

3/2-way pneumatic cartridge solenoid valve



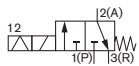
- Compact design with 11 mm width per station
- Orifices from 0.5 mm (10 bar) to 1.2 mm (1.5 bar)
- High durability and reliability
- Low power consumption, as well as optional ATEX Ex ib version
- Design for optimum integration

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.

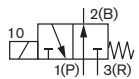
Various certifications and conformities make the use of the valve in medical applications such as media multiplexers in dental technology and oxygen control in respirators possible.

Circuit function C



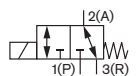
3/2- way valve,
direct acting,
normally closed

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-9 bar) ¹⁾ DN 1.0mm (Vac-5 bar) ¹⁾	DN 0.8mm (Vac-7.5 bar) ¹⁾ DN 1.2mm (Vac-1.5 bar) ¹⁾
Permissible leakage	Vac-10 bar (Dependent on the version used) ^{1) 2)}	
Body material	PEEK	
Seal material	FKM	
Medium	neutral gases	
Medium temperature	FKM Low temperature version	
	-10 bis +55 °C -20 bis +55 °C	
Ambient temperature	FKM Low temperature version	
	-10 to +55 °C ³⁾ -20 to +55 °C ³⁾	
Typical life span	100.000.000 switching cycles (accordance to endurance tests) ⁴⁾	
Port connection	▪ Bürkert-Cartridge-Connection	
Electrical connection	▪ Plug / Solder ▪ Flying leads	
Operation voltage	12 and 24 V DC (other voltages on request)	
Voltage tolerance	±10%	
Power consumption	0.7 W 2.8 W/0.3 W (with external electric power reduction) 0.3 W (for ExI version)	
Duty cycle	100% ED 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	42dB ⁵⁾	
Weight	6 g (standard version)	
Approvals and conformity on request	BVS 16 ATEX E 088 X: II 2G Ex ib IIC T6...T4 Gb II 2D Ex ib IIIB T155°C Db IECEX BVS 16.0053 X: Ex ib IIC T6...T4 Gb Ex ib IIIB T155°C Db UL class 2 Oxygen compatible	

¹⁾ VAC corresponds to -0.8 bar relative

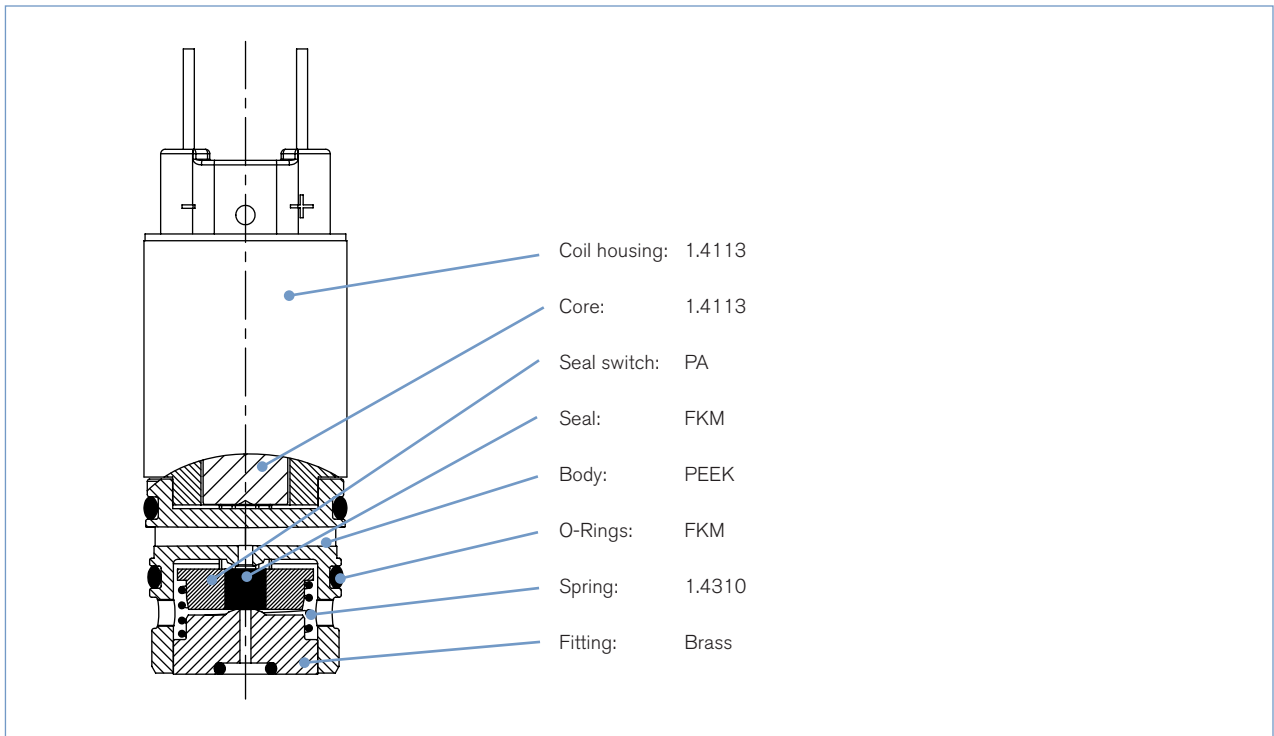
²⁾ Overpressure to the atmospheric pressure

