DATA SHEET

Type 0127

bürkert
FLUID CONTROL SYSTEMS

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

- For maximum chemical resistance requirements
- Compact design with 16 mm width and Cv ratings up to 0.058
- Proven reliability since 1993
- Flexible design for custom manifold assemblies
- High back pressure tightness, excellent cleanability and 100 % duty cycle

Product variants described in the data sheet may differ from the product presentation and description.

Can be combined with

Type 1054 ▸
Cable Plug

Type 2505 ▸
Socket for 10 mm for Bürkert Solenoid Valves

Type description

Bürkert's unique miniature rocker solenoid valve is the pioneer of isolated mini valves suitablefor laboratory, medical and analysis technology, that still set the standard! It is a highly reliable minimum volume valve that has low dead volume and is easy to purge. Boasting aninert isolating diaphragm between the actuator and body, it is operated via a rocker that separates the actuator from the fluid. Heattransfer between the actuator and the fluidis minimized due to the coil not having direct contact with the diaphragm. The valves can be manifold mounted and a simplified common wiring system is available if required. Special dead volume free designs are also obtainable on request.

DTS 1000010906 EN Version: U Status: RL (released | freigegeben | validé) printed: 25.02.2021

Visit product website ▸

Table of contents

DTS 1000010906 EN Version: U Status: RL (released | freigegeben | validé) printed: 25.02.2021

1. General technical data

Product properties	
Dimensions	Detailed information can be found in chapter "5. Dimensions" on page 6.
Materials	
Fluid housing	PEEK, PVDF, PPS
Seal	FFKM, FKM, EPDM
Nominal operating mode[1.)]	10 mio. switching cycles (according to laboratory endurance test with FKM and EPDM)
Internal volume[2.)]	Sub-base: starting at 44 µl G ⅛ and NPT ⅛: starting at 100 µl UNF ¼…28: starting at 25 µl Tube connection: starting at 33 µl <10 µl available on request
Orifice	DN 0.8…DN 1.6
Electrical data	
Operating voltage	12/24 V DC, 24 V UC, other voltages are available on request
Voltage tolerance	±10 %
Power consumption	3.4 W
Duty cycle	100 % continuous rating Manifold mounting: If medium or ambient temperatures are above +40 °C: intermittent operation 40 % (minimum 10 min)
Performance data	
Response times[3.)]	Open: ca. 25 ms (Pressure rise 0…10 %) Closing: ca. 25 ms (Pressure drop 100…90 %)
Medium data	
Operating medium	Resistant to neutral and aggressive liquids and gases
Medium temperature[4.)]	-10…55 °C
Approvals and certificates	
Protection class	IP65 with flying leads and cable plug Type 1054 IP30 with rectangular plug Type 2505
Product connections	
Port connection	Bürkert sub-base (16 × 27 mm) G ⅛ NPT ⅛ UNF ¼ …28 Tube connection
Electrical connection[5.)]	Cable plug Type 1054 Two FEP-leads 0.2 mm², length 500 mm Rectangular cable plug, Type 2505
Environment and installation	
Installation	As required, preferably with actuator upright
Ambient temperature (max.)	55 °C

1.) The life expectancy depends on medium, temperature, pressure, seal material, individual application conditions.

2.) The internal volume can vary depending on the housing. For further information see "6.1. Internal volume" on page 15.

3.) Measured at valve outlet at 2 bar and +20 °C acc. to DIN ISO 12238:2001

4.) Temperature may vary depending on orifice and seal material. For further information see "6.2. Medium temperature" on page 15.

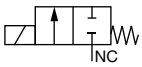
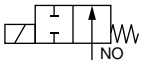
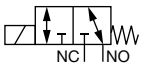
5.) Other electric connectors and other cable lengths upon request.

DTS 1000010906 EN Version: U Status: RL (released | freigegeben | validé) printed: 25.02.2021

2. Product versions

Flying leads unit with sub-base	Plug on top of unit with threaded port	Rectangular plug unit with tube connection
		

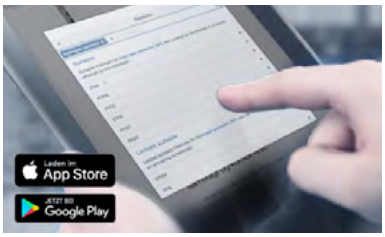
3. Circuit functions

Circuit functions	Description
	**Type: A, solenoid valve** 2/2 way Direct-acting Normally closed
	**Type: B, solenoid valve** 2/2 way Direct-acting Normally opened
	**Type: T, solenoid valve** 3/2 way Direct-acting Flow direction optional Universal

DTS 1000010906 EN Version: U Status: RL (released | freigegeben | validé) printed: 25.02.2021

4. Materials

4.1. Chemical Resistance Chart – Bürkert resistApp

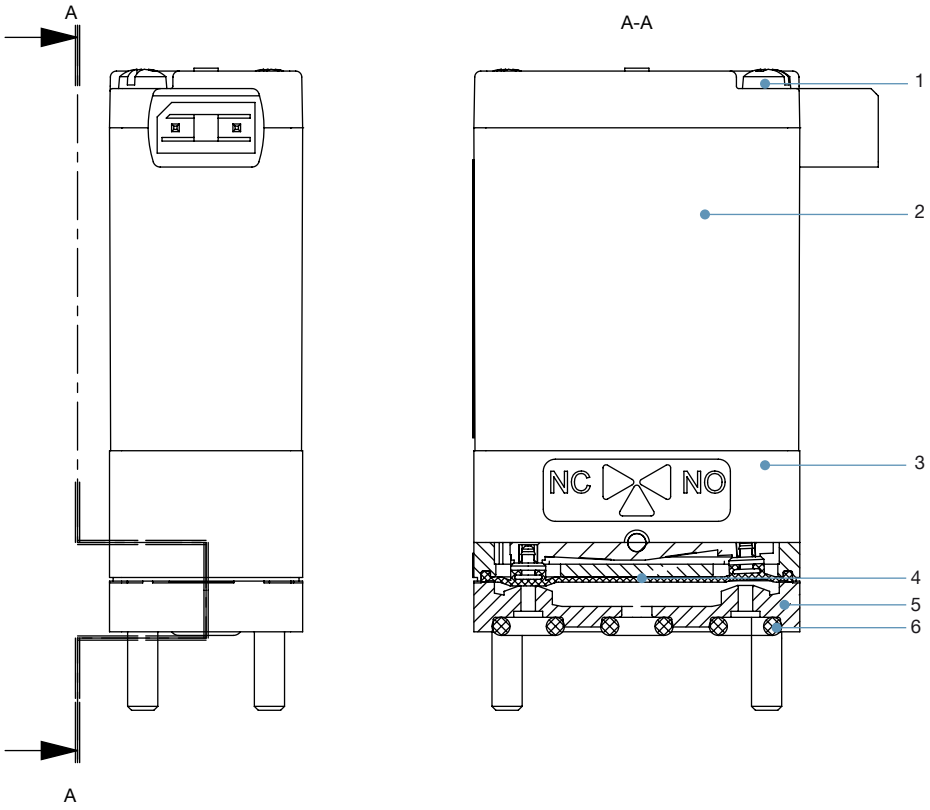


Bürkert resistApp – Chemical Resistance Chart

You want to ensure the reliability and durability of the materials in your individual application case? Verify your combination of medium and materials on our website or in our resistApp.

