

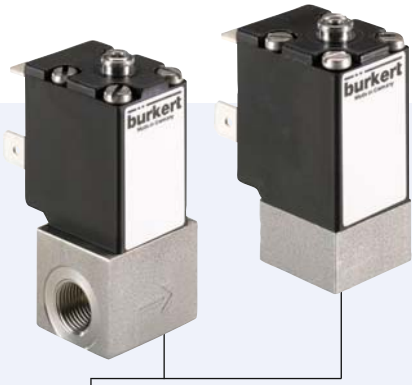
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Электромагнитные клапаны для нейтральных и слабоагрессивных сред Burkert

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

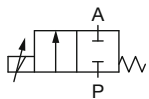
Universal controller

- 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

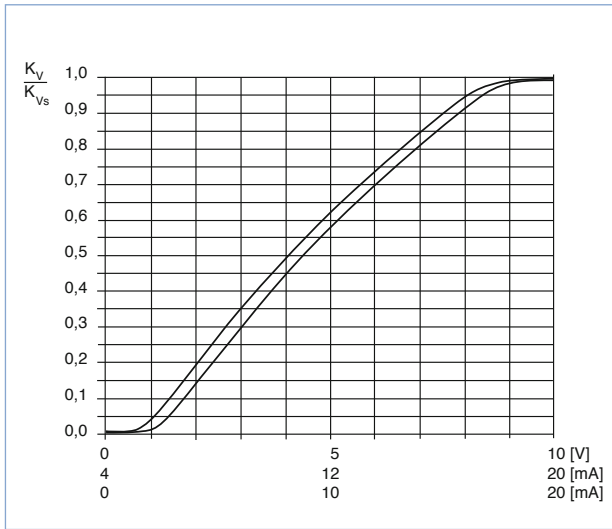
Technical data - Control electronics Type 8605 (see separate datasheet)

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]

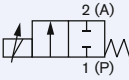
⁶⁾ measured for water 20°C, Δp 1 bar over the valve

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	

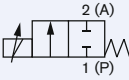
⁹⁾ k_{vs} value: Flow rate value for water, measured at +20 °C and 1 bar pressure differential over a fully opened valve.

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
			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
			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
			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
			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
			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
			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
			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	
		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	
		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	
		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	
		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	
		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	
		NPT 1/8	0.090	3	1.5				

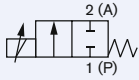
¹¹⁾ Approvals: UR (UL recognized)
DVGW - Approval acc. to European gas device guidelines (DIN 3394-1)

¹²⁾ Port connection: others on request.

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

Ordering chart - variants for higher differential pressures

All valves with FKM seal

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

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

Ordering chart for accessories

Cable plug Type 2507, form B

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

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

Control electronics, Type 8605 – see separate datasheet

i Further versions on request



Materials

Seal materials EPDM, FFKM



Analytical

Oxygen version
 Parts oil-, fat- and silicon free



Electrical connection

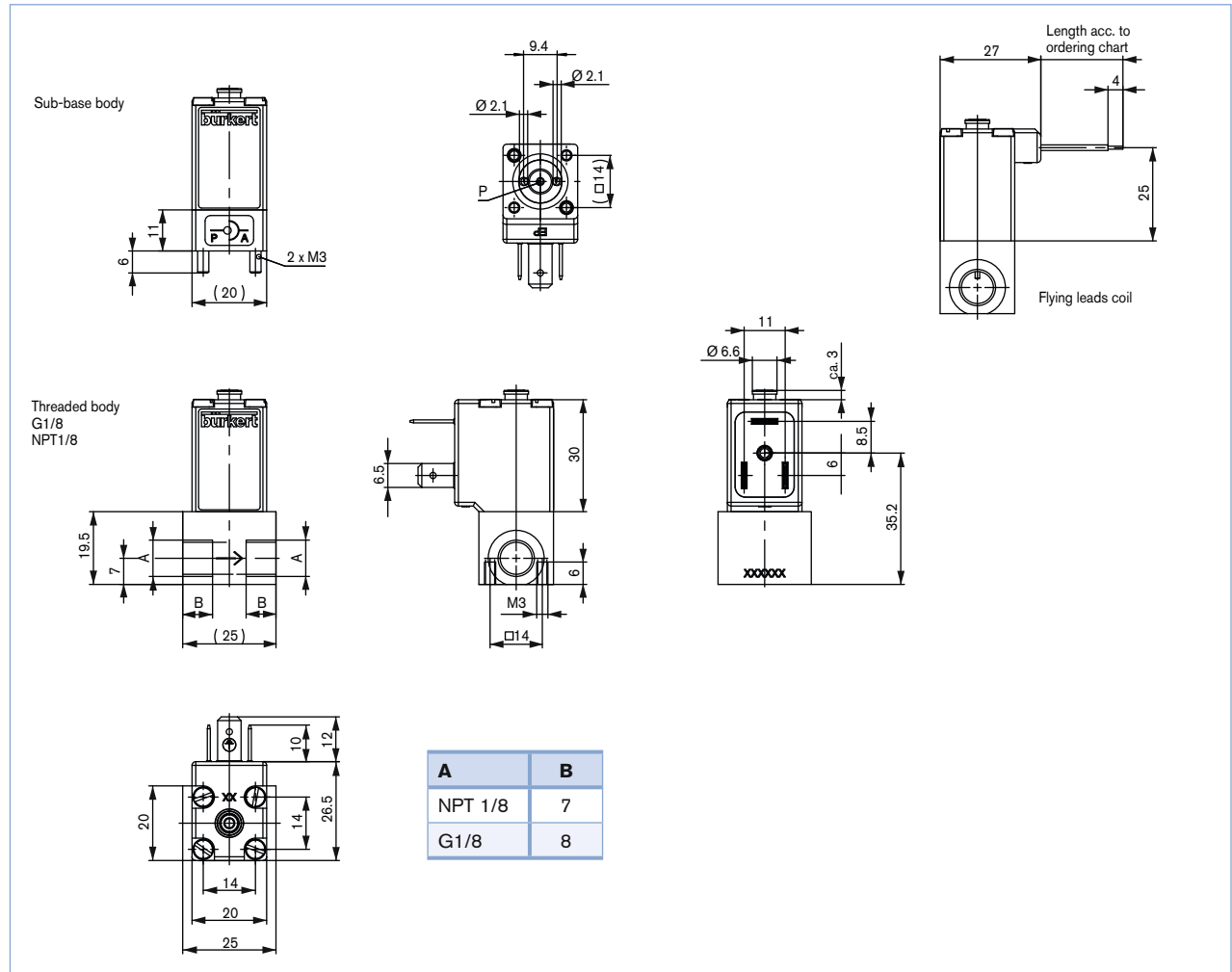
12 V Coil
 Wire leads 300mm



Approvals

UR (UL recognized)
 DVGW / device guidelines

Dimensions [mm]



Note

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

Design data for solenoid control valves

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

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

= Mandatory fields Quantity Requested delivery date

Process data

Medium

State of medium liquid gaseous

Medium temperature °C

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

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

Inlet pressure at nominal operation $p_1 =$ barg

Outlet pressure at nominal operation $p_2 =$ barg

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

Ambient temperature °C

Additional specifications

Body material Brass Stainless steel

Seal material FKM other

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

Standard series of solenoid control valves



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

2/2-Way Solenoid Control Valve



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

Type 2873 can be combined with...



Type 8605

Digital control electronics
Cable plug version



Type 8605

Digital control electronics
DIN-rail version



Type 2508

Cable plug

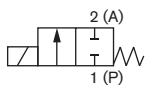


Type 8611

Universal controller

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

Circuit function A



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

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

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

¹⁾ PWM pulse width modulation

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

³⁾ Maximum value, value depends on operating pressure

⁴⁾ Characteristic data of control behaviour depends on process conditions

⁵⁾ by flow measurement

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

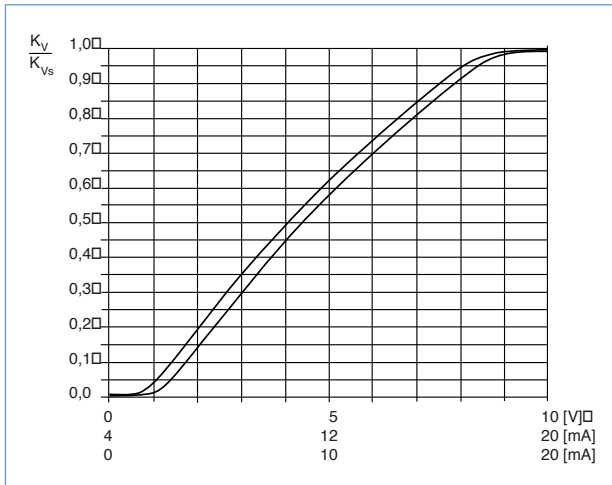
Technical data - Control electronics Type 8605 (see separate datasheet)

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

Further functional features of the Type 8605 electronic control unit:

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

Characteristics of a solenoid control valve



Advice for valve sizing

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

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

Otherwise the ideal linear valve curve characteristic is changed

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

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

Determination of the k_v value

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

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

⁶⁾ Measured for water 20°C, $\Delta p = 1$ bar, via the device
⁷⁾ At reference conditions 1.013 bar and 0°C (273K)
⁸⁾ Absolute pressure

Ordering chart

All valves with FKM seal

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

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

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

Ordering chart - variants for higher differential pressures

All valves with FKM seal

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

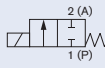
Note: The following technical data changes compared with the data on page 1

PWM frequency 800 Hz, span 1:100.

