



Tank bottom diaphragm valve with manually operated actuator (FullFunction)

- Valve body and diaphragm are available in different materials and versions
- Wetted surfaces from $Ra \leq 0.38 \mu m \dots \leq 1.6 \mu m$ (optionally electropolished)
- Available in all common connection sizes and variants
- Integrated locking
- Minimum and maximum stroke limitation

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

Can be combined with

	Type 2935 ▶ Tank bottom diaphragm valve with manually operated actuator (basic)
	Type 2973 ▶ 2/2-way diaphragm valve with manually operated actuator (FullFunction)
	Type 2974 ▶ T-diaphragm valve with manually operated actuator (FullFunction)
	Type 2031 ▶ 2/2-way diaphragm valve with pneumatic plastic actuator (Type CLASSIC)
	Type 2103 ▶ 2/2-way diaphragm valve with pneumatic stainless steel actuator (Type ELEMENT) for decentralised automation
	Type 2063 ▶ 2/2-way diaphragm valve with pneumatic actuator in stainless steel (Type INOX)

Type description

The Type 2975 manually operated diaphragm valve consists of a manually operated actuator, a diaphragm and a tank bottom valve body. The manual actuator with plastic handwheel ensures use in hygienic or aggressive ambient conditions. The flow-optimised valve body with minimum dead space enables high flow values and a wide range of possible applications. The valve body and the diaphragms are available in all common materials and versions. The actuator has a compact, autoclavable design and is compatible with all other Bürkert diaphragm valves. An explosion-proof ATEX/IECEx device variant is available. The manual actuator possesses a visual position indicator with reproducible stroke scale. The actuator also possesses an adjustable minimum and maximum stroke limitation and/or locking. The manual actuator can be optionally equipped with sensors for position feedback.

Table of contents

1. General technical data	3
<hr/>	
2. Approvals and conformities	4
2.1. General notes.....	4
2.2. Conformity	4
2.3. Standards.....	4
2.4. Explosion protection	4
2.5. Foods and beverages/Hygiene	4
<hr/>	
3. Materials	5
3.1. Bürkert resistApp	5
3.2. Material specifications	6
3.3. Example of available diaphragm materials	6
<hr/>	
4. Dimensions	7
4.1. Manual actuator	7
Diaphragm size 15...25.....	7
Diaphragm size 40...50.....	8
Manual actuator with tank bottom body.....	9
4.2. Tank bottom body with welded connection.....	10
4.3. Tank bottom body with clamp connection.....	11
<hr/>	
5. Performance specifications	11
5.1. Medium pressure	11
<hr/>	
6. Ordering information	12
6.1. Bürkert eShop.....	12
6.2. Bürkert product filter.....	12
6.3. Bürkert Product Enquiry Form	12

1. General technical data

Product properties	
Dimensions	Further information can be found in chapter "4. Dimensions" on page 7.
Material^{1.)}	
Block body (VH) ^{1.)}	Stainless steel 1.4435/316L
Block body (VI) ^{1.)}	Stainless steel 1.4435/BN2/ASME BPE, Fe <0.5 %/C ≤0.03 %
Diaphragm	EPDM (AD) ^{1.)} , PTFE/EPDM (EA) ^{1.)} , advanced PTFE/EPDM (EU) ^{1.)} , GYLON®/laminated EPDM (ER) ^{1.)}
Actuator (diaphragm bonnet/handwheel)	Stainless steel/PPS
Diaphragm size	15...50 (65...100 see Type 3235 ▶)
Standard surface quality^{2.)}	
Block body (VH/VI) ^{1.)}	Interior electrically polished: Ra ≤0.38 µm (NO17) ^{1.)} (ASME BPE SF4/DIN HE4) (external: Ra ≤1.6 µm) Interior mechanically polished: Ra ≤0.5 µm (NO14) ^{1.)} (ASME BPE SF1) (external: Ra ≤1.6 µm)
Medium data	
Operating medium	Neutral gases and fluids, highly purified, sterile, aggressive or abrasive media (see resistance chart ▶)
Medium temperature	
EPDM (AD) ^{1.)}	-10...+143 °C (steam sterilisation +150 °C for 60 min)
PTFE/EPDM (EA) ^{1.)}	-10...+130 °C (steam sterilisation +140 °C for 60 min)
Advanced PTFE/EPDM (EU) ^{1.)}	-5...+143 °C (steam sterilisation +150 °C for 60 min)
GYLON®/laminated EPDM (ER) ^{1.)}	-5...+130 °C (steam sterilisation +140 °C for 60 min)
Process/Port connection & communication	
Nominal diameter	DN 08...DN 65 (¼"...2½")
Port connectio for stainless steel valve body^{2.)}	
Welded connection ^{2.)}	DIN EN ISO 1127/ISO 4200/DIN 11866 series B DIN 11850 series 2/DIN 11866 series A/DIN EN 10357 series A ASME BPE/DIN 11866 series C
Clamp connection ^{2.)}	DIN 32676 series A (DIN pipe) DIN 32676 series B (ISO pipe) ASME BPE
Environment and installation	
Installation position	See operating instructions Type 2975 ▶
Ambient temperature: actuator (diaphragm bonnet/handwheel)	
Stainless steel/PPS	-10...+130 °C (short-term up to +150 °C), autoclavable