Start Chemical Resistance Check

4.2. Material specifications



No.	Element	Material
1	Rounded head screw M2.5	A2
2	Coil	Epoxy
3	Actuator housing	PPS
4	Diaphragm (medium contact)	FFKM, FKM, EPDM
5	Fluid housing (medium contact)	PPS, PVDF, PEEK
6	Flange seal (medium contact)	FFKM, FKM, EPDM

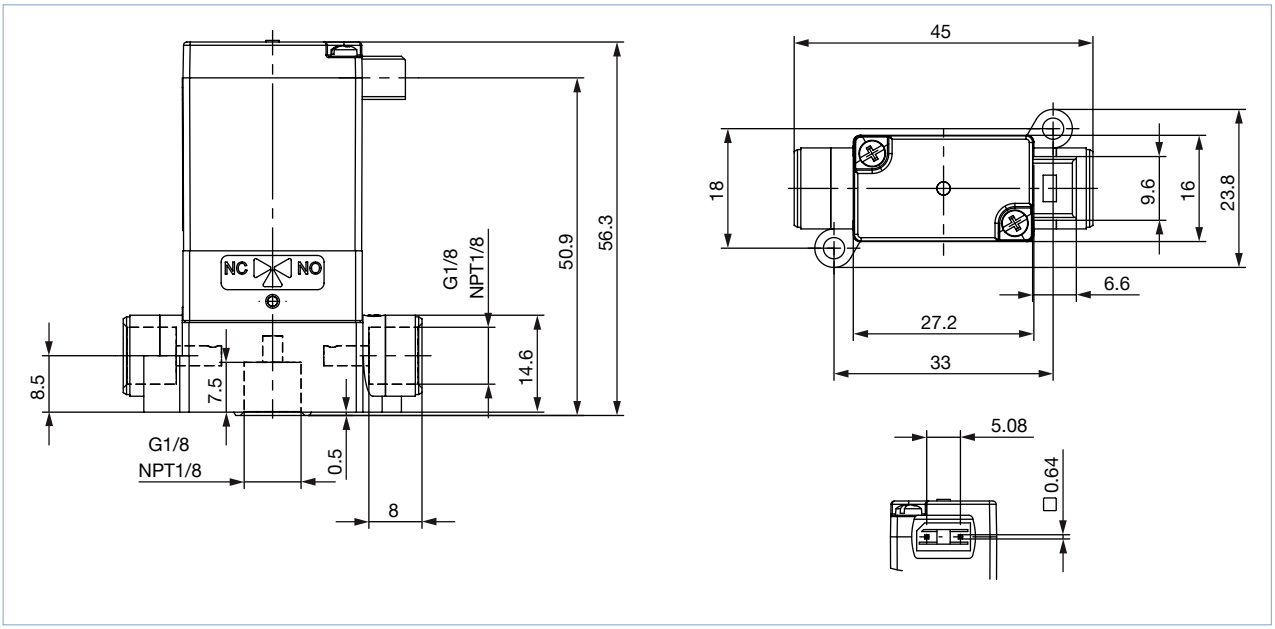
DTS 1000010906 EN Version: U Status: RL (released | freigegeben | validé) printed: 25.02.2021

5. Dimensions

5.1. Threaded port version (G ⅛, NPT ⅛) with rectangular plug (Type 2505)

Note:

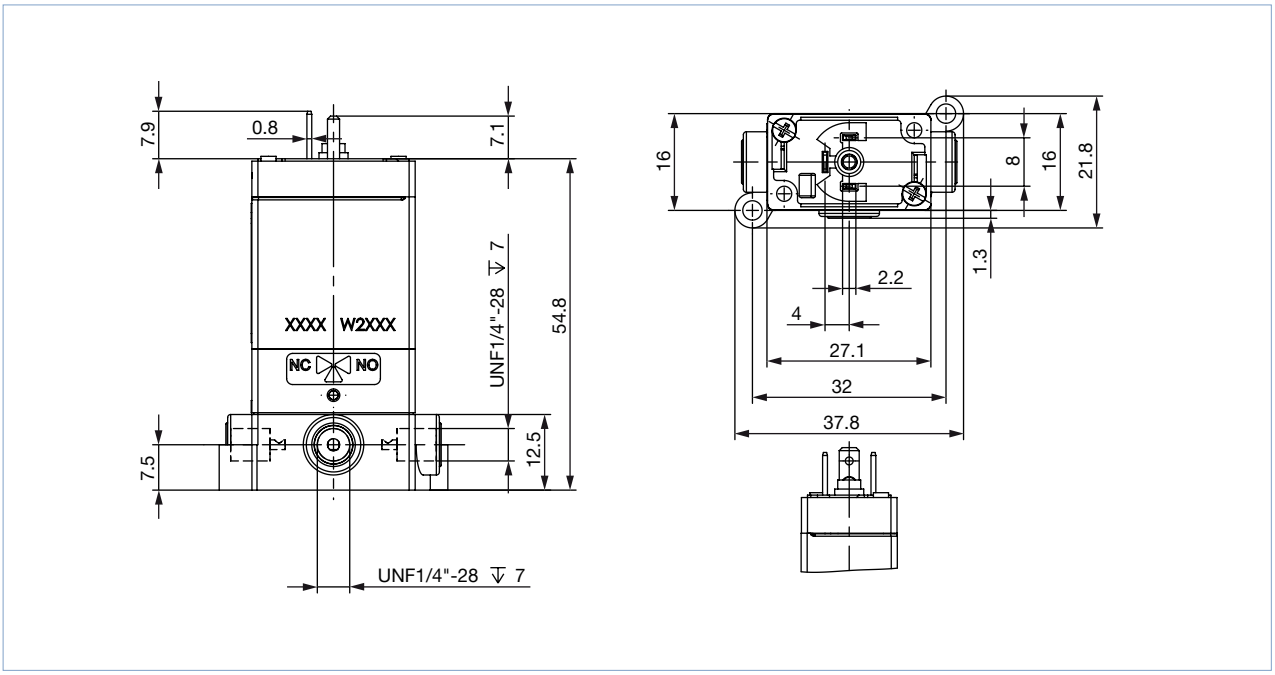
- Dimensions in mm
- Further versions on request



