013 bar and 0°C (273K)
- ⁸⁾ Absolute pressure

Dimensions [mm]



Ordering chart

All valves with FKM seal

Circuit function	Orifice [mm]	Port connection	k_{vs} value water [m ³ /h] ⁹⁾	Nominal pressure ¹⁰⁾ [bar]	Max. differential pressure [bar]	Item no. brass	Item no. Stainless steel	
A 2/2-way Normal closed (NC) 	2	G 3/8	0.12	25	12.5	236 897	236 899	
		NPT 3/8	0.12	25	12.5	236 898	236 900	
	3	G 3/8	0.25	10	5	236 901	236 903	
		NPT 3/8	0.25	10	5	236 902	236 904	
	4	G 3/8	G 3/8	0.45	8	4	236 905	236 910
			NPT 3/8	0.45	8	4	236 908	236 912
		G 1/2	G 1/2	0.45	8	4	236 906	236 911
			NPT 1/2	0.45	8	4	236 909	236 913
	6	G 1/2	0.80	4	2	236 915	236 919	
		NPT 1/2	0.80	4	2	236 917	236 921	
	8	G 1/2	1.10	2	1	236 922	236 924	
		NPT 1/2	1.10	2	1	236 923	236 925	

⁹⁾ k_{vs} value: Flow rate value for water, measured at +20 °C and 1 bar pressure differential over a fully opened valve.

¹⁰⁾ Pressure data [bar]: Overpressure with respect to atmospheric pressure, with a differential pressure (difference between inlet and outlet pressure) above half of the nominal pressure there are discontinuities in the valve's characteristics possible.

Note: Please note that the valves are delivered without control electronics, Type 8605, and cable plug (see ordering chart for accessories).

Ordering chart - variants with approvals

All valves with FKM seal

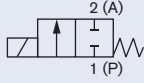
Circuit function	Orifice [mm]	Approvals ¹¹⁾	Port connection ¹²⁾	k_{vs} value water [m ³ /h]	Nominal pressure [bar]	Max. differential pressure [bar]	Item no. brass	Item no. Stainless steel
A 2/2-way Normal closed (NC) 	2	UR	G 3/8	0.12	25	12.5	274 976	274 988
			NPT 3/8	0.12	25	12.5	274 977	274 989
		DVGW	G 3/8	0.12	25	12.5	275 052	on request
			ATEX / IECEx	G 3/8	0.12	25	12.5	276 549
	3	UR	G 3/8	0.25	10	5	274 978	274 990
			NPT 3/8	0.25	10	5	274 979	274 991
		DVGW	G 3/8	0.25	10	5	275 053	on request
			ATEX / IECEx	G 3/8	0.25	10	5	276 550
	4	UR	G 3/8	0.45	8	4	274 980	274 992
			NPT 3/8	0.45	8	4	274 981	274 993
		DVGW	G 3/8	0.45	8	4	275 054	on request
			ATEX / IECEx	G 3/8	0.45	8	4	276 553
		UR	G 1/2	0.45	8	4	274 982	274 994
			NPT 1/2	0.45	8	4	274 983	274 995
	6	UR	G 1/2	0.80	4	2	274 984	274 996
			NPT 1/2	0.80	4	2	274 985	274 997
		DVGW	G 1/2	0.80	4	2	275 056	on request
			ATEX / IECEx	G 1/2	0.80	4	2	276 555
	8	UR	G 1/2	1.10	2	1	274 986	274 998
			NPT 1/2	1.10	2	1	274 987	274 999
DVGW		G 1/2	1.10	2	1	275 057	on request	
		ATEX / IECEx	G 1/2	1.10	2	1	276 556	on request

¹¹⁾ Approvals: UR (UL recognized)
DVGW - Approval acc. to the European gas device guidelines (DIN 3394-1)
ATEX - II 2 G EEx m II T4 or T6
IECEx - Ex e mb IIC T6 Gb

¹²⁾ Port connections: Others on request.

Ordering chart - variants for higher differential pressure

All valves with FKM seal

Circuit function	Orifice [mm]	Approvals ¹¹⁾	Port connection ¹²⁾	k_{vs} value water [m ³ /h]	Nominal pressure [bar]	Item no. brass	Item no. Stainless steel
A 	2.0	UR	G 3/8	0.12	25	239 040	239 085
		ATEX / IECEx	G 3/8	0.12	25	275 000	275 005
		ATEX / IECEx	G 3/8	0.12	25	274 877	on request
	3.0	UR	G 3/8	0.25	10	239 086	239 087
		ATEX / IECEx	G 3/8	0.25	10	275 001	275 006
		ATEX / IECEx	G 3/8	0.25	10	274 878	on request
	4.0	UR	G 3/8	0.45	8	239 088	239 089
		ATEX / IECEx	G 3/8	0.45	8	274 090	274 091
		ATEX / IECEx	G 3/8	0.45	8	274 879	on request
	6.0	UR	G 1/2	0.80	4	239 090	239 091
		ATEX / IECEx	G 1/2	0.80	4	275 002	275 007
		ATEX / IECEx	G 1/2	0.80	4	274 880	on request
8.0	UR	G 1/2	1.10	2	239 092	239 093	
	ATEX / IECEx	G 1/2	1.10	2	275 004	275 008	
	ATEX / IECEx	G 1/2	1.10	2	274 881	on request	

Note: The following technical data changes compared with the data on page 1

- PWM frequency 500 Hz, span 1:100.
- Other connection variations (sub-base, NPT) on request

Ordering chart for accessories

Cable plug 2508 acc. to DIN EN 175301-803 Form A

The delivery of a cable plug includes the flat seal and fixing screw

Circuitry	Voltage / frequency	Item no.
None	0 - 250 V AC/DC	008 376
None, with 3 m cable	0 - 250 V AC/DC	783 573

Control electronics, Type 8605 - please see datasheet

i Further versions on request

Material
EPDM

Analytical
Oxygen version Parts oil-, fat- and silicon free

Approvals
UR (UL recognized)
DVGW/ Gas device guidelines
ATEX / IECEx

Port connection
flange connections

Note

You can fill out the fields directly in the PDF file before printing out the form.

Design data for solenoid control valves

▶ Please fill out this form and send to your local Bürkert Sales Centre* with your inquiry or order

Company	Contact person
Customer No	Department
Address	Tel./Fax
Postcode/Town	E-mail

= Mandatory fields Quantity Requested delivery date

Process data

Medium

State of medium liquid gaseous

Medium temperature °C

Maximum flow rate $Q_{nom} =$ Unit:

Minimum flow rate $Q_{min} =$ Unit:

Inlet pressure at nominal operation $p_1 =$ barg

Outlet pressure at nominal operation $p_2 =$ barg

Max. inlet pressure (nominal pressure) $p_{1max} =$ barg

Ambient temperature °C

Additional specifications

Body material Brass Stainless steel

Seal material FKM other

Note: Please state all pressure values as **overpressures with respect to atmospheric pressure** [barg].

Standard series of solenoid control valves



To find your nearest Bürkert facility, click on the orange →

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

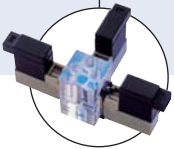
Subject to alteration.
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1412/2_EU-en_00895222

2/2 and 3/2-way Flipper Solenoid Valve, with hermetic isolation of fluid



Type 6124 can be combined with...

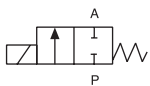


Manifolds

- Low internal volume
- Low power consumption
- High back pressure tightness
- Optional impulse model
- DN 0.6 mm

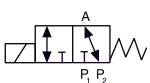
Thanks to the patented Bürkert flipper technology, the direct-acting Type 6124 solenoid valve is unique. It combines fast, precise switching behaviour with reliable media separation, and the design eliminates heat transfer between fluid and coil. FKM and PEEK allows the use of neutral and slightly aggressive fluids. The optional impulse model works with the smallest energy requirement, and is therefore especially suitable for battery operation; the heat transfer to the medium is negligible for this model. A minimal dead volume and gap-free internal design make it possible to use it in medical, analytical and laboratory technology.

