



#### Application

Control valve for hygienic applications in the food and beverage industry

<b>Nominal size</b>	<b>DN 25 to 100 · NPS 1 to 4</b>
<b>Maximum pressure</b>	<b>16 bar · 230 psi</b>
<b>Medium temperature</b>	<b>0 to 150 °C · 32 to 300 °F</b>

Type 3347 Angle Valve with Type 3372 Pneumatic Actuator

#### Special features

- Valve body free of dead cavities made of cast stainless steel
- Wetted sealing materials comply with FDA regulations
- Easily detachable clamp connection between body and bonnet
- Suitable for cleaning-in-place (CIP)
- PTFE seals are used to seal body and bonnet as well as bonnet and plug stem.

The control valves used in combination with the Type 3725 Electropneumatic Positioner form a compact automated unit.

#### Versions

- Stainless steel cast body with welding ends for pipes according to DIN EN 10357, Series A (DIN 11866, Series A), ISO 2037, SMS 3008 or NFA 49-249.
- **Type 3372 Actuator** · Data Sheet ▶ T 8313 with **Type 3725 Positioner** · Data Sheet ▶ T 8394

#### Further versions

- **Polished valve body** (internal and/or external surfaces)

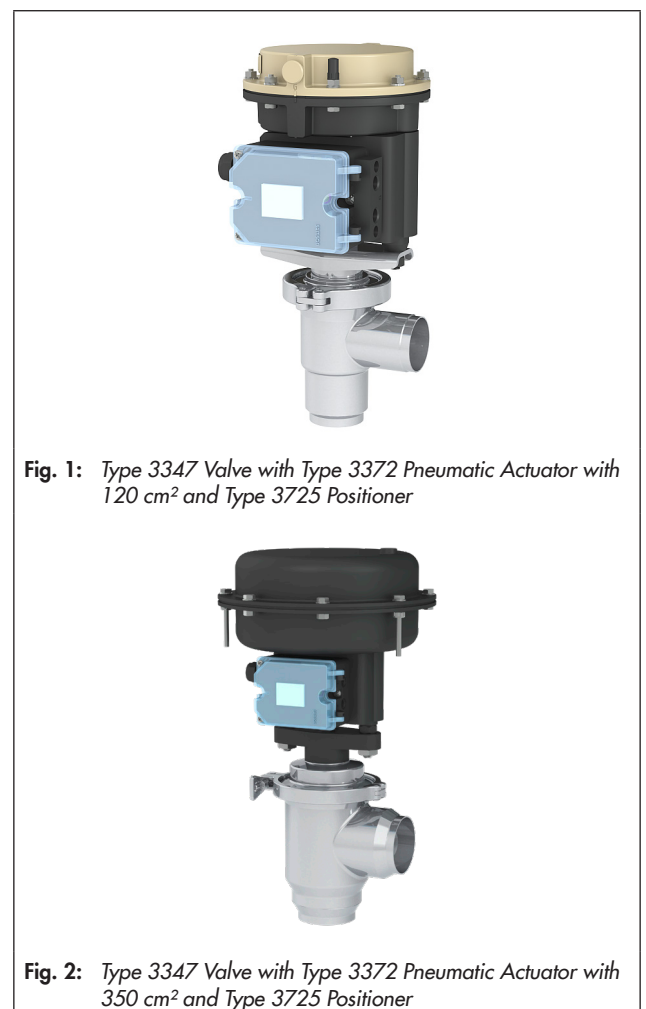
#### Mounting and handling

The valve is welded into the pipeline in the upright position with the actuator on top. The process medium flows through the valve in the direction indicated by the arrow in the flow-to-open direction.

The clamp connection allows the entire valve bonnet to be easily detached from the body.

