



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 electropneumatic 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 Continuous control valve systems ELEMENT – overview	▶

Type description

In line with Bürkert's philosophy for modular valves and sensors the construction of Type 2300 angle-seat valve fulfils 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 3/8...NPS 2 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 variants...-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 m³/h...90 m³/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 mm²/s
Control medium	Air, neutral gases
Product connections	
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
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 variants 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/EC

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	T3
		Maximum surface temperature	+ 300 °C	+ 200 °C
		Ambient temperature	- 40...+ 130 °C	- 40...+ 130 °C
		Maximum medium temperature	+ 285 °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
	Suitable for use in drinking water applications The materials comply with the assessment principles (UBA) for materials in contact with drinking water (TrinkwasserV). Stainless steel body PF39: Suitable for products with medium temperature up to 85 °C (hot water)

3.6. Foods and beverages/Hygiene

Conformity	Description
FDA	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.
USP	United States Pharmacopeial Convention (USP) (valid for the variable code PL04) All wetted materials are biocompatible according to the manufacturer's declaration.
	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.
	China food GB Standards of the People's Republic of China (valid for the variable code PL10) All wetted materials are compliant with the requirement of China food GB Standards according to the manufacturer's declaration.

3.7. Others

DNV GL classification

Approval	Description
	DNV GL classification – Ships, offshore units, and high speed and light craft The products are accepted for installation on all vessels classed by DNV GL.

Oxygen

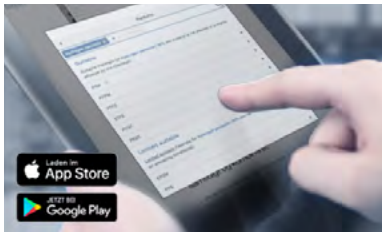
Conformity	Description
	Optional: Suitability for oxygen (valid for the variable code NL02) The products are suitable for use with gaseous oxygen, according to the manufacturer's declaration.

TA Luft

Conformity	Description
TA Luft	Technical instruction on air quality control (valid for the variable code PM01)

4. Materials

4.1. Bürkert resistApp

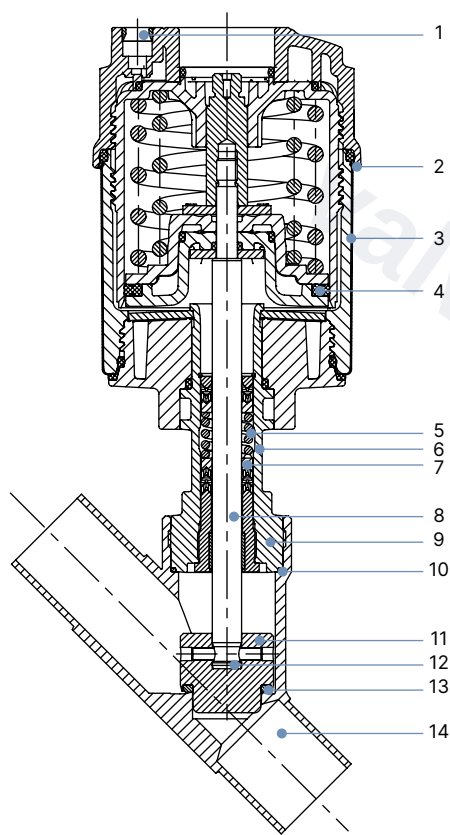


Bürkert resistApp – Chemical resistance chart

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](#)

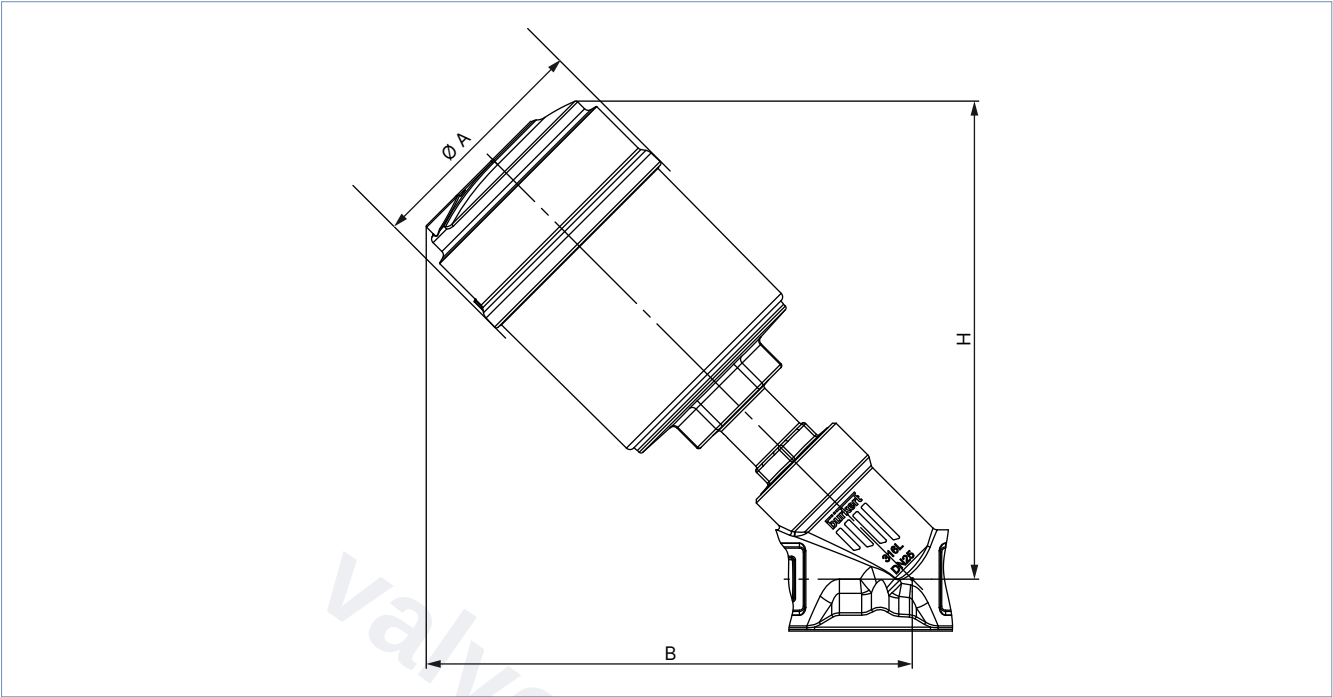
4.2. Material specifications



No.	Element	Material
1	Pilot air ports	Push-in connector PP (standard)
2	Actuator cover	PPS
3	Actuator casing	Stainless steel 1.4561 (316Ti)
4	Piston seal	FKM
5	Spring	Stainless steel 1.4310
6	Pipe	Stainless steel CF3M
7	Packing gland	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

