

System Catalog **2**

Solenoid valves | **Process and control valves** | Pneumatics
Sensors | MicroFluidics | MFC and proportional valves



The smart choice of Fluid Control Systems

All technical details were valid at the time of going to print. Since we are continuously developing our products, we reserve the right to make technical alterations. Unfortunately, we also cannot fully exclude possible errors. Please understand that no legal claims can be made based upon either the details given or the illustrations and descriptions provided.

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Content

A safe investment in a safe and reliable plant	Page 6
1. Bürkert's range of process valves	Page 8
2. Bürkert's range of diaphragm valves	Page 10
Application fields by body type – customized special solutions	Page 12
Diaphragm valves with plastic body	Page 14
Diaphragm valves with stainless steel general-purpose body	Page 16
Diaphragm valves with stainless steel investment cast body	Page 18
Diaphragm valves with stainless steel forged body	Page 20
T-valves with stainless steel block body	Page 22
Tank bottom valves with welded stainless steel body	Page 24
Customized welded solutions	Page 26
Customized multifunction blocks	Page 27
Technical data and further remarks on the range of diaphragm valves	Page 28
Surface qualities	Page 32
Valve installation	Page 33
3. Bürkert's range of seat valves	Page 34
Suitability of valve types for special industries and areas of application	Page 36
Angle-seat valves with gun metal or stainless steel body	Page 38
Globe valves with stainless steel body	Page 40
Angle-seat control valves for simple tasks	Page 42
Globe control valves for demanding tasks	Page 44

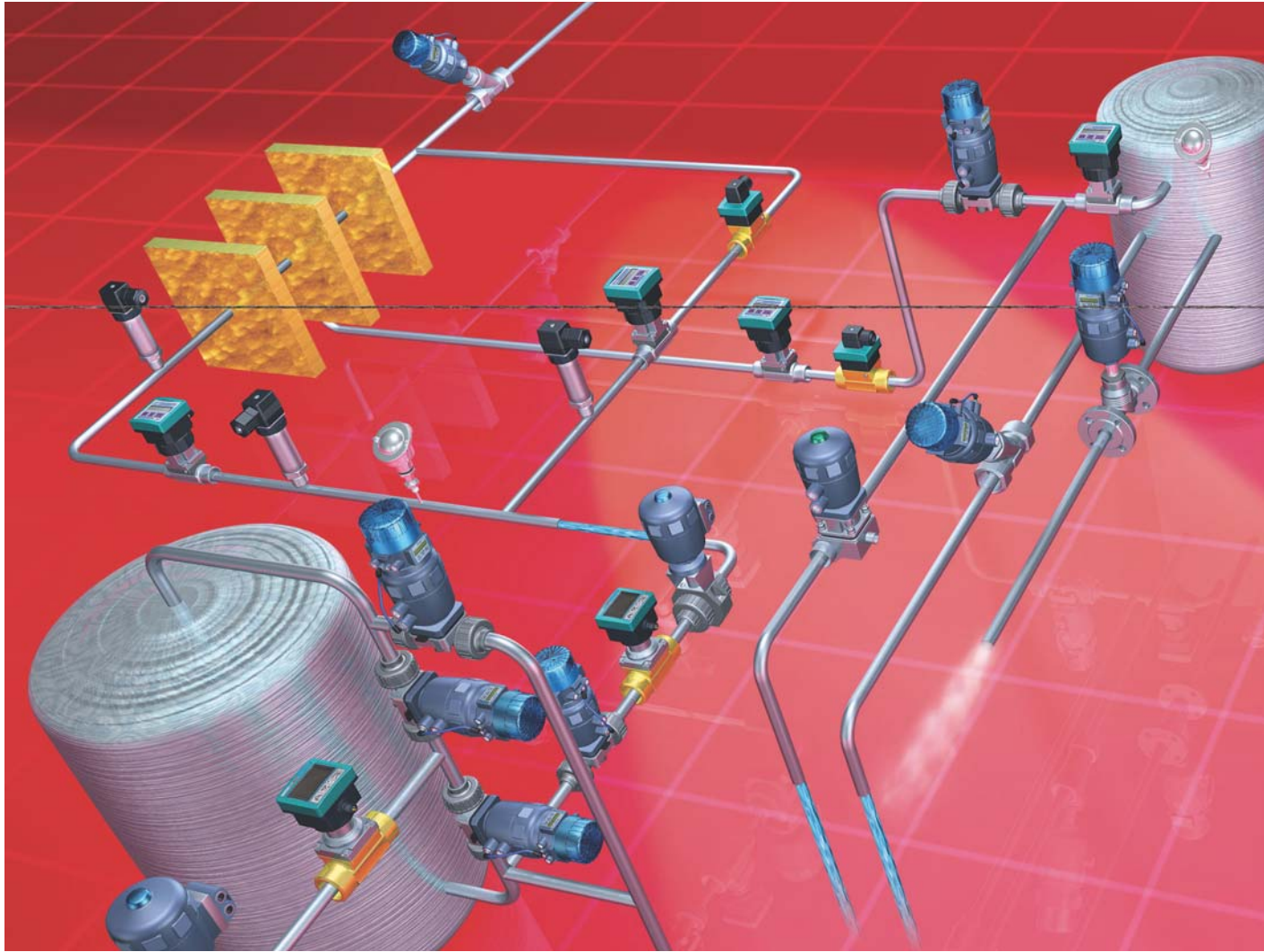
4. Bürkert's range of positioners and control heads Page 46

Typical application fields of Bürkert positioners and control heads	Page 48
Positioner, Type 8630 TopControl Continuous	Page 50
Positioner, Type 8635 SideControl S/HART/PROFIBUS PA	Page 52
Positioner, Type 1067 SideControl	Page 54
Control head, Type 8631 TopControl ON/OFF	Page 56
Control head, Type 1066	Page 58
Technology and functions of digital electropneumatic positioners	Page 60
Functional structure	Page 60
Process control loop	Page 60
Integrated process controller	Page 61
Operating structure of the positioners	Page 62
Typical functions and options	Page 63
Technology and functions of electropneumatic control heads	Page 65

5. Accessories and other products Page 68

Valves for pneumatically operated actuators	Page 68
Accessories for pneumatically operated actuators	Page 69
Other process valves	Page 70
I/O box and remote I/O systems	Page 70
Sensors, transmitters and measuring instruments for process engineering	Page 71

A safe investment in a safe and reliable plant

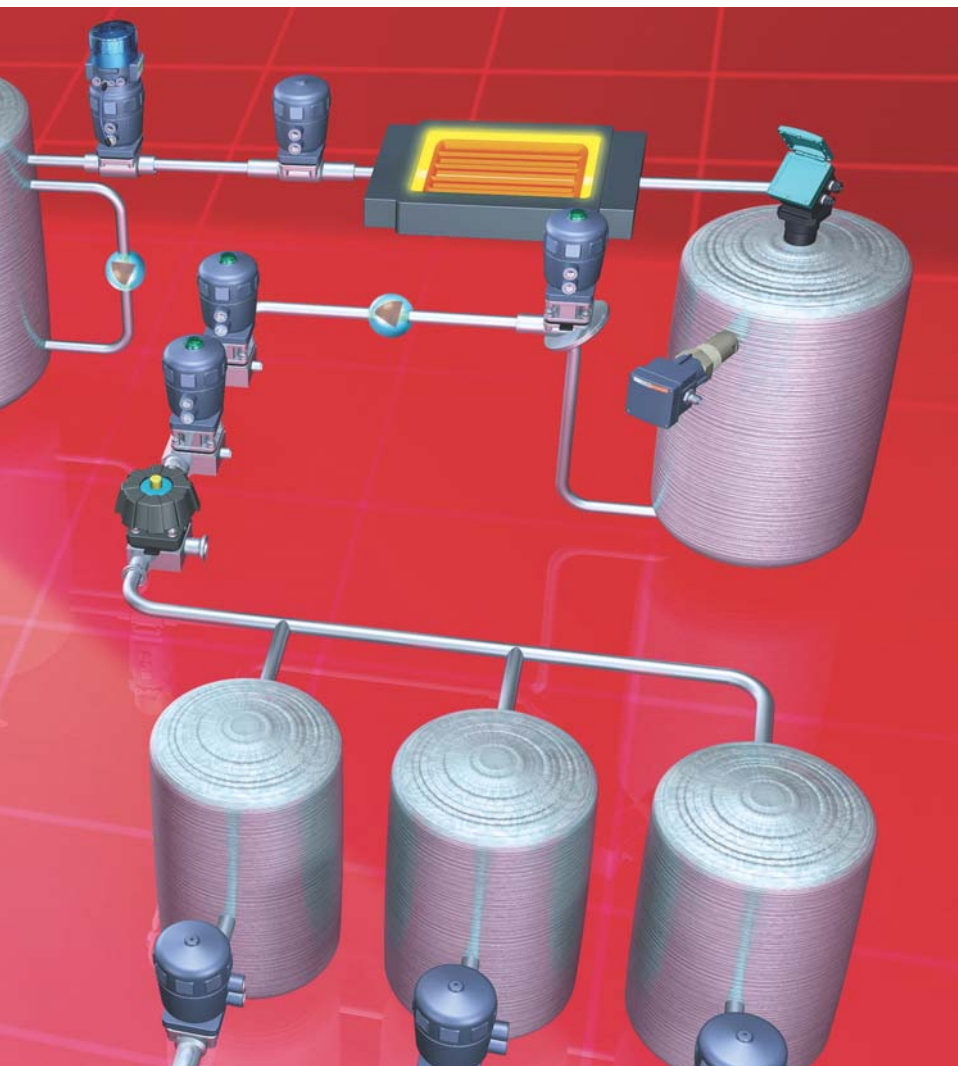


For over thirty years now, Bürkert has played an important role in revolutionizing control processes in machines and installations. Progress is expressed in the simplification and optimization of open-loop and closed-loop control of media in various processes. As a result, Bürkert process valves demonstrate what the experience and know-how of a market leader in fluidics can do for its customers: a safe invest-

ment in a safe and reliable plant. Innovative technology from Bürkert is an investment which creates substantial advantages over the competition. And this safe investment can be found worldwide in numerous installations in an extremely vast range of industries. In a word: every Euro is a safe investment, both technically and economically.

Programmed for the future

Bürkert process valve technology has a virtually unlimited scope of application. Wherever the task concerns controlling process valves using process controllers in the food or pharmaceutical industry, biotechnology, water treatment or process engineering sectors, and particularly in the segment of



diaphragm valves, our technology is unbeatable. We are also unmatched in the field of connecting process control valves with process pneumatics and sensor systems. The complete range, from small dosing valves for food dispensing to large valves for water treatment, meets every technical task with extremely efficient solutions of the highest quality. A modular system allows individual combinations that make every application state-of-

the-art and geared towards the future. We can provide the competence needed for tomorrow. And we do this today.

Intelligent technology

Bürkert has decisively led the way to intelligent technology in and on process valves for controlling valves using control heads or deploying control valves with positioners. Wireless com-

munication for control is a further trend in innovative process valve technology, and one for which Bürkert, even today, develops components and systems that are ready to go into serial production. On a consistent path to distributed control, the problem of inefficient communication and the wiring associated with it is reorganized and solved in a groundbreaking way. To an increasing extent, Bürkert process valve technology is system technology that controls and automates all process variables such as flow rates, temperatures, pressures, etc., in a convincingly simple way.

Processes benefit with Bürkert

Meticulous control of process data is crucial to the design of control valves and thus to successfully using them in technical applications. This demands efficient communication between manufacturer and customer. Consequently, gaining an understanding of the specific problem on-site is a matter of course for our consultants. Our competent consulting regarding the best possible solution always precisely shows you the ideal way to ensure economic success with optimum technology.

1. Bürkert's range of process valves

Control units for on/off process valves

Pilot valves



Type 6012P Type 6014P Type 0450 Type 6519

Intrinsically safe pilot valves



Type 6519 EEx

Valve blocks with field bus interface/ automation systems



Type 8640 Type 8644

Control heads starting on Page 46



Type 1066 Page 58 Type 8631 Page 56

On/off process valves

Pneumatically operated valves

Seat valves starting on Page 34



Type 2012 Page 40 Type 2000 Page 38
Type 2002

Diaphragm valves starting on Page 10



Type 2030 Page 14 Type 2031 Page 20 Type 2031K Page 16

Ball valves



Type 2652 Type 2655 Type 3210 Type 2658

Butterfly valves



Type 2672 Type 2675

I/O systems



Type 8642/8643

Remote I/O systems



Type ET 200S

Control units for process control valves

Sensors



Flow rate
Analysis
Filling level
Pressure

Positioners

starting on Page 46



Type 8630
Page 50



Type 1067
Page 54



Type 8635
Page 52

Process control valves

Manually operated valves

Diaphragm valves

starting on Page 10



Type 3232 Type 3233
Page 18 Page 20

Motorized-actuator valves



Type 2656 Type 0145

Pneumatically operated valves

starting on Page 34



Type 2712 Type 2702 Type 2731
Page 44 Page 42 Page 16

With an extensive selection of valves and fittings, e.g. seat valves, diaphragm valves, ball valves and butterfly valves, this range covers a broad range of applications. Depending on the ver-

sion, the valves may be actuated manually, pneumatically or by electric motors. In the pneumatically operated valve segment, the use of pilot valves, control heads and automation systems

offers a particularly varied selection of control and actuation options.

2. Bürkert's range of diaphragm valves

ON/OFF Control units

Control heads



Type 8631

Positioners and process controllers

Positioners



Type 1067



Type 8630



Type 8635

Actuators

Pneumatic actuator PPS or PA



Type 2031

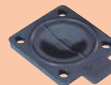
Manually operated valve bonnet and hand wheel, PPS or stainless steel



Type 2031

Diaphragms

Elastomer diaphragm



Type 2031
Page 31

PTFE diaphragm



Type 2031
Page 31

Valve body



Forged body
DN 4 - 100
Page 20



Investment cast body
DN 4 - 50
Page 18



General-purpose body
DN 8 - 100
Page 16



Plastic body
DN 15 - 100
Page 14



T-valves
Page 22



Tank Bottom
valves
Page 24



Multifunction blocks
Page 27

Accessories



Type 1062
Electrical position
feed back



Type 1060
Electrical position
feed back



Type 1071
External magnetic
inductive
position feedback



Hand wheel

The diversity of body variants, diaphragm materials and actuator versions correspond to combination options which provide the right valve for any application. Available as manually or pneumatically operated versions, the diaphragm valves can also be used as control valves with position or process control. The range is rounded out by a comprehensive selection of accessories.



Customized welded
solutions
Page 26

In addition, Bürkert covers "non-standard" sectors with customized solutions and special valves. Individual welded solutions or multifunction blocks provide the right valve for any application.

Diaphragm valves with 3-port T-bodies	Tank bottom exhaust diaphragm valves	Welded solutions and multifunction blocks
 <p>Type 3234 Type 2032</p>	 <p>Type 3235 Type 2033</p>	
Page 22/23	Page 24/25	Page 26/27

Chemical engineering and process engineering		
Filling and dosing plants		▪
Fermenters		▪
Hydraulic engineering and effluent engineering		
Filtration		
Dosing chemicals		
Reverse osmosis		
Water softening		
Effluent treatment		
Medical technology		
Water treatment		
Pharmaceutical engineering and biotechnology		
Filling and dosing machines	▪	▪
Fermenters		▪
Bioreactors		▪
Cosmetic industry		
Production processes		▪
Filling and dosing machines		▪
Fermenters		▪
Bioreactors		▪
Food industry		
Breweries, wine producers, dairies		▪
Beverage machines		▪
Filling and dosing machines	▪	▪
Packaging machines		▪
CIP/SIP processes		▪
Other applications		
General mechanical engineering		▪
Tank construction		▪
Plant engineering		▪
Photo industry	▪	▪

AGM VALVES

Diaphragm valves with plastic body

A selection of valves for contaminated, aggressive and corrosive media

Types 2030/3232/2730

Plastic bodies made of high-grade materials such as PVC, PP and PVDF predestine these diaphragm valves in particular for use with aggressive and corrosive media. Accordingly, they are primarily used in chemical engineering, process engineering and water treatment (e.g. in swimming pool technology).

Type 2730 diaphragm positioning valves consist of a plastic body with pneumatic actuator. The actuator is designed so that the stroke can be varied continuously. This allows a favorable characteristic for continuous variation of flow rate.

The valves are controlled with the TopControl Continuous electropneumatic positioner, Type 8630, whose main functional groups are the displacement measuring system, the microprocessor-piloted electronics and the pneumatic actuating system. The actuating system valves are controlled with pulse width modulated voltage.