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

Ordering chart - variants with approvals

All valves with FKM seal

Circuit function	Orifice [mm]	Approvals	Port connection	k_v value water [m ³ /h]	Nominal pressure [bar]	Max. Differential pressure [bar]	Item no. Brass	Item no. Stainless steel	
	0.8	UR	G 1/8	0.018	16	8	274 944	274 960	
			NPT 1/8	0.018	16	8	274 945	274 961	
		DVGW	G 1/8	0.018	16	8	275 044	on request	
	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	5	2.5	274 954	274 970	
			NPT 1/4	0.150	5	2.5	274 955	274 971	
		DVGW	G 1/4	0.150	5	2.5	275 048	on request	
	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

i Further versions on request

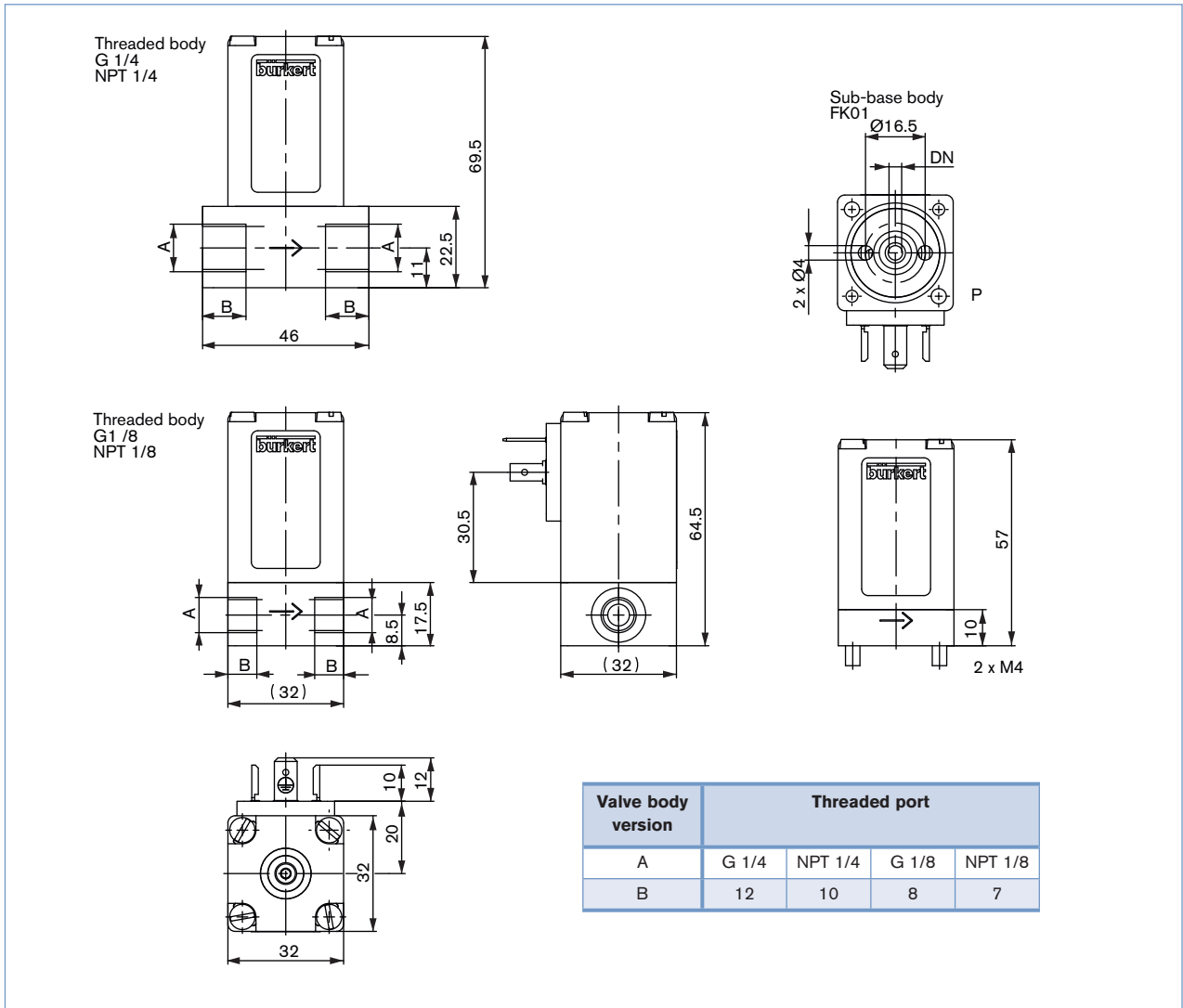
 **Materials**
Seal materials EPDM, FFKM

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

 **Electrical connection**
12 V Coil

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

Dimensions [mm]



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.

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1411/1_EU-en_00895221



2/2-Way Solenoid Control Valve

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

Type 2875 can be combined with...



Type 8605

Control Electronics,
Cable plug version



Type 8605

Digital control electronics
DIN-rail version



Type 2508

Cable plug

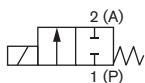


Type 8611

Universal controller

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

Circuit function A



direct acting 2-way
solenoid control valve,
normally closed

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

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

¹⁾ PWM pulse width modulation

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

³⁾ Maximum value, value depends on operating pressure

⁴⁾ Characteristic data of control behaviour depends on process conditions

⁵⁾ by flow measurement

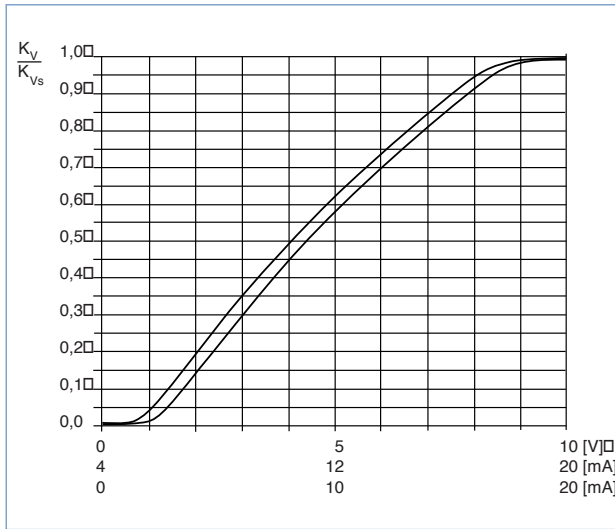
Technical Data - Valve	
Body material	Brass, stainless steel
Seal material	FKM, EPDM on request
Medium	Neutral gases, liquids on request
Pressure range	0 ... 25 bar ²⁾
Medium temperature	-10 ... +90 °C
Ambient temperature	max. +55 °C
Power supply	24 V DC
PWM frequency	900 Hz
Power consumption	16 W
Max.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

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

Further functional features of the Type 8605 electronic control unit:

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

Characteristics of a solenoid control valve



Advice for valve sizing

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

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

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

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

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

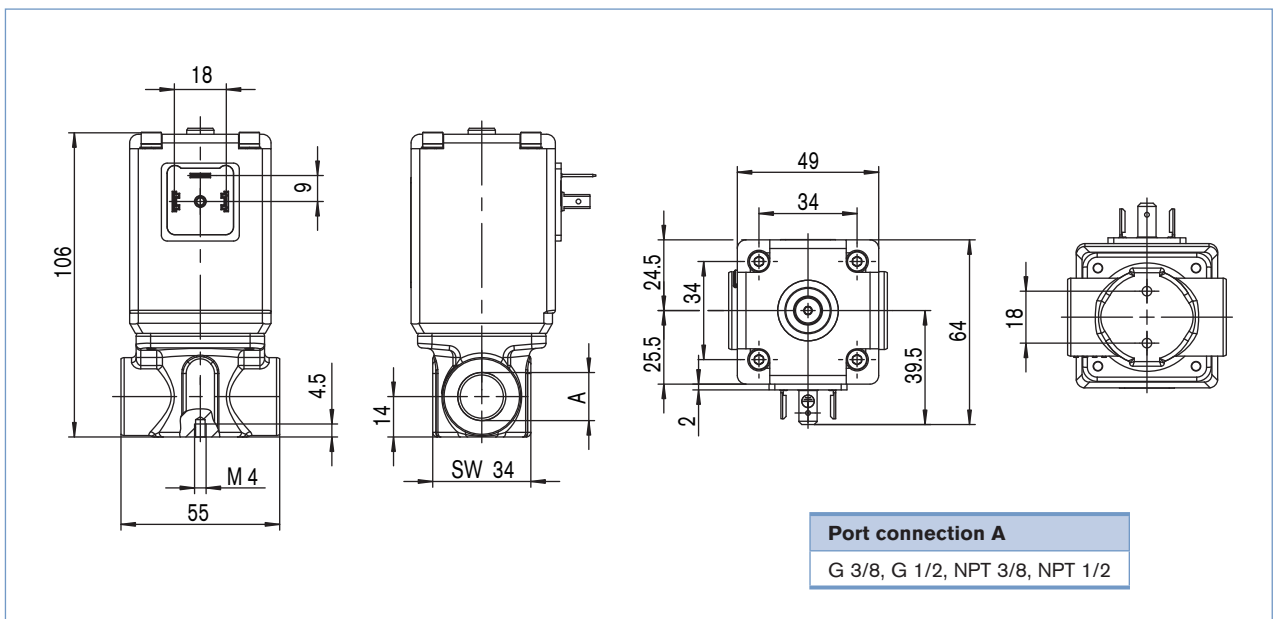
Determination of the k_v value

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

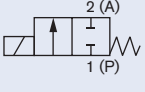
- ⁶⁾ measured for water, $\Delta p = 1$ bar, over the value
- ⁷⁾ At reference conditions 1.013 bar and 0°C (273K)
- ⁸⁾ Absolute pressure

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	

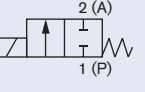
⁹⁾ k_{vs} value: Flow rate value for water, measured at +20 °C and 1 bar pressure differential over a fully opened valve.

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

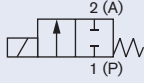
Circuit function	Orifice [mm]	Approvals ¹¹⁾	Port connection ¹²⁾	k_{vs} value water [m ³ /h]	Nominal pressure [bar]	Max. differential pressure [bar]	Item no. brass	Item no. Stainless steel
A 2/2-way Normal closed (NC) 	2	UR	G 3/8	0.12	25	12.5	274 976	274 988
			NPT 3/8	0.12	25	12.5	274 977	274 989
		DVGW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



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

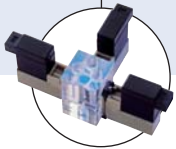
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1412/2_EU-en_00895222

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



Type 6124 can be combined with...

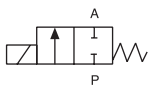


Manifolds

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

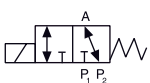
Thanks to the patented Bürkert flipper technology, the direct-acting Type 6124 solenoid valve is unique. It combines fast, precise switching behaviour with reliable media separation, and the design eliminates heat transfer between fluid and coil. FKM and PEEK allows the use of neutral and slightly aggressive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

Circuit function A



2/2-way valve, NC

Circuit function T

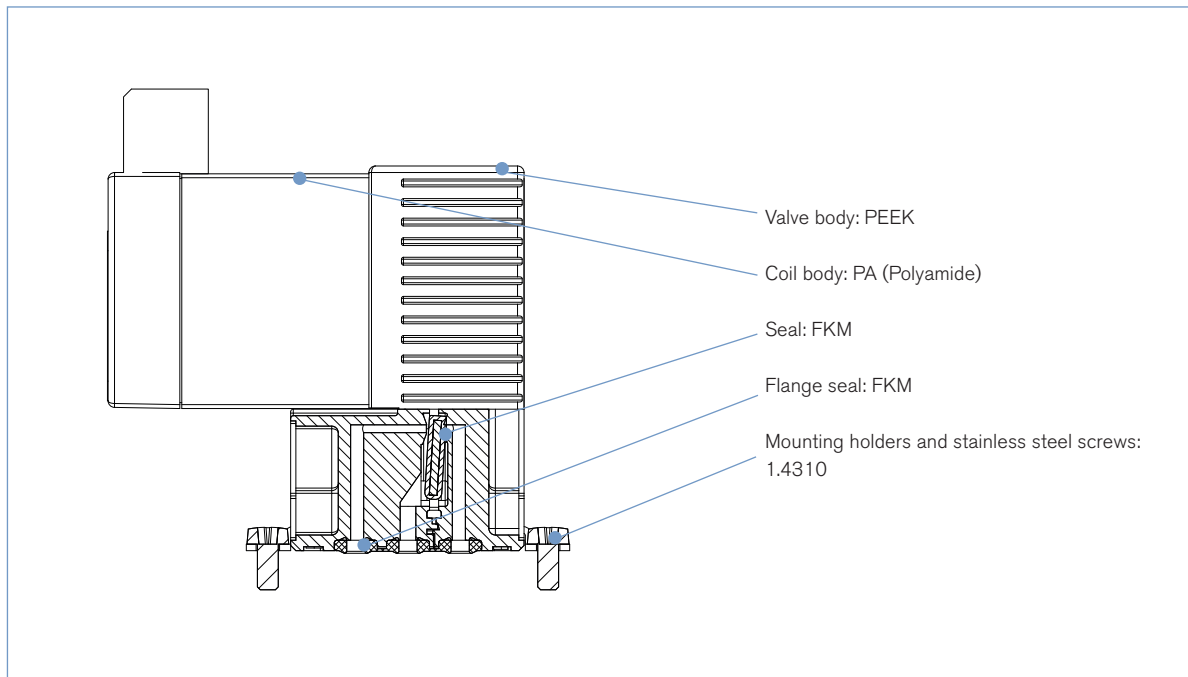


3/2-way valve,
universal function

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

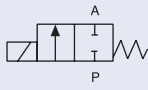
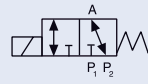
* 10% residual ripple permissible

Materials



Ordering chart with flange connection (other versions on request)

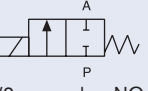
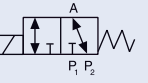
All valves with PEEK body and FKM seal, rectangular plug types delivered without plug (see Accessories).
The delivery of each valve includes 2 holders with cross head M 1.6 x 5 screws.

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

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

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

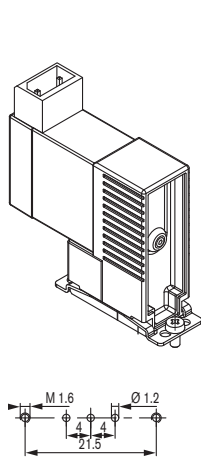
All valves with rectangular plug types delivered without plug (see Accessories)

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

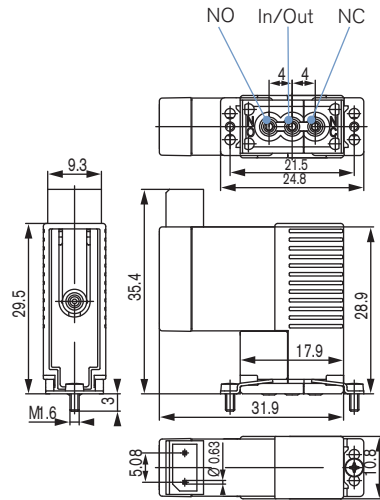
Versions on request:

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

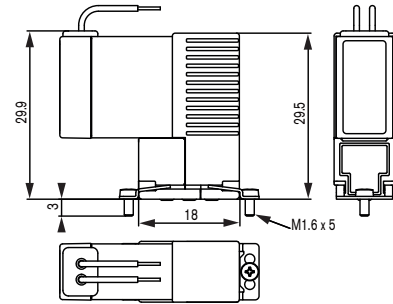
Dimensions [mm] Valves with tube spigots sideways



