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

Электромагнитные пропорциональные клапаны Burkert

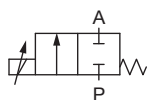


2/2-Way Solenoid Control Valve

- 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.

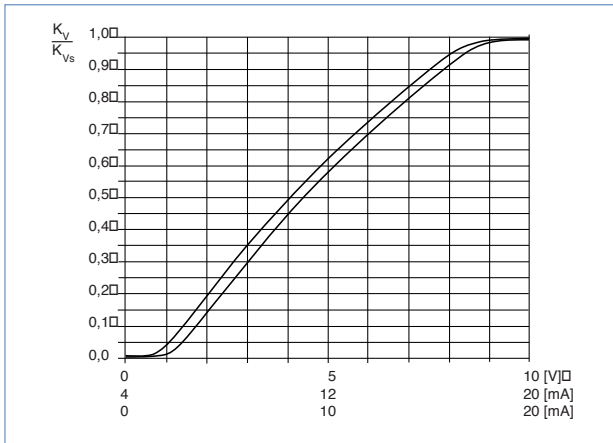
Technical Data - Valve	
Body material	Brass, stainless steel
Seal material	FKM, EPDM on request
Medium	Neutral gases, liquids on request
Pressure range	0 ... -12 bar ²⁾
Medium temperature	-10 ... +90 °C
Ambient temperature	max. +55 °C
Power supply	24 V DC
Max. current	220mA (at 24V-hold)
Power consumption	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!

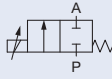
Determination of the k_v value

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

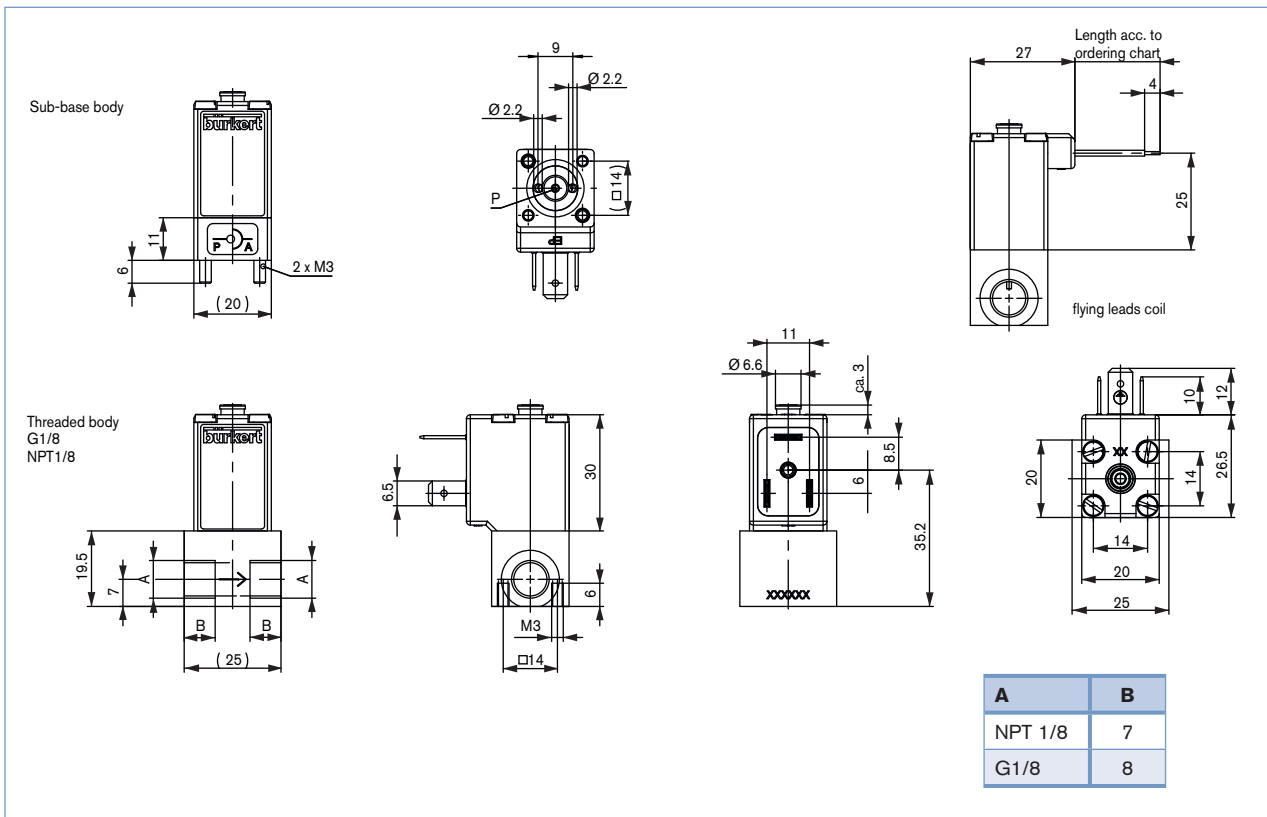
Analytical
 Oxygen version
 Parts oil-, fat- and silicon free

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].

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

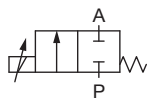


2/2-Way Solenoid Control Valve

- 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.

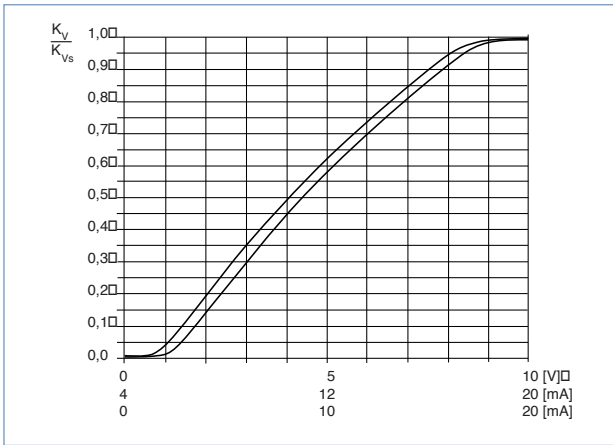
Technical Data - Valve	
Body material	Brass, stainless steel
Seal material	FKM, EPDM on request
Medium	Neutral gases, liquids on request
Pressure range	0 ... -16 bar ²⁾
Medium temperature	-10 ... +90 °C
Ambient temperature	max. +55 °C
Power supply	24 V DC
Max. current	420mA (at 24V-hold)
Power consumption	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!

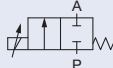
Determination of the k_v value

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
		NPT 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

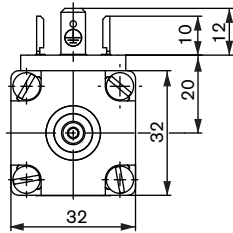
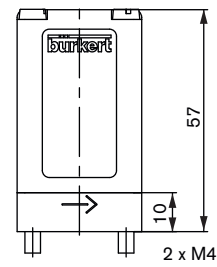
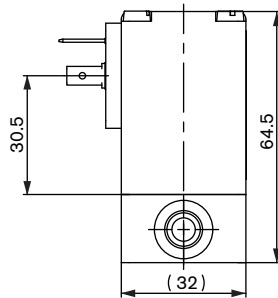
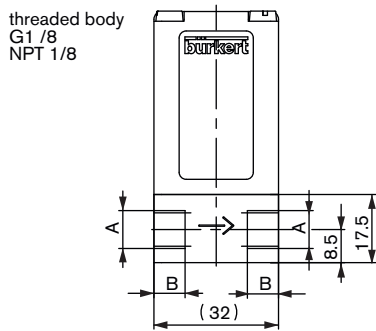
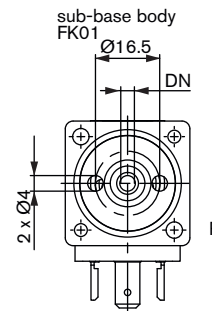
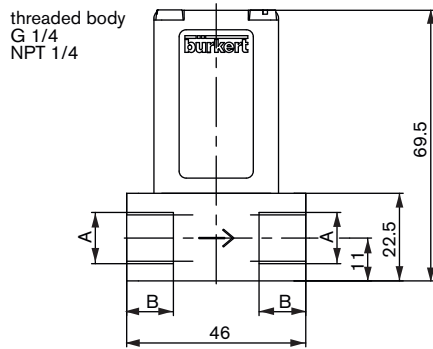
Analytical
Oxygen version
Parts oil-, fat- and silicon free

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

▶ 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="text"/>
<input type="checkbox"/> Seal material	<input type="checkbox"/> FKM	<input type="checkbox"/> other <input type="text"/>

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

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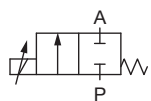


2/2-Way Solenoid Control Valve

- 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.

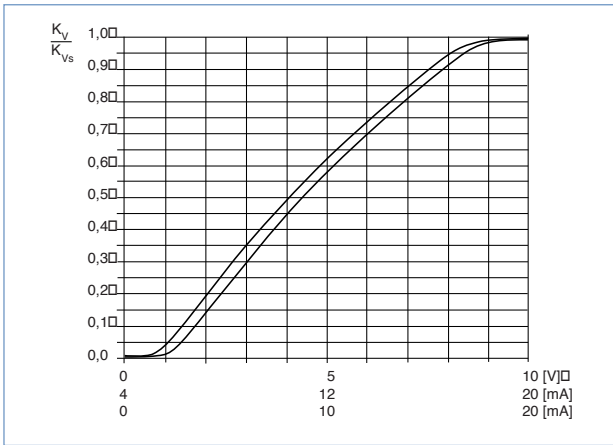
Technical Data - Valve	
Body material	Brass, stainless steel
Seal material	FKM, EPDM on request
Medium	Neutral gases, liquids on request
Pressure range	▪ 0 ... -25 bar ²⁾
Medium temperature	-10 ... +90 °C
Ambient temperature	max. +55 °C
Power supply	24 V DC
Max. current	750mA (at 24V-hold)
Power consumption	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 $p_2 < \frac{p_1}{2}$	$= Q \sqrt{\frac{\rho}{1000 \Delta p}}$	$= \frac{Q_N}{257 p_1} \sqrt{T_1 \rho_N}$

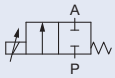
- k_v Flow coefficient [m³/h]⁴⁾
- Q_N Standard flow rate [m³/h]⁵⁾
- p_1 Inlet pressure [bar]⁶⁾
- p_2 Outlet pressure [bar]⁶⁾
- Δp Differential pressure $p_1 - p_2$ [bar]
- ρ Density [kg/m³]
- ρ_N Standard density [kg/m³]
- T_1 Medium temperature [(273+t)K]

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

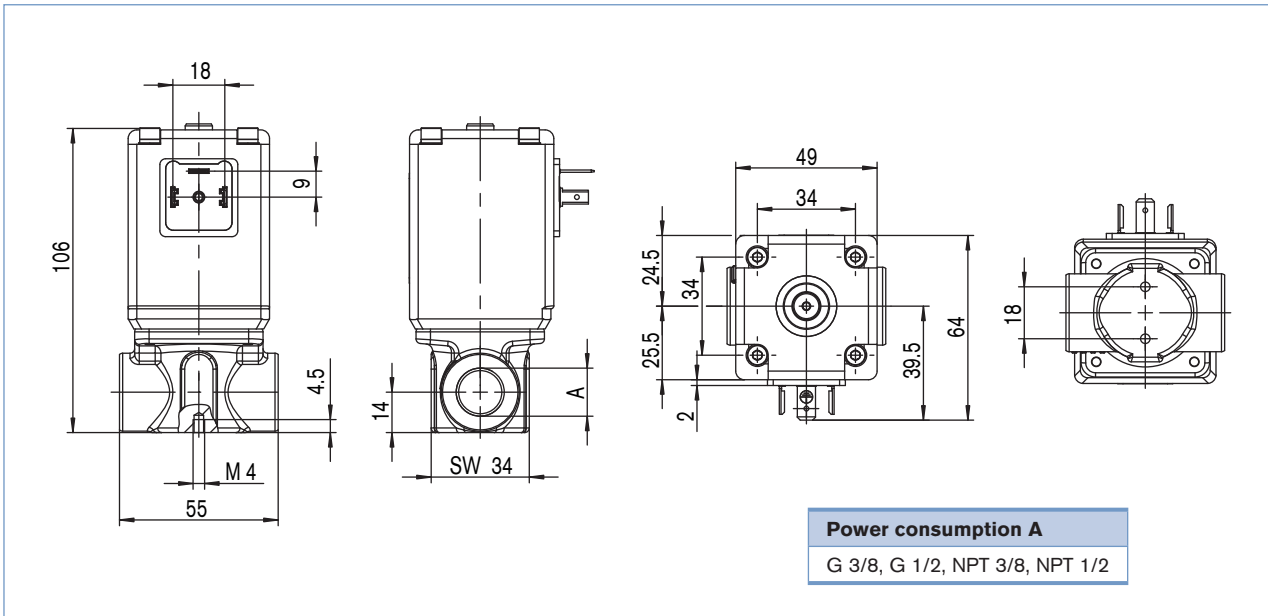
Analytical
 Oxygen version
 Parts oil-, fat- and silicon free

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 →

2/2-way Solenoid Control Valve



- Direct-acting, normally closed
- DN 3 to 12 mm
- Port Connection 1/2" or 3/4"

Type 2836 can be combined with...