³⁾ Depending on installation conditions (see manual), higher temperatures on request

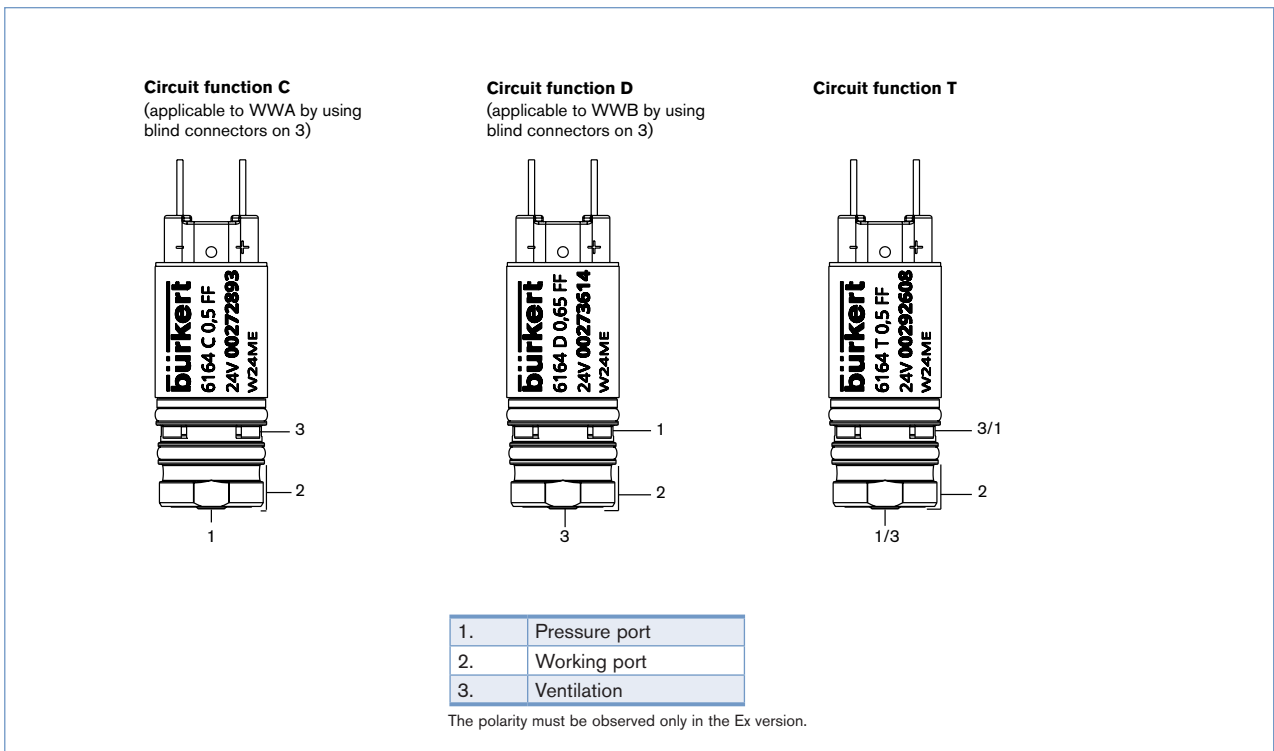
⁴⁾ Life span is dependent on temperature, pressure, sealing material and operating conditions