5.2. Threaded port version (UNF ¼ … 28) with cable plug (Type 1054)

Note:

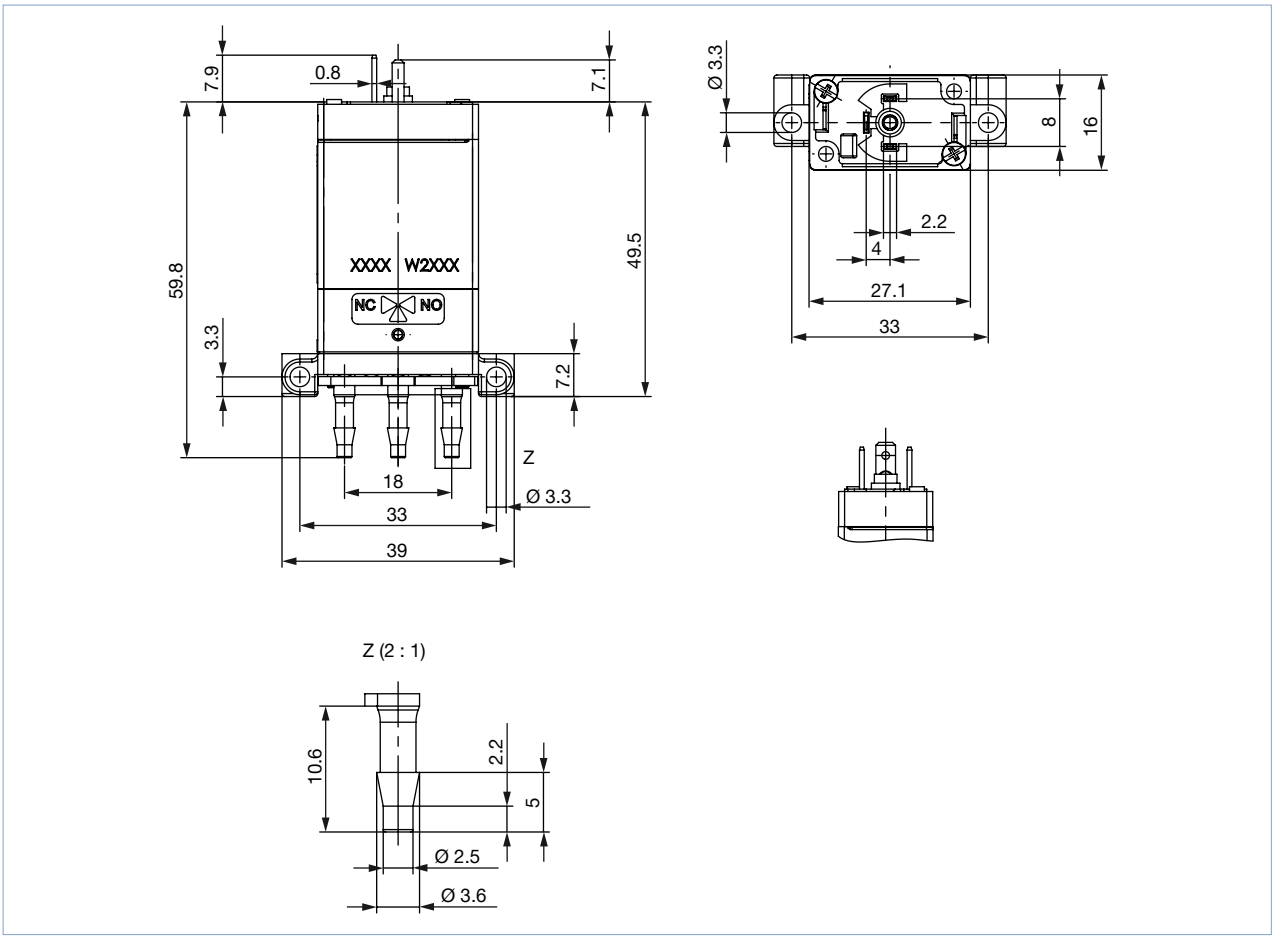
- Dimensions in mm
- Further versions on request



5.3. Tube connection with cable plug (Type 1054)

Note:

- Dimensions in mm
- Further versions on request

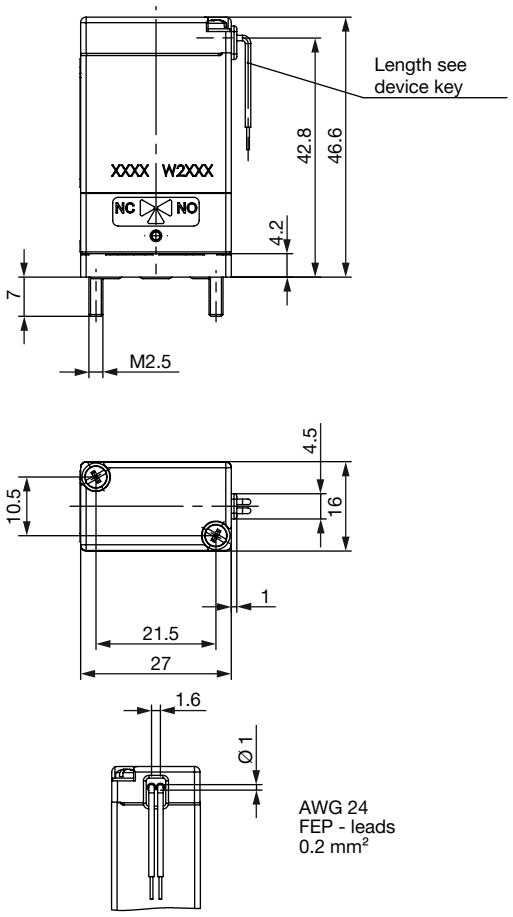


DTS 1000010906 EN Version: U Status: RL (released | freigegeben | validé) printed: 25.02.2021

5.4. Sub-base version with flying leads

Note:

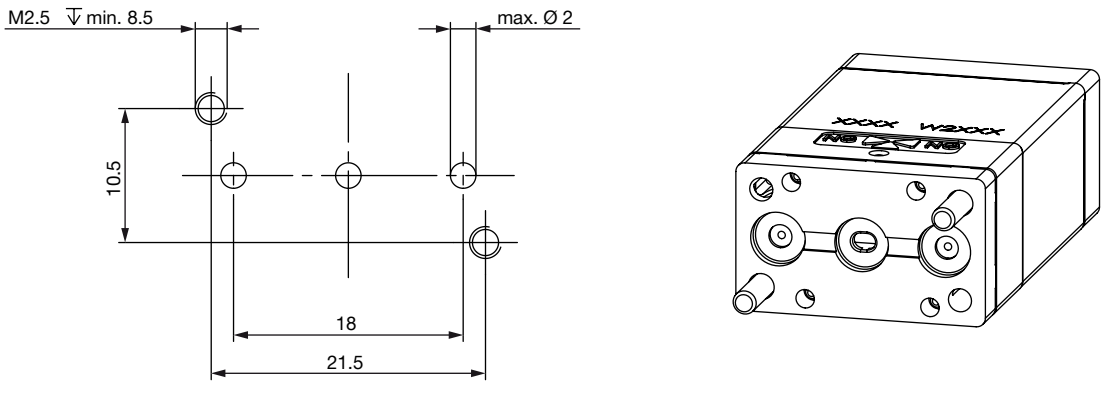
- Dimensions in mm
- Other screw length on request
- Self-tapping screws on request



Classification of fluid connections
WWA (circuit function: Type A) 2/2 way, direct-acting, normally closed energized at NC connection
WWB (circuit function: Type B) 2/2 way, direct-acting, normally opened energized at NO connection
WWT (circuit function: Type T) 3/2 way, direct-acting, flow direction optional, universal
See chapter "3. Circuit functions" on page 4

5.5. Bürkert sub-base interface 3-way (standard)

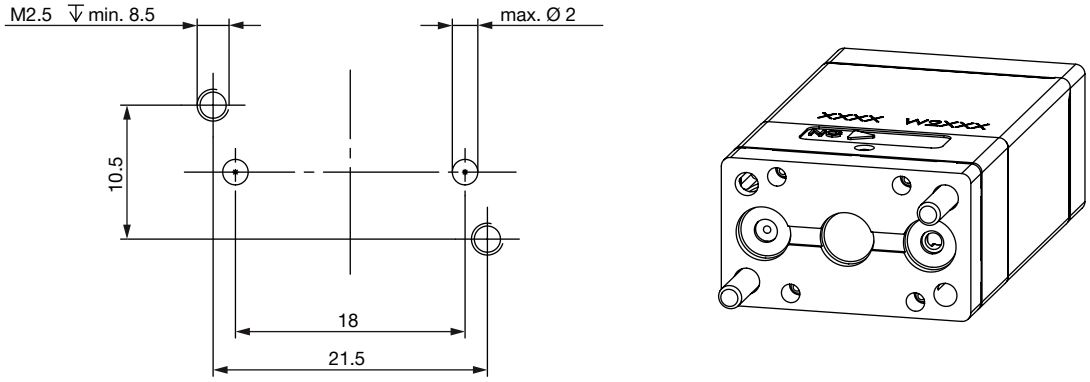
Note:
Dimensions in mm



DTS 1000010906 EN Version: U Status: RL (released | freigegeben | validé) printed: 25.02.2021

5.6. Bürkert sub-base interface 2-way (standard)

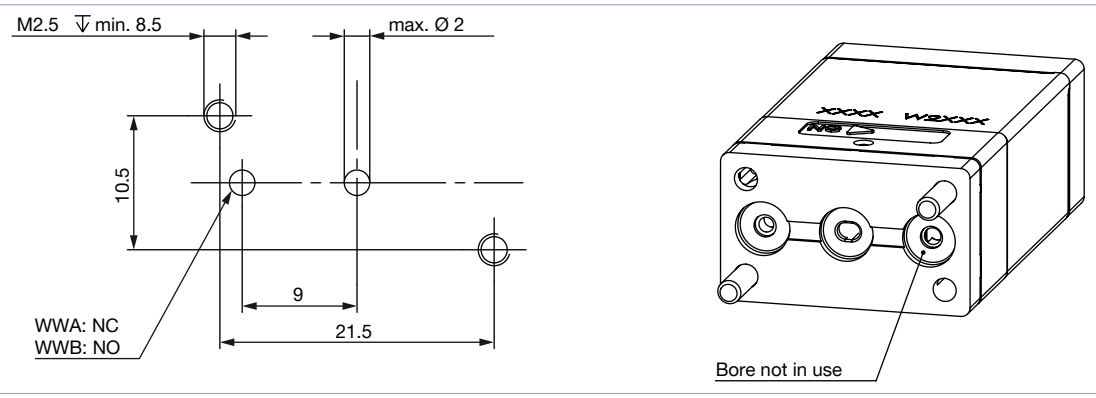
Note:
Dimensions in mm



5.7. Bürkert sub-base interface 2-way (low dead volume)

Note:

- Dimensions in mm
- Available on request

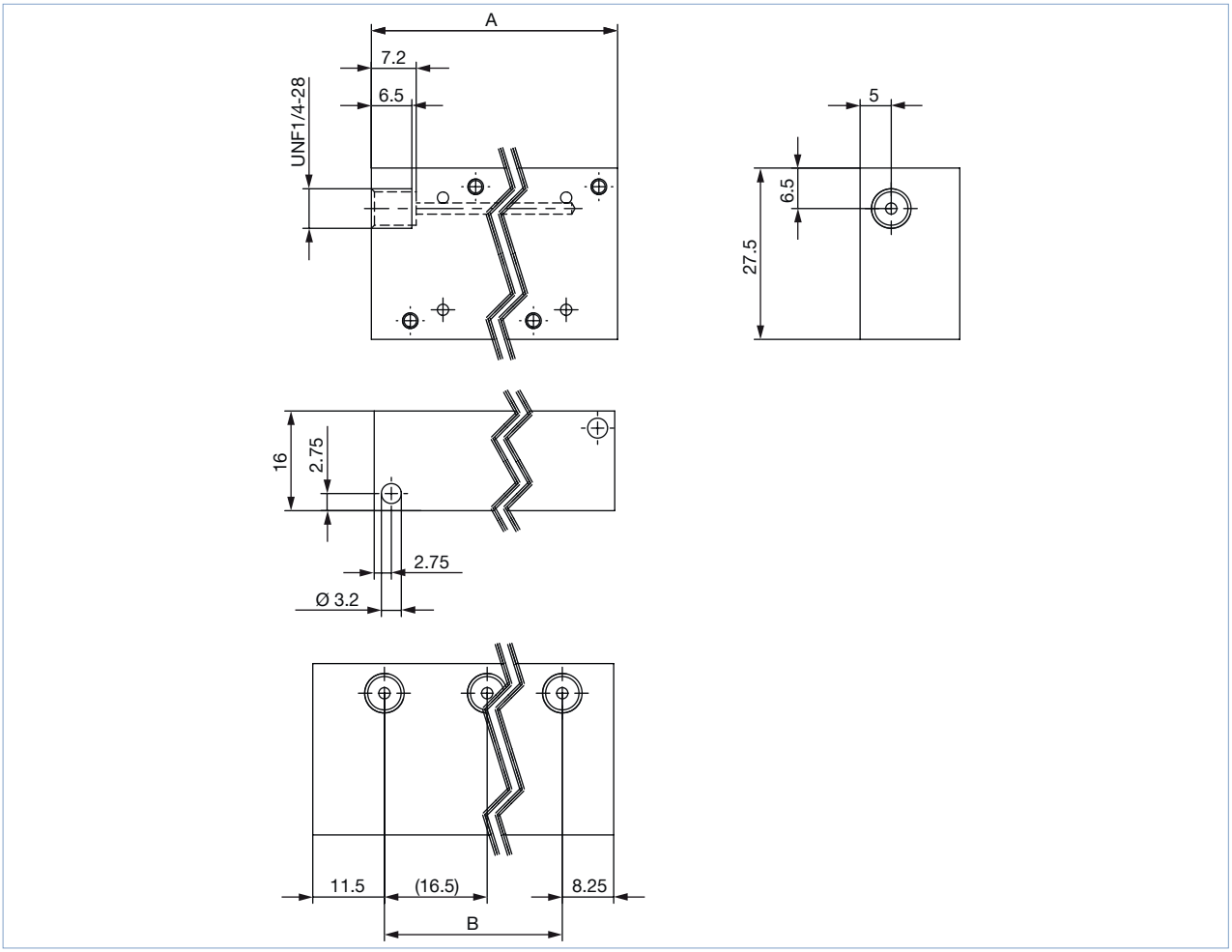


DTS 1000010906 EN Version: U Status: RL (released | freigegeben | validé) printed: 25.02.2021

5.8. Manifolds in PEEK for Bürkert sub-base interface 2-way

Note:

- Dimensions in mm
- Port connection UNF ¼ …28
- Consider the screw protrusion!
- Further versions on request



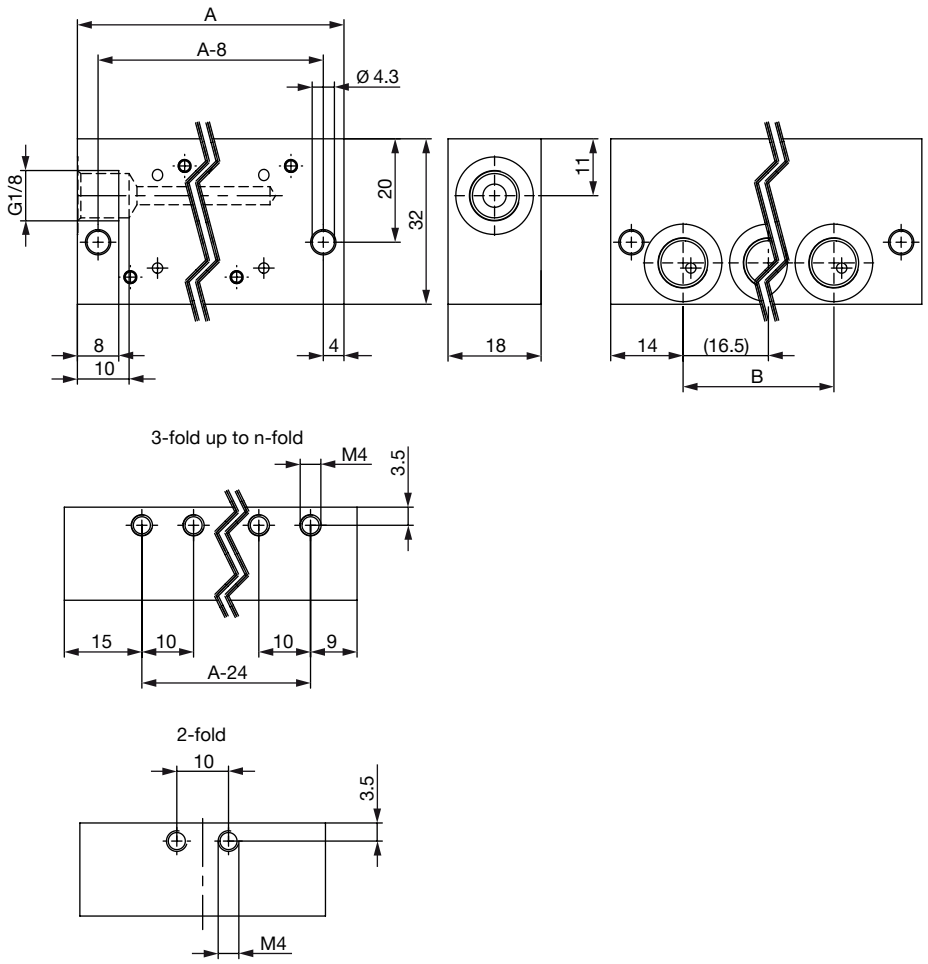
Manifold	A	B	n	Article no.
2-fold	36.25	16.5	2	651506
3-fold	52.75	33	3	651510
4-fold	69.25	49.5	4	651507
5-fold	85.75	66	5	651508
6-fold	102.25	82.5	6	651509
7-fold	118.75	99	7	651521
8-fold	135.25	115.5	8	651522

DTS 1000010906 EN Version: U Status: RL (released | freigegeben | validé) printed: 25.02.2021

5.9. Manifolds in PPS for Bürkert sub-base interface 2-way

Note:

- Dimensions in mm
- Port connection G ⅛
- Consider the screw protrusion!
- Further versions on request