Type 8605

Control electronics
Cable plug version



Type 8605

Digital control electronics
DIN-rail version

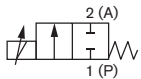


Type 2508

Cable plug

The direct-acting solenoid control valve, Type 2836, works as an electromagnetically actuated control valve in applications with relatively high flow rates. The valve is normally closed.

Valve operation A



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

Valve control takes place through the control electronics of Type 8605, which converts an analogue input signal into a PWM²⁾ (pulse-width modulation) signal.

Further, functional features of the Type 8605 electronic control unit:

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

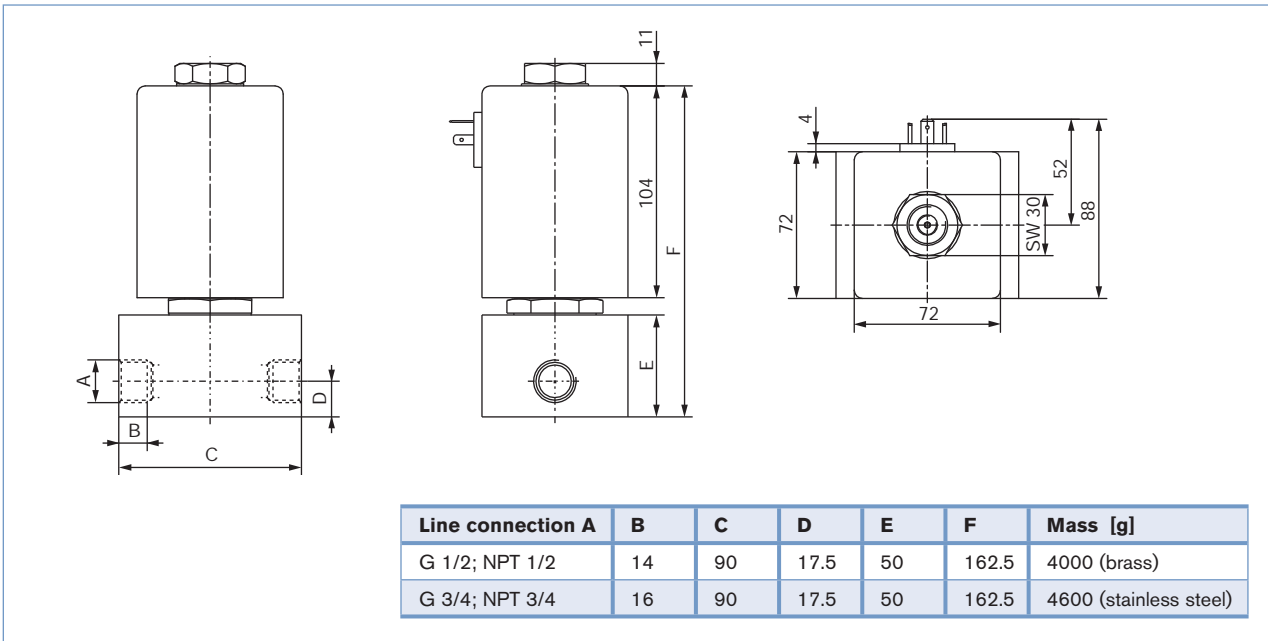
¹⁾ Pressure data [bar]: Overpressure with respect to atmospheric pressure

²⁾ PWM pulse-width modulation

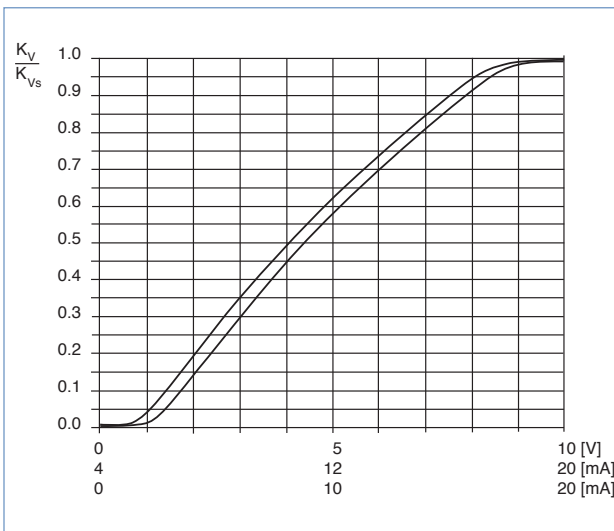
³⁾ Characteristic data of control behaviour depends on process conditions

Technical data - valve	
Body material	Brass, stainless steel
Seal material	FKM, others on request
Fluids	Neutral gases and liquids
Pressure range	0 to 25 bar ¹⁾
Fluid temperature	-10 to +90 °C (14 °F to 194 °F)
Ambient temperature	max. +55 °C (max. 131 °F)
Viscosity	max. 21 mm ² /s (max. 21 cSt)
Power supply	24 V DC
PWM frequency	150-180 Hz
Power consumption	max. 24 W
Max. coil current	1100 mA
Duty cycle	100 % continuously rated
Port connection	G 1/2, G 3/4, NPT 1/2, NPT 3/4, others on request
Electrical connection	Cable plug Type 2508 acc. to DIN EN 175301-803 form A
Installation	As required, preferably with actuator in upright position
Typical control data³⁾	
Hysteresis	< 5 %
Repeatability	< 1 % of F.S.
Sensitivity	< 0.5 % of F.S.
Span	1:25
Protection class - valve	IP65

Dimensions [mm]



Characteristics of a proportional 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]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 Temperature if fluid medium [(273+t)K]

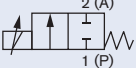
⁴⁾ Measured with water, $\Delta p = 1$ bar, differential pressure over the valve

⁵⁾ Standard conditions at 1,013 bar³⁾ and 0 °C (273K)

⁶⁾ Absolute pressure

Characteristic values with ordering chart (other versions on request)

All valves with FKM seal

Valve operation	Orifice [mm]	Port connection	k_{vs} value water [m ³ /h] ⁷⁾	Q_{N_2} value [l/min] ⁸⁾	Maximum operating pressure [bar] ⁹⁾	Item no. brass body	Item no. stainless steel body
	3	G 1/2	0.25	270	25	154 541	154 542
		NPT 1/2	0.25	270	25	164 592	-
	4	G 1/2	0.40	430	16	154 543	154 544
		NPT 1/2	0.40	430	16	164 593	-
	6	G 1/2	0.90	970	8	145 654	154 545
		NPT 1/2	0.90	970	8	164 594	-
		G 3/4	0.90	970	8	154 546	154 547
	8	NPT 3/4	0.90	970	8	164 595	-
		G 1/2	1.5	1615	5	154 548	154 549
		NPT 1/2	1.5	1615	5	164 596	-
	10	G 3/4	1.5	1615	5	154 550	154 551
		NPT 3/4	1.5	1615	5	164 597	-
		G 3/4	2.0	2150	3	154 552	154 553
	12	NPT 3/4	2.0	2150	3	164 598	-
		G 3/4	2.5	2700	2	154 554	154 555
		NPT 3/4	2.5	2700	2	164 599	-

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_{N_2} value: Flow rate value for air with inlet pressure of 6 bar¹⁾, 1 bar pressure differential and +20 °C.

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

Please note that the valves are delivered without control electronics unit and cable plug (see accessories below).

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

For product inquiries, use the specification sheet for solenoid control valves!

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.	Dept.
Address	Tel./Fax
Town / Postcode	E-Mail

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

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

* 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

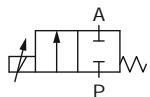
Universal controller

- 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

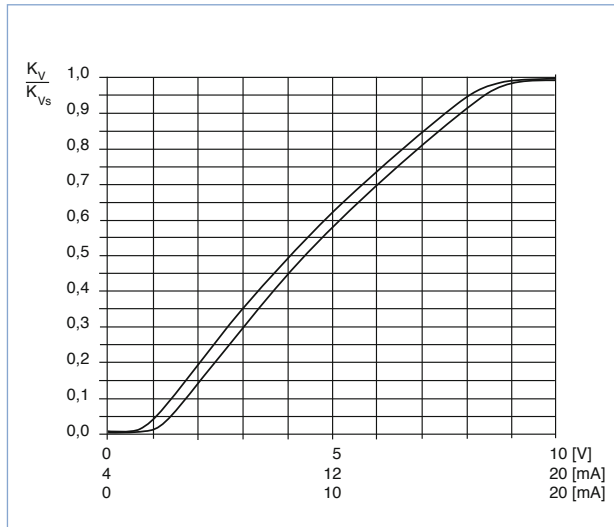
Technical data - Control electronics Type 8605 (see separate datasheet)

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]

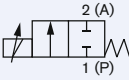
⁶⁾ measured for water 20°C, Δp 1 bar over the valve

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	

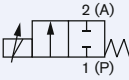
⁹⁾ k_{vs} value: Flow rate value for water, measured at +20 °C and 1 bar pressure differential over a fully opened valve.

