

Pneumatic operated 2/2 way Diaphragm Valve



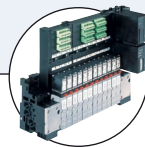
- Light tube valve body
- Flow optimised body in stainless steel
- Zero dead volume
- Easy to weld

Type 2031 can be combined with...



Type 8697

Electrical position feedback



Type 8640/8644

Valve block



Type 6012/6014 P

Pilot valve



Type 8311

Pressure Sensor/Switch

For process valves with decentralized automation see ELEMENT Type 2103



The externally piloted diaphragm valve consists of a pneumatically operated piston actuator, a diaphragm and a 2-way tube valve body.

Bürkert's patented hydroforming technology allows the manufacturing of a flow optimized stainless steel valve body with high surface quality. A laser-welded mounting interface ensures robustness and hygienic design.

The reliable actuator is made of PPS, a very resistant polymer. The different Bürkert diaphragms are optimized for a high lifetime.

The diaphragm valve with tube body is perfect for hygienic application in the food and beverage, pharma, and cosmetic industries. It is designed with zero dead leg and a high cleanability certified by EHEDG.



Technical data	
Port connection size	DN08-50 (1/4" - 2")
Diaphragm size	8-50
Port connections Weld ends	ASME BPE/DIN 11866 Series C DIN EN ISO 1127/ISO 4200/DIN11866 Series B DIN 11850 2/DIN 11866 Series A
Diaphragm materials	EPDM (AB), PTFE/EPDM (EA) EPDM (AD), advanced PTFE/EPDM (EU), GYLON®/EPDM laminated (ER) and FKM (FF) on request
Materials Body Actuator Pilot air ports	Stainless steel 316L / 1.4435 / BN2 PPS (PA on request) Stainless steel 1.4435
Fluid	Neutral gases and liquids, high purity, sterile, aggressive or abrasive fluids
Viscosity	up to viscous
Surface finishes (inner surface) Electro polished	Ra ≤ 0.38 µm (ASME BPE SF ⁴⁾)
Media temperature EPDM (AB), PTFE/EPDM (EA) EPDM (AD), advanced PTFE/EPDM (EU) GYLON®/EPDM laminated (ER) FKM (FF)	-10 to +130 °C (steam sterilisation +140 °C for 60 min) -5 to +143 °C (steam sterilisation +150 °C for 60 min) -5 to +130 °C (steam sterilisation +140 °C for 60 min) 0 to +130 °C (not recommended for steam)
Ambient temperature PPS actuator PA actuator (on request)	+5 to +140 °C for actuator size < 100 mm +5 to +90 °C for actuator size ≥ 100 mm (briefly up to +140 °C) -10 to +60 °C
Control fluid	Neutral gases; air
Installation	as required, preferably with actuator in upright position

Technical data, continued

Port Connection DN		Dia- phragm size	Actuator size	Pilot pressure	Max. operating pressure for seal material [bar]		K _v value [m ³ /h]		
[mm]	[inch]				EPDM, FKM	PTFE, ad- vanced PTFE, GYLON®	DIN EN ISO 1127 ISO 4200 DIN 11866 B	DIN 11850 2 DIN 11866 A	ASME BPE DIN 11866 C
8	¼"	8	40	5.0...7	10	10	2.1	-	-
10	⅜"	8	40	5.0...7	10	10	-	2.1	-
15	½"	8	40	5.0...7	10	10	-	-	2
		15	50	5.0...7	8.5	-	6.7	6.5	-
20	¾"	15	50	5.0...7	8.5	-	-	6.5	6.5
			63	5.0...7	-	10	-	-	-
		20	63	5.5...7	10	-	13	-	-
			80	5.0...7	-	10	-	-	-
25	1"	20	63	5.5...7	10	-	-	14	12.5
			80	5.0...7	-	10	-	-	-
		25	80	5.5...7	10	7.5	17.5	-	-
32	1¼"	25	80	5.5...7	10	7.5	-	20	-
		32	100	5.5...7	10	8	36	-	-
40	1½"	32	100	5.5...7	10	8	-	35	30
			40	100	5.5...7	6.5	-	47	-
		125	5.5...7	-	10	-	-	-	-
50	2"	40	100	5.5...7	6.5	-	-	44	40
			125	5.5...7	-	10	-	-	-
		50	125	5.5...7	8	7	70	-	-

Flow rate: K_v value water [m³/h]: Measured at +20 °C, 1 bar pressure at valve inlet and free outlet.

