

# Angle-Seat Valve System for on/off control

Type 8801/2100 electro-pneumatically operated angle-seat valve



TWO YEAR WARRANTY  
on this valve system

# Burkert Type 8801/2100



**Type 2100 angle-Seat  
series valve**

+



**Type 8691 on/off  
controller**

=



**Type 8801 on/off  
control valve**

The design of the System Type 8801 On/Off ELEMENT enables the easy integration of automation units whether they are electrical/ optical position feedback, pneumatic control units or an optional integrated fieldbus interface.

The fully integrated system with valve and automation system has a compact and smooth design, integrated pneumatic lines, IP65/67/NEMA4X protection class and superior chemical resistance.

## Support documentation for 2100 + 8691



Threaded Datasheet



Clamp Datasheet



Tube End Datasheet



8691 Datasheet



# Burkert Type 2100 Angle-Seat Valve

- 2/2-way Angle-Seat Valve with stainless steel design
- For medium up to +185°C (365°F), 1/2" - 2 1/2"
- High flow rates
- High cycle life
- Flow optimised body in stainless steel
- Deliverable with flow direction below or above seat
- Clean design for optimal use in hygienic environment
- Suitable for steam up to 150 PSI (g)



Technical Data	
<b>Orifice</b>	0.5" (DN15) to 2.5" (DN65)
<b>Port connections</b> Threaded Weld and Clamp	0.5" - 2.5"
<b>Body material</b>	Stainless Steel 316L
<b>Nominal pressure</b>	PN25 (Body)
<b>Actuator material</b> Actuator Cover	PPS (PPS on request) Stainless steel 1.4561 (316Ti)
<b>Sealing material</b>	PTFE
<b>Medium</b>	Water, alcohol, oils, fuels, hydraulic fluids, salt solution, alkali solutions, organic solvents, steam, optional fuel gas, (EC Gas Appliances Directive 2009/142/EG)
<b>Viscosity</b>	max. 600 mm <sup>2</sup> /s
<b>Spindle packing</b>	PTFE V-rings with spring compensation
<b>Medium temperature</b>	-10°C to +185°C; 14°F to 365°F
<b>Ambient temperature</b>	0 to +55°C; 32°F to 131°F (integrated control head)
<b>Control medium</b>	Neutral gases, air
<b>Max. pilot pressure</b>	max. 145 PSI; actuator size 130 mm, 101 PSI
<b>Pilot air ports</b>	Threaded ports G1/8 stainless steel
<b>Installation</b>	As required, preferably with actuator in upright position

1) In the seat area the RA ≤ 0,6 µm surface finish can be higher.)

In line with Burkert's philosophy for modular valves and sensors the construction of the 2100 angle-seat valve fulfills tough criteria for process environments. Unrivaled cycle life and sealing integrity is guaranteed by the proven self adjusting spindle packing with V-seals. The design enables the easy integration of automation modules whether they are electrical/ optical position feedback, pneumatic control units, an integrated fieldbus interface. The fully integrated system has a compact and smooth design, integrated pneumatic lines, IP65/67 protection class and superior chemical resistance.

# Burkert Type 8691 Control Head

- Compact stainless steel design
- Integrated analogue valve position registration (teach function)
- Coloured illuminated status display
- Internal control air channel
- Fieldbus interface AS-Interface/DeviceNet (option)



Technical Data	
<b>Material</b>	Body Cover Sealing
	0.5" (DN15) to 2.5" (DN65) PC EPDM
<b>Control medium</b>	neutral gases, air, quality classes acc. to ISO 8573-1
Dust concentration	Class 7 (< 40µm particle size)
Particle density	Class 5 (< 10mg/m³)
Pressure condensation point	Class 3 (< -20°C)
Oil concentration	Class X (< 25mg/m³)
<b>Supply pressure</b>	43.5 - 101.5 PSI
<b>Air input filter</b>	exchangeable
Mesh aperture	~0.1mm
<b>Pilot air ports</b>	G1/8 thread
<b>Position feedback</b>	Analogue position sensor (contact-free) with teach function; switchport (PNP)
<b>Stroke range valve spindle</b>	2,5 to 45 mm
<b>Ambient temperature</b> with pilot valve	-10°C to 55°C; 14°F to 131°F
<b>Installation</b>	As required, preferably with actuator upright
<b>Protection type</b>	IP65 and IP67 according to EN 60529, Type 4X
<b>Conformity</b>	EMC directive 2014/30/EU
<b>Approvals</b>	cULus Cert. No 238179
<b>Electrical connection</b>	
Multipole	M12, 8-pins
Cable gland	(optional)

