

## Pneumatically operated tank bottom valve CLASSIC



Type 2033 can be combined with...



Type 3235



Type 6012  
Solenoid valve



Type 8697  
Feedback unit

- Zero dead volume body - no welds
- Hermetical separation of fluids from the operating mechanism by diaphragm
- Universal and robust actuators with modular accessory range
- Stainless steel body with welded connection
- Quality certifications FDA/3A

For process valves with decentralized automation see ELEMENT Type 2105





The Bürkert Tank Bottom Valve is designed for control of ultra pure, sterile, aggressive or abrasive fluids. Enables especially optimal filling and emptying vessels with less dead leg. The valve body consists of a block with no weldseam, machined out of high quality stainless steel. The Tank Bottom Valve has two welding bevels to ease the welding and valve positioning operations. The high quality diaphragms separate hermetically critical fluids from the actuator. The pneumatic actuator can be controlled by pneumatic pilot valves (single pilot valves, valve islands and control heads). Control function A, normally closed by spring return.

Technical data	
<b>Orifice</b>	DN08 to DN100
<b>Body material</b>	Stainless steel 1.4435 acc. to BN2 / ASME BPE Fe < 0.5% / C ≤ 0.03%
<b>Port connections</b>	
Weld end	<ul style="list-style-type: none"> <li>• DIN EN ISO 1127 / ISO 4200 / DIN 11866 Series B</li> <li>• DIN 11850 Series 2 / DIN 11866 Series A</li> <li>• ASME BPE / DIN 11866 Series C</li> </ul>
Clamp	<ul style="list-style-type: none"> <li>• DIN 32676 Series A (DIN tube)</li> <li>• DIN 32676 Series B (ISO tube)</li> <li>• ASME BPE</li> </ul>
<b>Surface finish</b> (others on request)	
<ul style="list-style-type: none"> <li>• inside mechanical polished</li> <li>• inside electro polished</li> </ul>	<ul style="list-style-type: none"> <li>• Ra ≤ 0,5 µm (ASME BPE SF1) (external Ra ≤ 1.6 µm)<sup>1)</sup></li> <li>• Ra ≤ 0,38 µm (ASME BPE SF4 / DIN HE4) (external Ra ≤ 1.6 µm)<sup>1)</sup></li> </ul>
<b>Diaphragm materials</b>	EPDM (AD), PTFE/EPDM (EA), advanced PTFE/EPDM (EU), Gylon®/EPDM laminated (ER), FKM (FF)
<b>Actuator material</b>	PPS (PA for actuator sizes ø 175/225 mm)
<b>Medium temperature</b>	
EPDM (AD)	-10 to +143 °C (steam sterilisation +150 °C for 60 min)
PTFE/EPDM (EA)	-10 to +130 °C (steam sterilisation +140 °C for 60 min)
PTFE/EPDM (EU)	-5 to +143 °C (steam sterilisation +150 °C for 60 min)
GYLON®/EPDM laminated (ER)	-5 to +130 °C (steam sterilisation +140 °C for 60 min)
FKM (FF)	0 to +130 °C (not recommended for steam)
<b>Ambient temperature</b>	
Actuator size < 100 mm	+5 to +140 °C
Actuator size ≥ 100 mm	+5 to +90 °C (briefly up to +140 °C, -10 to +60 °C with PA actuator)
<b>Control medium</b>	Neutral gases, air
<b>Pilot pressure max.</b>	max. 7 bar

