



Pneumatically operated 2-way angle seat control valve ELEMENT

- Excellent combination of good control characteristic and high flow rate
- Long service life
- Control units can be mounted directly without external tubing
- Stainless steel housing with thread, clamp and weld end connection

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

Can be combined with

	Type 8696	Digital electropneumatic positioner for integrated mounting on process control valves
	Type 8693	Digital electropneumatic process controller for integrated mounting on process control valves
	Type 8692	Digital electro-pneumatic positioner for integrated mounting on process control valves
	Type 8694	Digital electropneumatic positioner for integrated mounting on process control valves
	Type 8792	Digital electropneumatic positioner SideCONTROL
	Type 8793	Digital electropneumatic Process Controller SideCONTROL
	Type 8791	Digital electropneumatic positioner SideCONTROL
	Type 8802	ELEMENT continuous control valve systems – overview

Type description

In line with Burkert's philosophy for modular valves and sensors the construction of Type 2300 angle-seat valve fulfills tough criteria for process environments. Unrivalled cycle life and sealing integrity is guaranteed by the proven self adjusting packing gland. The parabolic trim results in a flow characteristic approximately 35% larger than conventional control valves. It is available in either stainless steel or with a durable PTFE seal for tight shut-off. The design enables the easy integration of automation modules whether they are digital electropneumatic positioner or process controller. The fully integrated system has a compact and smooth design, integrated pneumatic lines, IP65/67, NEMA Type 4X protection class and superior chemical resistance. This system has been engineered for reliable accurate control in applications where high flow rate is an advantage.

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1. General technical data

Product properties

Dimensions	Further information can be found in chapter “ 5. Dimensions ” on page 7.
Material	Further information can be found in chapter “ 4. Materials ” on page 6.
Design	Angle seat control valve
Nominal diameter (port connection)	DN 10...DN 65, NPS $\frac{3}{8}$...NPS 2 $\frac{1}{2}$
Safety setting in case of power failure	Normally closed (control function A), normally open (control function B)
Flow direction	Flow to open (below seat)

Performance data

Operating pressure	0 bar(g)...25 bar(g), vacuum versions up to -0.9 bar(g) (option) (see “ 6.1. Fluidic data ” on page 13)
Nominal pressure	PN 25 (DIN EN 1333), Class 150 (DIN EN 1759)
Pilot pressure	5.6 bar(g)...7 bar(g) (see “ 6.1. Fluidic data ” on page 13)
Seat leakage	DIN EN 60534-4:2006 (see “ 6.1. Fluidic data ” on page 13)
Leakage class III and IV	Stainless steel
Leakage class VI	PTFE and PEEK
K _v value	5 m ³ /h...90 m ³ /h (see “ 6.1. Fluidic data ” on page 13)
Operating characteristic	Modified equal percentage

Medium data

Process medium	Steam, water, neutral gases, alcohols, oils, fuels, hydraulic fluids, salt solutions, alkalis, organic solvents and oxygen
Medium temperature	-40 °C...+230 °C (see “ 6.2. Operating limits ” on page 15)
Viscosity	Max. 600 mm ² /s
Control medium	Air, neutral gases

Process/Port connection & communication

Port connection

Threaded connection	G (DIN ISO 228-1) NPT (ASME B1.20.1) RC (ISO 7-1)
Welded connection	DIN EN ISO 1127 / ISO 4200 / DIN 11866 series B DIN 11850-2 / DIN 11866 series A ASME BPE / DIN 11866 series C SMS 3008
Clamp connection	DIN 32676 series B (pipe: ISO 4200) DIN 32676 series A (pipe: DIN 11850-2) ASME BPE

Approvals and conformities

Further information can be found in chapter “[3. Approvals and conformities](#)” on page 4.

Material certificate	2.2, 3.1
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Environment and installation

Ambient temperature	-10 °C...+80 °C (with remote sensor Type 8798 for positioner or process controller, Type 8791/8792/8793) -10 °C...+55 °C (with positioner or process controller, Type 8692/8693/8694)
Degree of protection	IP65/67
Installation position	As required, preferably with actuator in upright position

2. Control functions

Symbol	Description
Flow direction below seat for fluids, steam and gases	
	Control function A (CF A) Pneumatically operated 2/2-way on/off valve Flow direction below seat Normally closed by spring force
	Control function B (CF B) Pneumatically operated 2/2-way on/off valve Flow direction below seat Normally opened by spring force

3. Approvals and conformities

3.1. General notes

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

3.2. Conformity

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

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

3.3. Standards

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

3.4. Explosion protection

Approval	Description
	Optional: Explosion protection (valid for the variable code PX51) As a category 2 device suitable for zone 1/21 and zone 2/22.
	ATEX: EPS 18 ATEX 2 008 X II 2G Ex h IIC T4...T2 Gb II 2D Ex h IIIC T135 °C...T300 °C Db
IECEx: IECEx EPS 18.0007X Ex h IIC T4...T2 Gb Ex h IIIC T135 °C...T300 °C Db	
Temperature class	T2
Maximum surface temperature	+ 300 °C
Ambient temperature	- 40...+ 130 °C
Maximum medium temperature	+ 285 °C
	T3
	+ 200 °C
	- 40...+ 130 °C
	+ 185 °C
	T4
	+ 135 °C
	- 40...+ 100 °C
	+ 125 °C

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

3.5. Drinking water

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

3.6. Foods and beverages/Hygiene

Conformity	Description
FDA	<p>FDA – Code of Federal Regulations (valid for the variable code PL02) All wetted materials are compliant with the Code of Federal Regulations published by the FDA (Food and Drug Administration, USA) according to the manufacturer's declaration.</p>
	<p>EC Regulation 1935/2004 of the European Parliament and of the Council (valid for the variable code PL01, PL02) All wetted materials are compliant with EC Regulation 1935/2004/EC according to the manufacturer's declaration.</p>

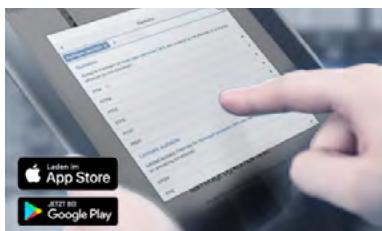
3.7. Others

Oxygen

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

4. Materials

4.1. Burkert resistApp

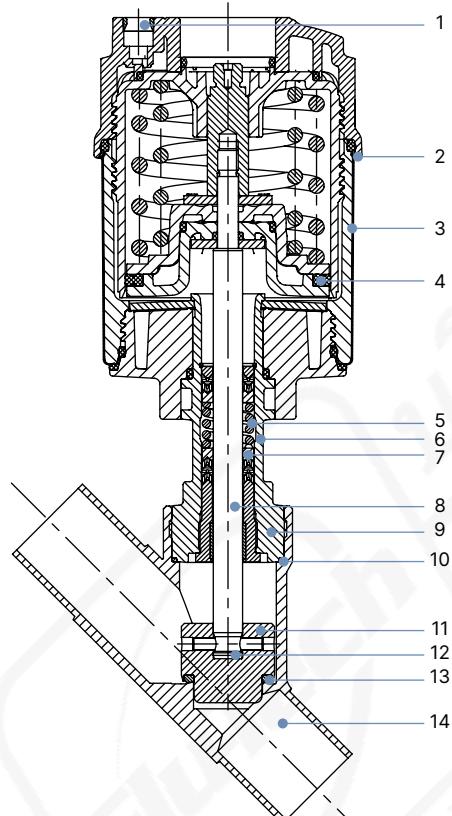


Burkert resistApp – Chemical resistance chart

You want to ensure the reliability and durability of the materials in your individual application case? Verify your combination of media and materials on our website or in our resistApp.

[Start chemical resistance check](#)