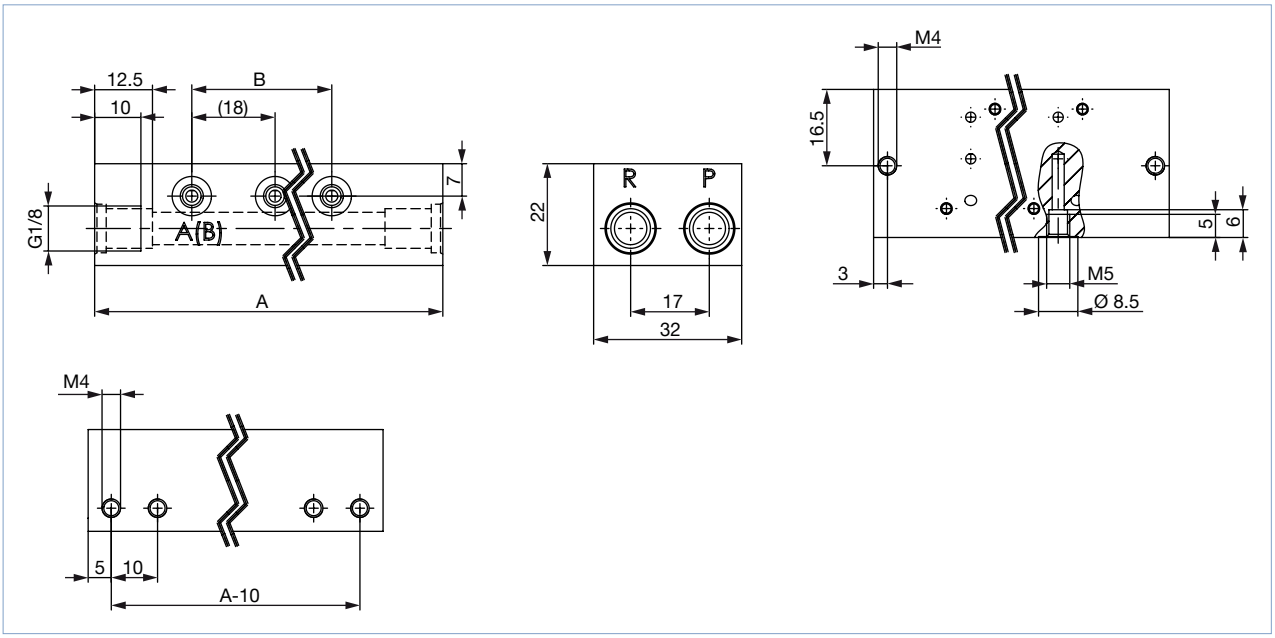
Manifold	A	B	n	Article no.
2-fold	47.5	16.5	2	675628
3-fold	64	33	3	675629
4-fold	80.5	49.5	4	675630
5-fold	97	66	5	675631
6-fold	113.5	82.5	6	675632
7-fold	130	99	7	675633
8-fold	146.5	115.5	8	675634
9-fold	163	132	9	675635
10-fold	179.5	148.5	10	675636

DTS 1000010906 EN Version: U Status: RL (released | freigegeben | validé) printed: 25.02.2021

5.10. Manifolds in aluminium for Bürkert sub-base interface 3-way (black anodized)

Note:

- Dimensions in mm
- Port connection 1: G ⅛
- Port connection 2: M5
- Consider the screw protrusion!
- Further versions on request



Manifold	A	B	n	Article no.
2-fold	63	18	2	658695
3-fold	81	36	3	658696
4-fold	99	54	4	658697
5-fold	117	72	5	658698
6-fold	135	90	6	658699
8-fold	171	126	8	658700
10-fold	207	162	10	658701
12-fold	243	198	12	658703

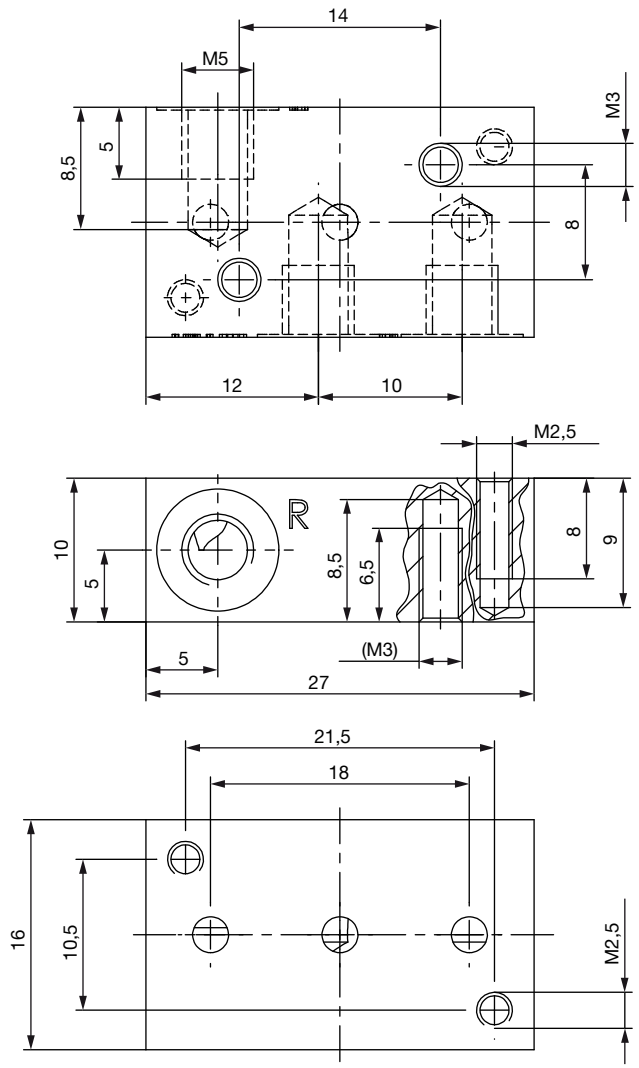
DTS 1000010906 EN Version: U Status: RL (released | freigegeben | validé) printed: 25.02.2021

5.11. Single manifolds in aluminium for Bürkert sub-base interface 3-way (black anodized)

Port connection M5

Note:

- Dimensions in mm
- Consider the screw protrusion!
- Further versions on request



