Pneumatically operated 3/2-way seat valve CLASSIC

- For mixing or distributing of media
- Controlled by a pilot valve or centrally by a valve island
- Flow-optimised body in stainless steel
- Long life time and maintenance-free operation

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

Can be combined with

Type 8697 ▸
Pneumatic control unit for decentralised automation of process valves ELEMENT

Type 8640 ▸
Modular valve island for pneumatics

Type 8644 ▸
AirLINE SP electropneumatic automation system

Type 6014 ▸
Plunger valve 3/2-way direct-acting

Type 8840 ▸
Modular process valve cluster – distributor and collector

Type description

The Bürkert 3/2-way seat valve Type 2006 consists of a pneumatically operated CLASSIC actuator and a 3-way valve body. The actuator is available in two different materials, PA or PPS, depending on the ambient temperature. Interchanging of pressure and working connections enables different fluidic control functions, such as the mixing or distributing of media. The flow-optimised valve body Type 2006 allows excellent flow values. The tried-and-tested self-adjusting packing gland secures a high level of tightness and thus ensures reliable operation over years. The 3-way valve Type 2006 is controlled by a pilot valve or by centralised automation using a valve island. It can be equipped easily with electrical position feedback. For the user, the compact Type 2006 is thus often an economic alternative instead of two single shut-off valves.

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1. General technical data

Product properties	
Dimensions	Further information can be found in chapter "5. Dimensions" on page 8.
Material	
Body	Stainless steel 316L
Actuator	PA (PPS on request)
Seal	PTFE
Packing gland (with silicone grease)	PTFE V-rings with spring compensation
Nominal diameter (port connection)	DN 15...DN 50, NPS ½...NPS 2
Performance data	
Nominal pressure	PN 16 (body)
Pilot pressure	Max 10 bar(g) 7 bar(g) with actuator size Ø 125 mm
Medium data	
Medium	Steam, water, neutral gases, alcohols, oils, fuels, hydraulic fluids, salt solutions, alkalis, organic solvents, oxygen and fuel gases of families I, II and III in accordance with the Gas Appliances Regulation (EU) 2016/426
Medium temperature	-10 °C...+180 °C
Viscosity	Max. 600 mm^2/s
Control medium	Air, neutral gases
Product connections	
Port connection	
Threaded connection	G (DIN ISO 228-1) NPT (ASME B1.20.1) (RC on request)
Approvals and conformities	
Further information can be found in chapter "3. Approvals and conformities" on page 5.	
Material certificate	2.2, 3.1
Environment and installation	
Ambient temperature	
PA actuator	-10 °C...+60 °C
PPS actuator	
Actuator size Ø 50 (D)...80 (F)	+5 °C...+140 °C
Actuator size Ø 125 (H)	+5 °C...+90 °C (short-term...+140 °C)
Installation position	As required, preferably with actuator in upright position

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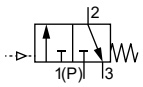
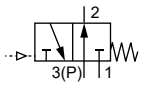
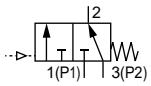
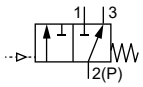
2. Control functions

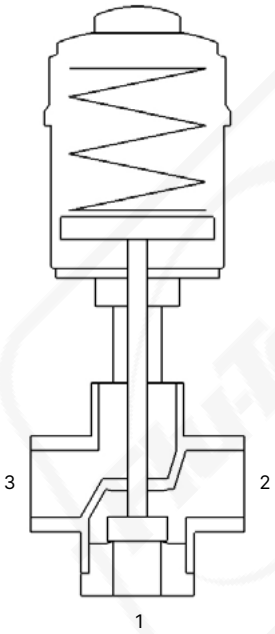
2.1. Control function

Symbol	Description
	**Control function C (CF C)** Pneumatically operated 3/2-way process valve When de-energised, pressure port 1 closed, service port 2 exhausted
	**Control function D (CF D)** Pneumatically operated 3/2-way process valve When de-energised, pressure port 3 connected to service port 2, exhaust port 1 closed
	**Control function E (CF E)** Pneumatically operated 3/2-way mixer valve When de-energised, pressure port 3 connected to service port 2, pressure port 1 closed
	**Control function F (CF F)** Pneumatically operated 3/2-way distributor valve When de-energised, pressure port 2 connected to service port 3, service port 1 closed

2.2. Pin assignment for flow modes of operation C, D, E and F

Note:

- Actuator with control function A
- When de-energised, port connection 1 is closed with spring



Flow modes of operation	Connection		
	1	2	3
C	P	A	R
D	R	A	P
E	P1	A	P2
F	A	P	B

A, B Service ports
P, P1, P2 Pressure ports
R Exhaust port

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3. Approvals and conformities

3.1. 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 variants can be supplied with the below mentioned approvals or conformities.