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			

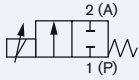
¹¹⁾ Approvals: UR (UL recognized)
DVGW - Approval acc. to European gas device guidelines (DIN 3394-1)

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

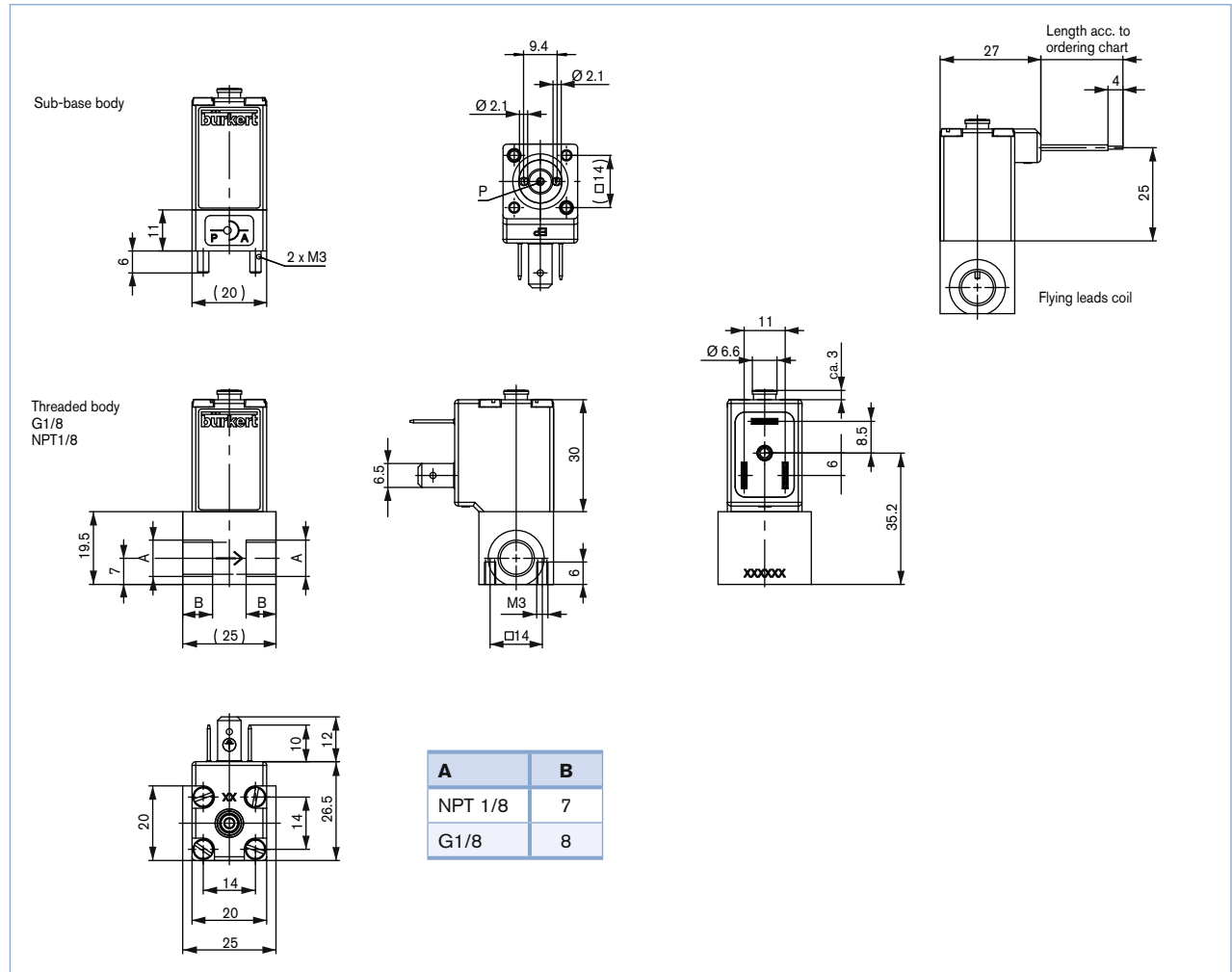
12 V Coil
 Wire leads 300mm



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



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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

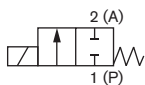


Type 8611

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

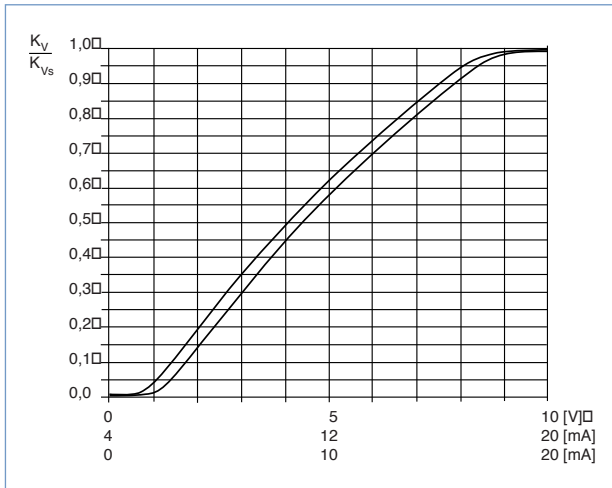
Technical data - Control electronics Type 8605 (see separate datasheet)

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

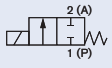
Pressure drop	k_v value for liquids [m ³ /h]	k_v value for gases [m ³ /h]
Subcritical $p_2 > \frac{p_1}{2}$	$= Q \sqrt{\frac{\rho}{1000 \Delta p}}$	$= \frac{Q_N}{514} \sqrt{\frac{T_1 \rho_N}{p_2 \rho}}$
Supercritical $p_2 < \frac{p_1}{2}$	$= Q \sqrt{\frac{\rho}{1000 \Delta p}}$	$= \frac{Q_N}{257 p_1}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

- 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

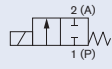
Circuit function	Orifice [mm]	Port connection	k_{vs} value water [m ³ /h] ⁹⁾	Nominal pressure [bar] ¹⁰⁾	Max. differential pressure [bar]	Item no. Brass	Item no. Stainless steel
	0.8	sub-base FK01	0.018	16	8	234 291	234 306
		G 1/8	0.018	16	8	234 289	234 305
		NPT 1/8	0.018	16	8	236 229	236 230
	1.2	sub-base 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	
	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	
	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	
	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	
	2.5	UR	G 1/4	0.150	8	4	274 952	274 968	
			NPT 1/4	0.150	8	4	274 953	274 969	
		DVGW	G 1/4	0.150	5	2.5	274 954	274 970	
	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	
	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

Further versions on request



Materials
Seal materials EPDM, FFKM



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

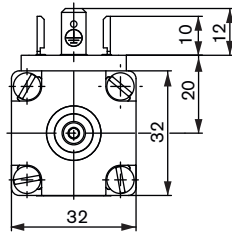
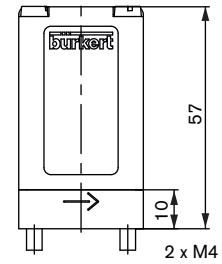
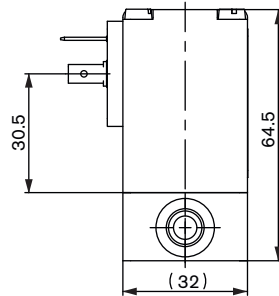
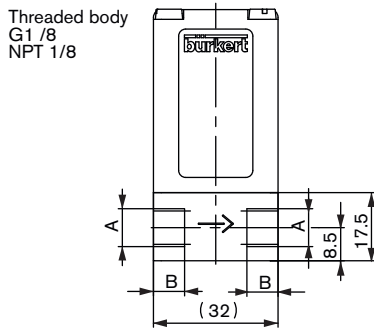
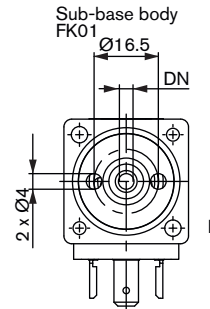
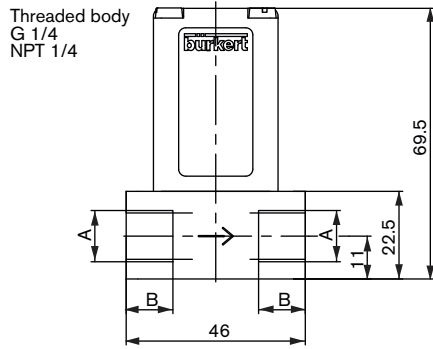


Electrical connection
12 V Coil



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

Dimensions [mm]



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

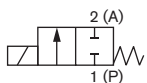


Type 8611

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

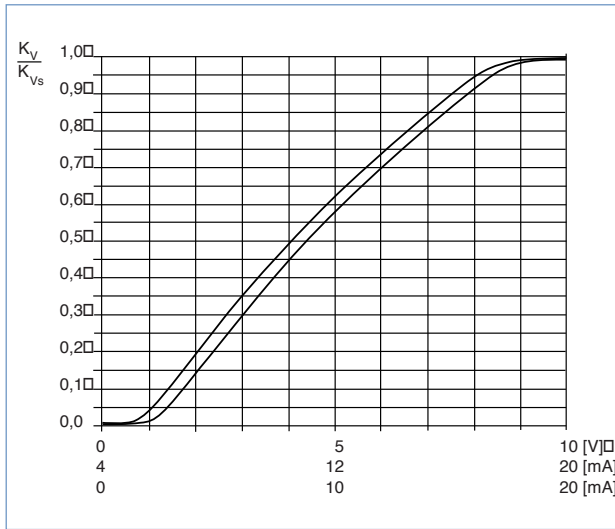
Technical Data - Valve	
Body material	Brass, stainless steel
Seal material	FKM, EPDM on request
Medium	Neutral gases, liquids on request
Pressure range	0 ... 25 bar ²⁾
Medium temperature	-10 ... +90 °C
Ambient temperature	max. +55 °C
Power supply	24 V DC
PWM frequency	900 Hz
Power consumption	16 W
Max. coil current ³⁾	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 data ⁴⁾ 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.

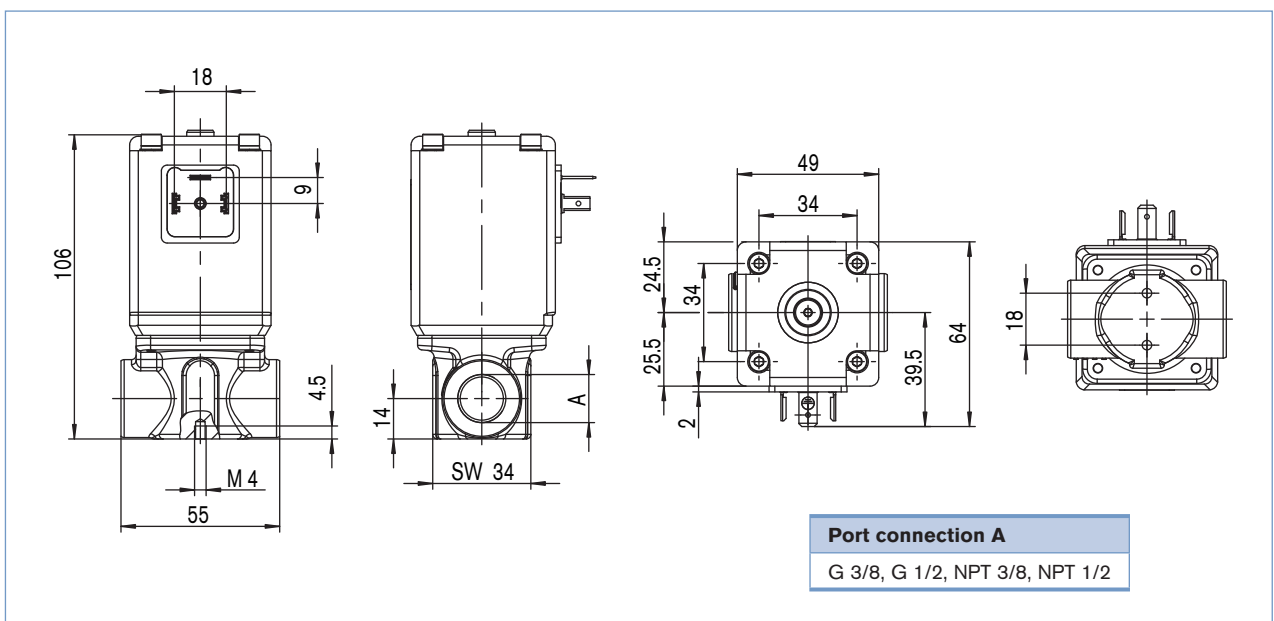
For that reason take advantage of Bürkert competent engineering services during the planning phase!