#### Fail-safe position

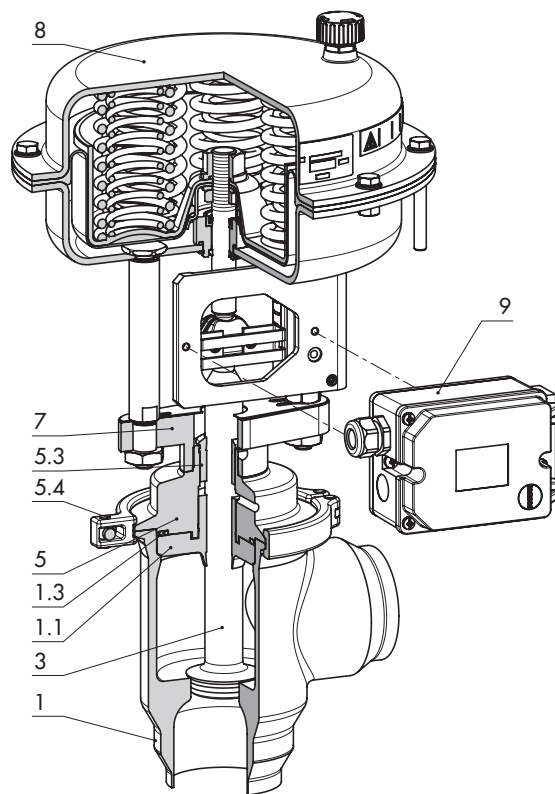
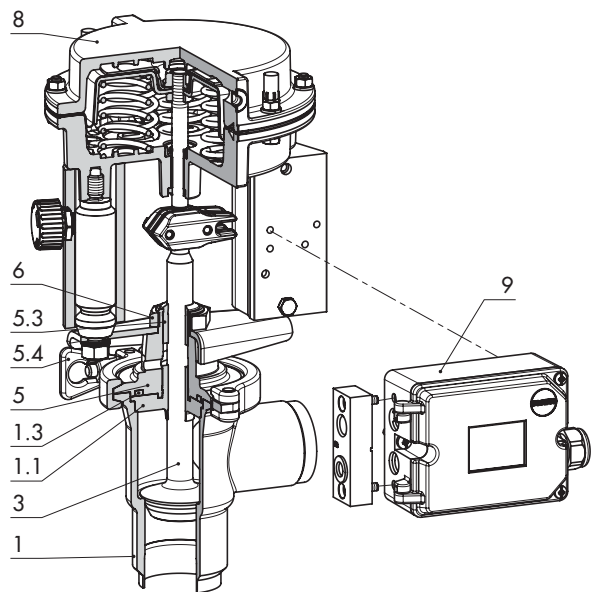
Depending on how the compression springs are arranged in the pneumatic actuator, the valve has two fail-safe positions that become effective when the supply air fails:



**Fig. 1:** Type 3347 Valve with Type 3372 Pneumatic Actuator with 120 cm<sup>2</sup> and Type 3725 Positioner

**Fig. 2:** Type 3347 Valve with Type 3372 Pneumatic Actuator with 350 cm<sup>2</sup> and Type 3725 Positioner

- **Actuator stem extends (fail-close):** The valve closes when the supply air fails.
- **Actuator stem retracts (fail-open):** The valve opens when the supply air fails.



**Fig. 3:** Type 3347 Valve with Type 3372 Pneumatic Actuator with 120 cm<sup>2</sup> and Type 3725 Positioner


**Fig. 4:** Type 3347 Valve with Type 3372 Pneumatic Actuator with 350 cm<sup>2</sup> and Type 3725 Positioner

**Legend for Fig. 3 and Fig. 4**

- |                       |                                   |                     |
|-----------------------|-----------------------------------|---------------------|
| 1 Valve body          | 5 Valve bonnet with yoke          | 7 Connecting flange |
| 1.1 Body gasket       | 5.3 Plug stem guide/guide bushing | 8 Actuator          |
| 1.3 Compensating ring | 5.4 Clamp                         | 9 Positioner        |
| 3 Plug                | 6 Nut                             |                     |