⁵⁾ According to ISO3745, testing environment in brass manifold, free-hanging

Materials

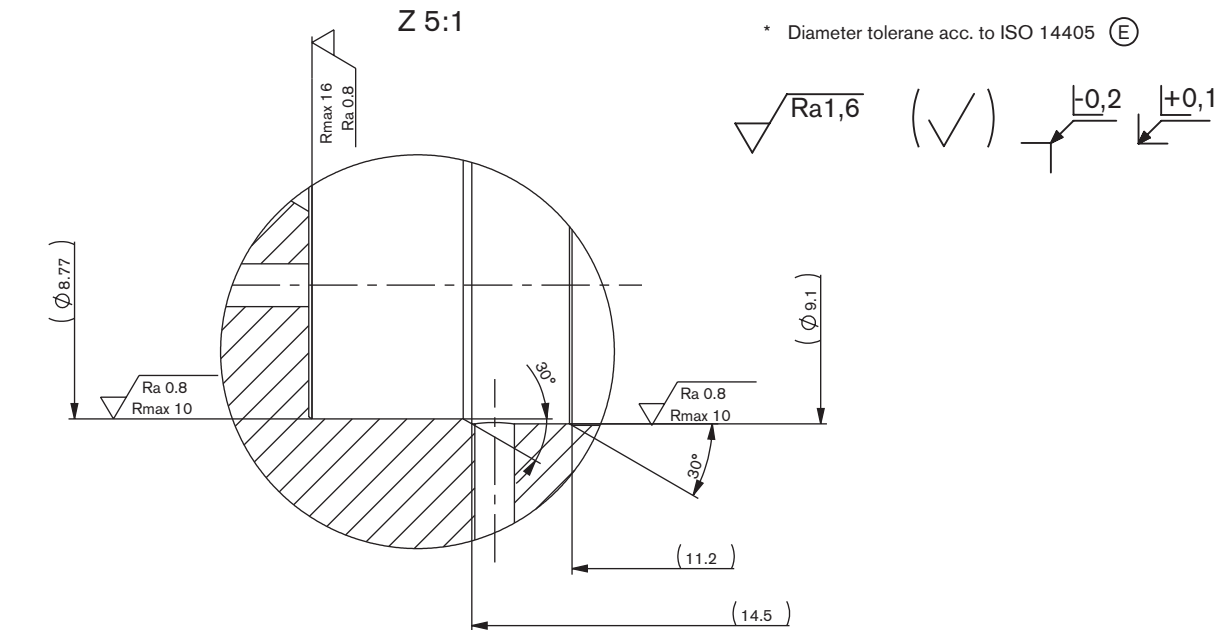
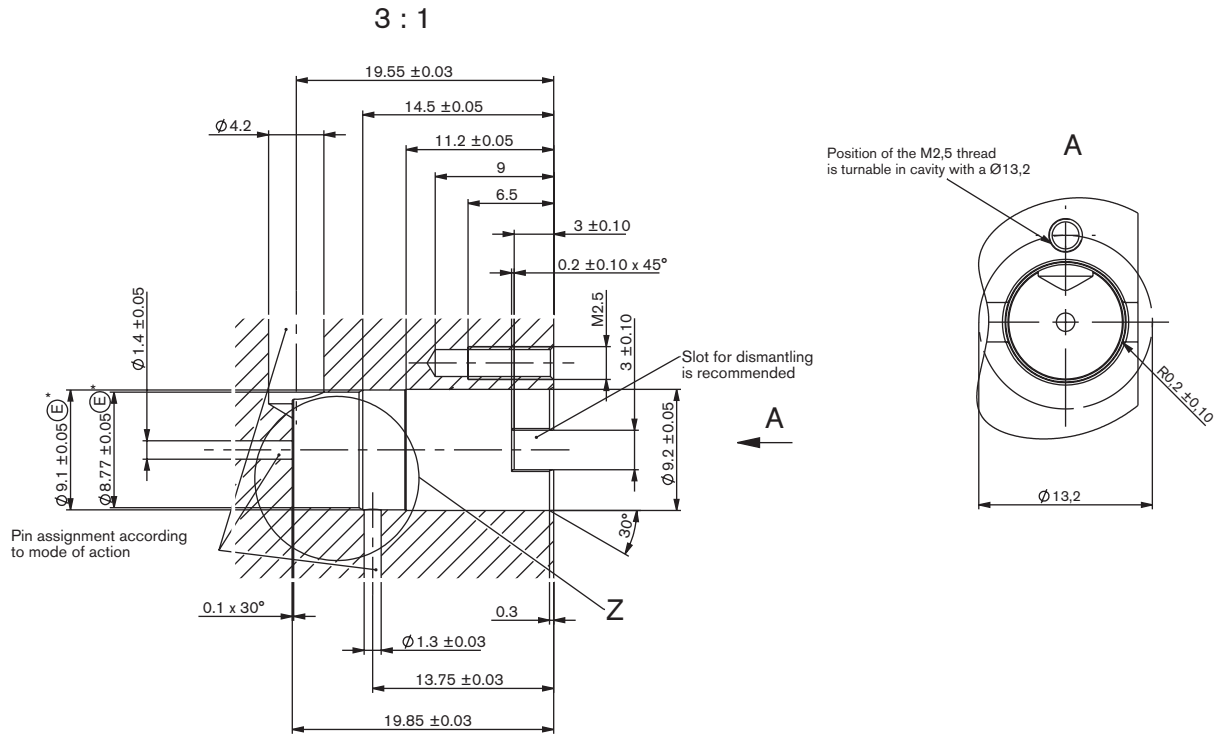