4.2. Material specifications

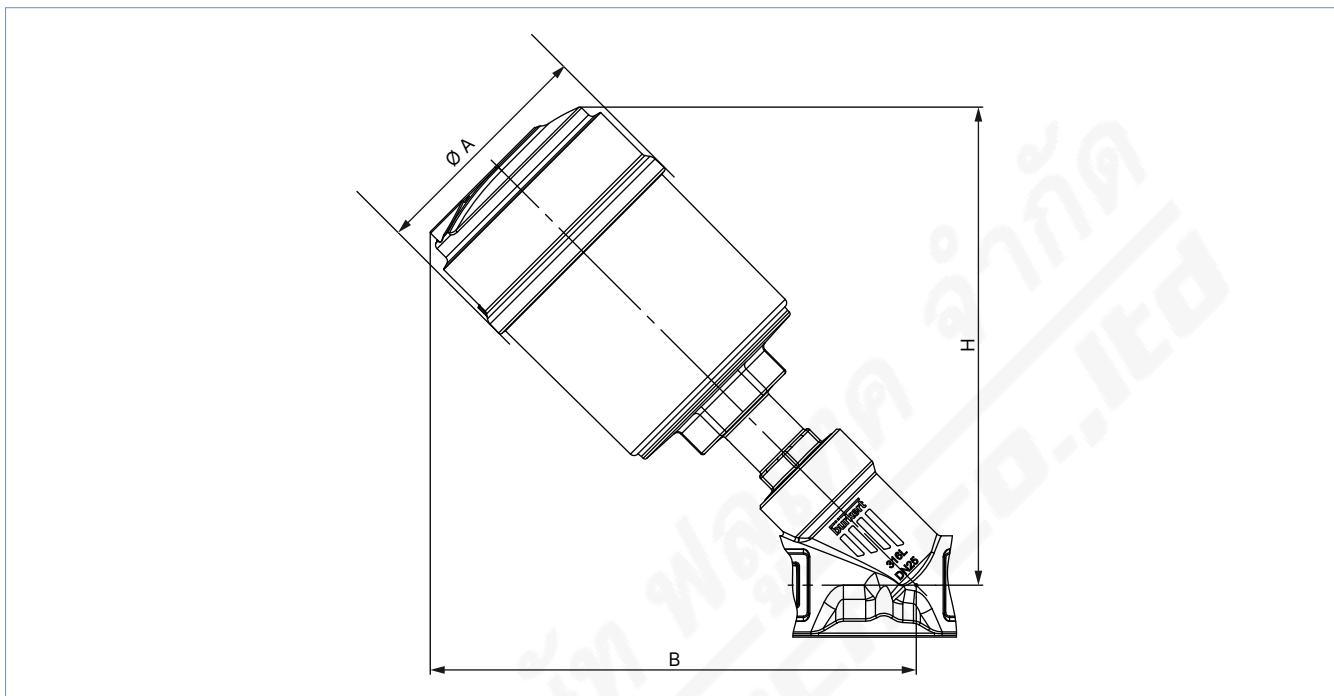


No.	Element	Material
1	Pilot air ports	Push-in connector PP (standard)
2	Actuator	PPS
3	Cover	Stainless steel 1.4561 (316Ti)
4	Piston seal	FKM
5	Spring	Stainless steel 1.4310
6	Pipe	Stainless steel CF3M
7	Spindle seal	PTFE V-rings (filled), with spring compensation
8	Spindle	Stainless steel 1.4401 (316)/1.4404 (316L)
9	Spindle guide	Stainless steel 1.4404 (316L)
10	Body seal	Graphite or PTFE
11	Control cone	Stainless steel 1.4571
12	Spring pin	Stainless steel 1.4310
13	Seat seal	Stainless steel 1.4571, PTFE or PEEK
14	Valve body	Stainless steel CF3M



5. Dimensions

5.1. Actuator



Nominal diameter (port connection)		Actuator size	Ø A	B ¹⁾	H ¹⁾
DN	NPS				
10	3/8	50 (D)	64.5	166	163
		70 (M)	91	182	178
15	1/2	50 (D)	64.5	166	163
		70 (M)	91	182	178
20	3/4	50 (D)	64.5	174	171
		70 (M)	91	189	186
25	1	50 (D)	64.5	175	173
		70 (M)	91	191	188
		90 (N)	120	228	227
32	1 1/4	90 (N)	120	201	197
		130 (P)	159	243	242
40	1 1/2	90 (N)	120	247	246
		130 (P)	159	296	296
50	2	90 (N)	120	262	261
		130 (P)	159	312	312
65	2 1/2	130 (P)	159	342	342

1.) The dimensions for B and H are maximum dimensions and may be up to 6 mm less, depending on the nominal diameter (port connection) and standard.

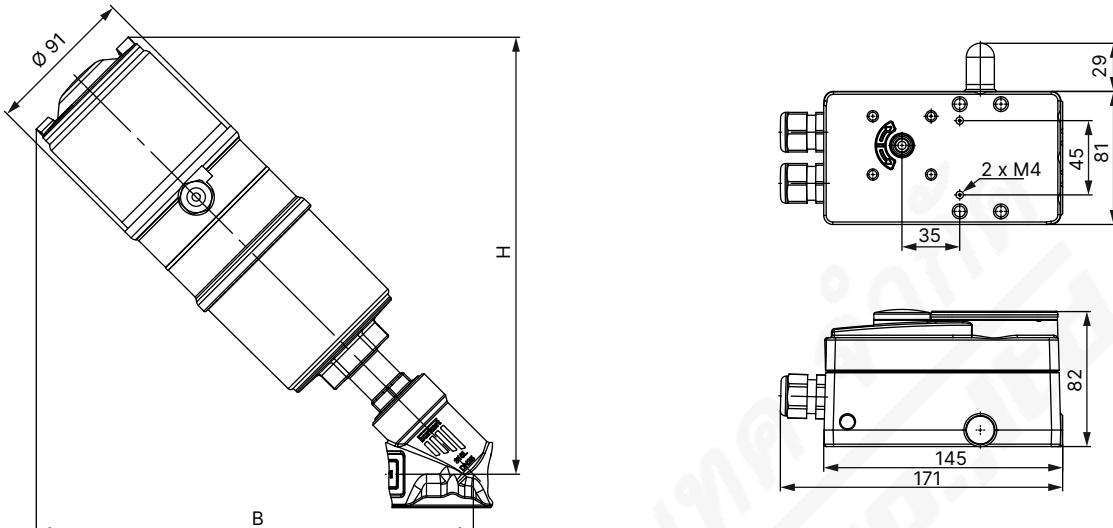
Valve system Continuous ELEMENT**Note:**

- Dimensions in mm
- Please note actuator size A in table “**5.1. Actuator**” on page 7

With positioner TopControl Type 8692 ▶ or with process controller TopControl Type 8693 ▶	With positioner TopControl Basic Type 8694 ▶			
With positioner TopControl Type 8696 ▶	Nominal diameter (port connection)	Actuator size	B/H ¹⁾ with Type 8692 or Type 8693	B/H ¹⁾ with Type 8694 or Type 8696
DN	NPS			
10	3/8	50 (D)	–	239
		70 (M)	285	257
15	1/2	50 (D)	–	239
		70 (M)	285	257
20	3/4	50 (D)	–	247
		70 (M)	293	264
25	1	50 (D)	–	249
		70 (M)	295	266
		90 (N)	332	303
32	1 1/4	90 (N)	304	276
		130 (P)	347	318
40	1 1/2	90 (N)	351	322
		130 (P)	387	359
50	2	90 (N)	366	337
		130 (P)	403	375
65	2 1/2	130 (P)	433	405

1.) The dimensions for B and H are maximum dimensions and may be up to 6 mm less, depending on the nominal diameter (port connection) and standard.

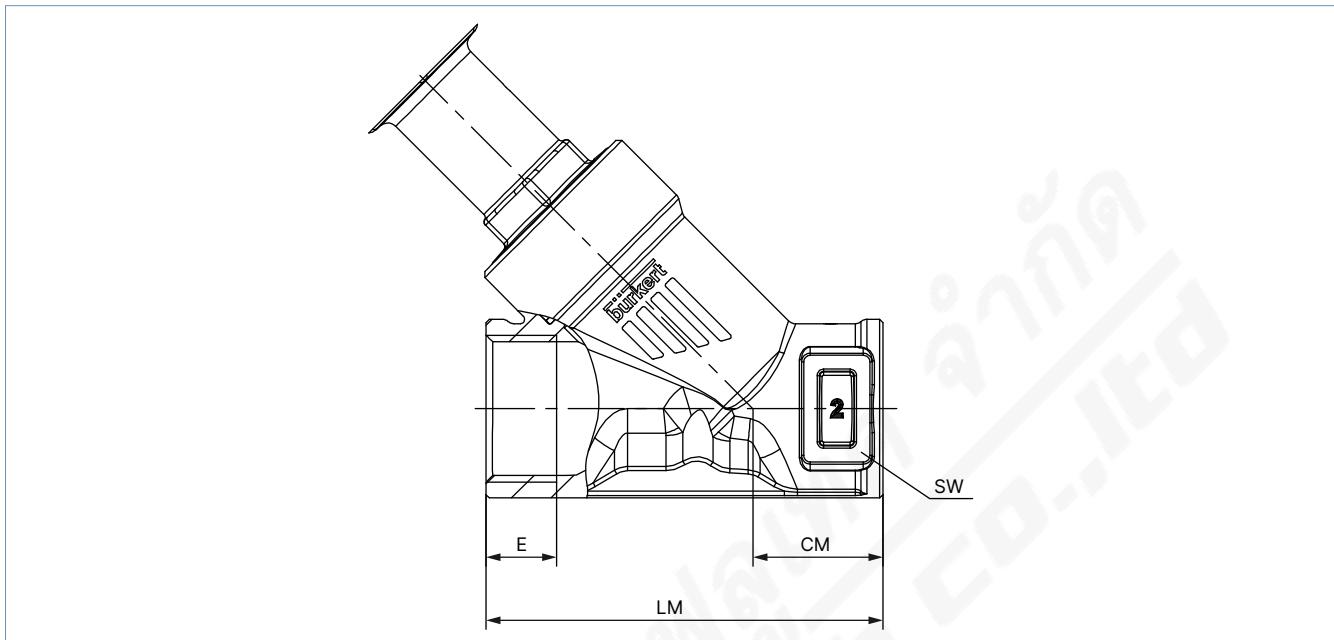
With remote positioner SideControl Type 8792 ▶ or with remote process controller SideControl Type 8793 ▶



