bürkert
FLUID CONTROL SYSTEMS

Control Head for the integrated mounting on process valves

- Contact-free inductive valve position registration (Teach function)
- Coloured illuminated status display
- Internal control air routing
- Fieldbus AS-Interface or DeviceNet (option)
- With ATEX II cat. 3G/D approval

Type 8695 can be combined with…

Type 2101
Globe valve
actuator ø 50 mm

Type 2100
Angle-seat valve
actuator ø 50 mm

Type 2103
Diaphragm valve
actuator ø 50 mm

Type 2000

Hygienic process valves

The control head Type 8695 is optimized for integrated mounting on the 21XX process valve series with smaller actuator sizes. The registration of the valve position is done through a contact-free analog position sensor, which automatically recognises and saves the valve end position through the teach function when starting up. The integrated pilot valve controls single or double-acting actuators.

The design of the control unit and the actuator is specially designed for the requirements of a hygienic process environment and enables an internal control air channel without external tubings.

Besides the electrical position feedback signal the status of the device is shown directly on the control head itself through coloured LEDs showing a clear visible valve position status. As an option a fieldbus interface, AS-Interface, can be chosen.

The housing is easy to clean and features proven IP protection and chemically resistant materials for use in hygienic processing in food, beverage and pharmaceutical industries. Combined with Bürkert ELEMENT actuators the unique pilot valve system enables a compressed air recycling that avoids actuator chambers contamination from the environment.

Technical data	
Material	
Body	PPS, stainless steel
Cover	PC
Sealing	EPDM
Control medium	neutral gases, air, quality classes acc. to ISO 8573-1
Dust concentration	Class 7 (<40 µm particle size)
Particle density	Class 5 (<10 mg/m³)
Pressure condensation point	Class 3 (<-20 °C)
Oil concentration	Class X (<25 mg/m³)
Supply pressure	0 to 7 bar [1]
Actuator system	for single or double-acting actuators
Actuator series 21XX	actuator ø 50 mm
Pilot air ports	Threaded ports G1/8 stainless steel or push-in connector (tube Ø 6mm / 1/4")
Position feedback	Analog position sensor (contact-free) with autotune switchpoint (PNP) (NPN on request)
Stroke range valve spindle	2,5 to 32 mm
Ambient temperature	
with pilot valve	-10 to +55 °C
Without pilot valve	-20 to +60 °C
Installation	as required, preferably with actuator in upright position
Protection type	IP 65/67 according to EN 60529, Type 4X
Protection class	3 acc. to DIN EN 61140
Approvals	ATEX II cat. 3G/D cULus Cert. No. 238179
Ignition protection	II 3D Ex tc IIIC T135 °C Dc II 3G Ex nA IIC T4 Gc
Fieldbus communication (option)	AS-Interface / DeviceNet
Conformity	EMC directive 2014/30/EU

[1] The supply pressure has to be 0,5 - 1 bar above the minimum required pilot pressure for the valve actuator.

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Technical data, continued

Without fieldbus communication

Technical data	
Power supply	24 VDC ±10% UL: NEC Class 2
Residual ripple with DC	10%
Power consumption	< 2W
Electrical connection Multipole	 M12, 8-pole
Output	max. 100 mA per output

With fieldbus communication; AS-Interface

Technical data	
Profile	S-B.A.E. (A/B slave, max. 62 slaves/master) Certificate No. 87301 acc. to version 3.0
Power supply through bus line separated from bus signal	29.5 to 31.6 VDC, UL: NEC Class 2 according to specification on request
Power consumption **Units without external power supply** Max. power consumption Power consumption in normal operation (after current reduction; Valve + 1 end position achieved)	 120 mA 90 mA
Output Contact rating Watch-dog function	 ≤ 1W over AS-Interface integrated
Electrical connection	M12 4-pins
Programming data	see operating instructions

With fieldbus communication; DeviceNet

Technical data	
Profile	Group 2 Only Slave Device; MAC-ID and transfer rate adjustable through DIP-switch
Power supply	11 to 25 VDC UL: NEC Class 2
Power consumption	≤ 80 mA
Output Inrush current Hold current	 ≤ 50 mA ≤ 30 mA
Input "0" "1"	 0 to 1.5 V ≥ 8 V
Electrical connection	M12-Micro Style - flange connector 5-pins (configuration according DeviceNet-specification)

