

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



- High flow rate
- Long service life
- Easy integration of automation units with ELEMENT
- Flow-optimized stainless steel housing with threaded, clamp or weld connection
- Suitable for 10 bar(g) steam

Type 2100 threaded can be combined with...



Type 8691

Control Head



Type 8695

Control Head



Type 8690

Pneumatic Control Unit



Type 8697

Pneumatic Control Unit

The angle seat valve, Type 2100, is specially optimized for decentralized process automation and fulfils tough criteria for process environments. The design enables the easy integration of automation units whether they are electrical/optical position feedback, pneumatic control units or an integrated fieldbus interface. Unrivalled cycle life and sealing integrity is guaranteed by the proven self adjusting spindle packing with V-seals.

The fully integrated system has a compact and smooth design, integrated pneumatic lines, IP65/67, NEMA Type 4X protection class and superior chemical resistance.



Technical data	
Orifice	DN15 to DN65
Port connections Threaded Weld and Clamp	G ½ to G 2 ½, see separate data sheet
Body material	Casted stainless steel 316L
Nominal pressure	PN25 (Body)
Actuator material Actuator Cover	PPS Stainless steel 1.4561 (316Ti)
Sealing material	PTFE
Medium	Water, alcohol, oils, fuels, hydraulic fluids, salt solution, alkali solutions, organic solvents, steam, optional fuel gas (EC Gas Appliances Directive 2009/142/EG)
Viscosity	max. 600 mm ² /s
Spindle packing	PTFE V-rings with spring compensation
Medium temperature	- 10 to + 185 °C
Ambient temperature	- 10 to + 60 °C (push-in air ports) - 10 to + 100 °C (threaded air ports)
Control medium	Neutral gases, air
Max. pilot pressure	max. 10 bar; actuator size 130 mm, 7 bar
Pilot air ports	Push-in connector for external Ø 6 mm or ¼" tube, thread G ½ (on request)
Installation	As required, preferably with actuator in upright position

Content

Valve specifications		System spec. On/Off ELEMENT		Request for quotation	
 Type 2100		 Type 8801-YE		Type 8801-YE	
Technical data & ordering info.	p. 1-7	Technical data & ordering info.	p. 8-12		p.13










**2100 threaded
System On/Off
ELEMENT 8801-YE**

Ordering information for decentralized automation of On/Off ELEMENT valve system Type 8801-YE

A decentralized, automated **On/Off ELEMENT valve system Type 8801-YE** consists of a **angle seat valve Type 2100** and a valve control head **Type 8691/8695** or a pneumatic control unit **Type 8690/8697** (see separate datasheets).

For the configuration of further valve systems please use the "Request for quotation" on page 14-15.

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

Angle seat valve Type 2100 Threaded	Control Head		Control Head / Feedback	
	Type 8691	Type 8695	Type 8690	Type 8697
	 More info.	 More info.	 More info.	 More info.
Valve System On/Off ELEMENT				
				
	Valve System Type 8801-YE-H 2100 + 8691 (Actuator size Ø 70/90/130 mm)	Valve System Type 8801-YE-M 2100 + 8695 (Actuator size Ø 50 mm)	Valve System Type 8801-YE-K 2100 + 8690 (Actuator size Ø 70/90/130 mm)	Valve System Type 8801-YE-U 2100 + 8697 (Actuator size Ø 50 mm)

A detailed description of the control heads and pneumatic control units is on the next page. →

**2100 threaded
System On/Off
ELEMENT 8801-YE**

Ordering information for decentralized automation of On/Off ELEMENT valve system Type 8801-YE

Control Head



More info.



More info.

Type 8691

Actuator size Ø 70/90/130 mm

Type 8695

Actuator size Ø 50 mm

The Control Head Type 8691/ 8695 is optimised for integrated mounting on the 21XX process valve series. The registration of the valve end position is done through a contactless analog position sensor, which automatically recognises and saves the valve end position through the Teach function when starting up. The integrated pilot valve controls single or double-acting actuators. The status of the valve is shown through high power coloured LEDs.

Features

- High power coloured Status-LEDs
- Contactless inductive position sensor
- Pilot valve with manual override
- Teach function for automatic registration of valve positions
- Hygienic stainless steel design
- Easy to clean chemically resistant housing featuring IP65 / IP67, 4X Rating
- AS-Interface or DeviceNet Fieldbus communication

Benefits

- Easy and safe Start-up through Teach function
- Easy process monitoring and error detection through clearly visible high-power coloured LEDs
- High plant availability due to prolonged actuator life boosted by spring chamber ventilation
- Minimised space requirement in the plant piping for more flexibility in plant design

Pneumatic Control Unit / Feedback



More info.



More info.

Type 8690

Actuator size Ø 70/90/130 mm

Type 8697

Actuator size Ø 50 mm

The pneumatic control unit Type 8697/8690 is optimised for integrated mounting on the 21XX process valve series. Mechanical or inductive limit switches register the position of the valve. The integrated pilot valve controls single or double-acting (8690) actuators.