3.2. Conformity

In accordance with the Declaration of Conformity, the product is compliant with the EU Directives. This includes the following directives:

- Pressure Equipment Directive 2014/68/EU
- Machinery Directive 2006/42/EC

3.3. 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.

3.4. Explosion protection

Approval	Description
	Optional: Explosion protection (valid for the variable code PX51) As a category 2 device suitable for zone 1/21 and zone 2/22. **ATEX:** EPS 18 ATEX 2 008 X II 2G Ex h IIC T4...T2 Gb II 2D Ex h IIIC T135 °C...T300 °C Db **IECEx:** IECEx EPS 18.0007X Ex h IIC T4...T2 Gb Ex h IIIC T135 °C...T300 °C Db

Temperature class	T2	T3	T4
Maximum 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

Note: The ambient and medium temperature range may be limited by non-ex-relevant specifications. Observe the Operating Instructions.

3.5. Drinking water

Conformity	Description
H_2O	**Suitable for use in drinking water applications** The materials comply with the assessment principles (UBA) for materials in contact with drinking water (TrinkwasserV). **Stainless steel body** PF39: Suitable for products with medium temperature up to 85 °C (hot water)

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3.6. Foods and beverages/Hygiene

Conformity	Description
FDA	**FDA – Code of Federal Regulations (valid for the variable code PL02)** All wetted materials are compliant with the Code of Federal Regulations published by the FDA (Food and Drug Administration, USA) according to the manufacturer's declaration.
	**EC Regulation 1935/2004 of the European Parliament and of the Council (valid for the variable code PL01, PL02)** All wetted materials are compliant with EC Regulation 1935/2004/EC according to the manufacturer's declaration.
	**China food GB Standards of the People's Republic of China (valid for the variable code PL10)** All wetted materials are compliant with the requirement of China food GB Standards according to the manufacturer's declaration.

3.7. Others

DNV GL classification

Approval	Description
	**DNV GL classification – Ships, offshore units, and high speed and light craft** The products are accepted for installation on all vessels classed by DNV GL.

Oxygen

Conformity	Description
O_2	**Optional: Suitability for oxygen (valid for the variable code NL02)** The products are suitable for use with gaseous oxygen, according to the manufacturer's declaration.

Fuel gases

Conformity	Description
CE	**Fuel gases (valid for the variable code PO20)** The products comply with: • Regulation (EU) 2016/426 – Appliances burning gaseous fuels and • DVGW DIN EN 161 (Automatic shut-off valves for gas burners and gas appliances) and • DIN EN 16678 Class D (Safety and control devices for gas burners and gas burning appliances – Automatic shut-off valves for operating pressure of above 500 kPa up to and including 6 300 kPa)

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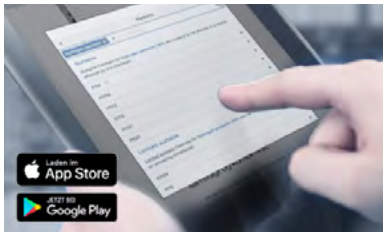
4. Materials