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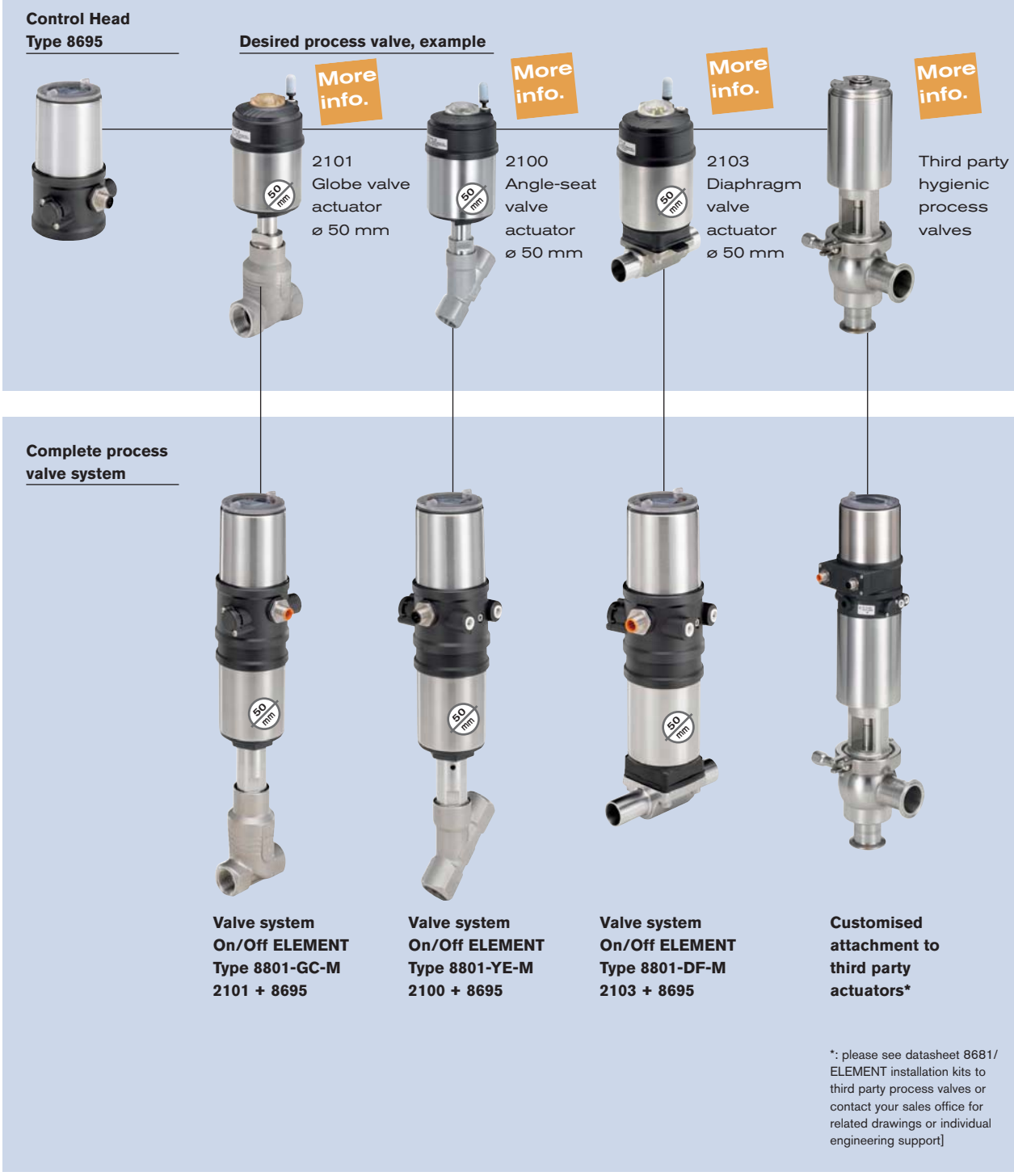
Ordering information for process valve system with integrated control head

A complete process valve system consists of a Control Head Type 8695 and a process valve Type 21XX.
The following information is necessary for the selection of a complete system:
- **Item no.** of the desired control head **Type 8695** (see ordering chart on p. 4)
- **Item no.** of the desired process valve **Type 21XX**
(see separate datasheet e.g. Type 2100, 2101, 2103)

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

When you click on the orange box "More info." below, you will come to our website for the resp. product where you can download the datasheet.