1.) This information is part of the product key (see "6.3. Bürkert Product Enquiry Form" on page 12).

2.) Further versions are available on request.

2. Approvals and conformities

2.1. General notes

- The approvals and conformities listed below must be stated when making enquiries. This is the only way to ensure that the product complies with all required specifications.
- Not all available versions can be supplied with the below mentioned approvals or conformities.



2.2. Conformity

In accordance with the Declaration of Conformity, the product is compliant with the EU Directives.


2.3. Standards

The applied standards which are used to demonstrate compliance with the EU Directives are listed in the EU-Type Examination Certificate and/or the EU Declaration of Conformity.

2.4. Explosion protection

Approval	Description																
 	<p>Optional: Explosion protection As a category 2 device suitable for zone 1/21 and zone 2/22 (optional).</p> <p>ATEX: EPS 18 ATEX 2 008 X II 2G Ex h IIC T4 Gb/II 2D Ex h IIIIC T135 °C Db II 2G Ex h IIC T4...T2 Gb II 2D Ex h IIIIC T135 °C...T300 °C Db</p> <p>IECEx: IECEx EPS 18.0007X Ex h IIC T4 Gb/Ex h IIIIC T135 °C Dbb Ex h IIC T4...T2 Gb Ex h IIIIC T135 °C...T300 °C Db</p> <table border="1"> <thead> <tr> <th>Temperature class</th> <th>T2</th> <th>T3</th> <th>T4</th> </tr> </thead> <tbody> <tr> <td>Permissible surface temperature</td> <td>+300 °C</td> <td>+200 °C</td> <td>+135 °C</td> </tr> <tr> <td>Ambient temperature</td> <td>-40...+130 °C</td> <td>-40...+130 °C</td> <td>-40...+100 °C</td> </tr> <tr> <td>Maximum medium temperature</td> <td>+285 °C</td> <td>+185 °C</td> <td>+125 °C</td> </tr> </tbody> </table>	Temperature class	T2	T3	T4	Permissible surface temperature	+300 °C	+200 °C	+135 °C	Ambient temperature	-40...+130 °C	-40...+130 °C	-40...+100 °C	Maximum medium temperature	+285 °C	+185 °C	+125 °C
Temperature class	T2	T3	T4														
Permissible surface temperature	+300 °C	+200 °C	+135 °C														
Ambient temperature	-40...+130 °C	-40...+130 °C	-40...+100 °C														
Maximum medium temperature	+285 °C	+185 °C	+125 °C														

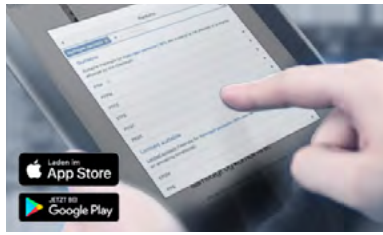
2.5. Foods and beverages/Hygiene

Conformity	Description
FDA	<p>FDA – Code of Federal Regulations The diaphragms made of EPDM (AD), PTFE/EPDM (EA), advanced PTFE/EPDM (EU) and GYLON®/EPDM laminated (ER) comply with the Code of Federal Regulations published by the FDA (Food and Drug Administration, USA).</p>
USP	<p>United States Pharmacopeial Convention (USP) The diaphragms made of EPDM (AD), PTFE/EPDM (EA), advanced PTFE/EPDM (EU) and GYLON®/EPDM laminated (ER) are tested according to USP Class VI.</p>
	<p>EC Regulation 1935/2004 of the European Parliament and of the Council The diaphragms made of EPDM (AD), PTFE/EPDM (EA), advanced PTFE/EPDM (EU) and GYLON®/EPDM laminated (ER) are suitable for use with food and beverages (according to EC Regulation 1935/2004/EC).</p>