Circuit function A



2/2-way valve, NC

Circuit function T

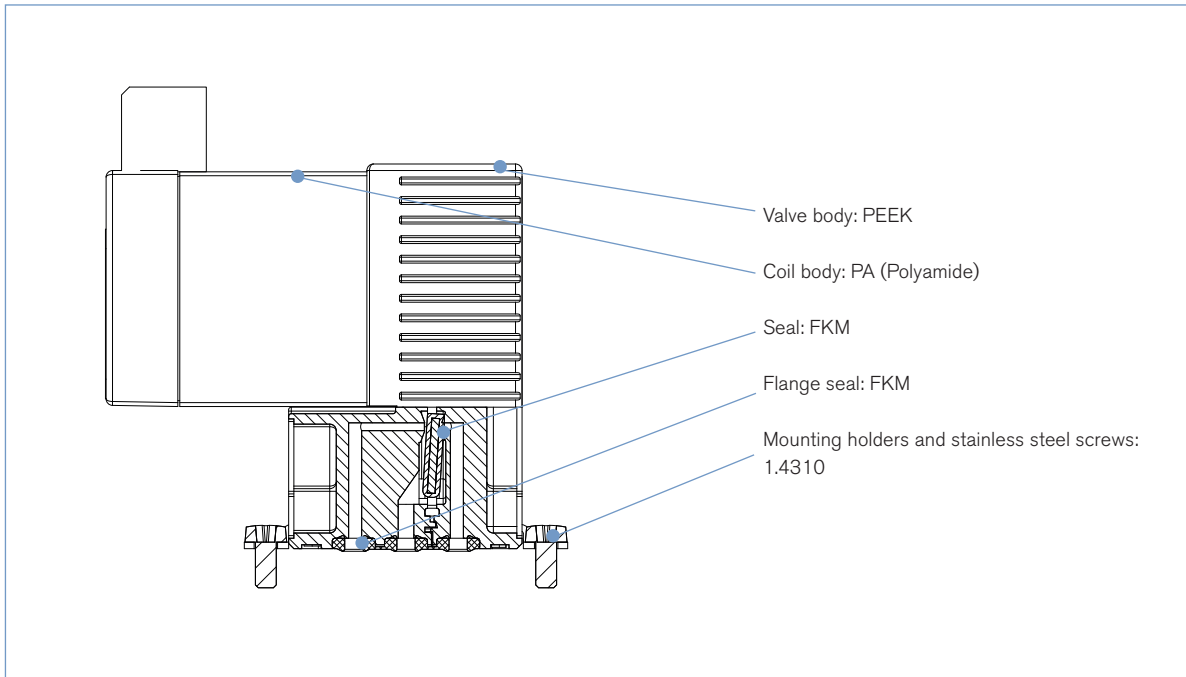


3/2-way valve,
universal function

Technical data	
Orifice	DN 0.6 mm
Body material	PEEK
Seal material	FKM
Medium	Resistant to neutral and slightly aggressive liquids and gases; see Burkert chemical resistance chart
Medium temperature	0 to +50 °C
Ambient temperature	Max. +55 °C
Viscosity	Max. 21 mm ² /s
Internal volume	
Fluid chamber	Approx. 15µl
3/2-way versions	Approx. 45µl
2/2-way versions	Approx. 35µl
Port connection	Flange UNF 1/4" - 28, Tube spigot sideways
Manual override	Push manual override, non-locking
Operating voltage	6, 12, 24 V/DC *
Voltage tolerance	±10%
Power consumption	1.5 W
Duty cycle	100% continuous rating
Manifold mounting (in case Media- or ambient temperature higher +40 °C)	40% intermittent rating (within 10 min)
Cycling function	Monostable or bistable (option)
Electrical connections	Rectangular plug or 2 single flying leads, 300 mm
Protection class	IP 40
Mounting (sub-base valve)	with holders and mounting screw
Installation	As required, preferably with flange downwards

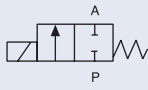
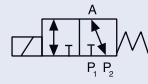
* 10% residual ripple permissible

Materials



Ordering chart with flange connection (other versions on request)

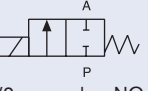
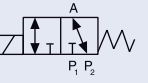
All valves with PEEK body and FKM seal, rectangular plug types delivered without plug (see Accessories).
The delivery of each valve includes 2 holders with cross head M 1.6 x 5 screws.

Circuit function	Orifice [mm]	Kv value water [m ³ /h]	Kv value II water [l/min]	QnN value air [l/min]	Pressure range [bar]	Cycling function	Voltage/Frequency [V/Hz]	Electrical connection	Item no.					
A  2/2-way valve, NC	0.6	0.006	0.1	6.4	Vac - 3	monostable	12/DC	Rectangular plug 5.08 mm	144 120					
								Flying leads, 300 mm	144 122					
							24/DC	Rectangular plug 5.08 mm	144 121					
													Flying leads, 300 mm	144 123
						bistable (impuls drive)	6/DC	Flying leads, 300 mm	146 175					
							12/DC	Rectangular plug 5.08 mm	143 376					
	Flying leads, 300 mm	146 176												
T  3/2-way valve, universal function	0.6	0.006	0.1	6.4	Vac - 3	monostable	12/DC	Rectangular plug 5.08 mm	140 457					
								Flying leads, 300 mm	140 459					
							24/DC	Rectangular plug 5.08 mm	140 458					
							Flying leads, 300 mm	140 460						
						bistable (impuls drive)	12/DC	Rectangular plug 5.08 mm	142 089					
								Flying leads, 300 mm	143 171					

Ordering chart with tube spigots sideways (other versions on request)

Wetted materials PEEK (valve body)+ PA (tube spigot housing) and FKM.

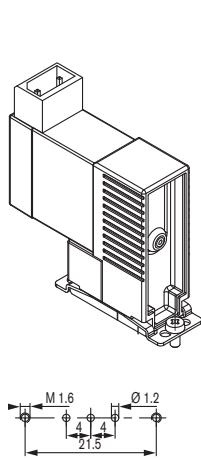
All valves with rectangular plug types delivered without plug (see Accessories)

Circuit function	Orifice [mm]	Kv value water [m ³ /h]	Kv value II water [l/min]	QnN value air [l/min]	Pressure range [bar]	Cycling function	Voltage/Frequency [V/Hz]	Electrical connection	Item no. tube spigots sideways
A  2/2-way valve, NC	0.6	0.006	0.1	6.4	Vac - 3	monostable	12/DC	Rectangular plug 5.08mm	145 646
								Flying leads 300mm	145 648
							24/DC	Rectangular plug 5.08mm	145 647
								Flying leads 300mm	145 649
T  3/2-way valve, universal function	0.6	0.006	0.1	6.4	Vac - 3	monostable	12/DC	Rectangular plug 5.08mm	145 641
								Flying leads 300mm	145 640
							24/DC	Rectangular plug 5.08mm	145 642
								Flying leads 300mm	145 643

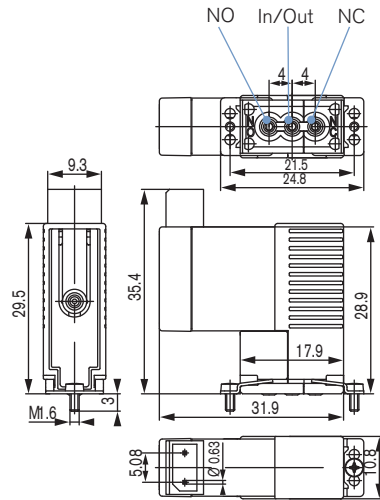
Versions on request:

- orifice 0,8 mm
- UNF 1/4"-28 port connections (PEEK)

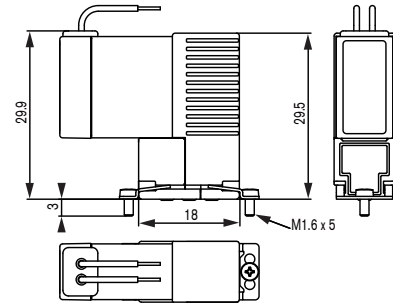
Dimensions [mm] Valves with tube spigots sideways



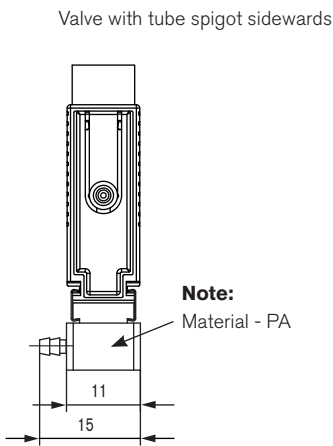
Mounting face for manifold



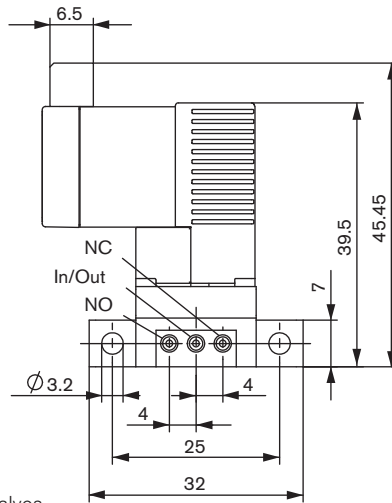
Valve with rectangular plug and holders



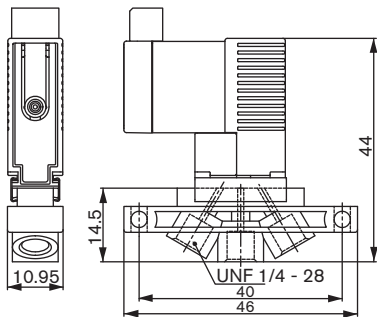
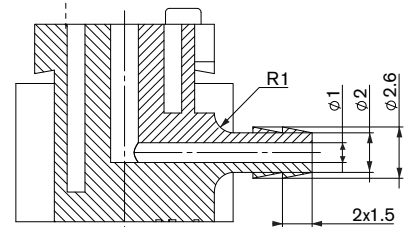
Valve with flying leads and holders



