burkert
FLUID CONTROL SYSTEMS

Tandem valve, welded valve configutation

- Fully integrated in Burkert's Process Control Systems
- Quality certifications FDA

Type 2034 can be combined with...

Type 8691
Control Head

Type 8690
Pneum. control unit with feedback

Type 8692
Positioner Top-Control continuous

Stroke limitation
Min./max. stroke limitation

The Bürkert welded valve configurations for SAP (sterile access port) and GMP (good manufacturing practice) are designed for the control of ultrapure, sterile, aggressive or abrasive fluids. The configurations are made from two separate forged valve bodies. They are welded to be fully drainable and can be operated by either pneumatic actuator or manual handwheel.

The user can choose the required configuration in two separated specification keys. The first details the geometry, body and diaphragm materials while the second specifies body sizes, end connections, operator and surface finishes.

Available accessories include Positioner/PID controllers, stroke limiters, electrical feedback, pneumatic pilot valves.

Technical data		
Orifice	DN08 to DN100	
Body material	• Stainless steel 1.4435 acc. to BN2 / ASME BPE, Fe <0.5% • Other on request	
Port connections		
Weld end	• DIN EN ISO 1127 / ISO 4200 / DIN 11866 Serie B • DIN 11850 Serie 2 / DIN 11866 Serie A • ASME BPE / DIN 11866 Serie C	
Clamp	• DIN 32676 Serie A (DIN tube) • DIN 32676 Serie B (ISO tube) • ASME BPE	
Surface finish	Ra [µm] internal	Ra [µInch] internal
Mechanical polished	0.6	25
Electro polished	0.4	15
	Other on request	Other on request
Seal materials	EPDM, PTFE/EPDM, advanced PTFE/EPDM, FKM	
Actuator material		
Element (DN08-50)	PPS, cover in Stainless steel 1.4561 (316Ti)	
Classic (DN65-100)	PA, socle in Stainless steel 1.4308	
Manual	PPS/PPS, PPS/St. steel (DN65, 80, 100 in full stainless steel)	
Pilot air ports	G ⅛" or Push-In	
Media temperature		
EPDM (AD)	-5 to +143 °C (SIP: up to +150 °C, 60 min.)	
advanced PTFE/EPDM (EU)[1]	-10 to +130 °C (SIP: up to +140 °C, 60 min.)	
advanced PTFE laminated on EPDM (EK)[2]	+5 to+90 °C (no steam)	
Ambient temperature	+5 to +60 °C	
Control medium	Neutral gases, air	
Installation for self-draining	See configuration option on page 5	

[1] Advanced PTFE/EPDM is recommended for sterilization cycle

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Technical data, *continued*

Pneumatic actuator

	Port connection DN		Orifice (diaphragm size)	Actuator size Ø	Permitted pilot pressure [bar]		Max. operating pressure for seal material [bar]	
	[mm]	[inch]	[mm]	[mm]	min.	max.	EPDM, FKM	PTFE/EPDM and advanced PTFE/EPDM
ELEMENT 	8	¼“	8	50	5	10	10	10
	10	⅜“	8	50	5	10	10	10
	15	½“	15	70	5	10	10	10
	20	¾“	20	70	5	10	10	10
	25	1“	25	70	5	10	6.5	6
				90	5.5	10	10	8
	40	1 ½“	40	130	5	7	10	10
	50	2“	50	130	5	7	8	7
Classic 	65	2 ½“	50 or 80	125	5.5	7	8	7
				225	5	6	10	10
	80	3“	80	225	5	6	10	10
	100	4“	100	225	5	6	8	4

Manual actuator

	Port connection DN		Orifice (diaphragm size)	Max. operating pressure for seal material [bar]	
	[mm]	[inch]	[mm]	EPDM, FKM	PTFE/EPDM and advanced PTFE/EPDM
	8	¼“	8	10	10
	10	⅜“	8	10	10
	15	½“	15	10	10
	20	¾“	20	10	10
	25	1“	25	10	10
	40	1 ½“	40	10	10
	50	2“	50	7/10	7/10
	65	2 ½“	50 or 80	5/7/10	5/7/10
	80	3“	80	5	5
	100	4“	100	5	5

Pressure values (bar)
Gauge pressures with respect to the prevailing atmospheric pressure.