Example for process valve systems



*: please see datasheet 8681/ ELEMENT installation kits to third party process valves or contact your sales office for related drawings or individual engineering support]

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Ordering chart Control Head Type 8695 (other versions on request)

Electrical connection	Kommuni-kation	Control function	Pilot air ports threaded ports	Item no.	
Actuator series ELEMENT Type 21XX process valves				**Standard**	**ATEX II cat. 3G/D**
M12 multipole	AS-Interface S-B.A.E	single-acting	G1/8	227 444	265 075
		double-acting	G1/8	227 440	265 069
	DeviceNet	single-acting	G1/8	238 724	265 076
		double-acting	G1/8	265 081	265 070
		single-acting	G1/8	227 446	265 077
		double-acting	G1/8	227 442	265 071
			G1/8	234 246	265 067
Actuator series CLASSIC Type 20XX Prozessventile					
M12 multipole	AS-Interface S-B.A.E	single-acting	G1/8	223 896	265 078
		double-acting	G1/8	223 906	265 072
	DeviceNet	single-acting	G1/8	238 726	265 079
		double-acting	G1/8	238 727	265 073
		single-acting	G1/8	223 895	265 080
		double-acting	G1/8	223 905	265 074
				265 938	265 068

Note: All non-ATEX versions are UL approved.

Further versions on request

Approvals
FM

Additional
push-in pilot air ports (tube Ø 6mm / 1/4")

Ordering chart adapter kit (has to be ordered separately)

Description	Actuator size	Control function	Item no.
Adapter kit ELEMENT Types 21XX	Ø50 mm	universal	679 918
Adapter kit CLASSIC Types 20XX	Ø40 mm	universal	683 057
Adapter kit CLASSIC Types 20XX Globe and angle seat valves 2012/2000 Diaphragm valve 2030/2031	Ø50 mm	universal	 683 058 683 059
Adapter kit CLASSIC Types 20XX	Ø63 mm [1)]	universal	683 060

For installation kits to 3rd party process valves please see datasheet installation kits for hygienic process valves or contact your sales office for related drawings or individual engineering support

[1)] When combining actuator size Ø 63 mm with 8695 CLASSIC reduced switching dynamics should be expected. Please choose Type 8691 for shorter response times.

Ordering chart accessories

Description	Item no.
M12 socket, 8-pins, 5m assembled cable	919 267
M12 socket, 4-pins, 5m assebled cable	918 038
M12 socket, 5-pins, 5m assembled cable	264 606
Silencer G1/8	780 779
Silencer, push-in connector	902 662
Sensor puck (spare part)	677 245

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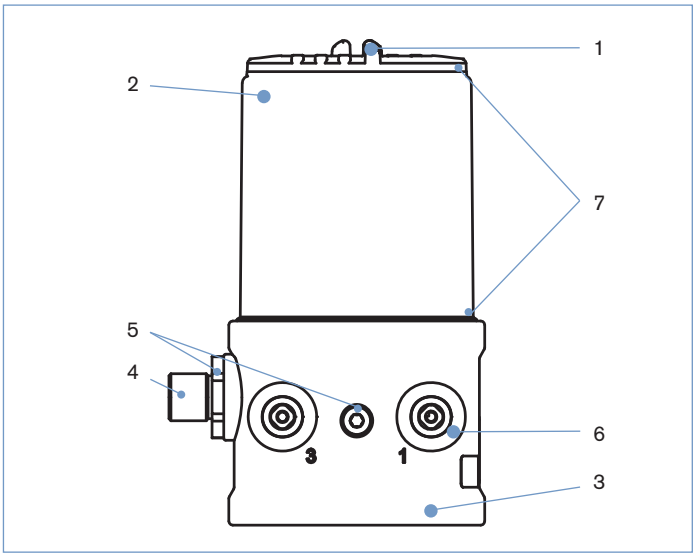
Materials



1	**Cover**	PC
2	**Body casing**	Stainless steel
3	**Basic body**	PPS
4	**Plug M12**	Stainless steel
5	**Screws**	Stainless steel
6	**Push-in connector** **Threaded ports G1/8**	POM/stainless steel Stainless steel
7	**Sealing**	EPDM

Mounting on third party hygienic process valves

More info.

