



## Digital electropneumatic Positioner SideControl

- Compact and robust design
- Easy to start using TUNE-Function
- Dynamic positioning system with no air consumption in controlled state
- Intrinsically safe acc. to ATEX II 2 (1) G Ex ia IIC T6 Gb
- Optionally with integrated process controller

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

### Can be combined with

	<b>Type 8805</b> ▶ Ball valve / Butterfly valve with pneumatic rotary actuator
	<b>Type 2051</b> ▶ Pneumatic rotary actuator
	<b>Type 2301</b> ▶ Pneumatically operated 2-way globe control valve
	<b>Type 2103</b> ▶ 2/2-way diaphragm valve with pneumatic stainless steel actuator (Type ELEMENT) for decentralised automation

### Type description

The SideControl Positioner Type 8635 is an electropneumatic positioner for pneumatically actuated process valves with linear or part-turn actuators. It is executed in two conductor technology.

Signal processing, control and actuation of the internal positioning system are accomplished with microprocessor controlled electronics. The software function Autotune implemented therein enables automatic adaptation of the positioner to the control valve in use. The positioner is parametrized and operated comfortably via three operating keys and a plain-text display is possible to set up a decentralized control system if a process controller with PID characteristics is used.

As an option, the SideControl Positioner Type 8635 can be supplied with approval for use in the Ex area (Zone 1) according to ATEX.

Because of its compact and robust design, the housing is suitable for use in chemical and process engineering.

DTS 1000019155 EN Version: Q Status: RL (released | freigegeben | valide) printed: 14.12.2023

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## 1. General technical data

### 1.1. Positioner SideControl Type 8635

Product properties	
Dimensions	Further information can be found in chapter "3. Dimensions" on page 6.
Weight	Ca. 1.5 kg
Material	
Body	Aluminium, hard anodised and plastic-coated
Seal	NBR, neoprene
Other exterior parts	Stainless steel V4 A
Operation	
Display	Single-line display (inside housing)
Operating keys	Membrane keypad with 3 keys
Commissioning	
Initialisation positioner/process controller	Automatic through TUNE-function (self-tuning of positioner and PID parameters)
Performance data	
Position sensor	
Integrated Position sensor (NAMUR)	High-resolution conductive plastic rotary potentiometer
External remote position sensor	Linear
Measuring range for rotary actuator	Rotation angle: 0...120°
Stroke range for linear actuator	3...130 mm, depending on the lever of the attachment kit
Electrical data	
Operating voltage	Over setpoint signal 4...20 mA, 2-wire technology
Power consumption	<0.5 W
Protection class	III according to DIN EN 61140
Input/Output	
Digital output	2 digital outputs (optional), galvanically isolated
Analogue output	1 output (optional) 4...20 mA (galvanically isolated)
Input data setpoint and actual value	
Setpoint signal	
Setpoint value setting default	4...20 mA
Load voltage	<10.2 V DC
Setpoint signal	4...20 mA
Electrical connection	
NAMUR version	Cable gland: 2x M20 x 1.5 (cable Ø 6...12 mm) on screw terminals (0.14...1.5 mm <sup>2</sup> )
Version with external position sensor for direct mounting on control valve Type 27xx	Cable gland: 2x M20 x 1.5 (cable Ø 6...12 mm) on screw terminals (0.14...1.5 mm <sup>2</sup> ) and pre-assembled cable for remote position sensor, length 0.3 m
Remote version in combination with control valve Type 23xx	Cable gland: 2x M20 x 1.5 (cable Ø 6...12 mm) on screw terminals (0.14...1.5 mm <sup>2</sup> ) and pre-assembled cable for remote position sensor, length 2.5 m
Pneumatic data	
Control medium	
Dust content	Class 7 (<40 µm particle size)
Particle density	Class 5 (<10 mg/m <sup>3</sup> )
Pressure dew point	Class 3 (<-20 °C)
Oil content	Class X (<25 mg/m <sup>3</sup> )
Air supply filter	
Mesh size	Ca. 0.1 mm
Supply pressure	1.4...6 bar <sup>1)</sup>
Pilot air port	Threaded connection G ¼ (NPT ¼, RC ¼ on request)
Control air temperature	-25...+60 °C <sup>2)</sup>

