



Pneumatically operated 2/2-way angle seat valve ELEMENT for decentralized automation

- High flow rates
- Long service life
- Easy integration of automation units with ELEMENT
- Flow-optimised stainless steel valve body with sleeve, clamp or weld connection
- Suitable for steam



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

Can be combined with

	Type 8690 Pneumatic control for decentralised automation of ELEMENT process valves	▶
	Type 8691 Control head for decentralised automation of ELEMENT process valves	▶
	Type 8695 Control head for decentralised automation of ELEMENT process valves	▶
	Type 8697 Pneumatic control for decentralised automation of ELEMENT process valves	▶
	Type 8801 ELEMENT On/Off Valve Systems with decentralized automation - overview	▶
	Type 8840 Modular process valve cluster - distribution and collecting	▶

Type description

The Type 2100 angle seat valve is specially optimised for decentralized process automation and fulfils the tough criteria in process environments. Its unique design allows easy the integration of automation units in all expansion stages, from electrical/optical position feedback to pneumatic control and integrated fieldbus interface. Maximum service life and tightness are achieved by the proven self-adjusting v-seal packing gland. The highly integrated system of valve and automation unit is characterised by its compact and smooth design, integrated pilot air ducts, protection classes IP65/67, NEMA Type 4X and high resistance to chemicals.

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1. General technical data

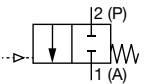
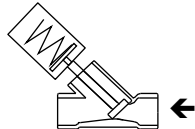
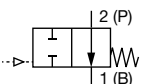
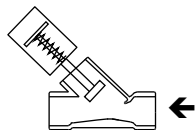
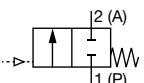
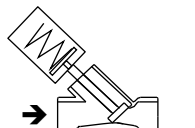
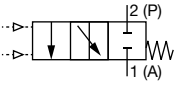
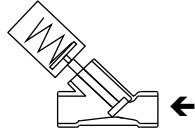
Product properties	
Dimensions	Detailed information can be found in chapter "5. Dimensions" on page 7.
Material	Detailed information can be found in chapter "4. Materials" on page 6.
Design	Angle seat valve
Nominal diameter	DN10...DN80, NPS ½...NPS 3
Safety setting in case of power failure	Normally closed (control function A), normally open (control function B)
Flow direction	Flow to open (below seat), Flow to close (above seat)
Performance data	
Operating pressure	0 bar(g)...25 bar(g), vacuum up to -0.9 bar (g) (option), see "6.2. Operating limits" on page 15
Nominal pressure	PN25 (DIN EN 1333), Class 150 (DIN EN 1759)
Pilot pressure	2.5 bar(g)...10 bar(g), see "6. Performance specifications" on page 12
K _v value	4.8 m³/h...140 m³/h, see "6. Performance specifications" on page 12
Medium data	
Medium	Steam, water, neutral gases, alcohol, oils, fuels, hydraulic fluids, salt solution, alkali solutions, organic solvents, for fuel gases of category I, II and III acc. to Gas Appliances Regulation (EU) 2016/426 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
Process/Port connection & communication	
Port connections	
Threaded connection	G (DIN ISO 228-1) NPT (ASME B 1.20.1) Rc (ISO 7-1)
Welded connection	DIN EN ISO 1127 / ISO 4200 / DIN 11866 B DIN 11850 2 / DIN 11866 A ASME BPE / DIN 11866 C SMS 3008
Clamp connection	DIN 32676 B (pipe ISO 4200) DIN 32676 A (pipe DIN 11850 2) ASME BPE
Pilot air ports	Push-in connector (external Ø 6 mm or ¼") or thread G ⅛" (on request)
Approvals and certificates	
Conformity	Food contact 1935/2004(EG), FDA Drinking water Pressure Equipment Directive Gas Appliances Regulation Machinery Directive, see "3. Approvals" on page 5
Explosion proof	Explosion proof ATEX / IECex, see "3. Approvals" on page 5
Material certificate	2.2, 3.1
Environment and installation	
Ambient temperature	-10 °C...100 °C, see "6.2. Operating limits" on page 15
Degree of protection	IP65/67
Installation position	As required, preferably with actuator in upright position

2. Circuit functions

⚠ CAUTION

**Risk of damage due to bursting pipes and bursting equipment when the flow is above the seat.
In the case of liquid mediums, water hammer can occur causing pipes and the device to burst.**

Do not use valves with flow above the seat for liquid mediums..

Control function (CF)	Description	
Flow direction below seat for liquids and gases		
	CF: A, pneumatically operated on/off valve 2/2 way Flow direction below seat Normally closed by spring force	
	CF: B, pneumatically operated on/off valve 2/2 way Flow direction below seat Normally open by spring force	
Flow direction above seat for steam and gases		
	CF: A, pneumatically operated on/off valve 2/2 way Flow direction above seat Normally closed by spring force	
3-position actuator		
Flow direction below seat For valves with 3-position actuator an adjustable middle position is possible (option)		
	SF: A, pneumatically operated 3-position valve 2/3 way Flow direction below seat Normally closed by spring force	

3. Approvals

Approvals	Description
FDA 	Food contact Materials in contact with the medium conform to EC Regulation 1935/2004 Materials in contact with the medium conform to FDA (option)
	Drinking water Suitable for use with drinking water with medium temperature up to 85 °C according to KTW, W270 (option)
	Oxygen Suitable for use with gaseous oxygen with medium temperature up to 60 °C and operating pressure up to 20 bar(g) (option)
 	Explosion proof As category 2 device suitable for zone 1/21 and zone 2/22 (option) ATEX: II 2G Ex h IIC T4 Gb II 2D Ex h IIIC T135 °C Db IECEx: Ex h IIC T4 Gb Ex h IIIC T135 °C Db
	Fuel gases Approval according to the European Gas Appliance Regulation (EU) 2016/426, DVGW DIN EN 161 and DIN EN 16678, Class A or Class D, suitable for medium temperature 0...60 °C, ambient temperature -10...100 °C and operating pressure 0...16 bar(g) (option)
	Safety requirements Evaluation of functional safety according to IEC 61508 (on request)

4. Materials

4.1. Chemical Resistance Chart – Bürkert resistApp



Bürkert resistApp – Chemical Resistance Chart

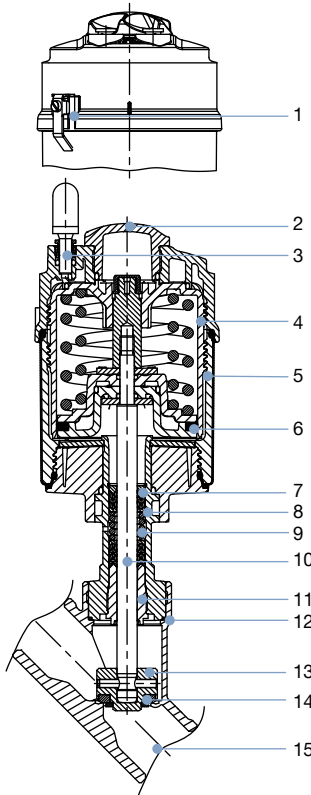
You want to ensure the reliability and durability of the materials in your individual application case? Verify your combination of media and materials on our website or in our resistApp.

[Start Chemical Resistance Check](#)

4.2. Material specifications

Note:

The lubricants for the spindle seal and actuator are classified acc. to NSF H1.