**Table 1.1:** *Technical data*

**Table 1.2:** *Type 3347 Valve*

Connection	Welding ends acc. to standard	DIN EN 10357, Series A/D DIN 11866, Series A	ISO 2037	SMS 3008 / NFA 49-249
Nominal size	DIN	DN 25 to 100		
	ANSI	NPS 1 to 4		
Permissible medium temperature (see "Max. operating pressure" for restrictions)		0 to 150 °C (32 to 300 °F)		
Max. operating pressure at a medium temperature of	0 to 20 °C (32 to 68 °F)	16 bar (230 psi)		
	>20 to 150 °C (>68 to 300 °F)	14 bar (200 psi)		
Seat-plug seal		Metal seal		
Characteristic		Equal percentage · Linear		
Rangeability		See Table 1		
Leakage class according to IEC 60534-4		IV		
Materials	Cast body <sup>1)</sup> with lathed seat	1.4409 (A351 CF3M)		
	Valve bonnet	1.4404 (316L)		
	Plug	1.4404 (316L)		
	Clamp	1.4306 (304L)		
	Body and stem seal	Pure PTFE		
	Guide bushing	Pure PTFE		
Surface quality Ra	Internal	0.8 µm		
	External	1.6 µm		
Other compliance		CFR Title 21 FDA Regulation (EC) No. 1935/2004 Regulation (EU) No. 10/2011 Regulation (EC) No. 2023/2006 USP-VI 121 °C ADI free		
Conformity				

<sup>1)</sup> Suitable for Group 2 fluids according to European Pressure Equipment Directive 2014/68/EU

**Table 1.3:** Type 3372 Electropneumatic Actuator with Type 3725 Positioner (direct attachment)

Actuator area		120 cm <sup>2</sup>	350 cm <sup>2</sup>	
Rated travel		15 mm	15 mm	30 mm
Electric properties		See data sheet for Type 3725 Electropneumatic Positioner ▶ T 8394		
Pneumatic data		See data sheet for Type 3372 Electropneumatic Actuator ▶ T 8313		
Materials	Actuator housing	Aluminum, powder coating		1.0332
	Diaphragm	NBR		NBR
	Actuator stem	1.4305		1.4401/1.4404

**Table 1:**  $K_{VS}$  coefficients and associated nominal sizes

$K_{VS}$			0.4	0.63	1.0	1.6	2.5	4	6.3	10	16	25	40	60	80	100	160
$C_V$			0.5	0.75	1.2	2	3	5	7.5	12	20	30	47	70	95	120	190
DN	NPS	Travel [mm]															
25	1	15	•	•	•	•	•	•	•	•							
32	1¼		•	•	•	•	•	•	•	•	•						
40	1½		•	•	•	•	•	•	•	•	•	•					
50	2					•	•	•	•	•	•	•	•				
65	2½									•	•	•	•	•			
80	3											•	•	•	•	•	
100	4	30												•	•	•	•
Seat Ø [mm]			6			12 24 <sup>1)</sup>			24	31	38	48	63	80		100	
Rangeability			50:1														

<sup>1)</sup> For version with V-port plug, see data sheet ▶ T 8097 ( $K_{VS}$  coefficients of standard version)

**Table 2:** Permissible differential pressures  $\Delta p$

**Table 2.1:** Permissible differential pressures for metal-seated plug · · Fail-safe position "Actuator stem extends"

Actuator area [cm <sup>2</sup> ]	Bench range [bar]	Travel [mm]	Supply pressure [bar]	Nominal valve size		K <sub>VS</sub> coefficient	Differential pressure $\Delta p$ at p <sub>2</sub> = 0 bar [bar]
				DN	NPS		
120	2.1 to 3.3	15	3.7 to 6.0	25 to 50	1...2	0.4 · 0.63 · 1.0 · 1.6 · 2.5 · 4 · 6.3 · 10 · 16	16
						25	15
						40	9
						60 <sup>1)</sup>	4
350	2.1 to 2.7	15	4.3 to 6.0	65 to 100	2½ to 4	60	16
	2.2 to 3.8	30	4.3 to 6.0			80	10
						60	16
						80	11
						100	11
	160	6					

<sup>1)</sup> Mounting type of actuator: mounting using rods (form C) ► EB 8313-3