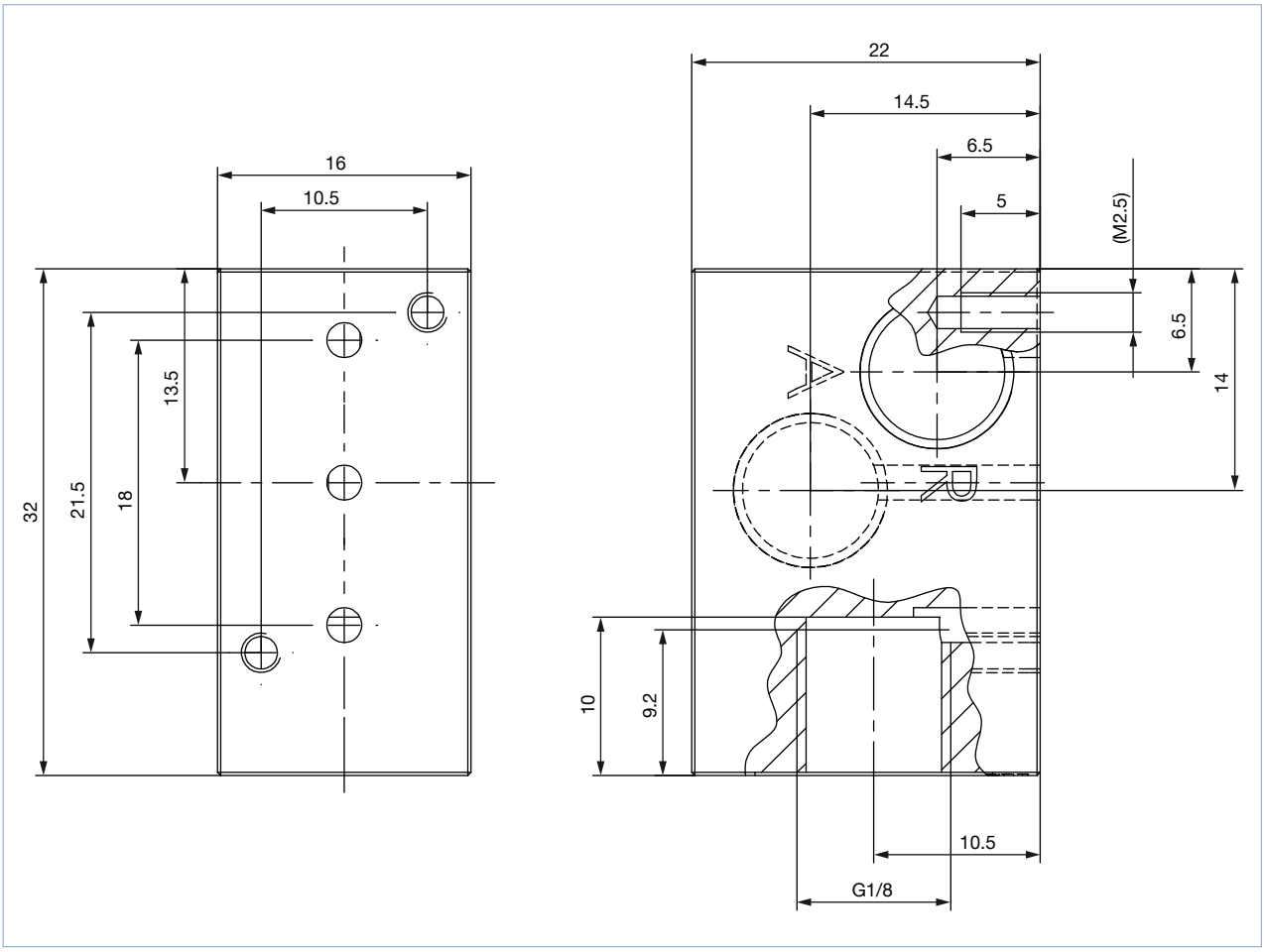
Manifold	Article no.
1-fold	623873

DTS 1000010906 EN Version: U Status: RL (released | freigegeben | validé) printed: 25.02.2021

Port connection G ⅛

Note:

- Dimensions in mm
- Consider the screw protrusion!
- Further versions on request



Manifold	Article no.
1-fold	634917

DTS 1000010906 EN Version: U Status: RL (released | freigegeben | validé) printed: 25.02.2021

6. Performance specifications

6.1. Internal volume

Note:
The internal volume is 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
G ⅛, NPT ⅛	–	–	100 µl	211 µl	92 µl	229 µl
UNF ¼…28	25 µl	69 µl	55 µl	79 µl	54 µl	95 µl
Tube connection	33 µl	112 µl	62 µl	142 µl	69 µl	185 µl

6.2. Medium temperature

Note:
The permissible medium temperature depends on the material and the nominal size.

Description	Orifice	Seal material	Temperature range
Medium temperature	DN 0.8	FFKM	+5 °C...+50 °C
	DN 0.8	FKM	0 °C...+50 °C
	DN 0.8	EPDM	-5 °C...+50 °C
	DN 1.2 and DN 1.6	FFKM	+10 °C...+50 °C
	DN 1.2 and DN 1.6	FKM	+5 °C...+50 °C
	DN 1.2 and DN 1.6	EPDM	0 °C...+50 °C
Medium temperature with limitation on switching time and life expectancy	DN 0.8	FFKM	0 °C...+50 °C
	DN 0.8	FKM	-5 °C...+55 °C
	DN 0.8	EPDM	-10 °C...+50 °C
	DN 1.2 and DN 1.6	FFKM	+5 °C...+50 °C
	DN 1.2 and DN 1.6[1.)]	FKM	0 °C...+55 °C
	DN 1.2 and DN 1.6	EPDM	-5 °C...+50 °C

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

7. Ordering information

7.1. Bürkert eShop – Easy ordering and quick delivery

Bürkert eShop – Easy ordering and fast delivery

You want to find your desired Bürkert product or spare part quickly and order directly? Our online shop is available for you 24/7. Sign up and enjoy all the benefits.

Order online now

DTS 1000010906 EN Version: U Status: RL (released | freigegeben | validé) printed: 25.02.2021

7.2. Bürkert product filter

Bürkert product filter – Get quickly to the right product

You want to select products comfortably based on your technical requirements? Use the Bürkert product filter and find suitable articles for your application quickly and easily.

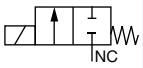
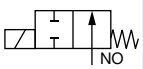
Try out our product filter

7.3. Ordering chart

Standard valves

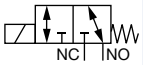
Note:

- Overpressure with respect to atmospheric pressure
- On request different pressure ranges available