Nominal diameter (port connection)		Actuator size	B / H with 8792 or 8793
DN	NPS		
10	3/8	70 (M)	257
15	1/2	70 (M)	257
20	3/4	70 (M)	264
25	1	70 (M) 90 (N)	266 303
32	1 1/4	90 (N) 130 (P)	276 318
40	1 1/2	90 (N) 130 (P)	322 359
50	2	90 (N) 130 (P)	337 375
65	2 1/2	130 (P)	405

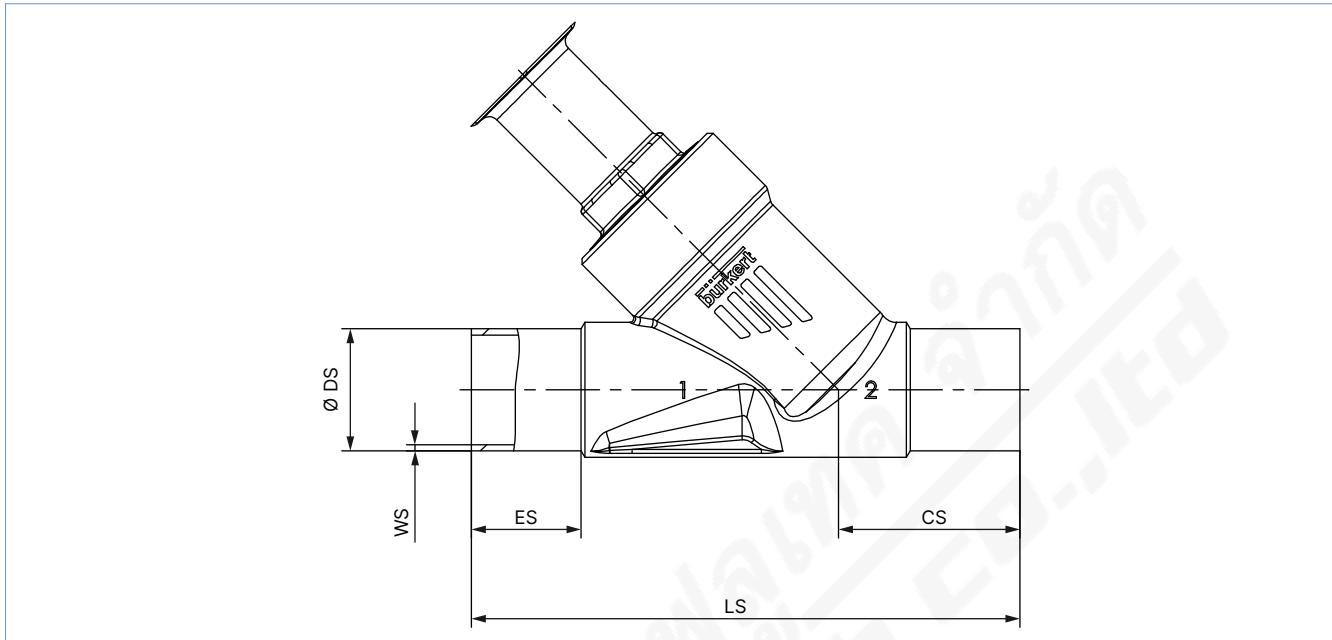
1.) The dimensions for B and H are maximum dimensions and may be up to 6 mm less, depending on the nominal diameter (port connection) and standard.

5.2. Body with threaded connection



Nominal diameter (port connection)		G (DIN ISO 228-1) NPT (ASME B1.20.1) RC (ISO 7-1)					CM	LM	SW
DN	NPS	[G]	[NPT]	[RC]					
15	1/2	14	13.7	13.2	24	65	27		
20	3/4	16	14.0	14.5	27	75	34		
25	1	18	16.8	16.8	29.5	90	41		
32	1 1/4	16	17.3	19.1	36	110	50		
40	1 1/2	18	17.3	19.1	35	120	55		
50	2	24	17.6	23.4	45	150	70		
65	2 1/2	26	23.7	26.7	57	185	85		

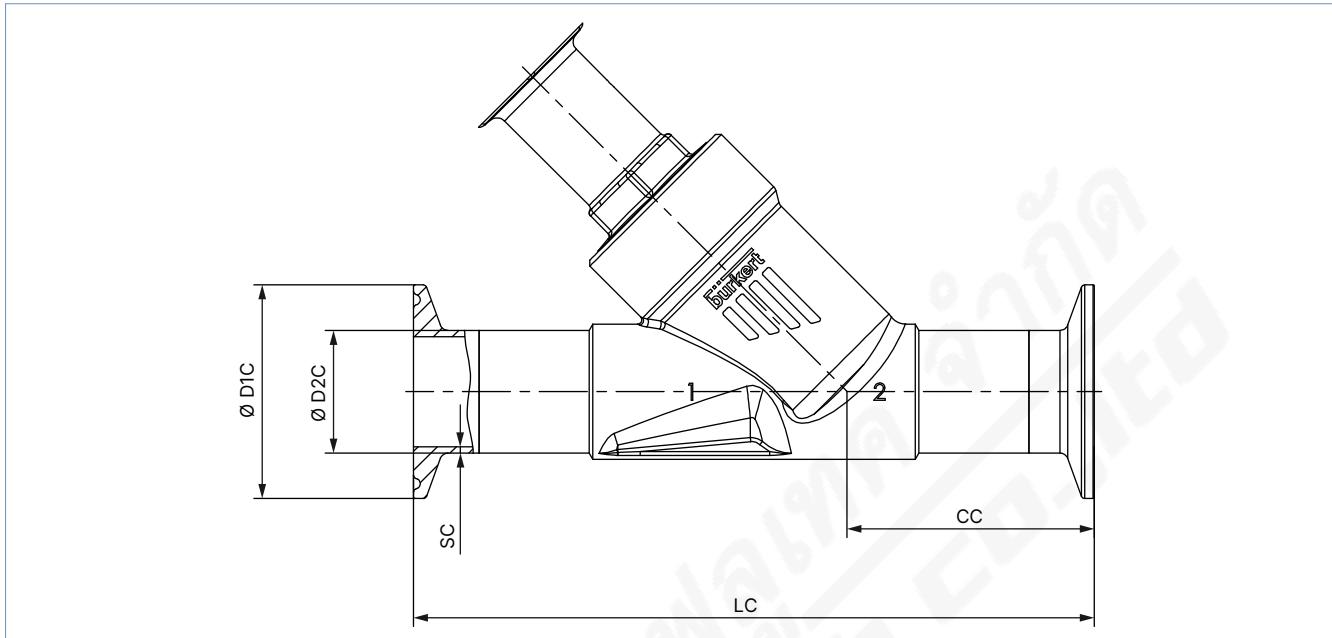
5.3. Body with welded connection



Nominal diameter (port connection)	DIN EN ISO 1127 / ISO 4200 / DIN 11866 series B						DIN 11850 - 2 / DIN 11866 series A				
	DN	ES	CS	LS	Ø DS	WS	ES	CS	LS	Ø DS	WS
15	19	34	100	21.3	1.6	19	34	100	19	1.5	
20	20	39	115	26.9	1.6	20	39	115	23	1.5	
25	26	43	130	33.7	2.0	26	43	130	29	1.5	
32	26	45	145	42.4	2.0	26	45	145	35	1.5	
40	26	49	160	48.3	2.0	26	49	160	41	1.5	
50	26	50	175	60.3	2.0	26	50	175	53	1.5	
65	26	50	210	76.1	2.3	26	50	210	70	2	

Nominal diameter (port connection)	ASME BPE / DIN 11866 series C					
	NPS	ES	CS	LS	Ø DS	WS
½	30	46		135	12.7	1.65
¾	30	52		145	19.05	1.65
1	30	51		152	25.4	1.65
1½	30	60		182	38.1	1.65
2	30	64		210	50.8	1.65
2½	26	56		230	63.5	1.65

5.4. Body with clamp connection



Nominal diameter (port connection)	Clamp: DIN 32676 series B Pipe: DIN EN ISO 1127 / ISO 4200 / DIN 11866 series B					Clamp: DIN 32676 series A Pipe: DIN 11850 - 2 / DIN 11866 series A					
	DN	LC	CC	Ø D1 C	Ø D2 C	SC	DN	LC	CC	Ø D1 C	Ø D2 C
15	156	49.0	50.5	21.3	1.6		130	49.5	34.0	19	1.5
20	150	56.5	50.5	26.9	1.6		150	57.0	34.0	23	1.5
25	160	58.0	50.5	33.7	2.0		160	58.5	50.5	29	1.5
32	200	57.5	50.5	42.4	2.0		180	58.0	50.5	35	1.5
40	200	69.0	64.0	48.3	2.0		200	69.5	50.5	41	1.5
50	230	77.5	77.5	60.3	2.6		230	78.0	64.0	53	1.5