<b>Actuating system</b>	
Circuit function	Single-acting
<b>Air flow rate</b>	
Actuating system	Aeration and ventilation 55 l/min at 1.4 bar <sup>1.)</sup> 170 l/min at 6 bar <sup>1.)</sup> $Q_{N0} = 110 \text{ l}_N/\text{min}$
Internal air consumption	0 l/min
<b>Setting range</b>	
Linear actuator	3...130 mm
Rotary actuator	30...120°
<b>Approvals and conformities</b>	
Protection class	III according to DIN EN 61140
<b>Explosion protection</b>	
Ignition protection class	II 2 (1) G Ex ia IIC T6 Gb gemäß EN 60079-0:2012 und EN 60079-11:2012
ATEX	PTB 04 ATEX 2027 II (1) 2G Ex ia IIC T6 Gb
IECEX	IECEX PTB 04.0016 Ex ia IIC T6/T5/T4 Gb
Further information can be found in chapter <b>"2.4. Explosion protection"</b> on page 5.	
<b>Others</b>	
China Compulsory Certification (CCC)	The products with Ex approval are suitable for import and use for hazardous applications in China. Further information can be found in chapter <b>"2.5. Others"</b> on page 5.
Further information can be found in chapter <b>"2. Approvals and conformities"</b> on page 5.	
<b>Environment and installation</b>	
<b>Operating conditions</b>	
Ambient temperature	-25...+60 °C <sup>2.)</sup>
Degree of protection	IP65 according to EN 60529
Operating altitude	Up to 2000 m above sea level
<b>Installation and mechanical data</b>	
Installation variant	NAMUR according to IEC 60534-6-1 resp. VDI/VDE 3845 (IEC 60534-6-2), remote
Installation position	As required, display above or sideways
Valve actuator (type and size)	Rotary and linear actuator according to NAMUR, ELEMENT Type 2301, 2300 (actuator size Ø 70/90/130 mm) and CLASSIC (actuator size Ø 175/225 mm) in combination with remote version
<b>Adapter kits</b>	
Linear actuator	According to IEC 60534-6-1
Rotary actuator	According to VDI/VDE 3845 (IEC 60534-6-2)

1.) Pressure information: overpressure with respect to ambient pressure  
2.) Up to +65 °C for temperature class T4/T5 or without Eex ia approval

**1.2. Electrical additional data**

Description	Functional values	Permissible maximal as per certificate of conformity
Power supply	U I	10.2 V 4 mA Ui Ii Pi 30 V 100 mA 1 W
Process actual value input (only for version with process controller)	Load Load voltage U	10 Ω <200 mV Ui Ii Ci Pi 30 V 100 mA 14.3 nF 1 W
Digital input	Make/break contact (configurable)	- Co Lo 5.5 µF 1000 mH
Digital outputs	U I switching status OPEN I switching status CLOSED	5...11 V DC <1.2 mA >2.1 mA Ui Ii Pi 30 V 100 mA 1 W
Analogue feedback (Option)	U I	12...30 V 4...20 mA Uo Io Po 30 V 100 mA 1 W

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## 2. Approvals and conformities

### 2.1. General notes

- The approvals and conformities listed below must be stated when making enquiries. This is the only way to ensure that the product complies with all required specifications.
- Not all available versions can be supplied with the below mentioned approvals or conformities.

### 2.2. Conformity

In accordance with the Declaration of Conformity, the product is compliant with the EU Directives.

### 2.3. Standards


The applied standards which are used to demonstrate compliance with the EU Directives are listed in the EU-Type Examination Certificate and/or the EU Declaration of Conformity.

### 2.4. Explosion protection

Approval	Description
 	<p><b>Optional: Explosion protection</b></p> <p><b>ATEX:</b> PTB 04 ATEX 2027 II (1) 2G Ex ia IIC T6 Gb</p> <p><b>IECEX:</b> IECEX PTB 04.0016 Ex ia IIC T6/T5/T4 Gb</p>

### 2.5. Others

#### China Compulsory Certification (CCC)

Conformity	Description
	<p><b>Optional: China Compulsory Certification (CCC)</b> The products with Ex approval are suitable for import and use for hazardous applications in China.</p>

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## 2.6. Recommendations for isolation transformers

**Note:**

- DC transformers input 4...20 mA / output 4...20 mA
- This information is provided without guarantee.
- The user or operator is responsible for the design and operation of intrinsically safe circuits.