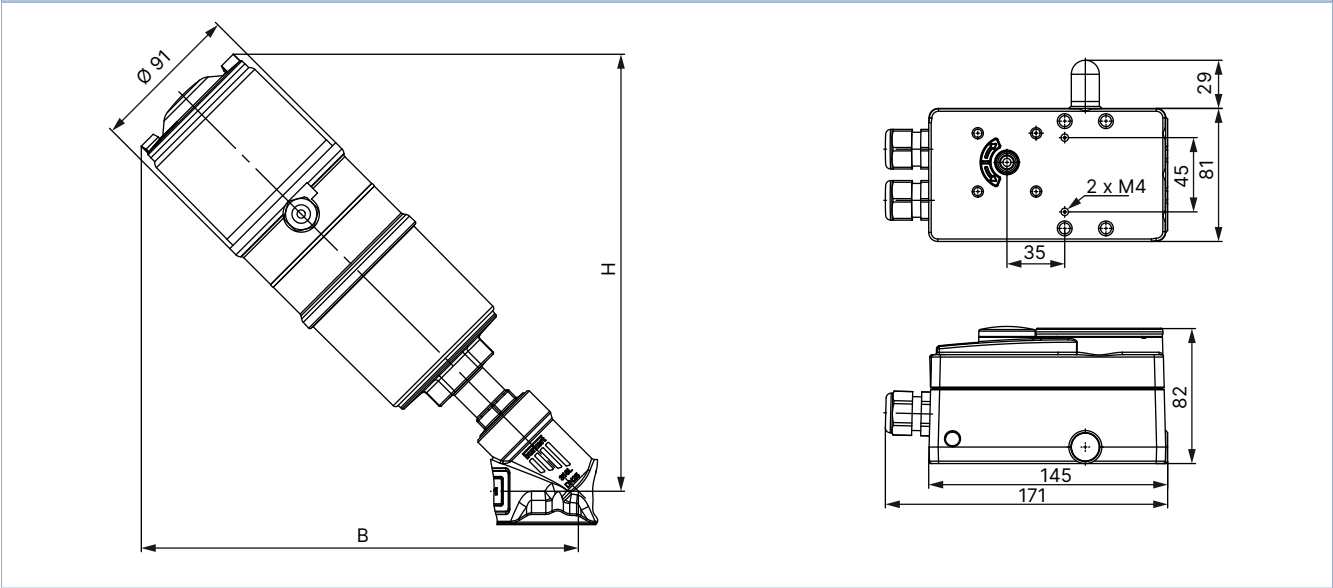
5.1. Actuator



Nominal diameter (port connection)		Actuator size	$\varnothing A$	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.

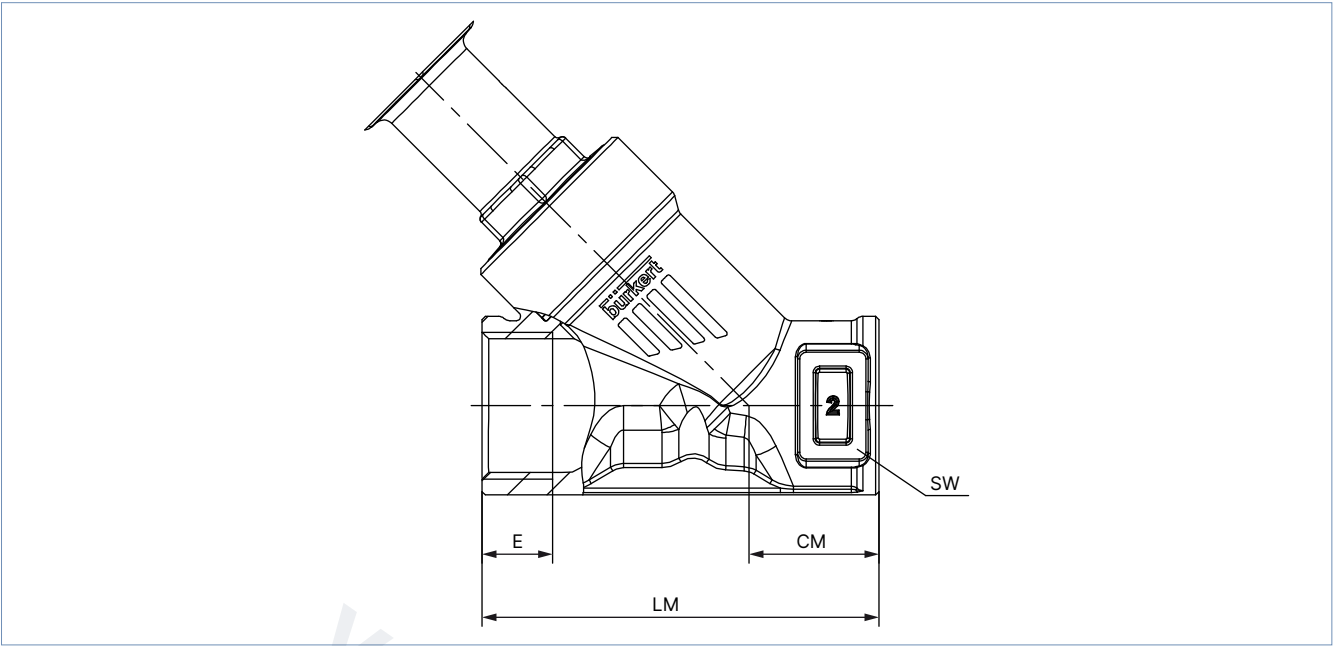
With remote positioner SideCONTROL Type 8792 ▶ or with remote process controller SideCONTROL Type 8793 ▶



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)	266
32	1¼	90 (N)	303
		130 (P)	318
		90 (N)	276
40	1½	130 (P)	359
		90 (N)	322
50	2	130 (P)	375
		90 (N)	337
65	2½	130 (P)	405