Remark:
For low operating pressures we recommend reduced spring force versions to prolong the life of the diaphragm

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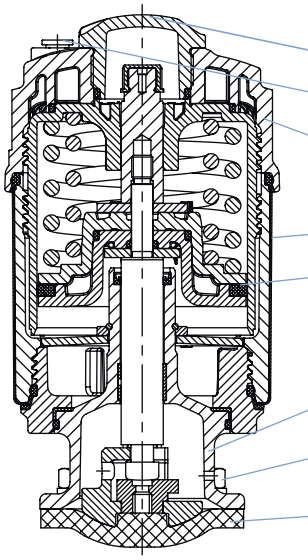
Materials

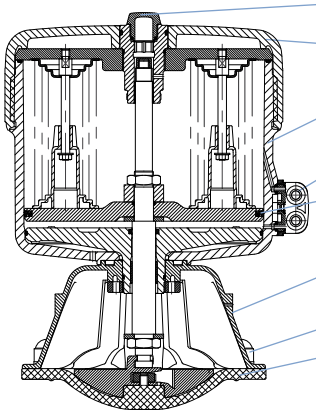
Pneumatic

ELEMENT actuator DN08- DN50



Optical position indicator	Transparent cap polysulfone PSU
Pilot air ports	Push-in connector PP (standard) *on request: Thread ⅛'' stainless steel 1.4305*
Actuator cover	PPS
Cover	Stainless steel 1.4561 (316Ti)
Piston seal	FKM
Socle	Stainless steel 1.4308
Screws	Stainless steel
Diaphragm	EPDM, PTFE/EPDM *(advanced PTFE/EPDM, FKM on request)*

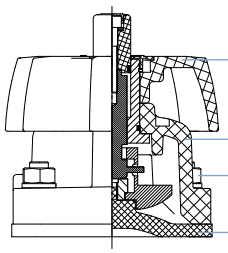
Classic actuator DN65- DN100



Optical position indicator	Transparent cap polycarbonate PC
Actuator	PA Polyamide
Pilot air ports	Thread ⅛'' stainless steel 1.4305
Piston seal	NBR
Socle	Stainless steel 1.4308
Screws	Stainless steel
Diaphragm	EPDM, PTFE/EPDM *(advanced PTFE/EPDM, FKM on request)*

Manual

Manual actuator DN08 - DN100



Handwheel	PPS or 316L stainless steel*
Socle	PPS or 316L stainless steel*
Screws	Stainless steel
Diaphragm	EPDM, PTFE/EPDM advanced PTFE/EPDM

* DN65 to DN100 only in stainless steel

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Approvals/certifications

- Certification of Conformity for Raw Material EN-ISO 10204 3.1
- Attestation of compliance with the order EN-ISO 10204 2.1
- Test report EN-ISO 10204 2.2
- Certification of Conformity for Pickling and Electropolishing Processes
- Certification of Conformity for the Surface Quality DIN4762-DIN4768-ISO/4287/1
- Certification for the fulfillment of FDA CFR No. 21.177.1550 for PTFE/EPDM and advanced PTFE/EPDM and 21.177.2600 for EPDM
- USP CLASS VI certification for EPDM and PTFE diaphragm
- Test Certification and Conformity Certification for the Final Assembly of Diaphragm Valves
- ISO 9001 Certification

Note: Retrospective manufacturing certification for process diaphragm valves can not be made, therefore please notify when ordering.