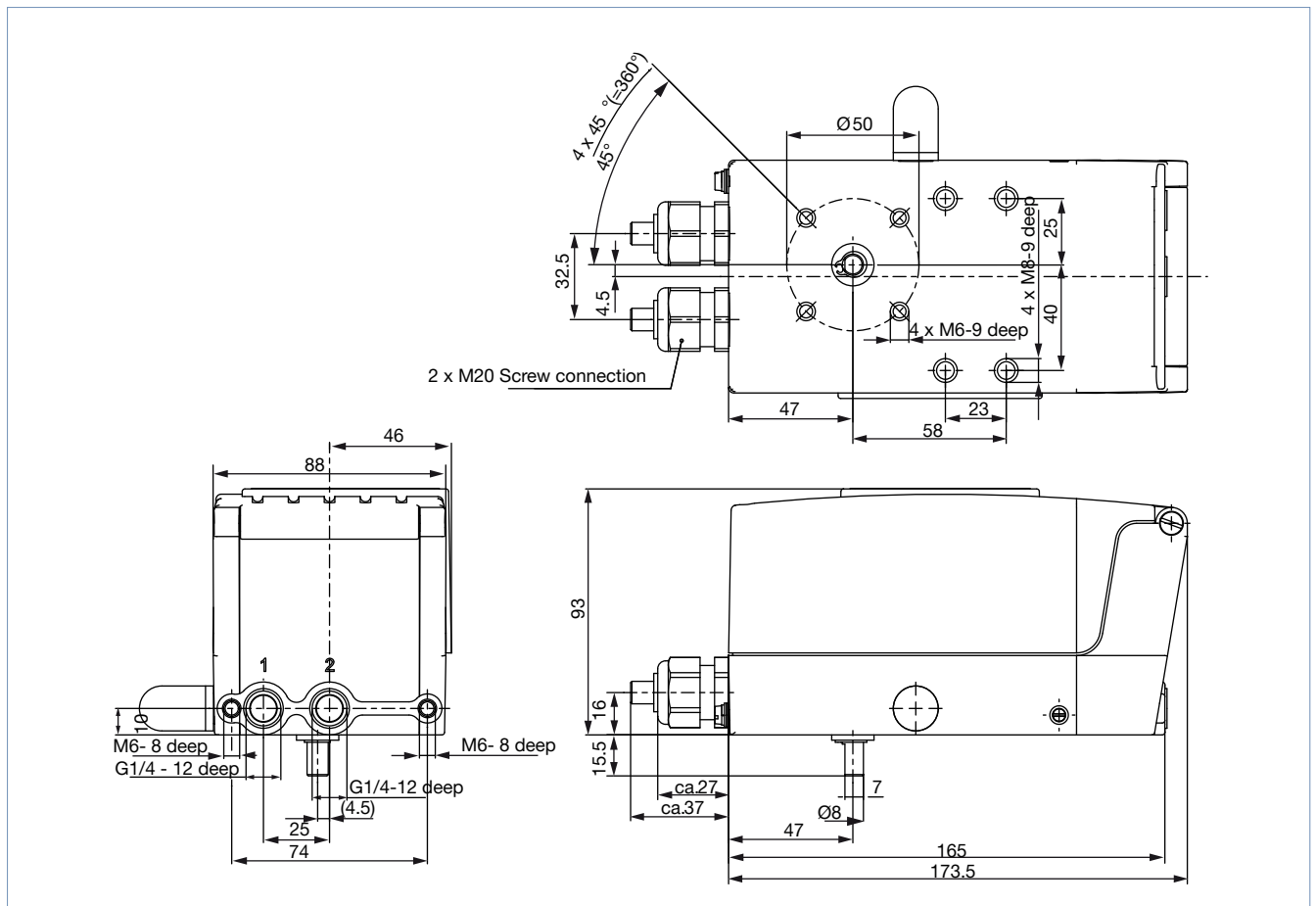
Company	Model	Burden	Ex	Active/passive
Pepperl+Fuchs	KFD2-CD-Ex1.32	850 Ω	x	A
Foxboro Eckardt	TV228-S-EGX	700 Ω	x	A
Foxboro Eckardt	MT228-S-EGX	750 Ω	x	A
Foxboro Eckardt	II949-S1 ZZZ	750 Ω	-	A
Stahl	9318/16-22-10	700 Ω	x	A
Stahl	M318/12-11-00	1000 Ω	x	A
PhoenixContact	PI/EX-ID-I/I	800 Ω	x	A