Features

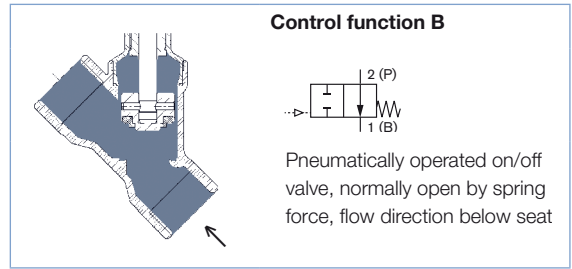
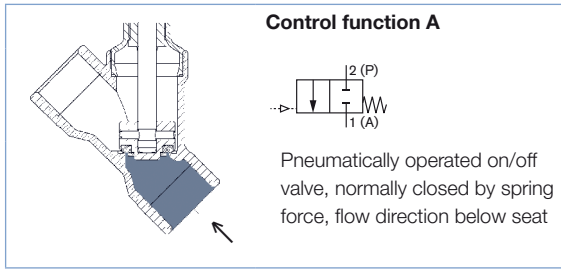
- Visual position indicator
- Mechanical or inductive limit switches for end position registering
- Pilot valve with manual override
- Compact design
- Easy to clean chemically resistant housing featuring IP65 / IP67, 4X Rating
- Optional intrinsically safe version acc. to ATEX

Benefits

- Easy and safe Start-up through Teach function (Type 8697)
- High level of signal reliability thanks to self adjusting limit switches
- Minimised space requirement in the plant piping for more flexibility in plant design

Click on the orange box "More info"... you will come to our website for the resp. product where you can download the data sheet.

Technical data angle seat valve Type 2100 flow direction below the seat (for gases and liquids)

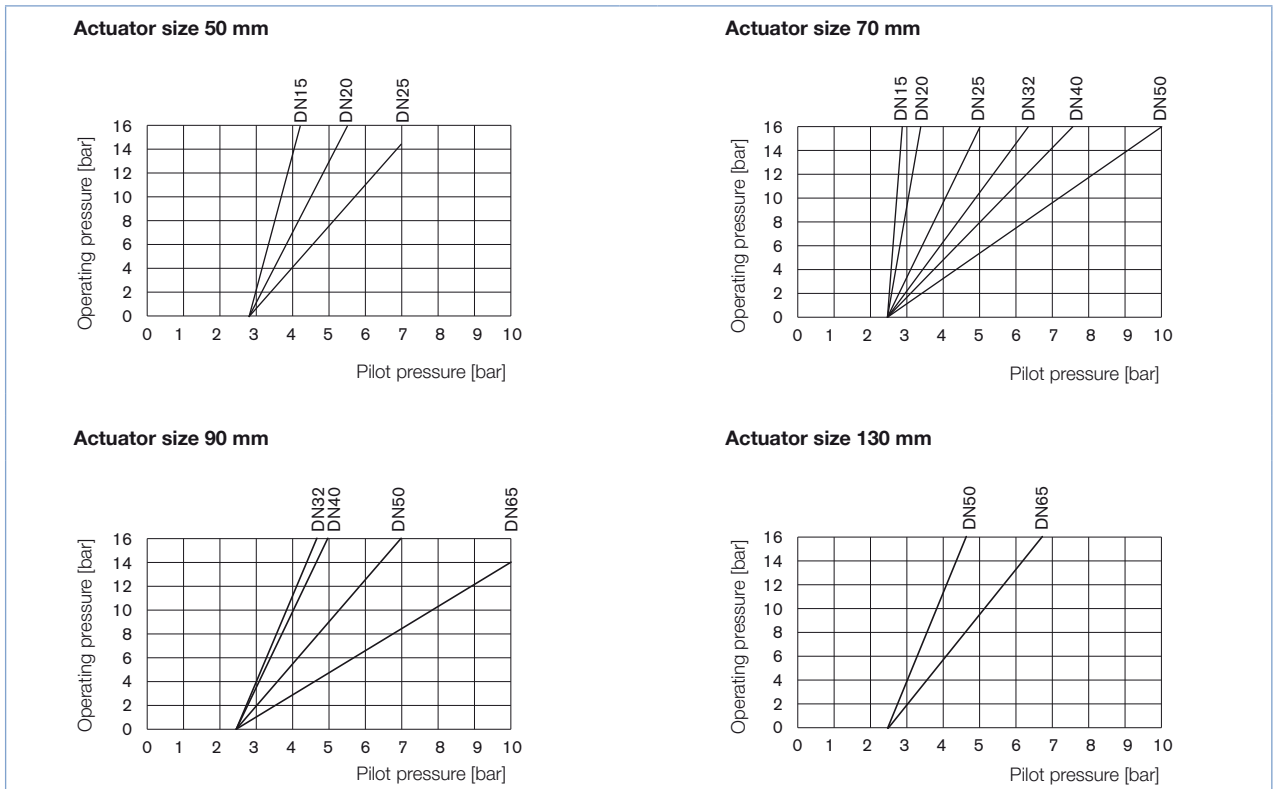


Orifice [mm]	Actuator size [mm]	K _v value water (m ³ /h)	Minimum pilot pressure CFA [bar]	Operating pressure up to +185 °C	
				CFA [bar]	CFB [bar]
15	50	5	5.2	25	16
	70	5	5.0	25	16
20	50	10	5.2	16	16
	70	11	5.0	20	16
25	50	15	5.2	9	14.5
	70	18	5.0	16	16
32	70	27	5.0	8.5	16
	90	28	5.0	16	16
	130	28	5.0	16	16
40	70	38	5.0	6	16
	90	40	5.0	16	16
50	70	52	-	-	16
	90	55	5.0	10	16
	130	62	5.0	16	16
65	90	85	5.0	5	14
	130	95	5.6	16 (15*)	16 (15*)

* acc. to the Pressure Equipment Directive 97/23 / EC for compressible fluids in Group 1 (hazardous gases and vapors in accordance with Article 3, Section 1.3, letter a, first dash)

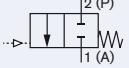
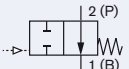
Flow rate: K_v value water [m³/h]: Measured at +20 °C, 1 bar pressure at valve inlet and free outlet.
Pressure valves [bar]: Overpressure to the atmospheric pressure