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
- PTFE/EPDM
- advanced PTFE/EPDM
- FKM

Valve features, specification key 1

Example

2034	T	02	03	Z	X	VS	AB	25	GMP2

Specification key 1

(Please make a choice)

2034									

PRODUCTION OF BODY

B	Bloc material

AMOUNT OF VALVE SEATS

01	Seat
02	Seats

NUMBER OF PORTS

01	Connection
02	Connections
03	Connections

ACTUATOR VERSION

E	ELEMENT actuators
K	CLASSIC actuators
Z	ELEMENT & CLASSIC

OPERATION

M	Manual
P	Pneumatic
R	Pneumatic with control
X	Manual & Pneumatic

BODY MATERIAL

VS	1.4435BN2/ASME BPE

SEAL MATERIAL

AB	EPDM in food quality
EU	Advanced PTFE
FF	FKM
AD	EPDM High T°

MAIN ORIFICE [mm]

8
15
20
25
40
50
65
80
100

CONFIGURATION

SAP1	see next page for further info go to page
SAP2	
SAP3	
SAP4	
SAP5	
SAP6	
SAP7	
SAP8	
SAPA	
SAPB	
SAPC	
SAPD	
GMP1	
GMP2	
GMP3	
GMP4	
GMP5	
GMP6	
GMP7	
GMP8	
GMPA	
GMPB	

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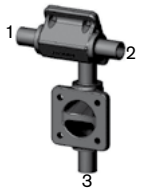
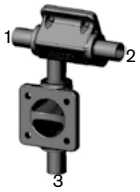
Configurations

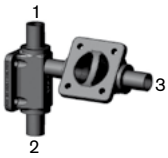
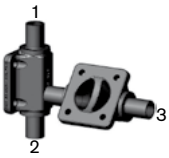
Steril access port

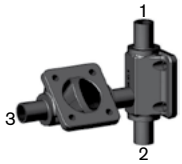
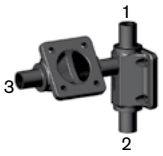
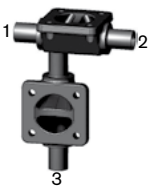
SAP1	SAP2	SAP3	SAP4
			

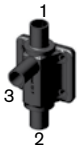
SAP5	SAP6	SAP7	SAP8
			

SAPA	SAPB	SAPC	SAPD
			

Good manufacturing practice

GMP1	GMP2	GMP3	GMP4
			

GMP5	GMP6	GMP7	GMP8
			

GMPA	GMPB
	

Valve features, specification key 2

Example

2034	25	A	15	D050	SA44	SA44	SA42	NK52 + NO14

Specification key 2

(Please make a choice)

2034								+

VALVE/SEAT n°1

Orifice DN [mm]	Actuator version	
08	**Pneumatic**	
15	A	normally closed by spring action
20	B	normally open by spring action
25	I	double acting
40	**Manual**	
50	D050	Handwheel PPS / bonnet PPS
80	D052	Handwheel stainless steel / bonnet stainless steel (only DN65-DN100)
100	D058	Handwheel PPS / bonnet stainless steel with hole for bolts

VALVE/SEAT n°2

Orifice DN [mm]	Actuator version	
08	**Pneumatic**	
15	A	normally closed by spring action
20	B	normally open by spring action
25	I	double acting
40	**Manual**	
50	D050	Handwheel PPS / bonnet PPS
80	D052	Handwheel stainless steel / bonnet stainless steel (only DN65-DN100)
100	D058	Handwheel PPS / bonnet stainless steel with hole for bolts

VARIABLE CODES

Surface finish, external	
NO22	glass bead blasted Ra=3.2 µm
NO34	Mechanical polished Ra=1.2 µm
NO15	Electro polished Ra=0.8 µm
Surface finish, internal	
NO23	Mechanical polished Ra=0.6µm
NO16	Electro polished Ra=0.6µm
NO14	Mechanical polished Ra=0.5µm
NO17	Elektropoliert Ra=0.4µm
Certificat	
NK52	3.1 Certificate integrated