Pressure valves [bar]: Overpressure to the atmospheric pressure

Installation for self-draining operation

$\alpha = 13$ up to 24° plus 3° to 5° inclination to the pipe axis.
 Drain marks permanently marked on both sides of the valve body
 show the correct mounting position to optimise drainability.

Body label

Material: 1.4435 316L (VFI)
 Nominal pressure: PN16 / CwP150
 Serial number (optional): XXXXXXXXX
 Company logo: burkert
 Heat number: XXXXXXXXX
 Port connection & Tube dimensions: XXXXXXXXX / XXX / XXXXXXXXX
 Code surface finish / customized text (optional): XXXXXXXXX / XXX / XXXXXXXXX

Approvals

Suitability for foodstuffs / sterile applications



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

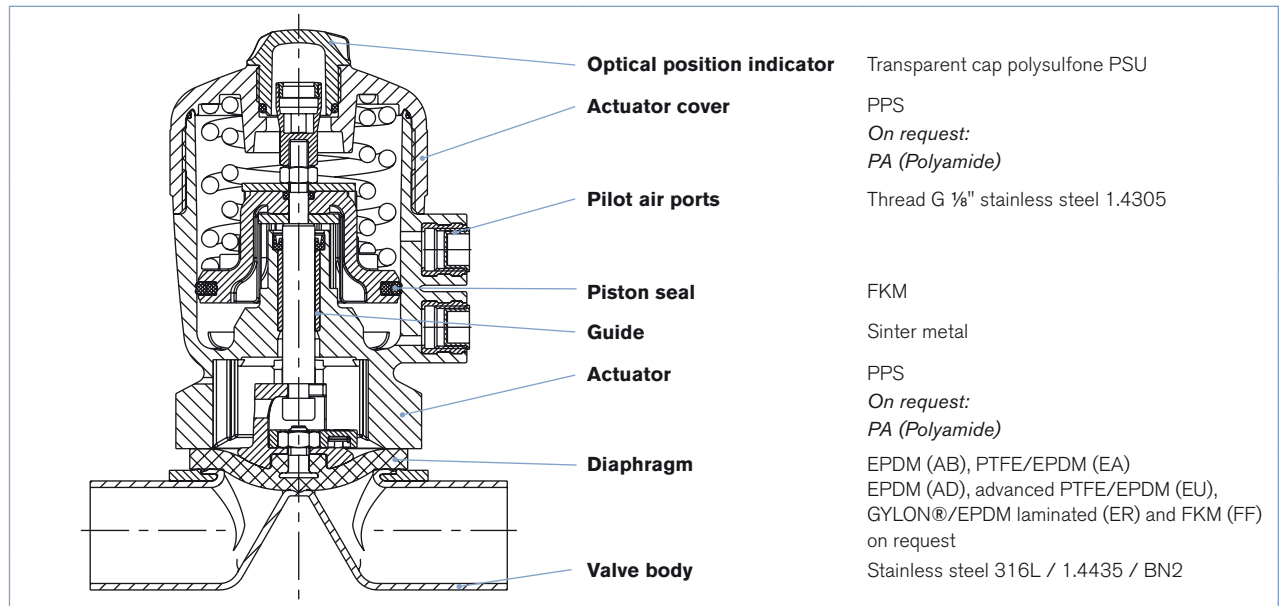


- The composition of the EPDM (AB), EPDM (AD), PTFE/EPDM (EA), advanced PTFE (EU) and GYLON®/EPDM laminated (ER) diaphragms is suitable for the application with food and beverage (acc. to EC-Regulation 1935/2004/EC)