<sup>1)</sup> Internal Ra < 0.1 µm/4 µlnch/500 Grit: on request

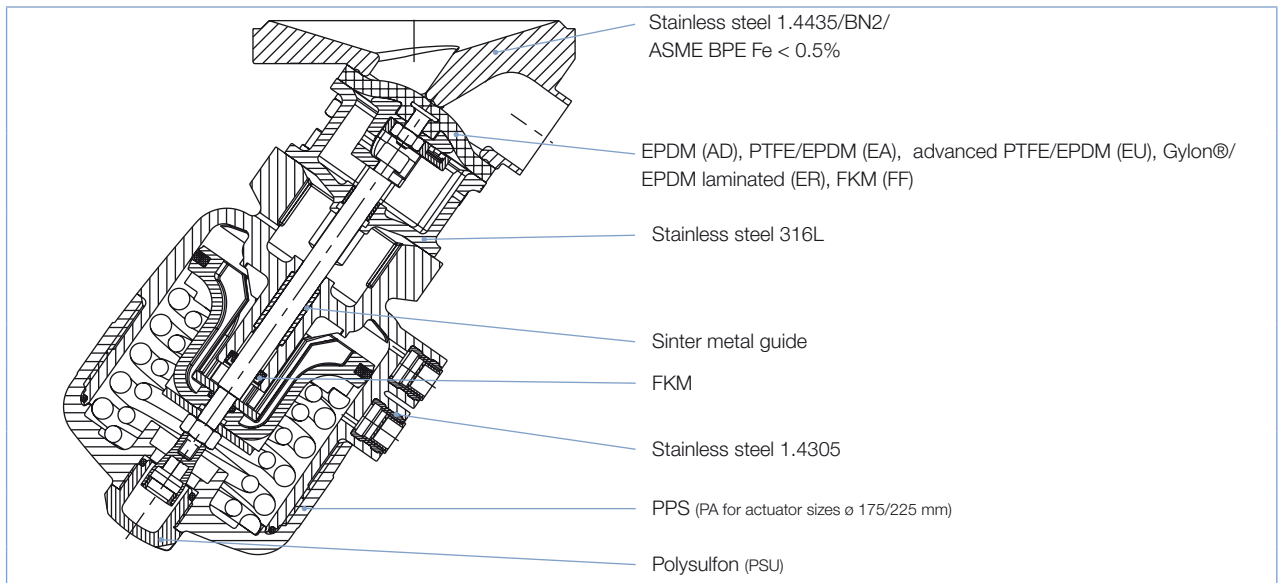
### Content

Valve specifications		System spec. On/Off CLASSIC		Request for quotation
 Type 2033		 Type 8801-DG		Type 8801-DG
Technical data & ordering info.	p. 1-5	Ordering info. & Technical data	p. 6-8	p. 9

Technical data, *continued*

Orifice [mm]	Actuator size Ø [mm]	Kv-value water [m³/h]	Pilot pressure [bar]	Max. operating pressure (medium) for seal material	
				EPDM, FKM [bar]	PTFE/EPDM, advanced PTFE/EPDM [bar]
8	40	1.0	5.0-7	10	10
15	50	4.0	5.0-7	8.5	5
	63	4.5	5.0-7	10	10
20	63	7.0	5.5-7	10	5
	80	7.5	5.0-7	10	10
25	80	12.0	5.5-7	10	7.5
40	100	30.0	5.5-7	6.5	6
	125	30.5	5.5-7	10	10
50	125	51.5	5.5-7	8	7
80	175	160.0	5.0-7	5	4.5
	225	160.0	5.0-7	10	10
100	225	235.0	5.0-7	8	4

## Materials



## Approvals

## Suitability for foodstuffs / sterile applications



- The composition of the EPDM (AD), PTFE/EPDM (EA), advanced PTFE/EPDM (EU) and GYLON®/EPDM laminated (ER) diaphragms corresponds to the Code of Federal Regulations, published by the FDA (Food and Drug Administration, USA).