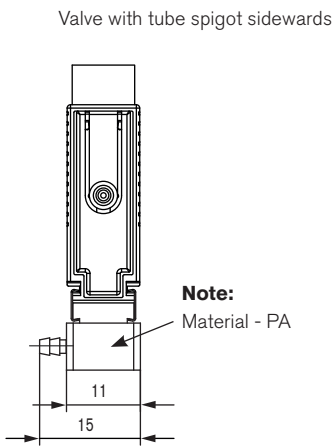
Mounting face for manifold



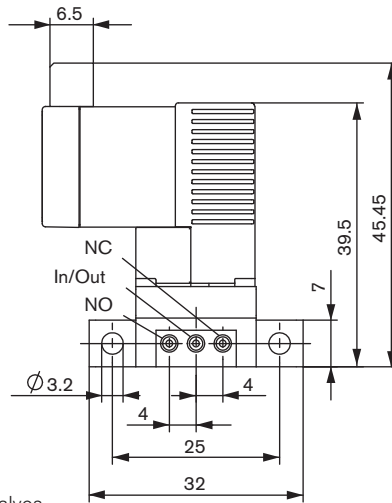
Valve with rectangular plug and holders



Valve with flying leads and holders

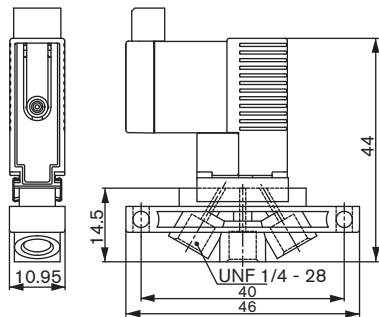
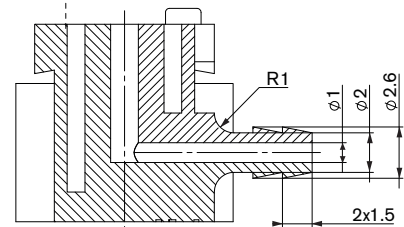


NO is not present on 3/2-way valves



Note:
Material - PA

Tube spigot dimensions



UNF Version - on request

Ordering chart accessories

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

Other accessories on request:

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

Manifolds [mm]

Single manifold M3, stainless steel

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

Multi-station manifolds PEEK [mm]

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

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

Subject to alterations
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0413/7_EU-en_00891745

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



Type 6126 can be combined with...



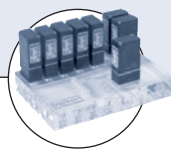
Type 2506

Cable plug Form C



Type 2505

Rectangular cable plug



Manifolds

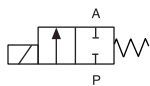
- Valve with isolating diaphragm
- Compact design with 16 mm width and Cv ratings up to 0.058
- Flexible design for custom manifold assemblies
- High back pressure tightness, excellent cleanability and 100 % duty cycle
- Normally closed, normally open and universal function

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

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

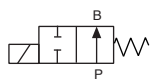
The valves can be mounted directly or also single or manifold mounted. They are used for dosing, filling, mixing and distributing small quantities of medium.

Circuit function A



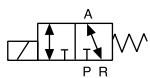
2/2-way valve,
direct-acting,
normally closed

Circuit function B



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

Circuit function T



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

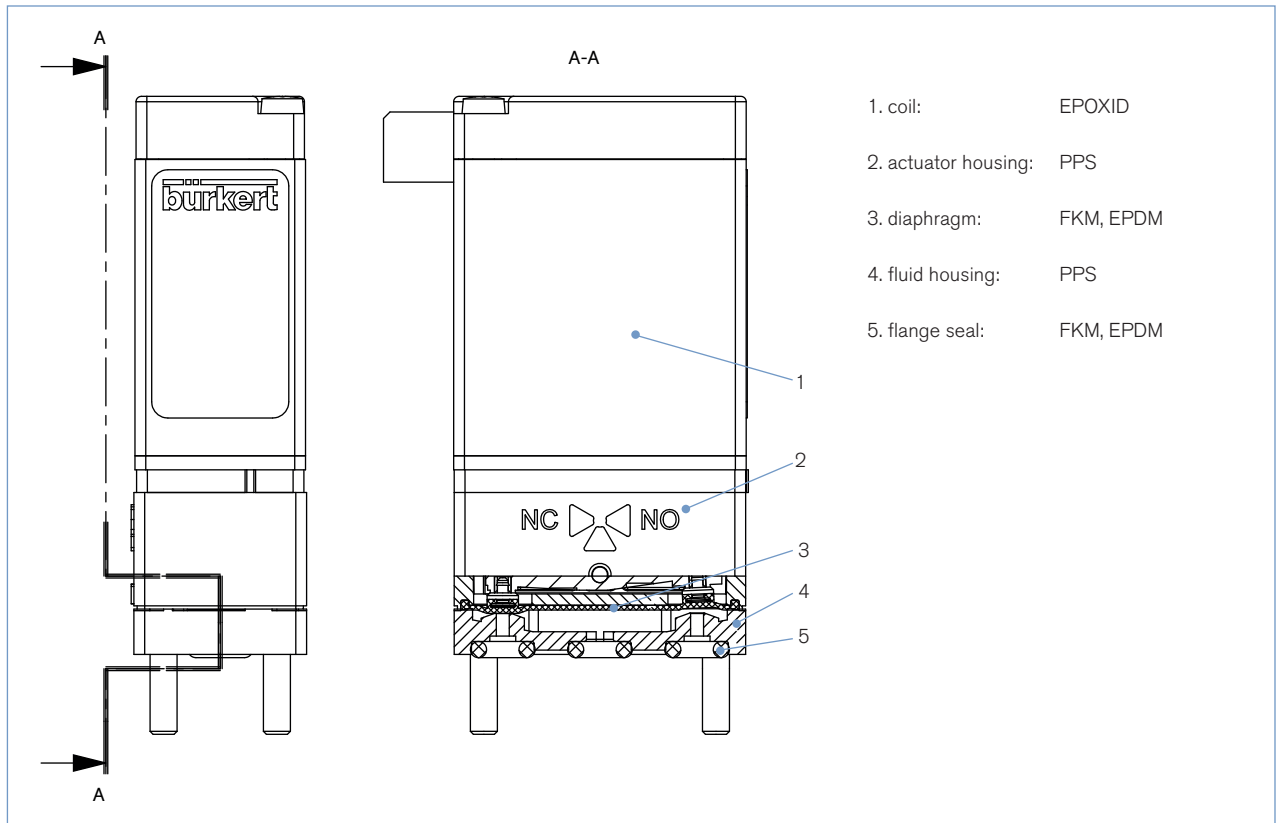
Technical data	
Orifice [mm]	DN 0.8 - 1.6 (for details see ordering chart)
Body material	PPS
Seal material	FKM, EPDM
Medium	Resistant to neutral liquids and gases (see Bürkert chemical resistance chart)
Media temperature	-10 to 55 °C ¹⁾
Ambient temperature	max. 55 °C
Viscosity	max. 21 mm ² /S
Internal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

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

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

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

Materials



Detailed medium temperature (depending on material and orifice)

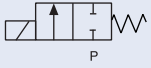
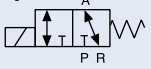
	Orifice	Seal material	Temperature range
media temperature	DN 0.8	FKM	0 to +50 °C
	DN 0.8	EPDM	-5 to +50 °C
	DN 1.2 & 1.6	FKM	+5 to +50 °C
	DN 1.2 & 1.6	EPDM	0 to +50 °C
media temperature with limitation on switching time and life expectancy	DN 0.8	FKM	-5 to +55 °C
	DN 0.8	EPDM	-10 to +50 °C
	DN 1.2 &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

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

Detailed internal volume (depending on fluid housing)

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

Ordering chart for Typ 6126

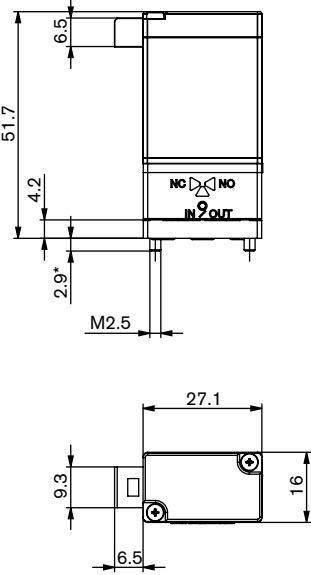
Circuit function	Orifice [mm]	Port connection	Kv value water [m ³ /h]	Cv value water [gal/min]	Q ₉₀ value air [l/min]	Pressure range [bar]	Seal material	Fluid housing material	Electrical connection	Voltage/frequency [V/Hz]	Item no.
A  2/2-way valve, direct-acting, normally closed	0.8	sub-base	0.015	0.017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



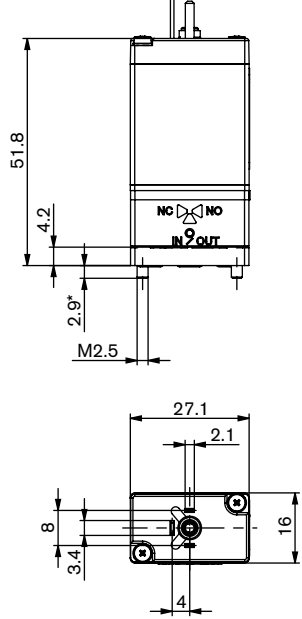
Other versions on request

Dimensions [mm]