NO is not present on 3/2-way valves



Tube spigot dimensions



UNF Version - on request

Ordering chart accessories

Accessories	Feature	Item no.
Rectangular cable plug	with 3m cable	133 486
	with 300mm flying leads	644 068
	with 2 single contacts	644 067
Single manifold in stainless steel	with 3x M3 connection Version with mounted manifold possible on request	644 684
Single manifold in PEEK	with 3x UNF 1/4"-28 with holders and screws, version with mounted manifold on request	on request
Multi-station manifolds in PEEK	2 valves	659 285
	3 valves	659 286
	4 valves	659 287
	5 valves	653 131
	6 valves	659 288
	8 valves	659 290

Other accessories on request:

- Customised manifolds
- Fittings and tubes (see also type 1013 AA05)
- Rectangular cable plug, grid spacing 5.08 mm, for plate mounting

Manifolds [mm]

Single manifold M3, stainless steel

Item no.	644 684
----------	---------

Multi-station manifolds PEEK [mm]

Numer of valve positions	2	3	4	5	6	8
Dimensions A [mm]	33	44	55	66	77	99

To find your nearest Bürkert facility, click on the orange box →



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

Subject to alterations
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0413/7_EU-en_00891745

2/2 or 3/2 way Rocker-Solenoid Valve with separating diaphragm



Type 6126 can be combined with...



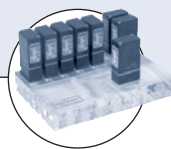
Type 2506

Cable plug Form C



Type 2505

Rectangular cable plug



Manifolds

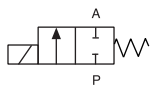
- Valve with isolating diaphragm
- Compact design with 16 mm width and Cv ratings up to 0.058
- Flexible design for custom manifold assemblies
- High back pressure tightness, excellent cleanability and 100 % duty cycle
- Normally closed, normally open and universal function

The direct-acting rocker solenoid valve, Type 6126, is suitable for general applications in which compressed air, gases or slightly contaminated liquids are to be switched.

The medium is in contact exclusively with the housing material and the FKM seals. The heat input in the medium is minimal, because the housing is separated from the coil by a stainless steel plate.

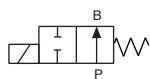
The valves can be mounted directly or also single or manifold mounted. They are used for dosing, filling, mixing and distributing small quantities of medium.

Circuit function A



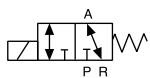
2/2-way valve,
direct-acting,
normally closed

Circuit function B



2/2-way valve,
direct-acting,
normally open

Circuit function T



3/2-way valve,
direct-acting,
universal functions

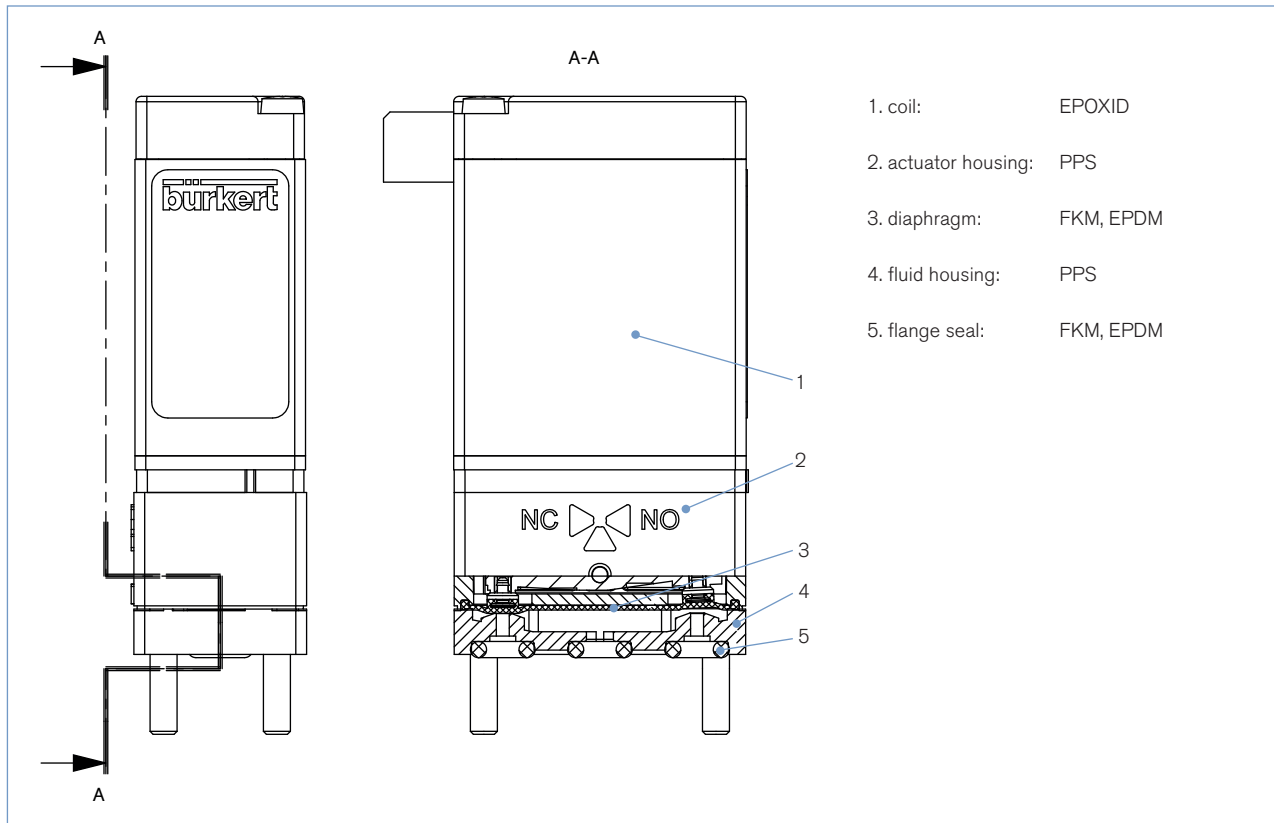
Technical data	
Orifice [mm]	DN 0.8 - 1.6 (for details see ordering chart)
Body material	PPS
Seal material	FKM, EPDM
Medium	Resistant to neutral liquids and gases (see Bürkert chemical resistance chart)
Media temperature	-10 to 55 °C ¹⁾
Ambient temperature	max. 55 °C
Viscosity	max. 21 mm ² /S
Internal volume with sub-base on request	starting at 44 µl < 10 µl ²⁾
Port connection	Bürkert sub-base (16 x 27 mm)
Electrical connection	Cable plug Type 2505 Tag connector acc. DIN 43650 C for Cable plug Type 2506 above 2 FEP-Flying leads, AWG24, length 500 mm ³⁾
Operating voltage	12 and 24 V/DC; other Voltages on request
Voltage tolerance	± 10 %
Power consumption	3.4 W
Duty cycle	continuous rating 100 % ED
Installation	as required, preferably with actuator upright
Protection class	IP 65 with flying leads or cable plug IP 40 with Rectangular plug
Response times	acc. ISO 12238:2001; Measured at valve outlet at 2 bar and +20 °C Opening Closing

¹⁾ Temperature may vary depending on orifice and seal material. For further information see on page 2.

²⁾ The internal volume can vary depending on the housing. For further information see on page 2.

³⁾ Other electric connectors and other cable lengths upon request.

Materials



Detailed medium temperature (depending on material and orifice)

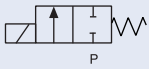
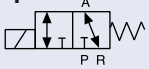
	Orifice	Seal material	Temperature range
media temperature	DN 0.8	FKM	0 to +50 °C
	DN 0.8	EPDM	-5 to +50 °C
	DN 1.2 & 1.6	FKM	+5 to +50 °C
	DN 1.2 & 1.6	EPDM	0 to +50 °C
media temperature with limitation on switching time and life expectancy	DN 0.8	FKM	-5 to +55 °C
	DN 0.8	EPDM	-10 to +50 °C
	DN 1.2 & 1.6 ¹⁾	FKM	0 to +55 °C
	DN 1.2 & 1.6	EPDM	-5 to +50 °C

¹⁾ upon request up to -15 °C available.