- The composition of the EPDM (AD), PTFE/EPDM (EA), advanced PTFE/EPDM (EU) and GYLON®/EPDM laminated (ER) diaphragms is suitable for the application with food and beverage (acc. to EC-Regulation 1935/2004/EC)
- The composition of the EPDM (AD), PTFE/EPDM (EA), advanced PTFE/EPDM (EU) and GYLON®/EPDM laminated (ER) diaphragms are approved acc. USP Class VI
- Approval according to TA-air (Port size DN4-50)

## Example of available diaphragm materials

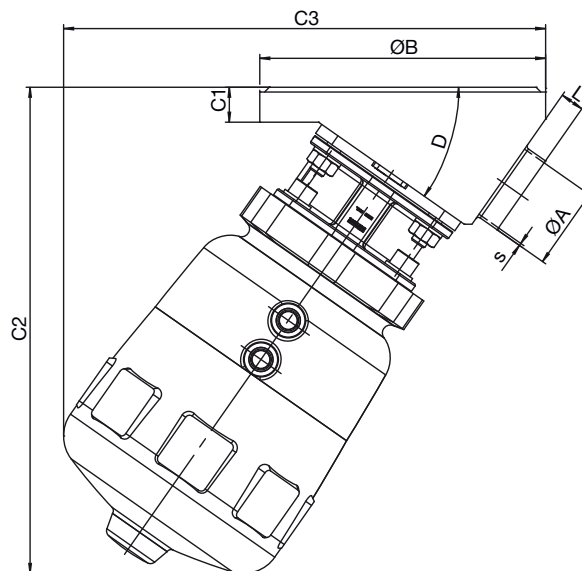
Developed to handle the unique challenges of hygienic and sterile applications, Bürkert offers diaphragms with precise material formula and physical tolerances. Bürkert diaphragms are available in a wide range of materials which have been proven in food & beverage, biotechnology, pharmaceutical and cosmetic industry applications. Diaphragms are tested during development and production to ensure reliability in critical processing environments.



- EPDM (AD)
- PTFE/EPDM (EA)
- advanced PTFE/EPDM (EU)
- FKM (FF)
- Gylon®/EPDM laminated (ER)

## Dimensions [mm]

### Body with weld end



### EN ISO 1127 / ISO 4200

Orifice [mm]	Port connection [mm]	Actuator size [mm]	øA	s	øB	C1	C2	C3	D	L		
08	08	40	13.5	1.6	50	8	107	100	35°	5		
15	15	50	21.3	1.6	65	12	146	134	35°	3		
		63						160			147	8
20	20	63	26.9	1.6	85	12	171	160	35°	5.6		
		80						190			179	8
25	25	80	33.7	2	120	16	183	174	35°	8		
		100						200			192	8
40	32	100	42.4	2	150	18	258	260	35°	20		
		100						258			260	15
		125						293			291	15
50	50	125	60.3	2	180	22	306	304	35°	12		
80	65	175	76.1	2	225	20	388	422	40°	16		
	80		88.9	2.3				388			422	10
100	100	225	114.3	2.3	298	30	436	481	40°	11		

Dimensions [mm], *continued*Body with weld end, *continued*

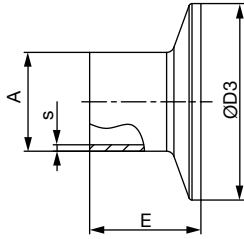
ASME BPE										
Orifice [mm]	Port connection [mm]	Actuator size [mm]	øA	s	øB	C1	C2	C3	D	L
08	08	40	6.35	0.89	50	8	107	100	35°	9
15	15	50	12.7	1.65	85	12	146	134	35°	10
		63						160		
20	20	63	19.05	1.65	85	12	171	160	35°	8
		80						190		
25	25	63	25.4	1.65	120	16	183	174	35°	8
		80						200		
40	40	100	38.1	1.65	150	18	258	260	35°	15
		125						293		
50	40	125	38.1	1.65	180	22	306	304	35°	25
	50	125	50.8	1.65						15
	65	125	63.5	1.65						11
80	65	175	63.5	1.65	225	20	388	422	40°	25
	80	175	76.2	1.65	225	20	388	422	40°	16
100	100	225	101.6	2.11	298	30	436	481	40°	14