## 3. Dimensions

### 3.1. NAMUR version

**Note:**

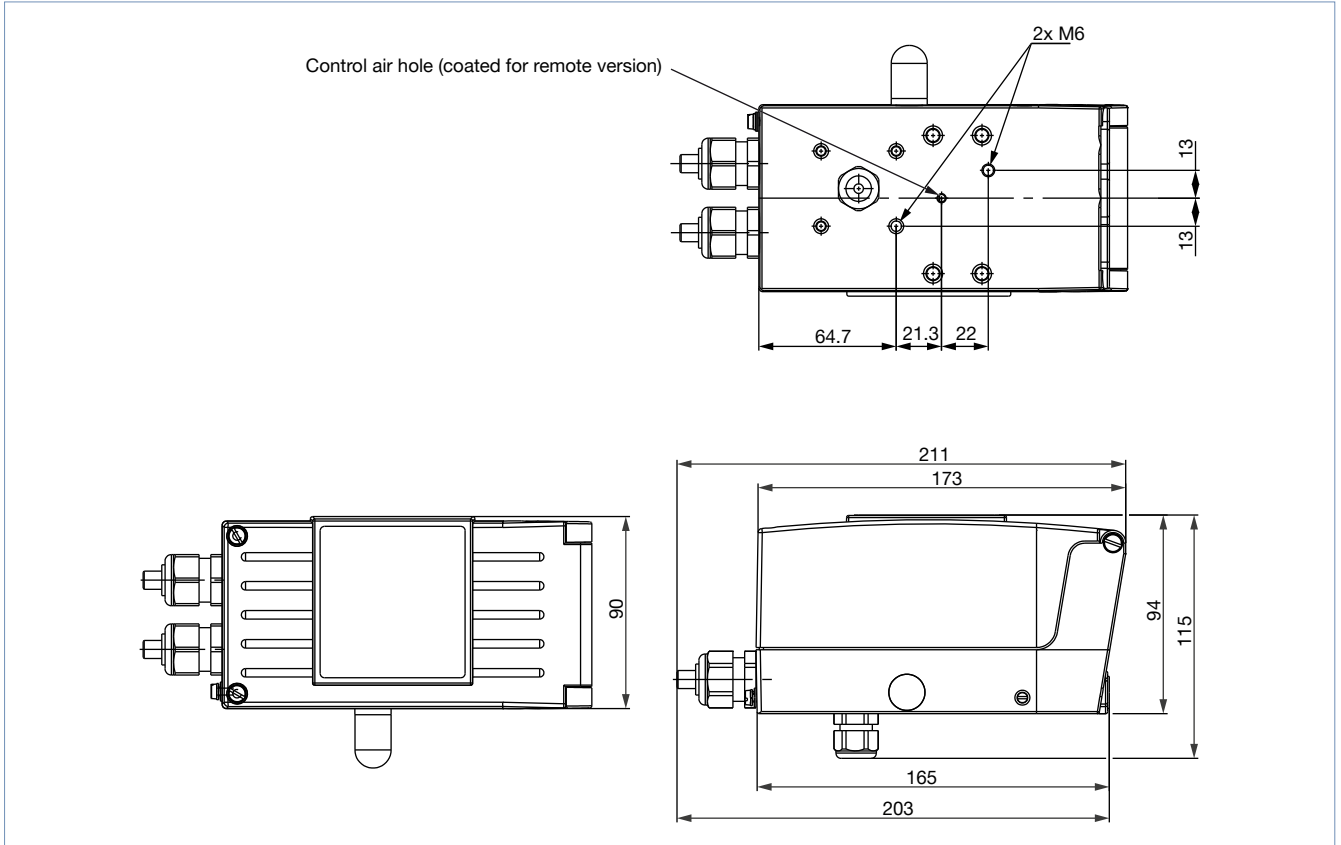
Dimensions in mm



### 3.2. Remote version

**Note:**

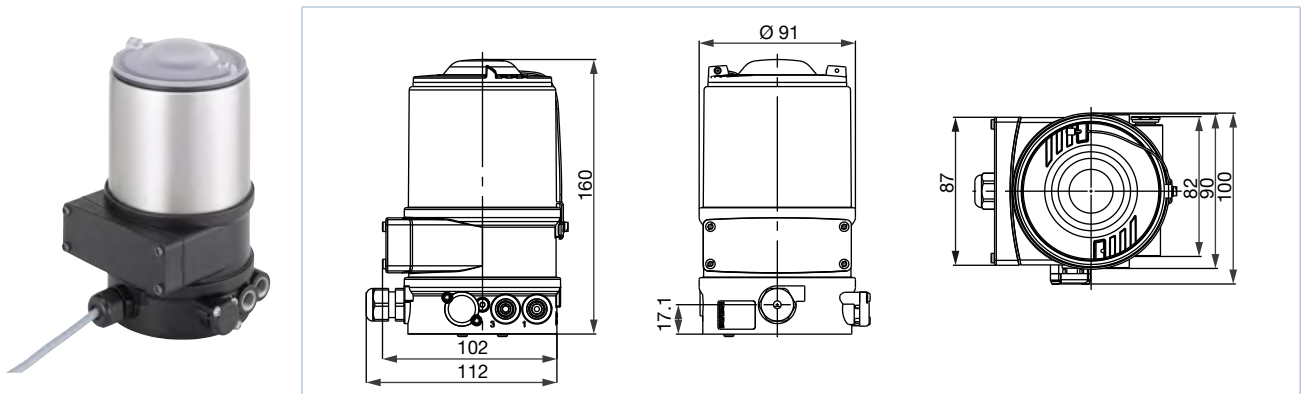
- Dimensions in mm
- Presentation without cable and without attachment parts



### 3.3. Remote position sensor version

**Note:**

- Dimensions in mm
- Remote position sensor for mounting on control valves Type 23xx



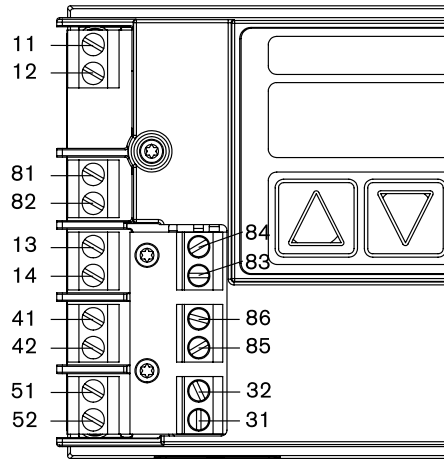
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## 4. Device/Process connections

### 4.1. Electrical connections

**Note:**

- When connecting the intrinsically safe circuits, observe the information in the enclosed certificate of conformity!
- The connection of a potential equalization conductor (PE) to the electronics is unnecessary.
- For the electrical connection of the SideControl open the housing cover by loosening the 2 screws.



Terminal description	Assignment	External circuitry
11 + 12 -	Setpoint + Setpoint -	4...20 mA signal GND
13 + 14 -	Process actual value + (option) Process actual value - (option)	4...20 mA signal GND
31 + 32 -	Actual value output + (option) Actual value output - (option)	 31 —○— + 32 —○— -     12...30 V
41 + 42 -	Not assigned Not assigned	-
51 + 52 -	Not assigned Not assigned	-
81 + 82 -	Digital input + Digital input -	 81 —○— or —○— 82 —○—     Switch (make or break contact)
83 + 84 -	Digital outputs 1+ (option) Digital outputs 1- (option)	 83 —○— + 84 —○— -     5...11 V
85 + 86 -	Digital outputs 2+ (option) Digital outputs 2- (option)	 85 —○— + 86 —○— -     5...11 V

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## 5. Performance specifications