Detailed internal volume (depending on fluid housing)

Body	2-way low dead volume		2-way		3-way	
	fluid chamber	total	fluid chamber	total	fluid chamber	total
sub-base	44 µl	54 µl	97 µl	106 µl	90 µl	106 µl

Ordering chart for Typ 6126

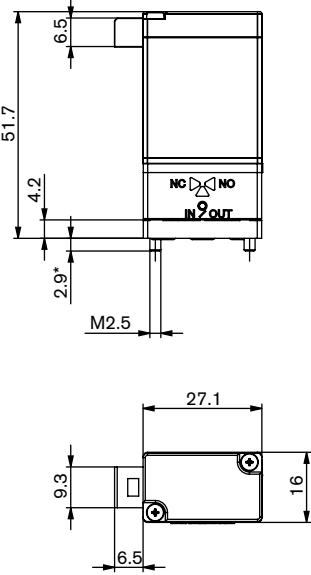
Circuit function	Orifice [mm]	Port connection	Kv value water [m ³ /h]	Cv value water [gal/min]	Q ₉₀ value air [l/min]	Pressure range [bar]	Seal material	Fluid housing material	Electrical connection	Voltage/frequency [V/Hz]	Item no.
A  2/2-way valve, direct-acting, normally closed	0.8	sub-base	0.015	0.017	16	Vak 0-6	FKM	PPS	Tag connector to side	012/DC	139 151
										024/DC	139 088
									Rectangular plug	024/DC	139 236
									Tag connector to side	012/DC	139 154
							EPDM		024/DC	139 155	
T  3/2-way valve, direct acting, universal functions	0.8	sub-base	0.015	0.017	16	Vak 0-6	FKM	PPS	Tag connector to side	012/DC	139 158
										024/DC	139 159
									Rectangular plug	024/DC	139 237
									Tag connector to side	012/DC	139 162
							EPDM		024/DC	139 163	



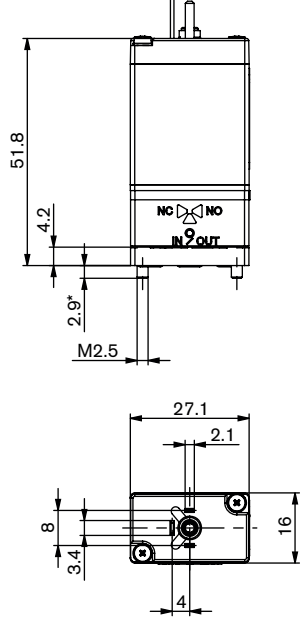
Other versions on request

Dimensions [mm]

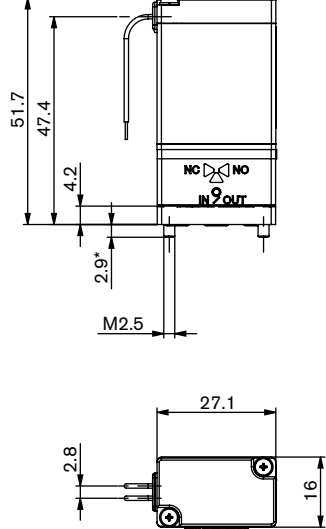
Manifold mount version with rectangular plug



Manifold mount version for cable plug



Manifold mount version with flying leads



Classification of fluid connections

2/2-way-valve, normally closed (circuit function A)
inflow at "NC"-connector

2/2-way-valve, normally closed (circuit function B)
inflow at "NO"-connector

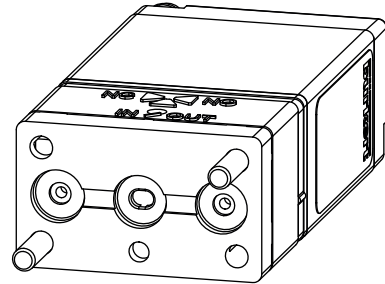
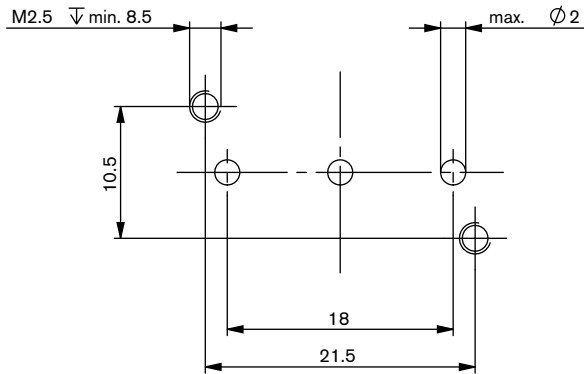
3/2-way-valve, normally open (circuit function T)
inflow at "NO"-connector

Flange interfaces at page 4.

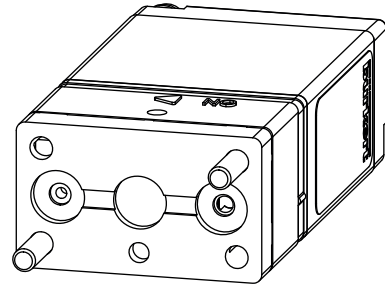
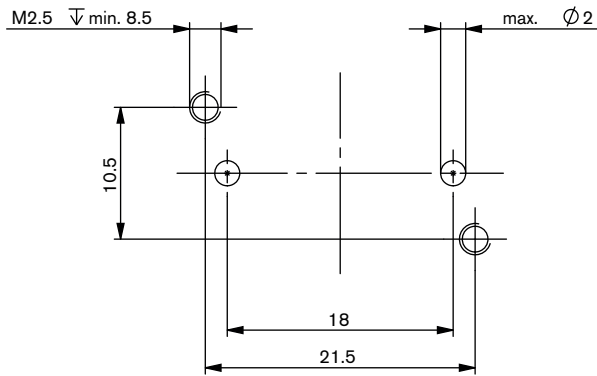
* Other screw length on request.
Self-tapping screws on request.
When selecting a connection plate the screw head overlap has to be considered.

Overview flange interfaces 16 x 27 mm

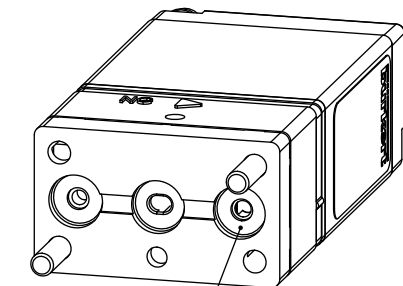
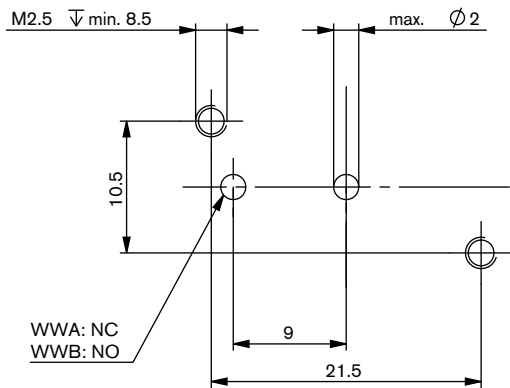
bürkert flange interface FB23 - 3-way (standard)



bürkert flange interface FB43 - 2-way (standard)



bürkert flange interface FB33 - 2-way (low dead volume). not in ordering chart - on request