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 $p_2 > \frac{p_1}{2}$	$= Q \sqrt{\frac{\rho}{1000 \Delta p}}$	$= \frac{Q_N}{514} \sqrt{\frac{T_1 \rho_N}{p_2 \rho}}$
Supercritical $p_2 < \frac{p_1}{2}$	$= Q \sqrt{\frac{\rho}{1000 \Delta p}}$	$= \frac{Q_N}{257 p_1} \sqrt{T_1 \rho_N}$

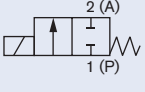
- k_v Flow coefficient [m³/h]⁶⁾
 - Q_N Standard flow rate [m³/h]⁷⁾
 - p_1 Inlet pressure [bar]⁸⁾
 - p_2 Outlet pressure [bar]⁸⁾
 - Δp Differential pressure $p_1 - p_2$ [bar]
 - ρ Density [kg/m³]
 - ρ_N Standard density [kg/m³]
 - T_1 Medium temperature [(273+t)K]
- ⁶⁾ measured for water, $\Delta p = 1$ 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	

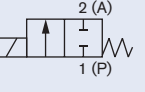
⁹⁾ k_{vs} value: Flow rate value for water, measured at +20 °C and 1 bar pressure differential over a fully opened valve.

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

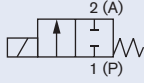
Circuit function	Orifice [mm]	Approvals ¹¹⁾	Port connection ¹²⁾	k_{vs} value water [m ³ /h]	Nominal pressure [bar]	Max. differential pressure [bar]	Item no. brass	Item no. Stainless steel
A 2/2-way Normal closed (NC) 	2	UR	G 3/8	0.12	25	12.5	274 976	274 988
			NPT 3/8	0.12	25	12.5	274 977	274 989
		DVGW	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-Way Proportional Valve Low- Δp



- Direct-acting, normally closed
- 0 - 0.7 bar¹⁾
- DN 8 - 12 mm
- 1/2" or 3/4"

Type 6024 can be combined with...



Type 8605

Control electronics
Cable plug version



Type 8605

Digital control electronics
DIN-rail version



Type 2508

Cable plug

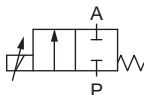


Type 8611

Universal controller

The direct-acting proportional valve Type 6024 works as an electromagnetically actuated control valve with relatively high flow rates at low operating pressures. The valve is normally closed.

Valve operation A



Direct acting 2-way
proportional valve,
normally closed

It is controlled by Control Electronics Type 8605.

Further functional features of the Type 8605 electronic control unit:

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

Technical data - valve

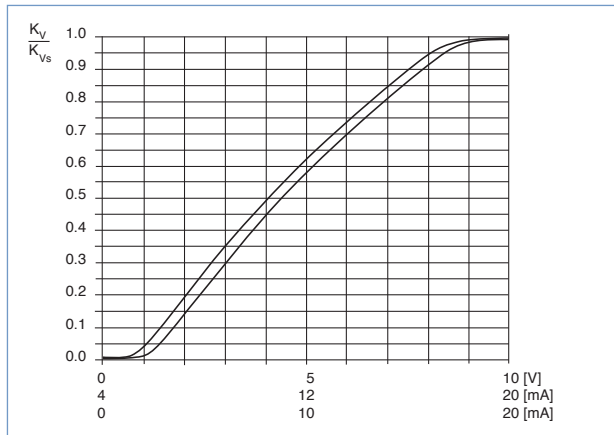
Body material	Brass, stainless steel
Sealing material	FKM, others on request
Media technical vacuum	Neutral gasses, liquids
Medium temperature	-10 to +90 °C
Ambient temperature	Max. +55 °C
Viscosity	Max. 21 mm ² /s
Operating voltage	24 V DC
Power consumption	Max. 18 W
Duty cycle	100% continuously rated
Port connection	G 1/2, G 3/4 (NPT 1/2 and NPT 3/4 on request)
Electrical connection	Cable plug Type 2508 (DIN EN 175301-803 Form A)
Mounting position	Any, preferably with drive at top
Typical control data³⁾	
Hysteresis	< 7 %
Repeatability	< 0.5 % of F.S.
Sensitivity	< 0.5 % of F.S.
Turn-down ratio	1:25
k_{vs} value ²⁾	1.4 to 2.8 m ³ /h
Max. operating pressure ¹⁾	0.1 to 0.7 bar (depending on DN)
Protection class - valve	IP65 with plug-in module or cable plug on valve

¹⁾ Pressure data [bar]: Overpressure with respect to atmospheric pressure

²⁾ K_{vs} value [m³/h]: max. flow capacity for water

³⁾ Characteristic data of control behaviour depends on process conditions

Characteristic 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: $p_{\text{valve}} > 30\%$ of total pressure drop within the system

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

Determination of the kv value

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

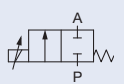
k_v Flow coefficient [m³/h]¹⁾
 Q_N Standard flow rate [m³/h]²⁾
 p_1 Inlet pressure [bar]³⁾
 p_2 Outlet pressure [bar]³⁾
 Δp Differential pressure $p_1 - p_2$ [bar]
 ρ Density [kg/m³]
 ρ_N Standard density [kg/m³]
 T_1 Temperature if fluid medium [(273+t)K]

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

²⁾ Standard conditions at 1.013 bar³⁾ and 0 °C (273K)

³⁾ Absolute pressure

Ordering chart for valves

Valve operation	Orifice [mm]	Port connection	k_v value for water [m ³ /h] ¹⁾	Q_N value [l/min] ²⁾	Maximum operating pressure [bar] ³⁾	Power consumption [W]	Maximum coil current [mA]	Item no. Brass body	Item no. Stainless steel body
 Direct-acting 2-way proportional valve, closed by spring action without current	8	G 1/2	1.4	1500	0.7	18	580	150 401	–
		G 3/4	1.4	1500	0.7	18	580	150 427	–
	10	G 1/2	2.0	2150	0.4	18	580	150 402	150 404
		G 3/4	2.0	2150	0.4	18	580	150 428	150 429
	12	G 1/2	2.8	3020	0.2	18	580	–	150 426
		G 3/4	2.8	3020	0.2	18	580	150 406	150 408

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


2) Q_N value: Flow rate value for air with inlet pressure of 6 bar¹⁾, 1 bar pressure differential and +20 °C.

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

Please note that the valves are delivered without control electronics unit and cable plug (see accessories below).
Devices also suitable for technical vacuum.

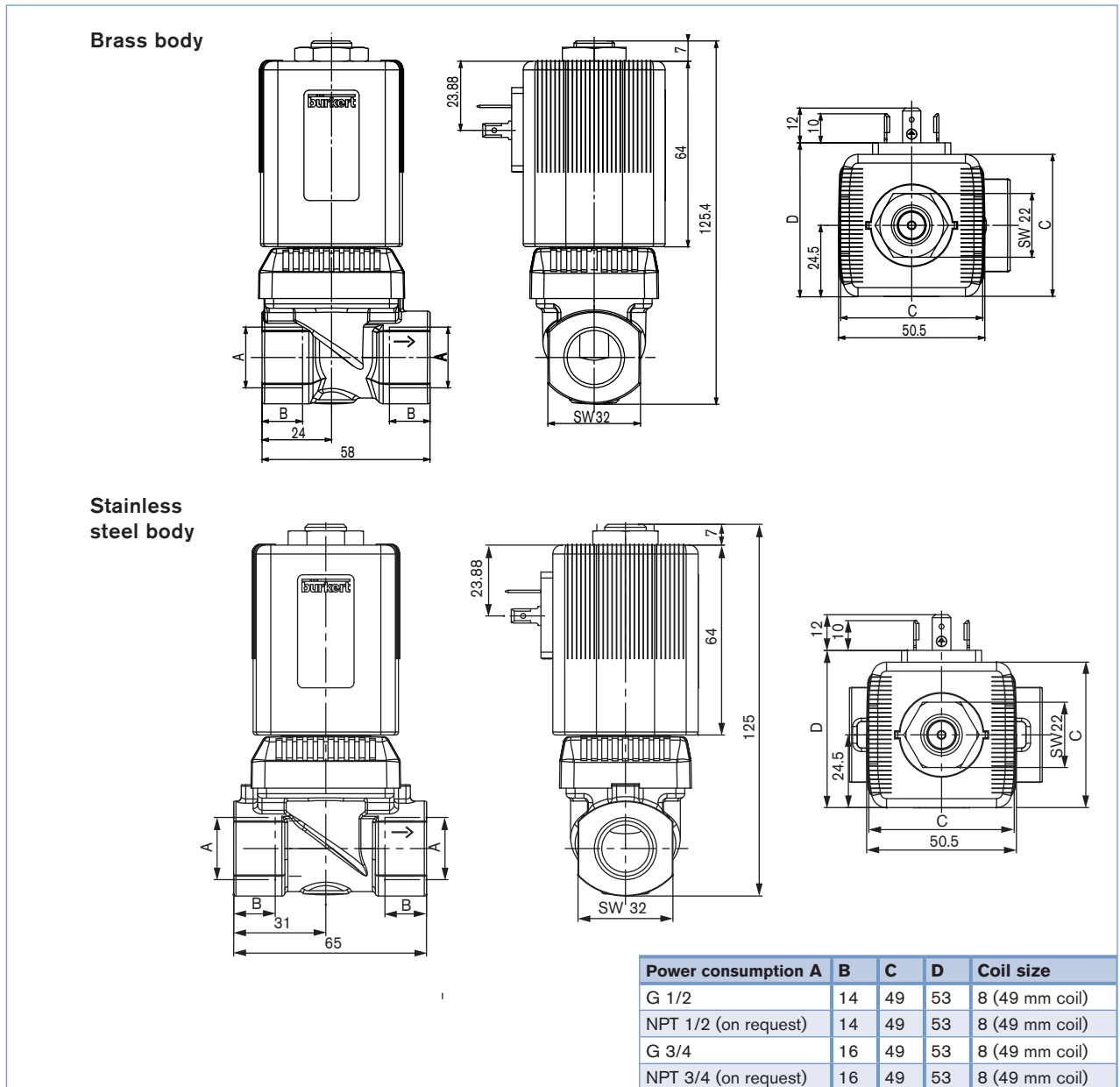
i Further versions on request

 **Analytical**
Oil and fat-free version

 **Port connection**
NPT 1/2, NPT 3/4

Please also use the "request for quotation" form on last page [go to page](#)

Dimensions [mm]



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

Electronic Control Type 8605

Please see separate datasheet. Click on the box "More info."... you will come to our website for this product where you can download the datasheet.



Note

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

Proportional valves – request for quotation

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

Company	Contact person
Customer no.	Dept.
Address	Tel./Fax
Town / Postcode	E-Mail

= Mandatory fields

Quantity

Desired 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	
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	
Maximum inlet pressure	$p_{1max} =$ <input type="text"/>	barg	
Ambient temperature	<input type="text"/>	°C	

Additional specifications

Body material	<input type="checkbox"/> Brass	<input type="checkbox"/> Stainless steel
Seal material	<input type="checkbox"/> FKM	<input type="checkbox"/> other <input type="text"/>

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

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

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

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1311/6_EU-en_00891871



Proportional Valve with Control Electronics

- Control valve for continuous control of liquids
- Low hysteresis and high repeatability
- Control with PWM signal
- Servo-assisted, tight closing valve

Type 6223 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

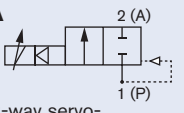
Universal controller

The valve, Type 6223, can be used to control the flow of large amounts of liquids. Low hysteresis, high repeatability and good response sensitivity guarantee good positioning behaviour. The valve closes tight. The push-over coil is easy to replace.