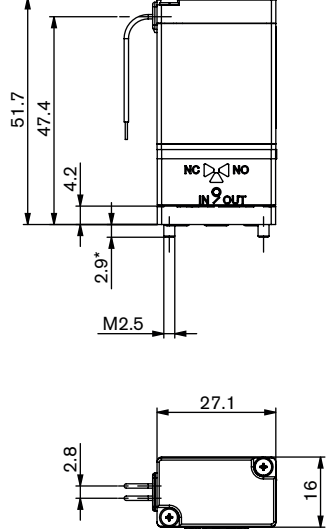
Manifold mount version
with rectangular plug



Manifold mount version
for cable plug



Manifold mount version
with flying leads



Classification of fluid connections

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

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

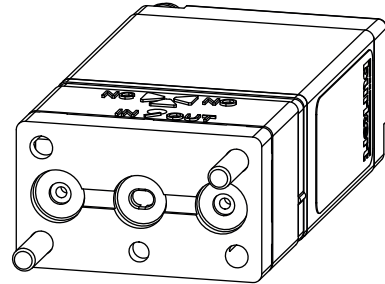
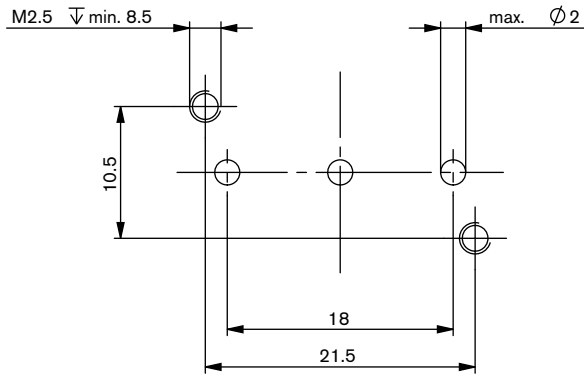
3/2-way-valve, normally open (circuit function T)
inflow at "NO"-connector

Flange interfaces at page 4.

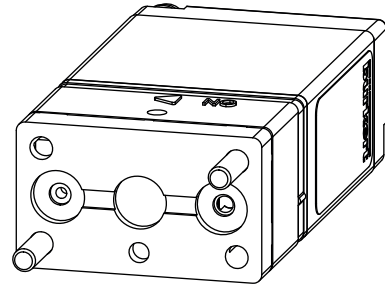
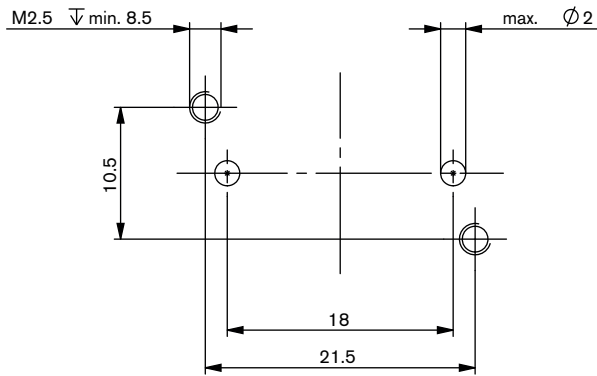
* Other screw length on request.
Self-tapping screws on request.
When selecting a connection plate the screw head overlap has to be considered.

Overview flange interfaces 16 x 27 mm

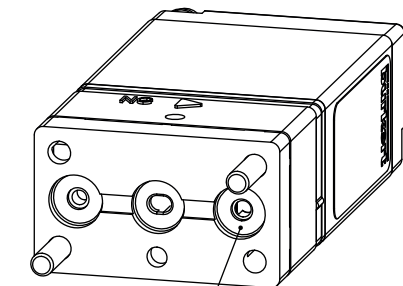
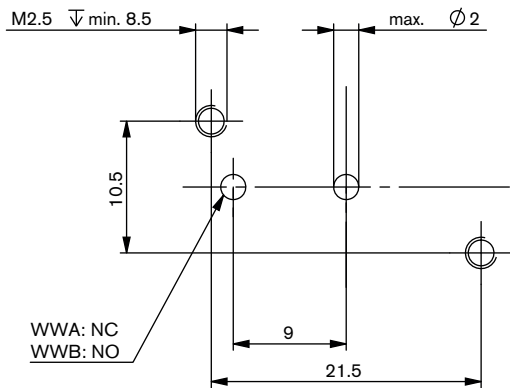
bürkert flange interface FB23 - 3-way (standard)



bürkert flange interface FB43 - 2-way (standard)



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






hole not in use

i On request available with anti-twist device

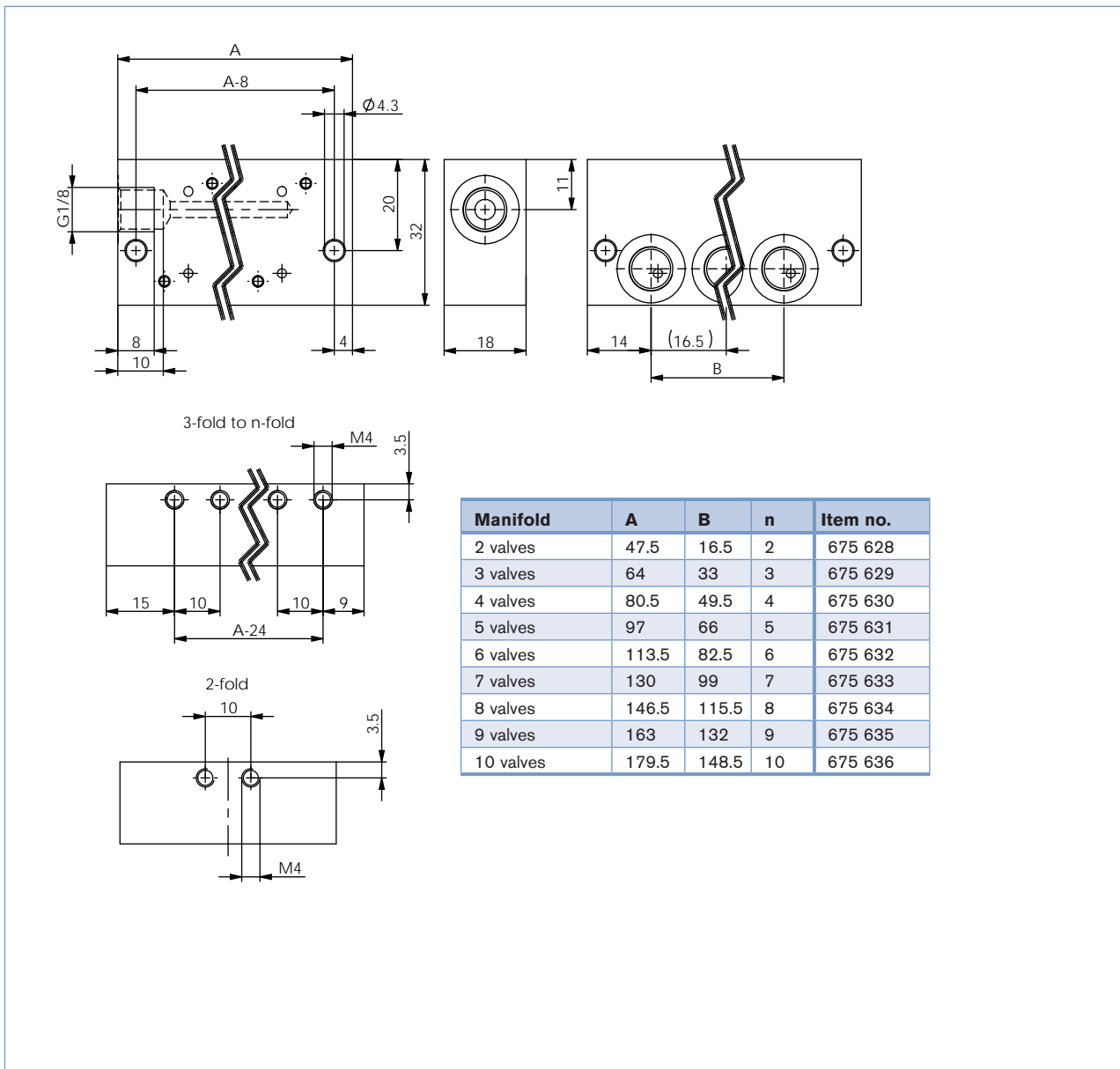
Ordering chart for Accessories

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

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

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

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



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

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

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

Manifold made from aluminium, black anodized,
Port connection M5

Item no.
623 873

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

Item no.
634 917

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

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

3/2-way pneumatic cartridge solenoid valve



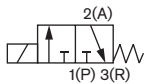
- Compact design with 11 mm width per station
- Orifices from 0.5 mm (9 bar) to 1.2 mm (1.5 bar)
- High durability and reliability
- Low power consumption, as well as optional ATEX Ex ib version
- Design for optimum integration

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

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

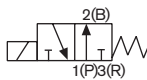
Various certifications and conformities make the use of the valve in medical applications such as media multiplexers in dental technology and oxygen control in respirators possible.