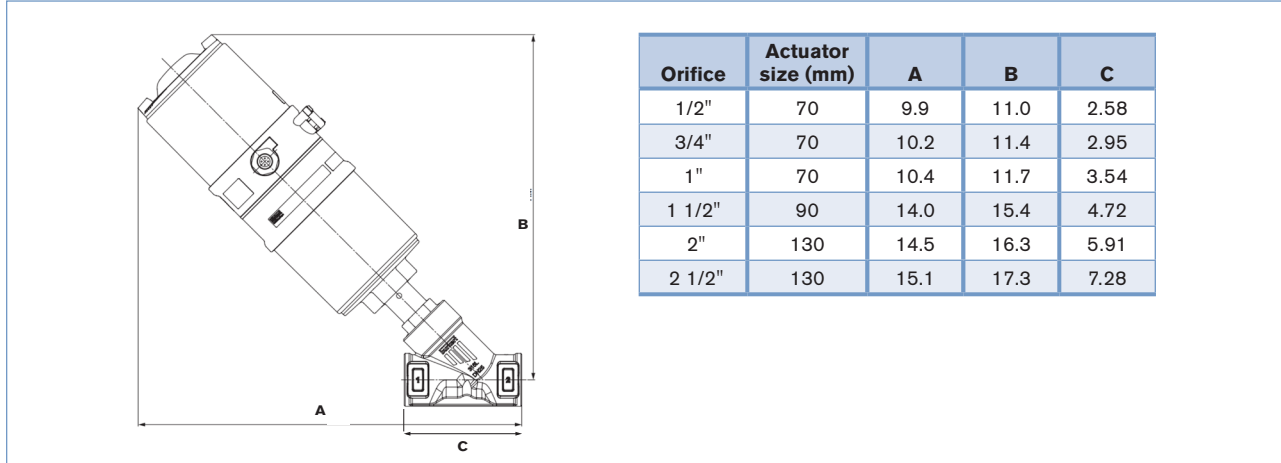
Technical data	
<b>Power Supply</b>	24 VDC ±10% UL: NEC Class 2
<b>Residual ripple with DC</b>	10%
<b>Power consumption</b>	< 2 W

The Control Head Type 8691 is optimized for integrated mounting on the 21XX process valve series. The registration of the valve end position is done through a contact-free analog position sensor, which automatically recognizes and saves the valve end position through the Teach function when starting up. The integrated pilot valve controls single acting actuators and provides two position feedback via two PNP transistors.