DIN 11850 / RG2										
Orifice [mm]	Port connection [mm]	Actuator size [mm]	øA	s	øB	C1	C2	C3	D	L
08	10	40	13	1.5	50	8	107	100	35°	6
15	15	50	19	1.5	85	12	146	134	35°	8
		63						160		
20	20	63	23	1.5	85	12	171	160	35°	7
		80						190		
25	25	63	29	1.5	120	16	183	174	35°	8
		80						200		
40	40	100	41	1.5	150	18	258	260	35°	20
		125						293		
50	50	125	53	1.5	180	22	306	304	35°	15
80	80	175	85	2.0	225	20	388	422	40°	16
100	100	225	104	2	298	30	436	481	40°	14

Dimensions [mm], *continued*

## Clamp Body



## ASME BPE

Orifice [mm]	[inch]	A	s	D3	E
08	1/4"	6.35	0.89	25.0	28.6
10	3/8"	9.53	0.89	25.0	28.6
15	1/2"	12.7	1.65	25.0	28.6
20	3/4"	19.05	1.65	25.0	28.6
25	1"	25.4	1.65	50.5	28.6
40	1 1/2"	38.1	1.65	50.5	28.6
50	2"	50.8	1.65	64.0	28.6
65	2 1/2"	63.5	1.65	77.5	28.6
80	3"	76.2	1.65	91.0	28.6
100	4"	101.6	2.11	119.0	28.6

## DIN 32676

Orifice [mm]	A	s	D3	E
10	13	1.5	34.0	18
15	19	1.5	34.0	18
20	23	1.5	34.0	18
25	29	1.5	50.5	21.5
32	35	1.5	50.5	21.5
40	41	1.5	50.5	21.5
50	53	1.5	64.0	21.5
65	70	2.0	91.0	28

## DIN 32676 series B for pipe ISO 4200

Orifice [mm]	A	s	D3	E
8	13.5	1.6	25.0	28.6
8	13.5	1.6	34.0	28.6
10	17.2	1.6	34.0	28.6
15	21.3	1.6	34.0	28.6
15	21.3	1.6	50.5	28.6
20	26.9	1.6	50.5	28.6
25	33.7	2	50.5	28.6
32	42.4	2	50.5	28.6
40	48.3	2	64.0	28.6
50	60.3	2	77.5	28.6
65	76.1	2	91.0	28.6
80	88.9	2.3	106.0	28.6
100	114.3	2.3	130.0	28.6

## SMS

Orifice [mm]	A	s	D3	E
25	25	1.2	50.5	21.5
40	38	1.2	50.5	28.6
50	51	1.2	64.0	28.6

## Ordering information for valve system On/Off CLASSIC Type 8801-DG

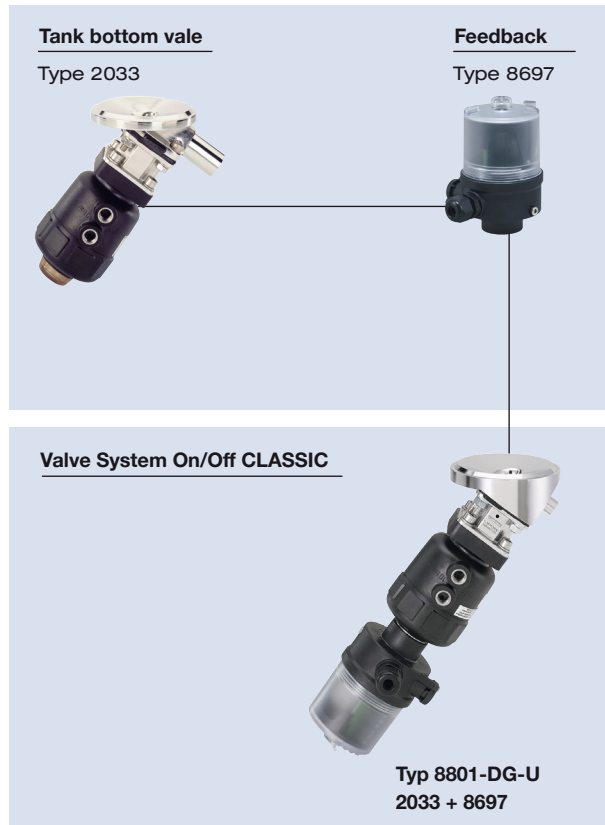
A **Tank bottom valve Type 2033** can be combined with the **feedback Type 8697** to form a **valve system On/Off CLASSIC**.