Circuit function C



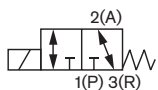
3/2- way valve,
direct acting,
normally closed

Circuit function D



3/2-way valve
direct acting,
normally open

Circuit function T



3/2 way valve,
universal function

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

¹⁾ Overpressure to the atmospheric pressure

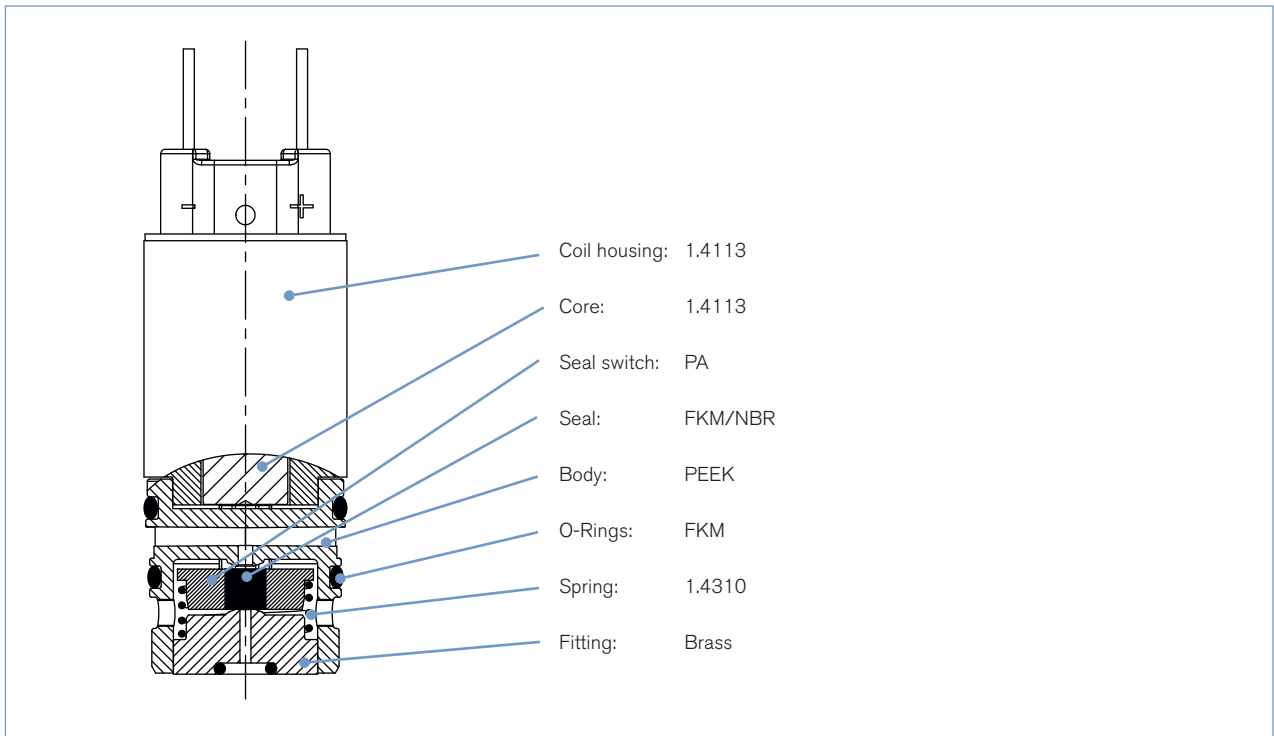
²⁾ Life span is dependent on temperature, pressure and operating conditions