hole not in use

i On request available with anti-twist device

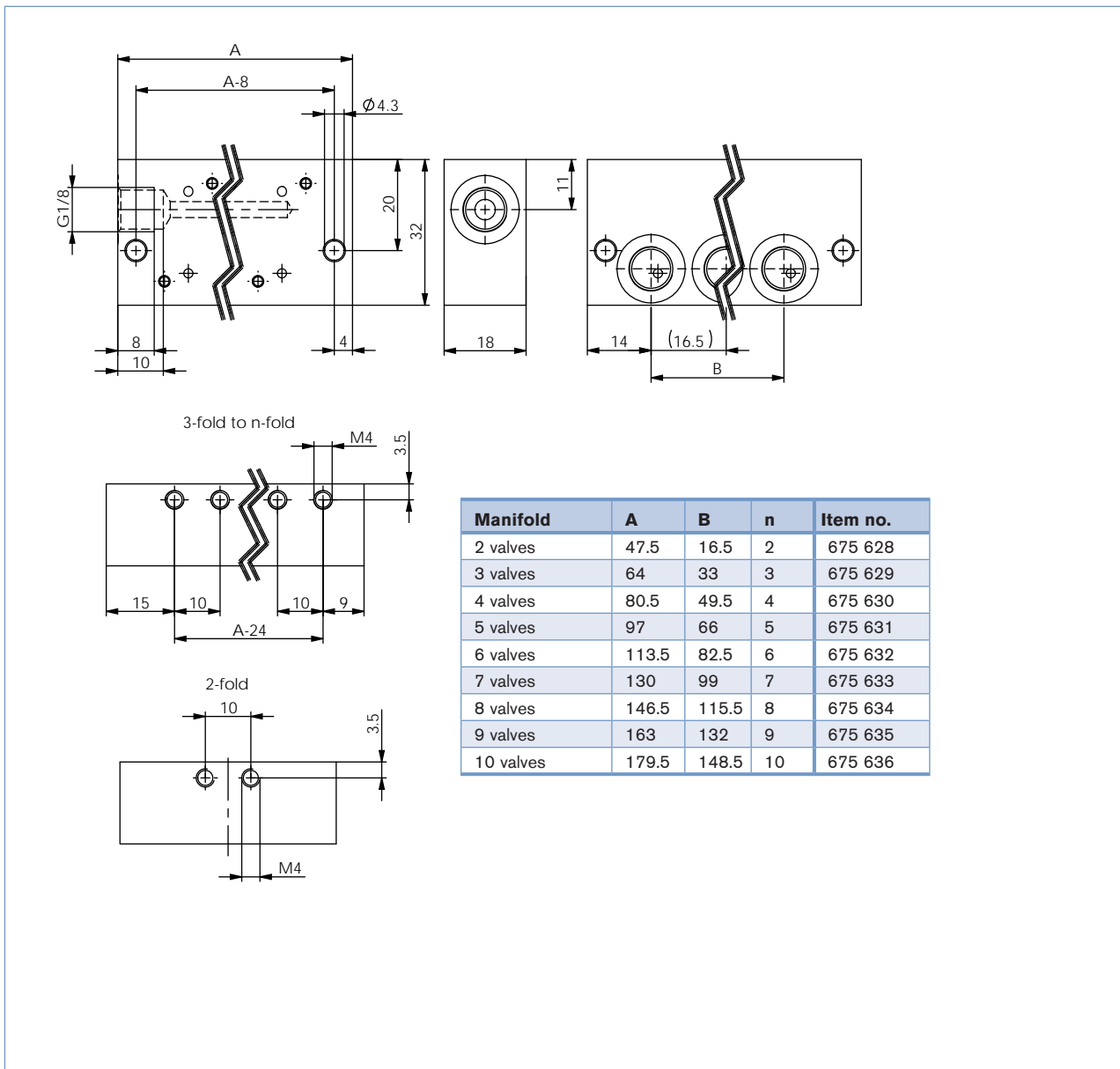
Ordering chart for Accessories

Cable plug type 2506 acc. DIN EN 175301-803 Form C, with flat seal and fixing screw, without cable.

	Cable plug Type 2506		Item no.
	without circuit	0-250V/UC	008 353
	with LED	12-24V/DC	008 402
	with LED and varistor	12-24V/DC	008 408
	with rectifier, LED and varistor	12-24V/UC	008 354

Rectangular plug type 2505		Item no.
	with 3m cable	252 572
	with 300mm leads	262 346

Manifolds in PPS for Bürkert flange interface 16 x 27 2-way [mm]



Manifolds in aluminium for Bürkert flange interface 16 x 27 3-way [mm]

Manifold	A	B	n	Item no.
2 valves	63	18	2	658 695
3 valves	81	36	3	658 696
4 valves	99	54	4	658 697
5 valves	117	72	5	658 698
6 valves	135	90	6	658 699
8 valves	171	126	8	658 700
10 valves	207	162	10	658 701
12 valves	243	198	12	658 703

Single manifolds in aluminium for Bürkert flange interface 16 x 27 [mm]

Manifold made from aluminium, black anodized,
Port connection M5

Item no.
623 873

Manifold made from aluminium, black anodized,
Port connection G 1/8

Item no.
634 917

i **Caution: Pay attention to the coil fixing screw lenght to avoid overrun**

To find your nearest Bürkert facility, click on the orange box →

In case of special application conditions, please consult for advice. Subject to alteration. © Christian Bürkert GmbH & Co. KG 1509/3_EU-en_00891746

3/2-way pneumatic cartridge solenoid valve



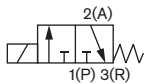
- Compact design with 11 mm width per station
- Orifices from 0.5 mm (9 bar) to 1.2 mm (1.5 bar)
- High durability and reliability
- Low power consumption, as well as optional ATEX Ex ib version
- Design for optimum integration

Customer specific applications are becoming more complex. Size, fluidic performance, low power consumption and cost efficiency are critical criteria. Therefore the demands on the components used are increasing. Type 6164 was developed with the goal, to simplify pneumatic control with optimum integration of a pilot valve in block and plastic moulding parts. Thus, making a more compact design possible.

This valve sets new standards with its uncompromising reliability, above average life cycle span and excellent fluidic characteristics.

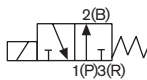
Various certifications and conformities make the use of the valve in medical applications such as media multiplexers in dental technology and oxygen control in respirators possible.

Circuit function C



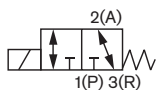
3/2- way valve,
direct acting,
normally closed

Circuit function D



3/2-way valve
direct acting,
normally open

Circuit function T



3/2 way valve,
universal function

Technical data		
Orifice and pressure range	DN 0.5mm (Vac - 9bar) DN 1.0mm (Vac - 5bar)	DN 0.8mm (Vac - 7.5bar) DN 1.2mm (Vac - 1.5bar)
Permissible leakage	Vac - 10 bar (Dependent on the version used) ¹⁾	
Body material	PEEK	
Seal material	FKM, NBR (on request)	
Medium	neutral gas	
Medium temperature	FKM NBR (on request)	
	-10 bis +55 °C -20 bis +55 °C	
Ambient temperature	FKM NBR (on request)	
	-10 to +55 °C ⁵⁾ -20 to +55 °C ⁵⁾	
Typical life span	100.000.000 switching cycles (accordance to endurance tests) ²⁾	
Port connection	▪ Bürkert-Cartridge-Connection	
Electrical connection	▪ Plug / Solder ▪ Flying leads on request	
Operation voltage	12 and 24 V DC (other voltages on request)	
Voltage tolerance	±10%	
Power consumption	0.7W 2.8 W/0.3W (with external electric power reduction) 0.3 W (for Exi version)	
Duty cycle	100% continuous rating	
Installation	as required	
Protection class	depending on the electrical connection when installed	
Pins	IP00	
Special plug	IP40	
Leads	IP54	
Response times	Measurement at valve outlet acc. to DIN ISO 12238:2001	
Open	<5ms (pressure rise 0-10%)	
Closed	<5ms (pressure drop 100-90%)	
Switching frequency	16Hz	
Switching noise	42 dB ³⁾	
Weight	6 g (standard version)	
Approvals and conformity for selected variants	ATEX Ex ib - II 2G Ex ib IIC T4 T5 T6 TB01 ATEX 2048 ⁴⁾ IEC Ex PTB 07.0063 ⁴⁾ FM Class I Div II ⁴⁾ UL class 2 Oxygen compatible ⁴⁾	