- The composition of the EPDM (AB), EPDM (AD), PTFE/EPDM (EA), advanced PTFE (EU) and GYLON®/EPDM laminated (ER) diaphragms are approved acc. USP Class VI
- Approval according to TA-air (Port size DN4 - 50)
- The diaphragm valve with tube valve body and EPDM or PTFE has been evaluated for compliance with the *Hygienic Equipment Design Criteria* of the EHEDG

Materials



Ordering information for valve system On/Off Classic Type 8801-DB

An **diaphragm valve Type 2031** 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: [More info.](#)

- a feedback **Type 8697** (see separate datasheet)
- an diaphragm valve **Type 2031** (see ordering chart)

For the configuration of further valve systems please use the "Request for quotation".

You order two components and receive a complete assembled and certified valve.

Diaphragm valve Type 2031 Tube Valve Body



Feedback Type 8697



Electrical position feedback

[More info.](#)



Type 8697

Actuator size 40 to 125

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
- Minimised space requirement in the plant piping for more flexibility in plant design

Valve System On/Off CLASSIC

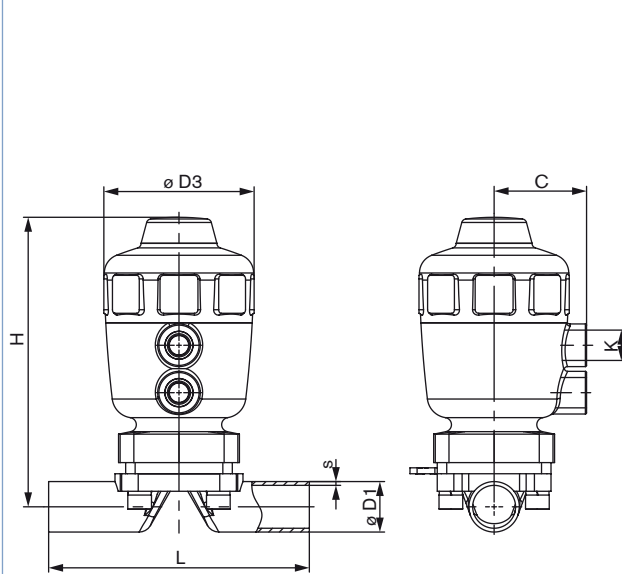


Type 8801-DB-U
2031 + 8697

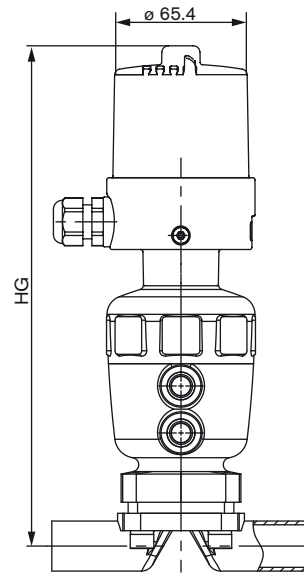
Click on the orange box „More info“... you will come to our website for the resp. product where you can download the data sheet.