DTS 1000597501 EN Version: - Status: RL (released | freigegeben | valide) printed: 23.01.2024

3. Materials

3.1. Bürkert resistApp



Bürkert resistApp – Chemical resistance chart

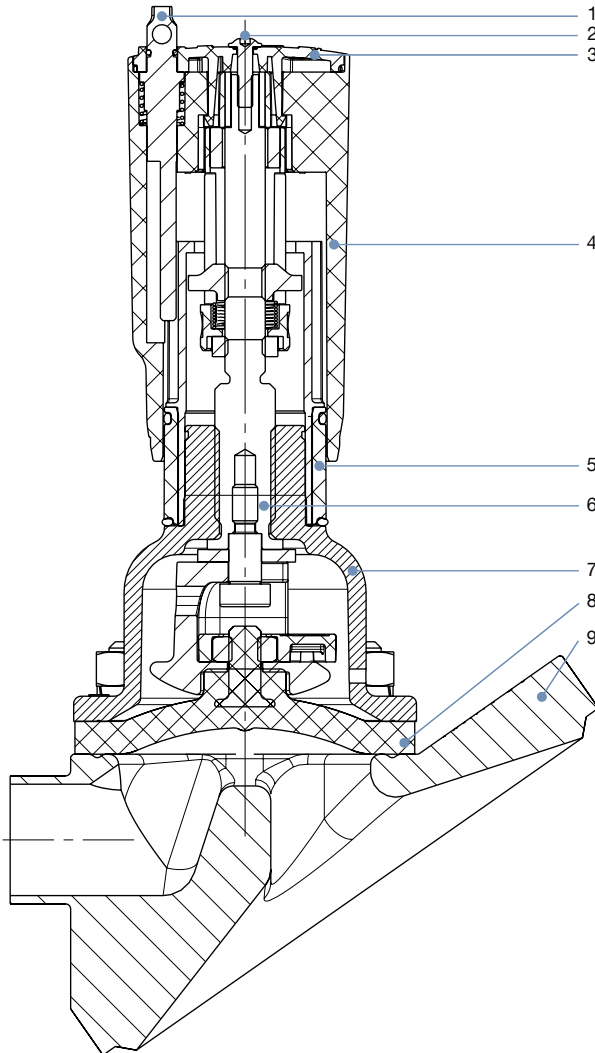
You want to ensure the reliability and durability of the materials in your individual application case? Verify your combination of media and materials on our website or in our resistApp.

[Start chemical resistance check](#)

3.2. Material specifications

Note:

Your product variant may differ from this illustration depending on the body and interface options.



No.	Element	Material
1	Lock pin	Stainless steel 1.4305
2	Screw	Stainless steel A2
3	Handwheel cover	Polyamide (PA)
4	Handwheel	Polyphenylene sulphide (PPS)
5	Visual position indicator	Polyamide (PA)
6	Valve spindle	Stainless steel 1.4305
7	Diaphragm socket	Stainless steel 1.4308
8	Diaphragm	EPDM (AD), PTFE/EPDM (EA), advanced PTFE/EPDM (EU), GYLON®/laminated EPDM (ER)
9	Valve body	See "1. General technical data" on page .

3.3. Example of available diaphragm materials

The diaphragms have been developed to meet the unique challenges of hygienic and sterile requirements. Bürkert offers diaphragms with precise material composition and high accuracy. Bürkert diaphragms are available in a wide range of materials which have been tested and proven in applications in the food and beverage, biotechnology, pharmaceutical and cosmetics industries. The diaphragms are tested during development and production to ensure reliability under difficult process conditions.