Port connection



Defining of the installation area

Fully sunken cartridge

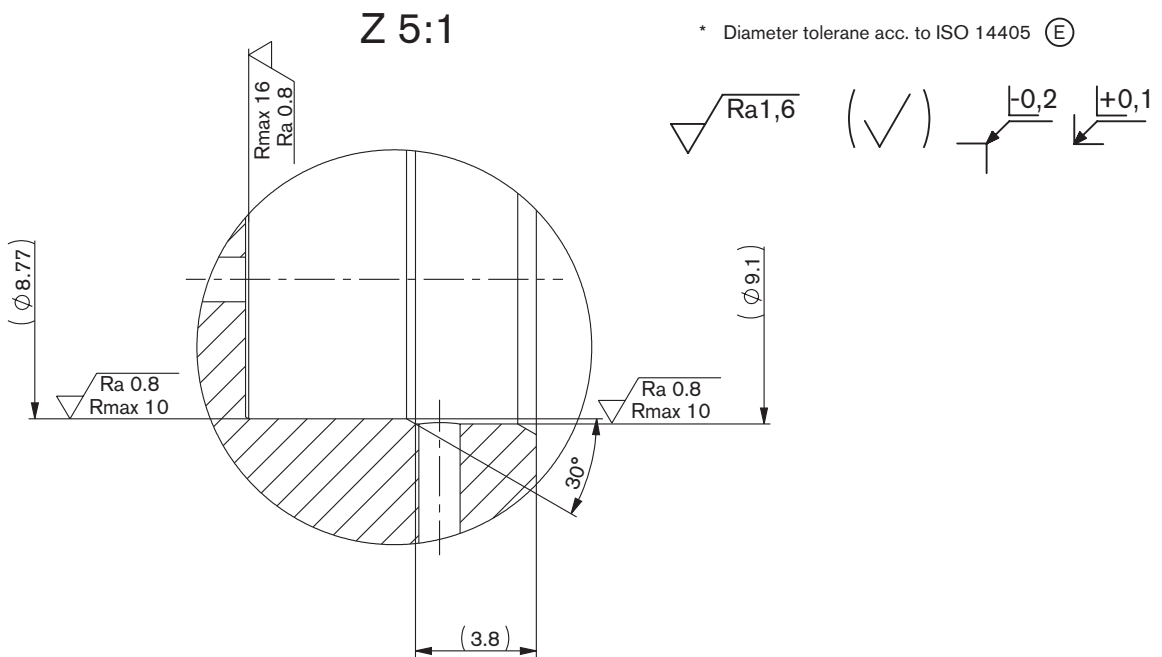
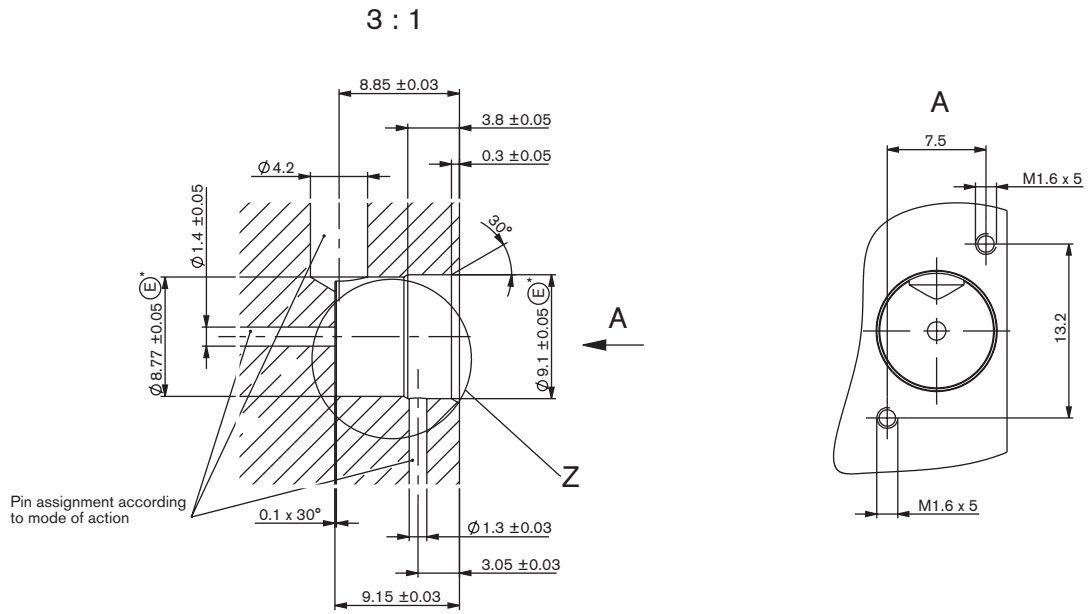


* Diameter tolerance acc. to ISO 14405 (E)