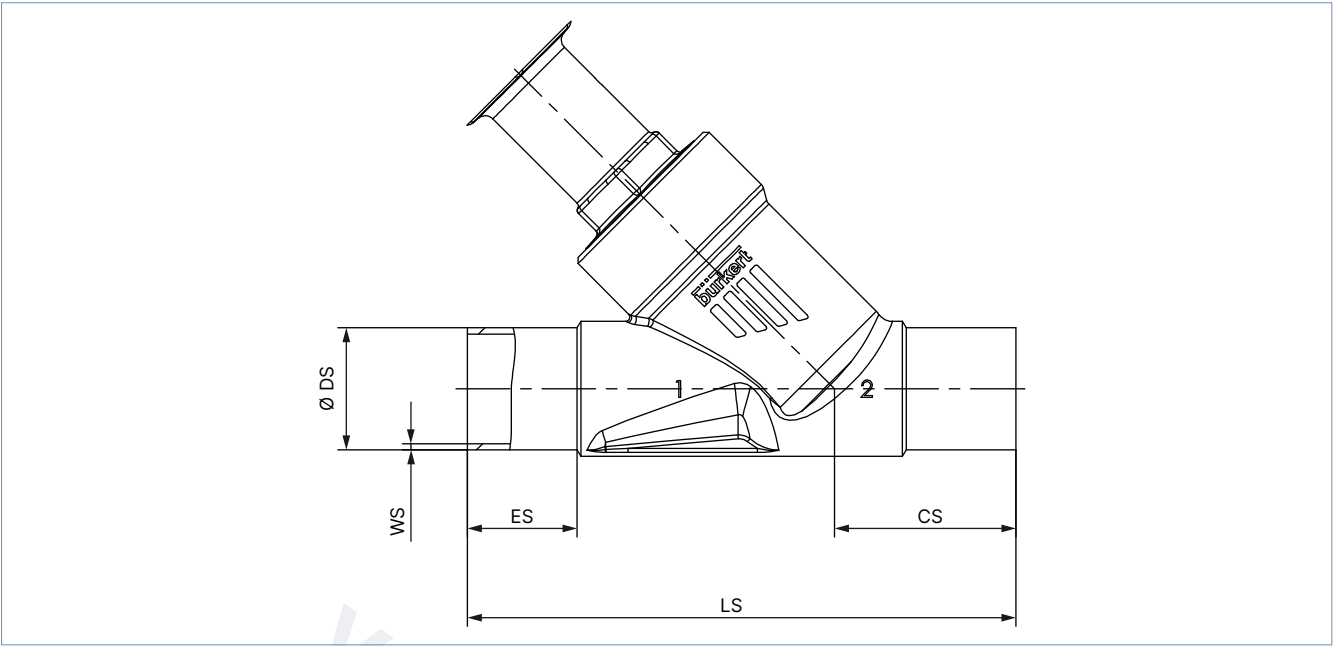
1.) The dimensions for B and H are maximum dimensions and may be up to 6 mm less, depending on the nominal diameter (port connection) and standard.

5.2. Body with threaded connection



Nominal diameter (port connection)		G (DIN ISO 228-1) NPT (ASME B1.20.1) RC (ISO 7-1)					
		E			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

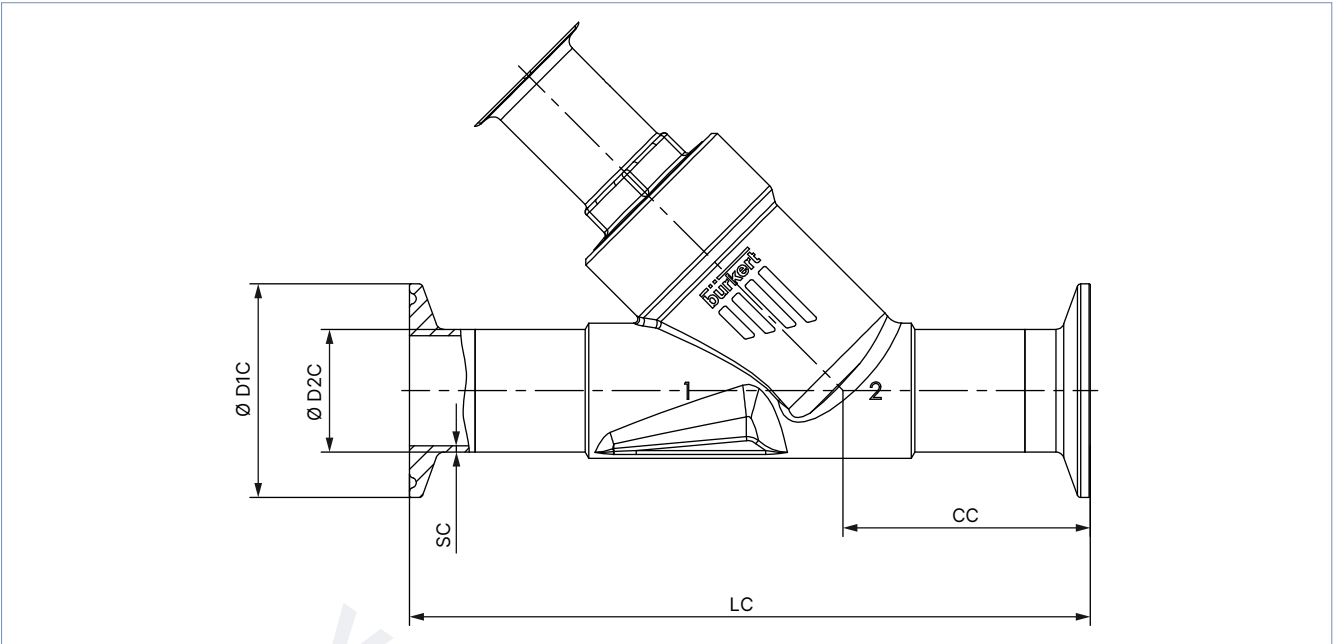
5.3. Body with welded connection



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				
	LC	CC	Ø D1 C	Ø D2 C	SC	LC	CC	Ø D1 C	Ø D2 C	SC
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				
	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

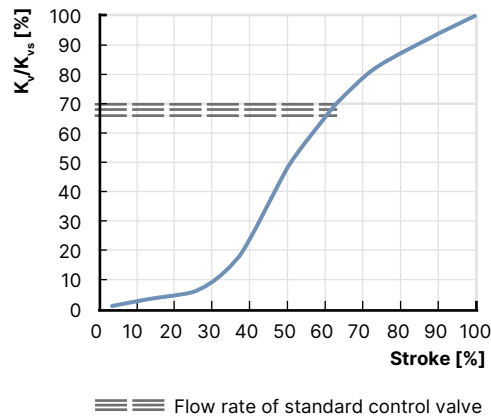
6. Performance specifications

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:

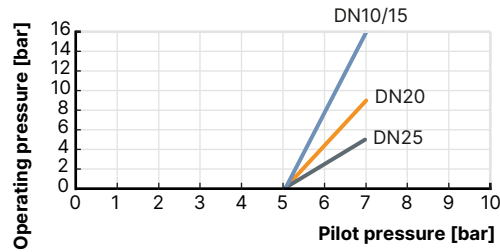
- K_v value [m^3/h]: measurement with water according to DIN EN 60534 - 2 - 4
- Operating limits (see "6.2. Operating limits" on page 15)