Dimensions [mm] - Diaphragm valve type 2031 and valve system On/Off Classic

Weld ends port connection



with feedback
Type 8697

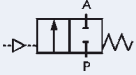


Port Connection DN		Dia- phragm size	Actuator size Ø	L	ØD1	s	ØD3	C	K	H	HG Feedback
[mm]	[inch]										
DIN EN ISO 1127/ISO 4200/DIN11866 B											
8	¼"	8	40	90	13.5	1.6	53	34	G ⅛	94	176
15	½"	15	50	110	21.3	1.6	64	39	G ⅛	122	217
			63	110	21.3	1.6	80	52	G ¼	139	234
20	¾"	20	63	119	26.9	1.6	80	52	G ¼	147	242
			80	119	26.9	1.6	101	60	G ¼	168	263
25	1"	25	80	129	33.7	2.0	101	60	G ¼	176	272
32	1 ¼"	32	100	148	42.4	2.0	127	73	G ¼	227	322
40	1 ½"	40	100	161	48.3	2.0	127	73	G ¼	234	329
			125	161	48.3	2.0	153	86	G ¼	272	367
50	2"	50	125	192	60.3	2.0	153	86	G ¼	277	373
ASME BPE/DIN 11866 C											
15	½"	8	40	90	12.7	1.65	53	34	G ⅛	94	176
20	¾"	15	50	117	19.05	1.65	64	39	G ⅛	121	216
			63	117	19.05	1.65	80	52	G ¼	138	233
25	1"	20	63	127	25.4	1.65	80	52	G ¼	146	241
			80	127	25.4	1.65	101	60	G ¼	167	262
40	1 ½"	32	100	159	38.1	1.65	127	73	G ¼	225	320
50	2"	40	100	190	50.8	1.65	127	73	G ¼	235	330
			125	190	50.8	1.65	153	86	G ¼	273	368
DIN 11850 2/DIN 11866 A											
10	⅜"	8	40	90	13	1.5	53	34	G ⅛	94	176
15	½"	15	50	110	19	1.5	64	39	G ⅛	121	216
			63	110	19	1.5	80	52	G ¼	138	233
20	¾"	15	50	119	23	1.5	64	39	G ⅛	123	218
			63	119	23	1.5	80	52	G ¼	140	235
25	1"	20	63	129	29	1.5	80	52	G ¼	142	237
			80	129	29	1.5	101	60	G ¼	169	264
32	1 ¼"	25	80	148	35	1.5	101	60	G ¼	177	273
40	1 ½"	32	100	161	35	1.5	127	73	G ¼	226	321
50	2"	40	100	192	41	1.5	127	73	G ¼	236	331
			125	192	53	1.5	153	86	G ¼	274	369

Ordering chart diaphragm Valve Type 2031

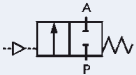
Welded connection ASME BPE/DIN 11866 C

electropolished Ra ≤ 0.38 micrometer and Certification of Conformity for Raw Material EN-ISO 10204 3.1 (included in delivery)

Control function	Port Connection DN		Diaphragm size	Actuator size	K _v value	Pilot pressure	Max. operating pressure	Article no. EPDM (AB) seal material	Article no. PTFE/EPDM (EA) seal material
	[mm]	[inch]							
A 2/2 way valve, normally closed (NC) 	15	½"	8	40	2	5.0 ... 7	10	275388	275390
	20	¾"	15	50	6.5	5.0 ... 7	8.5	275391	-
				63	6.5	5.0 ... 7	10	-	275392
	25	1"	20	63	12.5	5.5 ... 7	10	278879	-
				80	12.5	5.0 ... 7	10	-	278880
	40	1½"	32	100	30	5.5 ... 7	10	278881	-
					30	5.5 ... 7	8	-	278882
				100	40	5.5 ... 7	6.5	278883	-
	50	2"	40	100	40	5.5 ... 7	6.5	278883	-
				125	40	5.5 ... 7	10	-	278884

Welded connection acc. DIN EN ISO 1127/ISO 4200/DIN11866 B

electropolished Ra ≤ 0.38 micrometer and Certification of Conformity for Raw Material EN-ISO 10204 3.1 (included in delivery)