Nominal diameter (port connection)	Clamp: ASME BPE Pipe: ASME BPE / DIN 11866 series C					
	NPS	LC	CC	Ø D1 C	Ø D2 C	SC
½	130	49.0		25.0	12.7	1.65
¾	150	56.5		25.0	19.05	1.65
1	160	58.0		50.5	25.4	1.65
1½	200	69.0		50.5	38.1	1.65
2	230	77.5		64.0	50.8	1.65

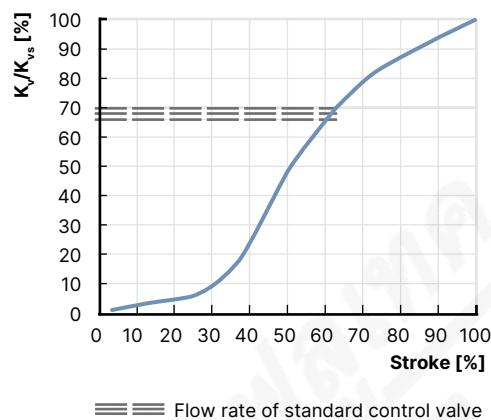
6. Performance specifications

6.1. Fluidic data

Flow characteristics

Note:

- Modified equal percentage flow characteristic.
- Higher flow values compared to globe control valves



Overview of fluidic data for flow below seat (for liquids, steam and gases)

Note:

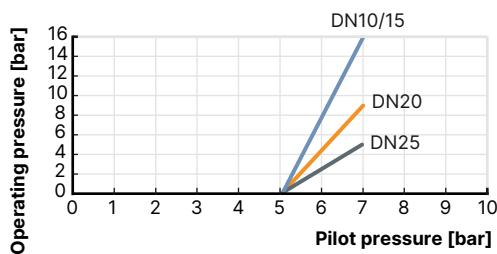
- K_v value [m^3/h]: measurement with water according to DIN EN 60534 - 2 - 4
- Operating limits (see "6.2. Operating limits" on page 15)

Nominal diameter (port connection)	Actuator size Ø	Operating pressure max. CF A (seat leakage class)			K_v value at stroke [m^3/h]										K_{vs} value	
		Seat seal														
		Stainless steel	PTFE	PEEK	5 %	10 %	20 %	30 %	40 %	50 %	60 %	70 %	80 %	90 %		
DN	NPS	[mm]	[bar(g)]													
ASME BPE (12.7 mm x 1.65 mm / 0.5" x 0.065")																
15	1/2	50 (D)	16 (IV)	16 (VI)	10 (VI)	0.22	0.24	0.30	0.56	1.2	1.5	1.6	1.6	1.6	1.6	
		70 (M)	25 (IV)	25 (VI)	25 (VI)											
Alle Normen																
15	1/2	50 (D)	16 (IV)	16 (VI)	10 (VI)	0.16	0.17	0.22	0.40	1.2	2.7	3.5	4.0	4.5	4.8	
		70 (M)	25 (IV)	25 (VI)	25 (VI)											
20	3/4	70 (M)	25 (IV)	25 (VI)	10 (VI)	0.26	0.27	0.40	1.1	4.0	5.9	7.2	8.3	9.1	9.6	
		90 (N)	25 (IV)	25 (VI)	25 (VI)											
25	1	70 (M)	12 (IV)	12 (VI)	7 (VI)	0.34	0.36	0.62	1.5	5.2	8.9	11.5	13.0	14.2	15.4	
		90 (N)	25 (IV)	25 (VI)	20 (VI)											
32	1 1/4	70 (M)	6 (III)	6 (VI)	-	0.43	0.52	0.82	1.4	4.0	9.3	13.8	16.4	19.2	21.5	
		90 (N)	16 (IV)	16 (VI)	10 (VI)											
		130 (P)	25 (IV)	25 (VI)	20 (VI)											
40	1 1/2	90 (N)	12 (III)	12 (VI)	7 (VI)	0.47	0.62	1.1	2.6	10.0	17.0	21.5	25.5	29.0	31.5	
		130 (P)	25 (IV)	25 (VI)	20 (VI)	0.48	0.66	1.4	5.1	14.0	20.0	24.5	28.5	31.5	34.5	
50	2	90 (N)	7 (III)	7 (VI)	-	0.85	1.1	1.6	2.7	10.2	20.0	28.5	35.5	40.5	45.0	
		130 (P)	25 (20 ^{1/4}) (IV)	25 (20 ^{1/4}) (VI)	20 (VI)	0.87	1.2	1.8	4.0	15.2	26.0	35.0	40.5	45.0	48.0	
65	2 1/2	130 (P)	16 (15 ^{1/4}) (IV)	16 (15 ^{1/4}) (VI)	10 (VI)	1.7	2.0	6.5	20.0	35.0	48.0	58	67	75	83	

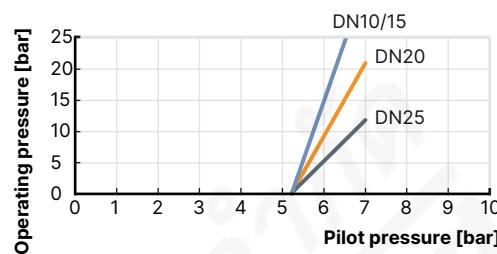
1.) According to pressure equipment directive 97/23/EC for compressible fluids of group 1 (dangerous gases and vapours) according to article 3, number 1.3, letter a, first indent)

Pilot pressure diagram with flow direction below seat (control function B)
Actuator size Ø 50 mm

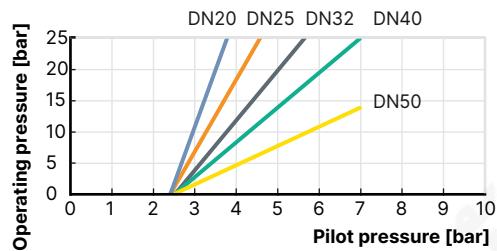
Maximum control pressure 7 bar(g)


Actuator size Ø 70 mm

Maximum control pressure 7 bar(g)


Actuator size Ø 90 mm

Maximum control pressure 7 bar(g)


Actuator size Ø 130 mm

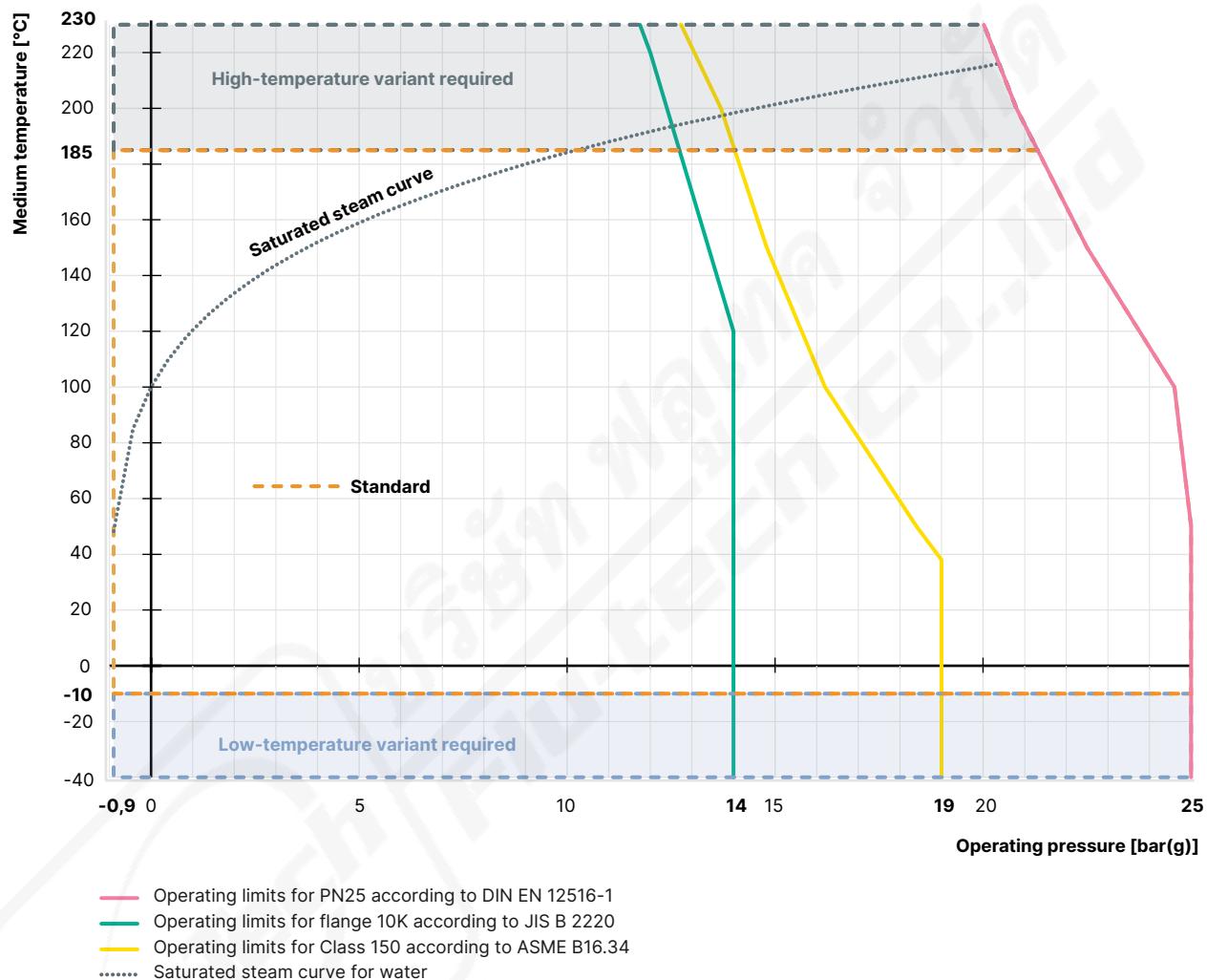
Maximum control pressure 7 bar(g)