Technical data	
Orifice	DN 10, 13 and 20 mm
Body material	Brass, stainless steel on request
Seal material	FKM, others on request
Media	Neutral liquids
Media temperature	-10 to + 90 °C
Ambient temperature	Max. + 55 °C
Port connection	G 3/8, G 1/2, G 3/4, G 1
Viscosity	Max. 21 mm ² /s
Operating voltage	24 V DC
Power consumption	See ordering chart
Duty cycle	Continuous rating 100%
Electrical connection	Cable plug Type 2508 acc. to DIN EN 175301-803 Form A
Protection class valve	IP 65 with plug-on module or with cable plug on the valve
Installation	As required, preferably with actuator in upright position
Hysteresis	< 5%
Repeatability	< 1% FS
Sensitivity	< 1% FS
Settling time (90%)	< 200 ms
Span	1:10

Ordering chart for valves (other versions on request)

All valves with FKM sealing

Circuit function	Port connection	Orifice [mm]	Kvs value water [m ³ /h] ¹⁾	Q _{Nn} value [l/min] ²⁾	Pressure range [bar] ³⁾	Max. coil current [mA]	Power consumption [W]	Item no.
 2-way servo-assisted continuous control valve NC	G 3/8	10	1.4	1510	0.5-10	300	8	134 229
	G 1/2		1.4	1510	0.5-10	300	8	134 230
	G 1/2	13	2.5	2700	0.5-10	330	10	132 202
	G 3/4		2.5	2700	0.5-10	330	10	282 985
	G 3/4	20	5.0	5400	0.5-10	530	15	222 478
	G 1		5.0	5400	0.5-10	530	15	222 477

1) Kvs value: Flow rate value for water, measured at +20 °C and 1 bar pressure differential over a fully opened valve

2) Q_{Nn} value: Flow rate value for air with inlet pressure of 6 bar¹⁾, 1 bar pressure differential and +20 °C

3) Pressure data [bar]: Overpressure with respect to atmospheric pressure; if the differential pressure over the valve exceeds 5 bar the characteristics may change.

Please note that the valves are delivered without control electronics unit and cable plug (see accessories below).

Ordering chart for accessories

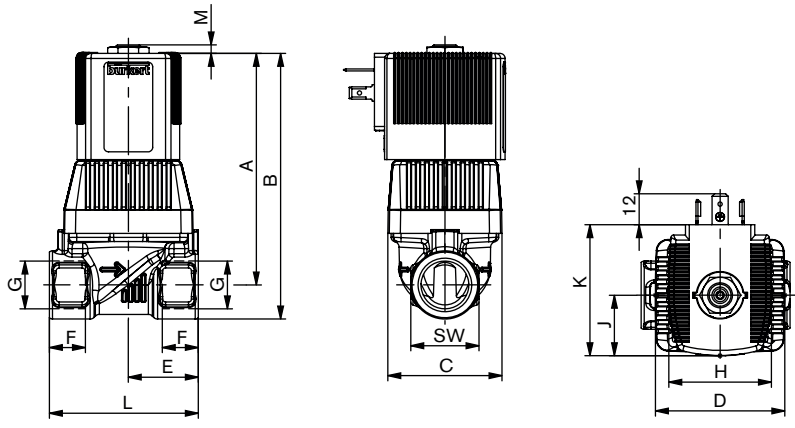
Cable plug Type 2508 according to DIN EN 175301-803 Form A

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

Electronic Control Type 8605 - please see separate datasheet

Dimensions [mm]



Orifice	A	B	C	D	E (MS/VA)	F1	G1	F2	G2	F3	G3	H	J	K	L (MS/VA)	SW	M
DN10	71.4	85.4	37.5	38	20	12	G 3/8	10.3	NPT 3/8	10.1	Rc 3/8	32	20.5	45	50	27	3.7
						14	G 1/2	13.7	NPT 1/2	13.2	Rc 1/2						
DN13	90.3	103.8	44.5	50.5	27.25/32.5	14	G 1/2	13.7	NPT 1/2	13.2	Rc 1/2	40	23.5	51	58/65	27	3.3
						16	G 3/4	14	NPT 3/4	14.5	Rc 3/4						
DN20	126.1	142.1	66	66	37	16	G 3/4	14	NPT 3/4	14.5	Rc 3/4	42	27	55.5	80	32	7.0
						18	G 1	16.8	NPT 1/2	16.8	Rc 1						

Note

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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.	Dept.
Address	Tel./Fax
Town / Postcode	E-Mail

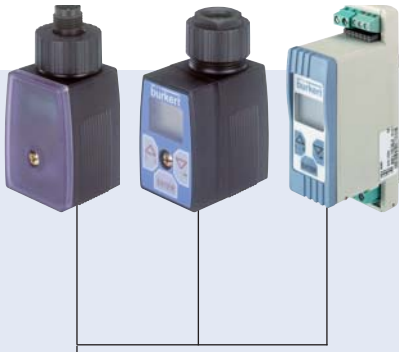
<input type="checkbox"/> = Mandatory fields	<input type="text"/> Quantity	<input type="text"/> Requested delivery date
Process data		
<input type="checkbox"/> Fluid	<input type="text"/>	
<input type="checkbox"/> State of fluid	<input type="checkbox"/> liquid	<input type="checkbox"/> gaseous
<input type="checkbox"/> Fluid 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"/> Maximum inlet 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"/> Seal material	<input type="checkbox"/> FKM	<input type="checkbox"/> other <input type="text"/>

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

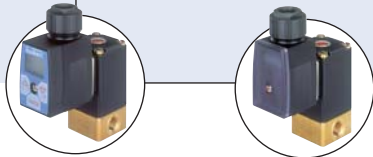
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Control Electronics for Solenoid Control Valves



Type 8605 can be combined with...



Type 8605

with operating unit combined with type 2873

Type 8605

without operating unit combined with type 2873

- Microprocessor-controlled electronics
- Selectable input signal
- Adjustable PWM frequency
- Optional RS232 or RS485 interface

The digital control electronics, type 8605, serves to operate valves in the power range from 40 - 2000 mA.

The electronics converts an external standard signal into a pulse-width modulated (PWM) signal with which the opening of the valve and hence a fluidic output parameter (e.g. flow rate) can be infinitely varied. An internal current control with the duty cycle factor of the PWM signal as control variable ensures that every value of the input signal, irrespective of the thermal condition of the coil, is unambiguously assigned a given value of the effective coil current.

Compared to DC operation of solenoid control valves the PWM operation improves, among others, their sensitivity and hysteresis.

A display and operating keys allow the electronics to be easily adapted to a particular solenoid control valve and to the concrete conditions of an application.

Technical data	
Operating voltage	12 - 24 V DC
Voltage tolerance	±10 %
Residual ripple	<5 %
Power consumption	approx. 1 W (without valve)
Output current (valve)	max. 2A
Ambient temperature	-10 to 60°C
Input signal	0-20 mA, 4-20mA or 0-5V, 0-10 V (configurable)
Input impedance	<200 Ω (with current input) >20 kΩ (with voltage input)
Output signal for valve control	PWM signal – frequency adjustable from 80Hz to 6 kHz
Ramp function	Time variable from 0 to 10 s
Version	– Cable plug for direct installation (with PG- or M12 connection) – DIN-rail version (DIN EN 50022)
Protection class	Cable plug – IP65 DIN-rail – IP40
Housing material	Cable plug – Polyamide / PC DIN-rail – Polyamide / PBT

Functions of the controller Type 8605

- Microprocessor-controlled electronics
- Compensation of the solenoid coil heating by internal current control
- Configurable ramp function
- Adjustable zero point shutdown
- Display and buttons
- Selectable input signal
- RS232 or RS485 interface (with auxiliary module)
- Infinitely variable PWM frequency
- Simple adaptation of the minimum and maximum current (start of opening and full opening) to the actual pressure conditions

Ordering chart Control Electronics for Solenoid Control Valves

Version	Max. coil current [mA]	Item no.	2861, 2871 24 V DC	2861, 2871 12 V DC	2863, 2873 24 V DC	2863, 2873 12 V DC	2865, 2875 24 V DC	2865, 2875 12 V DC	2836 24 V DC	6024 24 V DC	6024 12 V DC	6223 24 V DC	6223 12 V DC
Cable plug with PG-connection	200 – 1000	178 354			x	x	x			x		x	
Cable plug with M12-connection	200 – 1000	178 355			x	x	x			x		x	
Cable plug with PG-connection	500 – 2000	178 356				x	x	x	x	x	x		x
Cable plug with M12-connection	500 – 2000	178 357				x	x	x	x	x	x		x
Cable plug with PG-connection without operating unit	200 – 1000	178 358			x	x	x			x		x	
Cable plug with M12-connection without operating unit	200 – 1000	178 359			x	x	x			x		x	
Cable plug with PG-connection without operating unit	500 – 2000	178 360				x	x	x	x	x	x		x
Cable plug with M12-connection without operating unit	500 – 2000	178 361				x	x	x	x	x	x		x
DIN-rail	40 – 220	178 362	x										
DIN-rail	200 – 1000	178 363	x	x	x	x	x			x		x	
DIN-rail	500 – 2000	178 364				x	x	x	x	x	x		x

Notes:

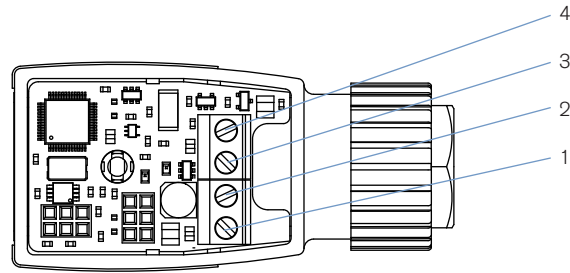
- With two current ranges possible please choose the lower one.
- Please consider the internal resistance of the valve if used in combination with valves of other vendors. The internal resistance should not fall below 7Ω because the control electronics might be damaged if the resistance of the valve is too low.
 - Successor types:
 - 2861, 2871 with 2822, 2824
 - 2863, 2873 with 2833
 - 2865, 2875 with 2835
- When using the older type please choose the control electronics indicated for the adequate new type.