Pressure charts with control function B and flow direction below the seat

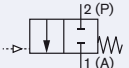
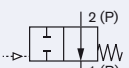


Ordering chart Type 2100, flow direction below the seat (for gases and liquids)

G threaded port, flow direction below the seat

Control function	Orifice (mm)	Actuator size Ø [mm]	Threaded port connection	Minimum pilot pressure [bar]	Operating pressure up to +185 °C [bar]	Article no.	Article no. certified Atex II 2GD Mechanical
A 2/2 way valve, NC 	15	50	G 1/2"	5.2	25	213619	259510
		70	G 1/2"	5.0	25	213620	259511
	20	50	G 3/4"	5.2	16	227616	259513
		70	G 3/4"	5.0	20	213621	259515
	25	50	G 1"	5.2	9	227617	259516
		70	G 1"	5.0	16	213622	259517
	32	70	G 1 1/4"	5.0	8.5	213623	259519
		90	G 1 1/4"	5.0	16	213624	259521
	40	70	G 1 1/2"	5.0	6	213625	259523
		90	G 1 1/2"	5.0	16	213627	259524
	50	90	G 2"	5.0	10	175108	259525
		130	G 2"	5.0	16	188610	259526
	65	90	G 2 1/2"	5.0	5	239456	259527
		130	G 2 1/2"	5.6	16 (15*)	239472	259530
B 2/2 way valve, NO 	15	50	G 1/2"	see chart on p. 2	16	213637	259531
		70	G 1/2"		16	213638	259532
	20	50	G 3/4"		16	213639	259533
		70	G 3/4"		16	213640	259535
	25	70	G 1"		16	213641	259537
	32	70	G 1 1/4"		16	213642	259538
	40	70	G 1 1/2"		16	213643	259539
		90	G 1 1/2"		16	175123	259540
	50	70	G 2"		16	239464	259565
		90	G 2 1/2"		14	239464	259565
		130	G 2 1/2"		16 (15*)	239479	259566

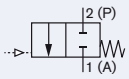













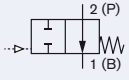









NPT threaded port, flow direction below the seat

Control function	Orifice (mm)	Actuator size Ø [mm]	Threaded port connection	Minimum pilot pressure [bar]	Operating pressure up to +185 °C [bar]	Article no.
A 2/2 way valve, NC 	15	50	NPT 1/2"	5.2	25	213644
		70	NPT 1/2"	5.0	25	213645
	20	50	NPT 3/4"	5.2	16	227618
		70	NPT 3/4"	5.0	20	213646
	25	50	NPT 1"	5.2	9	227619
		70	NPT 1"	5.0	16	213647
	32	70	NPT 1 1/4"	5.0	8.5	213648
		90	NPT 1 1/4"	5.0	16	213649
	40	70	NPT 1 1/2"	5.0	6	213650
		90	NPT 1 1/2"	5.0	16	213651
	50	90	NPT 2"	5.0	10	188641
		130	NPT 2"	5.0	16	188642
	65	90	NPT 2 1/2"	5.0	5	239457
		130	NPT 2 1/2"	5.6	16 (15*)	239473
B 2/2 way valve, NO 	15	50	NPT 1/2"	see chart on p. 2	16	213661
		70	NPT 1/2"		16	213662
	20	50	NPT 3/4"		16	213663
		70	NPT 3/4"		16	213664
	25	70	NPT 1"		16	213665
	32	70	NPT 1 1/4"		16	213666
	40	70	NPT 1 1/2"		16	213667
		90	NPT 1 1/2"		16	188656
	50	70	NPT 2"		16	239465
		90	NPT 2 1/2"		14	239465
		130	NPT 2 1/2"		16 (15*)	239480

* acc. to the Pressure Equipment Directive 97/23 / EC for compressible fluids in Group 1 (hazardous gases and vapors in accordance with Article 3, Section 1.3, letter a, first dash)

Ordering chart Type 2100, flow direction below the seat (for gases and liquids), *continued*

RC threaded port, flow direction below the seat

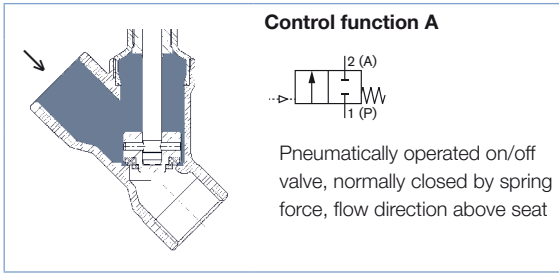
Control function	Orifice (mm)	Actuator size Ø [mm]	Threaded port connection	Minimum pilot pressure [bar]	Operating pressure up to +185 °C [bar]	Article no.
A 2/2 way valve, NC 	15	50	RC 1/2"	5.2	25	213668 
		70	RC 1/2"	5.0	25	213669 
	20	50	RC 3/4"	5.2	16	227621 
		70	RC 3/4"	5.0	20	213670 
	25	50	RC 1"	5.2	9	227622 
		70	RC 1"	5.0	16	213671 
	32	70	RC 1 1/4"	5.0	8.5	213672 
		90	RC 1 1/4"	5.0	16	213673 
	40	70	RC 1 1/2"	5.0	6	213674 
		90	RC 1 1/2"	5.0	16	213675 
	50	90	RC 2"	5.0	10	188664 
		130	RC 2"	5.0	16	188665 
		65	RC 2 1/2"	5.0	5	239458 
	B 2/2 way valve, NO 	15	50	RC 1/2"	see chart on p. 2	16
70			RC 1/2"	16		213686 
20		50	RC 3/4"	16		213687 
		70	RC 3/4"	16		213688 
25		70	RC 1"	16		213689 
32		70	RC 1 1/4"	16		213690 
40		70	RC 1 1/2"	16		213691 
50		70	RC 2"	16		188679 
	65	RC 2 1/2"	14	239466 		
		130	RC 2 1/2"	16 (15*)	239481 	