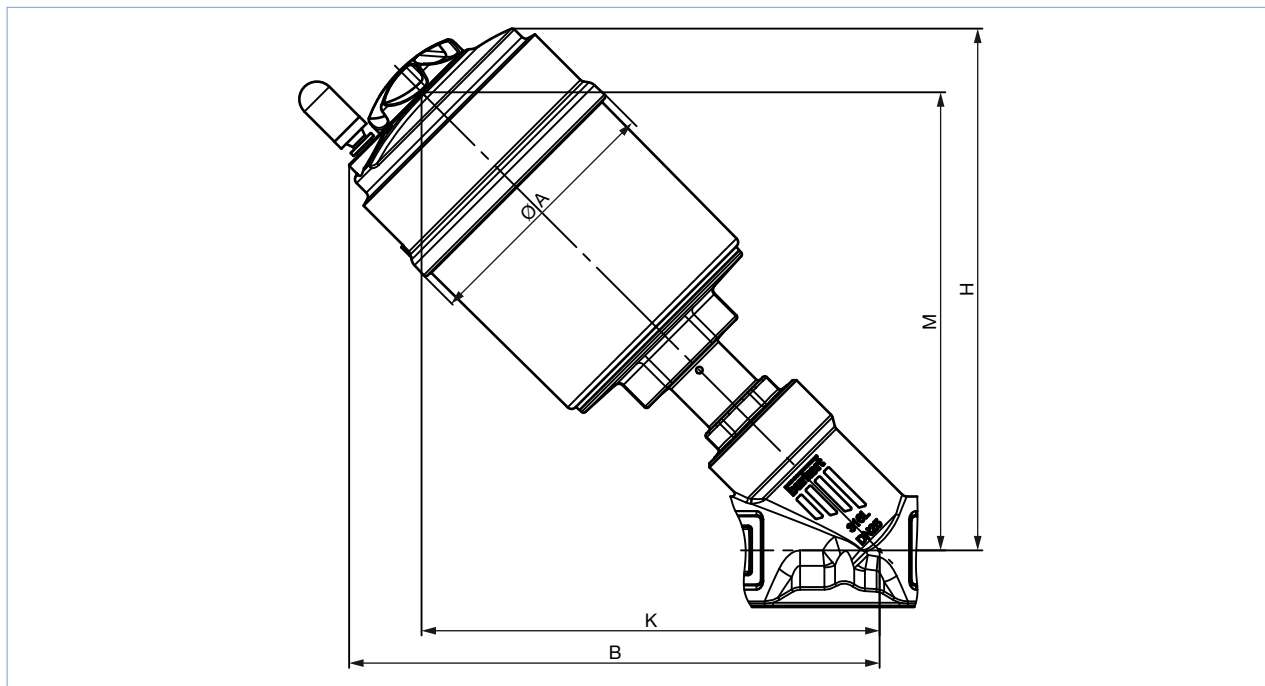
No.	Element	Material
1	Ground terminal	Stainless steel 1.4301/1.4305 only for ATEX version
2	Optical position indicator	Optical position indicator Polysulfone PSU
3	Pilot air ports	Push-in connector PP (Standard) On request: Thread G 1/8" Stainless steel 1.4305
4	Actuator	PPS
5	Cover	Stainless steel 1.4561 (316Ti)
6	Piston seal	FKM
7	Spring	Stainless steel 1.4310
8	Pipe	Stainless steel 1.4401 (316)/1.4404 (316L)
9	Spindle seal	PTFE V-Rings (filled), with spring compensation
10	Spindle	Stainless steel 1.4401 (316)/1.4404 (316L)
11	Spindle guide	PEEK
12	Body seal	Graphite, PTFE (Option)
13	Swivel plate	Stainless steel 1.4401 (316)/1.4404 (316L)
14	Seat seal	PTFE, PEEK (Option)
15	Valve body	Stainless steel CF3M

5. Dimensions

5.1. Actuator

Note:

Dimensions in mm, unless otherwise stated



Nominal diameter (pipe)		Actuator size	Ø A	B ^{1.)}	H ^{1.)}	K/M ^{1.)}
DN	NPS	[mm]				
10	3/8	50 (D)	64.5	166	163	147
		70 (M)	91	182	178	156
15	1/2	50 (D)	64.5	166	163	147
		70 (M)	91	182	178	156
20	3/4	50 (D)	64.5	174	171	155
		70 (M)	91	189	186	163
25	1	50 (D)	64.5	175	173	156
		70 (M)	91	191	188	165
		90 (N)	120	229	228	203
32	1 1/4	70 (M)	91	201	197	174
		90 (N)	120	243	242	217
		130 (P)	159	293	293	254
40	1 1/2	70 (M)	91	204	201	178
		90 (N)	120	246	245	220
		130 (P)	159	296	296	257
50	2	70 (M)	91	223	219	196
		90 (N)	120	262	261	236
		130 (P)	159	312	312	273
65	2 1/2	90 (N)	120	274	273	248
		130 (P)	159	324	324	285
80	3	130 (P)	159	344	344	305

1.) Dimensions for B, H, K and M are maximum dimensions and can be up to 6 mm smaller, depending on nominal diameter and standard.

5.2. Valve system On/Off ELEMENT

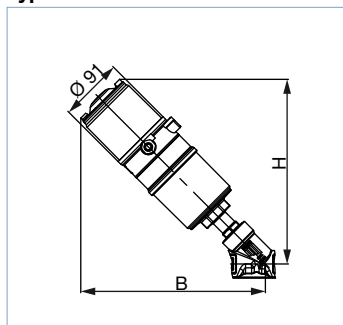
Actuator with control head and pneumatic controls/position feedback

Note:

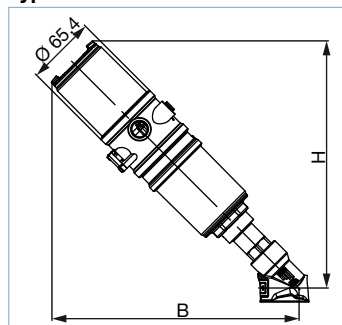
- More information see [“7. Product accessories” on page 17](#)
- Dimensions in mm, unless otherwise stated

Control head

Type 8691

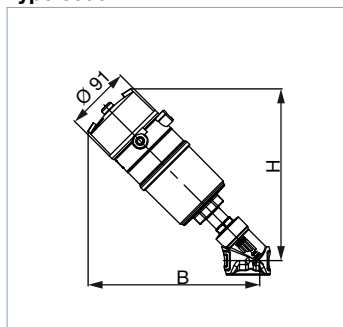


Type 8695

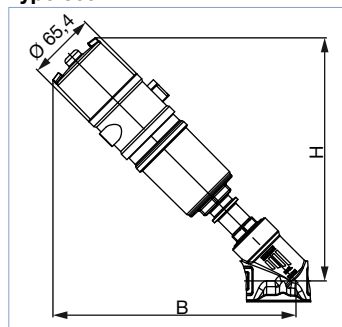


Pneumatic control unit/Position feedback

Type 8690



Type 8697

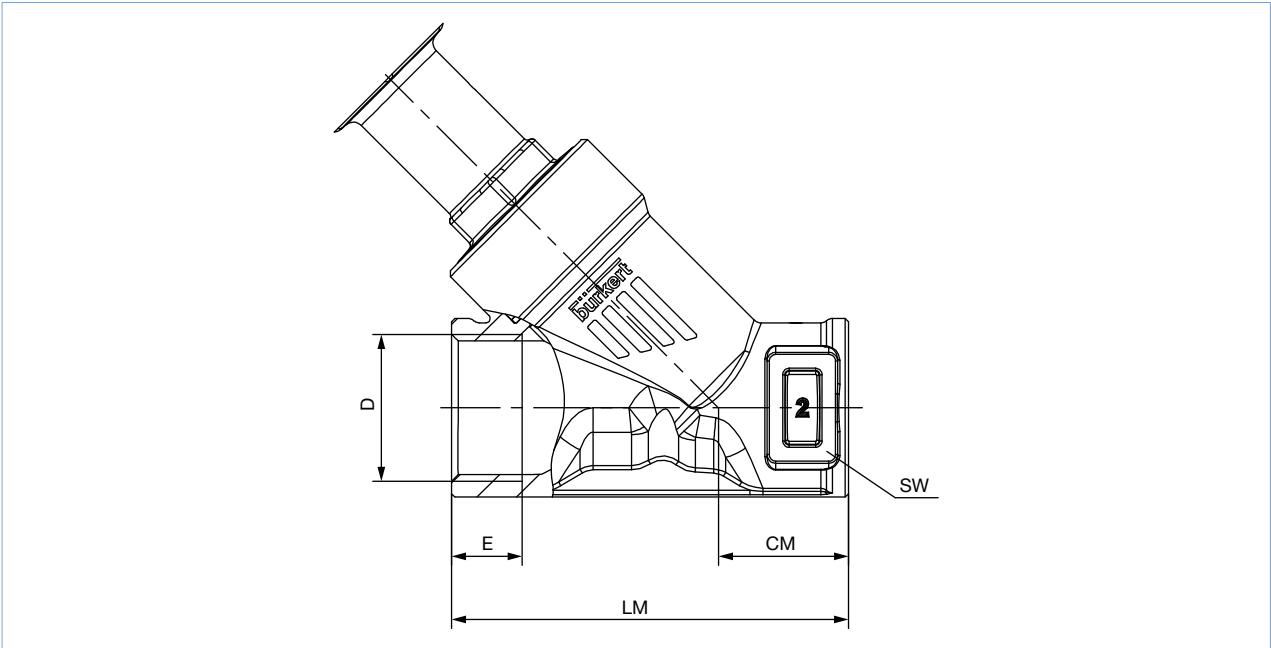


Nominal diameter (pipe)		Actuator size [mm]	B/H ^{1.)} with	
DN	NPS		8690 or 8697	8691 or 8695
10	3/8	50 (D)	226	239
		70 (M)	232	256
15	1/2	50 (D)	226	239
		70 (M)	232	256
20	3/4	50 (D)	234	247
		70 (M)	240	264
25	1	50 (D)	236	249
		70 (M)	242	266
		90 (N)	276	303
32	1 1/4	70 (M)	252	275
		90 (N)	294	318
		130 (P)	328	353
40	1 1/2	70 (M)	255	279
		90 (N)	297	321
		130 (P)	334	358
50	2	70 (M)	274	297
		90 (N)	313	337
		130 (P)	351	374
65	2 1/2	90 (N)	325	349
		130 (P)	362	386
80	3	130 (P)	382	406

1.) Dimensions for B and H are maximum dimensions and can be up to 6 mm smaller, depending on nominal diameter and standard.