4.1. Bürkert resistApp

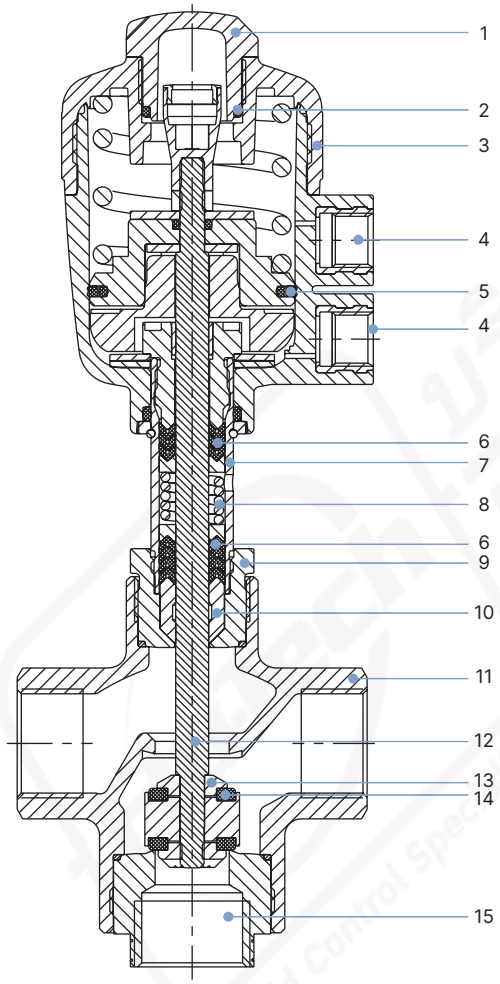


Bürkert resistApp – Chemical resistance chart

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

4.2. Material specifications



No.	Element	Material
1	Transparent cap	Polycarbonate (PC) (with PPS actuator: PSU)
2	O-Ring	FKM
3	Actuator	Polyamide (PPS)
4	Pilot air ports G ¼	Stainless steel 1.4305
5	Piston seal	NBR (with PPS actuator: FKM)
6	Spindle seal	PTFE
7	Pipe 1.)	Stainless steel 1.4401 / 316 Stainless steel 1.4404 / 316L 2.)
8	Spring	Stainless steel 1.4310
9	Nipple 1.)	Stainless steel 1.4401 / 316 Stainless steel 1.4404 / 316L 2.)
10	Wiper	PTFE PEEK 3.)
11	Valve body	Stainless steel 1.4404 / 316L
12	Spindle	Stainless steel 1.4404 / 316L
13	Seal holder	Stainless steel 1.4404 / 316L
14	Seat seal	PTFE
15	Seat nipple	Stainless steel 1.4404 / 316L

1.) In one piece for the actuator size 63 mm to 125 mm
2.) For actuator size 63 mm to 125 mm
3.) For actuator size 125 mm

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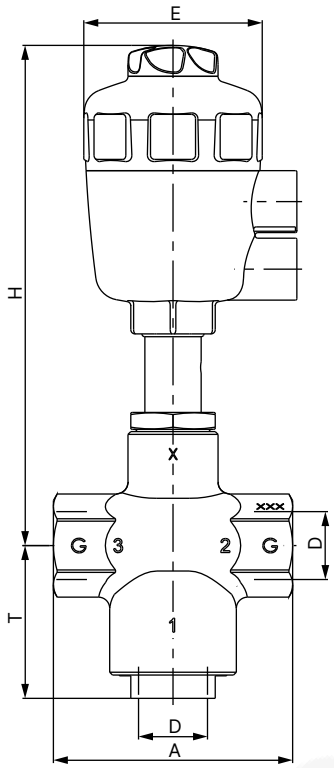
5. Dimensions



Nominal diameter (port connection)	Actuator size Ø	Port connection D	A	E	H	T
15	50 (D)	G ½	85	64	178	54
	63 (E)			80	220	54
20	50 (D)	G ¾	85	64	178	54
	63 (E)			80	220	54
25	63 (E)	G 1	105	80	220	54
32	80 (F)	G 1¼	130	101	249	68
	125 (H)			158	345	68
40	63 (E)	G 1½	130	80	226	68
	80 (F)			101	249	68
	125 (H)			158	345	68
50	125 (H)	G 2	150	158	352	72

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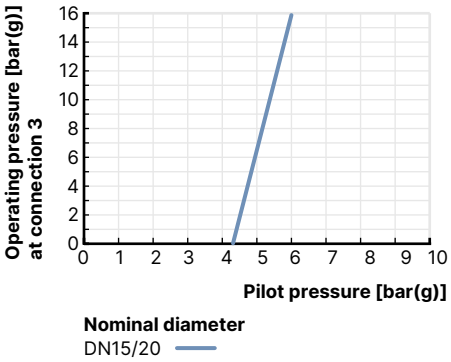
6. Performance specifications