* acc. to the Pressure Equipment Directive 97/23 / EC for compressible fluids in Group 1 (hazardous gases and vapors in accordance with Article 3, Section 1.3, letter a, first dash)

i Further versions on request


Control function
I (double-acting)

Technical data angle seat valve Type 2100 flow direction above the seat (for gases and steam)



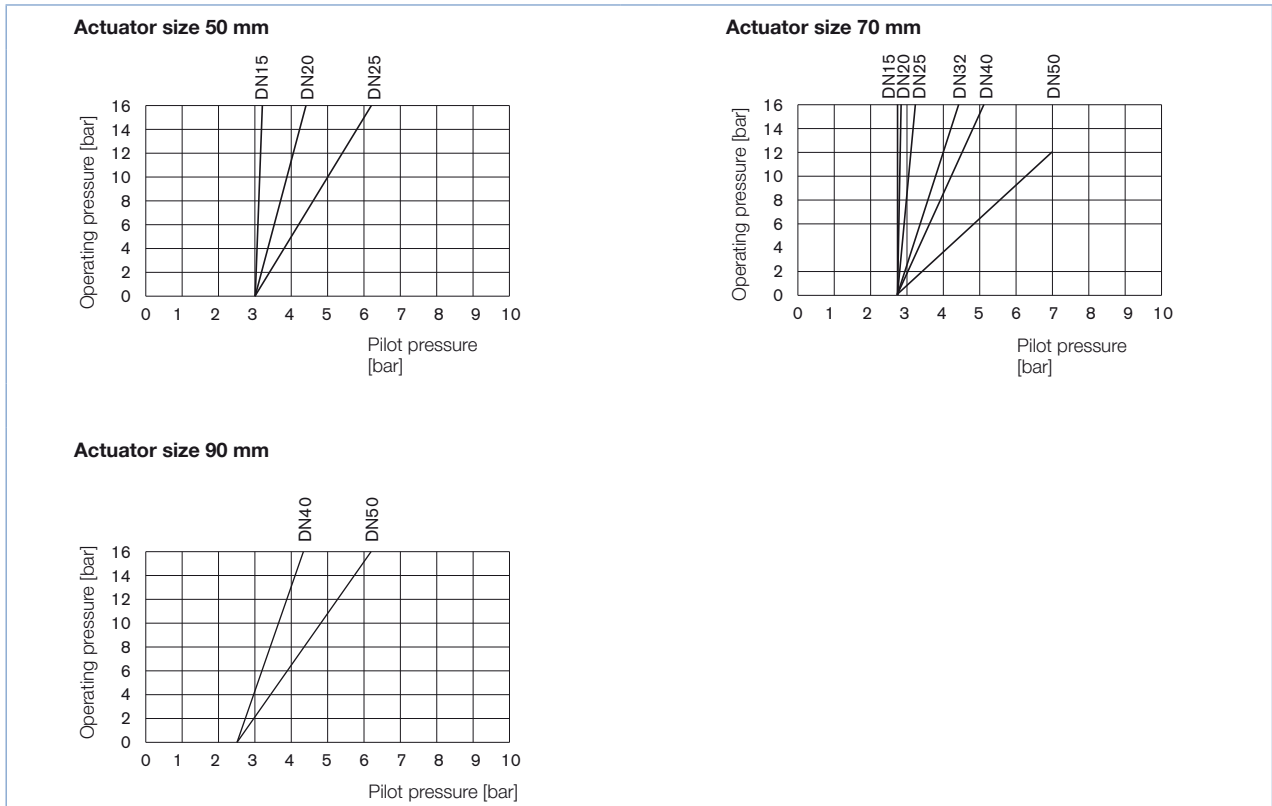
Attention!

Valves with flow above the seat are only conditionally usable for liquid medium. There is a danger of waterhammer!

Orifice [mm]	Actuator size [mm]	K_v value water (m ³ /h)	Operating pressure up to +185 °C CFA [bar]
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

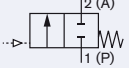




















Flow rate: K_v value water [m³/h]: Measured at +20 °C, 1 bar pressure at valve inlet and free outlet.
Pressure valves [bar]: Overpressure to the atmospheric pressure

Pressure charts with control function A and flow direction above the seat

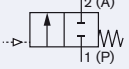











Ordering chart Type 2100 flow direction above the seat (for gases and steam)

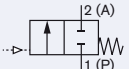









G threaded port, flow direction above the seat

Control function	Orifice (mm)	Actuator size Ø [mm]	Threaded port connection	Minimum pilot pressure [bar]	Operating pressure up to +185 °C [bar]	Article no.	Article no. certified Atex II 2GD Mechanical
A 2/2 way valve. NC 	15	50	G ½"	see chart on p. 5	16	213628 	259567 
		70	G ½"		16	213629 	259568 
	20	50	G ¾"		16	213630 	259569 
		70	G ¾"		16	213631 	259571 
	25	50	G 1"		16	213632 	259573 
		70	G 1"		16	213633 	259575 
	32	70	G 1 ¼"		16	213634 	259576 
		40	70		G 1 ½"	16	213635 
	50		90		G 1 ½"	16	213636 
		70	G 2"		12	175115 	259579 
	90	G 2"	16		175116 	259580 	