The valve system On/Off CLASSIC is composed of:

- a feedback **Type 8697** (see separate datasheet)
- an diaphragm valve **Type 2033** (see ordering chart p. 6)

More  
info.

For the configuration of further valve systems please use the "Request for quotation" on p. 9.  
You order two components and receive a complete assembled and certified valve.



### Electrical position feedback

More  
info.



#### Type 8697

Actuator size 40 to 225

The position feedback Type 8697 is designed for integrated mounting on CLASSIC series 20XX process valves suiting the requirements of hygienic process environment. Mechanical or inductive limit switches register the position of the valve.

#### Features

- Compact design
- LED position indicator
- Mechanical or inductive limit switches for end position registering
- Easy to clean chemically resistant housing featuring IP65 / IP67, 4X Rating
- Optional intrinsically safe version acc. to ATEX

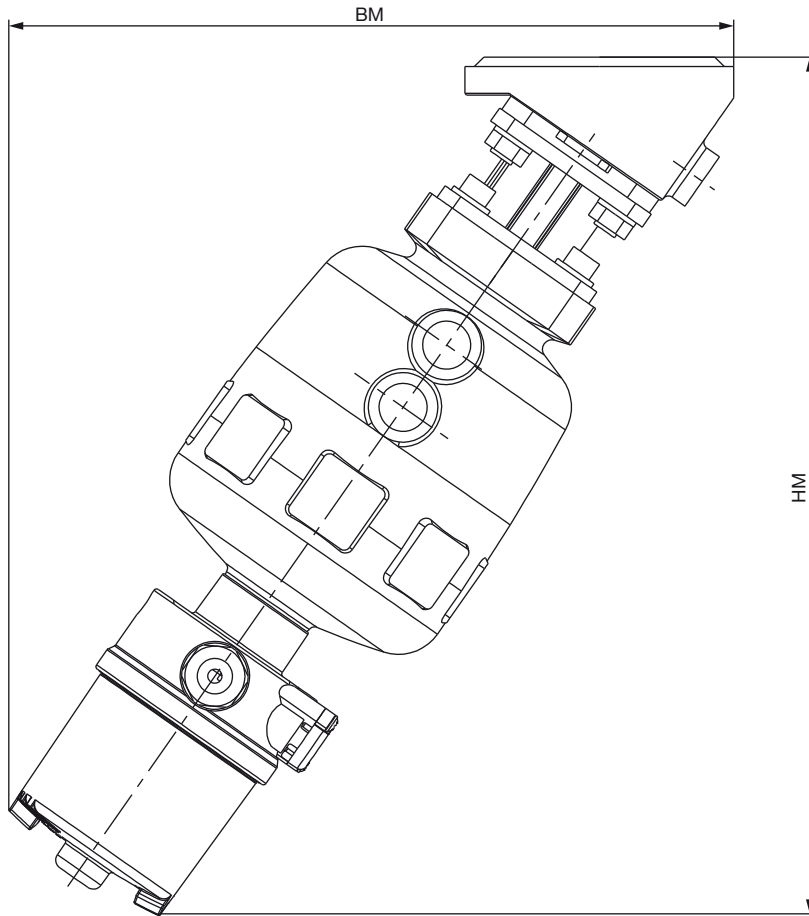
#### Benefits

- Easy and quick installation
- High level of signal reliability thanks to self adjusting limit switches
- Signal safety through the automatic adjustment of the limit switches
- Minimised space requirement in the plant piping for more flexibility in plant design

Click on the orange box „More info“... you will come to our website for the resp. product where you can download the data sheet.