Port connection Valve/seat n°1

Port connection Valve/seat n°2, 3

Port connection weld end

DN [mm]	EN ISO 1127/ ISO 4200 DIN 11866 S. B	SMS 3008	DIN 11850 S. 0	DIN 11850 S. 1	DIN 11850 S. 2 DIN 11866 S. A	DIN 11850 S. 3	BS4825	ASME BPE DIN 11866 S. C
4			SC40-6.0×1.0					
6	SA78-10.2×1.6		SC41-8.0×1.0					SA89-3.17×0.56
8	SA40-13.5×1.6		SC42-10.0×1.0				SODB -6.35×1.2	SA90-6.35×0.89
10	SA41-17.2×1.6			SF40-12.0×1.0	SD40-13.0×1.5	SE40-14.0×2.0	SODC -9.53×1.2	SA91-9.53×0.89
15	SA42-21.3×1.6	SA58-12.0×1.0	SC43-18.0×1.5	SF41-18.0×1.0	SD42-19.0×1.5	SE42-20.0×2.0	SODD -12.7×1.2	SA92-12.7×1.65
20	SA43-26.9×1.6	SA59-18.0×1.0	SC44-22.0×1.5	SF42-22.0×1.0	SD43-23.0×1.5	SE43-24.0×2.0	SODE -19.05×1.2	SA93-19.05×1.65
25	SA44-33.7×2.0	SA60-25.0×1.2	SC45-28.0×1.5	SF43-28.0×1.0	SD44-29.0×1.5	SE44-30.0×2.0		SODF -25.4×1.65
32	SA45-42.4×2.0	SA61-33.7×1.2	SC46-34.0×1.5	SF44-34.0×1.0	SD45-35.0×1.5	SE45-36.0×2.0		
40	SA46-48.3×2.0	SA62-38.0×1.2	SC47-40.0×1.5	SF45-40.0×1.0	SD46-41.0×1.5	SE46-42.0×2.0		SODH -38.1×1.65
50	SA47-60.3×2.0	SA63-51.0×1.2	SC48-52.0×1.5	SF46-52.0×1.0	SD47-53.0×1.5	SE47-54.0×2.0		SODI -50.8×1.65
65	SA48-76.1×2.0	SA64-63.5×1.6			SD48-70.0×2.0			SODJ -63.5×1.65
80	SA49-88.9×2.3	SA65-76.1×1.6			SD49-85.0×2.0			SODK -76.2×1.65
100	SA39-114.3×2.3	SA66-101.6×2.0			SD50-104.0×2.0			SODL -101.6×2.11

Port connection Clamp

DN [mm]	Clamp 34.0 like DIN 32676 S. B (ISO-tube (ISO4200))	DIN 32676 S. A (DIN-tube (DIN11850))	DIN 32676 S. B (ISO-tube (ISO4200))	ASME BPE	BS 4825 (Clamp BS 4825-3, tube BS 4825-1)
8	TC51-13.5×1.6 Cl: 34.0	TD40-10.0×1.0 Cl: 25.0	TC40-13.5×1.6 Cl: 25.0	TG 50-6.35×0.89 Cl: 25.0	
10	TC41-17.2×1.6 Cl: 34.0	TD41-13.0×1.5 Cl: 34.0	TC53-17.2×1.6 Cl: 25.0	TG 01-9.53×0.89 Cl: 25.0	
15	TC42-21.3×1.6 Cl: 34.0	TD42-19..0×1.5 Cl: 34.0	TC52-21.3×1.6 Cl: 50.5	TG 02-12.7×1.65 Cl: 25.0	TH42-12.7×1.2 Cl: 25.0
20		TD43-23.0×1.5 Cl: 34.0	TC43-26.9×1.6 Cl: 50.5	TG 03-19.05×1.65 Cl: 25.0	TH43-19.05×1.2 Cl: 25.0
25		TD44-29.0×1.5 Cl: 50.5	TC44-33.7×2.0 Cl: 50.5	TG 04-25.4×1.65 Cl: 50.5	
32					
40		TD46-41.0×1.5 Cl: 50.5	TC46-48.3×2.0 Cl: 64.0	TG 05-38.1×1.65 Cl: 50.5	
50		TD47-53.0×1.5 Cl: 64.0	TC47-60.3×2.0 Cl: 77.5	TG 06-50.8×1.65 Cl: 64.0	
65			TC48-76.1×2.0 Cl: 91.0	TG 07-63.5×1.65 Cl: 77.5	
80			TC49-88.9×2.3 Cl: 106.0	TG 08-76.2x.65 Cl: 91.0	
100			TC50-114.3×2.3 Cl: 130.0	TG 09-101.6×2.11 Cl: 119.0	