NPT threaded port, flow direction above the seat

Control function	Orifice (mm)	Actuator size Ø [mm]	Threaded port connection	Minimum pilot pressure [bar]	Operating pressure up to +185 °C [bar]	Article no.
A 2/2 way valve. NC 	15	50	NPT ½"	see chart on p. 5	16	213652 
		70	NPT ½"		16	213653 
	20	50	NPT ¾"		16	213654 
		70	NPT ¾"		16	213655 
	25	50	NPT 1"		16	213656 
		70	NPT 1"		16	213657 
	32	70	NPT 1 ¼"		16	213658 
	40	70	NPT 1 ½"		16	213659 
	50	70	NPT 2"		12	188649 

RC threaded port, flow direction above the seat

Control function	Orifice (mm)	Actuator size Ø [mm]	Threaded port connection	Minimum pilot pressure [bar]	Operating pressure up to +185 °C [bar]	Article no.
A 2/2 way valve. NC 	15	50	RC ½"	see chart on p. 5	16	213676 
		70	RC ½"		16	213677 
	20	50	RC ¾"		16	213678 
		70	RC ¾"		16	213679 
	25	50	RC 1"		16	213680 
		70	RC 1"		16	213681 
	32	70	RC 1 ¼"		16	213682 
	40	70	RC 1 ½"		16	213683 
	50	70	RC 2"		12	188672 

Materials angle seat valve Type 2100

A	Groundt erminal	Stainless steel 1.4301/1.4305 <i>Only for the ATEX version</i>
1	Optical position indicator	Transparent cap polysulfone PSU
2	Pilot air ports	Push-in connector PP (standard) <i>On request:</i> Thread G 1/8" stainless steel 1.4305
3	Actuator	PPS
4	Cover	Stainless steel 1.4561 (316Ti)
5	Piston seal	FKM
6	Spring	Stainless steel 1.4310
7	Pipe	Stainless steel 1.4401 (316)/1.4404 (316L)
8	Spindle packing	PTFE
9	Spindle	Stainless steel 1.4401 (316)/1.4404 (316L)
10	Spindle guide	PEEK
11	Swivel plate	Stainless steel 1.4401 (316)/1.4404 (316L)
12	Seals	PTFE
13	Valve body	Stainless steel 316L

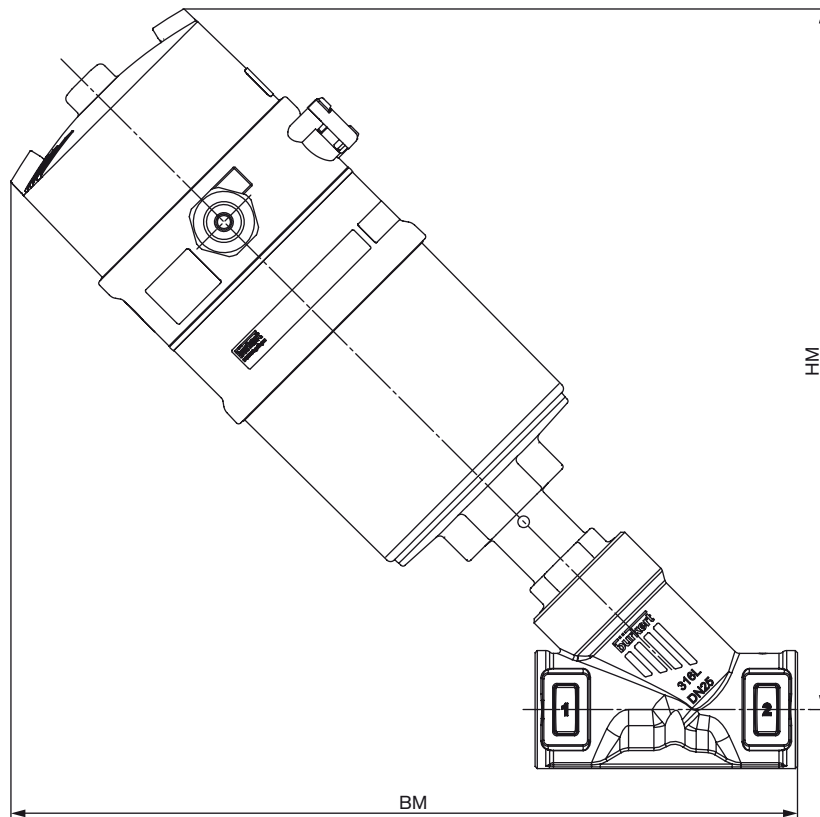
Lubricants for spindle packing and actuator are classified according NSF H1

Dimensions angle seat valve Type 2100 [mm]

Orifice [mm]	Actuator size [mm]	Ø A	F	G	R	HM	BM	CM	LM	SW	G D	E	NPT D	E	Rc D	E
15	50	64.5	19.8	6.1	17.15	158	185	24	65	27	G 1/2	14	NPT 1/2	13.7	RC 1/2	13.2
	70	91	23.3	8.5	30.5	173	201									
20	50	64.5	19.8	6.1	17.15	166	195	27	75	34	G 3/4	16	NPT 3/4	14	RC 3/4	14.5
	70	91	23.3	8.5	30.5	181	211									
25	50	64.5	19.8	6.1	17.15	172	204	29.5	90	41	G 1	18	NPT 1	16.8	RC 1	16.8
	70	91	23.3	8.5	30.5	195	235									
32	90	120	23.3	8.5	30.5	240	277	36	110	50	G 1 1/4	16	NPT 1 1/4	17.3	RC 1 1/4	19.1
	70	91	23.3	8.5	30.5	197	236									
40	90	120	23.3	8.5	30.5	242	278	35	120	55	G 1 1/2	18	NPT 1 1/2	17.3	RC 1 1/2	19.1
	130	159	23.3	8.5	30.5	293	328									
50	70	91	23.3	8.5	30.5	214	262									
	90	120	23.3	8.5	30.5	255	301	45	150	70	G 2	24	NPT 2	17.6	RC 2	23.4
65	130	159	23.3	8.5	30.5	306	351									
	90	120	23.3	8.5	30.5	270	328	57	185	85	G 2 1/2	26	NPT 2 1/2	23.7	RC 2 1/2	26.7
	130	159	23.3	8.5	30.5	321	378									