Dimensions for valve system On/Off Classic Type 8801-DG [mm]

Dimensions valve system On/Off Classic Type 8801-DG with electrical position feedback Type 8697



Connection	Orifice [mm]	Actuator size [mm]	BM	HM	
Weld end EN ISO 1127/ ISO 4200/ ASME BPE/ DIN 11850/ RG2	15	50	194	228	
		63	201	239	
	20	63	226	267	
		80	229	271	
		80	238	277	
	40	100	300	337	
		125	318	363	
	50	125	125	333	374
			175	443	427
	80	175	175	433	419
225			455	463	

Valve features, specification

Example

2033 A 15 EU B VI F085 SA42 D E NO19 + NO14 + NK52

Specification key

Please make a choice

CONTROL FUNCTION

A	normally closed by spring action
B	normally open by spring action
I	double acting

DIAPHRAGM SIZE

08	40
15	50
20	80
25	100

SEAL MATERIAL

AD	EPDM
EA	PTFE/EPDM
EU	advanced PTFE/EPDM
ER	Gylon®/EPDM laminiert
FF	FKM

PRODUCTION OF BODY

B	Bloc material
---	---------------

BODY MATERIAL

VH	1.4435/AISI 316L
VI	1.4435BN2/ASME BPE

TANK FLANGE

F050	DN08 (ø 50 mm)
F085	DN15 (ø 85 mm)
F085	DN20 (ø 85 mm)
F120	DN25 (ø 120 mm)
F150	DN40 (ø 150 mm)
F180	DN50 (ø 180 mm)
F225	DN80 (ø 225 mm)
F300	DN100 (ø 298 mm)



VARIABLE CODES

Surface finish external		
-	clamped Ra ≤ 1.6 µm	stand-ard
NO19	mechanical polished Ra ≤ 1.6 µm	
NO02	mechanical polished Ra ≤ 0.76 µm	
NO28	electro polished Ra ≤ 1.6 µm	
NO15	electro polished Ra ≤ 0.76 µm	
Surface finish, internal		
NO14	mechanical polished Ra ≤ 0.5 µm (ASME BPE SF1)	stand-ard
NO06	mechanical polished Ra ≤ 0.76 µm (ASME BPE SF3 / DIN H2)	
NO17	electro polished Ra ≤ 0.38 µm (ASME BPE SF4 / DIN HE4)	stand-ard
NO16	electro polished Ra ≤ 0.6 µm (ASME BPE SF6)	
Certificate		
NK52	3.1 Certificate	

ACTUATOR SIZE <sup>1)</sup>

C	ø 40 mm
D	ø 50 mm
E	ø 63 mm
F	ø 80 mm
G	ø 100 mm
H	ø 125 mm
K	ø 175 mm
L	ø 225 mm

