

## T 8115 EN

### Series V2001 Valves · Clean Tech

### Type 3321CT Globe Valve with pneumatic actuator

DIN and ANSI versions



#### Application

Compact control valve for the process industry

<b>Valve size</b>	<b>DN 15 to 80 · NPS ½ to 3</b>
<b>Pressure rating</b>	<b>PN 16 and 40 · Class 150 and 300</b>
<b>Temperatures</b>	<b>-10 to 220 °C · 14 to 428 °F</b>

#### Special features

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

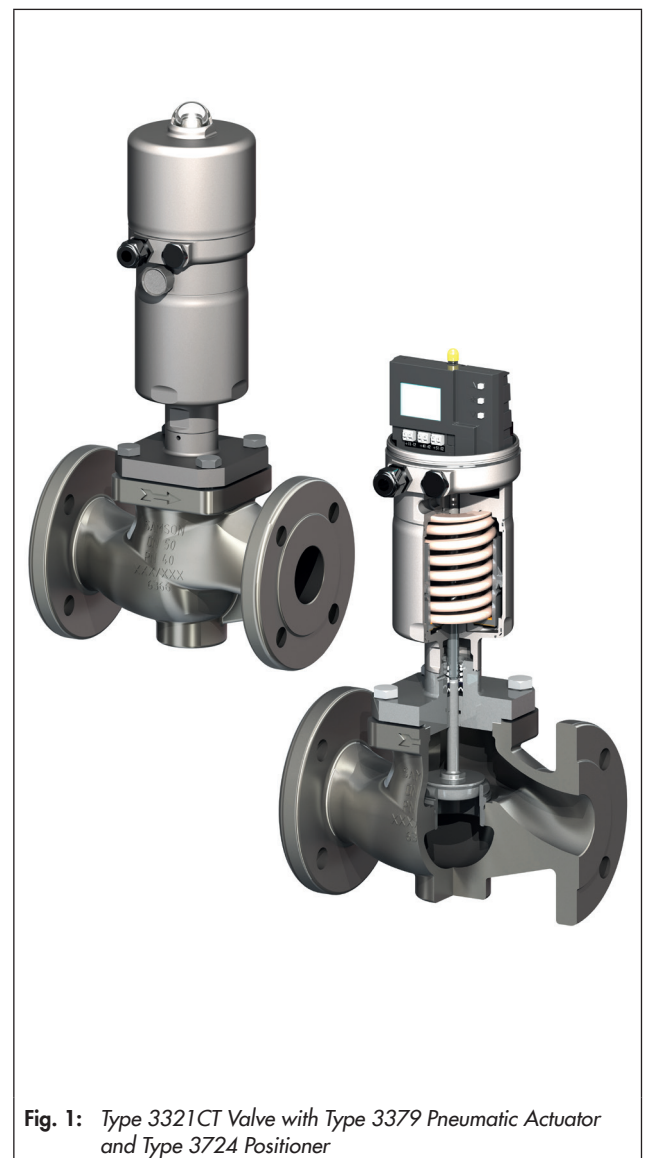
#### Versions

Standard version for temperatures ranging from -10 to 220 °C/14 to 428 °F

- **Type 3321CT Valve** in valve sizes DN 15 to 80/NPS ½ to 3 · Flanged body made of stainless steel · Pressure rating PN 16 and 40/Class 150 and 300 · Self-adjusting packing · Gaskets and packings that comply with the EU Regulation (EC) No. 1935/2004 and the US Regulation FDA 21 CFR Section 177.1550 · 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 for the **food and beverage industry** and version for the **pharmaceuticals and biotechnology sector**  
Valve for **cleanroom environments:** materials (gaskets, packings, body), manufacture of parts as well as assembly conditions in accordance with the EU Regulation (EC) No. 1935/2004 and the US Regulation FDA 21 CFR Section 177.1550