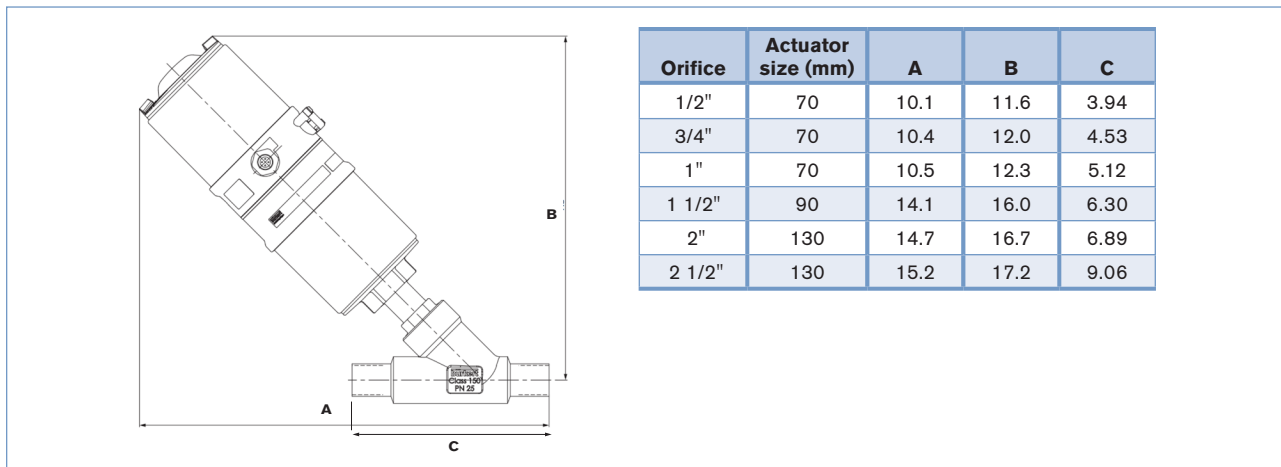
The design of the control unit and the actuator enables an internal control air channel without external tubing. Besides the electrical position feedback signal the status of the device is shown directly on the control head itself through colored powerful LEDs showing a clear visible valve position status, even under dirty or dark environments.

The housing is easy to clean and features proven IP protection and chemically resistant materials for use in hygienic processing in food, beverage and pharmaceutical industries. Focused on wash down applications the IP rating is supported by a positive pressure inside the control head. Combined with Burkert ELEMENT actuators the unique pilot valve system enables a compressed air recycling that avoids actuator chambers contamination from the environment.