*: please see datasheet 8681/ELEMENT installation kits to third party process valves or contact your sales office for related drawings or individual engineering support]

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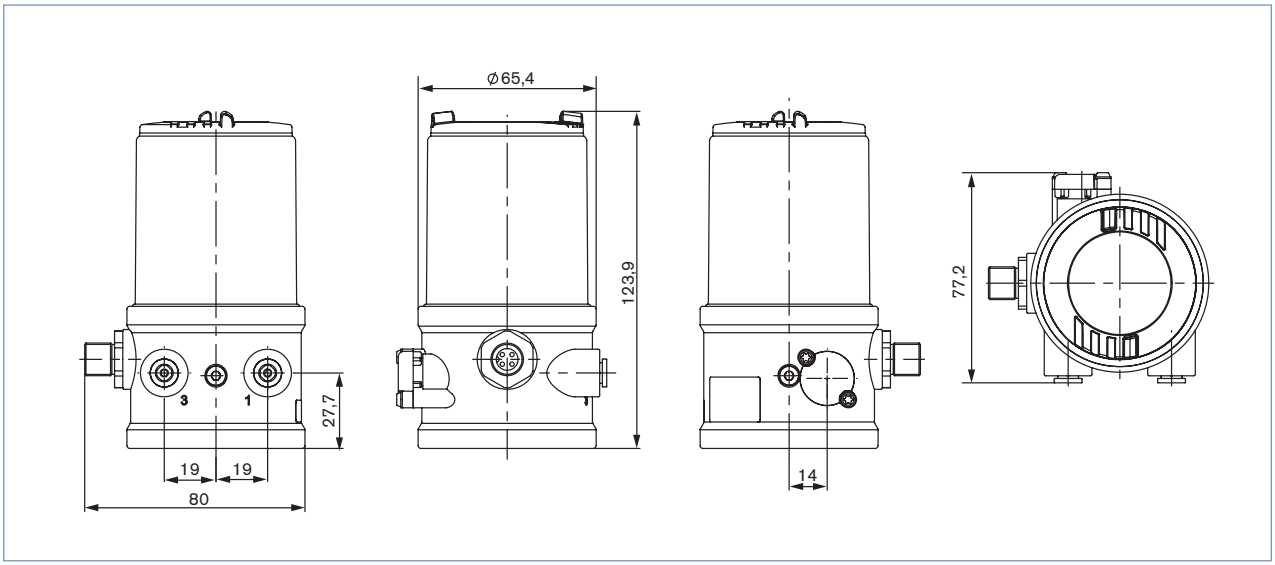
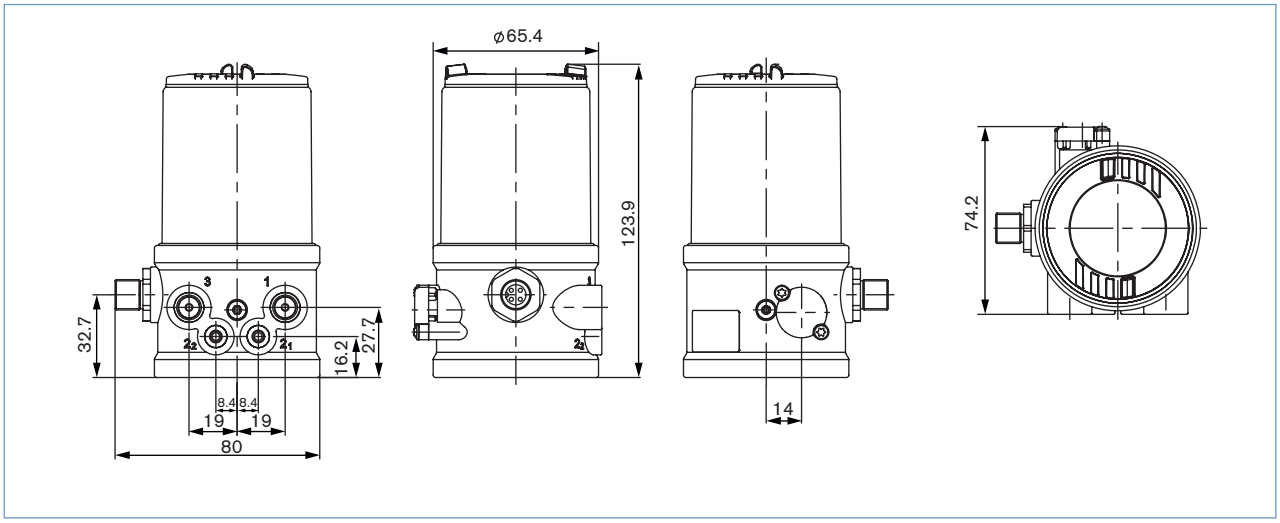
Dimensions [mm]