Actuator				
Size:	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
Material:	PA (polyamide)			
	PPS (polyphenylene sulfide) on request			
Temperature:	Body material		Medium temperature	
			°C	°F
	PVDF		-10...+120	-14...+248
	PVC		-10...+60	-14...+140
	PP		-10...+80	-14...+176
	Actuator size [mm]		Ambient temperature	
			°C	°F
≤ 125 mm		-10...+60	-14...+140	
> 125 mm		-10...+50	-14...+122	
Control function: normally closed by spring force (A)				
normally open by spring force (B)				
double-acting (I)				

Port connection	
Solvent spigot	DN 15 - 50
Fusion spigot	DN 15 - 50
Threaded port	DN 15 - 50
Flange	DN 65 - 100
Other connections on request	



Type 2030
Plastic body

Type 3232, valve bonnet and hand wheel



Material:	hand wheel PPS valve bonnet PPS
On request:	hand wheel PPS valve bonnet stainless steel
	hand wheel stainless steel valve bonnet stainless steel
Option:	lock



Diaphragm

Material:	EPDM
	PTFE/EPDM
	FPM
On request:	CSM
	PSI
	PTFE/FPM
	NBR
	Butyl

Vealve body

Body version:	2-way	
Body material:	PVDF	
	PVC	
	PP	
Nom. diameters: DN [mm]	NPS [inch]	
	15	1/2"
	20	3/4"
	25	1"
	32	1 1/4"
	40	1 1/2"
	50	2"
	65	2 1/2"
	80	3"
	100	4"

Type 2730
Diaphragm positioning valve
Plastic body with TopControl,
Type 8630

Diaphragm valves with stainless steel general-purpose body

Application area: contaminated, abrasive and aggressive media

Types 2031K/3233K

Their general-purpose body (cold-formed pipe) make these stainless steel diaphragm valves particularly economical. Due to the selection of rugged material, they are mainly used where contaminated media need to be controlled and regulated. The hydraulic engineering, sewage and effluent engineering sectors as well as the general mechanical engineering industry trust in the rugged design of these diaphragm valves.

Type 2731K diaphragm positioning valves are made of a stainless steel general-purpose body with pneumatic actuator. The continuous variation in stroke provides a favorable characteristic for the continuous change in flow rate.

The valves are controlled with TopControl Continuous, an electropneumatic positioner, whose numerous software functions enable it to be used as a process controller with PID response.

Actuator			
Size:	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	* PA only
Material:	PA (polyamide)		
	PPS (polyphenylene sulfide) on request		
Temperature:	Diaphragm material	Medium temperature	
		°C	°F
	EPDM or PTFE/EPDM	-10...+130	-14...+266
		Briefly +150	Briefly +302
	Actuator material	Ambient temperature	
	Size [mm]	°C	°F
	PA ≤ 125	-10...+60	-14...+140
	PA > 125	-10...+50	-14...+122
	PPS < 100	+5...+140	+41...+284
	PPS ≥ 100	+5...+90 (Briefly +140)	+41...+194 (Briefly +284)
Control function: normally closed by spring force (A)			
normally open by spring force (B)			
double-acting (I)			

Port connection	
Fusion spigot:	ISO 4200
	DIN 11850, Series 2
	BS 4825
Tri-Clamp®:	on request
	ISO 2852/SMS 3017
	DIN 32676
Threaded port:	BS 4825
	G
	Rc
Flange:	NPT
	DIN EN 1092-1
	JIS and ANSI on request

Type 2731K
Diaphragm positioning valve
Stainless steel general-purpose
body with TopControl,
Type 8630



Type 2031K
Stainless steel
general-purpose body



Type 3233K, valve bonnet and hand wheel



Material:	hand wheel	PPS
	valve bonnet	PPS
	hand wheel	PPS
	valve bonnet	stainless steel
	hand wheel	stainless steel
	valve bonnet	stainless steel
Option:	lock, stainless steel valve bonnet and hand wheel, electropolished	

Diaphragm

Materials:	EPDM
	PTFE/EPDM
	FPM
On request:	CSM
	PSI
	PTFE/FPM
	NBR
	Butyl

Valve body

Body version: 2-way	
Body material: stainless steel 316L; 1.4404	
Nom. diameters: DN [mm] NPS [inch]	
8	1/4"
10	3/8"
15	1/2"
20	3/4"
25	1"
32	1 1/4"
40	1 1/2"
50	2"
65	2 1/2"
80	3"
100	4"

Surface quality

	Ra [µm] inside/outside	Ra [µinch] inside/outside
glass bead blasted	1.6/1.6	64/64

Diaphragm valves with stainless steel investment cast body

Predestined for highly pure, aggressive and abrasive media

Types 2031/3233

These diaphragm valves display their strengths to the fullest in filling and dosing processes in the food industry as well as in both chemical engineering and process engineering. The stainless steel investment cast body covers a wide variety of applications that are characterized by highly pure as well as abrasive and aggressive media.

Type 2731 diaphragm positioning valves are also characterized by the design feature of a stainless steel investment cast body with pneumatic actuator. The advantages of the actuator lies in the possibility of being able to continuously change the stroke in order to create an optimum characteristic for varying the flow rate.

Controlled by the electropneumatic TopControl Continuous positioner, this opens up the option of a process controller with PID response. The software included in the delivery also contains an Autotune function for determining the PID parameters.

Port connection	
Fusion spigot:	ISO 4200
	DIN 11850, Series 0 to 3
	SMS 3008
	BS 4825
	ASME BPE
	JIS
Tri-Clamp*:	ISO 2852/SMS 3017
	DIN 32676
	BS 4825
	ASME BPE
Threaded port connection on request	
Flange on request	
Sterile unions:	
	DIN 11851
	SMS 1145

Type 2031, actuator



Size:	C Ø 40 mm	D Ø 50 mm	E Ø 63 mm
	F Ø 80 mm	G Ø 100 mm	H Ø 125 mm
Material:	PA (polyamide)		
	PPS (polyphenylene sulfide)		
Temperature:	Diaphragm material	Medium temperature	
		°C	°F
	EPDM or PTFE/EPDM	-10...+130	-14...+266
		Briefly +150	Briefly +302
	Actuator material	Ambient temperature	
	Size [mm]	°C	°F
	PA	All	-10...+60
			-14...+140
	PPS	< 100	+5...+140
			+41...+284
	PPS	≥ 100	+5...+90
			(Briefly +140)
			(Briefly +284)
Control function: normally closed by spring force (A)			
normally open by spring force (B)			
double-acting (I)			

Surface quality

	Ra [μm] inside/outside	Ra [μinch] inside/outside
Glass bead blasted	6.3/6.3	250/250
Mechanically polished	1.6/6.3	64/250
Mechanically polished	0.8/6.3	35/250
Electropolish.	0.6/3.2	25/128

Valve bonnet and hand wheel

Material:	hand wheel	PPS
	valve bonnet	PPS
	hand wheel	PPS
	valve bonnet	stainless steel
	hand wheel	stainless steel
	valve bonnet	stainless steel
Option:	lock, stainless steel valve bonnet and hand wheel, electropolished	

Diaphragm

Material:	EPDM
	PTFE/EPDM
	FPM
On request:	CSM
	PSI
	PTFE/FPM
	NBR
	Butyl

Valve body

Body version: 2-way	
Body material: stainless steel 316L; 1.4435	
Nom. diameters:DN [mm]	NPS [inch]
4	—
6	—
8	1/4"
10	3/8"
15	1/2"
20	3/4"
25	1"
32	1 1/4"
40	1 1/2"
50	2"



Type 3232
Stainless steel
investment cast body



Type 2731
Diaphragm positioning
valve
Stainless steel
investment cast body
with TopControl
Type 8630

Diaphragm valves with stainless steel forged body

Extremely suitable for use with aseptic, highly pure and aggressive media

Types 2031/3233

These diaphragm valves are the first choice wherever highly stringent demands are made on material and surface quality. Particularly with highly pure and aseptic media, the body material must comply with unusual quality demands. One important aspect is CIP/SIP cleanability. This requirement, which is applicable to the pharmaceutical, biotechnology and cosmetics industries, is uncompromisingly met by the series of valves described here.

Filling and dosing machines, fermenters and bioreactors are the most frequent fields of application in which the outstanding characteristics of this series of valves come to the forefront. The TopControl Continuous electro-pneumatic positioner, Type 8630, featuring numerous software functions, offers the option of an extended function as process controller. Of course, the PID response is embedded in this, and a special software containing an Autotune function ensures determination of its parameters.

Actuator				
Size:	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	* PA only
Material:	PA (polyamide)			
	PPS (polyphenylene sulfide)			
Temperature:	Diaphragm material		Medium temperature	
	EPDM or PTFE/EPDM		°C	°F
		-10...+130	-14...+266	
		Briefly +150	Briefly +302	
	Actuator material	Size [mm]	Ambient temperature	
			°C	°F
	PA	≤ 125	-10...+60	-14...+140
	PA	> 125	-10...+50	-14...+122
	PPS	< 100	+5...+140	+41...+284
	PPS	≥ 100	+5...+90 (Briefly +140)	+41...+194 (Briefly +284)
Control function: normally closed by spring force (A)				
normally open by spring force (B)				
double-acting (I)				

Port connection	
Fusion spigot:	ISO 4200
	DIN 11850, Series 0 to 3
	SMS 3008
	BS 4825
	ASME BPE
Tri-Clamp*:	JIS
	ISO 2852/SMS 3017
	DIN 32676
Sterile unions:	BS 4825
	ASME BPE
	DIN 11851
	SMS 1145 on request

Surface quality		
	Ra [µm]	Ra [µinch]
	inside/outside	inside/outside
Mechanically polished ¹	0.5/6.3	20/250
Mechanically polished	0.5/1.6	20/64
Electropolished 0.4/3.2	15/128	
Electropolished 0.4/0.8	15/35	
Polished to mirror finish ²	0.25/0.25	10/10
1 inside: mechanically polish./outside glass bead blast. 2 inside: Ra < 0.1 µm/4 µinch/500 grit: on request		
grit # (recommended)		
Ra:	0.8 µm/31.5 µinch ~160 grit	
Ra:	0.5 µm/20.0 µinch ~240 grit	
Ra:	0.4 µm/15.0 µinch ~280 grit	
Ra:	0.25 µm/10.0 µinch ~330 grit	



Type 2731
Diaphragm positioning valve
Stainless steel forged body
with TopControl Typ 8630

Type 3233, valve bonnet and hand wheel



Material:	hand wheel	PPS
	valve bonnet	PPS
	hand wheel	PPS
	valve bonnet	stainless steel
	hand wheel	stainless steel
	valve bonnet	stainless steel
Option:	lock, stainless steel valve bonnet and hand wheel, electropolished	

Valve body

Body version: 2-way

Body material: stainless steel 316L,
ASME BPE $\Delta Fe < 0,5 \%$
DIN 17440 1.4435 BN2

Nom. diameters: DN [mm] NPS [inch]

4	—
6	—
8	1/4"
10	3/8"
15	1/2"
20	3/4"
25	1"
32	1 1/4"
40	1 1/2"
50	2"
65	2 1/2"
80	3"
100	4"

Daiphragm

Materials:	EPDM
	PTFE/EPDM
	FPM
On request:	CSM
	PSI
	PTFE/FPM
	NBR
	Butyl

Type 2031
Stainless steel
forged body



T-valves with stainless steel block body

Valves with special functions for distribution and collection of highly pure media

Types 2032/3234

The use of special steel block material enables manufacturing without welding seams, thus meeting the special valve technology requirements of the pharmaceutical or food industry. Extending beyond collection, distribution and control of highly pure or aseptic media, this valve series also lets samples to be taken at any time.

Actuator						
Size:	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	* PA only, on request	
Material:	PA (polyamide)					
	PPS (polyphenylene sulfide)					
Temperature:	Diaphragm material		Medium temperature			
			°C	°F		
		EPDM or PTFE/EPDM	-10...+130	-14...+266		
			Briefly +150	Briefly +302		
	Actuator material	Size [mm]	Ambient temperature			
			°C	°F		
	PA	≤ 125	-10...+60	-14...+140		
	PA	> 125	-10...+50	-14...+122		
	PPS	< 100	+5...+140	+41...+284		
	PPS	≥ 100	+5...+90 (Briefly +140)	+41...+194 (Briefly +284)		
Control function: normally closed by spring force (A)						
normally open by spring force (B)						
double-acting (I)						

Port connection	
Fusion spigot:	ISO 4200
	DIN 11850, Series 0 to 3
	SMS 3008
	BS 4825
	ASME BPE
	JIS
Tri-Clamp*:	ISO 2852/SMS 3017
	DIN 32676
	BS 4825
	ASME BPE
Sterile unions:	DIN 11851
	SMS 1145 on request

Surface quality		
	Ra [µm]	Ra [µinch]
	inside/outside	inside/outside
Mechanically polished	0.5/1.6	20/64
Electropolished	0.4/0.8	15/35
Polished to mirror finish ¹	0.25/0.25	10/10
¹ inside: Ra < 0.1 µm/ 4 µinch/500 grit: on request		
Grit # (recommended)		
Ra: 0.5 µm/20.0 µinch ~240 grit		
Ra: 0.4 µm/15.0 µinch ~280 grit		
Ra: 0.25 µm/10.0 µinch ~330 grit		

Type 2032
Pneumatically operated T-valve
with zero dead volume, stainless
steel block body



Type 3234, valve bonnet and hand wheel



Material:	hand wheel	PPS
	valve bonnet	PPS
	hand wheel	PPS
	valve bonnet	stainless steel
	hand wheel	stainless steel
	valve bonnet	stainless steel
Option:	lock, stainless steel valve bonnet and hand wheel, electropolished	

Valve body

Body version: T-valve body	
Body material: stainless steel 316L; DIN 17440 1.4435	
Nom. diameters: DN [mm]	NPS [inch]
4	—
6	—
8	1/4"
10	3/8"
15	1/2"
20	3/4"
25	1"
32	1 1/4"
40	1 1/2"
50	2"
On request:	65 2 1/2"
	80 3"
	100 4"

Diaphragm

Materials:	EPDM
	PTFE/EPDM
	FPM
On request:	CSM
	PSI
	PTFE/FPM
	NBR
	Butyl

Bottom exhaust valves with welded stainless steel body

Intended operation purpose: emptying containers and tanks

Types 2033/3235

The valve features a flange for direct welding in containers and tanks and offers optimum functionality for emptying containers and tanks. The special steel material is optimal for use not only in tank construction and plant engineering, but particularly also for containers and tanks in the pharmaceutical and food industry. This valve type is the first choice in applications involving highly pure and aseptic media.

Port connection	
Fusion spigot:	ISO 4200
	DIN 11850, Series 0 to 3
	SMS 3008
	BS 4825
	ASME BPE
	JIS
Tri-Clamp®:	ISO 2852/SMS 3017
	DIN 32676
	BS 4825
	ASME BPE
Sterile unions:	
	DIN 11851
	SMS 1145 on request

Surface quality		
	Ra [μm] inside/outside	Ra [μinch] inside/outside
Mechanically polished	0.5/1.6	20/64
Electropolished	0.4/0.8	15/35
Polished to mirror finish ¹	0.25/0.25	10/10
¹ inside: Ra < 0.1 μm / 4 μinch /500 grit: on request		
Grit # (recommended)		
Ra: 0.5 μm /20.0 μinch ~240 grit		
Ra: 0.4 μm /15.0 μinch ~280 grit		
Ra: 0.25 μm /10.0 μinch ~330 grit		

Type 2033, actuator



Size:	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	* PA only, on request
Material:	PA (polyamide) PPS (polyphenylene sulfide)		
Temperature:	Diaphragm material	Medium temperature °C °F	
	EPDM or PTFE/EPDM	-10...+130	-14...+266
		Briefly +150	Briefly +302
	Actuator material	Ambient temperature °C °F	
	Size [mm]		
	PA ≤ 125	-10...+60	-14...+140
	PA > 125	-10...+50	-14...+122
	PPS < 100	+5...+140	+41...+284
	PPS ≥ 100	+5...+90 (Briefly +140)	+41...+194 (Briefly +284)
Control function:	normally closed by spring force (A) normally open by spring force (B) double-acting (I)		

Type 3235
Manually operated
bottom exhaust valve



Valve bonnet and hand wheel

Material:	hand wheel	PPS
	valve bonnet	PPS
	hand wheel	PPS
	valve bonnet	stainless steel
	hand wheel	stainless steel
	valve bonnet	stainless steel
Option:	lock, stainless steel valve bonnet and hand wheel, electropolished	

Valve body

Body version: stainless steel body, welded

Body material: stainless steel 316L,
 ASME BPE ΔFe < 0.5 %
 DIN 17440 1.4435 BN2

Nom. diameters: DN [mm]	NPS [inch]
8	1/4"
15	1/2"
20	3/4"
25	1"
32	1 1/4"
40	1 1/2"
50	2"
65	2 1/2"
On request:	80
	100
	3"
	4"

Diaphragms

Material:	EPDM
	PTFE/EPDM
	FPM
On request:	CSM
	PSI
	PTFE/FPM
	NBR
	Butyl

Customized welded solutions

Systematic modularity - for highly pure applications

Types 2031/3233

GMP (Good Manufacturing Practice) welded solutions

Bürkert offers customized welded solutions with manually or pneumatically operated valves. All systems are developed allowing for optimum cleanliness (GMP compliance). The dead volumes and number of welding seams are reduced to a minimum.

SAP (Sterile Access Port)

This welded solution is particularly well-suited to sampling media. Other applications include sterilization, condensate drain or CIP cleaning.

Weld ends:

- All standards
- Other ports on request

Surface quality:

Inside and outside up to $Ra \leq 0.25 \mu m$

Body:

Forged body made of stainless steel 316L ASME BPE, other body materials on request.