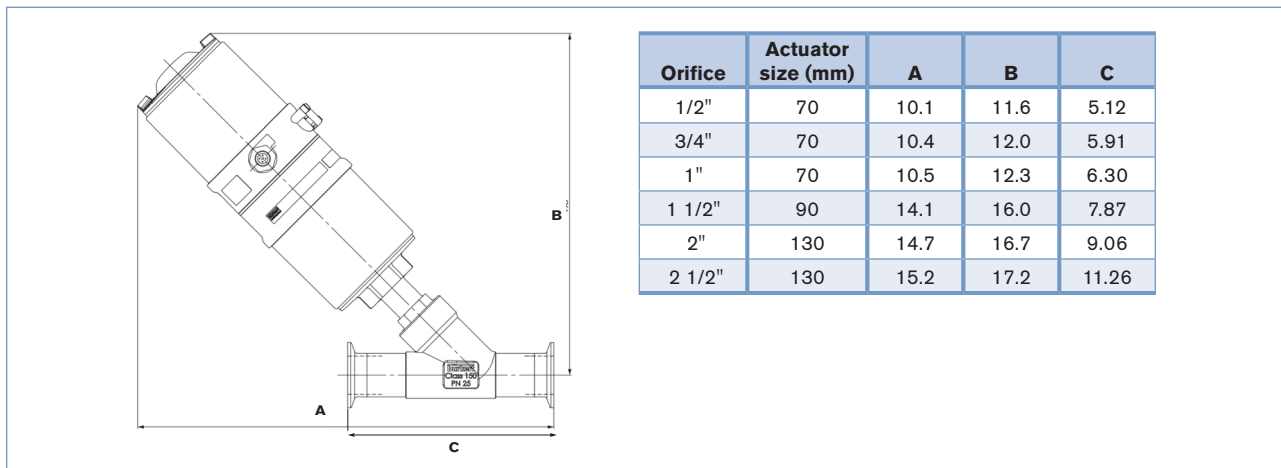
### Dimensions NPT end



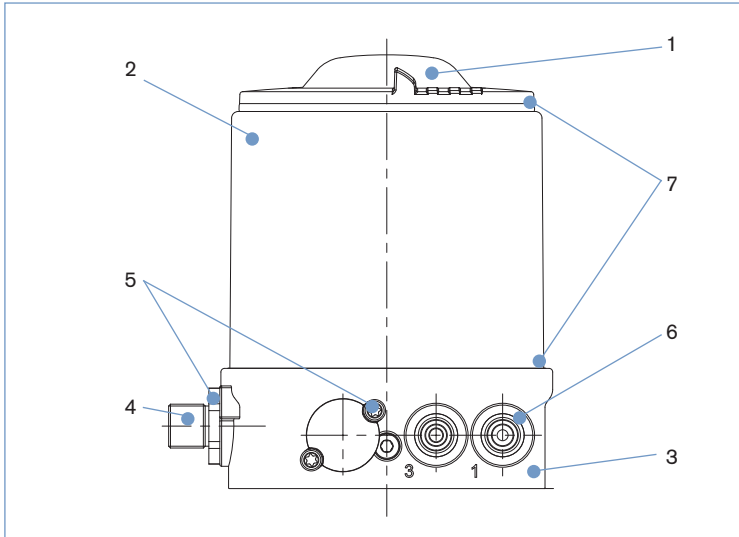
### Dimensions weld end ASME BPE



### Dimensions clamp end ASME BPE

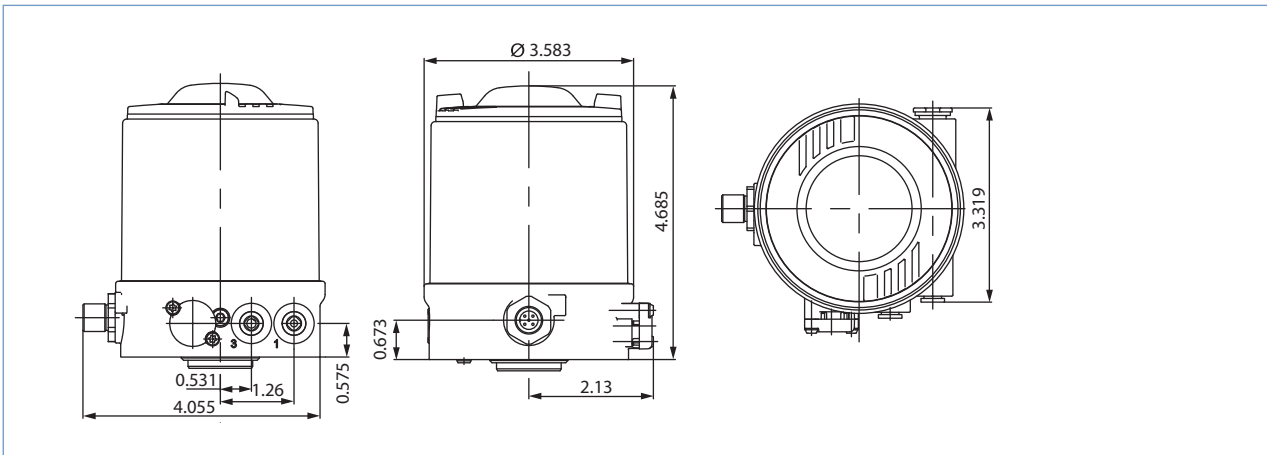


## 8691 Materials



1	<b>Cover</b>	PC
2	<b>Housing</b>	Stainless steel
3	<b>BASIC body</b>	PPS
4	<b>Plug M12</b>	Stainless steel
5	<b>Screws</b>	Stainless steel
6	<b>Push-in connector</b>	POM/Stainless steel
	<b>Threaded ports G 1/8</b>	Stainless steel
7	<b>Sealing</b>	EPDM

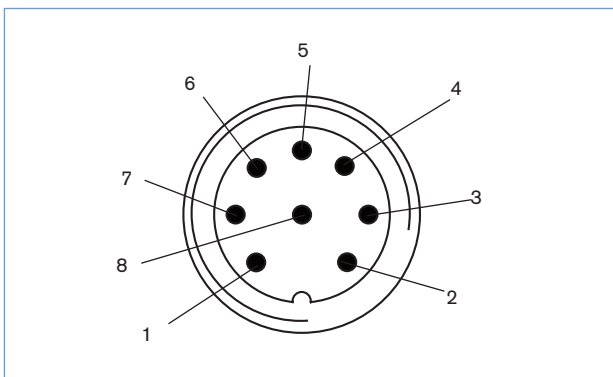
## Dimensions for valve system On/Off ELEMENT Type 8801-GC [inch]...cont.