5.3. Body with threaded connection

Note:
Dimensions in mm, unless otherwise stated

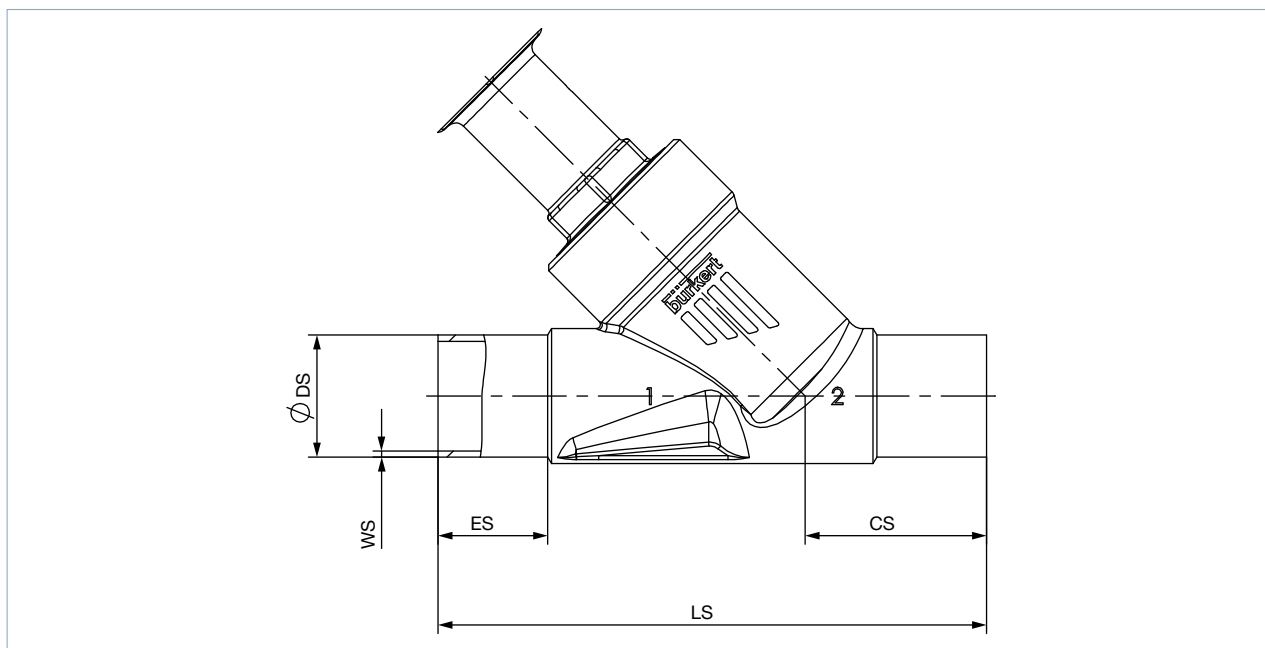


Nominal diameter (pipe)	G (DIN ISO 228 - 1), NPT (ASME B 1.20.1), Rc (ISO7 - 1)					CM	LM	SW
	D	E						
DN	NPS	G	NPT	Rc				
15	½	14	13.7	13.2	24	65	27	
20	¾	16	14.0	14.5	27	75	34	
25	1	18	16.8	16.8	29.5	90	41	
32	1¼	16	17.3	19.1	36	110	50	
40	1½	18	17.3	19.1	35	120	55	
50	2	24	17.6	23.4	45	150	70	
65	2½	26	23.7	26.7	57	185	85	
80	3	28	–	–	71	220	100	

5.4. Body with welded connection

Note:

Dimensions in mm, unless otherwise stated



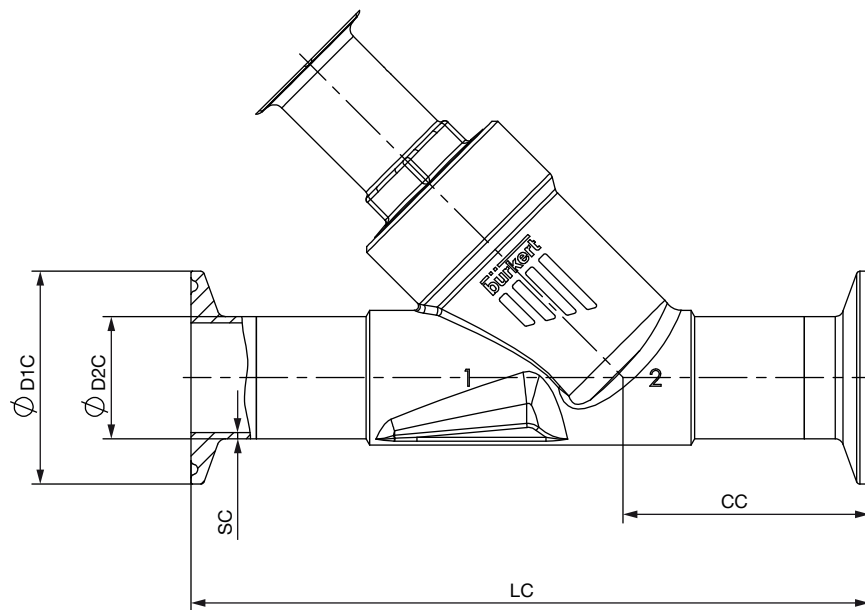
Nominal diameter (pipe)	DIN EN ISO 1127 ISO 4200 DIN 11866 B					DIN 11850 2 DIN 11866 A				
DN	ES	CS	LS	ØDS	WS	ES	CS	LS	ØDS	WS
15	19	34	100	21.3	1.6	19	34	100	19	1.5
20	20	39	115	26.9	1.6	20	39	115	23	1.5
25	26	43	130	33.7	2.0	26	43	130	29	1.5
32	26	45	145	42.4	2.0	26	45	145	35	1.5
40	26	49	160	48.3	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 (pipe)	ASME BPE DIN 11866 C				
NPS	ES	CS	LS	ØDS	WS
1/2	30	46	135	12.7	1.65
3/4	30	52	145	19.05	1.65
1	30	51	152	25.4	1.65
1 1/2	30	60	182	38.1	1.65
2	30	64	210	50.8	1.65
2 1/2	26	56	230	63.5	1.65

5.5. Body with clamp connection

Note:

Dimensions in mm, unless otherwise stated



Nominal diameter (pipe)	Clamp: DIN 32676 B					Clamp: DIN 32676 A				
	Pipe: EN ISO 1127 1 ISO 4200 DIN 11866 B					Pipe: DIN 11850 2 DIN 11866 A				
DN	LC	CC	ØD1C	ØD2C	SC	LC	CC	ØD1C	ØD2C	SC
15	156	49.0	50.5	21.3	1.6	130	49.5	19	34.0	1.5
20	150	56.5	50.5	26.9	1.6	150	57.0	23	34.0	1.5
25	160	58.0	50.5	33.7	2.0	160	58.5	29	50.5	1.5
32	200	57.5	50.5	42.4	2.0	180	58.0	35	50.5	1.5
40	200	69.0	64.0	48.3	2.0	200	69.5	41	50.5	1.5
50	230	77.5	77.5	60.3	2.6	230	78.0	53	64.0	1.5

Nominal diameter (pipe)	Clamp: ASME BPE				
	Pipe: ASME BPE DIN 11866 C				
NPS	LC	CC	ØD1C	ØD2C	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

Overview of fluidic data for flow below seat

Note:

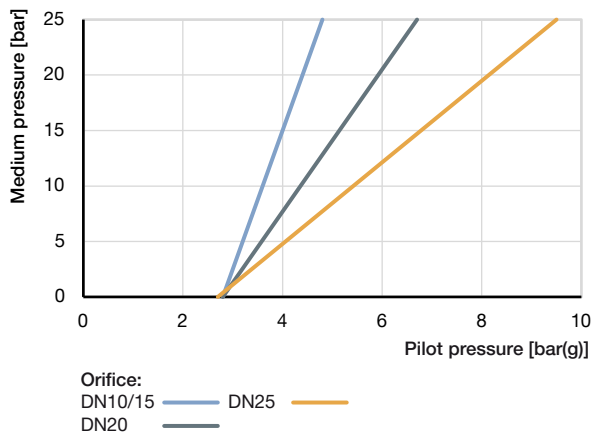
- K_v value [m^3/h]: Measured with water at +20 °C, 1 bar pressure at valve inlet and free outlet
- Pressure data [bar]: Overpressure to atmospheric pressure