6.1. Fluidic data

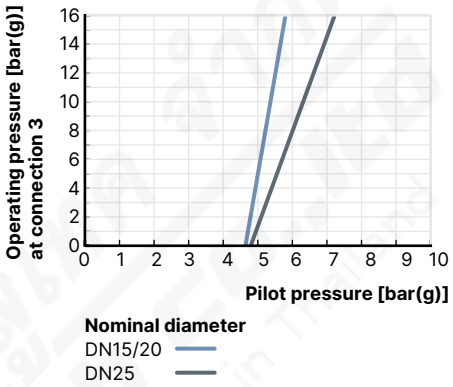
Pilot pressure diagram

Note:
CF A, flow direction 3 → 2

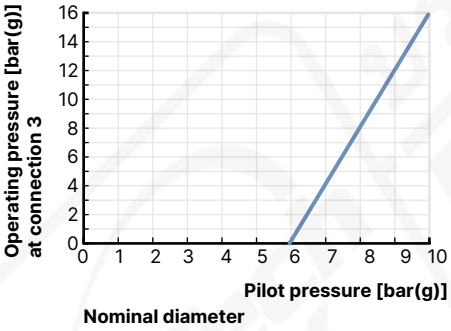
Actuator size Ø 50 mm
Maximum control pressure 10 bar(g)



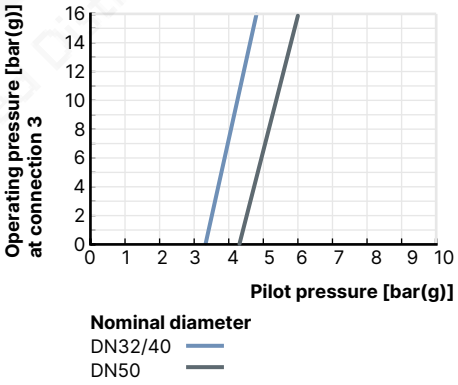
Actuator size Ø 63 mm
Maximum control pressure 10 bar(g)



Actuator size Ø 80 mm
Maximum control pressure 10 bar(g)



Actuator size Ø 125 mm
Maximum control pressure 7 bar(g)



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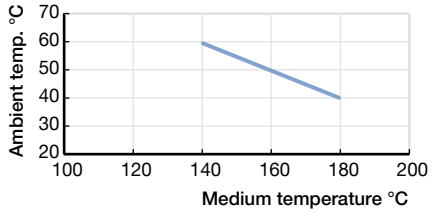
6.2. Operating limits

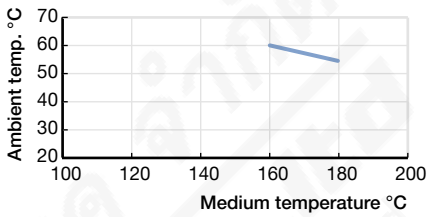
Operating limits ambient and medium temperature

Note:
For sizes 50 (D) and 63 (E) PA actuators, the combination of maximum medium temperature and maximum ambient temperature is shown in the following diagram:

Actuator size Ø 50 mm
Maximum control pressure 10 bar(g)



Actuator size Ø 63 mm
Maximum control pressure 10 bar(g)



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7. Ordering information

7.1. 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

7.2. Bürkert product filter

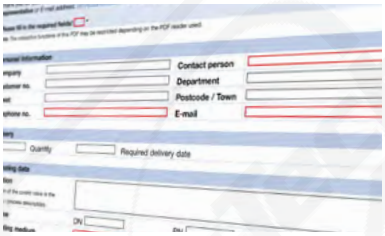
Bürkert product filter – Get quickly to the right product

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. 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

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7.4. Ordering chart threaded connection

Note:

- Port 1 closed by spring action
- Other variants are available on request

Control function	Nominal diameter (port connection)	Port connection	Actuator size Ø	K_V value water		Pilot pressure min.	Operating pressure max. up to 180 °C		Weight	Article no.	
				1→2	2→3		1→2	2→3 2→1		PA actuator	PPS actuator
	DN		[mm]	[m³/h]		[bar(g)]	[bar(g)]		[kg]		
EN ISO 228 - 1											
A (CF A) see control functions [1.) 2.)]	15	G ½	50 (D)	7	4.5	4.4	11	16	1.3	287191	287202
			63 (E)	8	4.5	4.7	16	16	1.6	287192	287203
	20	G ¾	50 (D)	9	6.2	4.4	11	16	1.3	287193	287204
			63 (E)	11	5.6	4.7	16	16	1.6	287194	287205
	25	G 1	63 (E)	17	11	4.9	10	16	2.1	287195	287206
	32	G 1¼	80 (F)	32	21	6.0	9	16	4.3	287196	287207
			125 (H)	35	24	3.4	14	16	8.1	287197	287208
	40	G 1½	80 (F)	35	24	6.0	9	16	4.3	287199	287210
			125 (H)	35	24	3.4	14	16	8.1	287200	287211
	50	G 2	125 (H)	51	35	4.3	10	16	9.5	287201	287212
ANSI B 1.20.1											
A (CF A) see control functions [1.) 2.)]	15	NPT ½	50 (D)	7	4.5	4.4	11	16	1.3	292542	292553
	15		63 (E)	8	4.5	4.7	16	16	1.6	292543	292554
	20	NPT ¾	50 (D)	9	6.2	4.4	11	16	1.3	292544	292555
	20		63 (E)	11	5.6	4.7	16	16	1.6	292545	292556
	25	NPT 1	63 (E)	17	11	4.9	10	16	2.1	292546	292557
	32	NPT 1¼	80 (F)	32	21	6.0	9	16	4.3	292547	292558
	32		125 (H)	35	24	3.4	14	16	8.1	292548	292559
	40	NPT 1½	80 (F)	35	24	6.0	9	16	4.3	292550	292560
	40		125 (H)	35	24	3.4	14	16	8.1	292551	292561
	50	NPT 2	125 (H)	51	35	4.3	10	16	9.5	292552	292562