Ordering chart accessories

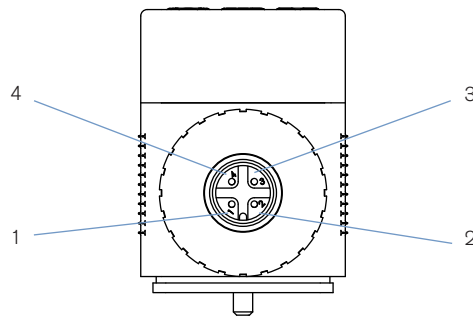
Version	Item no.
Control unit for plug-on module	667 839
RS232 module for plug-on	667 840
RS485 module for plug-on	667 841
RS232 module for DIN-rail	667 842
RS485 module for DIN-rail	667 843
Right-angle plug M12, 4 pins	784 301
M12 connector with 5m cable, 4 pins	918 038
M8 connector with 2m cable for RS232/ Rs485 plug-on module	918 718
Cover (for control unit without display)	670 549

Pin Assignment

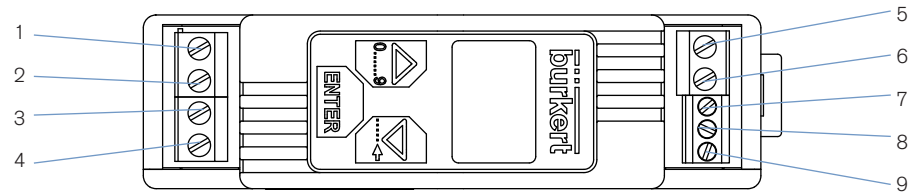
Cable plug PG



Cable plug M12



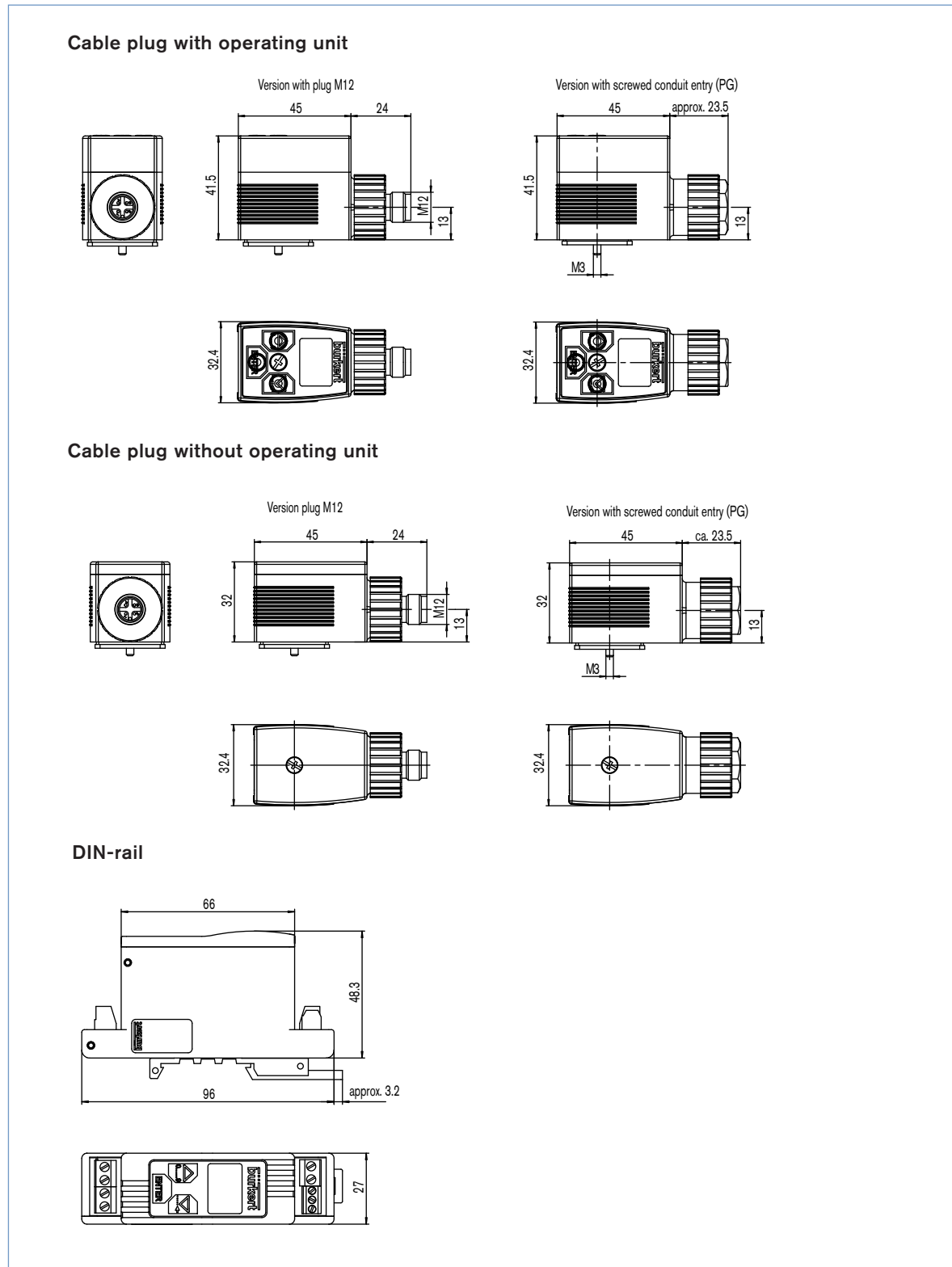
DIN-rail



- 1 : + 12-24 VDC
- 2 : GND
- 3 : Standard signal GND
- 4 : Standard signal +
- 5 : Valve
- 6 : Valve
- 7 : RS232 TxD/ RS485-B *)
- 8 : RS232 RxD/ RS485-A *)
- 9 : DGND *)

*) only with RS232 or RS485 auxiliary module

Dimensions [mm]



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



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

We reserve the right to make technical changes without notice.

1411/7_EU-en_00895016

Universal process controller eCONTROL



Type 8611 can be combined with...



Type 6223

Proportional Valve



Type 2301+8696

Globe control valve system



Type 8012

INLINE flowmeter



Type 8316

Pressure transmitter
4...20 mA



Type TST001

Resistance thermometer



Type 8222

neutrino conductivity meter

- Continuous, 2-point, 3-point and On/Off control
- Ratio control function
- Sensor inputs (4...20 mA, 0...10 V, frequency, Pt100)
- Control of proportional, process and motor valves
- Bürkert proportional valves and flow meters are memorized
- 1/16 DIN size panel version

Thanks to its compact design, the universal 8611 controller is especially designed for compact control system applications.

It is compatible and tested with all Bürkert proportional valves and sensors and can be connected with every none-Bürkert Control valve by standard signal (4...20 mA, 0...10 V or PWM-output).

The proportional & Integral (PI) process controller is equipped with many additional functions. The process value feedback can be supplied as one of three analog inputs; a standard signal (4...20 mA/0...10V), frequency or Pt100 signal; directly to the universal controller.

The process switching points can be set via a 4...20 mA or 0...10 V signal or with the keypad. For temperature specific control, it is possible to set a cascade structure with both temperature and flow as inputs.

Thanks to the proportional control capabilities, a wide range of control functions can be performed in a variety of liquids and gas medias.

Fields of application:

- ▶ Flow control, Ratio control
- ▶ Pressure control
- ▶ Temperature control
- ▶ Conductivity control
- ▶ pH control
- ▶ Level control

General data

Materials

Housing, cover
Front panel folio / Screws
Multipin
Wall-mounting holder

PC, +20% glass fibre
Polyester / Stainless steel
CuZn, nickel-plated
PVC

Display

Dual-line 8-digit LCD with backlight

Electrical connections

Multipin: M12-8pin, M8-4pin, M8-3pin
Terminals
Insert for connecting to components according to DIN EN 175301-803

Voltage supply cable

0.5 mm² max. cross section, max. 100 m, shielded

Environment

Ambient temperature

0...+70°C (operating and storage)

Relative humidity

≤ 80%, without condensation

Height above sea level

max. 2000 m

Standards and approvals

Protection class

IP65

Standard

EMC, CE

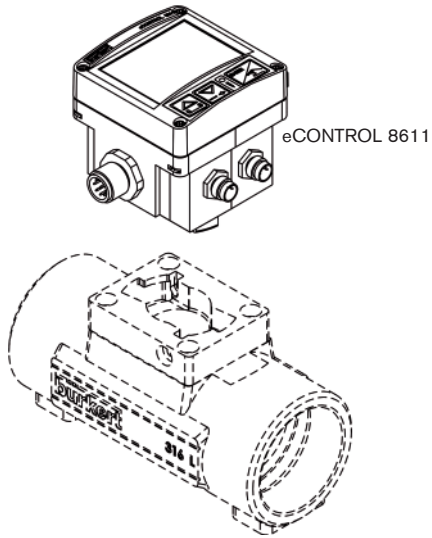
EN 61326

Electrical data	
Operating voltage	24 V DC $\pm 10\%$, filtered and regulated
Power consumption	approx. 2 W (without valve - without sensor input)
Input	
Setpoint	Sourcing mode
Standard 4...20 mA	Max. input impedance: 70 Ω Resolution: 5.5 μ A
Standard 0...10 V	Max. input impedance: 11.5 k Ω Resolution: 2.5 mV
Sensors	Sourcing mode
Standard 4...20 mA	Max. input impedance: 70 Ω Resolution: 5.5 μ A
Standard 0...10 V	Max. input impedance: 11.5 k Ω Resolution: 2.5 mV
Frequency	
Input 1	External sensor min. 0.25 Hz / max. 1 kHz input impedance: >1 k Ω Signal type: Sinus, square, triangle pulse (> 3000 mVpp, max. 30 Vpp)
Input 2	Internal Hall sensor min. 0.25 Hz / max. 1 kHz (only with Bürkert Type S030 flow fitting)
Pt100 (2 wires)	Measuring range: 0...+200°C Measuring current: 1 mA Measuring error: < 0.5°C
Binary input	Input impedance: 10 k Ω Operating threshold: 3...30 V Max. frequency: 1 kHz
Outputs	
Continuous signal	Standard signal 4...20 mA max. loop resistance: 680 Ω accuracy: 0.5% Standard signal 0...10 V max. current: 20 mA accuracy: 0.5%
Discontinuous signal	2 transistor outputs for PWM ^{*)} or PTM ^{*)} signal Control frequency 20 Hz...9999 Hz resolution max.: 16 Bit (depend from frequency) max. current load: 1.5 A switching voltage: 24 V DC
Binary output	Transistor output (PNP) (configurable) max. current load: 1.5 A switching voltage: 24 V DC
Power supply sensor / actuator	24 V DC, max. 1 A
Total load of all outputs	max. 1.5 A
Controller modes	PI-Control, 2 point and 3 point, cascaded Up to 2 Binary out with windows and hysteresis mode

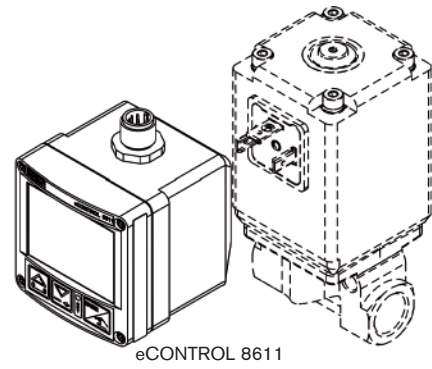
^{*)}PWM = pulse width modulation
PTM = pulse time modulation

Assembly versions

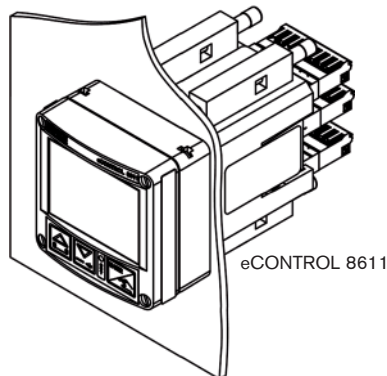
Mounting on flow-fitting
eCONTROL Fitting-mounting



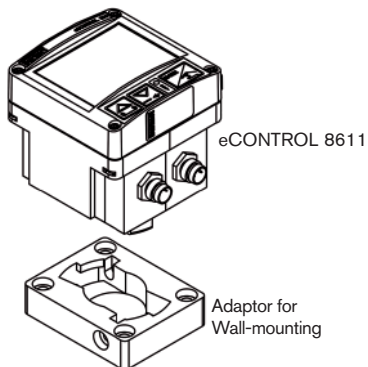
Mounting on a proportional valve
eCONTROL Valve-mounting



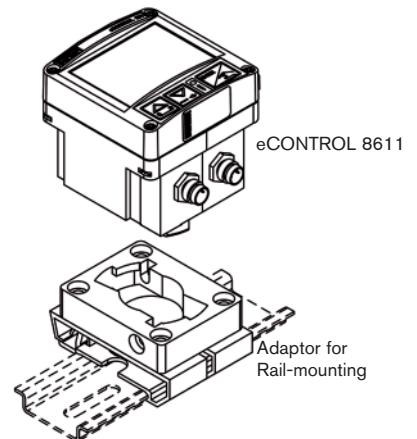
Mounting in panel
eCONTROL Panel-mounting