## Connection options

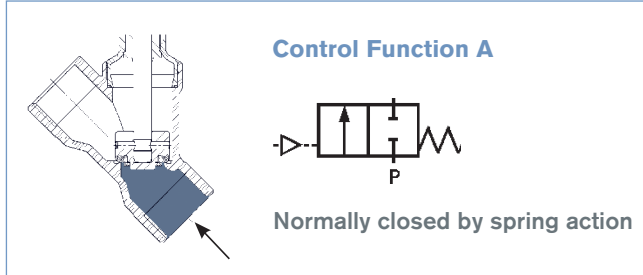
### 24 V DC

#### Multipole connection M12, 8-pins



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

Flow from below the seat (liquids)



Size	Actuator (mm)	Max psi	Min pilot PSI	Cv
1/2"	70	363	73	5.8
3/4"	70	363	73	12.7
1"	70	232	73	20.8
1 1/2"	90	232	73	46.2
2"	130	232	73	71.7
2 1/2"	130	218	81	109.8



NPT Size	Item no.
1/2"	303 637
3/4"	302 452
1"	464 795
1 1/2"	307 516
2"	302 455
2 1/2"	302 456

TUBE Size	Item no.
1/2"	286 261
3/4"	274 542
1"	253 137
1 1/2"	302 457
2"	302 521
2 1/2"	302 522

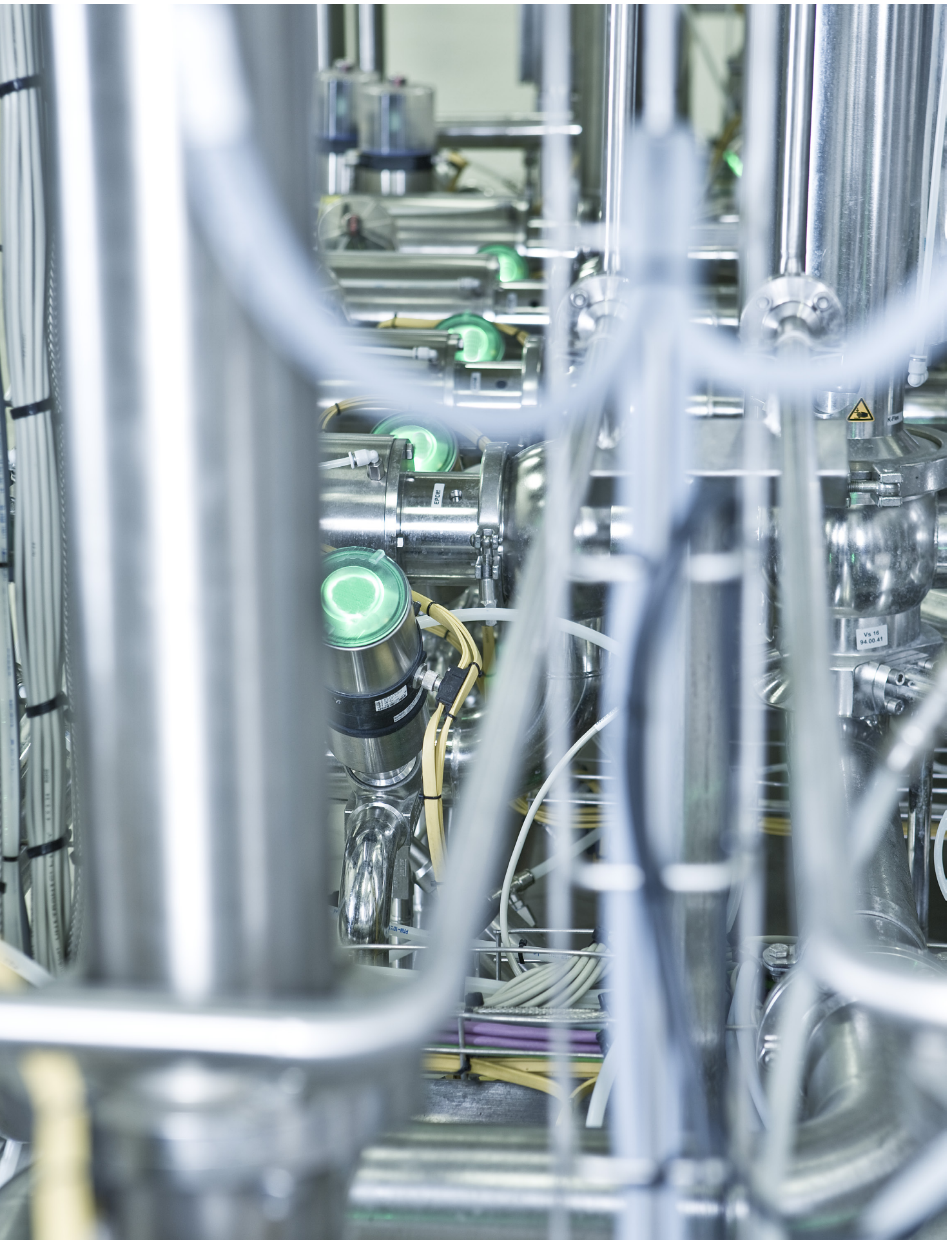
CLAMP Size	Item no.
1/2"	290 366
3/4"	302 523
1"	295 044
1 1/2"	302 526
2"	302 527
2 1/2"	302 529