- EPDM (AD)
- PTFE/EPDM (EA)
- Advanced PTFE/EPDM (EU)
- GYLON®/laminated EPDM (ER)

For further information please refer to our flyer "Diaphragm competence for hygienic applications" on our [website](#) ►

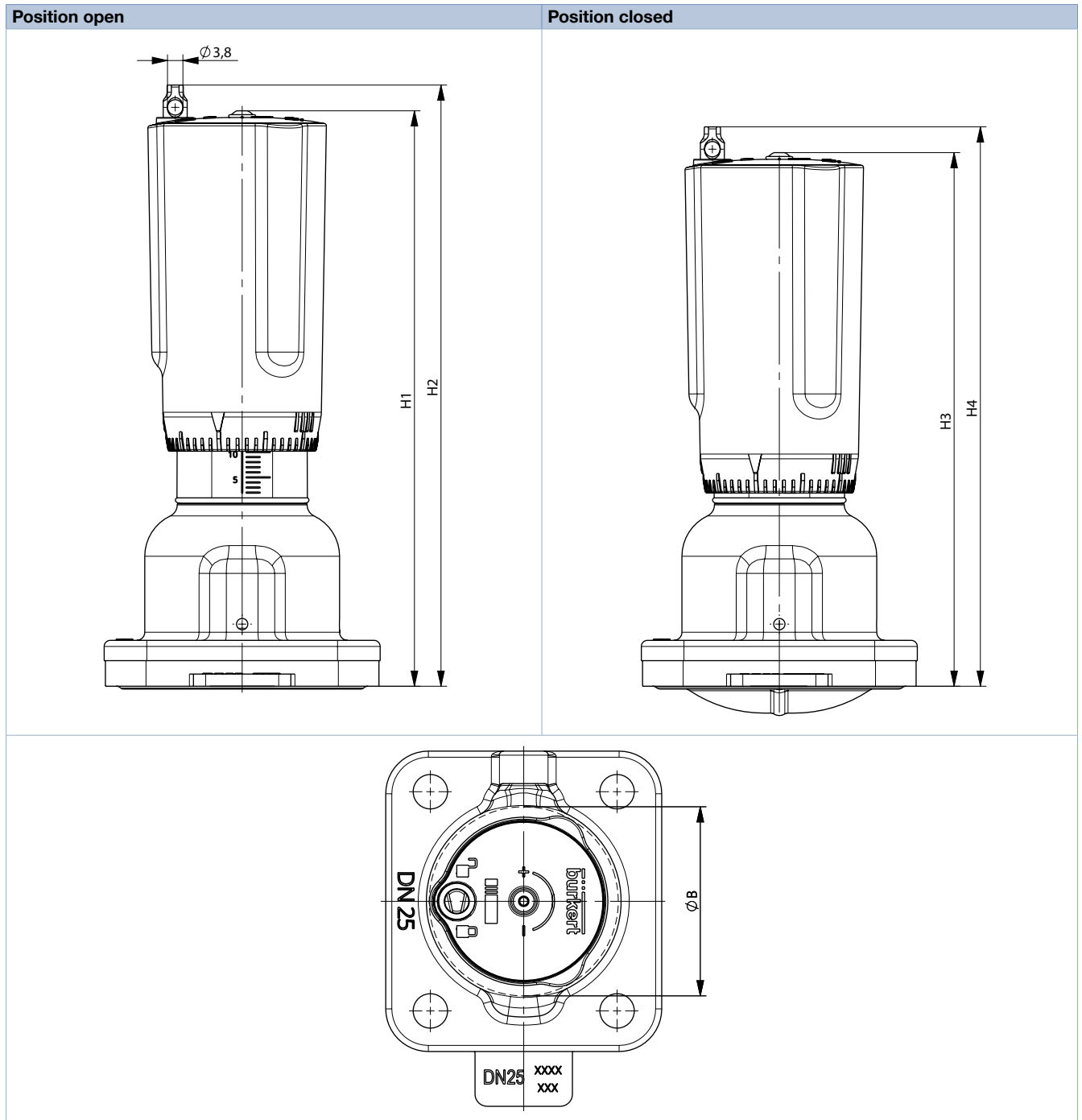
4. Dimensions

4.1. Manual actuator

Diaphragm size 15...25

Note:

Dimensions in mm

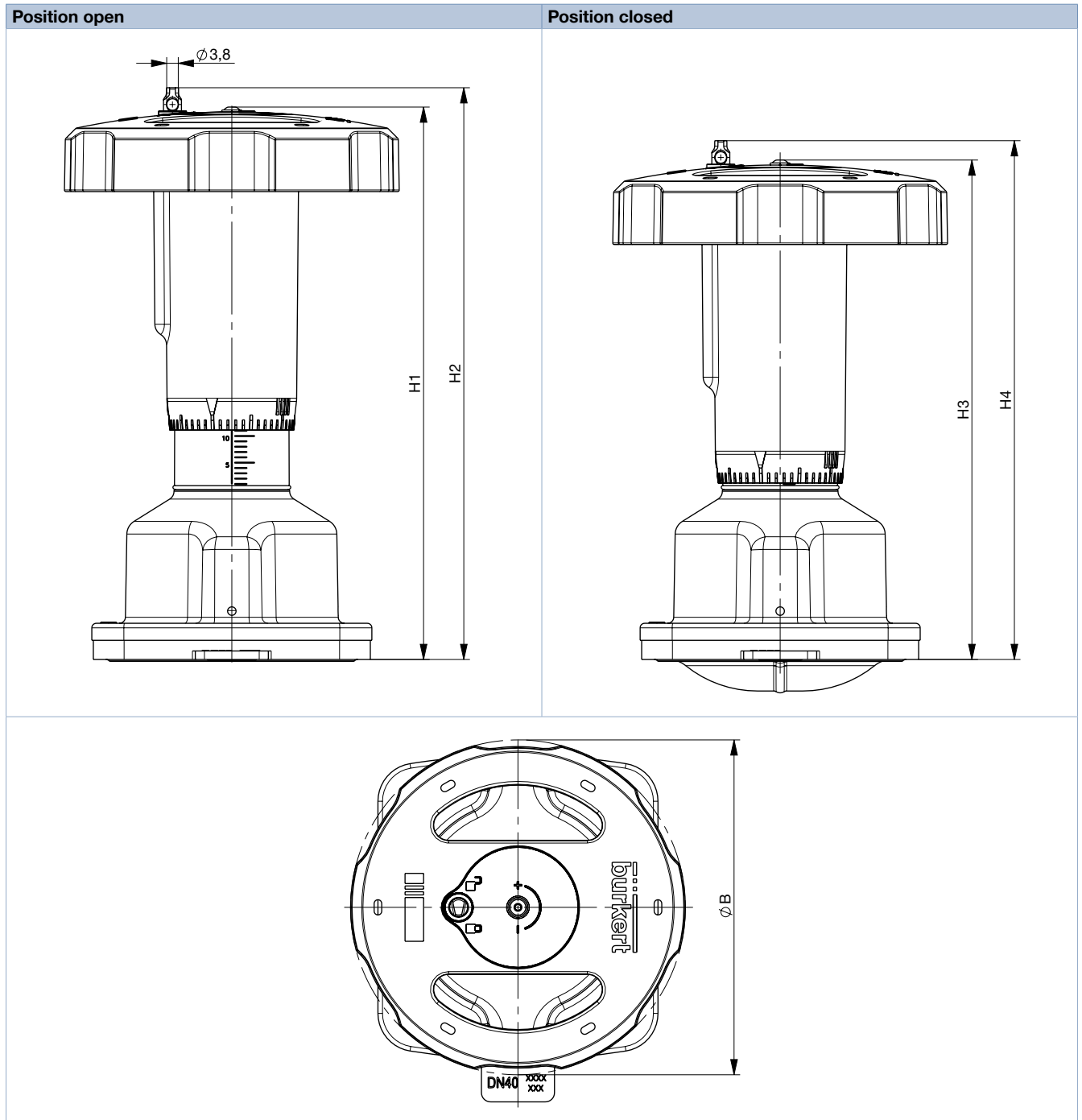


Diaphragm size	H1	H2	H3	H4	Ø B
15	127	133	121	127	45
20	138	144	129	135	45
25	143	149	133	139	45

DTS 1000597501 EN Version: - Status: RL (released | freigegeben | validé) printed: 23.01.2024