Nominal diameter		Actuator size	K _v value	Pilot pressure min.	Operating pressure max. [bar(g)]		
					CF A		CF B
					Seat seal		
DN	NPS	[mm]	[m³/h]	CF A [bar(g)]	PTFE	PEEK	PTFE
10	⅜	50 (D)	4.8	5.2	25	25	25
		70 (M)	4.8	5	25	25	25
15	½	50 (D)	5	5.2	25	25	25
		70 (M)	5	5	25	25	25
20	¾	50 (D)	10	5.2	16	13.5	25
		70 (M)	11	5	25	25	25
25	1	50 (D)	14	5.2	9	–	25
		70 (M)	18	5	16	13.5	25
		90 (N)	18	5	25	25	25
32	1¼	70 (M)	27	5	8.5	–	25
		90 (N)	28	5	25	19.5	25
		130 (P)	28	5	–	25	–
40	1½	70 (M)	38	5	6	–	25
		90 (N)	40	5	16	13.5	25
		130 (P)	42	4.9	25	25	25
50	2	70 (M)	52	–	–	–	16
		90 (N)	55	5	10	8	25
		130 (P)	62	5	25 (20 ^{1.3})	23 (20 ^{1.3})	25 (20 ^{1.3})
65	2½	90 (N)	85	5	5	–	14
		130 (P)	95	5.6	16 (15 ^{1.3})	12.5	16 (15 ^{1.3})
80	3	130 (P)	140	5.6	10	8	11

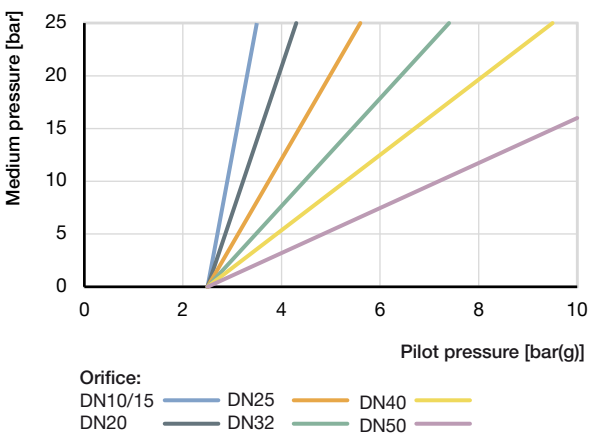
1.) According to Pressure Equipment Directive 2014/68/EU for compressible fluids of group 1 (dangerous gases and vapours acc. to Article 4, paragraph (1), c), i), first indent)

Pilot pressure diagram with flow direction below seat (Control function B)

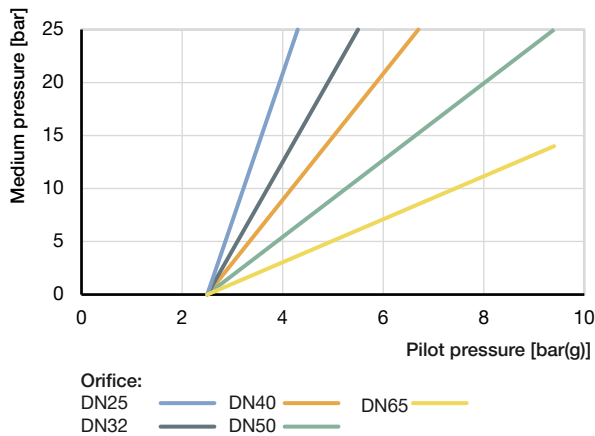
Actuator size: Ø50



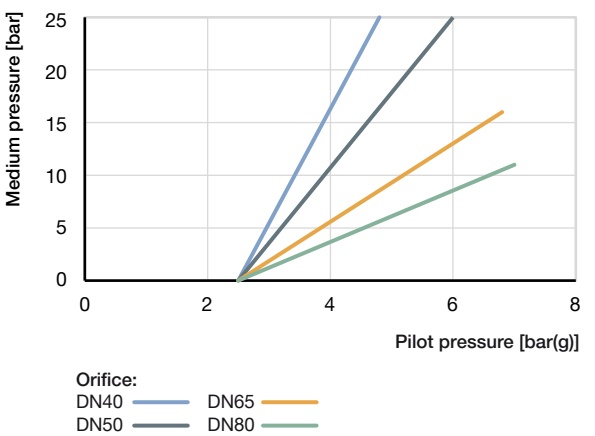
Actuator size: Ø70



Actuator size: Ø90



Actuator size: Ø130



Overview of fluidic data with flow above seat (for gases and steam)

⚠ CAUTION

**Risk of damage due to bursting pipes and bursting equipment when the flow is above the seat.
In the case of liquid mediums, water hammer can occur causing pipes and the device to burst.**

Do not use valves with flow above the seat for liquid mediums..

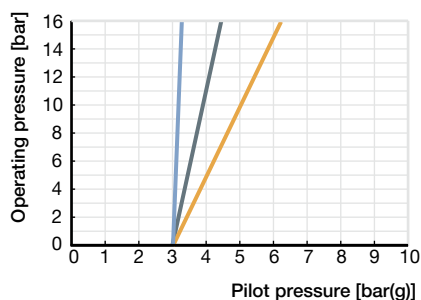
Note:

- K_v -value water [m³/h]: Measured at +20 °C, 1 bar pressure at valve inlet and free outlet.
- Pressure data [bar]: Overpressure to atmospheric pressure

Nominal diameter DN	Actuator size [mm]	K_v value [m³/h]	Operating pressure max. up to +185 °C S FA [bar(g)] PTFE
15	50	5	16
	70	5.1	16
20	50	10	16
	70	12	16
25	50	15	16
	70	19	16
32	70	28	16
40	70	38	16
	90	40	16
50	70	50	12
	90	55	16

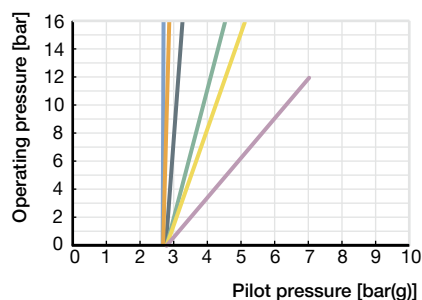
Pilot pressure diagram with flow direction above seat (Control function A)