<sup>1)</sup> for technical spec. see table, page 2

ACTUATOR MATERIAL

C	PA (for actuator sizes ø175/225 mm)
D	PPS

Standard

Orifice	DIN EN ISO 1127 ISO 4200 DIN 11866 series B	SMS 3008	DIN 11850 series 0	DIN 11850 series 1 DIN EN 10357 series B	DIN 11850 series 2 DIN 11866 series A DIN EN 10357 series A	DIN 11850 series 3	BS 4825	ASME BPE DIN 11866 series C
DN 4			SC40 - 6.0x1.0					
DN 6	1/8"	SA78 - 10.2x1.6	SC41 - 8.0x1.0					SA89 - 3.17x0.56
DN 8	1/4"	SA40 - 13.5x1.6	SC42 - 10.0x1.0				SODB - 6.35x1.2	SA90 - 6.35x0.89
DN 10	3/8"	SA41 - 17.2x1.6		SF40 - 12.0x1.0	SD40 - 13.0x1.5	SE40 - 14.0x2.0	SODC - 9.53x1.2	SA91 - 9.53x0.89
DN 15	1/2"	SA42 - 21.3x1.6	SC43 - 18.0x1.5	SF41 - 18.0x1.0	SD42 - 19.0x1.5	SE42 - 20.0x2.0	SODD - 12.7x1.2	SA92 - 12.7x1.65
DN 20	3/4"	SA43 - 26.9x1.6	SC44 - 22.0x1.5	SF42 - 22.0x1.0	SD43 - 23.0x1.5	SE43 - 24.0x2.0	SODE - 19.05x1.2	SA93 - 19.05x1.65
DN 25	1"	SA44 - 33.7x2.0	SA60 - 25.0x1.2	SC45 - 28.0x1.5	SF43 - 28.0x1.0	SD44 - 29.0x1.5	SE44 - 30.0x2.0	SODF - 25.4x1.65
DN 32	1 1/4"	SA45 - 42.4x2.0	SA61 - 33.7x1.2	SC46 - 34.0x1.5	SF44 - 34.0x1.0	SD45 - 35.0x1.5	SE45 - 36.0x2.0	
DN 40	1 1/2"	SA46 - 48.3x2.0	SA62 - 38.0x1.2	SC47 - 40.0x1.5	SF45 - 40.0x1.0	SD46 - 41.0x1.5	SE46 - 42.0x2.0	SODH - 38.1x1.65
DN 50	2"	SA47 - 60.3x2.0	SA63 - 51.0x1.2	SC48 - 52.0x1.5	SF46 - 52.0x1.0	SD47 - 53.0x1.5	SE47 - 54.0x2.0	SODI - 50.8x1.65
DN 65	2 1/2"	SA48 - 76.1x2.0	SA64 - 63.5x1.6			SD48 - 70.0x2.0		SODJ - 63.5x1.65
DN 80	3"	SA49 - 88.9x2.3	SA65 - 76.1x1.6			SD49 - 85.0x2.0		SODK - 76.2x1.65
DN 100	4"	SA39 - 114.3x2.3	SA66 - 101.6x2.0			SD50 - 104.0x2.0		SODL - 101.6x2.11
Orifice	Clamp 34.0 similar DIN 32676 series B (ISO-tube)	DIN 32676 Reihe A (DIN-Rohr)	DIN 32676 Reihe B (ISO-Rohr)	ASME BPE	BS 4825 Clamp BS 4825-3 Rohr BS 4825-1			
DN 8	1/4"	TC51 - 13.5x1.6 Ci: 34.0	TD40 - 10.0x1.0 Ci: 25.0	TC40 - 13.5x1.6 Ci: 25.0	TG50 - 6.35x0.89 Ci: 25.0	TH40 - 6.35x1.2 Ci: 25.0		
DN 10	3/8"	TC41 - 17.2x1.6 Ci: 34.0	TD41 - 13.0x1.5 Ci: 34.0	TC53 - 17.2x1.6 Ci: 25.0	TG01 - 9.53x0.89 Ci: 25.0	TH41 - 9.53x1.2 Ci: 25.0		
DN 15	1/2"	TC42 - 21.3x1.6 Ci: 34.0	TD42 - 19.0x1.5 Ci: 34.0	TC52 - 21.3x1.6 Ci: 50.5	TG02 - 12.7x1.65 Ci: 25.0	TH42 - 12.7x1.2 Ci: 25.0		
DN 20	3/4"		TD43 - 23.0x1.5 Ci: 34.0	TC43 - 26.9x1.6 Ci: 50.5	TG03 - 19.05x1.65 Ci: 25.0	TH43 - 19.05x1.2 Ci: 25.0		
DN 25	1"		TD44 - 29.0x1.5 Ci: 50.5	TC44 - 33.7x2.0 Ci: 50.5	TG04 - 25.4x1.65 Ci: 50.5	TH44 - 25.4x1.65 Ci: 50.5		
DN 40	1 1/2"		TD46 - 41.0x1.5 Ci: 50.5	TC46 - 48.3x2.0 Ci: 64.0	TG05 - 38.1x1.65 Ci: 50.5	TH45 - 38.1x1.65 Ci: 50.5		
DN 50	2"		TD47 - 53.0x1.5 Ci: 64.0	TC47 - 60.3x2.0 Ci: 77.5	TG06 - 50.8x1.65 Ci: 64.0	TH46 - 50.8x1.65 Ci: 64.0		
DN 65	2 1/2"		TD48 - 70.0x2.0 Ci: 91.0	TC48 - 76.1x2.0 Ci: 91.0	TG07 - 63.5x1.65 Ci: 77.5	TH47 - 63.5x1.65 Ci: 77.5		
DN 80	3"			TC49 - 88.9x2.3 Ci: 106.0	TG08 - 76.2x1.65 Ci: 91.0	TH48 - 76.2x1.65 Ci: 91.0		
DN 100	4"			TC50 - 114.3x2.3 Ci: 130.0	TG09 - 101.6x2.11 Ci: 119.0	TH49 - 101.6x2.11 Ci: 119.0		