Nominal diameter (port connection)		Actuator size Ø	Operating pressure max. CF A (seat leakage class)			K _v value at stroke [m³/h]										K _{vs} value
			Seat seal													
			Stainless steel	PTFE	PEEK											
DN	NPS	[mm]	[bar(g)]			5%	10%	20%	30%	40%	50%	60%	70%	80%	90%	[m³/h]
ASME BPE (12.7 mm x 1.65 mm / 0.5" x 0.065")																
15	½	50 (D)	16 (IV)	16 (VI)	10 (VI)	0.22	0.24	0.30	0.56	1.2	1,5	1,5	1,5	1,5	1,5	1,5
		70 (M)	25 (IV)	25 (VI)	25 (VI)											
All standards																
15	½	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	5.0
		70 (M)	25 (IV)	25 (VI)	25 (VI)											
20	¾	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	10.0
		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	16.0
		90 (N)	25 (IV)	25 (VI)	20 (VI)											
32	1¼	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	23.0
		90 (N)	16 (IV)	16 (VI)	10 (VI)											
		130 (P)	25 (IV)	25 (VI)	20 (VI)											
40	1½	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	34.0
		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	36.0
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	49.0
		130 (P)	25 (20 ^{1.)} (IV)	25 (20 ^{1.)} (VI)	20 (VI)	0.87	1.2	1.8	4.0	15.2	26.0	35.0	40.5	45.0	48.0	53
65	2½	130 (P)	16 (15 ^{1.)} (IV)	16 (15 ^{1.)} (VI)	10 (VI)	1.7	2.0	6.5	20.0	35.0	48.0	58	67	75	83	90

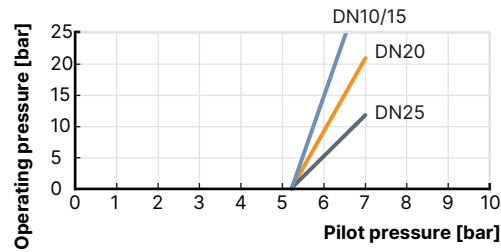
1.) According to pressure equipment directive 97/23/EC for compressible fluids of group 1 (dangerous gases and vapours) according to article 3, number 1.3, letter a, first indent)

Pilot pressure diagrams with flow direction below seat (control function B)

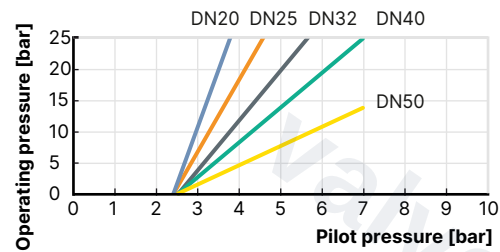
Actuator size Ø 50 mm
Maximum control pressure 7 bar(g)



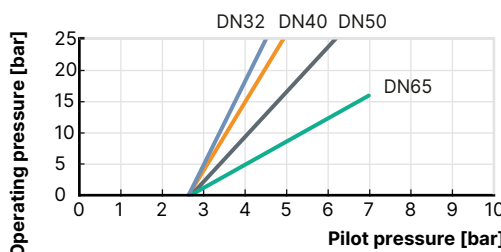
Actuator size Ø 70 mm
Maximum control pressure 7 bar(g)



Actuator size Ø 90 mm
Maximum control pressure 7 bar(g)



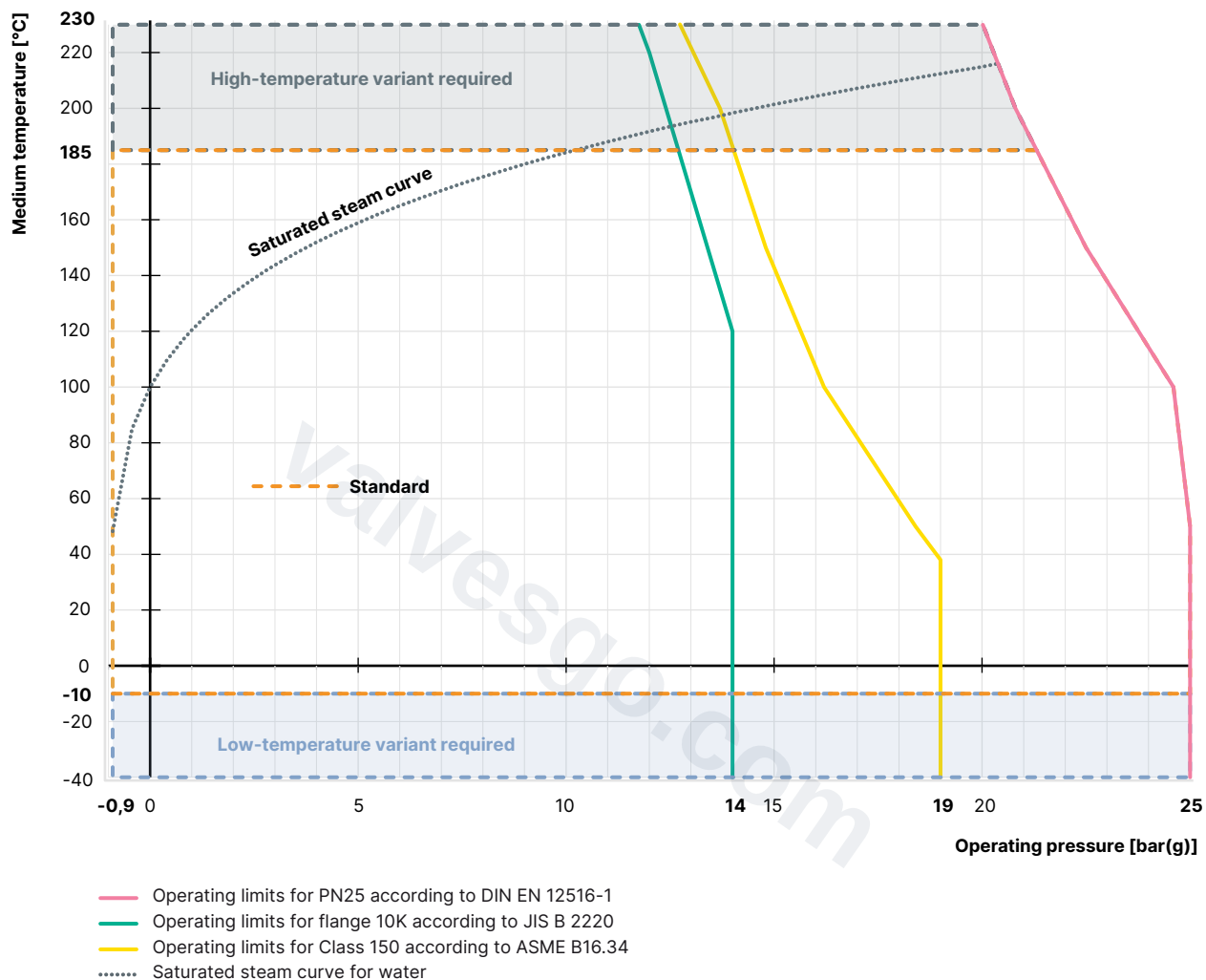
Actuator size Ø 130 mm
Maximum control pressure 7 bar(g)