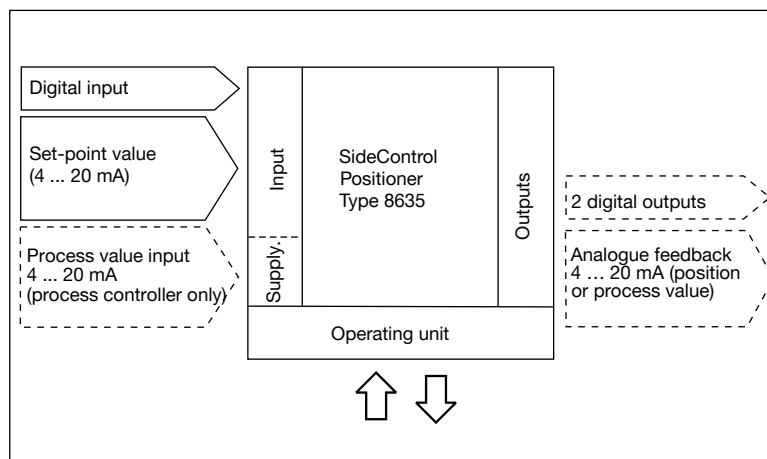
### 5.1. Additional software functions of the process controller SideControl Type 8635

- Automatic commissioning of control system
- Parameterisation of positioner
- Automatic or manual entry of characteristic curve for correction of operating characteristic
- Setting of the tight-closure or maximum stroke threshold
- Stroke limitation
- Limitation of positioning speed
- Dead band
- Direction of action of the controller setpoint
- Signal range splitting (split range up to 4 times)
- Setting of direction of movement
- Definition of a safety position
- Calibration of input and display
- Code protection for settings/operation
- RESET of factory settings
- Optional built-in process controller (PID)
- Automatic parametrization of the process controller
- Setting of the parameters of the process controller
- Calibration of the setpoint input and display
- Configuration of the analogue input
- Configuration of the digital input and digital outputs

### 5.2. Interface diagram

**Note:**

The optional inputs and outputs are shown by dotted lines.



## 6. Product installation

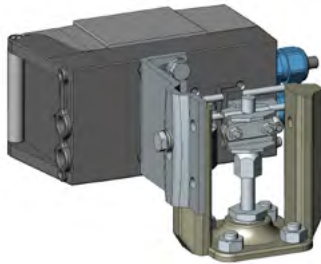
### 6.1. Mounting options

#### NAMUR version

**Note:**

Positioner with integrated position sensor, installation according to NAMUR/IEC 60534-6-1 and VDI/VDE 3845 (IEC 60534-6-2)

Linear actuators	Rotary actuators
See <a href="#">operating manual Type 8635</a> ▶	See <a href="#">operating manual Type 8635</a> ▶



Description	Article no.	Description	Article no.
Attachment kit	787215	Adapter kit	787338
		Mounting bridge	770294

Adapter kit for rotary actuators (Article no. 787338)	Mounting bridge for rotary actuators (Article no. 770294)

Actuator shaft height [mm]	A [mm]	B [mm]	C [mm]
20	46.5	80	–
30	56.5	80	130
50	76.5	–	130

Description	Article no.
Adapter kit for rotary actuators	787338

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**Remote version**

**Note:**

- Dimensions in mm
- The mounting bracket for wall mounting is pre-assembled by the factory.

**Wall mounting with accessory bracket**

Description	Article no.
Bracket for wall mounting	675715


**6.2. Combination options with pneumatic process valves**

Positioner SideControl Type 8635	8635 NAMUR	8635 Direct mounting on control valves Type 27xx	8635 remote mounting in combination with control valves Type 23xx
	<p>Linear actuators IEC 60534 - 6 - 1</p> <p>Rotary actuators VDI/VDE 3845 (IEC 60534 - 6 - 2)</p>	<p>Control valve system CLASSIC</p> <p>Remote positioner system CLASSIC</p>	<p>Control valve system ELEMENT</p> <p>Remote position sensor ELEMENT</p>
	<p>Type 8805 ▶ Ball valve / butterfly valve with pneumatic rotary actuator + Type 8635</p>	<p>Type 27xx Pneumatically operated 2-way control valve + Type 8635</p>	<p>Type 23xx Pneumatically operated 2-way angle seat valve ELEMENT + Type 8635 remote version</p>

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## 7. Ordering information

### 7.1. Bürkert eShop

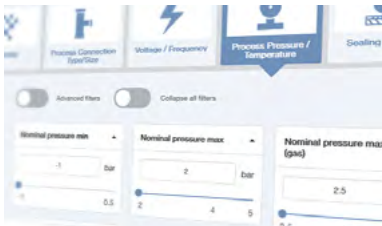


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### 7.2. Bürkert product filter



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### 7.3. Ordering chart

#### Positioner/Process controller SideControl Type 8635 NAMUR version

**Note:**

- Pneumatic actuating system, single-acting
- Further versions are available on request.