Required customer specifications

The following specifications are required if ordering a welded solution:

- Number of ports
- Design and dimensions of ports
- Arrangement of valves (angle in relation to each other)
- How the individual valves will be actuated (manually operated or pneumatically operated)



Tandem valve

Customized multifunction blocks

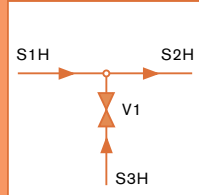
Compact and space-saving valve solutions

Individual valve blocks

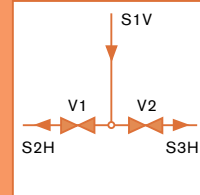
These valve solutions for the aseptic sector are developed with a special CAD system in order to necessitate as little space and dead volume as possible in accordance with customer requirements.

The blocks are made of solid stainless steel (316L), thus allowing a compact design with zero dead volumes and welding seams. A special software package is used to optimize the block design in terms of the flow paths.

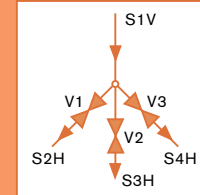
1-way block



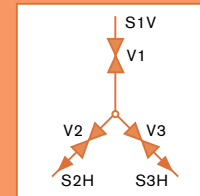
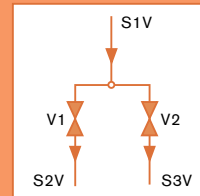
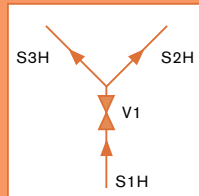
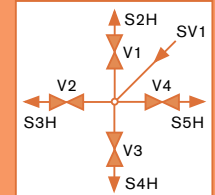
2-way block



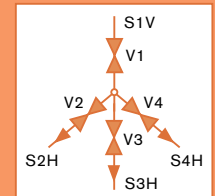
3-way block



4-way block



2-way block with sampling



3-way block with sampling

Port connection:

Weld ends:

All standards, other ports on request.

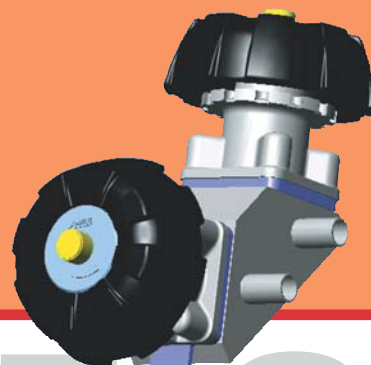
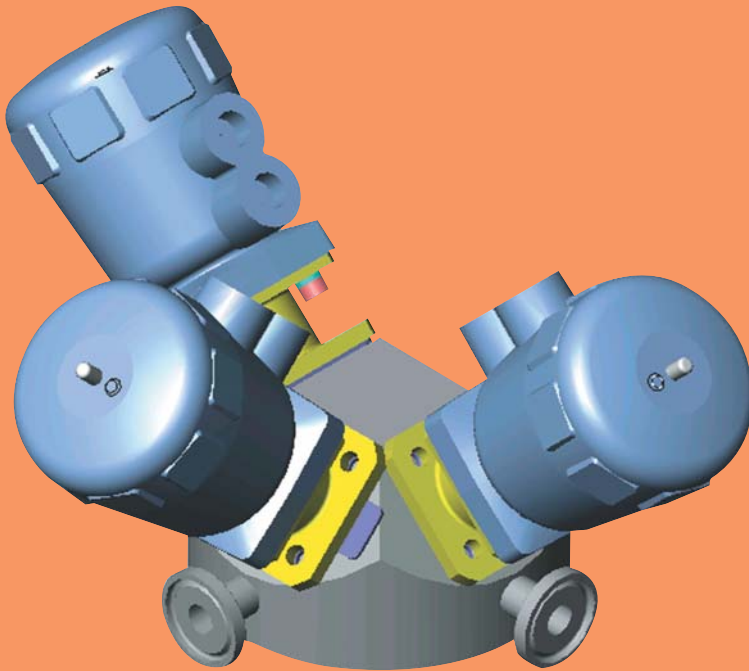
Surface quality:

Inside and outside up to $Ra \leq 0.25 \mu m$.

Required information for development

The following specifications are required if ordering a multifunction block:

- Number of ports
- Design and dimensions of ports
- Location of ports (horizontal or vertical)
- Arrangement of valves (angle in relation to each other)
- How the individual valves will be actuated (manually operated or pneumatically operated)



Distributor or collector manifold

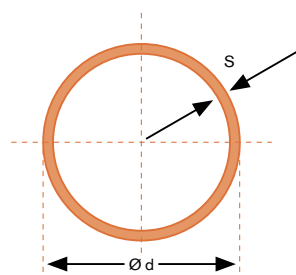
Technical data and further remarks on the range of diaphragm valves

Standards for butt weld

DN	L	ISO 4200		DIN Series 0		DIN 11850						SMS 3008		JIS		DN	L	D1	s	BS 4825	ASME BPE
		D1	s	D1	s	Series 1		Series 2		Series 3		D1	s	D1	s						
4				6																	
6	90			8	1																
8		13.5		10										13.8	1.65	1/4"	78	6.35			0.89
10		17.2		12		13	14					17.3	3/8"	89		9.53					
15	110	21.3	1.6	18	18	19	20					21.7	2.1	1/2"	108	12.7	1.2				
20	119	26.9		22	22	23	24				27.2	3/4"		117	19.0						
25	129	33.7		28	1.5	28	1	29	1.5	30	2	25	1.2	25.4	1.2	1"	127	25.4		1.65	
40	161	48.3	2	40		40		41		42		38		38.1		11/2"	159	38.1			
50	192	60.3		52		52		53		54		51		50.8	1.5	2"	190	50.8			
65	250	76.1	2			70	2					63.5	1.6	63.5	2	2 1/2"	190	63.5		1.65	
80	250	88.9	2.3			85	2					76.1	1.6	76.3	2	3"	250	76.2		1.65	
100	290	114.3	2.3			104	2					101.6	2	101.6	2.5	4"	290	101.6		2.11	

Example, nominal diameter DN 15

JIS 3459	ISO 4200	DIN Series 0	DIN Series 1	DIN Series 2	DIN Series 3	BS-OD Tubing	ASME BPE
ød = 21.7 s = 2.1	ød = 21.3 s = 1.6	ød = 18.0 s = 1.5	ød = 18.0 s = 1.0	ød = 19.0 s = 1.5	ød = 20.0 s = 2.0	ød = 12.7 s = 1.2	ød = 12.7 s = 1.65



For more information on clamp ports, please refer to the individual valve data sheets, which we will be glad to send you on request.

Our reference standards for butt weld

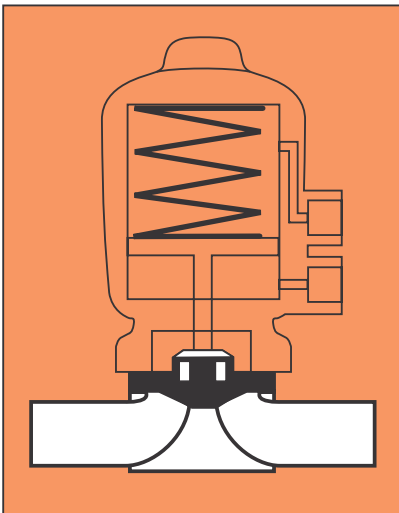
- For investment cast bodies: ISO, SMS and DIN 11850, Series 2
- For forged bodies: ISO, BS 4825 and DIN 11850, Series 2

Clamp or sterile thread ports are manufactured without welding seams, directly from the blank body.

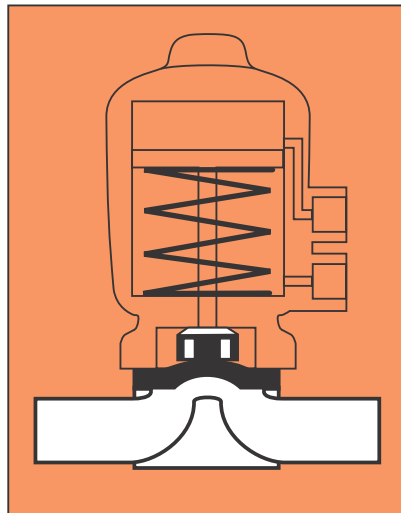
**Pneumatic actuators, Types 2030
and 2031**

Bürkert pneumatic actuators are available in single-acting or double-acting versions. This allows implementation of the following control functions:

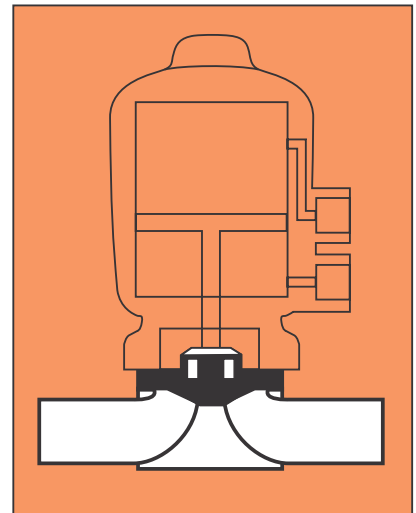
- A** 2/2-way valve normally closed by spring force (NC)
- B** 2/2-way valve normally open by spring force (NO)
- I** 2/2-way valve double-acting (DA)



Control function A



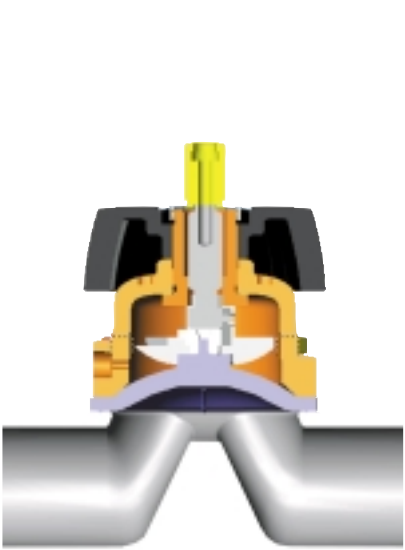
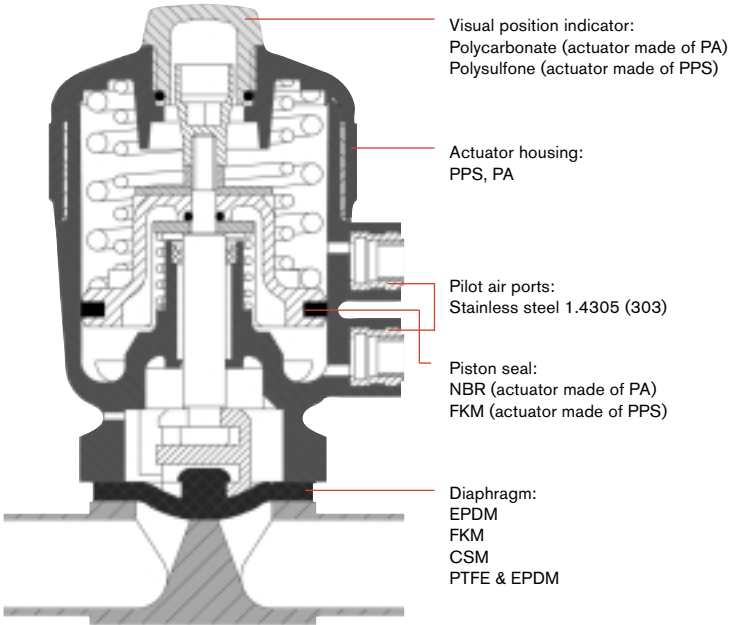
Control function B



Control function I

The compact actuators of the diaphragm valves feature a modern design. PA (polyamide) or PPS (polyphenylene sulfide) are available as materials. A visual position indicator is integrated. The internal structure allows simple conversion to a different control function.

Actuators made of PPS and FKM. Piston seals may be sterilized or autoclaved up to +130 °C. Manually or pneumatically operated valves with PPS actuator may be used for medium temperatures up to +140 °C (depending on the seal material).



Manually operated valve, Type 3233

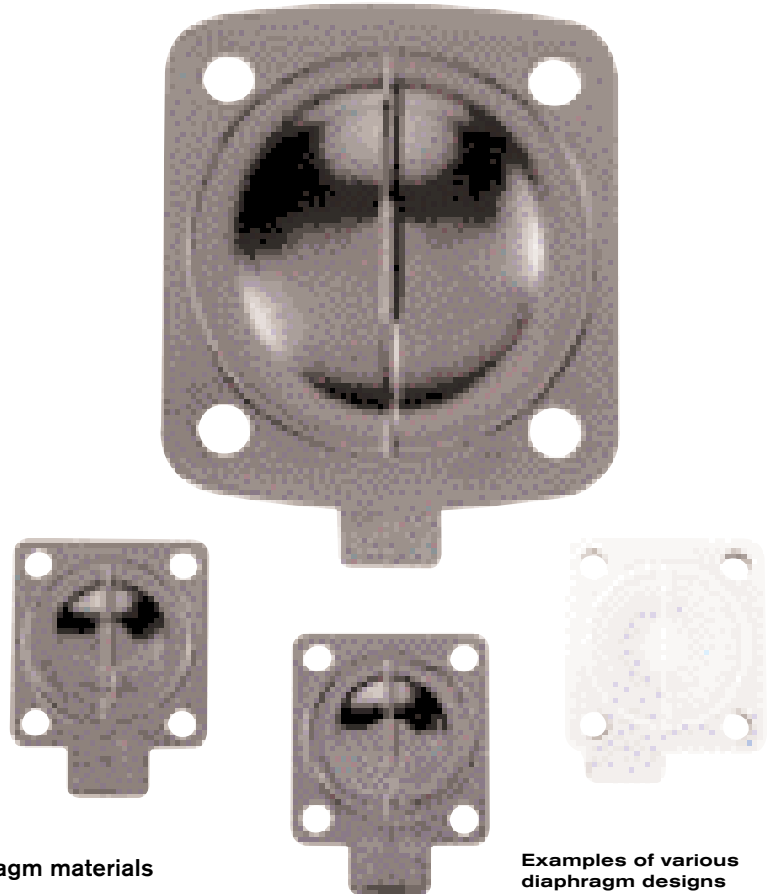


Pneumatically operated T-valve, Type 2032, with intermediate adapter

Diaphragms

The diaphragms developed by Bürkert meet the unique requirements related to hygiene and sterile applications. They feature precise, choice material compositions and high accuracy.

Bürkert diaphragms are available in a broad range of materials that have proven successful in applications in the food and beverage sector, biotechnology and the pharmaceutical and cosmetics industries. The diaphragms are tested during development and production to ensure reliability under difficult process conditions.



Diaphragm materials

- EPDM (ethylene propylene rubber)
- PTFE
- FKM
- CSM
- PSI (silicone)
- PTFE/FPM
- NBR
- Butyl

Examples of various diaphragm designs

Production date verification

All Bürkert diaphragms feature an index showing the date of manufacture. on request, we can issue a certificate in accordance with EN-ISO 10204-3.1B.

Chemical resistance of the diaphragms (selection)

Material	General chemical resistance	Medium temperature range (°C)		Aggressive media Contin. exposure
		Neutral media Contin. exposure	Briefly	
EPDM	Weathering-resistant Excellent ozone-resistance properties Particularly suitable for aggressive media Not resistant to oils and greases	-10 to +130	-10 to +150	Dependent on the aggressivity and chemical composition of the medium
PTFE/EPDM	Very high resistance to chemicals, fuels and solvents High temperature resistance Low coefficient of friction	-10 to +130	-10 to +150	Dependent on the aggressivity and chemical composition of the medium
FPM	Optimum chemical resistance of all elastomers Particularly resistant to ozone, oils and greases	-10 to +150	-10 to +170	Dependent on the aggressivity and chemical composition of the medium

Surface qualities

Using the example of Type 2031/3233 with forged body

High surface quality

Owing to grinding or polishing, the surface is free of shrink-holes, scoring and other roughness phenomena and free of impurities.

Low ferrite content

Virtually ferrite-free alloys prevent contamination which may occur due to the use of cast pipe sections.

Forged bodies

The key to hygiene is the high quality of Bürkert forged bodies. They are manufactured from stainless steel DIN 17440 - 1.4435/ASME BPE 2002 316L or 1.4435 BN2 (with ferrite content < 0.5 %). (low sulfur content)

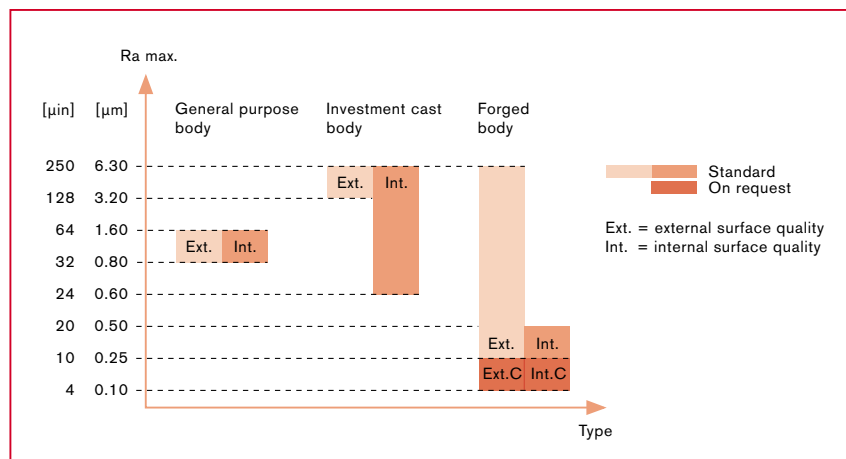
A high surface quality is demanded, particularly in the pharmaceutical and biotechnology industries.