Mounting on a wall
eCONTROL Wall-mounting

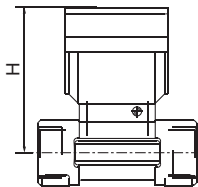
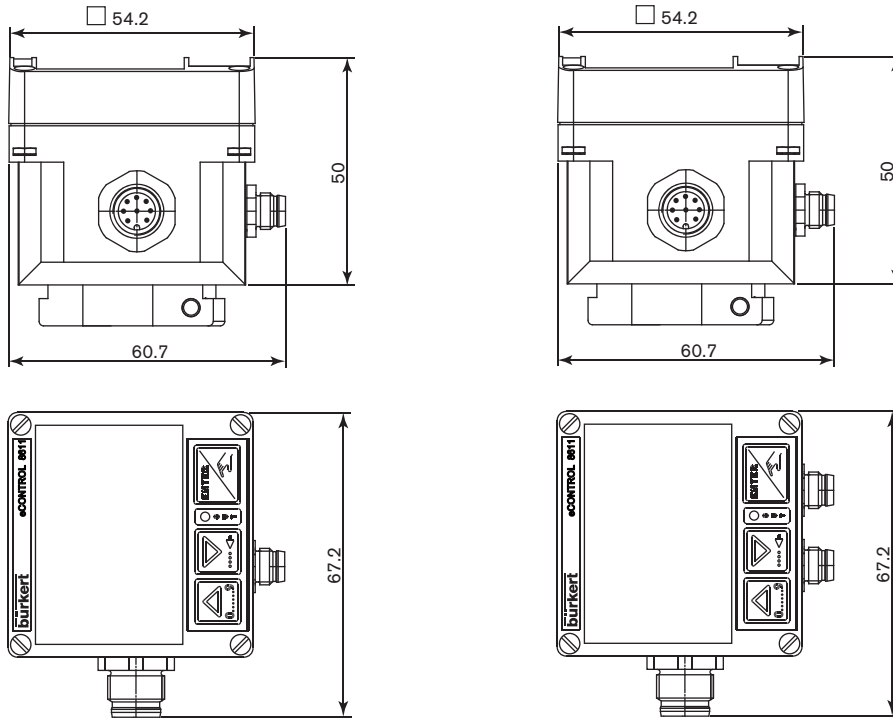


Mounting on a rail
eCONTROL Rail-mounting



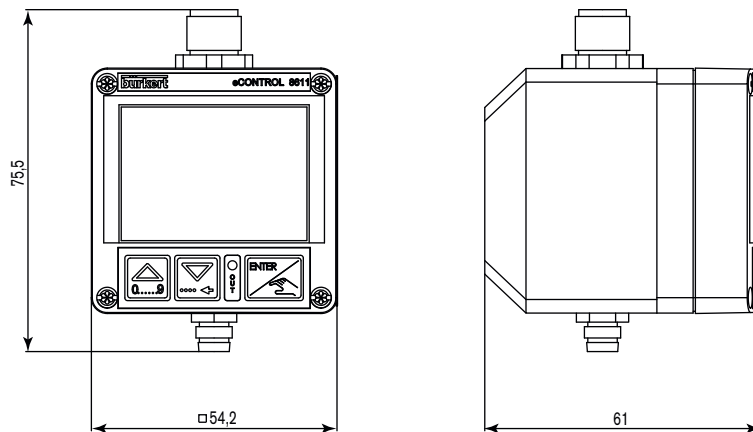
Dimensions [mm]

8611 - eCONTROL Fitting-mounting



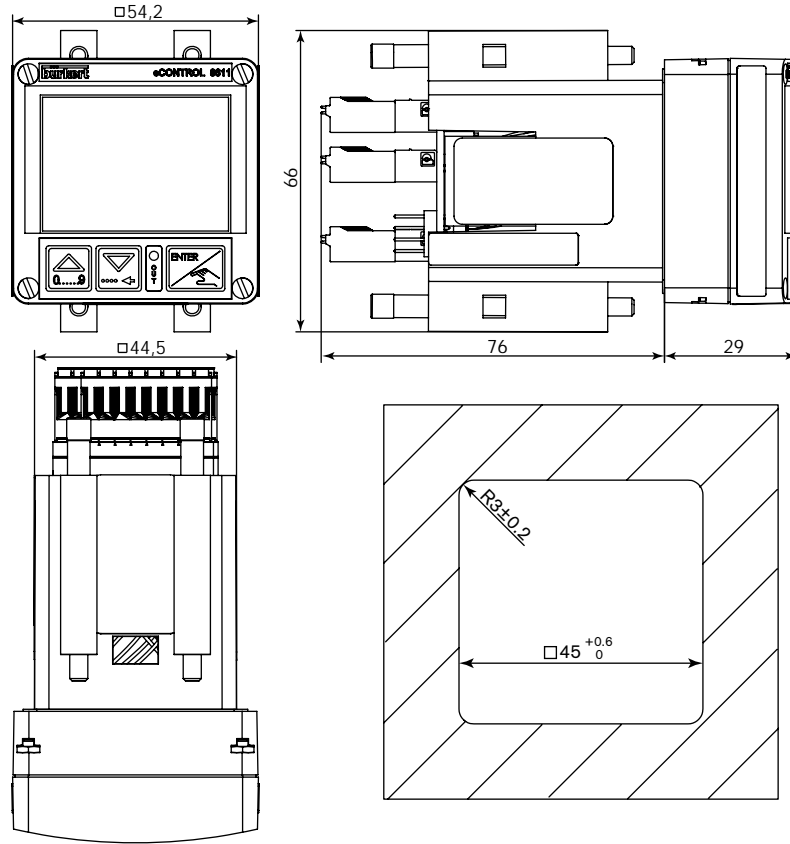
DN [mm]	H [mm]
06	79.5
08	79.5
15	84.5
20	82.0
25	82.2
32	85.8
40	89.6
50	95.7
65	98.7

8611 eCONTROL Valve-mounting

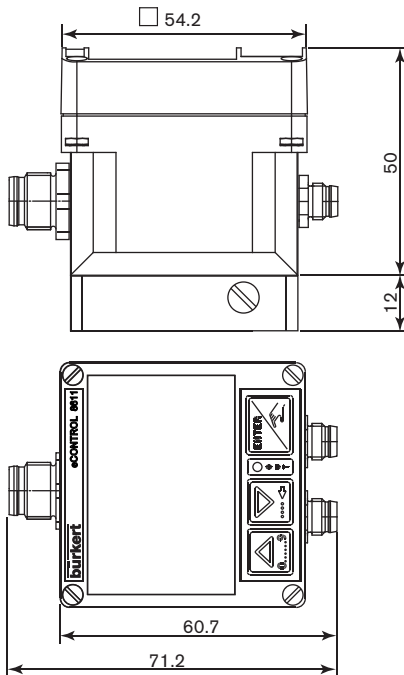


Dimensions [mm] (continued)

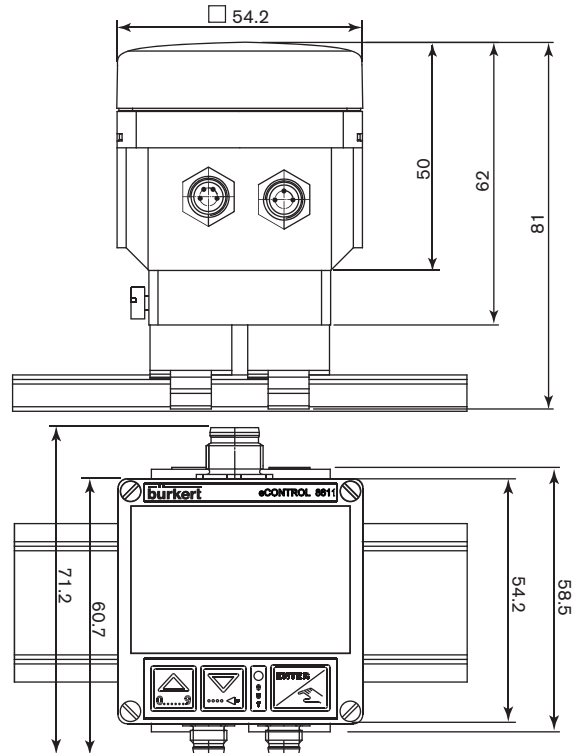
8611 eCONTROL Panel-mounting







8611 eCONTROL Wall-mounting

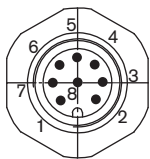


8611 eCONTROL Rail-mounting



Connection feasibility and controller versions

Assembly	Flow sensor fitting mounting		Wall- and rail-mounting	Valve-mounting
Sensor	integrated HALL-sensor, without external sensor input	integrated HALL-sensor with external sensor input	without HALL-sensor, with external sensor input	without HALL-sensor, with external sensor input
Control	<ul style="list-style-type: none"> Flow control 	<ul style="list-style-type: none"> Temperature control with flow display Temperature control with flow input for cascade control Ratio control 	<ul style="list-style-type: none"> Temperature control Pressure control Flow control 	<ul style="list-style-type: none"> Temperature control Pressure control Flow control
	 <p>8-pin M12</p> <p>4-pin M8</p>	 <p>8-pin M12</p> <p>4-pin M8</p> <p>3-pin M8</p>	 <p>8-pin M12</p> <p>4-pin M8</p> <p>3-pin M8</p>	 <p>8-pin M12</p> <p>3-pin M8</p>



8-pin M12 plug

- Power supply 24 V DC
- Set point value (0...10 V / 4...20 mA)
- Binary input
- process value output (0...10 V / 4...20 mA)
- PI-control output (0...10 V / 4...20 mA)
- Binary output



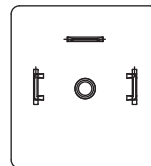
3-pin M8 plug

- Sensor input 4...20 mA / 0...10 V, frequency or Pt100
- Sensor power supply 24 V DC



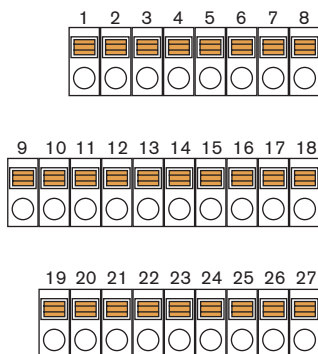
4-pin M8 plug

- PI-control output :
- 1 x PWM output
 - 2 x PTM output
 - 0...10 V/4...20 mA output and power supply actuator 24 V DC (only Item no. 182 383)



DIN 175301-803

- PWM output for Solenoid control valve



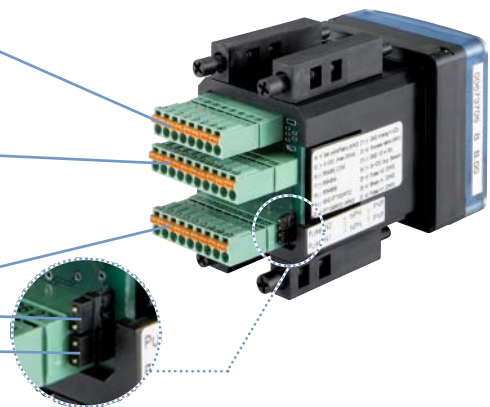
Terminal block 1

Terminal block 2

Terminal block 3

Jumper 1 (NPN/PNP)

Jumper 2 (NPN/PNP)



Ordering chart for universal Controller Type 8611

A controller Type 8611 consists of:

for Fitting-mounting

- an electronic module 8611
- an INLINE fitting S030 (DN06 - DN65)