Actuator size: Ø50



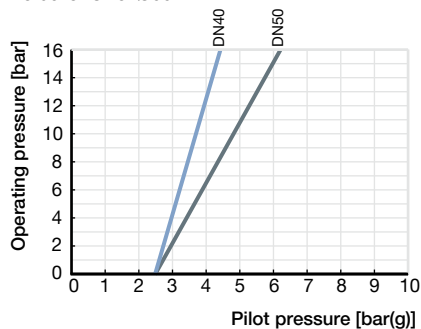
Orifice:
 DN15 — DN25 —
 DN20 —

Actuator size: Ø70



Orifice:
 DN15 — DN32 —
 DN20 — DN40 —
 DN25 — DN50 —

Actuator size: Ø90

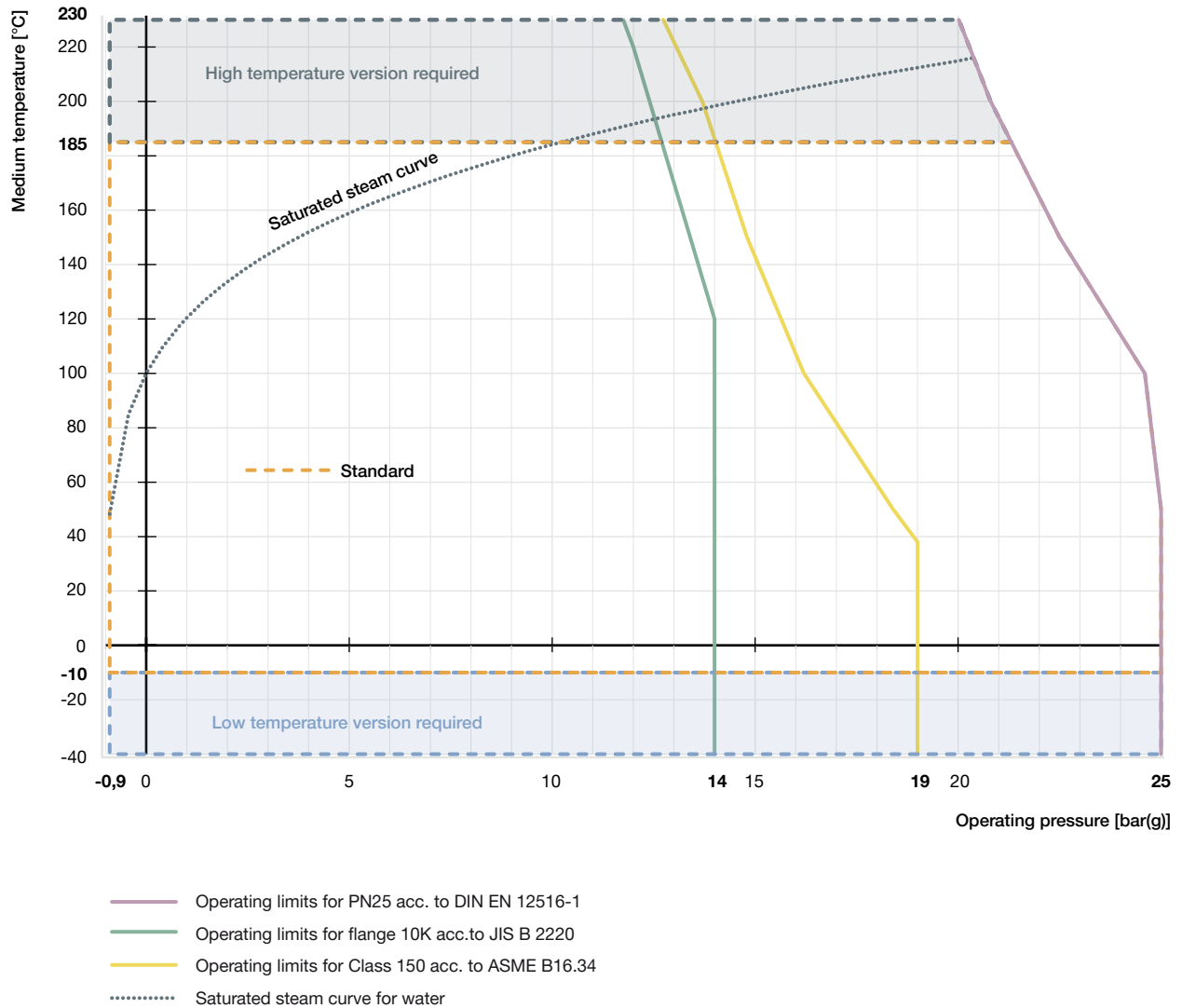


Orifice:
 DN40 —
 DN50 —

6.2. Operating limits

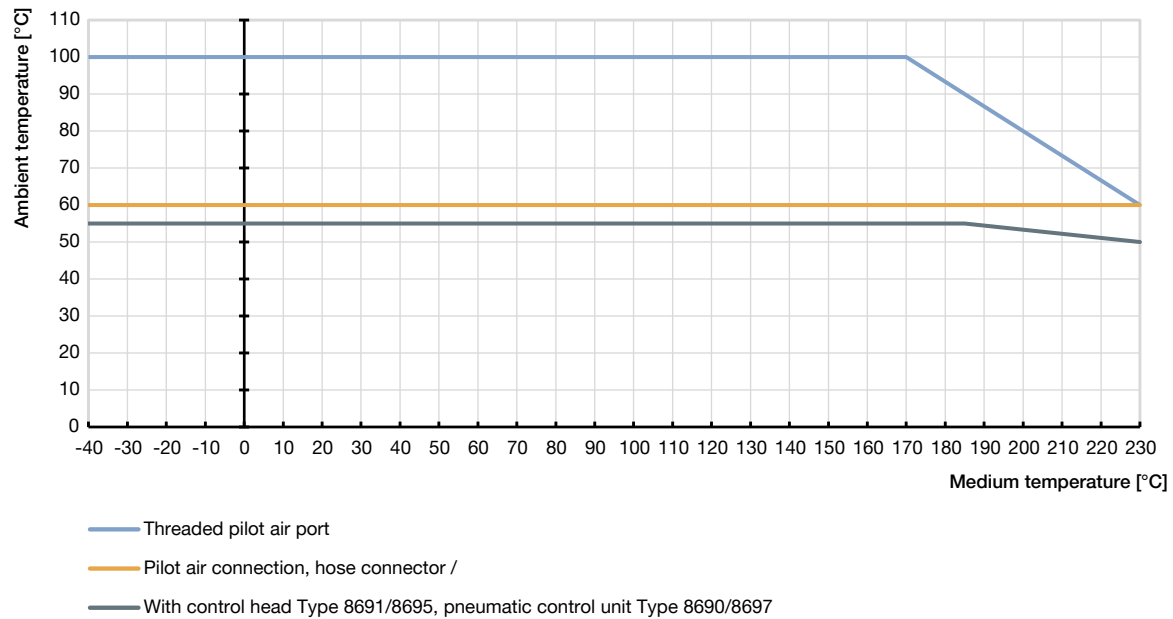
Operating limits for medium temperature and operating pressure

The operating range of Bürkert 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 On/Off valve



Operating limits for optional versions

High temperature version

By adjusting the spindle seal, this version is suitable for applications with steam, neutral gases and other heat transfer media up to 230 °C.

Hot water version

By adjusting the spindle seal, this version is suitable for applications with steam, neutral gases and other heat transfer mediums up to 230 °C.

Drinking water version

Materials 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 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 suitable for operating pressures up to 25 bar(g) and medium temperatures up to 60 °C.

7. Product accessories

Control head	
Type 8691 ▶ Actuator size Ø 70/90/130 mm	Description
	The control heads, Type 8691 and 8695, are optimized for integrated mounting on process valves of the 21XX series. The valve position is detected without contact via an analog sensor element, which automatically detects and stores the valve end positions during commissioning using the Teach-In function. The integrated pilot valve controls single or double-acting actuators. The switching status of the valve is indicated by coloured high-performance LEDs. Features • Status indication via coloured high-power LEDs • Non-wearing inductive position sensor • Pilot valve with manual override • Teach-In function for automatic recognition of the valve end positions • Hygienic stainless steel design • Easy to clean chemical resistant housing according to IP65/67, 4X rating • AS-Interface, IO-Link, Bürkert system bus (bûS) Customer benefits • Simple and safe commissioning by means of Teach-In function • Easy process monitoring and fault detection through visible coloured high-power LEDs • High degree of system availability due to increased actuator service life by means of spring chamber ventilation • Minimal space requirement in the plant piping for more flexibility in plant design
Type 8695 ▶ Actuator size Ø 50 mm	Description
	
Pneumatic Control unit/Position feedback	
Type 8690 ▶ Actuator size Ø 70/90/130 mm	Description
	The pneumatic control units, Type 8690 and 8697, are optimized for integrated mounting on process valves of the 21XX series. Mechanical or inductive limit switches detect the valve position. The integrated pilot valve controls single or double-acting (Type 8690) actuators. Features • Optical position indicator • Mechanical or inductive proximity switches for end position detection • Pilot valve with manual override • Compact design • Easy to clean, chemical resistant housing according to IP65/67, 4X rating • Optional intrinsically safe design according to ATEX/IECEx Customer benefits • Simple and safe commissioning using the Teach-In function (Type 8697) • Signal reliability due to the automatic adjustment of the limit position switches • Minimal space requirement in the plant piping for more flexibility in plant design
Type 8697 ▶ Actuator size Ø 50 mm	Description
	

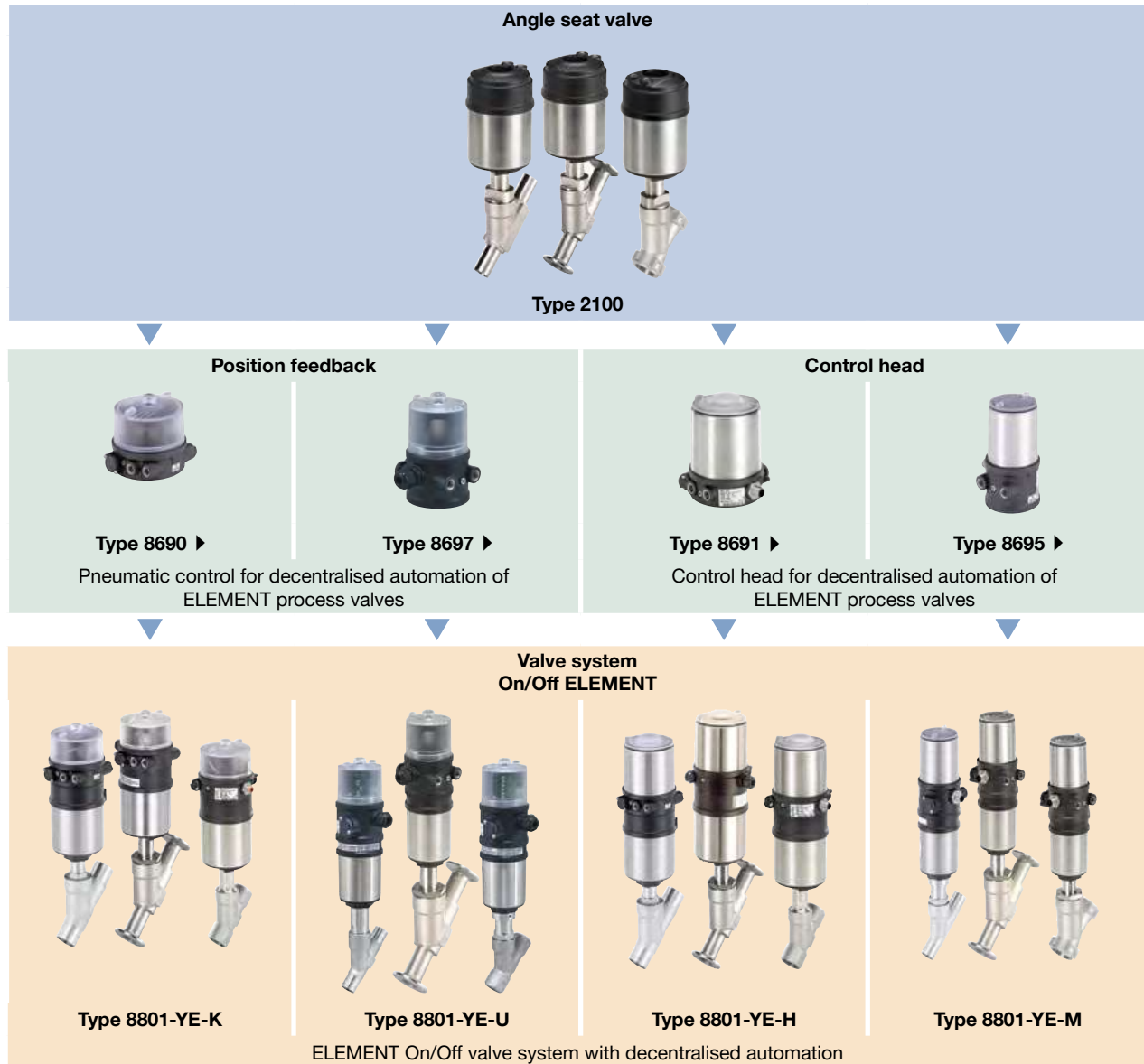
8. Networking and combination with other Bürkert products