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

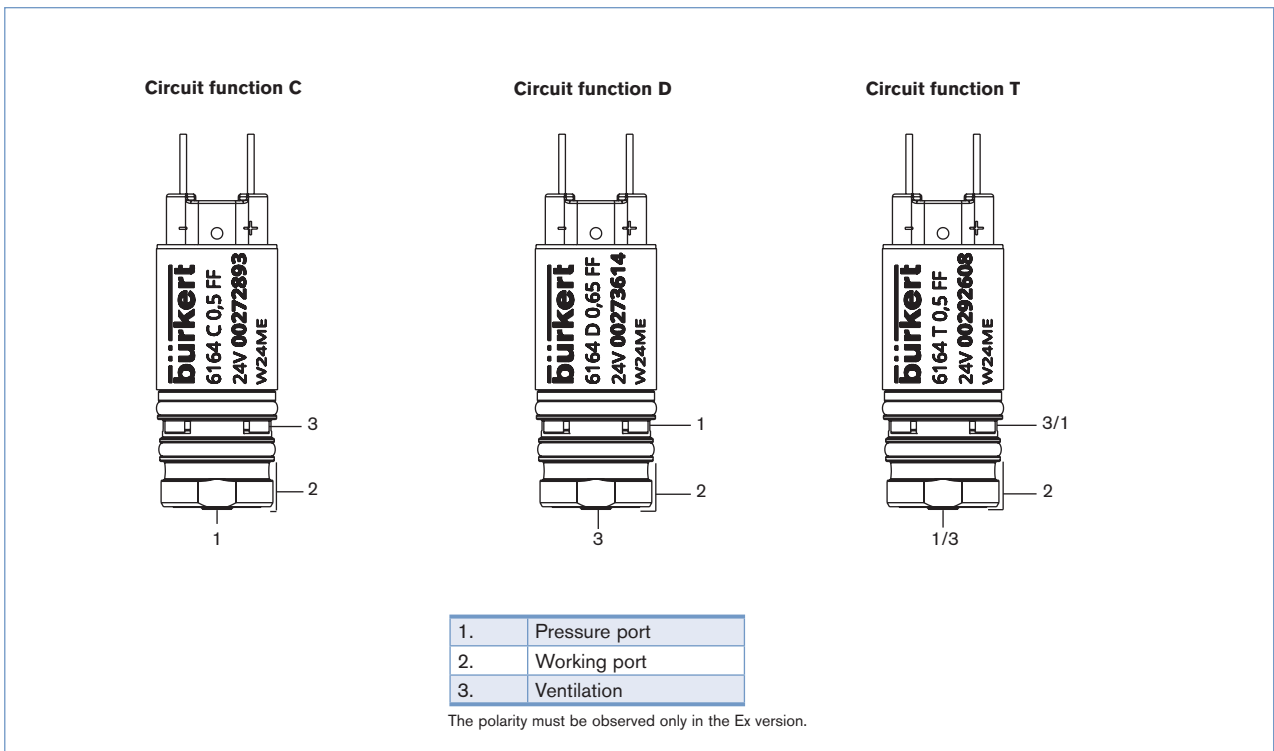
⁴⁾ In preparation

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

Materials

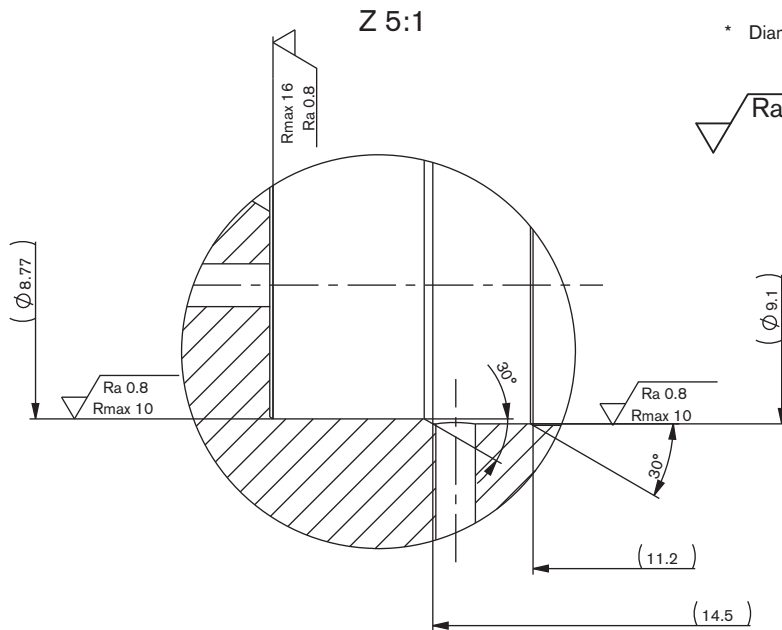
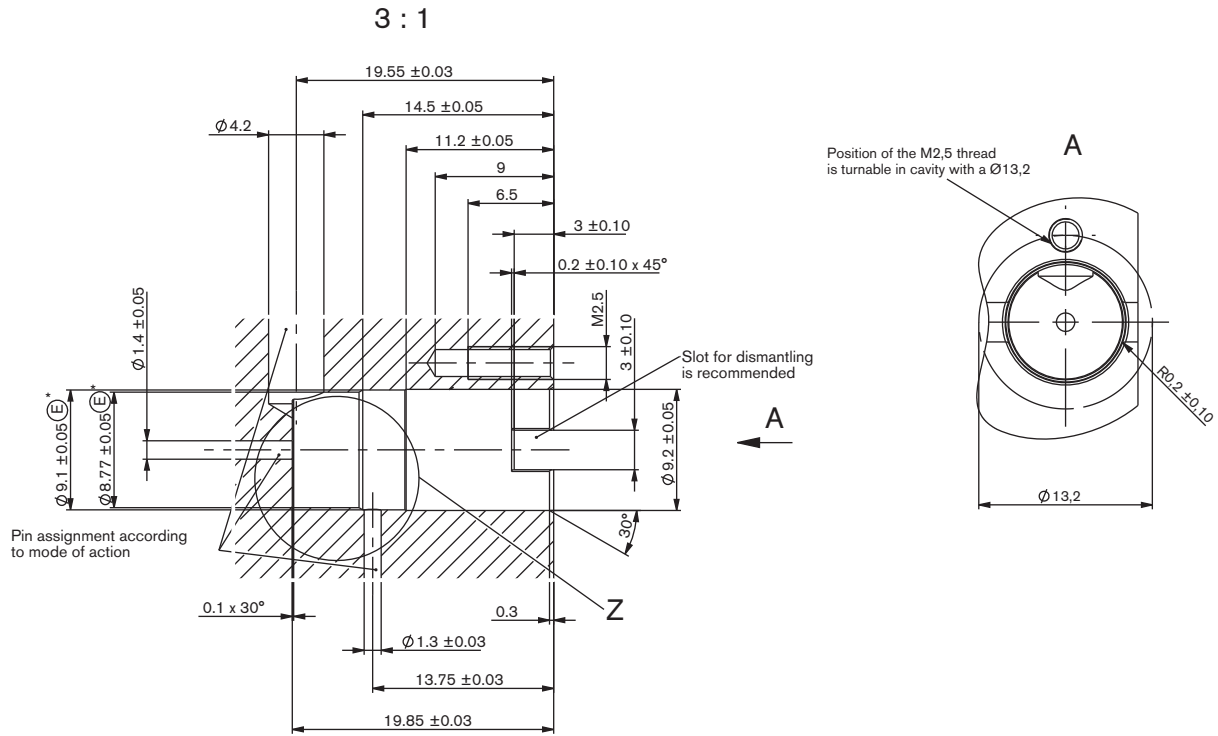


Port connection

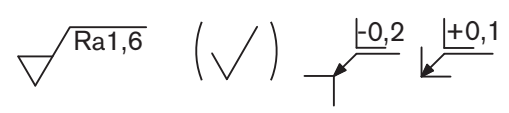


Defining of the installation area

Sunken cartridge

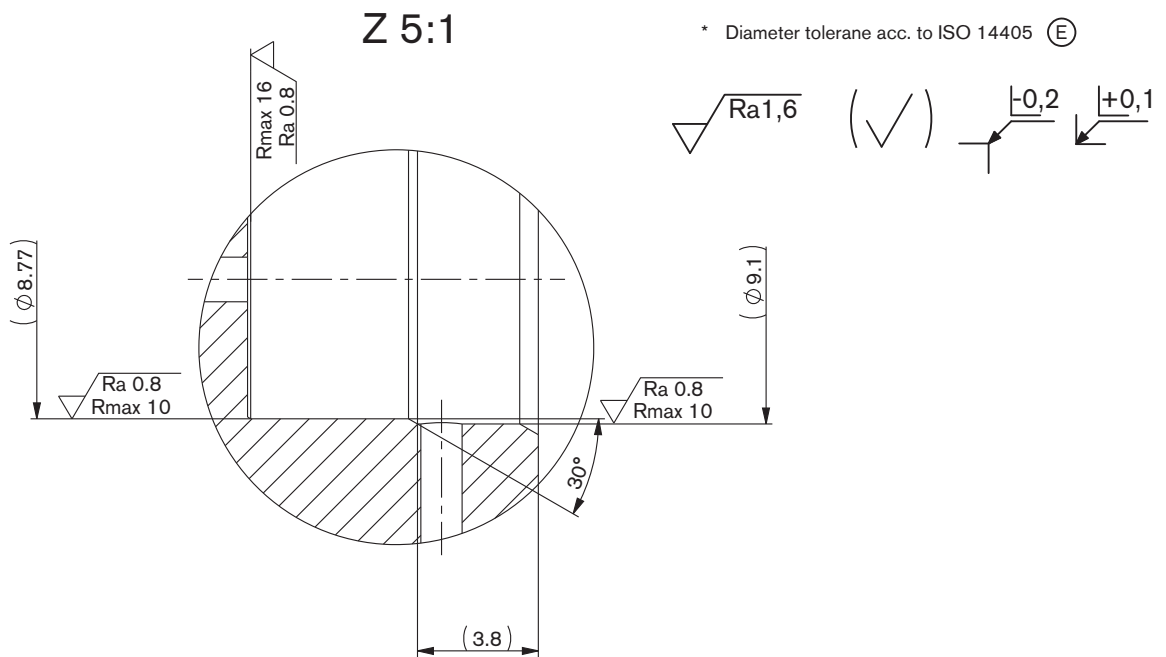
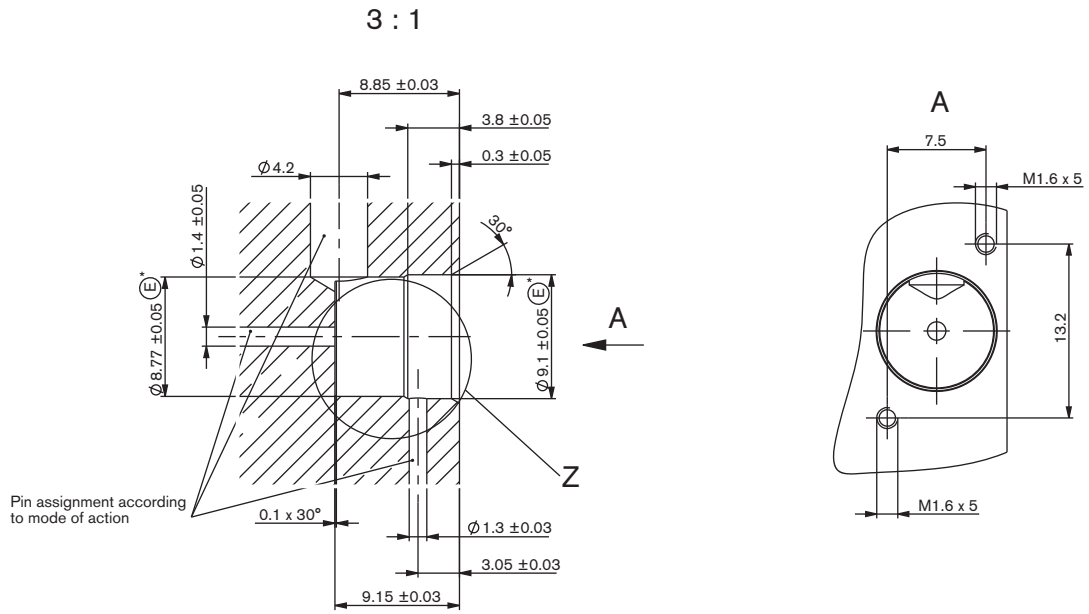


* Diameter tolerance acc. to ISO 14405 (E)