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

Standard configuration – 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

	Nominal	Unit
■ Process medium		
■ Type of media	☐ Liquid ☐ Steam ☐ Gas	
■ Flow rate (Q, QN, W) [1]		
■ Temperature at valve inlet		
■ Absolute pressure at valve inlet		
■ Absolute pressure at valve outlet		
Steam pressure Pv		

[1] standard unit:
Liquid Q = m³/h;
Steam W = kg/h;
Gas Qn = nm³/h

Valve features

Specification key 1
(automatically transfered from p 4)
2034 ☐☐☐☐☐☐☐☐☐☐

Specification key 2
(automatically transfered from p. 6)
2034 ☐☐☐☐☐☐☐☐☐ +

Accessories

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

Pilot valve

☐ Type 6012 More info.

Please specify item no. (if known)**:**

for actuator (A1, A2,...)

Stroke limitation

More info.

☐ Min./max. stroke limitation, with visual position indicator
☐ Max. stroke limitation, without visual position indicator

Please specify item no. (if known)**:**

for actuator (A1, A2,...)

Position feedback/Control head

☐ Type 8690 More info.
☐ Type 8691 More info.
☐ Type 8695 More info.
☐ Type 8697 More info.
☐ Type 8685 More info.
☐ Type 8686 More info.

Please specify item no. (if known)**:**

for actuator (A1, A2,...)

Certifications

☐ Attestation of compliance with the order EN-ISO 10204 2.1
☐ Test report EN-ISO 10204 2.2
☐ Certification of Conformity for Raw Material EN-ISO 10204 3.1
☐ Certification of Conformity for the Surface Quality DIN4762-DIN4768-ISO/4287/1
☐ Certification of Conformity for Pickling and Electropolishing Processes
☐ FDA and USP compliance

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Customized configuration – 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

Weld solution

Sales data

Project name:

Quantities:

☐ single enquiry

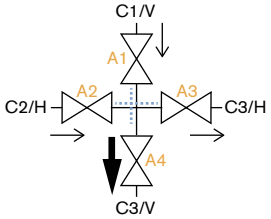
☐ enquiry for series

Flow schematic

Warning: connection and valve description should be in accordance with the table that filled below!

Please sketch the schematic

Legende



Diaphragm valve - one seat	
Area with **minimum** volume	
Drain direction	
Flow direction	
Connection C1, C2, ... - System / Bloc	C1 ... Cn
A1, A2, ... actuator (Bloc valves)	A1 ... An
Optional indication of inlet and outlet (horizontal or vertical available)	(V / H)

Technical data -Fluidic

Medium nature _____ Medium pressure _____

Medium temperature _____ Medium viscosity _____

K_V value or flow rate _____ ☐ Bürkert standard in blue

Material for the bloc ☐ 1.4535 / 316L ☐ 1.4435 acc. to BN_2 / ASME BPE Specific material: _____

Surface finish **(internal)** ☐ 0.8 ☐ 0.6 ☐ 0.4 ☐ 0.25 Specific surface finish (Ra in µm): _____