Circuit function	Orifice	Port connection	K_V value water	C_V value	Q_{Nn} value air	Pressure range	Seal material	Fluid housing material	Electrical connection	Voltage/ Frequency	Article no.
	[mm]		[m³/h]	[gal/min]	[l/min]	[bar]				[V/Hz]	
A, solenoid valve 2/2 way Direct-acting Normally closed 	0.8	Sub-base	0.015	0.017	16	0…6	FFKM	PEEK	Leads, 0.5 m	24/DC	276699
							FKM	PPS	Leads, 0.5 m	24/DC	264327
							EPDM	PPS	Rectangular plug	24/DC	276701
	1.2	Sub-base	0.03	0.035	32	0…5	FFKM	PEEK	Leads, 0.5 m	24/DC	276703
									Rectangular plug	24/DC	276710
							FKM	PPS	Leads, 0.5 m	24/DC	276718
							EPDM	PPS	Cable plug	24/DC	276728
		UNF ¼-28	0.025	0.029	27	0…5	FFKM	PEEK	Leads, 0.5 m	12/DC	244706
										24/DC	280858
	1.6	G ⅛	0.05	0.058	54	0…2	FFKM	PVDF	Leads, 0.5 m	24/DC	120677
									Rectangular plug	24/DC	272153
		NPT ⅛	0.05	0.058	54	0…2	FFKM	PVDF	Rectangular plug	24/DC	272160
		UNF ¼-28	0.03	0.035	33	0…2	FFKM	PEEK	Leads, 0.5 m	24/DC	463551
									Rectangular plug	24/DC	262460
									Cable plug	24/DC	207675
		Sub-base	0.045	0.052	49	0…2	FFKM	PVDF	Leads, 0.5 m	24/DC	276738
								PEEK	Leads, 0.5 m	24/DC	242451
							FKM	PPS	Rectangular plug	24/DC	273398
							EPDM	PPS	Rectangular plug	12/DC	276746
		Tube connection	0.045	0.052	49	0…2[1)]	FFKM	PVDF	Leads, 0.5 m	24/DC	455390
									Rectangular plug	24/DC	272154
B, solenoid valve 2/2 way Direct-acting Normally opened 	1.6	G ⅛	0.05	0.058	54	0…2	FFKM	PVDF	Leads, 0.5 m	24/DC	120678
		Tube connection	0.045	0.052	49	0…2[1)]	FFKM	PVDF	Leads, 0.5 m	24/DC	120684
		Sub-base	0.045	0.052	49	0…2	EPDM	PPS	Rectangular plug	24/DC	276747

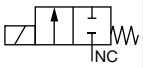
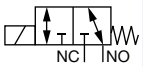
1.) Low dead-volume version, maximum back pressure 1 bar

DTS 1000010906 EN Version: U Status: RL (released | freigegeben | validé) printed: 25.02.2021

Circuit function	Orifice	Port connection	K_v value water	C_v value	Q_{Nn} value air	Pressure range	Seal material	Fluid housing material	Electrical connection	Voltage/ Frequency	Article no.
	[mm]		[m³/h]	[gal/min]	[l/min]	[bar]				[V/Hz]	
T, solenoid valve 3/2 way Direct-acting Flow direction optional Universal 	0.8	Sub-base	0.015	0.017	16	0…6	FFKM	PEEK	Leads, 0.5 m	24/DC	276748
							FKM	PPS	Rectangular plug	24/DC	276749
							EPDM	PPS	Rectangular plug	24/DC	276750
	1.2	Sub-base	0.03	0.035	32	0…5	FFKM	PEEK	Leads, 0.5 m	24/DC	276753
									Rectangular plug	24/DC	276754
							FKM	PPS	Leads, 0.5 m	24/DC	276756
							EPDM	PPS	Rectangular plug	24/DC	276758
		UNF ¼-28	0.025	0.029	27	0…5	FFKM	PEEK	Leads, 0.5 m	12/DC	244696
									Rectangular plug	24/DC	297064
									Cable plug	24/DC	269045
	1.6	G ⅛	0.05	0.058	54	0…2	FFKM	PVDF	Leads, 0.5 m	24/DC	120679
									Rectangular plug	24/DC	272156
		NPT ⅛	0.05	0.058	54	0…2	FFKM	PVDF	Leads, 0.5 m	24/DC	121781
		UNF ¼-28	0.03	0.035	33	0…2	FFKM	PEEK	Leads, 0.5 m	24/DC	464968
									Rectangular plug	24/DC	262461
									Cable plug	24/DC	280172
		Sub-base	0.045	0.052	49	0…2	FFKM	PVDF	Rectangular plug	24/DC	273853
								PEEK	Leads, 0.5 m	24/DC	460264
							FKM	PPS	Rectangular plug	24/DC	271604
							EPDM	PPS	Rectangular plug	24/DC	276759
		Tube connection	0.045	0.052	49	0…2	FFKM	PVDF	Leads, 0.5 m	24/DC	120685
									Rectangular plug	24/DC	272157

Valves with power reduction

Note:
After approx. 500 ms, the nominal power is automatically reduced from 4 W to 1 W.

Circuit function	Orifice	Port connection	K_v value water	C_v value	Q_{Nn} value air	Pressure range	Seal material	Fluid housing material	Electrical connection	Voltage/ Frequency	Article no.
	[mm]		[m³/h]	[gal/min]	[l/min]	[bar]				[V/Hz]	
A, solenoid valve 2/2 way Direct-acting Normally closed 	1.2	Sub-base	0.03	0.035	32	0…5	FKM	PPS	Rectangular plug	24/DC	357227
	1.6	UNF¼-28	0.03	0.035	33	0…2	FFKM	PEEK	Rectangular plug	24/DC	357229
T, solenoid valve 3/2 way Direct-acting Flow direction optional Universal 	1.2	Sub-base	0.03	0.035	32	0…5	FKM	PPS	Rectangular plug	24/DC	357230
	1.6	UNF¼-28	0.03	0.035	33	0…2	FFKM	PEEK	Rectangular plug	24/DC	357233

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7.4. Ordering chart accessories

Manifolds in PEEK for Bürkert sub-base interface 2-way

Note:
Detailed order information can be found in chapter "5.8. Manifolds in PEEK for Bürkert sub-base interface 2-way" on page 10.

Manifolds in PPS for Bürkert sub-base interface 2-way

Note:
Detailed order information can be found in chapter "5.9. Manifolds in PPS for Bürkert sub-base interface 2-way" on page 11.

Manifolds in aluminium for Bürkert sub-base interface 3-way (black anodized)

Note:
Detailed order information can be found in chapter "5.10. Manifolds in aluminium for Bürkert sub-base interface 3-way (black anodized)" on page 12.

Single manifolds in aluminium for Bürkert sub-base interface 3-way (black anodized)

Note:
Detailed order information can be found in chapter "5.11. Single manifolds in aluminium for Bürkert sub-base interface 3-way (black anodized)" on page 13.

Cable plug Type 1054 and rectangular plug Type 2505

Note:
For further versions see datasheet **Type 2505** ▶.

Accessories	Description	Article no.
	Cable plug Type 1054 (without cable)	006699
	Cable plug Type 1054 with 3 m cable	413552
	Rectangular plug Type 2505 with 300 mm leads, 2 pin	262346
	Rectangular plug Type 2505 with 3 m cable, 2 pin	252572

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