¹⁾ Overpressure to the atmospheric pressure

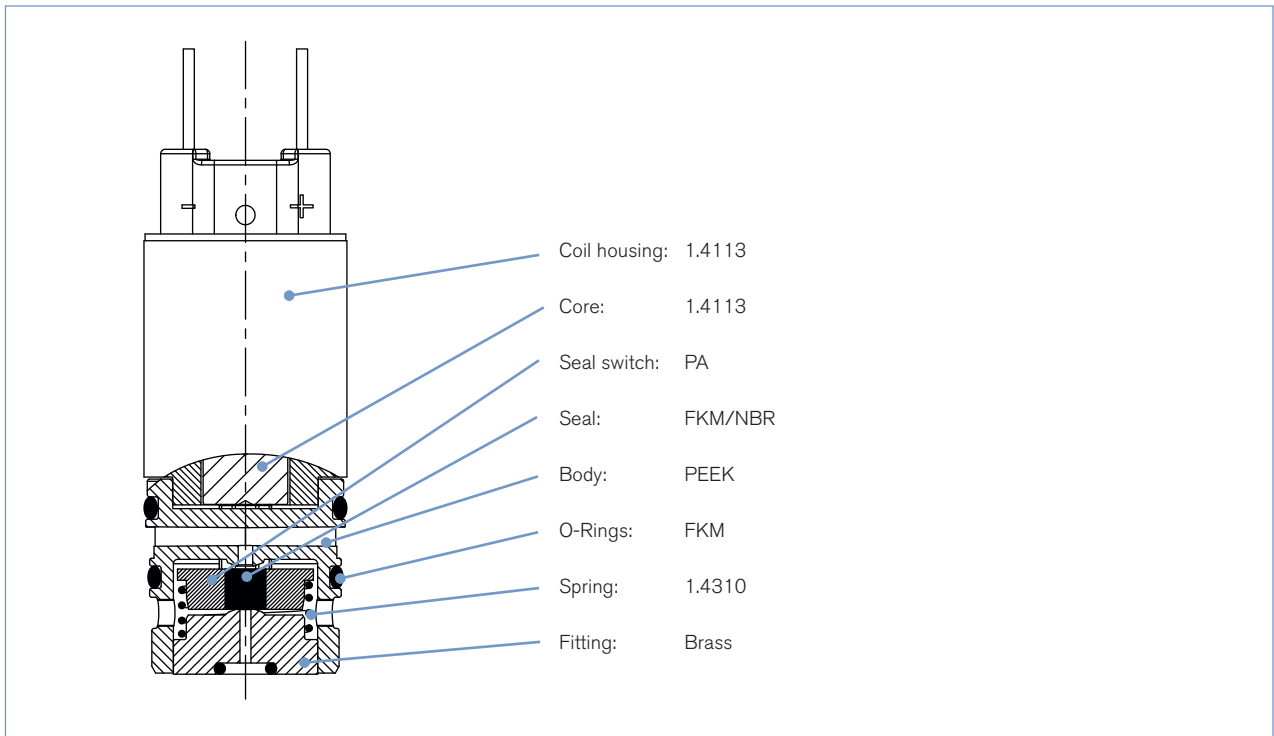
²⁾ Life span is dependent on temperature, pressure and operating conditions

³⁾ According to ISO3745, testing environment in brass manifold, free-hanging

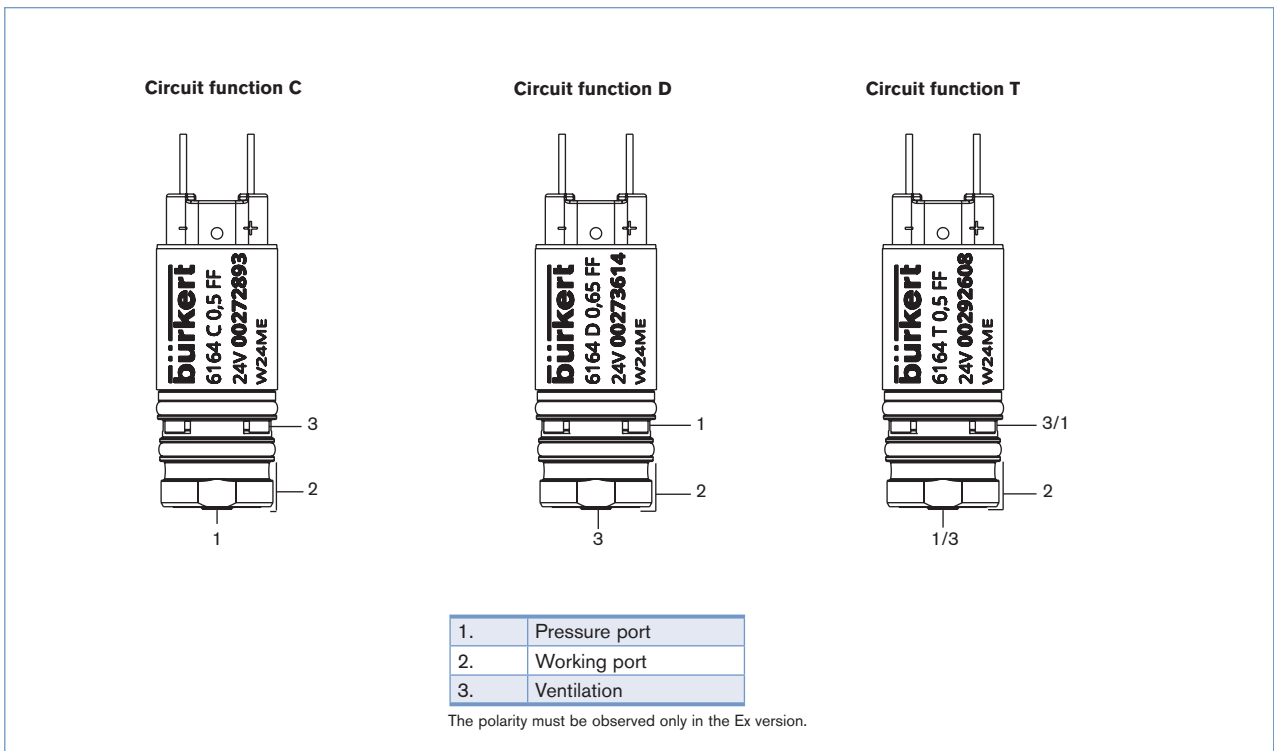
⁴⁾ In preparation

⁵⁾ Depending on installation conditions (see manual), higher temperatures on request

Materials

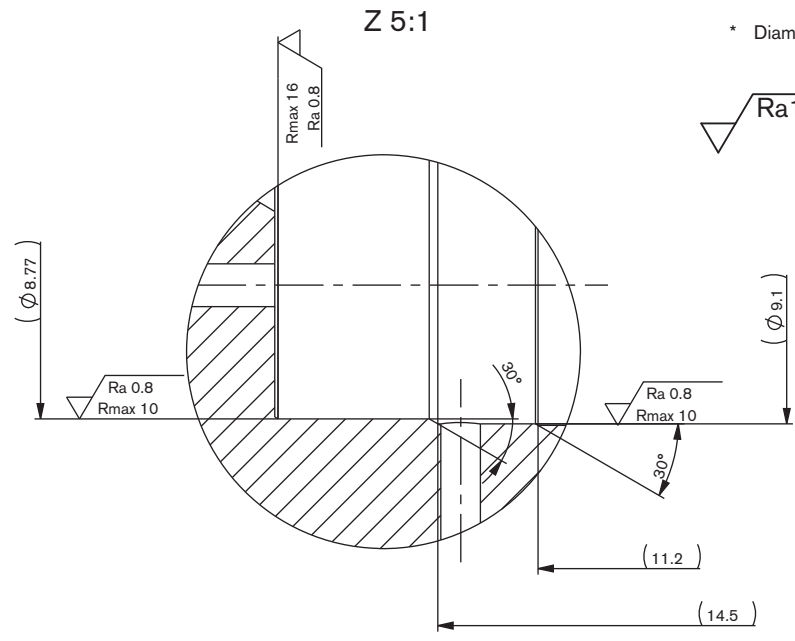
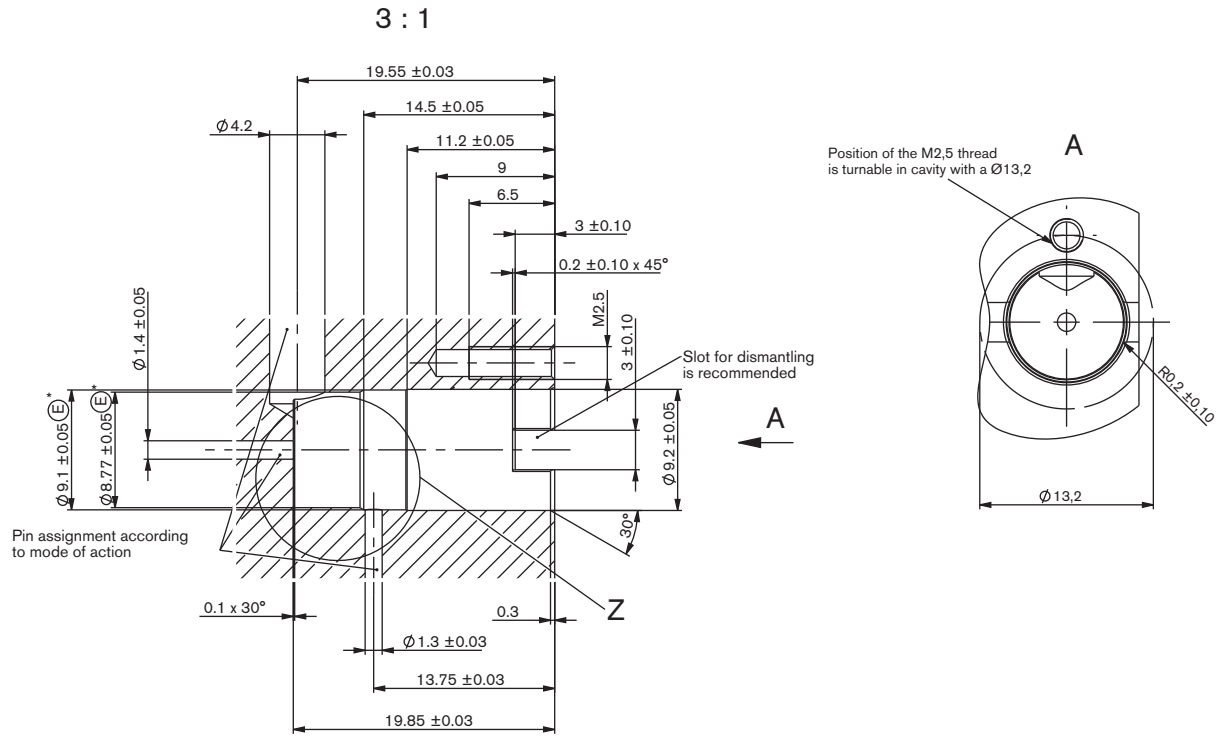