Product benefits

- The high-quality surfaces meet the stringent requirements concerning purity in the processes.
- The surface quality is described by the mean roughness index Ra.

Electropolishing

- 50 % reduction of roughness by smoothing the surface. This also reduces the surface tension
- Increase in corrosion resistance via a high-chromium oxide layer as a protective film
- Optimization of cleanability and sterilizability
- Removal of contamination by lubricants or grain particles
- External appearance enhanced by glossy surface



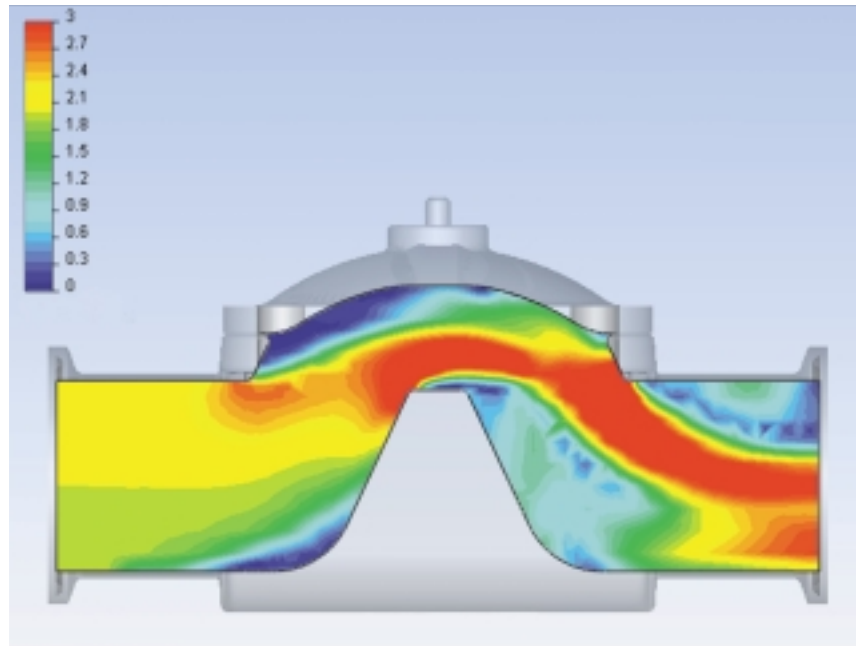
Surface qualities for stainless steel bodies

Flow simulation, flow velocity [m/s]

Valve installation

Optimized flow paths for optimum purity and high flow rate

The aerodynamic design of the bodies allows a high, low-turbulence flow rate. Bürkert valves are designed to enable switching from manual to piston actuator or vice versa without having to remove the valve body from the installation.



Unassembled on request

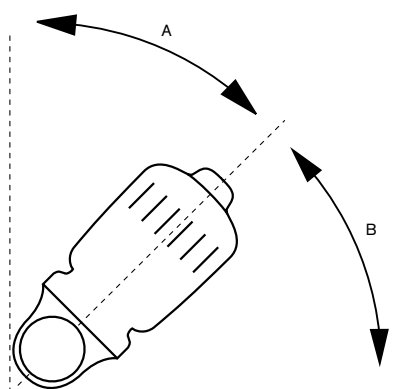
Upon customer request, Bürkert also supplies body, diaphragm and actuator unassembled in a package.

Installation position for self-draining

If the valves are installed as illustrated, the bodies are self-draining. This ensures ideal preconditions for the smooth execution of CIP processes and complies with the stringent purity requirements pertaining to the pharmaceutical, biotechnology, cosmetics and food industries.

Nom. diameter		Angle	
[mm]	[inch]	A	B
8	1/4"	55°	35°
10	3/8"	55°	35°
15	1/2"	64°	26°
20	3/4"	62°	28°
25	1"	67°	23°
40	1 1/2"	67°	23°
50	2"	68°	22°
65	2 1/2"	67°	23°
80	3"	69°	21°
100	4"	70°	20°

Mounting angle for self-drainage



Installation position for self-draining

Quality certificates

The quality of the valves is based on the ISO 9001 standard. Bürkert supplies various certificates or certificates of conformity on request. Here are a few examples:

- Certificate of conformity for raw material pursuant to EN-ISO 10204 3.1.B
- Certificate of compliance pursuant to EN-ISO 10204 2.1
- Work test report pursuant to EN-ISO 10204 2.2
- 3A Certificate of Approval
- Certificate of conformity for passivation and electropolishing
- Test certificate and final assembly certificate of conformity
- Certificates of conformity for surface qualities pursuant to DIN 4762, DIN 4768, ISO/DIS 4287/1
- Certificates of conformity for welds or endoscopy pursuant to RCCM, RSEM, ASME
- ISO 9001 Certificate

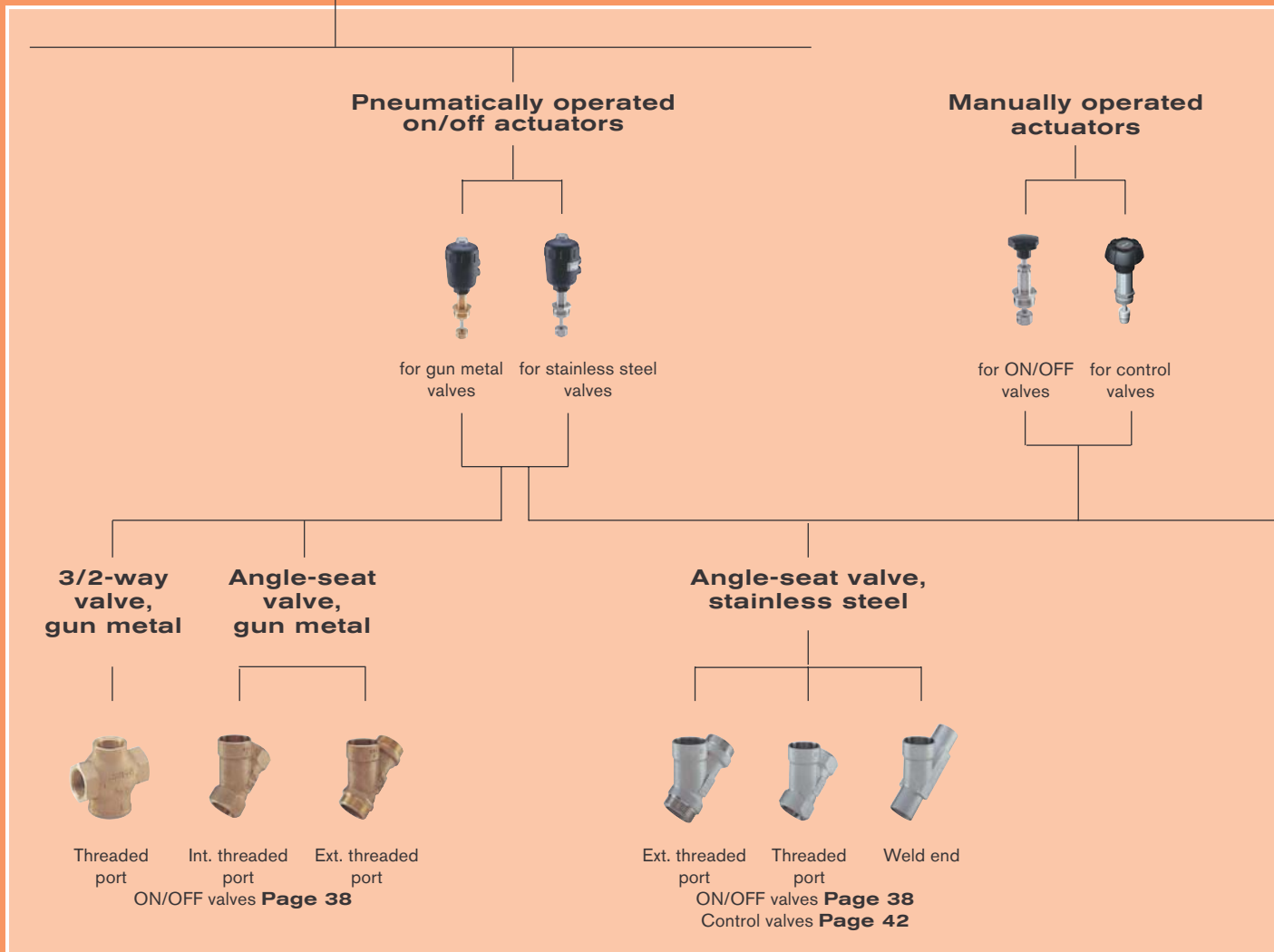
3. Bürkert's range of seat valves

ON/OFF control units

Control heads



Type 8631



Whether high flow rates, seat tightness or functionality for demanding control tasks, the range of seat valves from Bürkert provides the optimum components for any application. Precision and long service life are typical features of this sophisticated technology, which is also "seated" in cost-efficiency.

Control units for process valves

Positioners



Type 8630 Type 1067 Type 8635

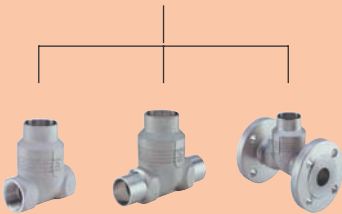
Process control valves

Pneumatically operated control actuator



for control valves

Globe valve, stainless steel






Threaded port Weld end Flange
 ON/OFF valves **Page 40**
 Control valves **Page 44**



Accessories



Type 1060 Type 1062 Stroke limitation Hand wheel

Suitability of valve types for special industries and areas of application

	Shut-off valves	Pilot valve as mixer and distributor	Shut-off valves
	 <p>Type 2000 Type 2002</p> <p>Page 38</p>	 <p>Type 2002</p> <p>Page 38</p>	 <p>Type 2012</p> <p>Page 40</p>
Process engineering			
Pneumatic systems	▪		▪
Heat exchangers	▪	▪	▪
Gas engineering			▪
Food industry			
Auxil. proc. w. steam/cooling water	▪	▪	▪
Gas pressure control			
Medical technology			
Sterilizers and autoclaves	▪		▪
Other applications			
Textile machines	▪	▪	▪
Paper industry	▪		▪
Water treatment	▪	▪	▪
Vacuum installations	▪		
Pneumatic conveyor systems			
General steam applications	▪		▪
Plant engineer., mechanical engineer.	▪	▪	▪

	Low-cost control valves for simple tasks	Control valves for high-end tasks
	 <p>Type 2702 with positioner Type 1067</p> <p>Page 42</p>	 <p>Type 2712 with positioner Type 8630 or Type 8635</p> <p>Page 44</p>
Process engineering		
Pneumatic systems		▪
Heat exchangers	▪	▪
Gas engineering		▪
Food industry		
Auxil.proc. w. steam/cooling water	▪	▪
Gas pressure control		▪
Medical technology		
Sterilizers and autoclaves	▪	▪
Other applications		
Textile machines	▪	▪
Paper industry		▪
Water treatment		▪
Vacuum installations		▪
Pneumatic conveyor systems		▪
General steam applications	▪	▪
Plant engineer., mechanical engineer.	▪	▪

SEAT VALVES

Angle-seat valves with gun metal or stainless steel body

General-purpose valves

Type 2000/2002

The valve body in this series is optimized for high flow values. The articulated disk and a self-readjusting packing gland also achieve excellent seat tightness. The valves are used in virtually all sectors of mechanical engineering, while the 3/2-way version is recommended for mixing and distribution of media, particularly for use in filling processes in the food industry and breweries.

Pneumatic actuator	
Size:	C Ø 40 mm
	D Ø 50 mm
	E Ø 63 mm
	F Ø 80 mm
	G Ø 100 mm
	H Ø 125 mm
Material:	PA (polyamide)
	PPS (polyphenylene sulfide)
Control function:	normally closed by spring force (A)
	normally open by spring force (B)
	double-acting (I) on request

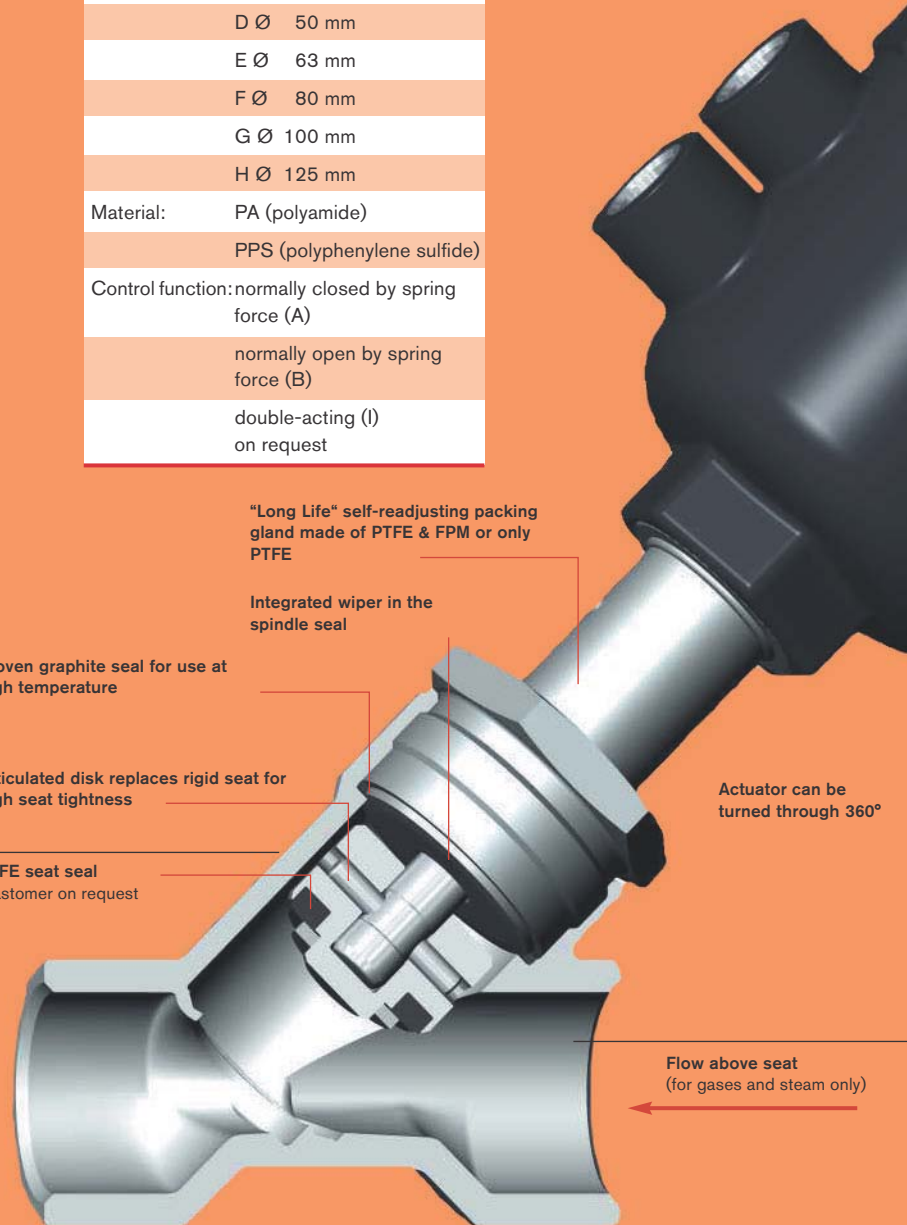
Valve
Materials:
Gun metal (threaded port version)
Stainless steel investment cast 316L (Threaded port and weld end versions)
Port connection:
Threaded port G, NPT and Rc DN 13 - DN 65 (3/8 - 2 1/2")
Weld end according to ISO 4200, DIN 11850 Series 2, BS4825, ASME BPE DN 15 - DN 50 (1/2 - 2")
Nominal pressure PN 25

Operating conditions
(depending on application)
Medium temperature: -10 to max. +180° C
Ambient temperature:
PA actuator -10 to max. +60 °C
PPA actuator +5 to max. +90 °C
Medium pressure: up to max. 16 bar

Flow below seat
(for gases and liquids)



Flow above seat
(for gases and steam only)



High flow rates (kv value) due to optimized valve body

Visual position indicator is integrated as a standard feature

Safe opening of actuator due to the spring relief



Simple conversion within the control functions

Minimized volume in actuator
Low pilot air consumption
Reduction in opening beat

Broad actuator variety with actuator size/DN combination
Optimum operating data
Optimum price/performance ratio

Manual actuator



Materials:

Metallic components: stainless steel 1.4401

Spindle seal: PTFE

Seat seal: PTFE

Valve size: DN 13 - DN 50

3/2-way version



Actuator size:

D Ø 50 mm E Ø 63 mm

F Ø 80 mm H Ø 125 mm

Actuator materials:

PA (polyamide)

PPS (polyphenylene sulfide) on request

Control function:

Mixer, distributor, various circuit functions via appropriate connection of the ports

Body material: gun metal

Port connection:

Threaded port G1/2 - 2 (DN 13 - DN 50)

Globe valves with stainless steel body

Compact valves with a variety of port connections

Type 2012

The stainless steel body achieves a high resistance to diverse media, particularly with steam applications. Accordingly, the optimum site of operation for these valves is in demanding applications, e.g. in the textile industry and food industry (packaging machines) as well as in plant engineering and environmental engineering. With nominal pressure PN 25, the diversity of (even customized) connection variants opens up a broad spectrum of applications for virtually any process in which the special qualities of a globe valve are crucial.