Control function	Port Connection DN		Diaphragm size	Actuator size	K _v value	Pilot pressure	Max. operating pressure	Article no. EPDM (AB) seal material	Article no. PTFE/EPDM (EA) seal material
	[mm]	[inch]							
A 2/2 way valve, normally closed (NC) 	8	¼"	8	40	2.1	5.0...7	10	290447	290448
	15	½"	15	50	6.7	5.0...7	8.5	290452	-
				63	6.7	5.0...7	10	-	290454
	20	¾"	20	63	13	5.5...7	10	290455	-
				80	13	5.0...7	10	-	290457
	25	1"	25	80	17.5	5.5...7	10	290458	-
					17.5	5.5...7	7.5	-	290460
	32	1¼"	32	100	36	5.5...7	10	290461	-
					36	5.5...7	8	-	290462
	40	1½"	40	100	47	5.5...7	6.5	290463	-
				125	47	5.5...7	10	-	290465
	50	2"	50	125	70	5.5...7	8	290466	-
					70	5.5...7	7	-	290467

i Further versions on request



Control function

B (normally open: NO)



Materials

Diaphragms for sterilization with steam EPDM (AD), advanced PTFE/EPDM (EU) and GYLON®/EPDM laminated (ER)



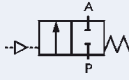
Additional

Versions with reduces spring force

Ordering chart diaphragm Valve Type 2031

Welded connection DIN 11850 2/DIN 11866 A

electropolished Ra ≤ 0.38 micrometer and Certification of Conformity for Raw Material EN-ISO 10204 3.1 (included in delivery)

Control function	Port Connection DN		Diaphragm size	Actuator size [mm]	K _v value [m ³ /h]	Pilot pressure [bar]	Max. operating pressure [bar]	Article no. EPDM (AB) seal material	Article no. PTFE/EPDM (EA) seal material
	[mm]	[inch]							
A 2/2 way valve, normally closed (NC) 	10	3/8"	8	40	2.1	5.0...7	10	290433	290434
	15	1/2"	15	50	6.5	5.0...7	8.5	290435	-
	20	3/4"	15	50	6.5	5.0...7	8.5	290437	-
				63	6.5	5.5...7	10	-	290436
	25	1"	20	63	14	5.5...7	10	-	290438
				80	14	5.0...7	10	-	290440
	32	1 1/4"	25	80	20	5.5...7	10	290441	-
					20	5.5...7	7.5	-	290442
					35	5.5...7	10	290443	-
	40	1 1/2"	32	100	35	5.5...7	8	-	290444
35					5.5...7	10	290445	-	
50	2"	40	100	44	5.5...7	6.5	290445	-	
			125	44	5.5...7	10	-	290446	

Further versions on request

Control function
B (normally open: NO)

Materials
Diaphragms for sterilization with steam EPDM (AD), advanced PTFE/EPDM (EU) and GYLON®/EPDM laminated (ER)

Additional
Versions with reduces spring force

Ordering chart for accessories

3/2 way pilot valves with banjo bolts

Seal material valve FKM, seal material banjo bolt NBR

Valve for actuator size [Ø mm]	Type	Pressure inlet P (valve body)	Service port A (banjo bolt)	Orifice [mm]	C _{nn} value air [l/min]	Pressure range [bar]	Electrical coil connection Ind. Std.	Power consumption [W]	Article no. per voltage/frequency [V/Hz]	
									024/DC	230/50
40-50	6012P	G 1/4	G 1/8	1.2	48	0...10	Form B	4	552295	552298
63	6012P	Tube fitting Ø6 mm	G 1/4	1.2	48	0...10	Form B	4	552283	552286
80-125	6014P	G 1/4	G 1/4	2	120	0...10	Form A	8	424103	424107

Cable plug Type 2507, Form B or Type 2508, Form A

	Article no.
Type 2507, Form B Industrial standard, 0...250 V without circuitry (Type 6012 P)	423845
Type 2508, Form A acc. to DIN EN 175301-803, 0...250 V without circuitry (Type 6014 P, Type 0331P)	008376

For further accessories see the the accessories data sheet Type 2XXX for the full options programme.