Diaphragm size 40...50

Note:
Dimensions in mm

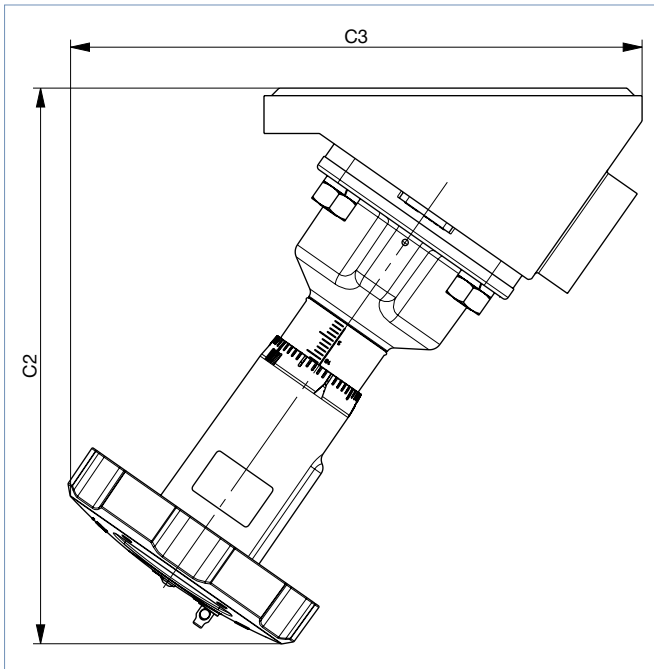


Diaphragm size	H1	H2	H3	H4	Ø B
40	182	188	164	170	110
50	197	203	173	179	110

DTS 1000597501 EN Version: - Status: RL (released | freigegeben | valide) printed: 23.01.2024

Manual actuator with tank bottom body

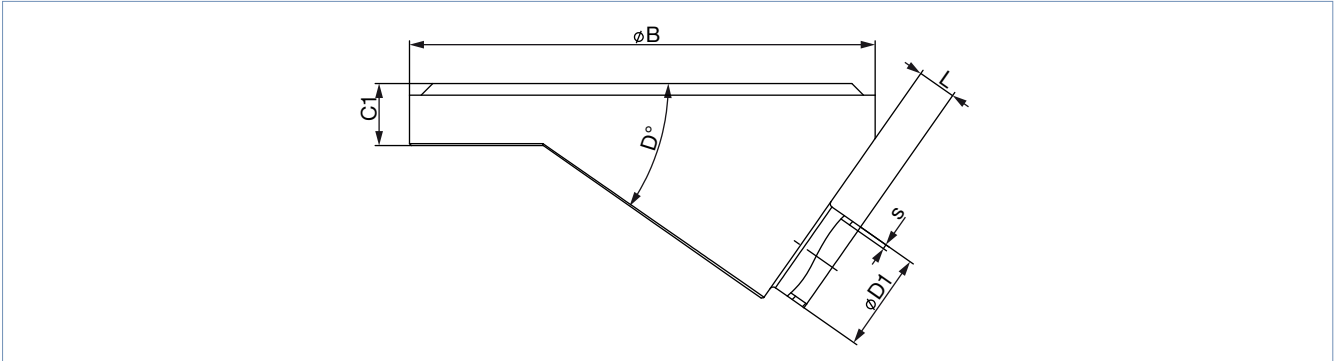
Note:
Dimensions in mm



Diaphragm size	C2	C3
15	139	127
20	152	141
25	163	154
40	221	228
50	243	245

4.2. Tank bottom body with welded connection

Note:
Dimensions in mm



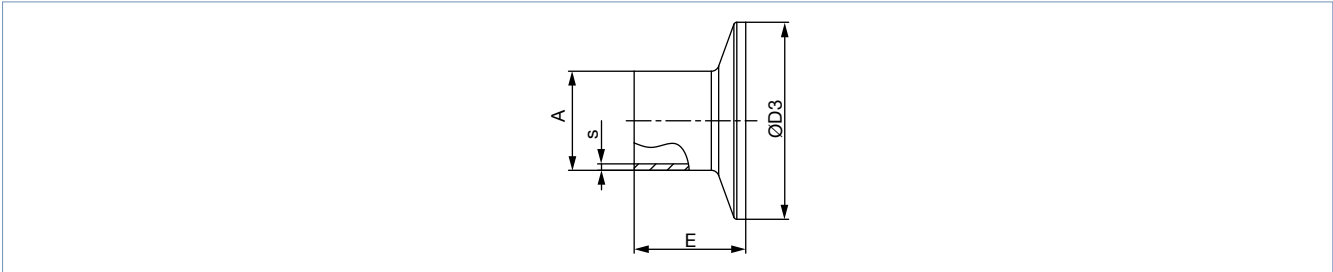
Diaphragm size	Port connection DN	ØB	C1	D	ØD1	s	L	Product key ^{1.)}
DIN EN ISO 1127/ISO 4200/DIN 11866 series B								
15	15	65	12	35°	21.3	1.6	4	SA42
		85					8	SA42
20	20	85	12	35°	26.9	1.6	5.6	SA43
25	25	120	16	35°	33.7	2	8	SA44
40	32	150	18	35°	42.4 (Port 32)	2	20	SA45
	40						15	SA46
50	50	180	22	35°	60.3	2	12	SA47
DIN 11850 series 2/DIN 11866 series A/DIN EN 10357 series A								
15	15	85	12	35°	19	1.5	8	SD42
20	20	85	12	35°	23	1.5	7	SD43
25	25	120	16	35°	29	1.5	8	SD44
40	40	150	18	35°	41	1.5	20	SD46
50	50	180	22	35°	53	1.5	15	SD47
ASME BPE/DIN 11866 series C								
15	1/2"	85	12	35°	12.7	1.65	10	SA92
20	3/4"	85	12	35°	19.05	1.65	8	SA93
25	1"	120	16	35°	25.4	1.65	12	SODF
40	1 1/2"	150	18	35°	38.1	1.65	15	SODH
50	1 1/2"	180	22	35°	38.1	1.65	25	SODH
	50.8				15		SODI	
	63.5				11		SODJ	
SMS 3008								
25	25	120	16	35°	25	1.2	8	SA60
40	40	150	18	35°	38	1.2	20	SA62
50	50	180	22	35°	51	1.2	15	SA63