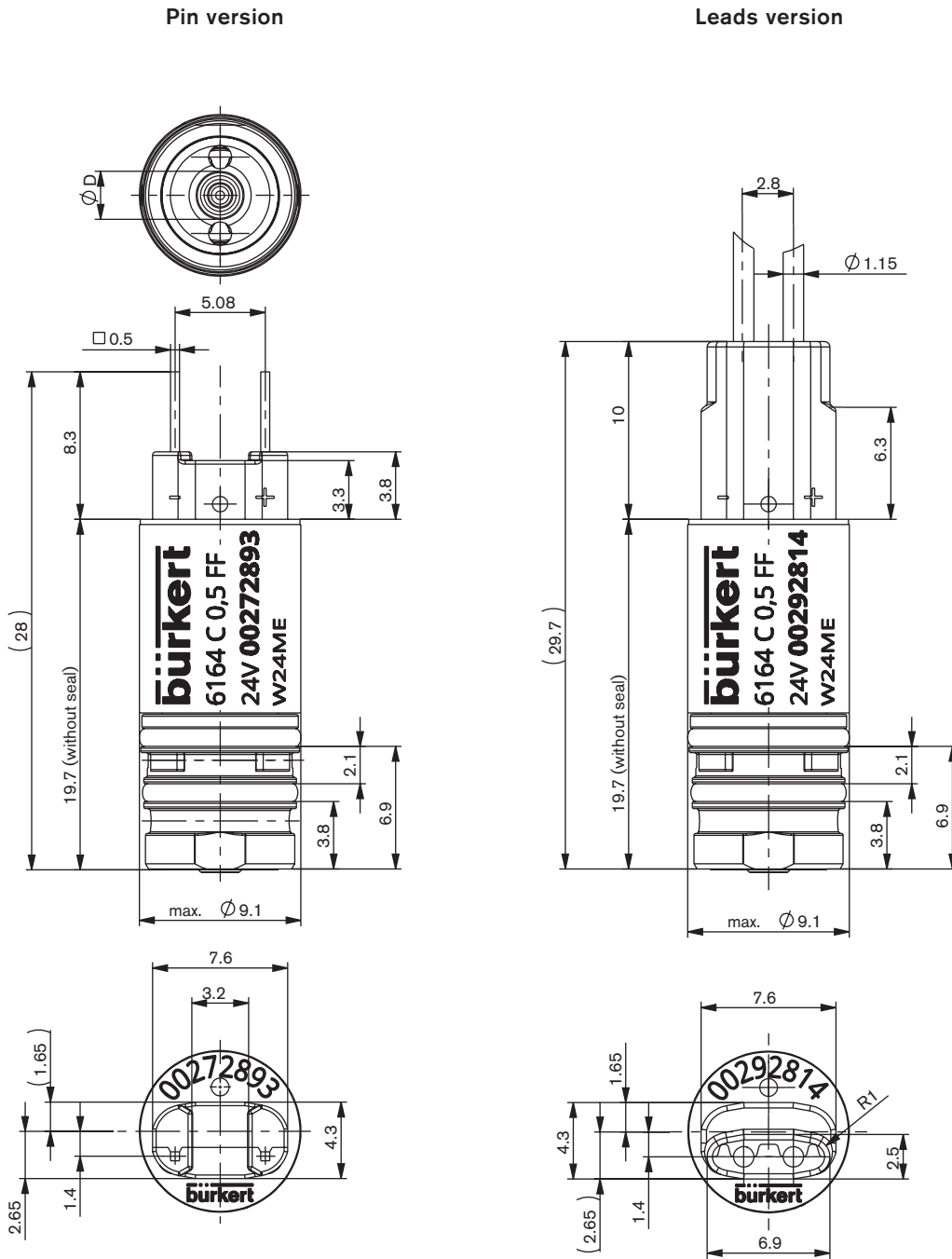
DTS 1000257619 EN Version: E Status: RL (released | freigegeben | valide) printed: 19.12.2016

Defining of the installation area

Half sunken Cartridge with retaining bracket



Dimensions [mm]



Version	Measurement D
DN < 0.65	Ø 2.7
DN > 0.65	Ø 3.3

Ordering chart

Circuit function	Port connection	Orifice ventilation 1-2	Orifice ventilation 2-3	Q _{Nn} value 1-2 air [l/min] ³⁾	Q _{Nn} value 2-3 air [l/min] ³⁾	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 ¹⁾	24	0.7	292 608