Dimensions for valve system On/Off ELEMENT Type 8801-YE [mm]

Dimensions valve system On/Off ELEMENT Type 8801-YE-K (with pneumatic control unit Type 8690)

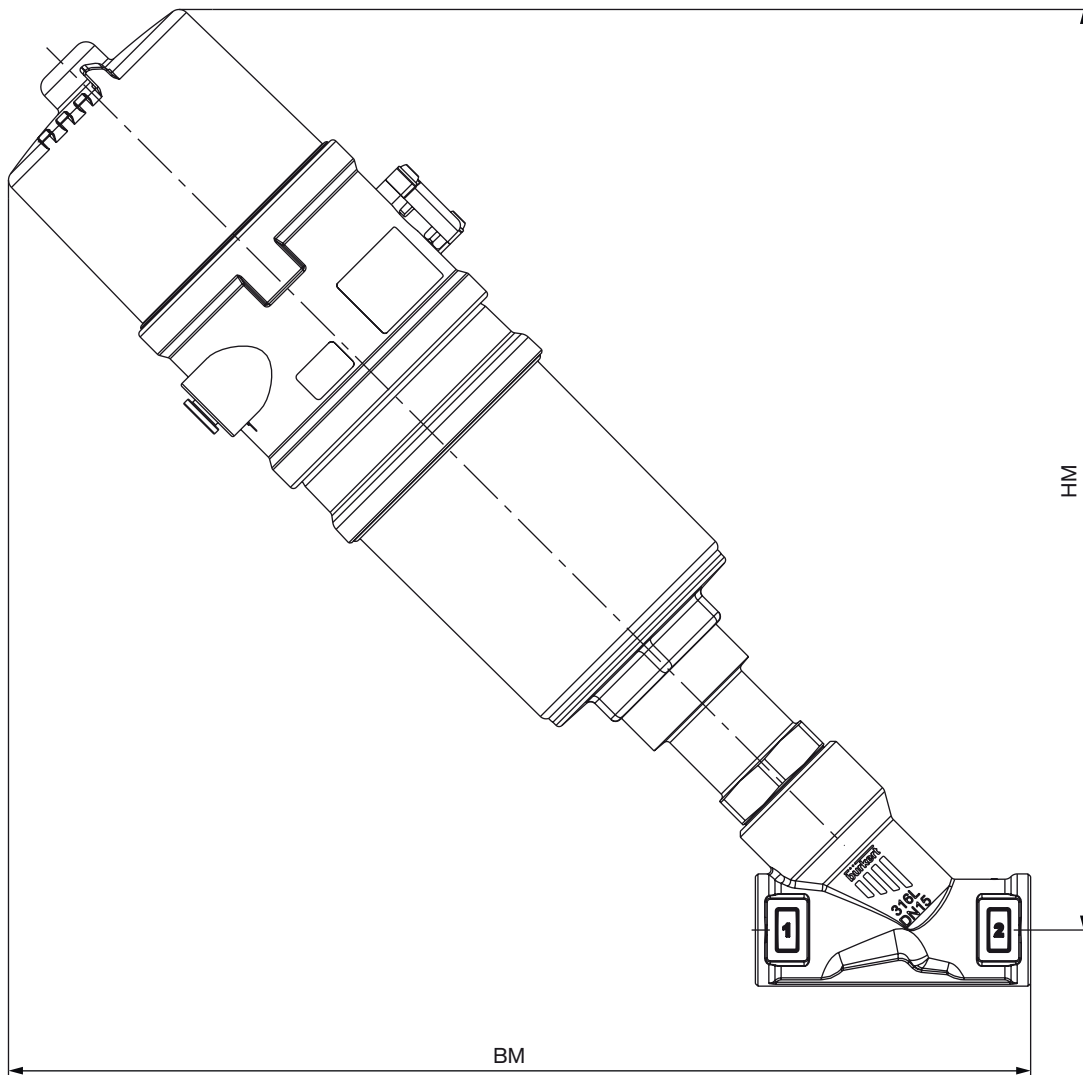


Orifice [mm]	Actuator size [mm]	HM	BM
15	70	227	255
20	70	235	265
25	70	241	274
32	70	249	289
	90	292	329
40	70	251	290
	90	294	330
	130	331	366
50	70	268	316
	90	307	353
	130	344	389
65	90	322	380
	130	359	416

Further dimensions see p. 7

Dimensions for valve system On/Off ELEMENT Type 8801-YE [mm]

Dimensions valve system On/Off ELEMENT Type 8801-YE-K (with pneumatic control unit Type 8697)