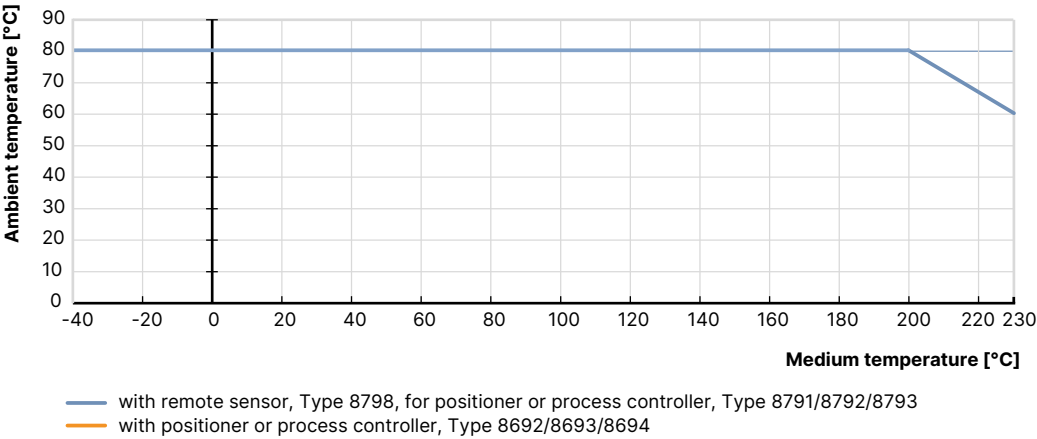
6.2. Operating limits

Operating limits for medium temperature and operating pressure

In addition to the maximum operating pressures, the operating range of Bürkert process valves is 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 ≤ + 130 °C) - 10...+ 230 °C (recommended for > + 130 °C)	PTFE PEEK

Operating limits for optional variants

High-temperature variant

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

Water variant

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

Drinking water variant

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

Vacuum variant

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

Low-temperature variant

Suitable for minimum medium temperatures down to - 40 °C

Variant 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 Bürkert 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 pilot 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, Bürkert 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 Bürkert 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 pilot 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, Bürkert 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 Bürkert 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 pilot air consumption
- AS-Interface, IO-Link, Bürkert system bus (bÜS) (only 8694)
- Compact and robust hygienic stainless steel design

**Type 8696 ▶
Actuator size Ø 50 mm**

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

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 Bürkert 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 pilot air consumption
- Illuminated graphic display with backlight and touch keypad
- PROFIBUS DPV1, EtherNet/IP, PROFINET, Modbus TCP, Bürkert 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 Bürkert 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 variant with remote position sensor is used to control Bürkert 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 pilot air consumption
- Integrated diagnostic functions for valve monitoring
- PROFIBUS DPV1, EtherNet/IP, PROFINET, Modbus TCP, Bürkert 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 Bürkert 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


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 Bürkert 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 pilot 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 Bürkert process valves
- AS-Interface, IO-Link, Bürkert system bus (bÜS) (only for positioner Type 8791 BASIC Remote)

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

Customer benefits

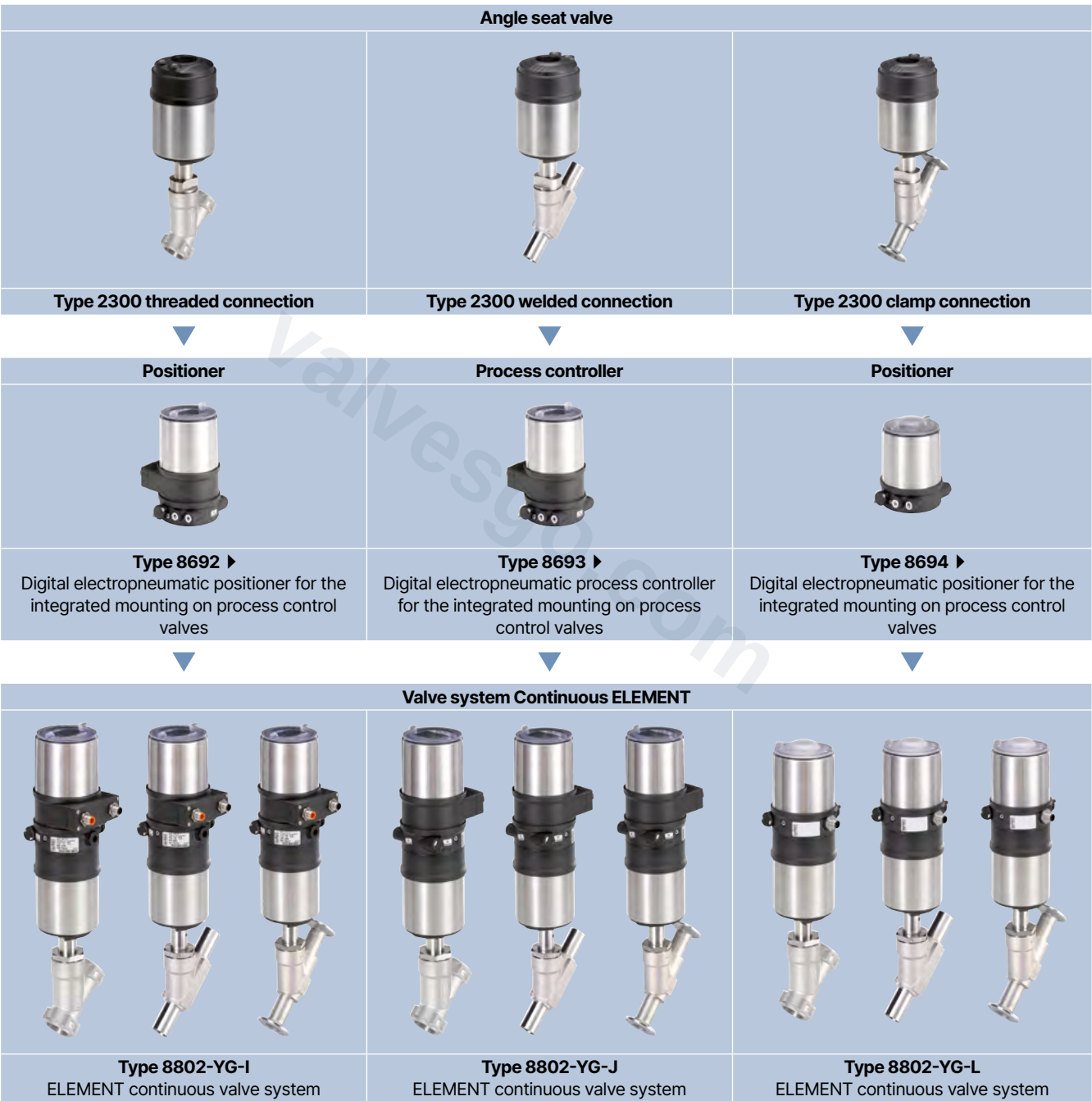
- Simple commissioning
- Simple device for simple control tasks
- Low energy consumption