6.2. Operating limits

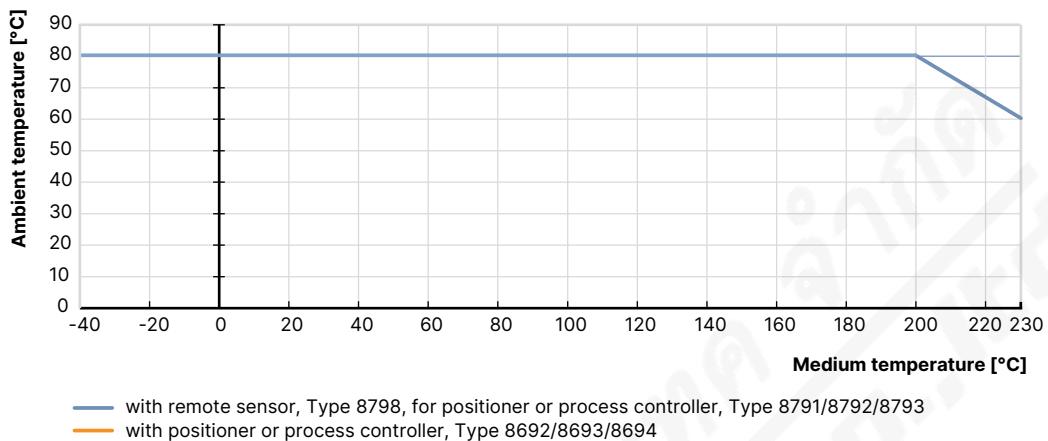
Operating limits for medium temperature and operating pressure

The operating range of Burkert process valves is in addition to the maximum operating pressures limited by the nominal pressure according to the relevant standard.



Operating limits for ambient and medium temperature

ELEMENT Actuator



Operating limits for seat seal

Tight sealing required	Leakage class (DIN EN 60534-4)	Medium temperature	Seat seal
No An additional shut-off valve is recommended	III/IV (metal seals) Metal-sealed valves have larger leakages (0.1% or 0.01% of the nominal flow rate are permissible). Metallic seals are impervious even under demanding process conditions.	- 40...+ 230 °C	Stainless steel
Yes An additional shut-off valve is often unnecessary.	VI (soft seals) By using plastics as sealing material, the control valves can close tightly. Their use is not recommended in cases of increased erosion due to demanding process conditions.	- 40...+ 130 °C (recommended for $\leq + 130$ °C) - 10...+ 230 °C (recommended for $> + 130$ °C)	PTFE PEEK



Operating limits for optional versions

High-temperature version

Thanks to an adaption of the spindle seal, this version is suitable for applications with steam, neutral gases and other heat transfer mediums up to + 230 °C.

Water version

For applications with water up to + 200 °C, a special configuration of the spindle seal increases service life significantly. It is recommended for water temperatures starting at + 85 °C.

Drinking water version

Wetted materials are tested in contact with the medium are tested for suitability with drinking water up to + 85 °C.

Vacuum version

Without leakage bore, this design is suitable for pressures down to - 0.9 bar(g).

Low-temperature version

Suitable for minimum medium temperatures down to - 40 °C

Version for oxygen

Non-metallic wetted materials are tested for suitability with oxygen and are suitable for operating pressures up to 25 bar(g) and medium temperatures up to + 60 °C.

7. Product accessories

Process controller TopControl

Type 8693 ▶ Actuator size Ø 70/90/130 mm



The intelligent process controller Type 8693 is designed for integrated mounting on pneumatic actuators from the process control valve series Type 23xx/2103 and especially for the requirements of hygienic process conditions. Using the TUNE functions, the positioner and process controller can be initialised automatically. Easy operation and selection of additional software functions as well as parameterisation are carried out via the large graphic display and a touch keypad. Device configuration and parameterisation can also be conveniently carried out by the Burkert Communicator software via a PC interface.

Features

- Contactless position sensor
- Universal control system for single and double acting actuators
- Highly dynamic actuating system without internal control air consumption in the balanced state
- Integrated diagnostic functions for valve monitoring
- Automatic initialisation of the positioner and process controller using the TUNE function
- Safeguarding in the event of failure of the electrical or pneumatic auxiliary power
- PROFIBUS DPV1, EtherNet/IP, PROFINET, Modbus TCP, Burkert system bus (büS)
- Compact and robust hygienic stainless steel design

Customer benefits

- Quick and easy commissioning
- Intuitive and simple operation via a graphic display with backlight and touch keypad
- High system availability due to increased drive service life by means of spring chamber ventilation
- Guaranteed reliability and predictable maintenance through valve monitoring and diagnostics
- Easy maintenance and process monitoring



Positioner TopControl**Type 8692 ▶ Actuator size Ø 70/90/130 mm**

The intelligent electropneumatic positioner Type 8692 is designed for integrated attachment to pneumatic actuators of the process control valve series Type 23xx/2103 and especially for the requirements of hygienic process conditions. The positioner can be initialised automatically using the TUNE function. Easy operation and the selection of the extensive additional software functions as well as parameterisation are carried out via the large graphic display and the touch keypad. The device configuration and parameterisation can also be conveniently carried out using the Burkert Communicator software via a PC interface.

Features

- Contactless position sensor
- Universal positioning system for single and double-acting actuators in the balanced state
- Highly dynamic positioning system without internal control air consumption
- Integrated diagnostic functions for valve monitoring
- Automatic initialisation of the positioner by using the TUNE function
- Safeguard in the event of failure of the electrical or pneumatic auxiliary power
- PROFIBUS DPV1, EtherNet/IP, PROFINET, Modbus TCP, Burkert system bus (büS)
- Compact and robust hygienic stainless steel design

Customer benefits

- Quick and easy commissioning
- Intuitive and simple operation via graphic display with backlight and touch keypad
- High system availability due to increased drive service life by means of spring chamber ventilation
- Guaranteed reliability and predictable maintenance through valve monitoring and diagnostics

Positioner TopControl BASIC**Type 8694 ▶ Actuator size Ø 70/90/130 mm**

The compact positioner Type 8694/8696 is designed for integrated attachment to pneumatic actuators of the Type 23xx/2103 process control valve series and especially for the requirements of hygienic process conditions. Operation and parameterisation are performed via push buttons and DIP switches. The device configuration and parameterisation can also be conveniently carried out using the Burkert Communicator software via a PC interface.

Features

- Contactless position sensor
- Universal positioning system for single and double-acting actuators
- Ultra dynamic positioning system without internal control air consumption
- AS-Interface, IO-Link, Burkert system bus (büS) (only 8694)
- Compact and robust hygienic stainless steel design

Customer benefits

- Simple and safe commissioning using the teach function
- Minimum space requirement in the plant pipework for more flexibility in plant design
- High system availability due to increased drive service life by means of spring chamber ventilation

Type 8696 ▶ Actuator size Ø 50 mm

Process controller SideControl Remote**Type 8793 ▶ with remote sensor 8798 ▶ Actuator size Ø 70/90/130 mm**

The intelligent digital positioner and process controller Type 8793 is designed for mounting on lift or swivel drives with standardisation in accordance with IEC 534 - 6 or VDI/VDE 3845 for demanding control tasks. The variant with remote position sensor Type 8798 is used to control Burkert process control valves. It is operated via a graphic display with backlight. The initialisation of the positioner and process controller can be done automatically using the TUNE function. The type of controlled system is automatically recognised and the appropriate controller structure with the corresponding optimum parameter set is determined.

Features

- Universal control system for single and double acting actuators
- Integrated diagnostic functions for valve monitoring
- Automatic initialisation of the position and process controller using the TUNE function
- Ultra-dynamic actuating system without internal control air consumption
- Illuminated graphic display with backlight and touch keypad
- PROFIBUS DPV1, EtherNet/IP, PROFINET, Modbus TCP, Burkert system bus (büS)
- Compact and robust design
- Adaptation according to IEC 534 - 6 or VDI/VDE 3845 for lift and swivel drives or as remote variant on Burkert process valves

**Customer benefits**

- Quick and easy commissioning
- Intuitive and simple operation via graphic display with backlight and touch keypad
- Guaranteed reliability and scheduled maintenance thanks to valve monitoring and diagnostics
- Easy maintenance and process monitoring
- Long service life

Positioner SideControl Remote**Positioner Type 8792 ▶ with remote sensor Type 8798 ▶ Actuator size Ø 70/90/130 mm**

The intelligent digital positioner and process controller Type 8792 is designed for attachment to lift and swivel drives with standardisation according to IEC 534 - 6 or VDI/VDE 3845 for demanding control tasks. The Type 8798 version with remote position sensor is used to control Burkert process control valves. It is operated via a graphic display with backlight. The initialisation of the positioner and process controller can be done automatically by using the TUNE function.