**Table 2.2:** Permissible differential pressures for metal-seated plug · · Fail-safe position "Actuator stem retracts"

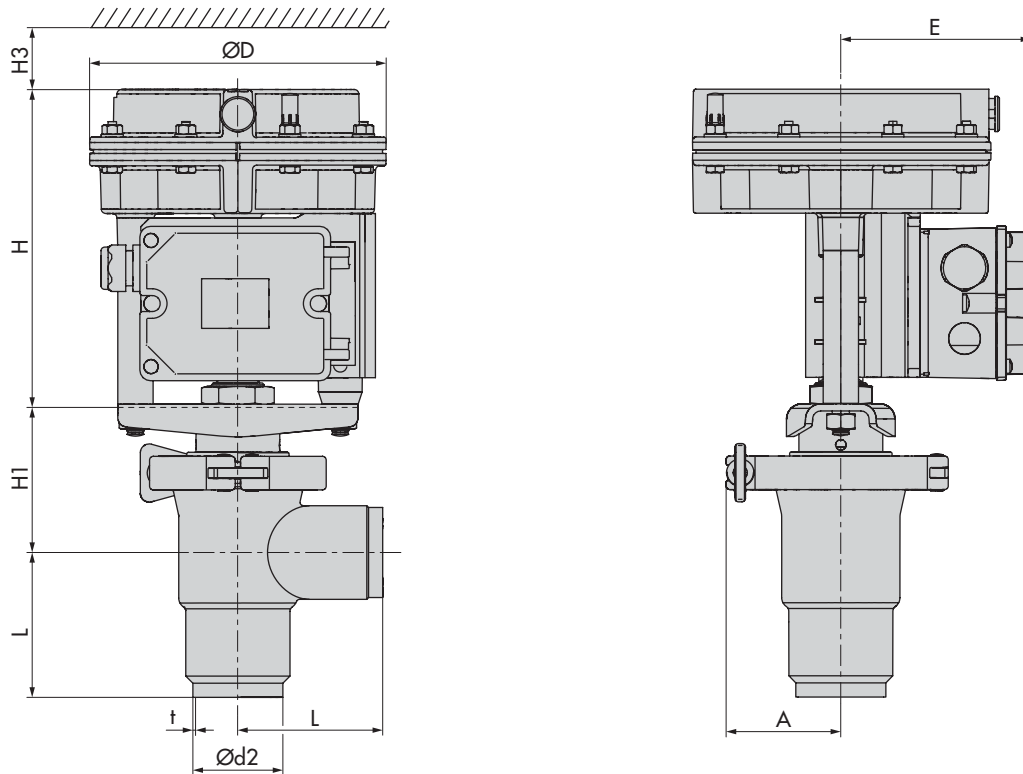
Actuator area [cm <sup>2</sup> ]	Bench range [bar]	Travel [mm]	Supply pressure [bar]	Nominal valve size		K <sub>VS</sub> coefficient	Differential pressure $\Delta p$ at p <sub>2</sub> = 0 bar [bar]
				DN	NPS		
120	0.4 to 1.4	15	2.5	25 to 50	1 to 2	0.4 · 0.63 · 1.0 · 1.6 · 2.5 · 4 · 6.3 · 10 · 16	10
						25	6
						40	3
			3.5			0.4 · 0.63 · 1.0 · 1.6 · 2.5 · 4 · 6.3 · 10 · 16	16
						25	15
						40	9
			4.4			60 <sup>1)</sup>	4
						0.4 · 0.63 · 1.0 · 1.6 · 2.5 · 4 · 6.3 · 10 · 16	16
						25	16
						40	13
						60 <sup>1)</sup>	7
						80 <sup>1)</sup>	4
350	1.5 to 2.1	15	4.0	65 to 100	2½ to 4	60	15
	1.5 to 2.7	30	4.0			80	9
						60	16
						80	16
						60	10
	6.0	30	6.0			80	6
						100	6
						160	3
						60	16
	80	16					
	100	16					
	160	10					

<sup>1)</sup> Mounting type of actuator: mounting using rods (form C) ► EB 8313-3