Mounting on process valve ELEMENT Types 21XX



Mounting on process valve CLASSIC Types 20XX



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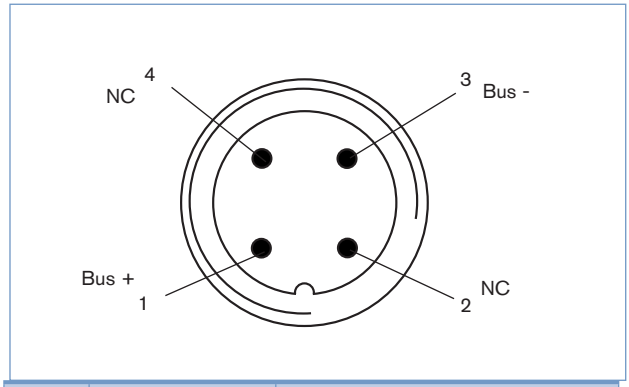
Electrical installation

AS-Interface

Multipole connection AS-Interface

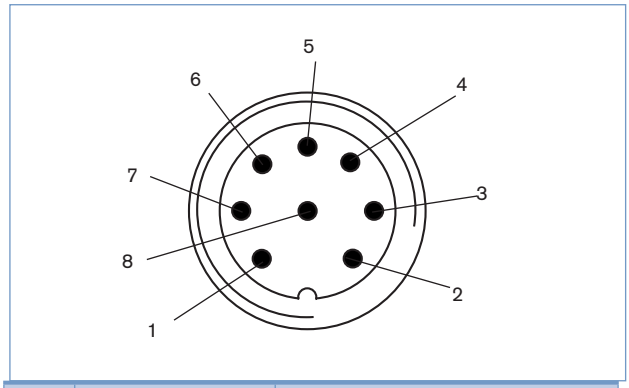
Bus connection (M12-circular connector, 4-pins, male)



Pin	Description	Configuration
1	Bus +	bus line AS-Interface +
2	NC	not assigned
3	Bus -	bus line AS-Interface -
4	NC	not assigned

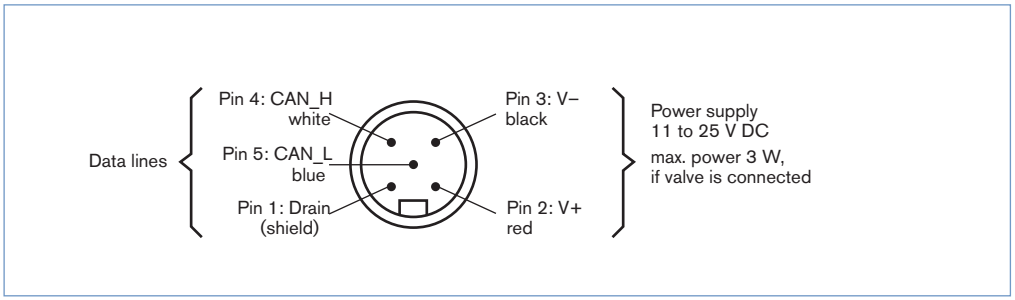
24 V DC

Multipole connection M12, 8-pins



Pin	Description	Configuration
1	Limit switch 1	IN 1 / TOP
2	Limit switch 2	IN 2 / BOTTOM
3	Power supply	GND
4	Operating voltage +	24 V DC
5	Valve control +	Valve +
6	Valve control -	Valve
7	n.a.	not assigned
8	n.a.	not assigned

With fieldbus communication DeviceNet



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