Note:

The **angle seat valve Type 2100** can be combined with the **position feedback Type 8690/8697** and the **control head Type 8691/8695** to valve system On/Off ELEMENT Type 8801-YE.

Note:

- For the configuration of further valve systems please use the **product enquiry** form at the end of this document.
- You order two components and receive a completely assembled and tested valve.



9. Ordering information

9.1. Bürkert eShop – Easy ordering and quick delivery



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9.3. Ordering chart threaded connection

Valves with flow direction below seat

Control function	Nominal diameter	Actuator size Ø	Threaded port connection	Pilot pressure min.	Operating pressure	Article no.	Article no. ATEX II 2GD certified (mechanical)
	DN	[mm]	[inch]	[bar]	[bar]		
Type: A, pneumatically operated on/off valve ^{1.)}	15	50 (D)	G ½"	5.2	25	213619	259510
		70 (M)	G ½"	5.0	25	213620	259511
	20	50 (D)	G ¾"	5.2	16	227616	259513
		70 (M)	G ¾"	5.0	25	213621	259515
	25	50 (D)	G 1"	5.2	9	227617	259516
		70 (M)	G 1"	5.0	16	213622	259517
	32	70 (M)	G 1¼"	5.0	8.5	213623	259519
		90 (N)	G 1¼"	5.0	25	213624	259521
	40	70 (M)	G 1½"	5.0	6	213625	259523
		90 (N)	G 1½"	5.0	16	213627	259524
	50	90 (N)	G 2"	5.0	10	175108	259525
		130 (P)	G 2"	5.0	25 (20 ^{3.)})	188610	259526
	65	90 (N)	G 2½"	5.0	5	239456	259527
		130 (P)	G 2½"	5.6	16 (15 ^{3.)})	239472	259530
Type: B, pneumatically operated on/off valve ^{1.)}	15	50 (D)	G ½"	See diagram ^{2.)}	25	213637	259531
		70 (M)	G ½"		25	213638	259532
	20	50 (D)	G ¾"		25	213639	259533
		70 (M)	G ¾"		25	213640	259535
	25	70 (M)	G 1"		25	213641	259537
	32	70 (M)	G 1¼"		25	213642	259538
	40	70 (M)	G 1½"		25	213643	259539
	50	70 (M)	G 2"		16	175123	259540
	65	90 (N)	G 2½"		14	239464	259565
		130 (P)	G 2½"		16 (15 ^{3.)})	239479	259566

1.) Further information in chapter "2. Circuit functions" on page 4

2.) See diagram in chapter "Pilot pressure diagram with flow direction below seat (Control function B)" on page 13

3.) According to pressure equipment directive 2014/68/EU for compressible fluids of group 1 (dangerous gases and vapours according to article 4, paragraph (1), c), i), first indent)

Control function	Nominal diameter	Actuator size Ø	Threaded port connection	Pilot pressure min.	Operating pressure	Article no.
	DN	[mm]	[inch]	[bar]	[bar]	
Type: A, pneumatically operated on/off valve ^{1.)}	15	50 (D)	NPT ½"	5.2	25	213644 ☒
		70 (M)	NPT ½"	5.0	25	213645 ☒
	20	50 (D)	NPT ¾"	5.2	16	227618 ☒
		70 (M)	NPT ¾"	5.0	25	213646 ☒
	25	50 (D)	NPT 1"	5.2	9	227619 ☒
		70 (M)	NPT 1"	5.0	16	213647 ☒
	32	70 (M)	NPT 1¼"	5.0	8.5	213648 ☒
		90 (N)	NPT 1¼"	5.0	25	213649 ☒
	40	70 (M)	NPT 1½"	5.0	6	213650 ☒
		90 (N)	NPT 1½"	5.0	16	213651 ☒
	50	90 (N)	NPT 2"	5.0	10	188641 ☒
		130 (P)	NPT 2"	5.0	25 (20 ^{3.)})	188642 ☒
	65	90 (N)	NPT 2½"	5.0	5	239457 ☒
		130 (P)	NPT 2½"	5.6	16 (15 ^{3.)})	239473 ☒
Type: B, pneumatically operated on/off valve ^{1.)}	15	50 (D)	NPT ½"	See diagram ^{2.)}	25	213661 ☒
		70 (M)	NPT ½"		25	213662 ☒
	20	50 (D)	NPT ¾"		25	213663 ☒
		70 (M)	NPT ¾"		25	213664 ☒
	25	70 (M)	NPT 1"		25	213665 ☒
	32	70 (M)	NPT 1¼"		25	213666 ☒
	40	70 (M)	NPT 1½"		25	213667 ☒
	50	70 (M)	NPT 2"		16	188656 ☒
	65	90 (N)	NPT 2½"		14	239465 ☒
		130 (P)	NPT 2½"		16 (15 ^{3.)})	239480 ☒

1.) Further information in chapter "2. Circuit functions" on page 4

2.) See diagram in chapter "Pilot pressure diagram with flow direction below seat (Control function B)" on page 13

3.) According to pressure equipment directive 2014/68/EU for compressible fluids of group 1 (dangerous gases and vapours according to article 4, paragraph (1), c), i), first indent)

Control function	Nominal diameter	Actuator size Ø	Threaded port connection	Pilot pressure min.	Operating pressure	Article no.
	DN	[mm]	[inch]	[bar]	[bar]	
Type: A, pneumatically operated on/off valve ^{1.)}	15	50 (D)	RC ½"	5.2	25	213668 ☒
		70 (M)	RC ½"	5.0	25	213669 ☒
	20	50 (D)	RC ¾"	5.2	16	227621 ☒
		70 (M)	RC ¾"	5.0	25	213670 ☒
	25	50 (D)	RC 1"	5.2	9	227622 ☒
		70 (M)	RC 1"	5.0	16	213671 ☒
	32	70 (M)	RC 1¼"	5.0	8.5	213672 ☒
		90 (N)	RC 1¼"	5.0	25	213673 ☒
	40	70 (M)	RC 1½"	5.0	6	213674 ☒
		90 (N)	RC 1½"	5.0	16	213675 ☒
	50	90 (N)	RC 2"	5.0	10	188664 ☒
		130 (P)	RC 2"	5.0	25 (20 ^{3.)})	188665 ☒
	65	90 (N)	RC 2½"	5.0	5	239458 ☒
		130 (P)	RC 2½"	5.6	16 (15 ^{3.)})	239474 ☒
Type: B, pneumatically operated on/off valve ^{1.)}	15	50 (D)	RC ½"	See diagram ^{2.)}	25	213685 ☒
		70 (M)	RC ½"		25	213686 ☒
	20	50 (D)	RC ¾"		25	213687 ☒
		70 (M)	RC ¾"		25	213688 ☒
	25	70 (M)	RC 1"		25	213689 ☒
	32	70 (M)	RC 1¼"		25	213690 ☒
	40	70 (M)	RC 1½"		25	213691 ☒
	50	70 (M)	RC 2"		16	188679 ☒
	65	90 (N)	RC 2½"		14	239466 ☒
		130 (P)	RC 2½"		16 (15 ^{3.)})	239481 ☒

1.) Further information in chapter "2. Circuit functions" on page 4

2.) See diagram in chapter "Pilot pressure diagram with flow direction below seat (Control function B)" on page 13