**Table 3: Dimensions and weights**

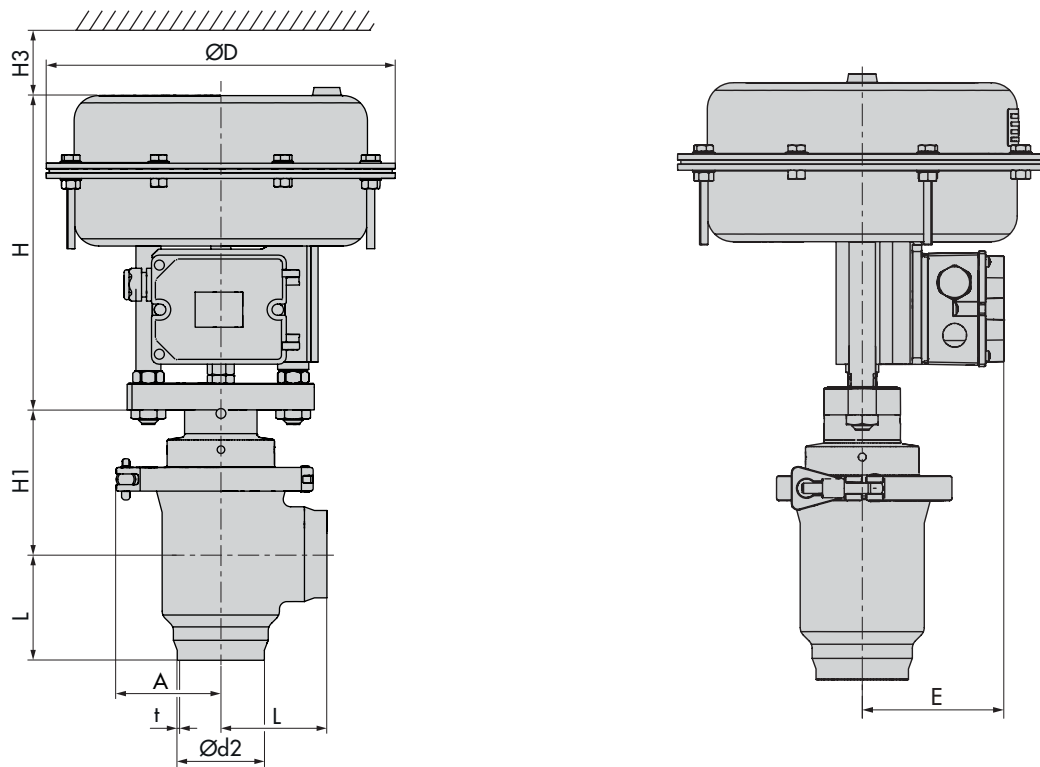
Valve		DN	25	32	40	50	65	80	100
		NPS	1	1¼	1½	2	2½	3	4
Dimension	H1	mm	67	67	76	81	116	124	145
	A	mm	70	80	80	90	105	110	150
<b>With welding ends for pipes according to ...</b>									
DIN 11866, Series A	L	mm	50	56	67	72	85	98	110
	Ød2	mm	29	35	41	53	70	85	104
	t	mm	1.5	1.5	1.5	1.5	2	2	2
SMS 3008/ISO 2037	L	mm	55	66	70	82	105	110	150
	Ød2	mm	25	33.7	38	51	63.5	76.1	101.6
	t	mm	1.2	1.2	1.2	1.2	1.6	1.6	2
<b>With actuator</b>			<b>120 cm<sup>2</sup> actuator area</b>				<b>350 cm<sup>2</sup> actuator area</b>		
Dimension	H	mm	182				251		
	H3	mm	110				110		
	ØD	mm	168				280		
	E	mm	107.5				107.5		
Weight	Valve + actuator	kg (approx.)	5	5.2	5.8	6	22	24.5	28

**Dimensional drawings**



Type 3347 Angle Valve with Type 3372 Pneumatic Actuator (120 cm<sup>2</sup>) and Type 3725 Positioner

Dimensional drawings



Type 3347 Angle Valve with Type 3372 Pneumatic Actuator (350 cm<sup>2</sup>) and Type 3725 Positioner

## Ordering text

Pneumatic control valve	DN.../NPS...
End connections according to Table 1.2	Welding ends according to standard ...
Flow coefficients	$K_{VS}$ .../ $C_V$ ...
Body surface finish	Polished outsides and/or insides Refer to Table 1.2 for $R_a$
Actuator	Type 3372 (Data Sheet ▶ T 8313)
Actuator area	...cm <sup>2</sup>
Bench range	...bar
Fail-safe position	Fail-close or fail-open
Additional equipment	Type 3725 Positioner (Data Sheet ▶ T 8394)