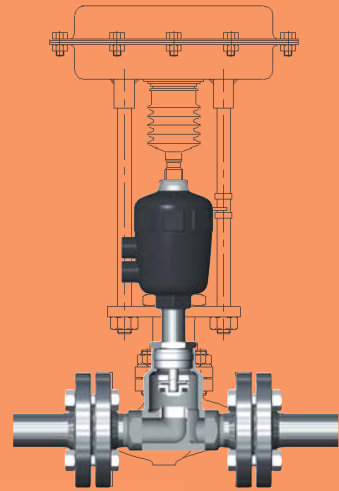
Pneumatical actuator	
Size:	C Ø 40 mm
	D Ø 50 mm
	E Ø 63 mm
	F Ø 80 mm
	G Ø 100 mm
	H Ø 125 mm
	K* Ø 175 mm
	L*Ø 225 mm (*PA only)
Material:	PA (polyamide)
	PPS (polyphenylene sulfide)
Contr. function:	normally closed by spring force (A)
	normally open by spring force (B)
	double-acting (I) on request

Valve
Material:
Special steel investment cast 316L
Port connection:
Flange according to DIN EN 1092-1 ANSI B16.5, JIS B2238 DN10 - DN100 (3/8 - 4")
Weld end in according to ISO 4200, DIN 11850, Series 2, BS4825, ASME BPE DN 10 - DN 100 (3/8 - 4")
Threaded port G, NPT and Rc DN 10 - DN 65 (3/8 - 2 1/2")
Nominal pressure PN 25

Operating conditions
(dependent on application)
Medium temperature: -10 to max. +180 °C
Ambient temperature:
PA actuator: -10 to max. +60 °C (Actuator size F Ø 80 mm to H Ø125 mm)
PA actuator: -10 to max. +50 °C (Actuator size K Ø 175 mm u. L Ø 225 mm)
PPS actuator: +5 to max. +90° C
Medium pressure: up to max. 16 bar

Flow below seat
(for gases and liquids)





Broad actuator diversity with actuator size/DN valve combination
 Optimum operating data
 Optimum price/performance ratio

Visual position indicator is integrated as a standard feature

Simple conversion within the control functions

Safe opening of actuator due to spring relief

Minimized volume in actuator
 Low pilot air consumption
 Reduction in opening beat



Actuator can be turned through 360°

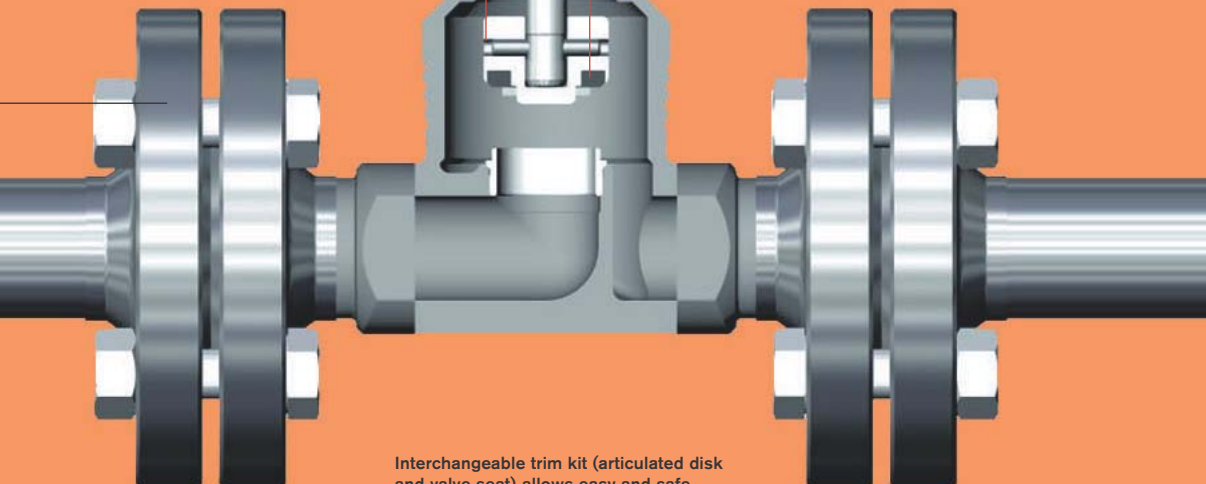
Integrated wiper in the spindle seal

"Long Life" self-readjusting packing gland made of PTFE

Articulated disk replaces rigid seat for high seat tightness

Proven graphite seal for use at high temperature

PTFE seat seal
 Elastomer on request



Flow above seat
 (for gases and steam only)

Interchangeable trim kit (articulated disk and valve seat) allows easy and safe maintenance

SEAT VALVES

Angle-seat control valves for simple tasks

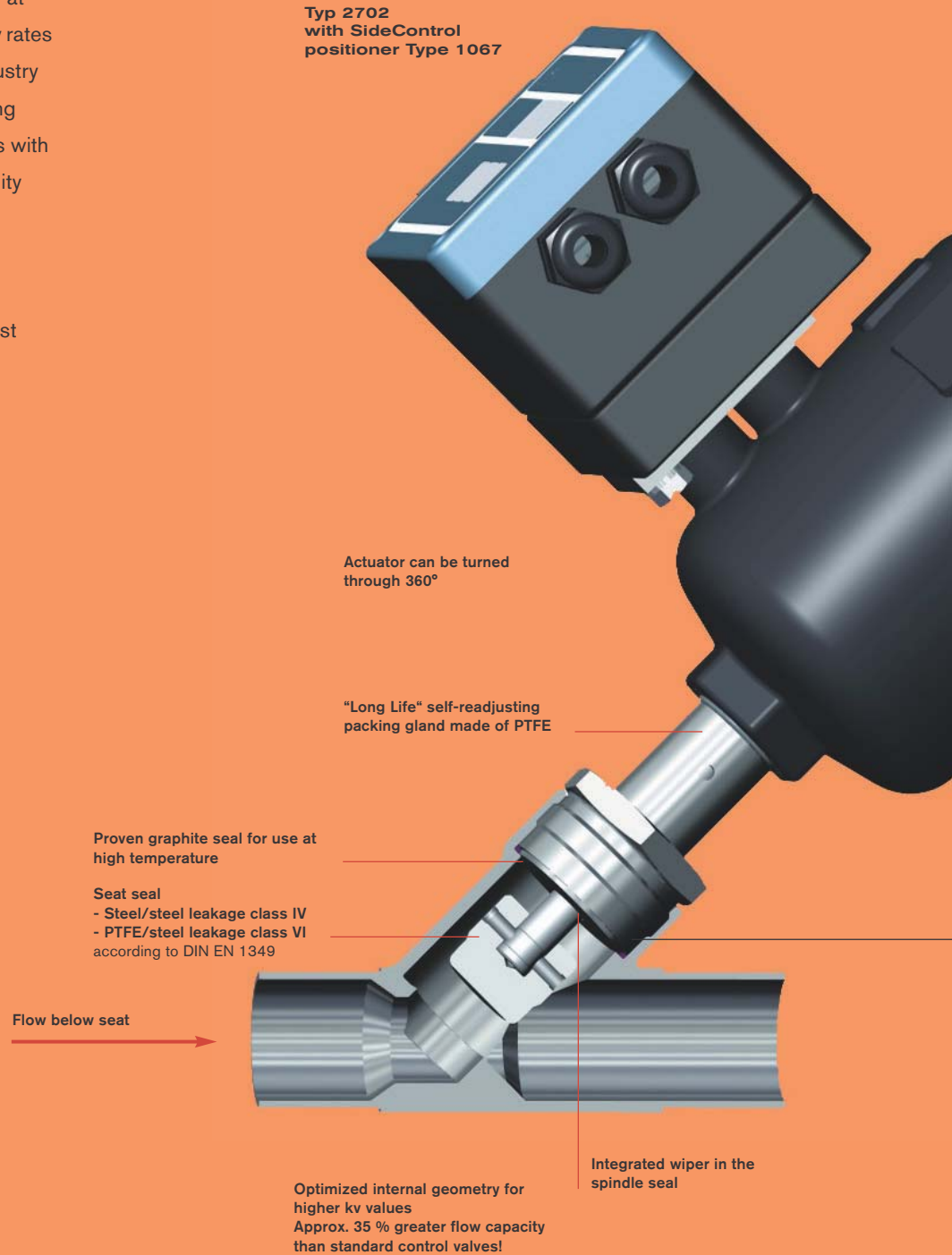
An cost effective solution with guaranteed Bürkert quality

Type 2702

These angle-seat valves perform their function with maximum efficiency at minimum cost, wherever high flow rates are required, e.g. in the food industry or general mechanical engineering sector. The valve series convinces with its virtually unbeatable price/quality ratio.

The control valve and positioner form a Bürkert system, which must be ordered as a complete unit.

Typ 2702
with SideControl
positioner Type 1067





Optimized control actuator

Operating conditions
Medium temperature: -10 bis max. +180° C
Ambient temperature: -10 bis +60 °C
High-temperature version on request
Medium pressure: up to max. 16 bar

Pneumatic actuator	
Size:	F Ø 80 mm G Ø 100 mm
Material:	PA (polyamide) PPS (polyphenylene sulfide)
Control function:	normally closed by spring force (A) normally open by spring force (B)

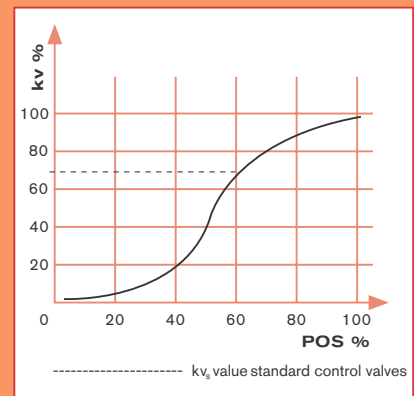
Valve	
Material:	Stainless steel investment cast 316L
Port connection:	Threaded port G, NPT and Rc DN 10 - DN 50 (3/8 - 2")
	Weld end in according to ISO 4200, DIN 11850, Series 2, BS4825, ASME BPE DN 10 - DN 50 (3/8 - 2")
	Nominal pressure stage PN 25

The kv value is a reference variable and is defined as follows: kv value = quantity in m³/h of cold water (+5 ... +35 °C) which flows through the valve at 1 bar differential pressure across the valve and at defined stroke.

The kv_s value is the flow coefficient at stroke s = 100 % (valve fully open).

Analogous to this, the flow-rate coefficient cv is described in the American literature and defined as follows: the cv value (in US gal/min) is the flow rate of water at 60 °F which passes through at a pressure loss of 1 psi with the relevant stroke.

Flow characteristic



SEAT VALVES

Globe control valves for high-end tasks

An ultra-compact series for a variety of applications

Type 2712

These valves continually prove their worth. Not only because of the control actuator with twin guide for even more precise control, but also due to their control option for highly precise position and process control (PID controller) with the TopControl or SideControl positioner, designed for demanding control tasks with stringent control quality requirements.

The control valve and positioner form one Bürkert System, which must be ordered as a complete unit.

Pneumatic actuator	
Size:	F Ø 80 mm
	G Ø 100 mm
	H Ø 125 mm
	K*Ø 175 mm
	L*Ø 225 mm (*PA only)
Material:	PA (polyamide)
	PPS (polyphenylene sulfide)
Contr. function:	normally closed by spring force (A)
	normally open by spring force (B)

Valve
Material:
Stainless steel investment cast 316L
Port connection:
Flange in according to DIN EN 1092-1, ANSI B16.5, JIS B2238 DN 10 - DN 100 (3/8 - 4")
Weld end in according to ISO 4200, IN 11850, Series 2, BS 4825, ASME BPE DN 10 - DN 100 (3/8 - 4")
Threaded port G, NPT and Rc DN 10 - DN 65 (3/8 - 2 1/2")
Customized port on request
Nominal pressure PN 25

Type 2712 with SideControl positioner Type 1067



Type 2712 with SideControl positioner Type 8635



Flow below seat



Operating conditions

Medium temperature: -10 to +180° C

Ambient temperature:

-10 to +60 °C

(Actuator size F Ø 80 mm to HØ125 mm)

-10 to +50 °C

(Actuator size K Ø 175 mm and L Ø 225mm)

High temperature version on request

Medium pressure: up to max. 16 bar

Type 2712
with SideControl
positioner Type 8630



Optimized control actuator

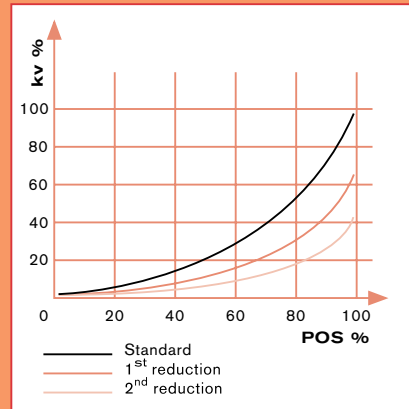
Actuator can be turned
through 360°

Seat seal
- Steel/steel leakage class IV
- PTFE/steel leakage class VI
according to
DIN EN 1349

Proven graphite seal for use at
high temperature

"Long Life" self-adjusting packing
gland made of PTFE

Integrated wiper in the
spindle seal



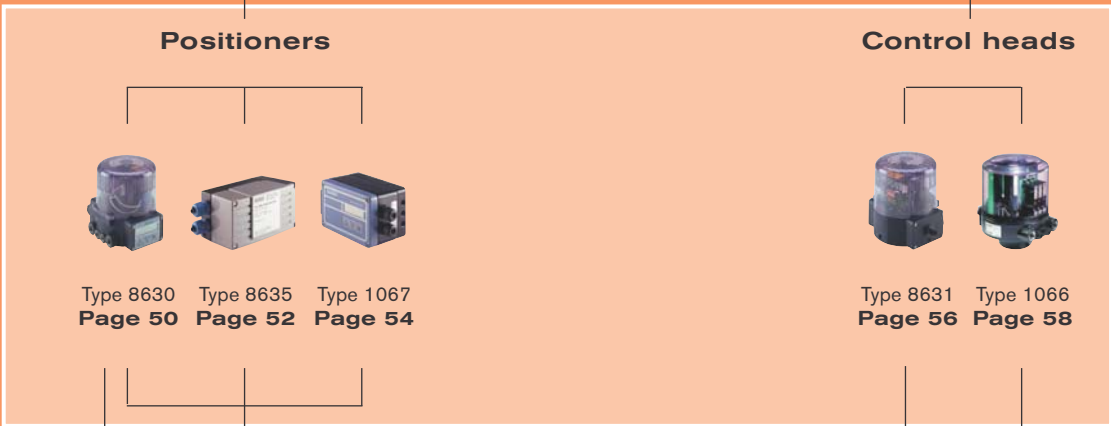
Flow characteristic
3 kv_s values per body size as standard feature

Reliable and detachable control plug
coupling
Screwed-in valve seat
Simple trim kit (plug/seat) exchange
Simple change to other kv_s values

SEAT VALVES

4. Bürkert's range of positioners and control heads

Control units for process valves



Pneumatically operated control valves

Pneumatically operated ON/OFF valves



Bürkert not only specializes in valve construction, but also in the know-how required for its automation and supplies a complete range of positioner and control head equipment. We offer complete systems of intermatched process valves and integrated automation solutions. The modular design of positioners and control heads allows individualized solutions with an optimum price/performance ratio.