1.) For more information, refer to the chapter "2. Control functions" on page 4.

2.) See "2.2. Pin assignment for flow modes of operation C, D, E and F" on page 4

Further variants on request

Process connection
Rc thread

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7.5. Ordering chart accessories

3/2-way pilot valves with banjo bolts

Note:

- Seal material of valve is FKM, seal material of banjo bolt is NBR
- For further accessories see the accessories data sheet **Type 2XXX**

Valve for actuator size Ø	Type	Pressure inlet P (valve body)	Working port A (banjo bolt)	Nominal diameter (port connection)	Q_{Nn} value air	Pressure range	Electrical coil connection industry standard	Power consumption	Article no. per voltage/frequency [V/Hz]	
[mm]				[mm]	[l/min]	[bar(g)]		[W]	024/DC	230/50
50 (D)... 63 (E)	6012P	Push-in connector Ø 6 mm	G ¼	1.2	48	0...10	Form B	4	552283	552286
50 (D)... 125	6014P	G ¼	G ¼	2	120	0...10	Form A	8	424103	424107

Cable plug Type 2507, Form B or Type 2518, Form A

Variant	Voltage	Article no.
Type 2507, Form B industry standard, without circuitry (Type 6012 P)	0...250 V	423845
Type 2518, Form A according to DIN EN 175301-803, without circuitry	0...230 V/AC/DC	314802

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Type 8697 pneumatic position feedback unit

Note:
cULus only valid for variants without ATEX approval

End position feedback						Electrical connection	ATEX / IECEx Cat. 3D/G Zone 22/2 [1.]	ATEX / IECEx Cat. 2D/G Zone 21/1 [2.]	ATEX/ IECEX Cat. 2G Zone 1 [3.]	cULus	Article no. Actuator series CLASSIC Type 20xx
Inductive switch 3-wire PNP	Inductive switch 2-wire NAMUR	Inductive switch 2-wire 24 V DC	Micro switch 24 V DC	Micro switch 50...250 V AC/DC	Feedback status LEDs						
Feedback (without pilot valve)											
2	–	–	–	–	Yes	Cable bushing	–	–	–	Yes	248827
2	–	–	–	–	Yes	Cable bushing	Yes	–	–	–	255851
2	–	–	–	–	Yes	M12 multipole	Yes	–	–	–	255858
2	–	–	–	–	Yes	M12 multipole	–	–	–	Yes	250472
–	2	–	–	–	Yes	Cable bushing	–	Yes	–	–	248831
–	2	–	–	–	Yes	Cable bushing	–	–	Yes	–	255863
–	–	2	–	–	Yes	Cable bushing	–	–	–	Yes	248826
–	–	2	–	–	Yes	Cable bushing	Yes	–	–	–	255850
–	–	–	2	–	–	Cable bushing	–	–	–	Yes	248833
–	–	–	–	2	–	Cable bushing	–	–	–	Yes	248825

1.) II 3D Ex tc IIIC T135 / II 3G Ex nA IIC T4 Gc
2.) II 2D Ex ia IIIC T135 °C IP64 / II 2G Ex ia IIC T4 Gb
3.) II 2G Ex ia IIC T4 Gb

Adapter kits

Note:
Further information can be found in **data sheet Type 8697** ▶.

Description	Actuator size	Control function	Article no.
Adapter kit for Type 8697	Ø 50 (C) / 63 (E) / 80 (F) mm	Universal	682264
Adapter kit for Type 8697	Ø 125 mm	Universal	682265

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