3.) According to pressure equipment directive 2014/68/EU for compressible fluids of group 1 (dangerous gases and vapours according to article 4, paragraph (1), c), i), first indent)

Further versions on request	
 Approval Food processing, drinking water, oxygen, fuel gases, explosion protection	 Pressure Other versions for operating pressures up to 25 bar(g) Vacuum version down to -0.9 bar(g)
 Material Seal: NBR, FKM, EPDM	 Temperature High temperature version up to 230 °C Hot water version up to 200 °C Low temperature version down to -40 °C
 Process connection Clamp connection, welded connection	

Valves with flow direction above seat

Control function	Nominal diameter	Actuator size Ø	Threaded port connection	Pilot pressure min.	Operating pressure	Article no.	Article no. ATEX II 2GD certified (mechanical)
	DN	[mm]	[inch]	[bar]	[bar]		
Type: A, pneumatically operated on/off valve ^{1.)}	15	50 (D)	G ½"	See diagram ^{2.)}	16	213628 ㉔	259567 ㉔
		70 (M)	G ½"		16	213629 ㉔	259568 ㉔
	20	50 (D)	G ¾"		16	213630 ㉔	259569 ㉔
		70 (M)	G ¾"		16	213631 ㉔	259571 ㉔
	25	50 (D)	G 1"		16	213632 ㉔	259573 ㉔
		70 (M)	G 1"		16	213633 ㉔	259575 ㉔
	32	70 (M)	G 1¼"		16	213634 ㉔	259576 ㉔
	40	70 (M)	G 1½"		16	213635 ㉔	259577 ㉔
		90 (N)	G 1½"		16	213636 ㉔	259578 ㉔
	50	70 (M)	G 2"		12	175115 ㉔	259579 ㉔
		90 (N)	G 2"		16	175116 ㉔	259580 ㉔

1.) Further information in chapter "2. Circuit functions" on page 4

2.) See diagram in chapter "Pilot pressure diagram with flow direction above seat (Control function A)" on page 14

Control function	Nominal diameter	Actuator size Ø	Threaded port connection	Pilot pressure min.	Operating pressure	Article no.
	DN	[mm]	[inch]	[bar]	[bar]	
Type: A, pneumatically operated on/off valve ^{1.)}	15	50 (D)	NPT ½"	See diagram ^{2.)}	16	213652 
		70 (M)	NPT ½"		16	213653 
	20	50 (D)	NPT ¾"		16	213654 
		70 (M)	NPT ¾"		16	213655 
	25	50 (D)	NPT 1"		16	213656 
		70 (M)	NPT 1"		16	213657 
	32	70 (M)	NPT 1¼"		16	213658 
	40	70 (M)	NPT 1½"		16	213659 
	50	70 (M)	NPT 2"		12	188649 

1.) Further information in chapter "2. Circuit functions" on page 4

2.) See diagram in chapter "Pilot pressure diagram with flow direction above seat (Control function A)" on page 14

Control function	Nominal diameter	Actuator size Ø	Threaded port connection	Pilot pressure min.	Operating pressure	Article no.
	DN	[mm]	[inch]	[bar]	[bar]	
Type: A, pneumatically operated on/off valve ^{1.)}	15	50 (D)	RC ½"	See diagram ^{2.)}	16	213676 
		70 (M)	RC ½"		16	213677 
	20	50 (D)	RC ¾"		16	213678 
		70 (M)	RC ¾"		16	213679 
	25	50 (D)	RC 1"		16	213680 
		70 (M)	RC 1"		16	213681 
	32	70 (M)	RC 1¼"		16	213682 
	40	70 (M)	RC 1½"		16	213683 
	50	70 (M)	RC 2"		12	188672 

1.) Further information in chapter "2. Circuit functions" on page 4

2.) See diagram in chapter "Pilot pressure diagram with flow direction above seat (Control function A)" on page 14

9.4. Ordering chart welded connection

Valves with flow direction below seat

Control function	Nominal diameter	Actuator size Ø	Port connection pipe Ø	Pilot pressure min.	Operating pressure	Article no.
	DN	[mm]	[mm]	[bar]	[bar]	
ASME BPE						
Type: A, pneumatically operated on/off valve ^{1.)}	15	50 (D)	12.7 × 1.65	5.2	25	187077 
		70 (M)	12.7 × 1.65	5.0	25	188726 
	20	50 (D)	19.05 × 1.65	5.2	16	227607 
		70 (M)	19.05 × 1.65	5.0	25	188727 
	25	50 (D)	25.4 × 1.65	5.2	9	227608 
		70 (M)	25.4 × 1.65	5.0	16	188728 
	40	70 (M)	38.1 × 1.65	5.0	6	188729 
		90 (N)	38.1 × 1.65	5.0	16	188730 
	50	90 (N)	50.8 × 1.65	5.0	10	188731 
		130 (P)	50.8 × 1.65	5.0	25 (20 ^{3.)})	188732 
	65	90 (N)	63.5 × 1.65	5.0	5	239461 
		130 (P)	63.5 × 1.65	5.6	16 (15 ^{3.)})	239478 
Type: B, pneumatically operated on/off valve ^{1.)}	15	50 (D)	12.7 × 1.65	See diagram ^{2.)}	25	187082 
		70 (M)	12.7 × 1.65		25	188740 
	20	50 (D)	19.05 × 1.65		25	187083 
		70 (M)	19.05 × 1.65		25	188741 
	25	70 (M)	25.4 × 1.65		25	188742 
	40	70 (M)	38.1 × 1.65		25	188781 
	50	70 (M)	50.8 × 1.65		16	188744 
	65	90 (N)	63.5 × 1.65		14	239469 
	130 (P)	63.5 × 1.65	16 (15 ^{3.)})	239484 		
SMS 3008						
Type: A, pneumatically operated on/off valve ^{1.)}	15	50 (D)	12 × 1.0	5.2	25	187084 
		70 (M)	12 × 1.0	5.0	25	188745 
	20	50 (D)	18 × 1.0	5.2	16	227609 
		70 (M)	18 × 1.0	5.0	25	188746 
	25	50 (D)	25 × 1.2	5.2	9	227610 
		70 (M)	25 × 1.2	5.0	16	188747 
	40	70 (M)	38 × 1.2	5.0	6	188748 
		90 (N)	38 × 1.2	5.0	16	188749 
	50	90 (N)	51 × 1.2	5.0	10	188750 
		130 (P)	51 × 1.2	5.0	25 (20 ^{3.)})	188751 
	65	90 (N)	63.5 × 1.65	5.0	5	239462 
		130 (P)	63.5 × 1.65	5.6	16 (15 ^{3.)})	239477 
Type: B, pneumatically operated on/off valve ^{1.)}	15	50 (D)	12 × 1.0	See diagram ^{2.)}	25	187089 
		70 (M)	12 × 1.0		25	188759 
	20	50 (D)	18 × 1.0		25	187090 
		70 (M)	18 × 1.0		25	188760 
	25	70 (M)	25 × 1.2		25	188761 
	40	70 (M)	38 × 1.2		25	188762 
	50	70 (M)	51 × 1.2		16	188763 
	65	90 (N)	63.5 × 1.65		14	239470 
	130 (P)	63.5 × 1.65	16 (15 ^{3.)})	239485 		

1.) Further information in chapter "2. Circuit functions" on page 4

2.) See diagram in chapter "Pilot pressure diagram with flow direction below seat (Control function B)" on page 13

3.) According to pressure equipment directive 2014/68/EU for compressible fluids of group 1 (dangerous gases and vapours according to article 4, paragraph (1), c), i), first indent)

Valves with flow direction above seat

Control function	Nominal diameter	Actuator size Ø	Port connection pipe Ø	Pilot pressure min.	Operating pressure	Article no.
	DN	[mm]	[mm]	[bar]	[bar]	
EN ISO 1127/ISO 4200						
Type: A, pneumatically operated on/off valve ^{1.)}	15	50 (D)	21.3 × 1.6	See diagram ^{2.)}	16	187066 
	20	50 (D)	26.9 × 1.6		16	187067 
	25	50 (D)	33.7 × 2		16	187068 
	32	70 (M)	42.4 × 2		16	188692 
	40	70 (M)	48.3 × 2		16	188693 
	50	70 (M)	60.3 × 2.0		12	274663 
DIN 11850 R2						
Type: A, pneumatically operated on/off valve ^{1.)}	15	50 (D)	19 × 1.5	See diagram ^{2.)}	16	187072 
	20	50 (D)	23 × 1.5		16	187073 
	25	50 (D)	29 × 1.5		16	187074 
	32	70 (M)	35 × 1.5		16	188715 
	40	70 (M)	41 × 1.5		16	188716 
	50	70 (M)	53 × 1.5		12	188718 
ASME BPE						
Type: A, pneumatically operated on/off valve ^{1.)}	15	50 (D)	12.7 × 1.65	See diagram ^{2.)}	16	187078 
	20	50 (D)	19.05 × 1.65		16	187079 
	25	50 (D)	25.4 × 1.65		16	187080 
	40	70 (M)	38.1 × 1.65		16	188736 
	50	70 (M)	50.8 × 1.65		12	188738 
SMS 3008						
Type: A, pneumatically operated on/off valve ^{1.)}	15	50 (D)	12 × 1.0	See diagram ^{2.)}	16	187085 
	20	50 (D)	18 × 1.0		16	187086 
	25	50 (D)	25 × 1.2		16	187087 
	40	70 (M)	38 × 1.2		16	188755 
	50	70 (M)	51 × 1.2		12	188757 