Note

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

Diaphragm valve CLASSIC Type 2031 and Valve System Type 8801-DB – request for quote

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

Pipeline	DN	<input type="text"/>	PN	<input type="text"/>
Pipe material	<input type="text"/>			
Process medium	<input type="text"/>			
Type of medium	<input type="checkbox"/> Liquid	<input type="checkbox"/> Steam	<input type="checkbox"/> Gas	
Flow rate (Q, Q _N , W) ¹⁾	<input type="text"/>	standard	<input type="text"/>	unit
Temperature at valve inlet	<input type="text"/>	<input type="text"/>		
Absolute pressure at valve inlet	<input type="text"/>	<input type="text"/>		
Steam sterilisation	temperature	<input type="text"/>		

¹⁾ standard unit: Liquid Q = m³/h; Steam W = kg/h; Gas Q_N = Nm³/h



Valves features

Diaphragm size (orifice)	DN	<input type="text"/>
Diaphragm materials	<input type="checkbox"/> EPDM (AB) <input type="checkbox"/> EPDM (AD) <input type="checkbox"/> PTFE/EPDM (EA) <input type="checkbox"/> advanced PTFE/EPDM (EU) <input type="checkbox"/> GYLON®/EPDM laminated (ER)	
Type of connection	<input type="checkbox"/> Weld ends <input type="checkbox"/> ASME BPE/DIN 11866 C <input type="checkbox"/> DIN EN ISO 1127/ISO 4200/DIN11866 B <input type="checkbox"/> DIN 11850 2/DIN 11866 A <input type="checkbox"/> Electropolished Ra ≤ 0.38 µm	
Control function	<input type="checkbox"/> NC ²⁾ <input type="checkbox"/> NO ²⁾	
Pilot pressure	<input type="text"/>	min. <input type="text"/>
Please specify item no. (if known): <input type="text"/>		

²⁾ NC: normally closed by spring action; NO: normally open by spring action

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.

<input type="checkbox"/> Type 8697 For actuator size 40 to 125		
		
<ul style="list-style-type: none"> 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 <input type="checkbox"/> Micro switch 24 V DC <input type="checkbox"/> Micro switch 50 – 225 V DC/AC <input type="checkbox"/> Inductive switch 3-wire PNP <input type="checkbox"/> Inductive switch 2-wire NAMUR <input type="checkbox"/> Inductive switch 2-wire 24 V DC	Electrical connection <input type="checkbox"/> Cable gland <input type="checkbox"/> M12 connector (applicable only with inductive switch 3-wire PNP)	
Number of Position feedback switches <input type="checkbox"/> 2x	Approval <input type="checkbox"/> ATEX cat. 3GD, IECEx <input type="checkbox"/> ATEX cat. 2DG, IECEx <input type="checkbox"/> without	

Diaphragm valve Classic Type 2031 and valve system 8801-DB - Request for quotation, *continued*

Valve accessories	
Pilot valve	Stroke limitation
<input type="checkbox"/> Pilot valve	<input type="checkbox"/> Stroke limitation
Power supply <input type="text"/>	<input type="checkbox"/> Min./max. stroke limitation, with visual position indicator
	<input type="checkbox"/> Max. stroke limitation, without visual position indicator
Please specify item no. if known: <input type="text"/>	Please specify item no. if known: <input type="text"/>

Certifications	
<input type="checkbox"/>	Test report 2.2 according to EN-ISO 10204 (Article no. 803722)
<input type="checkbox"/>	Inspection Certificate 3.1 according to EN-ISO 10204 (included)
<input type="checkbox"/>	Certification of Conformity for surface quality DIN4762-DIN4768-ISO / 4287/1 (Article no. 804175)
<input type="checkbox"/>	Certification of Conformity for Pickling and Electropolishing Processes (Article no. 444900)
<input type="checkbox"/>	EHEDG - TYPE EL-CLASS I
<input type="checkbox"/>	Food & beverages (in accordance with EC regulation 1935/2004 / EC)
<input type="checkbox"/>	Certification according to FDA and USP

Comment / sketch

DTS 1000259060 EN Version: M Status: RL (released | freigegeben | valide) printed: 11.02.2020

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