Features

- Illuminated graphic display with backlight and touch keypad
- Universal control system for single and double acting actuators
- Ultra-dynamic actuating system without internal control air consumption
- Integrated diagnostic functions for valve monitoring
- PROFIBUS DPV1, EtherNet/IP, PROFINET, Modbus TCP, Burkert system bus (büS)
- Compact and robust design
- Adaptation according to IEC 534 - 6 or VDI/VDE 3845 for lift and swivel drives or as remote variant on Burkert process valves

**Customer benefits**

- Quick and easy commissioning
- Intuitive and simple operation via a graphic display with backlight and touch keypad
- Guaranteed reliability and scheduled maintenance thanks to valve monitoring and diagnostics
- Long service life

Positioner SideControl BASIC Remote**Positioner Type 8791 ▶ with remote sensor Type 8798 ▶ Actuator size Ø 70/90/130 mm****Positioner IP20 Type 8791 ▶****with remote sensor****Type 8798 ▶****Actuator size Ø 70/90/130 mm**

The intelligent digital positioner and process controller Type 8791/8798 is designed for mounting on linear and rotary actuators with standardisation in accordance with IEC 534-6 or VDI/VDE 3845 for demanding control tasks. The variant with remote position sensor Type 8798 is used for controlling Burkert process control valves. It is operated via a graphic display with backlight. The positioner and process controller can be initialised automatically using the TUNE functions.

Features

- Simple design
- Universal control system for single and double acting actuators
- Highly dynamic actuating system without internal control air consumption in the balanced state
- Adaptation according to IEC 534-6 or VDI/VDE 3845 for lift and swivel drives or as remote variant on Burkert process valves
- AS-Interface, IO-Link, Burkert system bus (büS) (only for positioner Type 8791 BASIC Remote)

Customer benefits

- Simple commissioning
- Simple device for simple control tasks
- Low energy consumption

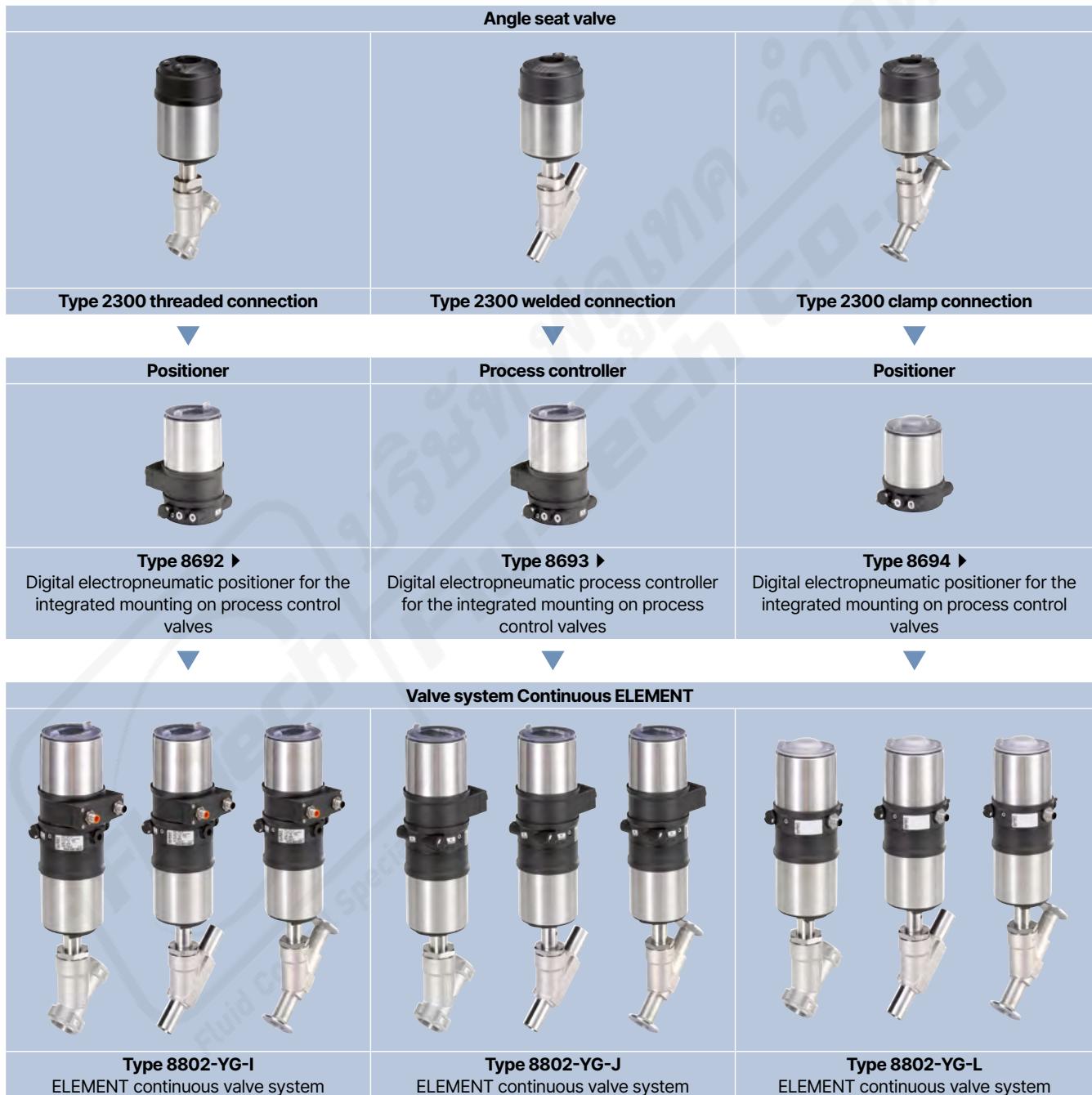


8. Networking and combination with other Burkert products

The angle seat valve Type 2300 can be combined with the **process controller Type 8693** or the positioner controller **Type 8692/8694** to form the **Continuous ELEMENT valve system Type 8802-YG**.

Note:

- Use the **Product Enquiry Form** for the configuration of other valve systems (see "**9.3. Burkert Product Enquiry Form**" on page 23).
- You order two components and receive a completely assembled and tested valve.



The **angle seat valve Type 2300** can be combined with the **process controller Type 8793**, the **positioner Type 8792** or the **TopControl Basic Type 8696** to form the **Continuous ELEMENT valve system Type 8802-YG**.

Note:

- Use the **Product Enquiry Form** for the configuration of other valve systems (see "[9.3. Burkert Product Enquiry Form" on page 23](#)).
- You order two components and receive a completely assembled and tested valve.



9. Ordering information

9.1. Burkert eShop



Burkert eShop – Easy ordering and quick delivery

You want to find your desired Burkert product or spare part quickly and order directly? Our online shop is available for you 24/7. Sign up and enjoy all the benefits.

[Order online now](#)

9.2. Burkert product filter



Burkert product filter – Get quickly to the right product

You want to select products comfortably based on your technical requirements? Use the Burkert product filter and find suitable articles for your application quickly and easily.

[Try out our product filter](#)

9.3. Burkert Product Enquiry Form

Note:

Please see our Product Enquiry Form for a full explanation of our specification key.

Burkert Product Enquiry Form – Your enquiry quickly and compactly

Would you like to make a specific product enquiry based on your technical requirements? Use our Product Enquiry Form for this purpose. There you will find all the relevant information for your Burkert contact. This will enable us to provide you with the best possible advice.

[Fill out the form now](#)