POSITIONERS

Typical application fields of Bürkert positioners and control heads

	Positioner	Positioner	Positioner
	 <p>Type 8630 Page 50</p>	 <p>Type 8635 Page 52</p>	 <p>Type 1067 Page 54</p>
Process engineering			
Pneumatic systems	▪	▪	▪
Heat exchangers	▪	▪	▪
Gas engineering	▪	▪	▪
Intrinsically safe applications		▪	
Food industry			
Auxil. proc.: steam, water, cooling	▪	▪	▪
Gas pressure control	▪		▪
Flow rate a. pressure contr. in the proc.	▪		
Cleaning	▪		▪
Pharmaceutical industry			
Auxil. proc.: steam, water, cooling	▪	▪	▪
Gas pressure control	▪	▪	▪
Cleaning	▪	▪	▪
Intrinsically safe applications		▪	
Medical technology			
Sterilizers and autoclaves	▪		▪
Plant engineering			
Textile machines	▪	▪	▪
Paper industry	▪	▪	▪
Water treatment	▪	▪	▪
Vacuum installations	▪	▪	▪
Pneumatic conveying	▪		
General steam applications	▪	▪	▪
Mechanical engineer., plant engineer.	▪	▪	▪

	Control head	Control head
	 <p>Type 8631 Page 56</p>	 <p>Type 1066 Page 58</p>
Food industry		
Product control	▪	▪
Auxiliary processes: steam, water	▪	▪
Cleaning	▪	▪
Pharmaceutical industry		
Product control	▪	▪
Cleaning	▪	▪
Intrinsically safe applications	▪	
Plant engineering		
Paper industry	▪	▪
Mechanical engineer., plant engineer.	▪	▪

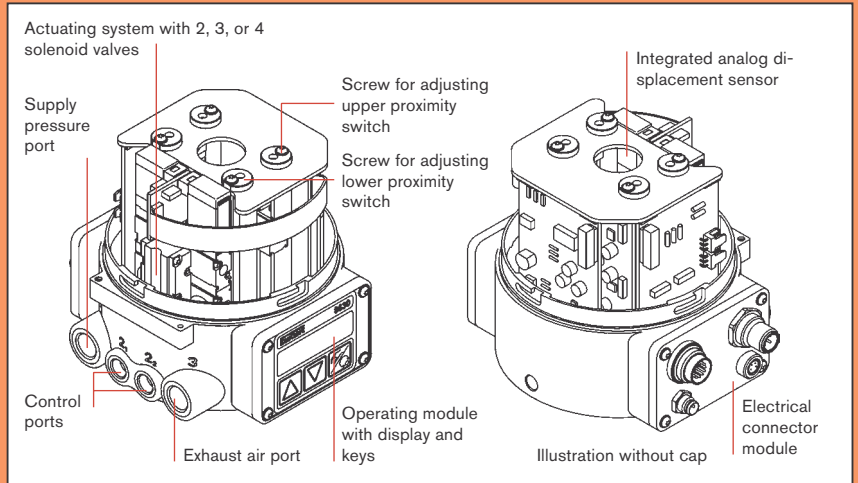
Positioner

Type 8630 TopControl Continuous

Digital electropneumatic positioner

The TopControl Continuous positioner, Type 8630, is used for electropneumatic position control of pneumatically operated positioning valves. These include e.g. valves in series 2712, 2700, 2730 and 2731 as well as both ball valves and butterfly valves.

Signal processing, closed-loop control and control of the internal actuating system are performed via micro-processor-controlled electronics. The implemented X-TUNE software function allows automatic adjustment of the positioner to the control valve being used. Programming and operation are conveniently executed via three operating keys and the plain text display or via the PROFIBUS DP or DeviceNet field bus interfaces.



Subassemblies TopControl Continuous, Type 8630

The TopControl Continuous can be equipped with a process controller with PID response in order to implement a distributed control. In this case, a process control loop is superimposed on the position control loop in a cascade structure.



DeviceNet™

The process controller can be programmed automatically with the aid of the P.CO-TUNE software function.

Type 8630 with globe control valve, Type 2712



Type 8630 with sterile control valve

Distributed process control loop using optional PID controller integration





Features of TopControl Continuous, Type 8630

Compact design for mounting on reciprocating piston or reciprocating spindle actuators.

All moving components for stroke feedback are protected by integrating them into the housing.

Communication can be performed using PROFIBUS DP/DPV1 or DeviceNet.

Set-point presetting via standard voltage or current signal (0(5)...10 V, 0(4)...20 mA).

The process controller (PID) with automatic programming, optionally integrated, enables implementation of distributed process control loops at low cost.

The input signals for the actual process frequency or PT100 value allow use of simple sensor systems without transmitter.

Adjustment to actuator's volume is performed by various pneumatic air rates.

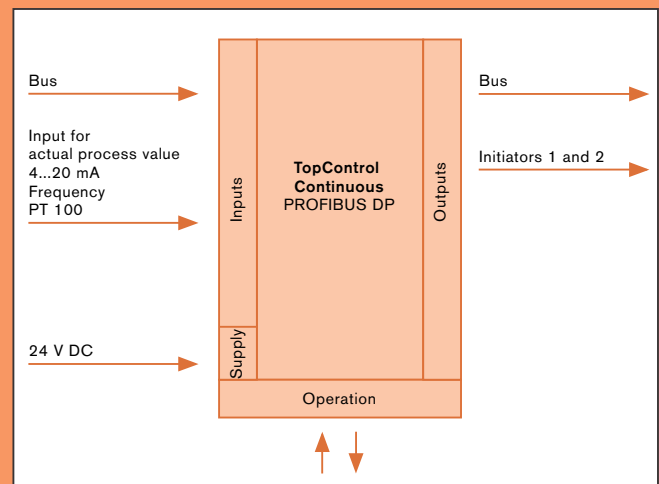
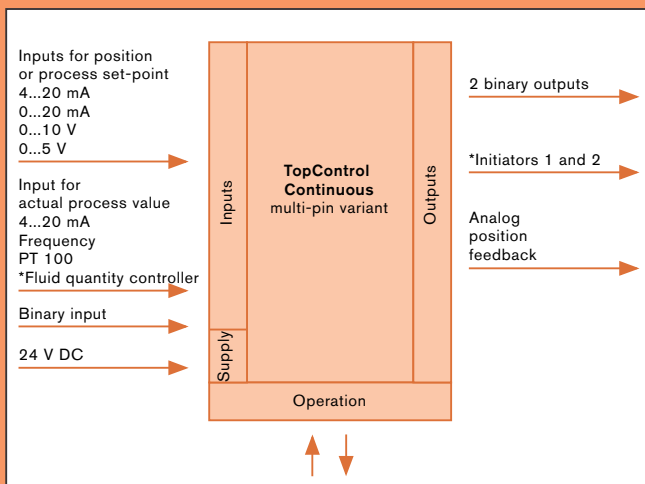
The pneumatic actuating system does not have its own air consumption.

Optionally, up to two initiators can be integrated as limit switches.

Manageable and clearly structured operating concept featuring extensive software functionality.

Operation and software structure are identical to that of positioners Type 8635 and Type 1067 SideControl.

Interfaces, Type 8630 TopControl Continuous



Positioner

Type 8635 SideControl S/HART/PROFIBUS PA

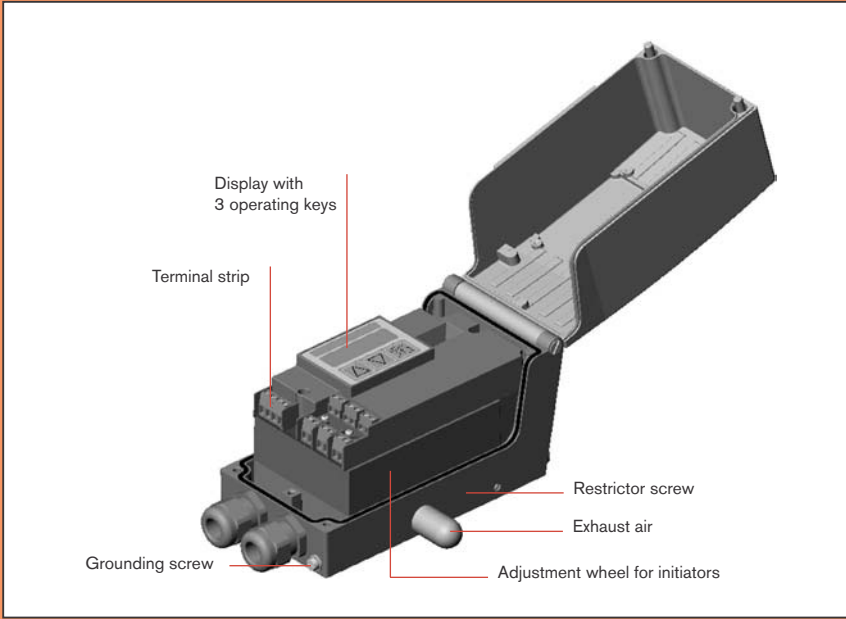
Digital electropneumatic positioner for pneumatically operated process valves with reciprocating or rotary actuators

The SideControl positioner, Type 8635 S/HART or 8635 PA, is an electropneumatic positioner for pneumatically operated process valves with reciprocating or rotary actuators. The unit is designed on the basis of a two-wire circuit. The 4 to 20 mA input signal simultaneously serves to transfer the set-point and power the unit. Alternatively, communication may be performed via HART protocol or PROFIBUS PA. The unit is optionally available with intrinsic safety approval (EEx ia) for use in explosion-hazard areas (Zone 1) in accordance with ATEX.

Signal processing, closed-loop control and control of the internal actuating system are performed by microprocessor-controlled electronics. The implemented X-TUNE software function allows automatic adjustment of the positioner to the control valve being used. Programming and operation are conveniently executed using three operating keys and the plain text display or via the HART protocol or PROFIBUS PA. The SideControl S/HART can be equipped with a process controller with PID response for implementing distributed control. In this case, a process control loop is superimposed on the position control loop in a cascade structure.

The compact and rugged body makes it suitable for use in the chemical engineering and process engineering sectors.





Features of Type 8635 SideControl S/HART/PA

The electronics system is designed on the basis of a 2-wire circuit: power supply via 4...20 mA signal or PROFIBUS PA.

Optional EEx ia IIC T4/T5/T6 (intrinsic safety) in accordance with ATEX.

Distributed control loops can be implemented if the integrated process controller with PID controller structure is selected.

Setting of the process controller parameters can be automated (S/HART).

Easy usage in rough environments is ensured by the rugged design of the hard-coated and plastic-coated body and the design of the electronic components.

Display and operating buttons are protected in the body.

Standard NAMUR and DIN IEC mounting on reciprocating and rotary actuators and on Bürkert control valves.

Up to 2 initiators can be optionally integrated as limit switches, independent of the electronics.

The pneumatic actuating system features a high air rate (55...170 NI/min), without an air consumption of its own.

A restrictor screw can be utilized to adjust the air rate to the actuator being used.

Purging the body with clean air prevents condensate formation and penetration of ambient atmosphere into the body.

A pressure gauge block indicating supply and/or chamber pressure, made fully of SS, can be mounted on.

The operating concept and software structure are analogous to those of positioners Type 1067 SideControl and Type 8630 TopControl Continuous.

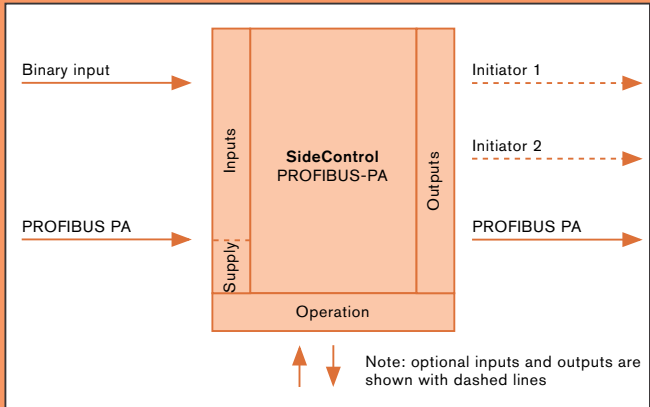
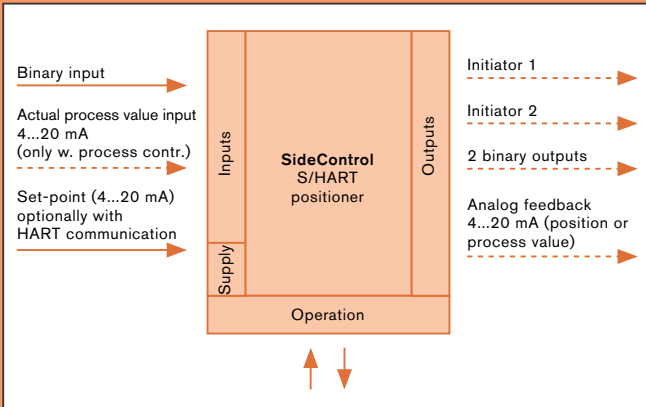
Type 8635 with globe control valve, Type 265



Type 8635 with rotary actuator



Interfaces, Type 8635 SideControl



Positioner

Type 1067 SideControl

Digital electropneumatic positioner for pneumatically operated process valves with reciprocating or rotary actuators

The SideControl positioner, Type 1067, is used for electropneumatic position control of pneumatically operated positioning valves. The options for attachment to Bürkert process valves, reciprocating and rotary actuators in accordance with IEC 534 and VDI/VDE 3845 as well as the coupling with remote displacement sensor or pneumatic actuating system enable the SideControl to be used in many areas. The compact design of the aluminum body and the availability of variants with low air rate also allow mounting on positioning valves with small nominal diameters.

The microprocessor-controlled electronics system performs the tasks of signal processing, closed-loop control and control of the pneumatic actuating system. Extensive software functionalities are incorporated which provide user-friendly menus and operator prompting. Programming and operation are conveniently executed via external operating keys and the plain text display. Adjustment to the control valve being used is automatically performed at the touch of a button.

The integrated PID controller can be activated in order to implement a distributed process control loop. This controller is superimposed onto the position control loop in a cascade structure. The process set-point can be preset directly on the unit or externally via a standard signal.



Features, Type 1067 SideControl

Compact body made of rugged aluminum.

Integrated process controller (PID) allows implementation of distributed control loops optionally combined with analog feedback for central detection or evaluation.

Clear operation due to plain text display and three-section keypad.

Standard NAMUR and DIN IEC mounting on reciprocating and rotary actuators and on Bürkert control valves.

For reasons relating to accessibility or difficult ambient conditions, a remote version can be used (remote from the positioning valve).

The pneumatic actuating system does not have its own air consumption.

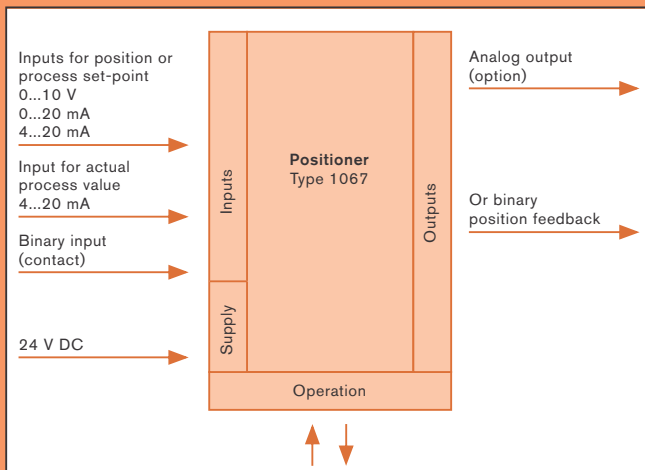
Owing to differing air rates, the positioner can be optimally matched to the actuator volume.

The pneumatic actuating system can also be manually operated as an emergency function or for commissioning.

Position feedback can be integrated as an option.

The operating concept and software structure are analogous to those of positioners Type 8635 SideControl and Type 8630 TopControl Continuous.

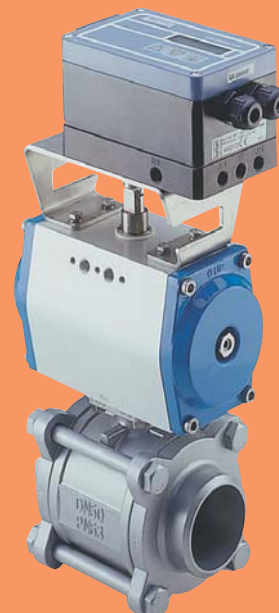
Interfaces, Type 1067 SideControl



Type 1067 with globe control valve, Type 265



Type 1067 with angle-seat control valve, Type 2702



Type 1067 with rotary actuator

POSITIONERS

Control head Type 8631 TopControl ON/OFF

Control head optimized for Bürkert process valves

The Type 8631 TopControl ON/OFF control head performs the task of completely automating pneumatically operated process valves with reciprocating actuators. The mechanical connection is specially designed for mounting on Bürkert valves in the 2000, 2012, 2030, 2031, 2652, 2655, 2672 and 2675 series. Mechanical mounting and pneumatic coupling to the process valve result in a unit that is both visually and functionally compact.

Depending on the expansion stage of the control head, electrical and pneumatic control components, position feedback units and a field bus interface for AS-Interface or DeviceNet are integrated.

Possible scope of functions

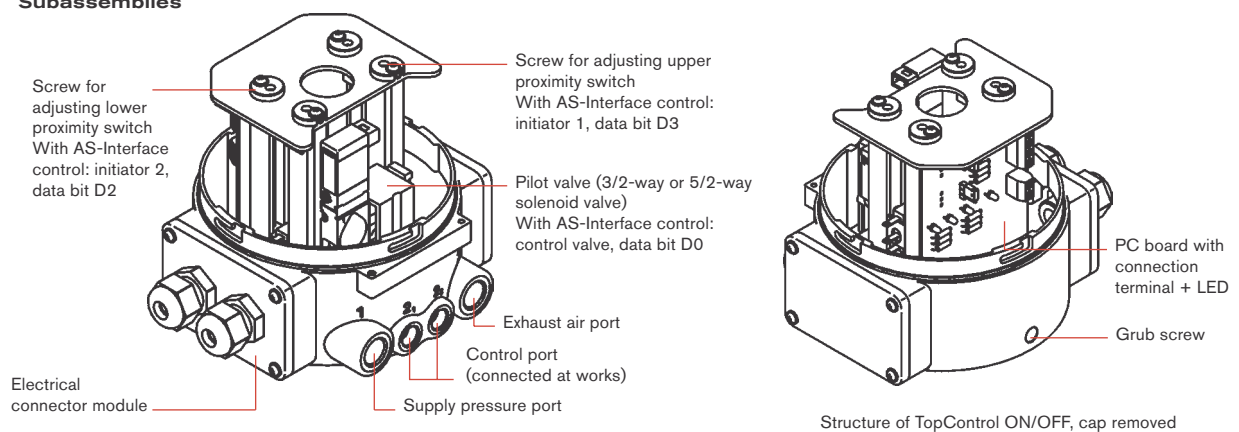
- Control of process valves
 - single-acting/double-acting
 - with external pneumatic control
- Position feedback with maximum 2 height-adjustable inductive limit switches or 2 micro limit switches
- Electrical control of the control head, optionally via multi-pin (parallel wiring) or field bus interface (AS-Interface or DeviceNet)
- Burst protection with relief valve



DeviceNet.