All valve systems come pre-assembled and tested. 1/4" push tube connections and air mufflers are also included. One M12 socket, 8-pin cable is required. See accessories chart for ID#.

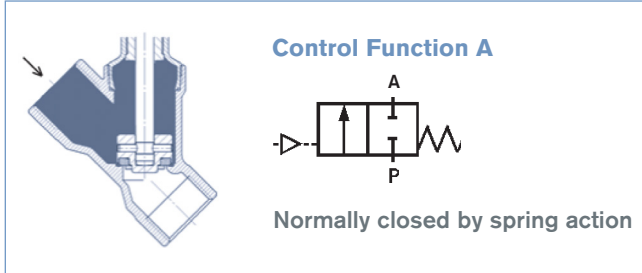




IP65/67 ACHTUNG: In Ex-Bereichen darf die Oberfläche  
T135°C CE nur mit einem feuchten Tuch gereinigt werden  
CAUTION: In Hazardous Areas the surface  
may only be cleaned with a wet towel



**Flow from above the seat (steam and other gases)**



Size	Actuator (mm)	Max psi	Cv
1/2"	70	232	5.90
3/4"	70	232	13.87
1"	70	232	21.96
1 1/2"	90	232	46.34
2"	90	232	63.58
2 1/2"	90	116	98.26



NPT Size	Item no.
1/2"	295 043
3/4"	306 647
1"	294 405
1 1/2"	306 672
2"	295 174
2 1/2"	306 673

TUBE Size	Item no.
1/2"	306 674
3/4"	268 818
1"	306 675
1 1/2"	306 676
2 "	306 677

When closing against compressible fluids such as steam, nitrogen or air, the 2/2-way angle seat valve type 2100 should be installed with the inlet flow above the valve seat. As the fluid flows into the valve, it aids the closing of the valve ensuring an ANSI class VI, bubble-tight seal. Upon opening, as the medium expands under the swivel plate, the process pressure contributes to the opening of the valve. This allows for a more compact valve with a smaller actuator to be used for all gases. Attention! Valves with flow above the seat are only conditionally usable for liquid medium. There is a danger of waterhammer!

**Ordering chart accessories**

Description	Item no.
M12 socket, 8-pins, 5m assembled cable	919 267
Silencer G1/8 (spare part)	780 779
Sensor puck (spare part)	682 240
G1/8 X 1/4" push tube connector (spare part)	98124810

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