Port connection

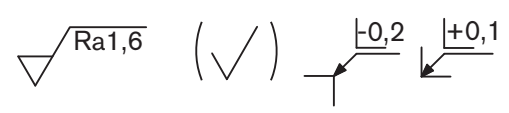


Defining of the installation area

Sunken cartridge

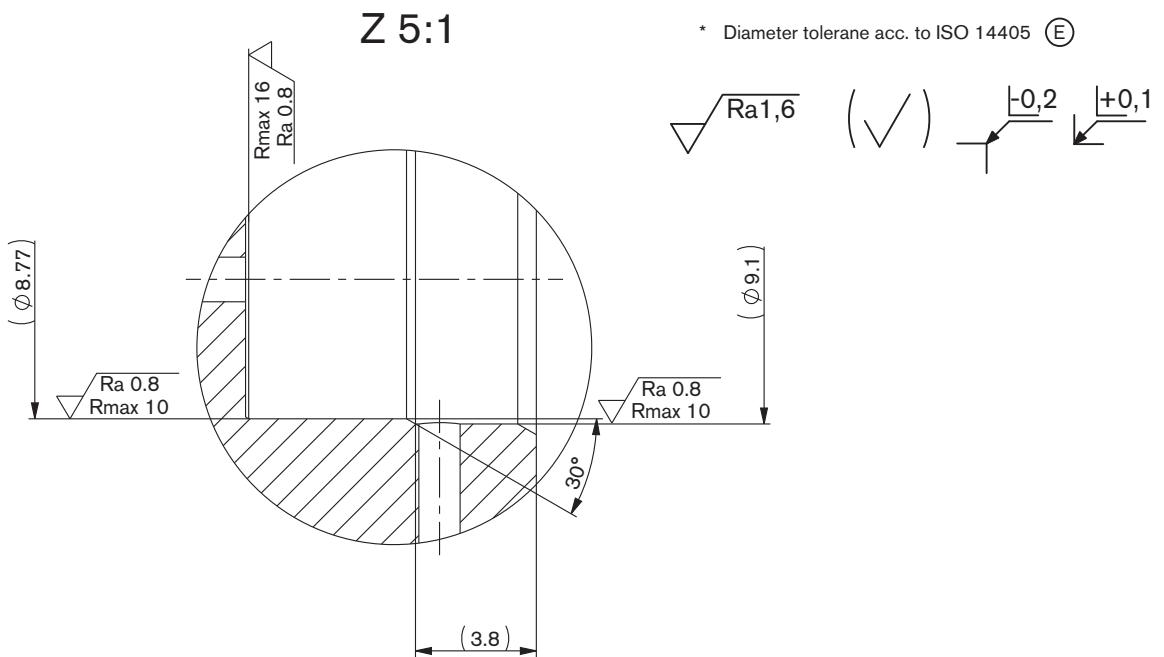
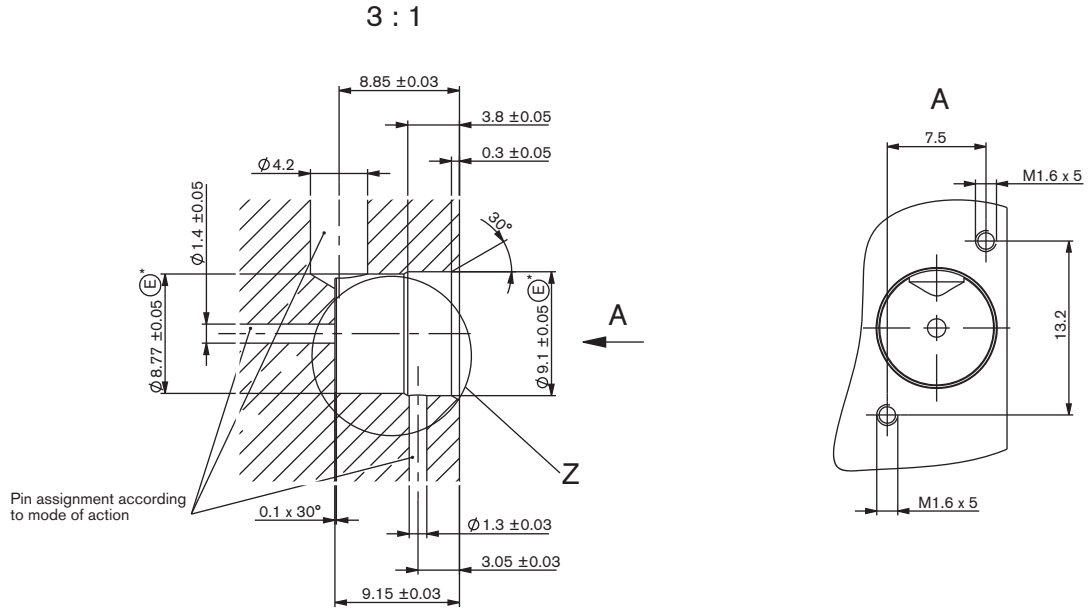


* Diameter tolerance acc. to ISO 14405 (E)

