

Application

Compact control valve for the process industry

Valve size	DN 15 to 50
Pressure rating	PN 16 to 40
Temperatures	0 to 220 °C



Type 3321CT Globe Valve with Type 3379 Pneumatic Actuator and Type 3724 Positioner

- Completely made of stainless steel for hygienic, corrosive environments. Especially suitable for auxiliary media in the food and beverage industry as well as biotech sector
- Skid mounting and compact design facilitate installation
- Digital positioner for precise closed-loop control
- Display, auto tuning and error monitoring

Versions

Standard version for temperatures ranging from 0 to 220 °C

- **Type 3321CT Valve** in valve sizes DN 15 to 50 · Body made of stainless steel 1.4408 with flanges · Pressure rating PN 16 and 40 · Self-adjusting packing · With Type 3379 Pneumatic Actuator made of stainless steel · With Type 3724 Positioner (Data Sheet ▶ T 8395)

Further versions

- **Reduced K_{VS} coefficients:** Best operating range adapted to the operating conditions
- **Soft-seated plug** for bubble-free shut-off
- **Version functioning as on/off valve** with Type 4740 Limit Switch (see Data Sheet ▶ T 8357)
- **Version with Type 3725 or Type 3730 Positioner** for hazardous areas or with PROFIBUS-PA and FOUNDATION™ fieldbus (pending)



Fig. 1: Type 3321CT Valve with Type 3379 Pneumatic Actuator and Type 3724 Positioner

Principle of operation

The medium flows through the valve in the direction indicated by the arrow. The valve plug position determines the cross-sectional area between the seat and plug.

Mounting position

The valve can be mounted in any desired position. Generally, we recommend installing the valve with the actuator upright and on top of the valve.

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:

- **Fail-close:** the valve is closed upon air supply failure.
- **Fail-open:** the valve is opened upon air supply failure.

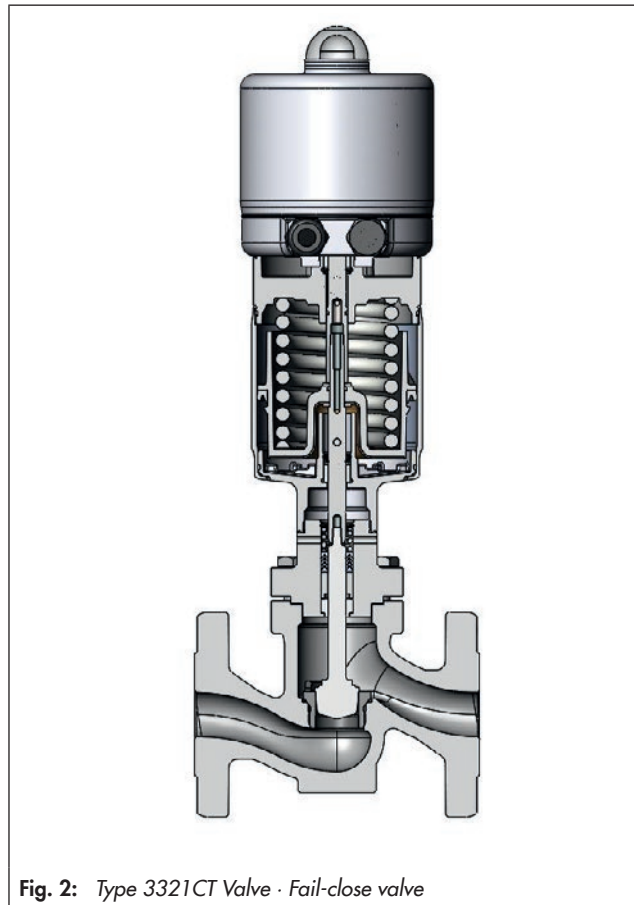


Fig. 2: Type 3321CT Valve · Fail-close valve

Table 1: Technical data for Type 3321CT

Valve size	DN 15 to 50
Pressure rating	PN 16 and 40
Type of connection	Flanges with raised face Form B1 according to EN 1092-1
Seat-plug seal	Metal or soft seal
Characteristic	Equal percentage
Rangeability	50 :1
Permissible medium temperature	
Standard version	0 to 220 °C
Leakage class according to IEC 60534-4 or ANSI/FCI 70-2	
Metal seal	IV
Soft seal	VI
Compliance	CE