9.4. Ordering chart threaded connection

Valves with flow direction below seat

Control function	Nominal diameter (port connection)	Port connection thread	Actuator size Ø	K _{vs} value water	Operating pressure max. +185 °C	Article no. Seat seal	Leakage class	Article no. Seat seal	Leakage class	
G thread										
A (CF A) see control functions ^{1.)}	15	G 1/2	50 (D)	5	16	213712 ☰	VI	213763 ☰	IV	
		G 1/2	70 (M)	5	25	213713 ☰	VI	213764 ☰	IV	
	20	G 3/4	70 (M)	10	25	213715 ☰	VI	213766 ☰	IV	
		G 1	70 (M)	16	12	213718 ☰	VI	213768 ☰	IV	
	25	G 1	90 (N)	16	25	245405 ☰	VI	229276 ☰	IV	
		G 1 1/4	70 (M)	23	6	213719 ☰	VI	213769 ☰	III	
	32	G 1 1/4	90 (N)	23	16	245406 ☰	VI	225395 ☰	IV	
		G 1 1/2	90 (N)	34	12	213720 ☰	VI	213770 ☰	III	
	40	G 1 1/2	130 (P)	36	25	223307 ☰	VI	223310 ☰	IV	
		G 1 1/2	130 (P)	90	16 (15 ^{2.)})	239487 ☰	VI	239503 ☰	IV	
	50	G 2	90 (N)	49	7	203500 ☰	VI	206230 ☰	III	
		G 2	130 (P)	53	25 (20 ^{2.)})	213697 ☰	VI	213708 ☰	IV	
	65	G 2 1/2	130 (P)	90	16 (15 ^{2.)})	239487 ☰	VI	239503 ☰	IV	
		G 2 1/2	130 (P)	90	See diagram ^{3.)}		239495 ☰	VI	239511 ☰	IV
B (CF B) see control functions ^{1.)}	15	G 1/2	50 (D)	5	213722 ☰	VI	223313 ☰	IV		
		G 1/2	70 (M)	5	213721 ☰	VI	223314 ☰	IV		
	20	G 3/4	70 (M)	10	213724 ☰	VI	223316 ☰	IV		
		G 1	70 (M)	16	213726 ☰	VI	223318 ☰	III		
	25	G 1 1/4	70 (M)	23	213727 ☰	VI	223319 ☰	III		
		G 1 1/2	90 (N)	34	213728 ☰	VI	223320 ☰	IV		
	40	G 2	90 (N)	49	203510 ☰	VI	223321 ☰	III		
		G 2 1/2	130 (P)	90	239495 ☰	VI	239511 ☰	IV		
NPT thread										
A (CF A) see control functions ^{1.)}	15	NPT 1/2	50 (D)	5	16	213729 ☰	VI	213771 ☰	IV	
		NPT 1/2	70 (M)	5	25	213730 ☰	VI	213772 ☰	IV	
	20	NPT 3/4	70 (M)	10	25	213732 ☰	VI	213774 ☰	IV	
		NPT 1	70 (M)	16	12	213734 ☰	VI	213776 ☰	IV	
	25	NPT 1	90 (N)	16	25	465032 ☰	VI	464364 ☰	IV	
		NPT 1 1/4	70 (M)	23	6	213736 ☰	VI	213777 ☰	III	
	32	NPT 1 1/4	90 (N)	23	16	465033 ☰	VI	464365 ☰	IV	
		NPT 1 1/2	90 (N)	34	12	213737 ☰	VI	213778 ☰	III	
	40	NPT 1 1/2	130 (P)	36	25	223308 ☰	VI	223311 ☰	IV	
		NPT 2	90 (N)	49	7	203537 ☰	VI	206239 ☰	III	
	50	NPT 2	130 (P)	53	25 (20 ^{2.)})	213699 ☰	VI	213709 ☰	IV	
		NPT 2 1/2	130 (P)	90	16 (15 ^{2.)})	239488 ☰	VI	239504 ☰	IV	
B (CF B) see control functions ^{1.)}	15	NPT 1/2	50 (D)	5	See diagram ^{3.)}		213738 ☰	VI	223322 ☰	IV
		NPT 1/2	70 (M)	5			213739 ☰	VI	223323 ☰	IV
	20	NPT 3/4	70 (M)	10			213741 ☰	VI	223325 ☰	IV
		NPT 1	70 (M)	16			213743 ☰	VI	223327 ☰	III
	25	NPT 1 1/4	70 (M)	23			213744 ☰	VI	223328 ☰	III
		NPT 1 1/2	90 (N)	34			213745 ☰	VI	223329 ☰	IV
	40	NPT 2	90 (N)	49			203546 ☰	VI	223330 ☰	III
		NPT 2 1/2	130 (P)	90			239486 ☰	VI	239512 ☰	IV

1.) Further information can be found in chapter “[2. Control functions](#)” on page 4.

2.) According to pressure equipment directive 97/23/EC for compressible fluids of group 1 (dangerous gases and vapours) according to article 3, number 1.3, letter a, first indent

3.) See diagrams in chapter “[Pilot pressure diagram with flow direction below seat \(control function B\)](#)” on page 14.



Control function	Nominal diameter (port connection)	Port connection thread	Actuator size Ø	K _{vs} value water	Operating pressure max. +185 °C	Article no. Seat seal	Leakage class	Article no. Seat seal	Leakage class	
	DN	[inch]	[mm]	[m ³ /h]	[bar(g)]	PTFE		Stainless steel		
RC thread										
A (CF A) see control functions ^{1.)}	15	RC ½	50 (D)	5	16	213746 ☰	VI	213779 ☰	IV	
		RC ½	70 (M)	5	25	213747 ☰	VI	213780 ☰	IV	
	20	RC ¾	70 (M)	10	25	213749 ☰	VI	213782 ☰	IV	
	25	RC 1	70 (M)	16	12	213751 ☰	VI	213784 ☰	IV	
		RC 1	90 (N)	16	25	245407 ☰	VI	245438 ☰	IV	
	32	RC 1¼	70 (M)	23	6	213752 ☰	VI	213785 ☰	III	
		RC 1¼	90 (N)	23	16	245408 ☰	VI	245439 ☰	IV	
	40	RC 1½	90 (N)	34	12	213753 ☰	VI	213786 ☰	III	
		RC 1½	130 (P)	36	25	223309 ☰	VI	223312 ☰	IV	
	50	RC 2	90 (N)	49	7	203555 ☰	VI	206249 ☰	III	
B (CF B) see control functions ^{1.)}		RC 2	130 (P)	53	25 (20 ^{2.)})	213700 ☰	VI	213710 ☰	IV	
	65	RC 2½	130 (P)	90	16 (15 ^{2.)})	239489 ☰	VI	239506 ☰	IV	
	15	RC ½	50 (D)	5	See diagram ^{3.)}		213755 ☰	VI	223331 ☰	IV
		RC ½	70 (M)	5			213756 ☰	VI	223332 ☰	IV
	20	RC ¾	70 (M)	10			213758 ☰	VI	223334 ☰	IV
	25	RC 1	70 (M)	16			213760 ☰	VI	223336 ☰	III
	32	RC 1¼	70 (M)	23			213761 ☰	VI	223337 ☰	III
	40	RC 1½	90 (N)	34			213762 ☰	VI	223338 ☰	IV
	50	RC 2	90 (N)	49			203564 ☰	VI	223339 ☰	III
	65	RC 2½	130 (P)	90			239497 ☰	VI	239513 ☰	IV

1.) Further information can be found in chapter "[2. Control functions](#)" on page 4.

2.) According to pressure equipment directive 97/23/EC for compressible fluids of group 1 (dangerous gases and vapours) according to article 3, number 1.3, letter a, first indent)

3.) See diagrams in chapter "[Pilot pressure diagram with flow direction below seat \(control function B\)](#)" on page 14.

9.5. Ordering chart welded connection

Valves with flow direction below seat

Control function	Nominal diameter (port connection)	Connection Ø DS x WS	Actuator size Ø	K _{vs} value water	Operating pressure max. + 185 °C	Article no. Seat seal	Leakage class	Article no. Seat seal	Leakage class
DIN EN ISO 1127									
A (CF A) see control functions ^{1.)}	15	21.3 x 1.6	50 (D)	5	16	203565 20	VI	206250 20	IV
		21.3 x 1.6	70 (M)	5	25	203566 20	VI	206252 20	IV
	20	26.9 x 1.6	70 (M)	10	25	203568 20	VI	206254 20	IV
	25	33.7 x 2	70 (M)	16	12	203570 20	VI	206256 20	III
		33.7 x 2	90 (N)	16	25	245395 20	VI	245403 20	IV
	32	42.4 x 2	70 (M)	23	6	203571 20	VI	206257 20	III
		42.4 x 2	90 (N)	23	16	204766 20	VI	245404 20	IV
	40	48.3 x 2	90 (N)	34	12	203572 20	VI	206258 20	III
		48.3 x 2	130 (P)	36	25	223299 20	VI	223306 20	IV
	50	60.3 x 2.0	90 (N)	49	7	274669 20	VI	274670 20	III
		60.3 x 2.0	130 (P)	53	25 (20 ^{2.)})	274672 20	VI	274673 20	IV
	65	76.1 x 2.3	130 (P)	90	16 (15 ^{2.)})	239490 20	VI	217770 20	IV
B (CF B) see control functions ^{1.)}	15	21.3 x 1.6	50 (D)	5	See diagram ^{3.)}	203574 20	VI	223340 20	IV
		21.3 x 1.6	70 (M)	5		203575 20	VI	223341 20	IV
	20	26.9 x 1.6	70 (M)	10		203577 20	VI	223343 20	IV
	25	33.7 x 2	70 (M)	16		203579 20	VI	223345 20	III
	32	42.4 x 2	70 (M)	23		203580 20	VI	223346 20	III
	40	48.3 x 2	90 (N)	34		203581 20	VI	223347 20	IV
	50	60.3 x 2.0	90 (N)	49		274674 20	VI	274675 20	III
	65	76.1 x 2.3	130 (P)	90		239498 20	VI	239515 20	IV
DIN 11850 R2									
A (CF A) see control functions ^{1.)}	15	19 x 1.5	50 (D)	5	16	203583 20	VI	223349 20	IV
		19 x 1.5	70 (M)	5	25	203584 20	VI	223350 20	IV
	20	23 x 1.5	70 (M)	10	25	203586 20	VI	223352 20	IV
	25	29 x 1.5	70 (M)	16	12	203588 20	VI	223354 20	III
		29 x 1.5	90 (N)	16	25	245396 20	VI	245409 20	IV
	32	35 x 1.5	70 (M)	23	6	203589 20	VI	223355 20	III
		35 x 1.5	90 (N)	23	16	204767 20	VI	245410 20	IV
	40	41 x 1.5	90 (N)	34	12	203590 20	VI	223356 20	III
		41 x 1.5	130 (P)	36	25	223300 20	VI	223357 20	IV
	50	53 x 1.5	90 (N)	49	7	203591 20	VI	223358 20	III
B (CF B) see control functions ^{1.)}		53 x 1.5	130 (P)	53	25 (20 ^{2.)})	213702 20	VI	223359 20	IV
	65	70 x 2	130 (P)	90	16 (15 ^{2.)})	239491 20	VI	239507 20	IV
	15	19 x 1.5	50 (D)	5	See diagram ^{3.)}	203592 20	VI	223360 20	IV
		19 x 1.5	70 (M)	5		203593 20	VI	223361 20	IV
	20	23 x 1.5	70 (M)	10		203595 20	VI	223363 20	IV
	25	29 x 1.5	70 (M)	16		203597 20	VI	223365 20	III
	32	35 x 1.5	70 (M)	23		203598 20	VI	223366 20	III
	40	41 x 1.5	90 (N)	34		203599 20	VI	223367 20	IV
	50	53 x 1.5	90 (N)	49		203600 20	VI	223368 20	III
	65	70 x 2	130 (P)	90		239499 20	VI	239516 20	IV