¹⁾ VAC corresponds to -0.8 bar relative

²⁾ External electric power reduction necessary

³⁾ Measurement at +20°C, 6 bar pressure at the valve input and 1 bar pressure difference

Ordering chart Ex version

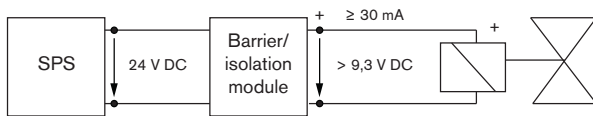
II 2G IIC T4...T6 / II 2D IIIB T155°C

Circuit function	Port connection	Orifice ventilation 1-2	Orifice ventilation 2-3	Q _{Nn} value 1-2 air [l/min] ²⁾	Q _{Nn} value 2-3 air [l/min] ²⁾	Pressure range [bar]	Resistance with 20 °C [Ω]	Min. holding current [mA]	Item no. with connection pin
C 	Bürkert Cartridge port connection	0.5	0.65	6	9.5	Vac-6 ¹⁾	320	29	289 027
							510	23	289 028
D 	Bürkert Cartridge port connection	0.65	0.5	6.5	6	Vac-4 ¹⁾	320	29	on request

¹⁾ VAC corresponds to -0.8 bar relative

²⁾ Measurement at +20°C, 6 bar pressure at the valve input and 1 bar pressure difference

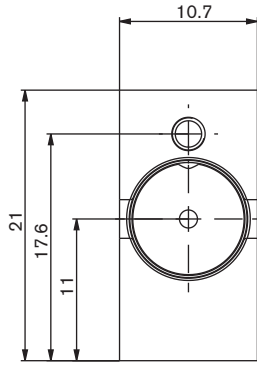
Electrical Data:



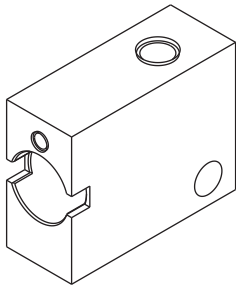
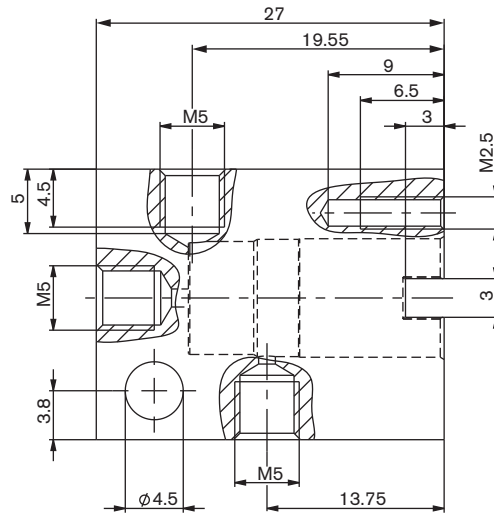
Functional value for valve at -10 °C to +55 °C		Maximum permitted levels/value pairs
Min. holding current	29mA	according to the user manual
Nominal coil resistance	320Ω	
Min. holding current	23mA	
Nominal coil resistance	510Ω	

Overview of accessories

Manifold fully sunken



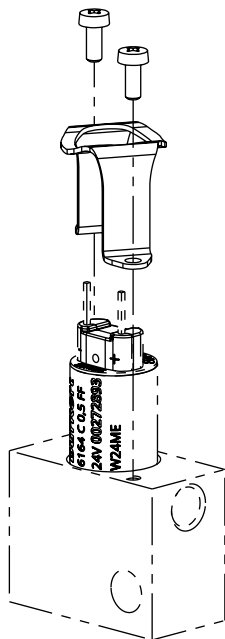
Locking



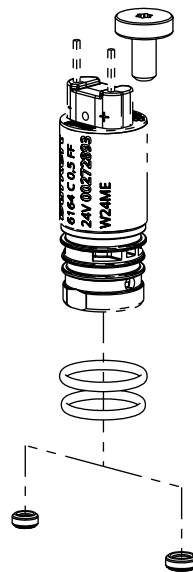
Note:
Max. tightening of the screws
(see manual)