Note

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

Valve system On/Off Classic Type 8801-DG – request for quotation

Please fill out and send to your nearest Bürkert facility\* with your inquiry or order

Company	Contact person
Customer no.	Department
Address	Tel./Fax
Postcode/town	E-Mail

= mandatory fields to fill out       Quantity       Required delivery date

Operating data

<input type="checkbox"/> Process medium	<input type="text"/>	
<input type="checkbox"/> Type of media	<input type="checkbox"/> Liquid	<input type="checkbox"/> Steam
	<input type="checkbox"/> Gas	
	Nominal	Unit
<input type="checkbox"/> Flow rate (Q, QN, W) <sup>1)</sup>	<input type="text"/>	<input type="text"/>
<input type="checkbox"/> Temperature at valve inlet	<input type="text"/>	<input type="text"/>
<input type="checkbox"/> Absolute pressure at valve inlet	<input type="text"/>	<input type="text"/>
<input type="checkbox"/> Absolute pressure at valve outlet	<input type="text"/>	<input type="text"/>
Steam pressure Pv	<input type="text"/>	<input type="text"/>

<sup>1)</sup> standard unit:  
Liquid Q = m<sup>3</sup>/h;  
Steam W = kg/h;  
Gas Qn = nm<sup>3</sup>/h

Valve features

Specification key

2033

(automatically transferred from p <?> )

Automation unit features

Click on the orange box „More info“... you will come to our website for the resp. product where you can download the data sheet.

Electrical position feedback

**Type 8697**  
For actuator size 40 to 225



- LED position indicator
- Mechanical or inductive limit switches for end position registering
- Housing with IP65/IP67, 4X rating protection
- Optional intrinsically safe version acc. to ATEX / IECEx

Position feedback switches

- Micro switch 24V DC
- Micro switch 50 – 225 V DC/AC
- Inductive switch 3-wire PNP
- Inductive switch 2-wire NAMUR
- Inductive switch 2-wire 24V DC

Electrical connection

- Cable gland
- M12 connector  
(applicable only with inductive switch 3-wire PNP)

Number of Position feedback switches

- 2x

Approval

- ATEX cat. 3GD, IECEx
- ATEX cat. 2DG, IECEx
- without

Valve system On/Off Classic Type 8801-DG – request for quotation, *continued*

Valve accessories	
<b>Pilot valve</b> <input type="checkbox"/> Pilot valve Power supply <input type="text"/>  Please specify article no. (if known): <input type="text"/>	<b>Control Stroke limitation</b> <input type="checkbox"/> Stroke limitation <input type="checkbox"/> Min./max. stroke without visual position indicator <input type="checkbox"/> Max. stroke without visual position indicator  Please specify article no. (if known): <input type="text"/>
Certifications	
<input type="checkbox"/> Attestation of compliance with the order EN-ISO 10204 2.1 (Article no. 440788)	<input type="checkbox"/> EN161 (European Gas Device guideline)
<input type="checkbox"/> Test report EN-ISO 10204 2.2 (Article no. 803722)	<input type="checkbox"/> FDA and USP compliance
<input type="checkbox"/> Certification of Conformity for Raw Material EN-ISO 10204 3.1 (Included in delivery)	
Comment	
<hr/> <hr/> <hr/> <hr/> <hr/>	

DTS 1000011283 EN Version: U Status: RL (released | freigegeben | validé) printed: 18.06.2018

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