Assembly variations	Electrical connection	Analogue feedback with 2 digital outputs	ATEX Approval EEx ia II C T6 CCC <sup>1.)</sup>	Article no.
<b>Positioner SideControl 8635</b>				
NAMUR IEC 60534 - 6 - 1 VDI/VDE 3845 (IEC 60534 - 6 - 2)	Cable gland	No	Yes	147263
	Cable gland	Yes	Yes	155371
	Cable gland	Yes	No	o. r.
	Cable gland	No	No	147265
<b>Process controller SideControl 8635</b>				
NAMUR IEC 60534 - 6 - 1 VDI/VDE 3845 (IEC 60534 - 6 - 2)	Cable gland	No	Yes	147264
	Cable gland	Yes	Yes	155375
	Cable gland	No	No	147266

o. r. = on request

1.) CCC (China Compulsory Certificate) for device versions with Ex approval

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**Positioner SideControl Type 8635 remote version**

**Note:**

Pneumatic actuating system, single-acting



Assembly variations	Electrical connection	Analogue feedback with 2 digital outputs	ATEX Approval EEx ia II C T6 CCC <sup>1.)</sup>	Article no.
<b>Positioner SideControl 8635</b>				
Remote mounting in combination with control valve Type 23xx (Actuator size Ø 70/90/130 mm )	Cable gland	Yes	Yes	322841
	Cable gland	Yes	No	322847
	Cable gland	No	No	322845
	Cable gland	No	Yes	322840
Direct mounting on control valve Type 27xx (Actuator size Ø 175/225 mm )	Cable gland	No	Yes	150347
	Cable gland	Yes	Yes	155369
	Cable gland	No	No	147267
<b>Process controller SideControl 8635</b>				
Remote mounting in combination with control valve Type 23xx (Actuator size Ø 70/90/130 mm )	Cable gland	Yes	Yes	322839
	Cable gland	Yes	No	322844
	Cable gland	No	No	322842
	Cable gland	No	Yes	322837

1.) CCC (China Compulsory Certificate) for device versions with Ex approval

**Remote position sensor system for SideControl Type 8635 with direct mounting on control valve Type 27xx**

**Note:**

Universal integrated attachment (air conduction without piping)

Assembly variations	Actuator size	Electrical connection	ATEX Approval EEx ia II C T6 CCC <sup>1.)</sup>	Article no.
<b>Mounting on control valve Type 23xx</b>				
<b>Remote position sensor</b> 	Ø 70/90/130 mm	Cable gland	Yes	689162
<b>Mounting on control valve Type 27xx</b>				
<b>Remote position sensor system</b> 	Ø 175/225 mm	Cable gland	Yes	655535

1.) CCC (China Compulsory Certificate) for device versions with Ex approval

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#### 7.4. Ordering chart accessories

**Note:**








The **Type 8635 ▶ SideControl positioner** is only delivered as part of a full proportional valve (positioner, position sensor, associated attachment parts and continuous valve) for attachment to a Bürkert continuous valve.

Use the Type 23xx and Type 27xx data sheets to select a suitable continuous valve.

For ordering a complete control valve, specify the following article number:

- Article no. of the SideControl positioner **Type 8635 ▶**
- Article no. of the positioner
- Article no. of the selected control valve
- Article no. of the corresponding attachment parts with the SideControl positioner reference

Bürkert supplies a fully assembled and tested control valve.

Description	Article no.
<b>Standard Accessories</b>	
Silencer G ¼	780780 
<b>Accessories for SideControl NAMUR</b>	
VDI/VDE 3845 stainless steel universal assembly bridge (IEC60534 - 6 - 2)	770294 
Attachment kit for stainless steel rotary actuators according to VDI/VDE 3845 (IEC 60534 - 6 - 2)	787338 
Attachment kit for linear actuators according to IEC 60534 - 6 - 1	787215 
<b>Accessories for SideControl remote/direct mounting</b>	
Mounting bracket for stainless steel wall mount (spare part)	675715 
Adapter kit for remote position sensor, control valve Type 23xx, actuator size Ø 70/90/130 mm	584363 
Adapter kit for piston actuators Type 27xx, Ø 175/225 mm	655567 
Position measuring system for piston drives Type 27xx, Ø 175/225 mm	655535 