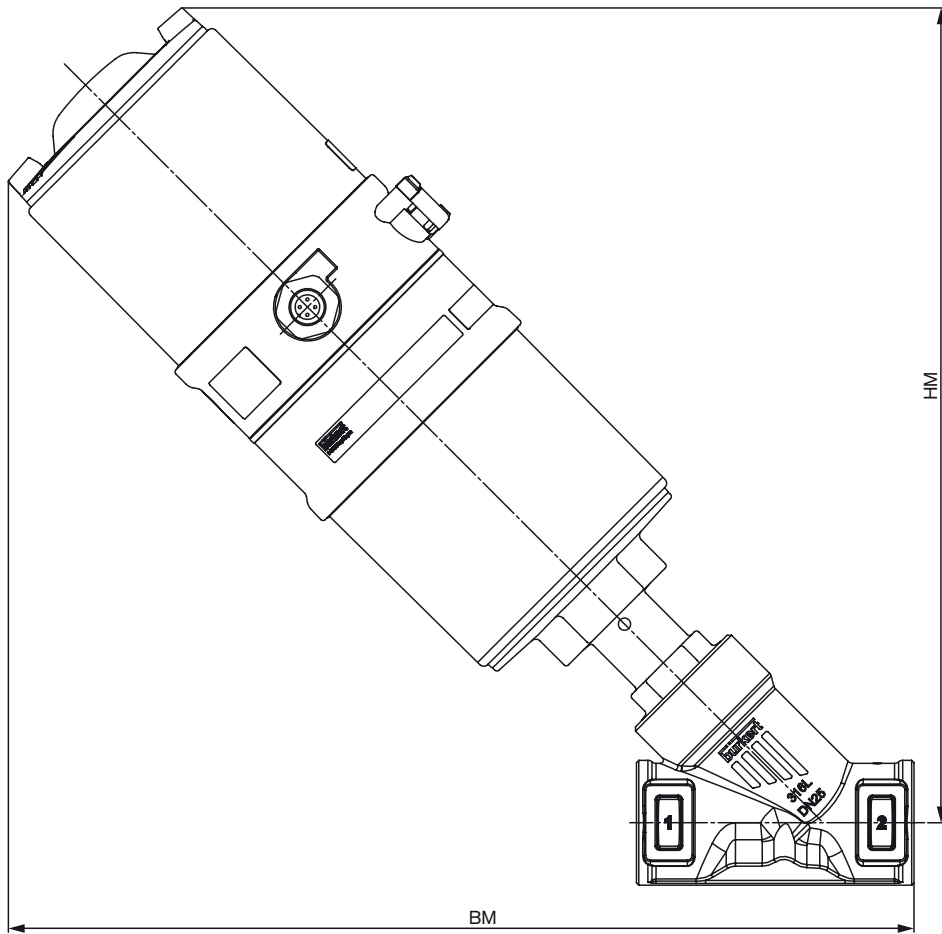


DN [mm]	Actuator size [mm]	HM [mm]	BM [mm]
15	50	218	242
20		225	261
25		231	252

Further dimensions see p. 7

Dimensions for valve system On/Off ELEMENT Type 8801-YE [mm], *continued*

Dimensions valve system On/Off ELEMENT Type 8801-YE-H (with control head Type 8691)