8. Networking and combination with other Bürkert 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:

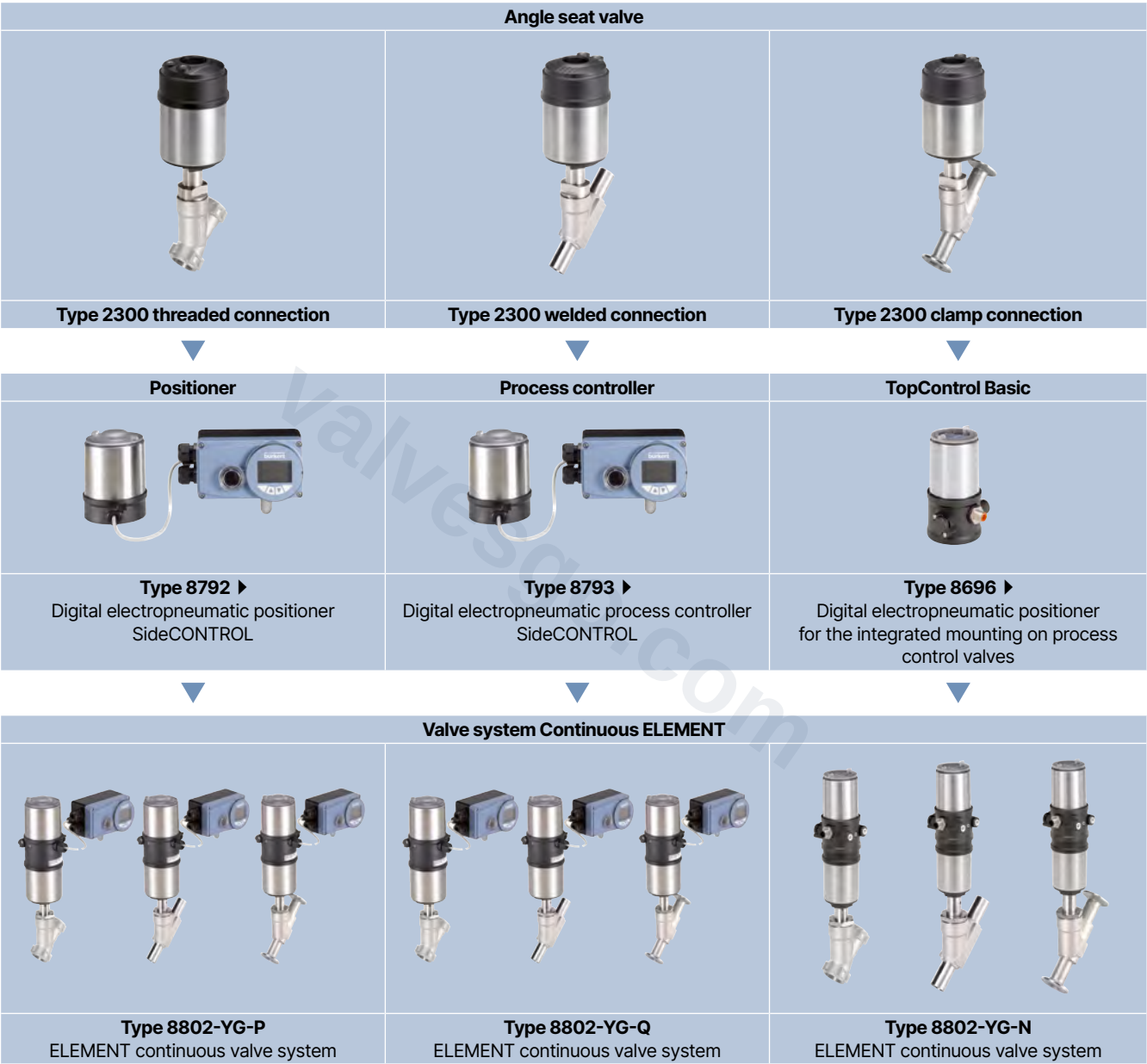
- Use the **Product Enquiry Form** for the configuration of other valve systems (see **"9.3. Bürkert Product Enquiry Form" on page 23**).
- You order two components and receive a completely assembled and tested valve.



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. Bürkert Product Enquiry Form" on page 23**).
- You order two components and receive a completely assembled and tested valve.



9. Ordering information

9.1. Bürkert eShop



Bürkert eShop – Easy ordering and quick delivery

You want to find your desired Bürkert 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. Bürkert product filter



Bürkert product filter – Get quickly to the right product

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

[Try out our product filter](#)

9.3. Bürkert Product Enquiry Form

Note:

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

Bürkert 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 Bürkert 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
	DN	[inch]	[mm]	[m³/h]	[bar(g)]	PTFE		Stainless steel	
G thread									
A (CF A) see control functions ^{1.)}	15	G ½	50 (D)	5	16	213712 𐀀	VI	213763 𐀀	IV
		G ½	70 (M)	5	25	213713 𐀀	VI	213764 𐀀	IV
	20	G ¾	70 (M)	10	25	213715 𐀀	VI	213766 𐀀	IV
		25	G 1	70 (M)	16	12	213718 𐀀	VI	213768 𐀀
	32		G 1	90 (N)	16	25	245405 𐀀	VI	229276 𐀀
		32	G 1¼	70 (M)	23	6	213719 𐀀	VI	213769 𐀀
	40		G 1¼	90 (N)	23	16	245406 𐀀	VI	225395 𐀀
		40	G 1½	90 (N)	34	12	213720 𐀀	VI	213770 𐀀
	50		G 1½	130 (P)	36	25	223307 𐀀	VI	223310 𐀀
		50	G 2	90 (N)	49	7	203500 𐀀	VI	206230 𐀀
B (CF B) see control functions ^{1.)}	15		G 2	130 (P)	53	25 (20 ^{2.)})	213697 𐀀	VI	213708 𐀀
		G 2½	130 (P)	90	16 (15 ^{2.)})	239487 𐀀	VI	239503 𐀀	IV
	20	G ½	50 (D)	5	See diagram ^{3.)}	213722 𐀀	VI	223313 𐀀	IV
		G ½	70 (M)	5		213721 𐀀	VI	223314 𐀀	IV
	25	G ¾	70 (M)	10		213724 𐀀	VI	223316 𐀀	IV
		32	G 1	70 (M)		16	213726 𐀀	VI	223318 𐀀
	40		G 1¼	70 (M)		23	213727 𐀀	VI	223319 𐀀
		50	G 1½	90 (N)		34	213728 𐀀	VI	223320 𐀀
	65		G 2	90 (N)		49	203510 𐀀	VI	223321 𐀀
		65	G 2½	130 (P)		90	239495 𐀀	VI	239511 𐀀
NPT thread									
A (CF A) see control functions ^{1.)}	15	NPT ½	50 (D)	5	16	213729 𐀀	VI	213771 𐀀	IV
		NPT ½	70 (M)	5	25	213730 𐀀	VI	213772 𐀀	IV
	20	NPT ¾	70 (M)	10	25	213732 𐀀	VI	213774 𐀀	IV
		25	NPT 1	70 (M)	16	12	213734 𐀀	VI	213776 𐀀
	32		NPT 1	90 (N)	16	25	465032 𐀀	VI	464364 𐀀
		40	NPT 1¼	70 (M)	23	6	213736 𐀀	VI	213777 𐀀
	50		NPT 1¼	90 (N)	23	16	465033 𐀀	VI	464365 𐀀
		65	NPT 1½	90 (N)	34	12	213737 𐀀	VI	213778 𐀀
	65		NPT 1½	130 (P)	36	25	223308 𐀀	VI	223311 𐀀
		B (CF B) see control functions ^{1.)}	15	NPT 2	90 (N)	49	7	203537 𐀀	VI
NPT 2	130 (P)			53	25 (20 ^{2.)})	213699 𐀀	VI	213709 𐀀	IV
20	NPT 2½		130 (P)	90	16 (15 ^{2.)})	239488 𐀀	VI	239504 𐀀	IV
	32		NPT ½	50 (D)	5	See diagram ^{3.)}	213738 𐀀	VI	223322 𐀀
NPT ½			70 (M)	5	213739 𐀀		VI	223323 𐀀	IV
40	NPT ¾		70 (M)	10	213741 𐀀		VI	223325 𐀀	IV
	50		NPT 1	70 (M)	16		213743 𐀀	VI	223327 𐀀
65			NPT 1¼	70 (M)	23		213744 𐀀	VI	223328 𐀀
	65		NPT 1½	90 (N)	34		213745 𐀀	VI	223329 𐀀
65			NPT 2	90 (N)	49		203546 𐀀	VI	223330 𐀀
	65	NPT 2½	130 (P)	90	239486 𐀀		VI	239512 𐀀	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 diagrams 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]	[m³/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
		RC 1	70 (M)	16	12	213751 	VI	213784 	IV
	25	RC 1	90 (N)	16	25	245407 	VI	245438 	IV
		RC 1¼	70 (M)	23	6	213752 	VI	213785 	III
	32	RC 1¼	90 (N)	23	16	245408 	VI	245439 	IV
		RC 1½	90 (N)	34	12	213753 	VI	213786 	III
	40	RC 1½	130 (P)	36	25	223309 	VI	223312 	IV
		RC 2	90 (N)	49	7	203555 	VI	206249 	III
	50	RC 2	130 (P)	53	25 (20 ^{2.)})	213700 	VI	213710 	IV
		RC 2½	130 (P)	90	16 (15 ^{2.)})	239489 	VI	239506 	IV
B (CF B) see control functions ^{1.)}	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
		RC 1	70 (M)	16		213760 	VI	223336 	III
	32	RC 1¼	70 (M)	23		213761 	VI	223337 	III
		RC 1½	90 (N)	34		213762 	VI	223338 	IV
	50	RC 2	90 (N)	49		203564 	VI	223339 	III
		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 diagrams 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)	Conne- ction 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]	[mm]	[m³/h]	[bar(g)]	PTFE		Stainless steel	
DIN EN ISO 1127									
A (CF A) see control functions ^{1.)}	15	21.3 × 1.6	50 (D)	5	16	203565 𐀀	VI	206250 𐀀	IV
		21.3 × 1.6	70 (M)	5	25	203566 𐀀	VI	206252 𐀀	IV
	20	26.9 × 1.6	70 (M)	10	25	203568 𐀀	VI	206254 𐀀	IV
		25	33.7 × 2	70 (M)	16	12	203570 𐀀	VI	206256 𐀀
	32		33.7 × 2	90 (N)	16	25	245395 𐀀	VI	245403 𐀀
		40	42.4 × 2	70 (M)	23	6	203571 𐀀	VI	206257 𐀀
	50		42.4 × 2	90 (N)	23	16	204766 𐀀	VI	245404 𐀀
		65	48.3 × 2	90 (N)	34	12	203572 𐀀	VI	206258 𐀀
	70		48.3 × 2	130 (P)	36	25	223299 𐀀	VI	223306 𐀀
		80	60.3 × 2.0	90 (N)	49	7	274669 𐀀	VI	274670 𐀀
90	60.3 × 2.0		130 (P)	53	25 (2 ^{2.)})	274672 𐀀	VI	274673 𐀀	IV
	100	76.1 × 2.3	130 (P)	90	16 (15 ^{2.)})	239490 𐀀	VI	217770 𐀀	IV
B (CF B) see control functions ^{1.)}		15	21.3 × 1.6	50 (D)	5	See diagram ^{3.)}	203574 𐀀	VI	223340 𐀀
	21.3 × 1.6		70 (M)	5	203575 𐀀		VI	223341 𐀀	IV
	20	26.9 × 1.6	70 (M)	10	203577 𐀀		VI	223343 𐀀	IV
		25	33.7 × 2	70 (M)	16		203579 𐀀	VI	223345 𐀀
	32		42.4 × 2	70 (M)	23		203580 𐀀	VI	223346 𐀀
		40	48.3 × 2	90 (N)	34		203581 𐀀	VI	223347 𐀀
	50		60.3 × 2.0	90 (N)	49		274674 𐀀	VI	274675 𐀀
		65	76.1 × 2.3	130 (P)	90		239498 𐀀	VI	239515 𐀀
DIN 11850 R2									
A (CF A) see control functions ^{1.)}	15	19 × 1.5	50 (D)	5	16	203583 𐀀	VI	223349 𐀀	IV
		19 × 1.5	70 (M)	5	25	203584 𐀀	VI	223350 𐀀	IV
	20	23 × 1.5	70 (M)	10	25	203586 𐀀	VI	223352 𐀀	IV
		25	29 × 1.5	70 (M)	16	12	203588 𐀀	VI	223354 𐀀
	32		29 × 1.5	90 (N)	16	25	245396 𐀀	VI	245409 𐀀
		40	35 × 1.5	70 (M)	23	6	203589 𐀀	VI	223355 𐀀
	50		35 × 1.5	90 (N)	23	16	204767 𐀀	VI	245410 𐀀
		65	41 × 1.5	90 (N)	34	12	203590 𐀀	VI	223356 𐀀
	70		41 × 1.5	130 (P)	36	25	223300 𐀀	VI	223357 𐀀
		80	53 × 1.5	90 (N)	49	7	203591 𐀀	VI	223358 𐀀
90	53 × 1.5		130 (P)	53	25 (2 ^{2.)})	213702 𐀀	VI	223359 𐀀	IV
	100	70 × 2	130 (P)	90	16 (15 ^{2.)})	239491 𐀀	VI	239507 𐀀	IV
B (CF B) see control functions ^{1.)}		15	19 × 1.5	50 (D)	5	See diagram ^{3.)}	203592 𐀀	VI	223360 𐀀
	19 × 1.5		70 (M)	5	203593 𐀀		VI	223361 𐀀	IV
	20	23 × 1.5	70 (M)	10	203595 𐀀		VI	223363 𐀀	IV
		25	29 × 1.5	70 (M)	16		203597 𐀀	VI	223365 𐀀
	32		35 × 1.5	70 (M)	23		203598 𐀀	VI	223366 𐀀
		40	41 × 1.5	90 (N)	34		203599 𐀀	VI	223367 𐀀
	50		53 × 1.5	90 (N)	49		203600 𐀀	VI	223368 𐀀
		65	70 × 2	130 (P)	90		239499 𐀀	VI	239516 𐀀