1.) Further information in chapter "2. Circuit functions" on page 4

2.) See diagram in chapter "Pilot pressure diagram with flow direction above seat (Control function A)" on page 14

9.5. Ordering chart clamp connection

Valves with flow direction below seat

Control function	Nominal diameter	Actuator size Ø	Port connection external clamp Ø	Pilot pressure min.	Operating pressure	Article no.
	DN	[mm]	[mm]	[bar]	[bar]	
DIN 32676 B (pipe ISO 4200)						
Type: A, pneumatically operated on/off valve ^{1.)}	15	50 (D)	34.0	5.2	25	187097 
		70 (M)	34.0	5.0	25	188783 
	20	50 (D)	50.5	5.2	16	209437 
		70 (M)	50.5	5.0	25	188784 
	25	50 (D)	50.0	5.2	9	227613 
		70 (M)	50.5	5.0	16	188785 
	32	70 (M)	50.5	5.0	8.5	188786 
		90 (N)	50.5	5.0	25	188787 
	40	70 (M)	64.0	5.0	6	188788 
		90 (N)	64.0	5.0	16	188789 
50	90 (N)	77.5	5.0	10	188790 	
	130 (P)	77.5	5.0	25 (20 ^{3.)})	188791 	
Type: B, pneumatically operated on/off valve ^{1.)}	15	50 (D)	34.0	See diagram ^{2.)}	25	187101 
		70 (M)	34.0		25	188800 
	20	50 (D)	50.5		25	187102 
		70 (M)	50.5		25	188801 
	25	70 (M)	50.5		25	188802 
	32	70 (M)	50.5		25	188803 
	40	70 (M)	64.0		25	188804 
	50	70 (M)	77.5		16	188805 
ASME BPE						
Type: A, pneumatically operated on/off valve ^{1.)}	15	50 (D)	25.0	5.2	25	187103 
		70 (M)	25.0	5.0	25	188806 
	20	50 (D)	25.5	5.2	16	227614 
		70 (M)	25.5	5.0	25	188807 
	25	50 (D)	50.5	5.2	9	227615 
		70 (M)	50.5	5.0	16	188808 
	40	70 (M)	50.5	5.0	6	188809 
		90 (N)	50.5	5.0	16	188810 
	50	90 (N)	64.0	5.0	10	188811 
		130 (P)	64.0	5.0	25 (20 ^{3.)})	188812 
Type: B, pneumatically operated on/off valve ^{1.)}	15	50 (D)	25.0	See diagram ^{2.)}	25	187107 
		70 (M)	25.0		25	188820 
	20	50 (D)	25.0		25	187108 
		70 (M)	50.5		25	188821 
	25	70 (M)	50.5		25	188822
	40	70 (M)	50.5		25	188823
50	70 (M)	64.0		16	188824	

1.) Further information in chapter "2. Circuit functions" on page 4

2.) See diagram in chapter "Pilot pressure diagram with flow direction below seat (Control function B)" on page 13

Further versions on request	
 Approval Food processing, drinking water, oxygen, fuel gases, explosion protection	 Pressure Other versions for operating pressures up to 25 bar(g) Vacuum version down to -0.9 bar(g)
 Material Seal: NBR, FKM, EPDM	 Temperature High temperature version up to 230 °C Hot water version up to 200 °C Low temperature version down to -40 °C
 Process connection Clamp connection, welded connection	

Valves with flow direction above seat

Control function	Nominal diameter	Actuator size Ø	Port connection external clamp Ø	Pilot pressure min.	Operating pressure	Article no.
	DN	[mm]	[mm]	[bar]	[bar]	
DIN 32676 B (pipe ISO 4200)						
Type: A, pneumatically operated on/off valve ^{1.)}	15	50 (D)	34.0	See diagram ^{2.)}	16	187098 
	20	50 (D)	50.5		16	187099 
	25	50 (D)	50.5		16	187100 
	32	70 (M)	50.5		16	188795 
	40	70 (M)	64.0		16	188796 
	50	70 (M)	77.5		12	188798 
ASME BPE						
Type: A, pneumatically operated on/off valve ^{1.)}	15	50 (D)	25.0	See diagram ^{2.)}	16	187104 
	20	50 (D)	25.0		16	187105 
	25	50 (D)	50.5		16	187106 
	40	70 (M)	50.5		16	188816 
	50	70 (M)	64.0		12	188818 

1.) Further information in chapter "2. Circuit functions" on page 4

2.) See diagram in chapter "Pilot pressure diagram with flow direction above seat (Control function A)" on page 14

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Product Enquiry Form - Pneumatic Shut-off Valves ELEMENT

Thank you for your interest in our products! In order to provide you with optimum advice, please fill out the following form and send it to your **Bürkert representative** or e-mail address: info@buerkert.com. All information submitted will of course be kept strictly confidential.

Please fill in the **required fields!** *

*Note: The interactive functions of this PDF may be restricted depending on the PDF reader used.

Personal Information			
Company		Contact person	
Customer no.		Department	
Street		Postcode / Town	
Telephone no.		Email	

Delivery	
Quantity	Required delivery date

Operating data				
Function (Function of the control valve in the process / process description)				
Pipeline	DN	PN		
Operating medium				
Type of medium	Fluid	Steam	Gas	
Operating pressure	Unit			
Medium temperature	°C / °F			
Ambient temperature	°C / °F			

Valve body				
Construction	Angle seat valve		Globe valve	
Actuator material	Stainless steel/PPS		Stainless steel	PPS PA
Housing material	Stainless steel		Gunmetal	
Seat seal	PTFE EPDM		NBR Other	PEEK FKM
DN / Nominal pressure	DN		PN	
Flow coefficient	K _v	m³/h	C _v	GPM(US)
Connection	Flange	DIN EN 1092-1		ANSI B16.5 JIS 10K
	Thread	G		NPT RC
	Weld	DIN EN ISO 1127 / ISO 4200		DIN 11850 2 / DIN 11866 A ASME BPE
	Clamp	ASME BPE		DIN 32676 A (tube ISO 4200) DIN 32676 B (tube DIN 11850)
	Other			

Valve data	
Circuit Function	A: Normally closed I: Double acting B: Normally open
Control pressure	Min. Max.

Approvals / Conformities

For use with food (conform to EG regulation no. 1935/2004)
For use with food (conform to FDA)
Explosion protection in accordance with ATEX II 2GD mech. / IECex
European Gas Appliances Directive (EU) 2016/426, DVGW DIN EN 161 and DIN EN 16678
For potable water according to KTW/W270
Certificate for the fulfilment of the order EN-ISO 10204 2.1 (Article no. 440788)
Test report EN-ISO 10204 2.2 (Article no. 803722)
Conformity certification for raw material EN-ISO 10204 3.1 (included)

Additional Requirements / Comment

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Control heads / pneumatic control for on/off process valves of the ELEMENT series

For actuator size ø70/ø90/ø130 mm			For actuator size ø50 mm	
Control head Type 8691 ▶			Control head Type 8695 ▶	
				
• Inductive position sensor with automatic Teach function • Coloured high power LEDs • With/without pilot valve for single or double-acting actuators • Fieldbus communication • Hygienic stainless steel design				
Pneumatic function			Electrical connection	
Single-acting	Double-acting	Without pilot valve	Cable gland	M12 connector
Communication			Approvals	
AS-Interface	IO-Link	Bürkert Systembus (büS) ¹⁾	ATEX cat. 3GD, IECEx	Without
Without				

1.) Based on CANopen

For actuator size ø70/ø90/ø130 mm		For actuator size ø50 mm	
Pneumatic control unit / feedback Type 8690 ▶		Pneumatic control unit / feedback Type 8697 ▶	
			
• Visual status indicator • Micro- or proximity switches for end position feedback • With/without pilot valve for single- or double-acting actuators • Optional intrinsically safe version acc. to ATEX / IECEx			
Pneumatic function		Electrical connection	
Single-acting Without pilot valve	Double-acting (Type 8690)	Cable gland	M12 connector
Number of position feedback switches		Approvals	
1x	2x	ATEX cat. 3GD, IECEx Without	ATEX cat. 2DG, IECEx
Position feedback switch			
Micro-switch 24 V DC Inductive switch 2-wire NAMUR	Micro-switch 50...225 V DC/AC (Type 8690) Inductive switch 2-wire 24 V DC	Inductive switch 3-wire PNP Without	