1.) Further information can be found in chapter "[2. Control functions](#)" on page 4.

2.) According to pressure equipment directive 97/23/EC for compressible fluids of group 1 (dangerous gases and vapours) according to article 3, number 1.3, letter a, first indent

3.) See diagrams in chapter "[Pilot pressure diagram with flow direction below seat \(control function B\)](#)" on page 14.

Control function	Nominal diameter (port connection)	Connection Ø DS x WS	Actuator size Ø	K _{vs} value water	Operating pressure max. +185 °C	Article no. Seat seal	Leakage class	Article no. Seat seal	Leakage class
	DN [inch]	[inch]	[mm]	[m ³ /h]	[bar(g)]	PTFE		Stainless steel	
ASME BPE									
A (CF A) see control functions ^{1.)}	½	12.7 × 1.65	50 (D)	1.6	16	203601 20	VI	223369 20	IV
		12.7 × 1.65	70 (M)	1.6	25	203602 20	VI	223370 20	IV
	¾	19.05 × 1.65	70 (M)	10	25	203604 20	VI	223372 20	IV
	1	25.4 × 1.65	70 (M)	16	12	203606 20	VI	223374 20	III
		25.4 × 1.65	90 (N)	16	25	245397 20	VI	464366 20	IV
	1½	38.1 × 1.65	90 (N)	34	12	203607 20	VI	212906 20	III
		38.1 × 1.65	130 (P)	36	25	223303 20	VI	223376 20	IV
	2	50.8 × 1.65	90 (N)	49	7	203608 20	VI	223377 20	III
		50.8 × 1.65	130 (P)	53	25 (20 ^{2.)})	213703 20	VI	223378 20	IV
	2½	63.5 × 1.65	130 (P)	90	16 (15 ^{2.)})	239492 20	VI	239508 20	IV
B (CF B) see control functions ^{1.)}	½	12.7 × 1.65	50 (D)	1.6	See diagram ^{3.)}	203609 20	VI	223379 20	IV
		12.7 × 1.65	70 (M)	1.6		203610 20	VI	223380 20	IV
	¾	19.05 × 1.65	70 (M)	10		203612 20	VI	223382 20	IV
	1	25.4 × 1.65	70 (M)	16		203614 20	VI	223384 20	III
	1½	38.1 × 1.65	90 (N)	34		203615 20	VI	223385 20	IV
	2	50.8 × 1.65	90 (N)	49		203616 20	VI	223386 20	III
	2½	63.5 × 1.65	130 (P)	90		239500 20	VI	239517 20	IV

1.) Further information can be found in chapter "[2. Control functions](#)" on page 4.

2.) According to pressure equipment directive 97/23/EC for compressible fluids of group 1 (dangerous gases and vapours) according to article 3, number 1.3, letter a, first indent)

3.) See diagrams in chapter "[Pilot pressure diagram with flow direction below seat \(control function B\)](#)" on page 14.

9.6. Ordering chart clamp connection

Valves with flow direction below seat

Control function	Nominal diameter (port connection)	Connection Ø D1 C x SC, Ø D2 C	Actuator size Ø	K _{vs} value water	Operating pressure max. +185 °C	Article no. Seat seal	Leakage class	Article no. Seat seal	Leakage class
ISO 2852									
A (CF A) see control functions ^{1.)}	15	21.3 x 1.6. 50.5	50 (D)	5	16	o. r.	VI	o. r.	IV
		21.3 x 1.6. 50.5	70 (M)	5	25	20010520 ☰	VI	378088 ☰	IV
	20	26.9 x 1.6. 50.5	70 (M)	10	25	203652 ☰	VI	223426 ☰	IV
	25	33.7 x 2.0. 50.5	70 (M)	16	12	203654 ☰	VI	223428 ☰	III
		33.7 x 2.0. 50.5	90 (N)	16	25	245401 ☰	VI	245414 ☰	IV
	32	42.4 x 2.0. 50.5	70 (M)	23	6	203655 ☰	VI	223429 ☰	III
		42.4 x 2.0. 50.5	90 (N)	23	16	204768 ☰	VI	245415 ☰	IV
	40	48.3 x 2.0. 64.0	90 (N)	34	12	203656 ☰	VI	223430 ☰	III
		48.3 x 2.0. 64.0	130 (P)	36	25	223304 ☰	VI	223431 ☰	IV
	50	60.3 x 2.6. 77.5	90 (N)	49	7	203657 ☰	VI	223433 ☰	III
		60.3 x 2.6. 77.5	130 (P)	53	25 (20 ^{2.)})	213706 ☰	VI	223434 ☰	IV
B (CF B) see control functions ^{1.)}	15	21.3 x 1.6. 50.5	50 (D)	5	See diagram ^{2.)}	o. r.	VI	o. r.	IV
		21.3 x 1.6. 50.5	70 (M)	5		o. r.	VI	o. r.	IV
	20	26.9 x 1.6. 50.5	70 (M)	10		203661 ☰	VI	223438 ☰	IV
	25	33.7 x 2.0. 50.5	70 (M)	16		203663 ☰	VI	223440 ☰	III
	32	42.4 x 2.0. 50.5	70 (M)	23		203664 ☰	VI	223441 ☰	III
	40	48.3 x 2.0. 64.0	90 (N)	34		203665 ☰	VI	223442 ☰	IV
	50	60.3 x 2.6. 77.5	90 (N)	49		203666 ☰	VI	223443 ☰	III
ASME BPE									
A (CF A) see control functions ^{1.)}	½	12.7 x 1.65. 25.0	50 (D)	1.6	16	203667 ☰	VI	223444 ☰	IV
		12.7 x 1.65. 25.0	70 (M)	1.6	25	203668 ☰	VI	223445 ☰	IV
	¾	19.05 x 1.65. 25.0	70 (M)	10	25	203670 ☰	VI	223447 ☰	IV
	1	25.4 x 1.65. 50.5	70 (M)	16	12	203672 ☰	VI	223449 ☰	III
		25.4 x 1.65. 50.5	90 (N)	16	25	245402 ☰	VI	245416 ☰	IV
	1½	38.1 x 1.65. 50.5	90 (N)	34	12	203673 ☰	VI	223450 ☰	III
		38.1 x 1.65. 50.5	130 (P)	36	25	223305 ☰	VI	223451 ☰	IV
	2	50.8 x 1.65. 64.0	90 (N)	49	7	203674 ☰	VI	223452 ☰	III
		50.8 x 1.65. 64.0	130 (P)	53	25 (20 ^{2.)})	213707 ☰	VI	223453 ☰	IV
B (CF B) see control functions ^{1.)}	½	12.7 x 1.65. 25.0	50 (D)	1.6	See diagram ^{2.)}	203675 ☰	VI	223454 ☰	III
		12.7 x 1.65. 25.0	70 (M)	1.6		203677 ☰	VI	223455 ☰	IV
	¾	19.05 x 1.65. 25.0	70 (M)	10		203679 ☰	VI	223457 ☰	IV
	1	25.4 x 1.65. 50.5	70 (M)	16		203681 ☰	VI	223459 ☰	III
	1½	38.1 x 1.65. 50.5	90 (N)	34		203682 ☰	VI	223460 ☰	IV
	2	50.8 x 1.65. 64.0	90 (N)	49		203683 ☰	VI	223461 ☰	III

o. r. = on request

1.) Further information can be found in chapter "2. Control functions" on page 4.

2.) See diagrams in chapter "Pilot pressure diagram with flow direction below seat (control function B)" on page 14.

Further versions on request

	Process connection Clampaccording to DIN 32676, BS4825		Circuit function B (normally open) and I (double-acting)
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