Subassemblies





Features of Type 8631 TopControl On/Off

Highly modular equipment concept from the simple feedback unit up to the communications-enabled control head.

Optionally available with AS-Interface or DeviceNet communication.

AS-Interface profile
S-D.F.F (max. 31 slaves per line) or
S-D.A.E (max. 62 slaves per line).

The electronic components of the communication module can be fully encapsulated as an option.

Visual indicator for valve position, pilot valve control, power supply and bus status.

Resistance to cleaning agents due to superior quality body materials.

Compact and rugged device design.

Manual actuation of the pneumatic pilot valves allows manual valve actuation in the field.

Cap can be protected against unauthorized opening by lead sealing or screw attachment.

Easy adjustment to the actuator.

Rotatability allows user-friendly alignment of the control head on the valve.

Optionally available with protection type II 2 G EEx ia (intrinsically safe) in accordance with ATEX for use in explosion-hazard areas.

Use of integrated field bus interface substantially reduces wiring and hose connections.



Type 8631 EEx ia



Type 8631 with angle-seat valve, Type 2000

Automation of food valves



POSITIONERS

Control head Type 1066

Control head for pneumatically operated process valves

The Type 1066 control head is used to conveniently control pneumatically operated process valves with reciprocating actuators. The design and scope of functions meet the special requirements of hygienic and sterile valve and plant engineering in the food-stuffs, beverages, pharmaceuticals, cosmetics and biotechnology industries.

Electrical and pneumatic control components as well as position feedback units and, optionally, field bus interfaces for AS-Interface or DeviceNet, are integrated into the control head.

Scope of functions

- Control of process valves
 - single-acting and double-acting
 - with 2 and 3-position actuator

- with additional synchronization for multifunction actuator

- with external pneumatic control

- Position feedback with max. 3 height-adjustable inductive limit switches or 2 micro limit switches
- Electrical control of control head, optionally via multi-pin (parallel wiring) or field bus interface (AS-Interface or DeviceNet)
- Burst protection with relief valve



DeviceNet.



Features of Type 1066 control head

Highly modular equipment concept from the simple feedback unit up to the communications-enabled control head.

Optional AS-Interface or DeviceNet communication.

AS-Interface profile
S-D.F.F (max. 31 slaves per line) or
S-D.A.E (max. 62 slaves per line).

The electronic components of the communication module are encapsulated.

Resistance to cleaning agents due to superior quality body materials.

Compact and rugged device design.

Manual actuation of the pneumatic pilot valves allows manual valve actuation in the field.

Version with high pneumatic air rate for very large actuator volumes.

Cap can be protected against unauthorized opening by lead sealing or screw attachment.

Visual indicator for valve position, pilot valve control, power supply and bus status.

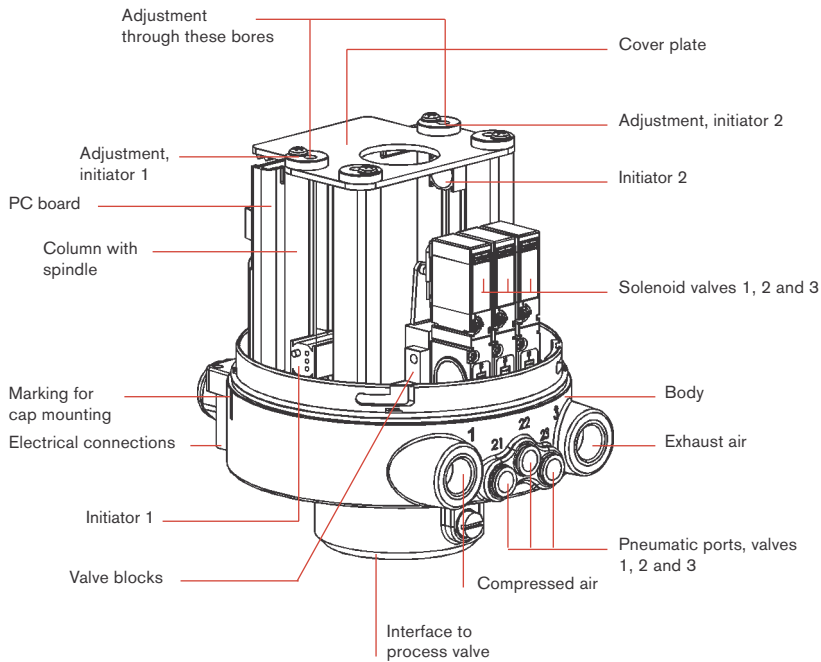
Very broad detectable stroke range.

Easy mechanical adjustment to the actuator.

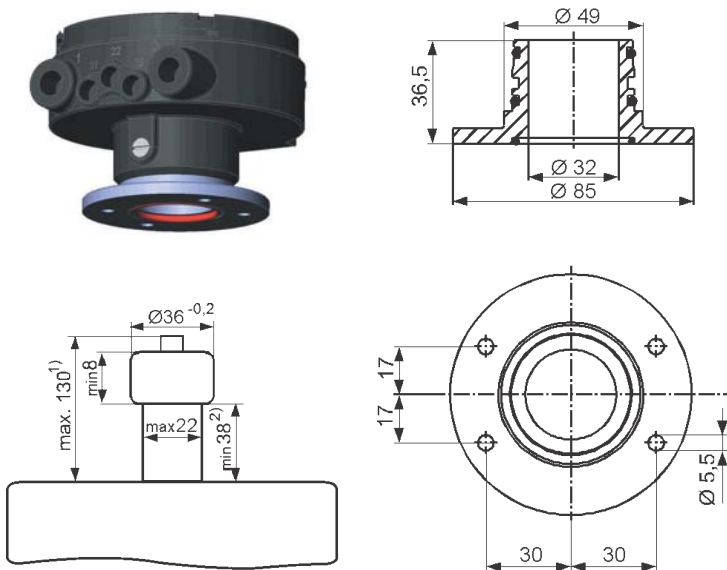
Rotatability allows user-friendly alignment of the control head on the valve.

Use of integrated field bus interfaces substantially reduces wiring and hose connections.

Subassemblies



Adjustment, actuator-end



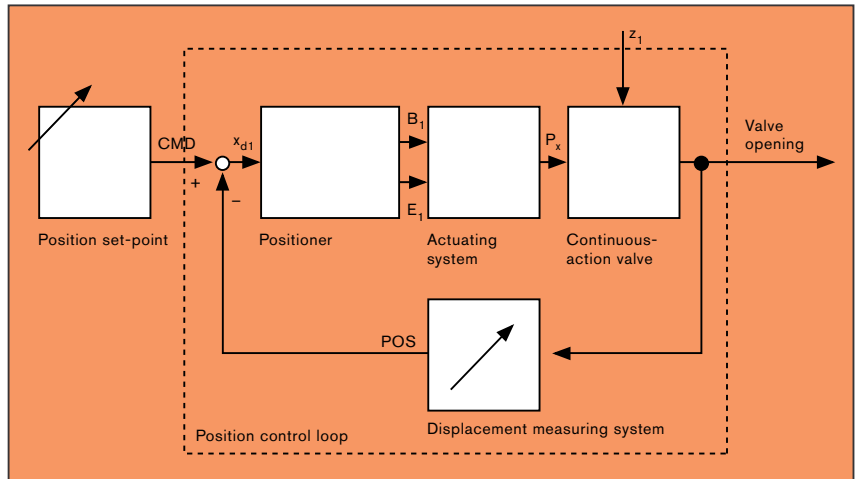
Automation of hygienic valves

Technology and functions of digital electropneumatic positioners

Functional structure

Positioning valves actuated with auxiliary energy are used to influence flowing substances in fluidic process systems. These positioning valves consist of a valve and the related actuator, which adjusts the position of the restrictor in the valve in accordance with the controller signal.

The control valve forms the final control element for influencing flowing substances in pipes. The related positioner contains the displacement transducer for detecting the actual position (POS) of the restrictor, controller electronics and a pneumatic actuating system for controlling the pneumatic auxiliary energy. Depending on the control difference (X_{d1}) obtained between the preset position set-point (CMD) and the actual position value, the positioner compensates for it via the pneumatic actuating system until it becomes zero ($X_{d1} = 0$). This is performed by aeration (B_1) or venting (E_1) of the pneumatic actuator. The actual position of the restrictor is thus adjusted to the preset target position, independently of disturbance variables (Z_1 , e.g. fluid forces in the valve), until they correspond.



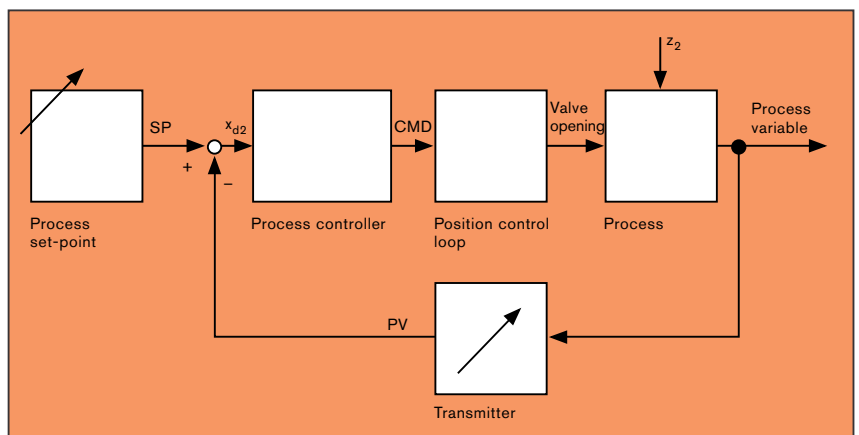
Position control loop

The process control loop

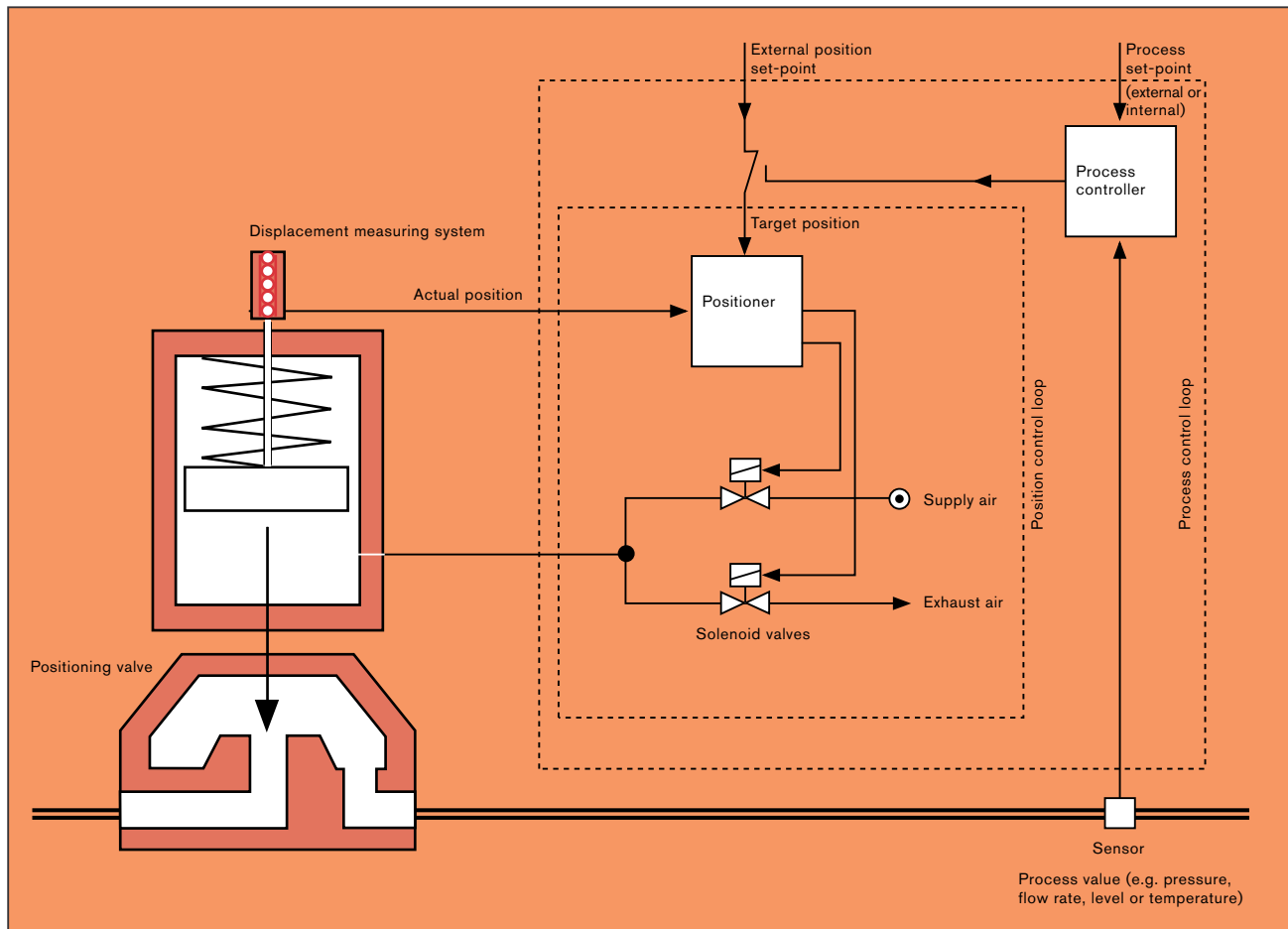
However, the position control loop normally forms only the subordinate control loop within process variable control. This is because control of process variables such as temperature, pressure, flow rate or level are crucial to process-engineering sequences.

The actual process value is detected by means of a suitable sensor in the pipe and compared in the process

controller with the process set-point. Depending on the magnitude and operational sign of control deviation X_{d2} , the process controller computes the position set-point CMD for the position control loop. The process variable is then changed by opening the valve, i.e. changing the position of the restrictor. Continuous measurement of the actual process value and comparing it with the process set-point minimizes the control difference X_{d2} between the two values.



Process control loop



Functional schematic of positioner with integrated process controller

The integrated process controller

All Bürkert positioners can be used with an integrated process controller. This process controller, as a fully fledged PID controller, is freely programmable and can be operated either with an external set-point via a standard signal or with an internal set-point, directly set on the unit. In addition, Types 8630 TopControl Continuous and 8635 SideControl S/HART feature

the convenient option of automatically setting the PID parameters using the P-TUNE software function. In this case, a differentiation is made between the various types of control loops, e.g. flow rate, temperature, pressure and filling level control loops. The automatically defined parameters can also be changed manually.

Nevertheless, when implementing such a distributed control loop, it is possible to evaluate or display position and process values centrally via analog feedback.

The sensor signal for the actual process value is read in on the process controller via a standard current signal. With the TopControl, Type 8630 Continuous, it is also possible to select between frequency input signal and PT100 input signal. In these cases, it suffices to use simple sensors without a transmitter. This means that even a local display of the detected process variable can be provided directly on the positioner.

Operating structure of the positioners

All Bürkert positioners are based on the same operating structure, which unites the features of simple and clear operation with unrestricted performance thanks to an extensive range of additional software functions. Only the basic functions of the configuration level, required for commissioning and standard operation as positioner or process controller, are visible at first glance. Additionally required functions are subsequently selected as needed, thus activating them automatically and integrating them into the basic functions. The parameters can then be set for each additional function.

In normal operation, the positioner is in the process operating level, with its modes of operation being MANUAL – manual traversing of the valve cone by pushbutton operation – or AUTOMATIC control mode.

All operator-control actions for the Bürkert positioners are performed using a three-section membrane keypad with a plain text LED display.