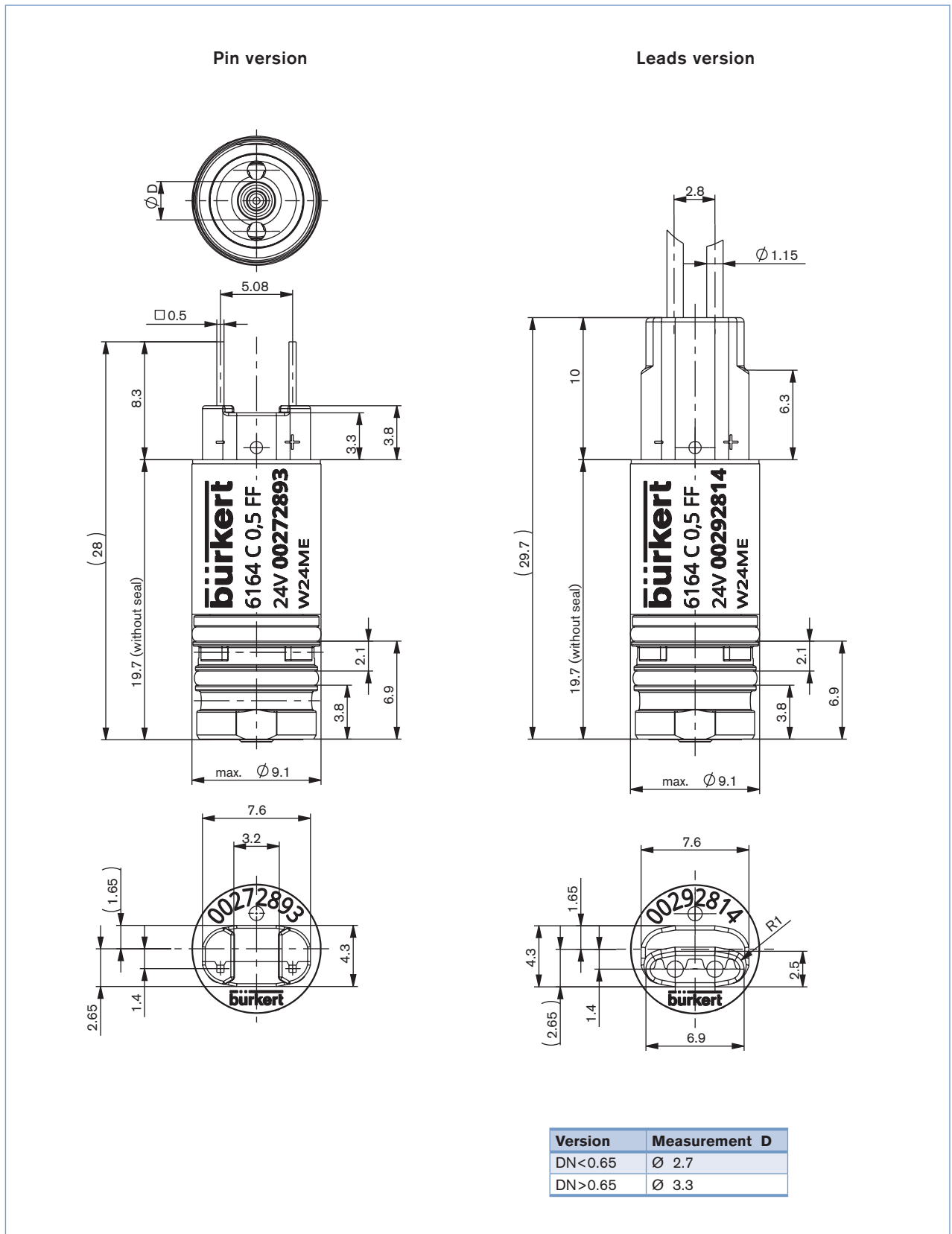


Defining of the installation area

Half sunken Cartridge with retaining bracket



Dimensions [mm]



Ordering chart

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

¹⁾ VAC corresponds to -0.8 bar relative

²⁾ External electric power reduction necessary

i Further versions on request

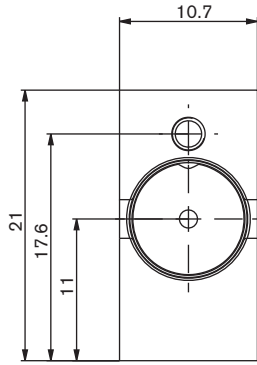
⚡ Voltage
Voltages 9V, 6V, 3V on request

> Additional
Leads version on request

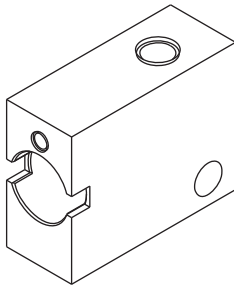
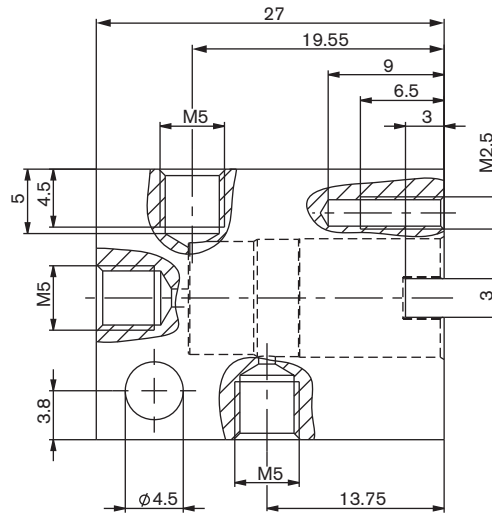
🔍 Approvals
Device with approvals on request

Overview of accessories

Manifold fully sunken



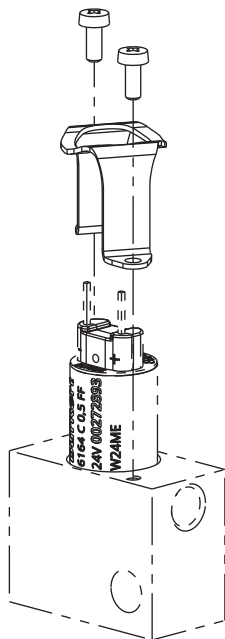
Locking



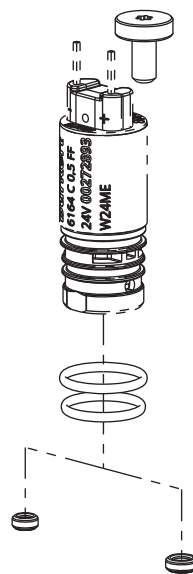
Note:
Max. tightening of the screws
(see manual)

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

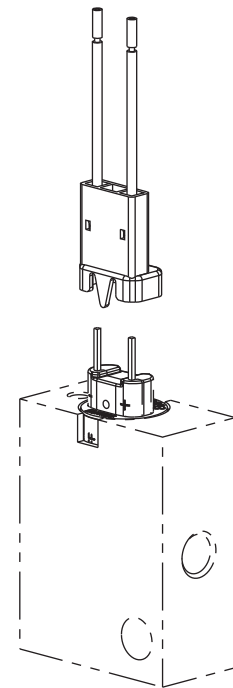
Mounting bracket for semi-submerged configuration



Spare part set O-ring and fixing screw

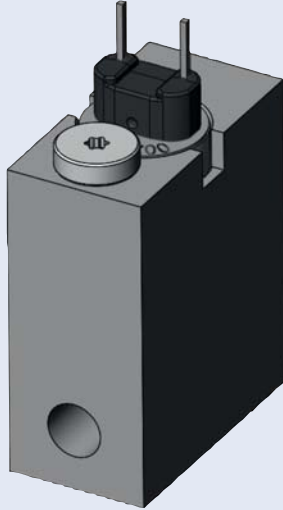


Plug with IP40 locking

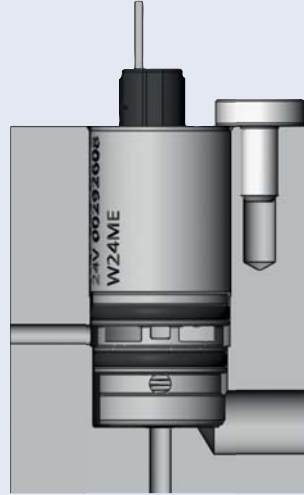


Application examples

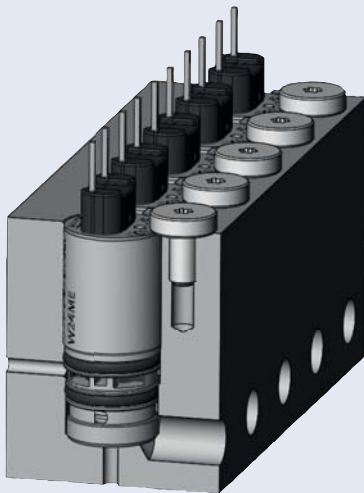
Single block with Cartridge



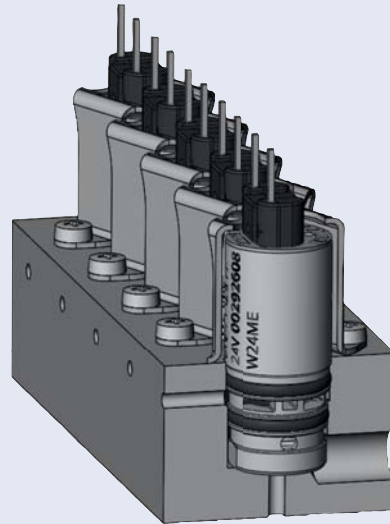
Cartridge installation position



Fully sunken multi-manifold



Semi-sunken multi-manifold



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please consult for advice.

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1605/4_EU-en_00895290