Description	Item no.
Manifold 1 place, 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

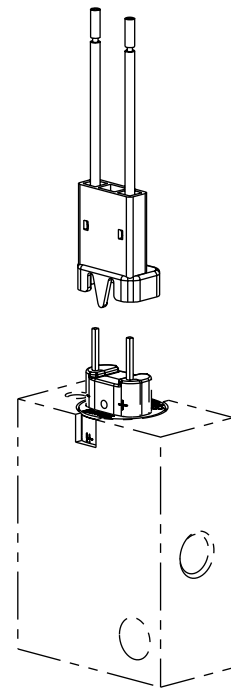
Mounting bracket for semi-submerged configuration



Spare part set O-ring and fixing screw

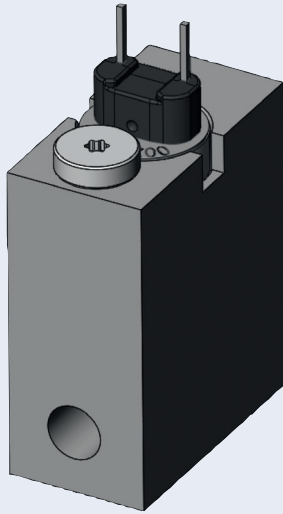


Plug with IP40 locking

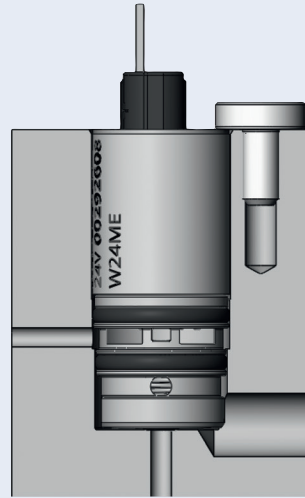


Application examples

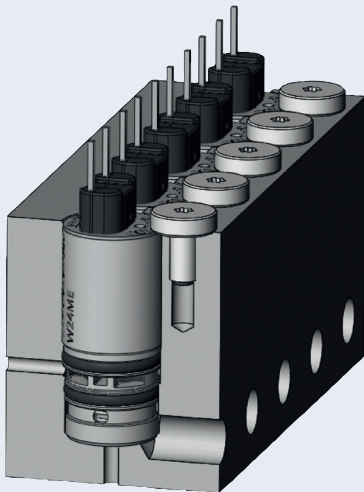
Single block with Cartridge



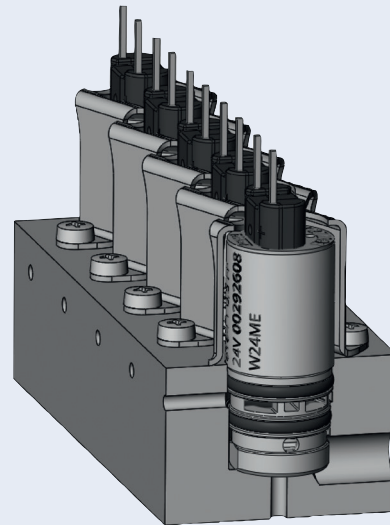
Cartridge installation position



Fully sunken multi-manifold



Semi-sunken multi-manifold



i Further versions on request

⚡ Voltage
Voltages 9V, 6V, 3V

> Additional
Leads version

🔍 Oxygen compatibility
Suitable for the oxygen application
labeled with a blue sticker

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

www.burkert.com

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

Subject to alteration.
© Christian Bürkert GmbH & Co. KG

1612/5_EU-en_00895290