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 diagrams 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]	[m³/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 	VI	223369 	IV
		12.7 × 1.65	70 (M)	1.6	25	203602 	VI	223370 	IV
	¾	19.05 × 1.65	70 (M)	10	25	203604 	VI	223372 	IV
	1	25.4 × 1.65	70 (M)	16	12	203606 	VI	223374 	III
		25.4 × 1.65	90 (N)	16	25	245397 	VI	464366 	IV
	1½	38.1 × 1.65	90 (N)	34	12	203607 	VI	212906 	III
		38.1 × 1.65	130 (P)	36	25	223303 	VI	223376 	IV
	2	50.8 × 1.65	90 (N)	49	7	203608 	VI	223377 	III
		50.8 × 1.65	130 (P)	53	25 (20 ^{2.)})	213703 	VI	223378 	IV
2½	63.5 × 1.65	130 (P)	90	16 (15 ^{2.)})	239492 	VI	239508 	IV	
B (CF B) see control functions ¹⁾	½	12.7 × 1.65	50 (D)	1.6	See diagram ^{3.)}	203609 	VI	223379 	IV
		12.7 × 1.65	70 (M)	1.6		203610 	VI	223380 	IV
	¾	19.05 × 1.65	70 (M)	10		203612 	VI	223382 	IV
	1	25.4 × 1.65	70 (M)	16		203614 	VI	223384 	III
	1½	38.1 × 1.65	90 (N)	34		203615 	VI	223385 	IV
	2	50.8 × 1.65	90 (N)	49		203616 	VI	223386 	III
	2½	63.5 × 1.65	130 (P)	90		239500	VI	239517	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 diagrams 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	
	DN	[inch]	[mm]	[m³/h]	[bar(g)]	PTFE		Stainless steel		
ISO 2852										
A (CF A) see control functions ¹⁾	15	21.3 × 1.6. 50.5	50 (D)	5	16	o. r.	VI	o. r.	IV	
		21.3 × 1.6. 50.5	70 (M)	5	25	20010520 	VI	378088 	IV	
	20	26.9 × 1.6. 50.5	70 (M)	10	25	203652 	VI	223426 	IV	
		25	33.7 × 2.0. 50.5	70 (M)	16	12	203654 	VI	223428 	III
			33.7 × 2.0. 50.5	90 (N)	16	25	245401 	VI	245414 	IV
		32	42.4 × 2.0. 50.5	70 (M)	23	6	203655 	VI	223429 	III
			42.4 × 2.0. 50.5	90 (N)	23	16	204768 	VI	245415 	IV
		40	48.3 × 2.0. 64.0	90 (N)	34	12	203656 	VI	223430 	III
			48.3 × 2.0. 64.0	130 (P)	36	25	223304 	VI	223431 	IV
		50	60.3 × 2.6. 77.5	90 (N)	49	7	203657 	VI	223433 	III
	60.3 × 2.6. 77.5		130 (P)	53	25 (20 ²⁾)	213706 	VI	223434 	IV	
	B (CF B) see control functions ¹⁾	15	21.3 × 1.6. 50.5	50 (D)	5	See diagram ²⁾	o. r.	VI	o. r.	IV
21.3 × 1.6. 50.5			70 (M)	5	o. r.		VI	o. r.	IV	
20		26.9 × 1.6. 50.5	70 (M)	10	203661 		VI	223438 	IV	
		25	33.7 × 2.0. 50.5	70 (M)	16		203663 	VI	223440 	III
32		42.4 × 2.0. 50.5	70 (M)	23	203664 		VI	223441 	III	
		40	48.3 × 2.0. 64.0	90 (N)	34		203665 	VI	223442 	IV
50		60.3 × 2.6. 77.5	90 (N)	49			203666 	VI	223443 	III
ASME BPE										
A (CF A) see control functions ¹⁾	½	12.7 × 1.65. 25.0	50 (D)	1.6	16	203667 	VI	223444 	IV	
		12.7 × 1.65. 25.0	70 (M)	1.6	25	203668 	VI	223445 	IV	
	¾	19.05 × 1.65. 25.0	70 (M)	10	25	203670 	VI	223447 	IV	
		1	25.4 × 1.65. 50.5	70 (M)	16	12	203672 	VI	223449 	III
			25.4 × 1.65. 50.5	90 (N)	16	25	245402 	VI	245416 	IV
		1½	38.1 × 1.65. 50.5	90 (N)	34	12	203673 	VI	223450 	III
			38.1 × 1.65. 50.5	130 (P)	36	25	223305 	VI	223451 	IV
		2	50.8 × 1.65. 64.0	90 (N)	49	7	203674 	VI	223452 	III
			50.8 × 1.65. 64.0	130 (P)	53	25 (20 ²⁾)	213707 	VI	223453 	IV
		B (CF B) see control functions ¹⁾	½	12.7 × 1.65. 25.0	50 (D)	1.6	See diagram ²⁾	203675 	VI	223454 
12.7 × 1.65. 25.0	70 (M)			1.6	203677 	VI		223455 	IV	
¾	19.05 × 1.65. 25.0		70 (M)	10	203679 	VI		223457 	IV	
	1		25.4 × 1.65. 50.5	70 (M)	16	203681 		VI	223459 	III
1½	38.1 × 1.65. 50.5		90 (N)	34	203682 	VI		223460 	IV	
	2		50.8 × 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 diagrams with flow direction below seat (control function B)" on page 14.

Further variants on request



Process connection

Clamp according to DIN 32676, BS4825



Circuit function

B (normally open) and I (double-acting)