☐ Electropolish

Surface finish **(external)** ☐ 1.6 Specific surface finish (Ra in µm): _____

Diaphragm material ☐ EPDM ☐ PTFE ☐ FKM ☐

Connection definition

Nominal size C-Nr.	DN	Weld end: DIN 11850 S.2 / DIN 11866 S.A	Weld end: ISO 4200 / EN ISO 1127 / DIN 11866 S.B	Weld end: ASME BPE / DIN 11866 S.C	Clamp: DIN 32676 S. A	Clamp: DIN 32676 S. B	Clamp: ASME BPE	Divers
C1		☐	☐	☐	☐	☐	☐	
C2		☐	☐	☐	☐	☐	☐	
C3		☐	☐	☐	☐	☐	☐	
C4		☐	☐	☐	☐	☐	☐	
C5		☐	☐	☐	☐	☐	☐	
C6		☐	☐	☐	☐	☐	☐	
C7		☐	☐	☐	☐	☐	☐	
C8		☐	☐	☐	☐	☐	☐	

Actuator and actuation see specification on next page.

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Customized configuration – request for quotation, *continued*

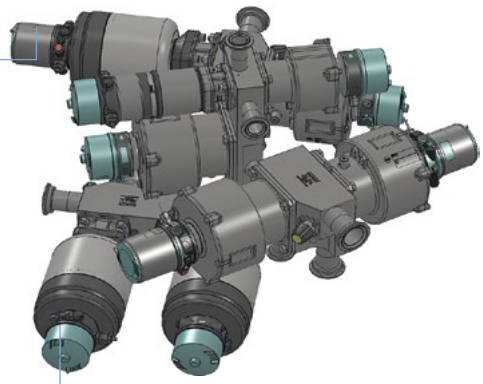
Automation system (product overview)

ELEMENT actuator system
- compact stainless steel design
- designed for modular actuation
- fresh air system

ELEMENT control head Type 8691
- integrated pilot valve
- position teach in
- large LED indication
- ASI and device net communication possible

ELEMENT control head Type 8695 for actuator 50 mm
- integrated pilot valve
- position teach in
- large LED indication
- ASI and device net communication possible

ELEMENT feeedback head Type 8690 / 8697
- mechanical electrical feedback
- inductive feedback
- Eexi version



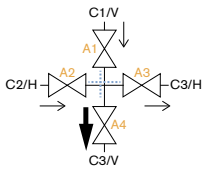
Description fluidic system Type 2034

Detail information on www.burkert.com

Technical data - Actuation

Pilot pressure				Bürkert standard in blue
Ambient temperature				
Cycle per year				
Implementation (clean room, outside...)				
Hazardous location (EX / ATEX / NAMUR)				
Actuator material	☐ St. steel/Plastic	☐ Plastic		
Power supply	☐ 8 V Namur	☐ 24 V/DC	☐ 230 V/50 - 60 Hz	
IP protection	☐ IP65	☐ IP67		
Automation	☐ ASI	☐ DeviceNet		

Remarks:



Other actuator material

Other protection / application conditions

Other power supply

Other automation (PLC / Fieldbus)

Definition actuation, feedback, pilote valves control head

Nominal size A-Nr.	DN	Actuator Pneumatic	Actuator Manual	Control feedback Position ON	Control feedback Position OFF	Control head + Pilot valve	Control function normally closed	Control function normally open
A1		☐	☐	☐	☐	☐	☐	☐
A2		☐	☐	☐	☐	☐	☐	☐
A3		☐	☐	☐	☐	☐	☐	☐
A4		☐	☐	☐	☐	☐	☐	☐
A5		☐	☐	☐	☐	☐	☐	☐
A6		☐	☐	☐	☐	☐	☐	☐
A7		☐	☐	☐	☐	☐	☐	☐
A8		☐	☐	☐	☐	☐	☐	☐

Fluidic specification, connections, norms see previous page.

Reset Form

In case of special application conditions, please consult for advice.

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