1.) This information is part of the product key (see "6.3. Bürkert Product Enquiry Form" on page 12).

4.3. Tank bottom body with clamp connection

Note:

- Dimensions in mm
- Clamp dimensions must be added to the welded connection dimensions.



Port connection		A	s	D3	E	Product key ^{1.)}
[mm]	[inch]					
DIN 32676 series A (DIN pipe)						
15	–	19	1.5	34.0	18	TD42
20	–	23	1.5	34.0	18	TD43
25	–	29	1.5	50.5	21.5	TD44
32	–	35	1.5	50.5	21.5	TD45
40	–	41	1.5	50.5	21.5	TD46
50	–	53	1.5	64.0	21.5	TD47
DIN 32676 series B (ISO pipe)						
15	–	21.3	1.6	34.0 ^{2.)}	28.6	TC42 ^{2.)}
15	–	21.3	1.6	50.5	28.6	TC52
20	–	26.9	1.6	50.5	28.6	TC43
25	–	33.7	2	50.5	28.6	TC44
32	–	42.4	2	50.5 ^{2.)}	28.6	TC45 ^{2.)}
40	–	48.3	2	64.0	28.6	TC46
50	–	60.3	2	77.5	28.6	TC47
ASME BPE						
15	½"	12.7	1.65	25.0	28.6	TG02
20	¾"	19.05	1.65	25.0	28.6	TG03
25	1"	25.4	1.65	50.5	28.6	TG04
40	1½"	38.1	1.65	50.5	28.6	TG05
50	2"	50.8	1.65	64.0	28.6	TG06

1.) This information is part of the product key (see "6.3. Bürkert Product Enquiry Form" on page 12).
 2.) Deviating from standard, because of different clamp outer diameter

5. Performance specifications

5.1. Medium pressure

Diaphragm size	Actuator (Diaphragm socket/handwheel)	Max. operating pressure for seal material
		EPDM, PTFE/EPDM, advanced PTFE/EPDM, GYLON®/laminated EPDM
DN		[bar]
15...50	Stainless steel/PPS	10

DTS 1000597501 EN Version: - Status: RL (released | freigegeben | valide) printed: 23.01.2024

6. Ordering information

6.1. Bürkert eShop



Bürkert eShop – Easy ordering and quick 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](#)

6.2. Bürkert product filter



Bürkert product filter – Get quickly to the right product

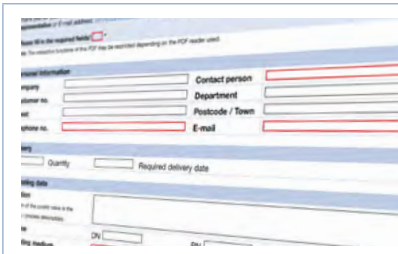
You want to select products comfortably based on your technical requirements? Use the Bürkert product filter and find suitable articles for your application quickly and easily.

[Try out our product filter](#)

6.3. Bürkert Product Enquiry Form

Note:

Please see our Product Enquiry Form for a full explanation of our specification key.



Bürkert Product Enquiry Form – Your enquiry quickly and compactly

Would you like to make a specific product enquiry based on your technical requirements? Use our Product Enquiry Form for this purpose. There you will find all the relevant information for your Bürkert contact. This will enable us to provide you with the best possible advice.

[Fill out the form now](#)