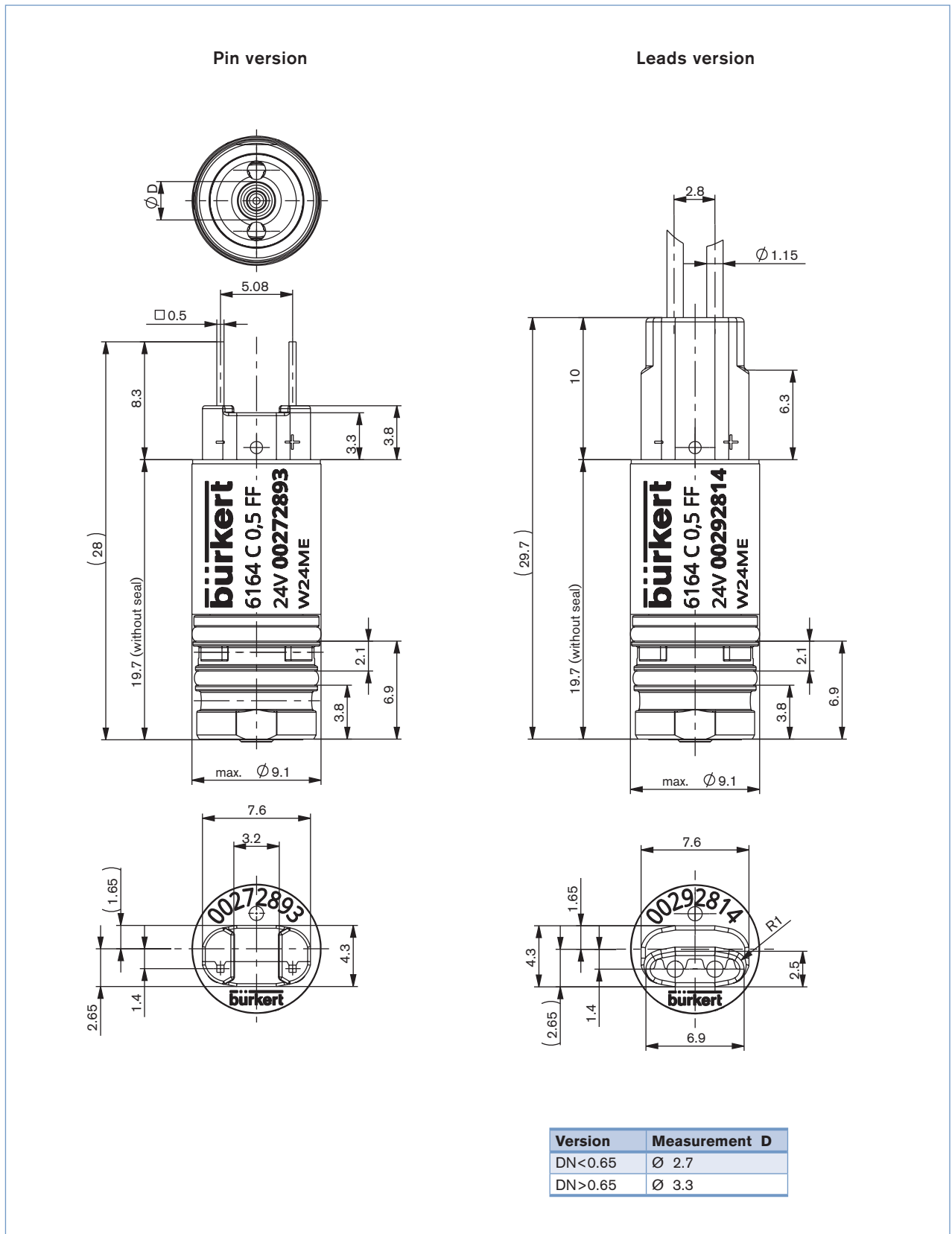


Defining of the installation area

Half sunken Cartridge with retaining bracket



Dimensions [mm]



Ordering chart

Circuit function	Port connection	Orifice ventilation 1-2	Orifice ventilation 2-3	QNn value 1-2 air [l/min]	QNn value 2-3 air [l/min]	Pressure range [bar]	Voltage	Power rating [W]	Item no. with connection pin
C 	Bürkert Cartridge port connection	0.5	0.65	6	9.5	Vac-9 ¹⁾	12	0.7	273 612
		0.5	0.65	6	9.5	Vac-9 ¹⁾	24	0.7	272 893
		0.5	0.65	6	9.5	2.5-10	24	0.7	281 022
		0.8	1.1	16	20	Vac-7.5 ¹⁾	24	2.8/0.3 ²⁾	285 701
		1.0	1.1	20	20	Vac-5 ¹⁾	24	2.8/0.3 ²⁾	285 700
		1.2	1.1	25	22	Vav-1.5 ¹⁾	24	2.8/0.3 ²⁾	272 894
D 	Bürkert Cartridge port connection	0.65	0.5	6.5	6	Vac-6 ¹⁾	12	0.7	273 615
		0.65	0.5	6.5	6	Vac-6 ¹⁾	24	0.7	273 614
T 	Bürkert Cartridge port connection	0.5	0.65	6	6	Vac-4	24	0.7	292 608

¹⁾ VAC corresponds to -0.8 bar relative

²⁾ External electric power reduction necessary

i Further versions on request



Voltage

Voltages 9V, 6V, 3V on request



Additional

Leads version on request

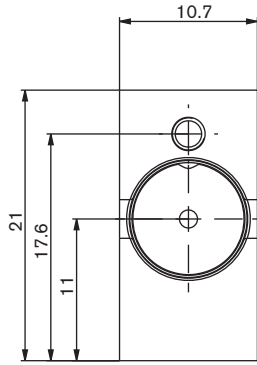


Approvals

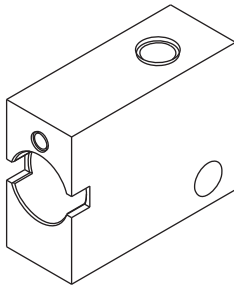
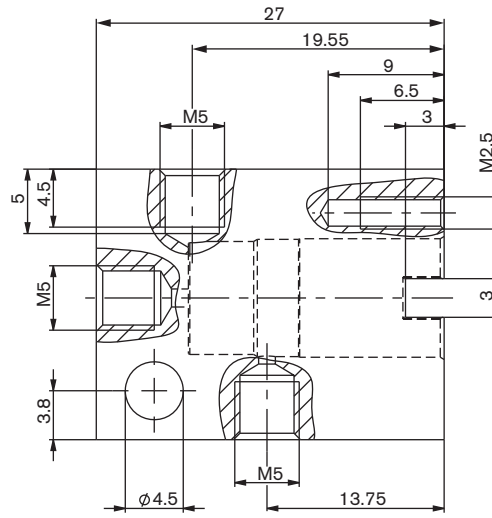
Device with approvals on request

Overview of accessories

Manifold fully sunken



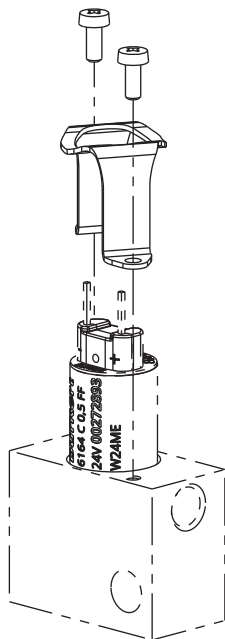
Locking



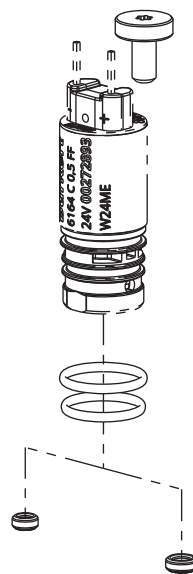
Note:
Max. tightening of the screws
(see manual)

Description	Item no.
Manifold 1place, brass	695 913
Spare part set for Type 6164	696 033
Mounting bracket Set for Type 6164	696 032
Plug IP40 for Type 6164	695 951

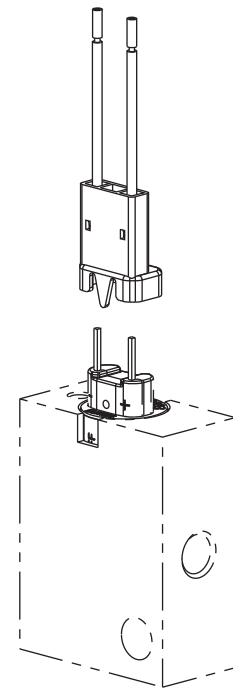
Mounting bracket for semi-submerged configuration



Spare part set O-ring and fixing screw

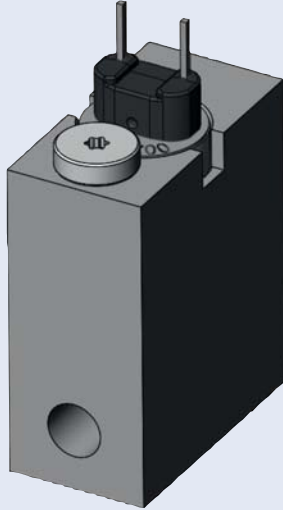


Plug with IP40 locking

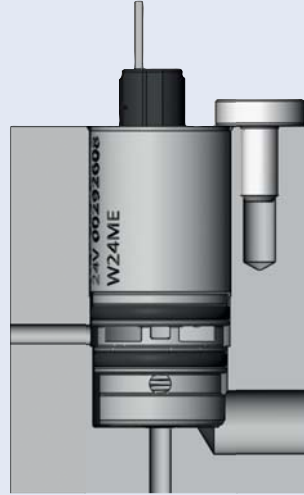


Application examples

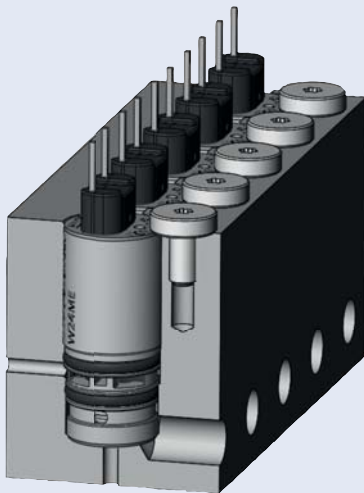
Single block with Cartridge



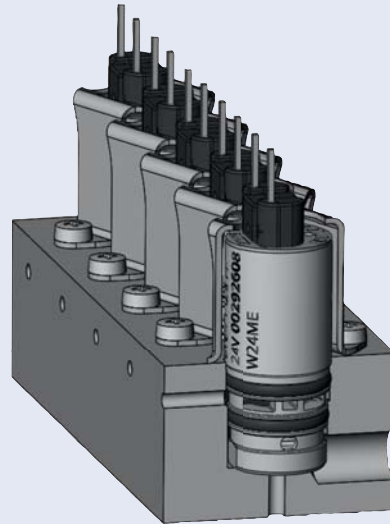
Cartridge installation position



Fully sunken multi-manifold



Semi-sunken multi-manifold



To find your nearest Bürkert facility, click on the orange box →



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

Subject to alteration.
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