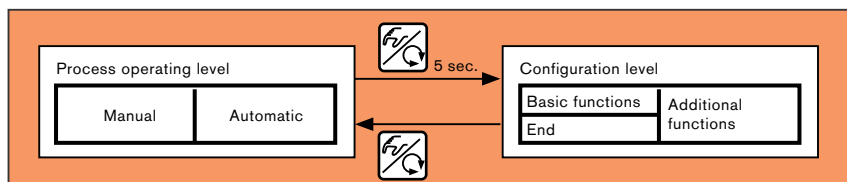


Arrow-up key Arrow-down key

MANUAL/AUTOMATIC key

LED (yellow) in MANUAL/AUTOMATIC key

Operating keys and plain text display



Operating structure of Bürkert positioners

Typical functions and options

Positioner	
X.TUNE- (AUTOTUNE) function	For automatic adjustment of the positioner to the control valve. The mechanical end positions, friction behavior, opening and closing times and possible actuator leakage of the control valve are determined or checked. The parameters of the positioner are then optimized accordingly.
Manual TUNE function	The manual TUNE function can be used to preset end positions on valves without a physical limit stop. The X.TUNE function which is subsequently executed then uses these pre-defined end positions.
CHARACT function	Selection of the transfer characteristic between position set-point and stroke. It is possible to select between various equal-percentage and inverse equal-percentage characteristic curves and a linear characteristic curve. There is also the option of freely programming a characteristic curve on the basis of interpolation nodes or having that characteristic curve calibrated on this basis. Selecting the valve characteristic curve makes it possible to achieve a required operating characteristic curve and better utilize valves with inadequate control characteristics.
DIR.CMD function	The direction of action between the position set-point and target position of the actuator can be set.
CUTOFF function	The Tight Closure function for the positioners and process controllers causes the valve to close tightly outside of the control range. Limit values can be entered for the position set-point or, if the process controller is active, indicated for the process set-point in a percent figure, starting from which the actuator is fully aerated or vented. This prevents increased seat wear caused by high flow velocities in the case of seat leakage.
DIR.ACT function	The direction of action between the aeration state of the actuator and the actual position value can be set.
SPLTRNG function	Splitting the standard signal range (set-point) over several positioners. This function enables several control valves to be used as final control elements on an alternating basis or, with overlapping set-point ranges, simultaneously if the required control range cannot be covered with just a single valve.
X.LIMIT function	This function limits the physical stroke to settable values. This allows the working range of a control valve to be restricted, e.g. for limiting a process variable.
X.TIME function	The minimum opening and closing times of the control valve, determined with the X.TUNE function, can be mutually independently increased.
X.CONTRL function	The parameters of the positioner for the dead band, determined with the X.TUNE function, and the gain factors for opening and closing can be subsequently changed manually. The dead band limits the response of the positioner as of a defined control deviation. Varying the dead band allows the permanent control deviation to be defined.
CODE function	In the first stage, the two-stage Code Protection function does not allow any change in the operating state, control mode or manual mode. The second stage allows change, but protects the configuration of the positioner.

Positioner	
SAFEPOS function	A safe position can be defined. The ex-works default setting is 0 % stroke. The safe position is approached at a maximum velocity as soon as the binary input is set, a signal error (set-point or actual value signal) occurs or, in the case of field bus versions, as soon as an error in bus communication is detected.
SIG-ERR function*	Configuration of the error detection signal level for the set-point signal and, if the process controller is active, for the actual process value signal as well. If the signal error detection is activated, the relevant error is shown on the display and can also trigger approach to the safe position, depending on the setting.
BIN-IN function	This allows the user to select the type of binary input (NO or NC). The input can be selected either for approaching the safe position or for switchover between the "MANUAL" and "AUTOMATIC" operating modes.
CAL USER function*	Calibration of the actual value display, the position set-point, process set-point and actual process value inputs, in addition to the K factor for the valve.
SETFACT function*	This function allows all settings defined by the user to be reset to their ex-works default settings. All EEPROM parameters, with the exception of the calibration values, are reset to their default values. A hardware reset is then performed.
Process controller	
P.CONTROL function	The following sub-functions are included here: Setting the neutral zone (dead band) of the process controller Setting the parameters of the PID process controller Type of process set-point preset Definition of signal type for the actual process value Filtering the actual process value input Scaling of the process controller Self-optimization of the P.CO-TUNE process controller
Option: analog feedback	
OUTPUT function	The analog feedback for the actual values and set-points of position and process can be configured using a standard current or voltage signal. The two binary outputs can signal the following situations mutually independently: <ul style="list-style-type: none"> - Transgression of a set limit for the control deviation - Reaching a set limit position as software limit switch - Signaling that the actuator is in the safe position - Set-point signal error message - Actual process value signal error message - Operating state "Automatic" and external set-point active

Technology and functions of electropneumatic control heads

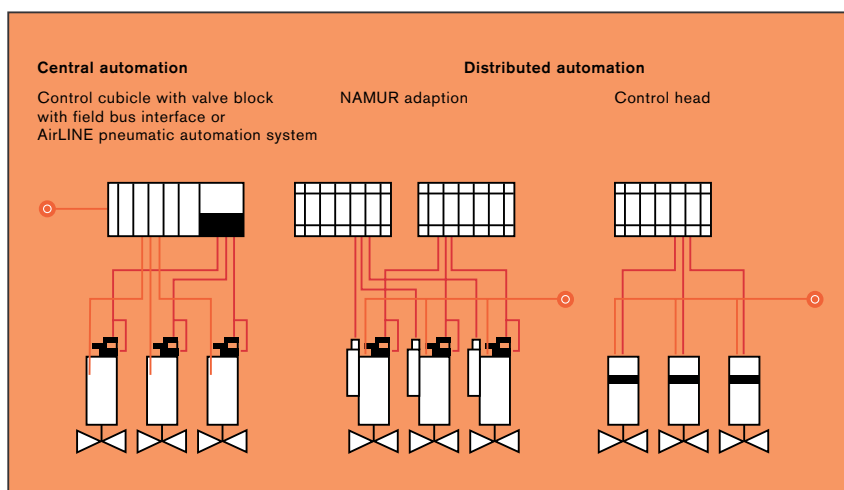
Functional scope of the control head

The control head performs all automation tasks of pneumatically operated process valves. The central function is conversion of the electrical switching signal to pneumatic auxiliary energy for control of the pneumatic actuator. In this case, up to three mutually independent switching functions can be controlled, depending on the type of process valve and actuator used. A purely pneumatic control function without position feedback from up to three valves can be implemented by means of one control head.

Incorporated initiators or microswitches detect a maximum of three positions of the adjusted actuator and signal these back either directly or via a field bus interface.

In addition, the position of the actuator itself can be clearly detected on the control head via LEDs. Diagnostic functions are included with the integrated AS-Interface or DeviceNet field bus interface. Their status is also displayed directly on the unit.

The highly modular design of Bürkert control heads allows device versions in any functional expansion stage and combination, and easy mechanical adaptation allows mounting on all conventional pneumatically operated process valves.



Automation systems for pneumatically operated process valves

Automation concepts

There are many different ways to implement control and feedback for pneumatically operated process valves.

Central automation

In the case of central automation, the pneumatic auxiliary energy is switched in the control cubicle, normally by a valve block with field bus interface or by the AirLine pneumatic automation system, and routed to the valve actuator with pneumatic control lines. The electrical feedback signals from the process valve are also routed to the control cubicle.

Distributed automation

With distributed automation, the pneumatic auxiliary energy is switched by control valves mounted directly on the valve actuator. The short control lines and low pressure loss allows spontaneous switching of the process

valves and reduces hose connections. Electrical feedback signals are routed from the field to a terminal level in the same way as the supply lines for the control valves.

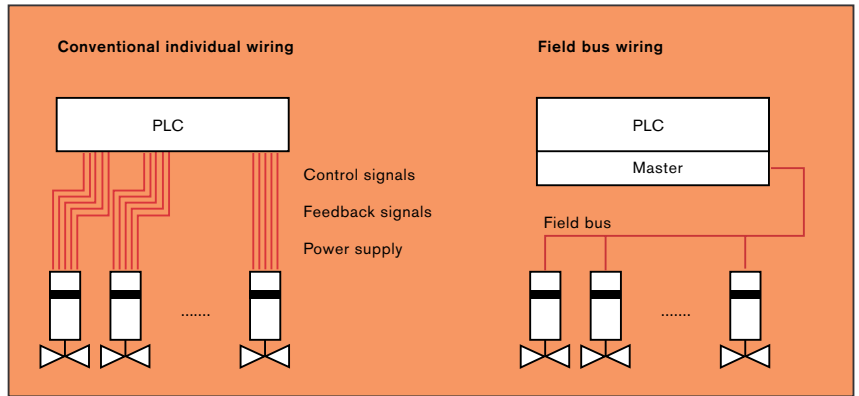
Control head

The control head unites the attachments of the control valve and feedback unit with related setting mechanism on the valve actuator in a compact housing. Wiring is greatly reduced and the installation size of the process valves with the control system is minimized. In addition, there is also a direct spatial assignment of the pneumatic control unit and visual position indicator to the related process valve facilitating error diagnostics. If necessary, the actuator can be switched locally via the manual override integrated into the control head.

Integrated field bus communication

Compared to conventional wiring, the use of an AS-Interface field bus interface in the control head greatly reduces wiring to just one or two two-core leads. At the same time, this means less installation work, less complexity, more cost savings and increased system manageability. Simple planning of users and convenient device exchange with AS-Interface additionally facilitate commissioning and maintenance.

If the bus and power supply are each routed separately in one two-core lead, it is also possible to poll the status of the system via the bus after the Emergency-Stop has been triggered.



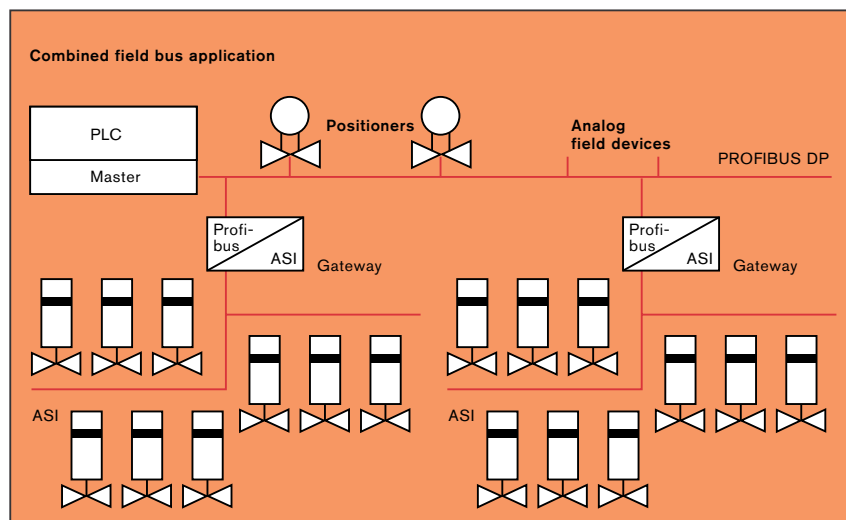
Combined field bus application

In terms of performance, the AS-Interface is designed as an actuator-sensor bus for processing binary signals. This is demonstrated by the relatively flexible bus topology, a speed that is adequate for the application and, last but not least, the comparatively low installation and interface costs.

This economical and tailor-made solution for field devices with binary actuators and sensors is not suitable for automating entire installations. Higher-end solutions, such as Profibus, are used in such cases in regards to bus user type, speed and permitted line length. The AS-Interface lines are interworked with Profibus via gateways in order to e.g. map the control head automated valves directly on the PLC.



An AS-Interface line has a maximum of 31 or 62 slaves. Since each gateway in turn is only one slave of 126 possible slaves on the Profibus, this greatly increases the number of binary field devices on a Profibus line. The generally smaller number of field devices that are conventional with analog data transfer, such as control valves or analog sensor systems, are connected directly to the corresponding, high-performance Profibus.



Comparison of field bus systems

	AS-Interface	DeviceNet	Profibus DP
	Binary actuators, economical and easy to use	High-performance system designed for many applications	High-end solution for all applications
Bus users	Binary field devices (switches and solenoid valves)	Binary field devices, a few analog field devices	All field devices of measurement, open a. closed-loop contr. syst.
Extent	High	High	High
Bus structure	Tree structure	Line, stub line < 3 m	Line, stub line < 0,1 m
Max. line length	100 m	100 m (to 500 m)	up to 90.000 m
Max. numb. of slaves	31 (62)	63	126
Speed	Low	Low	Very high
Cycle time	5 ms	> 5 ms, dependant on structure	~ 1 ms, depend. on structure
Interface costs	Low	Moderate	High
Installation costs	Low	Moderate - Special connection system - Special cables	High - Expensive connectors - Expensive cables - Restricted bus structure

5. Accessories and other products

Valves for pneumatically operated actuators



Type 6012P
3/2-way pilot valve



Type 6014P
3/2-way pilot valve



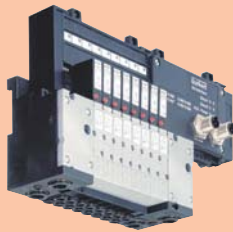
Type 5470
3/2 and 4/2-way pilot valve, butt-mountable, or NAMUR single valve

Optional:
- Explosion protection
 II 2G EEx ia IIC T6
- UR/CSA approval

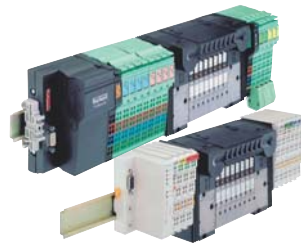


Type 6519
3/2 and 5/2-way pilot valve, butt-mountable, or NAMUR single valve

Optional:
- Explosion protection
 II 2G EEx ia IIC T5/T6 and
 II 2D IP65 T85 °C; 100 °C; 135 °C
- Explosion protection
 II 2G EEx em/m II T4/T5/T6
- Explosion protection
 II 3G EEx nA II T4/T5/T6
- UL/FM/CSA approval



Type 8640
Modular valve block
with field bus interface



Type 8644
AirLINE automation system

Optional:
- with PHOENIX elektronics
- with WAGO elektronics
- with SIEMENS elektronics
- with Rockwell elektronics

Accessories for pneumatically operated actuators



Type 8631 TopControl ON/OFF
Electropneumatic control head for
pneumatically operated process
valves

Optional:

- AS-Interface communication
- DeviceNet communication
- Explosion protection
II 2G EEx ia IIC T5/T6



Type 1062
Electrical position feedback unit

- with mechanical limit switches
- with inductive limit switches
(also NAMUR EEx i)



Type 1060
Electrical position feedback unit
with visual position indicator

- Microswitch with changeover
contact



Type 1071
External magnetic inductive
position feedback unit



Min./max. stroke limitation
with visual position indicator



Maximum stroke limitation
Upward stroke limitation



Hand wheel
with visual position indicator for
valves in control function A
(normally closed by spring force)

Other process valves



Type 2652 and Type 2655
2/2-way ball valves, stainless steel

- pneumatically operated
- single-acting or double-acting
- nominal diameters DN 10 to 50
- pressure range 0 – 40 bar



Type 3210
2/2 und 3/2-way ball valves,
nickel-plated or stainless steel

- pneumatically operated
- single-acting or double-acting
- nominal diameters DN 15 to 80
- pressure range 0 – 64 bar,
depending on nominal diameter



Type 2658
2/2-way ball valves, plastic

- pneumatically operated
- single-acting or double-acting
- nominal diameters DN 10 to 50
- pressure range 0 – 10 bar



Type 2672
Butterfly valves, metal

- pneumatically operated
- single-acting or double-acting
- nominal diameters DN 50 to 100
- pressure range 0 – 10 bar



Type 2675
Butterfly valves, plastic

- pneumatically operated
- single-acting or double-acting
- nominal diameters DN 50 to 100
- pressure range 0 – 10 bar

I/O box and remote I/O systems



Type 8642/8643
I/O box

- With PROFIBUS PA interface or
Foundation Fieldbus H1
- Explosion protection
 II 2(1) G EEx ia IIC T6 or
 II 2(1) G EEx [ia] me IIC T4
- 4 outputs for pilot valves
- 8 inputs for NAMUR
 initiators



Remote I/O systems

- For all standardized field buses for
 connection of digital and analog
 inputs and outputs
- for switch cabinet installation
- modular structure
- in some cases with Ex approval

Sensors, transmitters and measuring instruments for process engineering



Type 8032
Paddle wheel flow sensor

For indication, monitoring,
transfer and ON/OFF control



Type 8045
Flow transmitter

Magnetic inductive flow transmitter
for continuous measurement and
ON/OFF control



Type 8205
Analysis measuring instrument

pH transmitter for continuous
measurement and PID control



Type 8226
Analysis measuring instrument

Inductive conductivity transmitter
for continuous measurement and
ON/OFF control



Type 8175
Level measuring instrument

Ultrasonic level transmitter for
continuous measurement and
ON/OFF control



Type 8181
Level limit switch

Vertical or horizontal



Type 8323
Pressure transmitter



Type 8311
Pressure sensor

For indication, monitoring,
transfer and ON/OFF control

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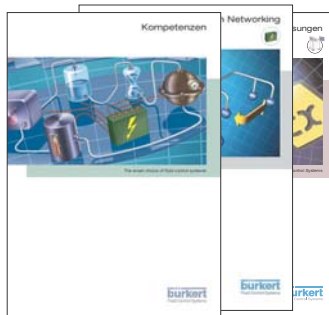
Service brochure

A systematic overview of the range of products and services offered by Bürkert. A network of comprehensive solutions integrating coordinated services.



Competence brochures

Essential information for the person planning control loops and field bus systems and who wants to ensure basic knowledge of the structure and selection of system components.



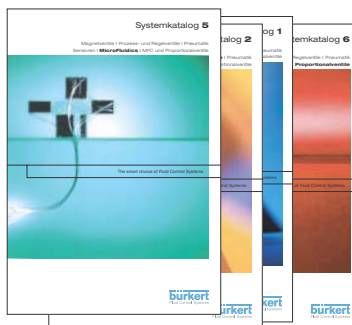
Application brochures

Example applications for deriving the appropriate system solution, supplemented by information on product advantages, user advantages and the range of products specifically available.



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Background knowledge on product technology, including an up-to-date overview of the current offers. Rounded out with information to help you make your decision on the best application option.



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Detailed technical information for checking specific suitability. In addition, all the data needed for direct ordering.