(Refer to corresponding data sheet

- has to be ordered separately)

for Wall-mounting

- an electronic module 8611
- a wall-mounting adaptor (included)

for Rail-mounting

- an electronic module 8611
- a rail-mounted adaptor (included)

for Valve-mounting








- an electronic module 8611
- a proportional valve



(Refer to corresponding data


sheet of the proportional valve - has to be ordered separately

for Panel-mounting

- an electronic module 8611
- 4 mounting brackets and 1 sealing (included)


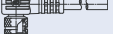











Mounting disposition	Sensor input		controller outputs (*)		Operating voltage	Setpoint setting	Process value output	Binary In/Out	Item no.
	externe 	interne 							
	-	Flow rate (Fitting S030)	1 x PWM 2 x PTM	4...20 mA 0...10 V	24 V DC	4...20 mA 0...10 V	4...20 mA (*) 0...10 V	1 x Bin In 1 x Bin Out	177 455
	Temperature (Pt100)	Flow rate (Fitting S030)	1 x PWM 2 x PTM	4...20 mA 0...10 V	24 V DC	4...20 mA 0...10 V	4...20 mA (*) 0...10 V	1 x Bin In 1 x Bin Out	177 458
	Ratio or Temp. (4...20 mA / 0...10 V)	Flow rate (Fitting S030)	1 x PWM 2 x PTM	4...20 mA 0...10 V	24 V DC	4...20 mA 0...10 V	4...20 mA (*) 0...10 V	1 x Bin In 1 x Bin Out	177 463
	Ratio (Frequency-NPN)	Flow rate (Fitting S030)	1 x PWM 2 x PTM	4...20 mA 0...10 V	24 V DC	4...20 mA 0...10 V	4...20 mA (*) 0...10 V	1 x Bin In 1 x Bin Out	208 048
			4...20 mA 0...10 V	-	24 V DC	4...20 mA 0...10 V	-	1 x Bin In 1 x Bin Out	567 181
	Flow rate (frequency- NPN)	-	1 x PWM 2 x PTM	4...20 mA 0...10 V	24 V DC	4...20 mA 0...10 V	4...20 mA (*) 0...10 V	1 x Bin In 1 x Bin Out	177 454
	Temperature (Pt100)	-	1 x PWM 2 x PTM	4...20 mA 0...10 V	24 V DC	4...20 mA 0...10 V	4...20 mA (*) 0...10 V	1 x Bin In 1 x Bin Out	177 457
	All sensors with standard signal (4...20 mA / 0...10 V)	-	1 x PWM 2 x PTM	4...20 mA 0...10 V	24 V DC	4...20 mA 0...10 V	4...20 mA (*) 0...10 V	1 x Bin In 1 x Bin Out	177 462
	All sensors with standard signal (4...20 mA / 0...10 V)	-	4...20 mA 0...10 V	-	24 V DC	4...20 mA 0...10 V	-	1 x Bin In 1 x Bin Out	182 383
	Flow rate (frequency- NPN)	-	1 x PWM 2 x PTM	4...20 mA 0...10 V	24 V DC	4...20 mA 0...10 V	4...20 mA (*) 0...10 V	1 x Bin In 1 x Bin Out	177 091
	Temperature (Pt100)	-	1 x PWM 2 x PTM	4...20 mA 0...10 V	24 V DC	4...20 mA 0...10 V	4...20 mA (*) 0...10 V	1 x Bin In 1 x Bin Out	177 456
	All sensors with standard signal (4...20 mA / 0...10 V)	-	1 x PWM 2 x PTM	4...20 mA 0...10 V	24 V DC	4...20 mA 0...10 V	4...20 mA (*) 0...10 V	1 x Bin In 1 x Bin Out	177 460

Mounting disposition	Sensor input		controller outputs	Setpoint setting	Process value output	Binary In/Out	Item no.
	externe 						
	Temperature (Pt100)		1 x PWM	4...20 mA 0...10 V	4...20 mA 0...10 V	1 x Bin In 1 x Bin Out	204 642
	Flow rate (frequency- NPN)		1 x PWM	4...20 mA 0...10 V	4...20 mA 0...10 V	1 x Bin In 1 x Bin Out	204 639
	All sensors with standard signal (4...20 mA / 0...10 V)		1 x PWM	4...20 mA 0...10 V	4...20 mA 0...10 V	1 x Bin In 1 x Bin Out	186 289

Mounting disposition	Sensor input	controller outputs	Setpoint setting	Process value output	Binary In/Out	Item no.
	2 x Frequency (NPN/PNP) 1 x 4...20 mA / 0...10 V 1 x Pt100 Ratio control	1 x PWM 2x PTM 1x 4...20 mA/0...10 V	4...20 mA 0...10 V	4 ...20 mA (*) 0...10 V	1 x Bin In 2 x Bin Out	210 206

* Either PWM/PTM or 4...20 mA/0...10 V selectable as PI-control output. If 4...20 mA/0...10 V selected as PI-output, the process value isn't available.

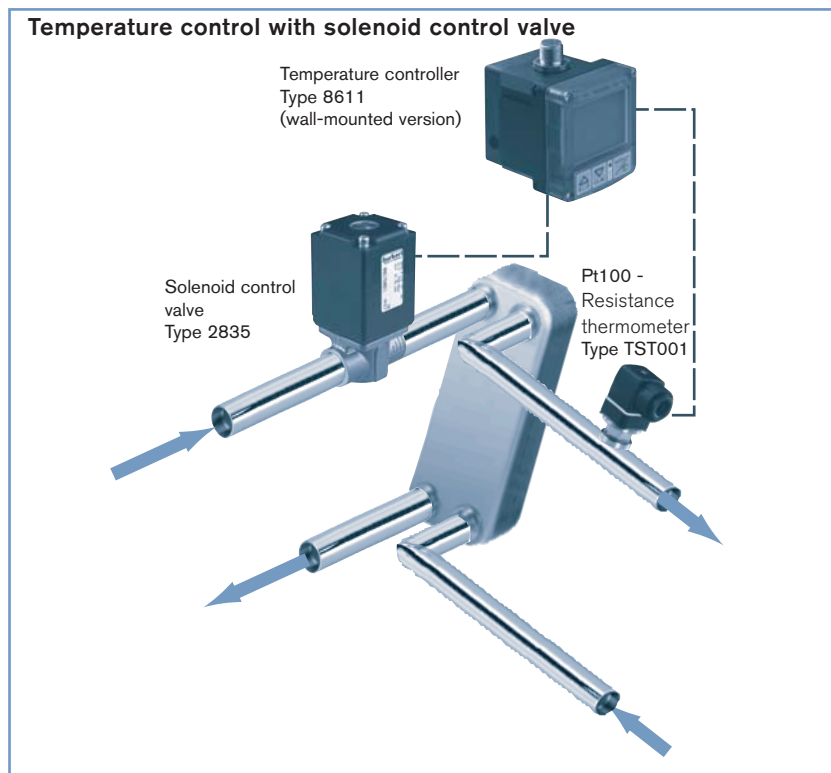
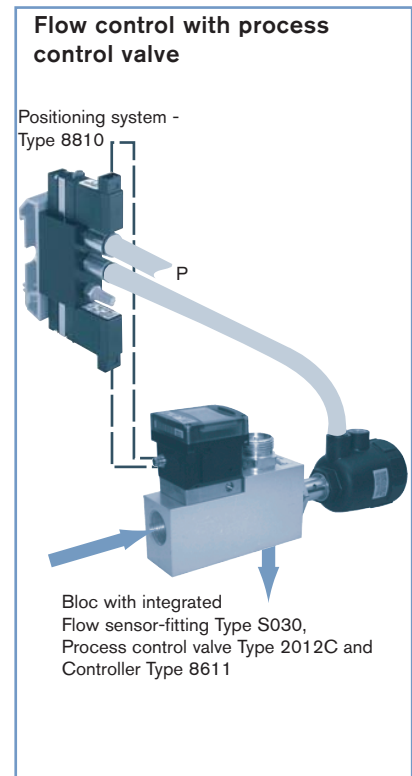
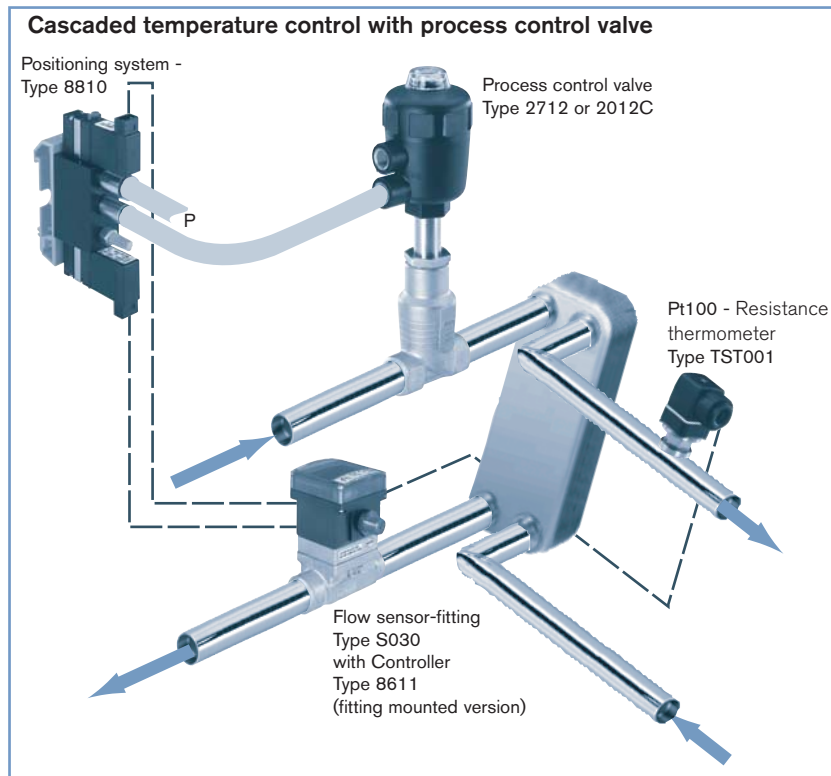
Ordering chart for accessories (has to be ordered separately)


	Description	Item no.
	Positioning system 8810 for pneumatic actuators with rail-mount adaptor	204 458
	4-pin M8 female right angle connector with self-locking threaded joint and 2 m molded cable (valve output)	918 718
	4-pin M8 female right angle connector with self-locking threaded joint and 5 m molded cable (valve output)	919 412
	3-pin M8 female right angle connector with self-locking threaded joint and 2 m molded cable (sensor input)	918 717
	3-pin M8 female right angle connector with self-locking threaded joint and 5 m molded cable (sensor input)	919 410
	4-pin M8 female connector, straight with snap-on connection and 2 m molded cable (valve output)	919 060
	3-pin M8 female connector, straight with snap-on connection and 2 m molded cable (sensor input)	918 039
	8-pin M12 female connector, straight with screw connection and 2 m molded cable (PUR) (Power supply)	919 061
	8-pin M12 female connector, straight with screw connection, to assemble (Power supply)	918 998
	2-pin female connector, straight with 3 m cable (for connection to Positioning system 8810)	133 486
	2-pin female connector, straight with 5 m cable (for connection to Positioning system 8810)	167 494
	2-pin female connector, straight with 0.3 m wire (for connection to Positioning system 8810)	644 068
	2-pin female connector, straight with 0.6 m wire (for connection to Positioning system 8810)	162 144

Ordering chart for spare parts (has to be ordered separately)

	Description	Item no.
	Wall-mounting adaptor	427 098
	Rail-mounting adaptor	655 980
	Mounting brackets (Set of 4 pieces)	560 225

Examples of applications



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

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

Subject to alteration.
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