Table 2: Materials

Type 3321CT Valve	
Valve body	Stainless steel 1.4408
Valve bonnet	Stainless steel 1.4404 or 1.4408
Seat	Stainless steel 1.4404
Plug with plug stem	Stainless steel 1.4404
Plug seal	Seal for soft-seated plug: PEEK
Guide bushing	Nickel alloy
Packing	V-ring packing: PTFE with carbon, spring: 1.4310
Body gasket	Graphite seal with metal core
Type 3379 Pneumatic Actuator	
Housing and cover	Stainless steel 1.4409
Actuator stem	Stainless steel 1.4404
Piston	Glass-fiber-reinforced polyamide
Bearing	Polymer
Spring	Epoxy-coated steel
Gasket	NBR
Type 3724 Positioner	
Housing and cover	Stainless steel 1.4409
Transparent cover	Polycarbonate

Table 3: K_{VS} coefficients and associated nominal sizes

K_{VS}	0.63	1.0	1.6	2.5	4.0	6.3	10	16	25	40
Seat bore in mm	6			12			24	31	38	48
DN										
15	•		•		•					
20		•		•		•				
25	•		•		•		•			
32						•		•		
40							•		•	
50								•		•

Table 4: Permissible differential pressures Δp · Fail-close valve

DN	K_{vs}	Type 3379 Actuator area in cm ²	Bench range in bar	Supply air in bar	Differential pressure Δp in bar	
15 to 25	0.63	31	2.3 to 3.7	4.0	40	
20	1.0					
15 to 25	1.6	31	2.3 to 3.7	4.0	31	
20	2.5					
15 to 25	4.0					
20 to 32	6.3	31	2.3 to 3.7	4.0	6	
		63	2.5 to 4.0	4.5	22	
25 to 40	10	31	2.3 to 3.7	4.0	6	
		63	2.5 to 4.0	4.5	22	
32 to 50	16	63	2.5 to 4.0	4.5	13	
			3.3 to 5.6	6.0	19	
		176 ¹⁾	1.5 to 2.7	3.2	23	
			2.2 to 4.0	4.5	40	
40	25	63	2.5 to 4.0	4.5	8	
			3.3 to 5.6	6.0	12	
		176 ¹⁾	1.5 to 2.7	3.2	15	
			2.2 to 4.0	4.5	25	
			2.9 to 5.3	6.0	35	
50	40	63	2.5 to 4.0	4.5	5	
			3.3 to 5.6	6.0	7	
		176 ¹⁾	1.5 to 2.7	3.2	9	
			2.2 to 4.0	4.5	15	
			2.9 to 5.3	6.0	22	

1) On request

Table 5: Permissible differential pressures Δp · Fail-open valve

DN	K_{vs}	Type 3379 Actuator area in cm ²	Bench range in bar	Differential pressure Δp in bar With required supply pressure in bar		
				4.0	5.0	6.0
15 to 25	0.63	31	2.3 to 3.7	-	14	40
20	1.0					
15 to 25	0.63	63	1.0 to 1.9	40	40	40
20	1.0					
15 to 25	1.6					
20	2.5	31	2.3 to 3.7	-	6	31
15 to 25	4.0					
15 to 25	1.6					
20	2.5	63	1.0 to 1.9	40	40	40
15 to 25	4.0					
15 to 25	1.6					
20 to 32	6.3	63	1.0 to 1.9	17	30	40
25 to 40	10					
32 to 50	16	63	1.0 to 1.9	10	17	25
		176 ¹⁾	1.1 to 2.0	34	40	40
40	25	63	1.0 to 1.9	6	11	16
		176 ¹⁾	1.1 to 2.0	22	36	40
50	40	63	1.0 to 1.9	-	7	10
		176 ¹⁾	1.1 to 2.0	14	22	31