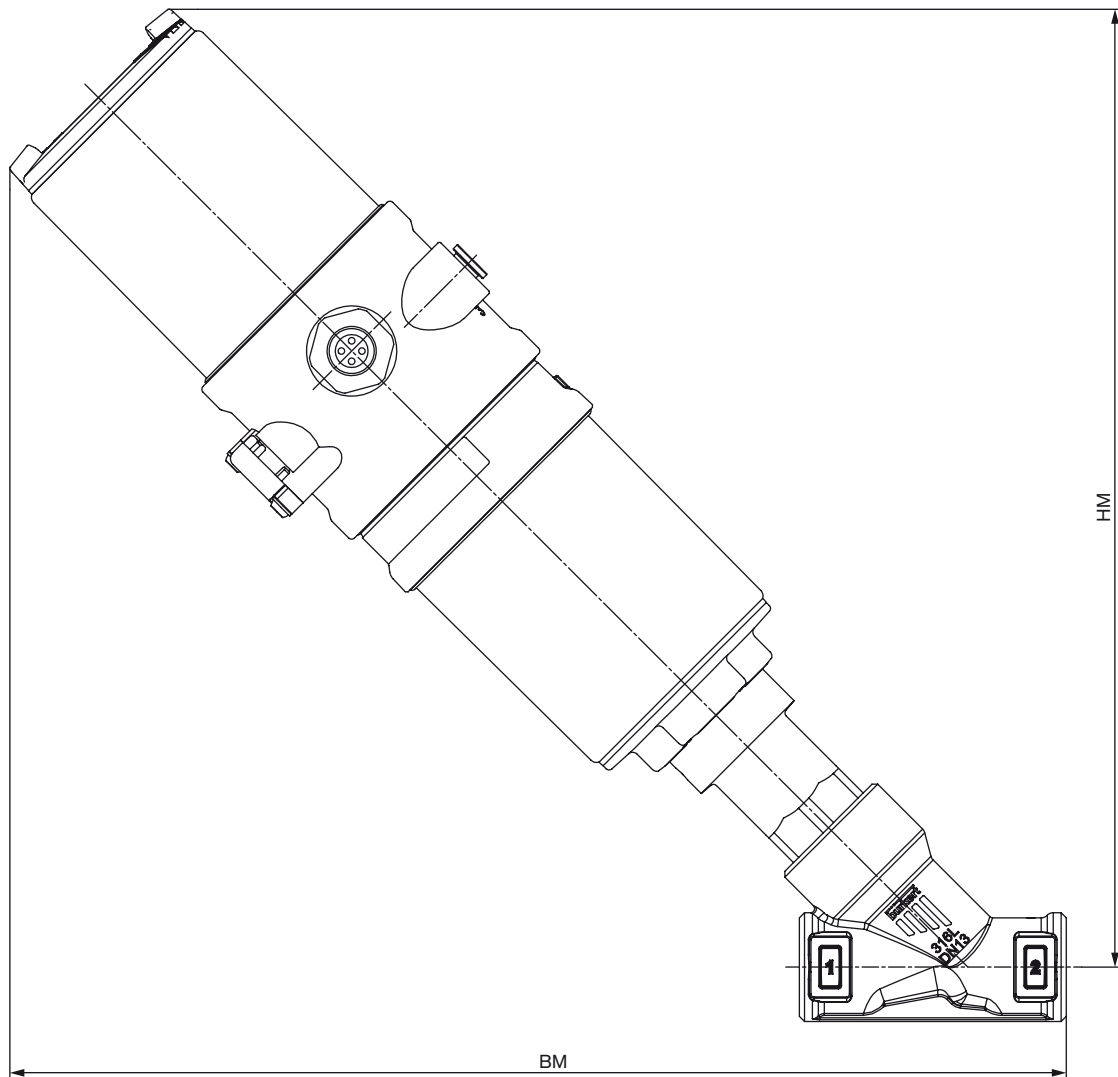


Orifice [mm]	Actuator size [mm]	HM	BM
15	70	251	279
20	70	259	289
25	70	265	298
32	70	273	313
	90	316	353
40	70	275	314
	90	318	354
	130	355	390
50	70	292	340
	90	331	377
	130	368	413
65	90	346	404
	130	383	440

Further dimensions see p. 7

Dimensions for valve system On/Off ELEMENT Type 8801-YE [mm], *continued*

Dimensions valve system On/Off ELEMENT Type 8801-YE-M (with control head Type 8695)



Orifice [mm]	Actuator size [mm]	HM	BM
15	50	234	261
20	50	242	271
25	50	248	280

Further dimensions see p. 7

Note
You can fill out the fields directly in the PDF file before printing out the form.

Valve system On/Off ELEMENT Type 8801-YE – request for quotation

▶ Please fill out and send to your nearest Bürkert facility* with your inquiry or order

Company	Contact person
Customer no.	Department
Address	Tel./Fax
Postcode/town	E-Mail

= mandatory fields to fill out Quantity Required delivery date

Operating data

Pipe line DN PN

Pipe material

Process medium

Type of media Liquid Steam Gas

Valve features

Seal material PTFE NBR Other

Nominal pressure PN

Orifice DN

Type of connection Threaded Welded Clamp

Standard connection ISO DIN Other

Body material selection with welded connection acc. to EN ISO 1127/ISO 4200 and DIN 11850
 Stainless steel 316L

Control function NC ¹⁾ NO ¹⁾ Double-acting

Pilot pressure min. max.

Atex II 2GD Mechanical

Please specify item no. (if known):









¹⁾NC: normally closed by spring action; NO: normally open by spring action

Continued on next page →

Valve system On/Off ELEMENT Type 8801-YE – request for quotation, *continued*

Automation unit features

Click on the orange box "More info"... you will come to our website for the resp. product where you can download the data sheet.

Control Head		Pneumatic Control Unit / Feedback	
<input type="checkbox"/> Type 8691  For actuator size Ø 70/90/130 mm 	<input type="checkbox"/> Type 8695  For actuator size Ø 50 mm 	<input type="checkbox"/> Type 8690  For actuator size Ø 70/90/130 mm 	<input type="checkbox"/> Type 8697  For actuator size Ø 50 mm 
<ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • 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 	<p>Pneumatic function</p> <input type="checkbox"/> Single-acting <input type="checkbox"/> Double-acting (only with 8690) <input type="checkbox"/> Without pilot valve	<p>Number of Position feedback switches</p> <input type="checkbox"/> 1x <input type="checkbox"/> 2x
<p>Pneumatic function</p> <input type="checkbox"/> Single-acting <input type="checkbox"/> Double-acting <input type="checkbox"/> Without pilot valve	<p>Electrical connection</p> <input type="checkbox"/> Cable gland <input type="checkbox"/> M12 connector	<p>Position feedback switches</p> <input type="checkbox"/> Micro-switch 24 V DC <input type="checkbox"/> Micro-switch 50 – 225 V DC/AC (only 8697) <input type="checkbox"/> Inductive switch 3-wire PNP <input type="checkbox"/> Inductive switch 2-wire NAMUR <input type="checkbox"/> Inductive switch 2-wire 24 V DC <input type="checkbox"/> without	<p>Electrical connection</p> <input type="checkbox"/> Cable gland <input type="checkbox"/> M12 connector
<p>Communication</p> <input type="checkbox"/> AS-Interface <input type="checkbox"/> DeviceNet <input type="checkbox"/> without	<p>Approvals</p> <input type="checkbox"/> ATEX cat. 3GD, IECEx <input type="checkbox"/> without	<p>Approvals</p> <input type="checkbox"/> ATEX cat. 3GD, IECEx <input type="checkbox"/> ATEX cat. 2DG, IECEx <input type="checkbox"/> without	

Certifications

- Attestation of compliance with the order EN-ISO 10204 2.1 (Article no. 440 788)
- Test report EN-ISO 10204 2.2 (Article no. 803 722)
- Certification of Conformity for Raw Material EN-ISO 10204 3.1 (Included in delivery)
- EN161 (European Gas Device guideline)
- FDA and USP compliance

Comment /sketch

*To find your nearest Bürkert facility, click on the orange box → www.burkert.com

In case of special application conditions,
please consult for advice.

Subject to alteration.
© Christian Bürkert GmbH & Co. KG

1802/19_EU-en_00895001