1) On request

Table 6: Dimensions and weights · Dimensions in mm and weights in kg

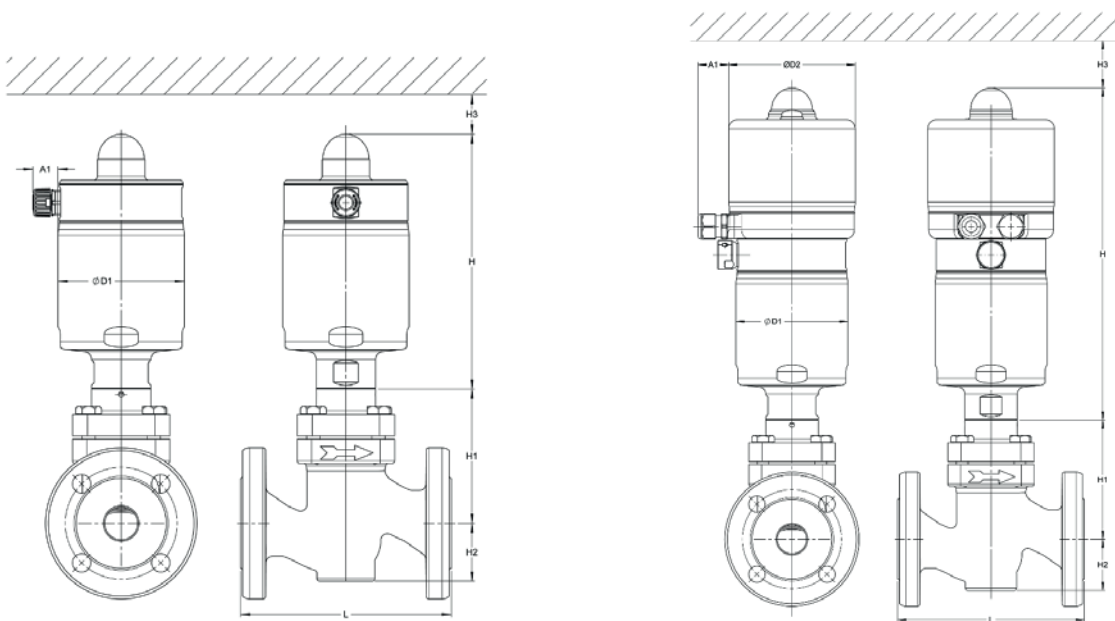
Table 6.1: Type 3321CT Valve

DN	15	20	25	32	40	50
L	130	150	160	180	200	230
H1	102			114		
H2	40			72		
Weight	5	6	7	11	12	16

Table 6.2: Type 3379 Pneumatic Actuator

Actuator area		31 cm ²	63 cm ²
ØD1		69	96
Without positioner	H	195	
	A1	20	
	H3	200	
	Weight	3	4
With Type 3724 Positioner	H	285	
	A1	30	
	H3	200	
	ØD2	109	
	Weight	4	5

Dimensional drawings



Type 3321CT Valve with Type 3379 Pneumatic Actuator

Type 3321CT Valve with Type 3379 Pneumatic Actuator and Type 3724 Positioner

Ordering text

Globe valve	Type 3321CT
Valve size	DN ...
Pressure rating	PN ...
Body material	According to Table 2
Seat-plug seal	Metal or soft seal
Pneumatic actuator	Type 3379
Fail-safe position	Fail-close or fail-open
Process medium	Density and temperature
Max. flow rate	in kg/h or m ³ /h
Pressure	p1 and p2 in bar
Pressure/temperature design	
Valve accessories	Positioner/limit switch

Specifications subject to change without notice



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