**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.

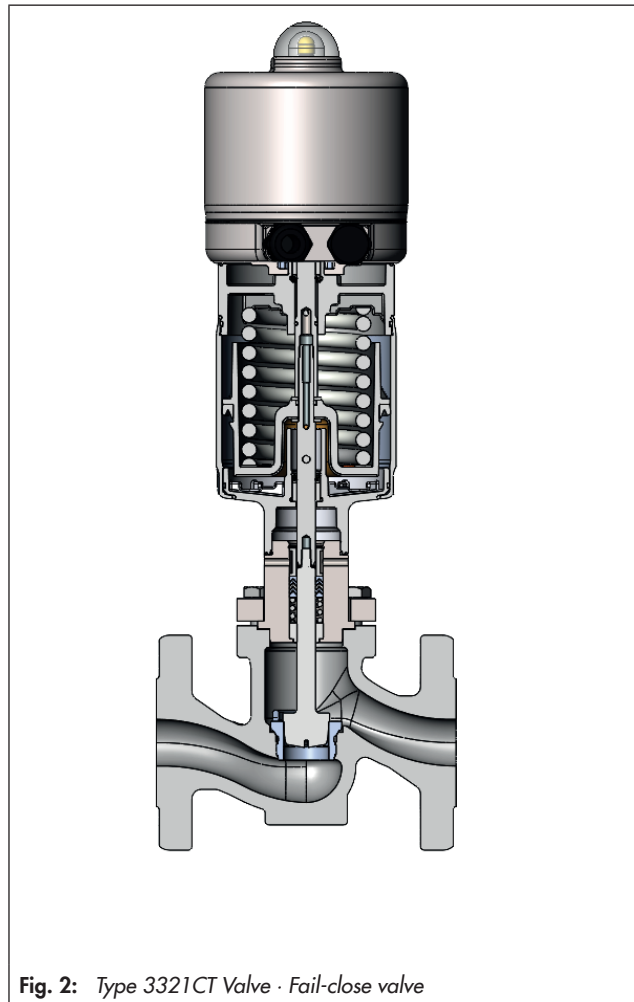
### Mounting orientation

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.



**Table 1: Technical data for Type 3321CT**

<b>Valve size</b>	<b>DN 15 to 80 · NPS ½ to 3</b>
Pressure rating	PN 16 and 40 · Class 150 and 300
Type of connection	Flanges with raised face form B1 according to EN 1092-1/RF
Seat-plug seal	Metal or soft seal
Characteristic	Equal percentage
Rangeability	50:1
<b>Permissible medium temperature</b>	
Standard version	-10 to 220 °C · 14 to 428 °F
<b>Leakage class according to IEC 60534-4 or ANSI/FCI 70-2</b>	
Metal seal	IV
Soft seal	VI
<b>Conformity</b>	<b>CE · EAC</b>
	FDA compliance Compliance with EC Directive 1935/2004

**Table 2: Materials**

<b>Type 3321CT Valve</b>	
Valve body	Stainless steel 1.4408 · A351 CF8M
Valve bonnet	Stainless steel 1.4404 or 1.4408 · A182 F316L or A351 CF8M
Seat	Stainless steel 1.4404 · A182 F316L
Plug with plug stem	Stainless steel 1.4404 · A182 F316L
Plug seal	Seal for soft-seated plug: PEEK (certified according to FDA/Regulation (EC) 1935/2004)
Guide bushing	Nickel alloy
Packing	V-ring packing: PTFE with carbon, spring: 1.4310
Body gasket	Graphite seal on metal core
<b>Type 3379 Pneumatic Actuator</b>	
Housing and cover	Stainless steel 1.4409 · A351 CF3M
Actuator stem	Stainless steel 1.4404 · A182 F316L
Piston	Glass-fiber-reinforced polyamide
	Stainless steel 1.4409 · A351 CF3M <sup>1)</sup>
Bearing	Polymer
Spring	Spring steel
Gasket	NBR
<b>Type 3724 Positioner</b>	
Housing and cover	Stainless steel 1.4409 · A351 CF3M
Transparent cover	Polycarbonate

<sup>1)</sup> For Ø150 piston**Table 3:  $K_{VS}$  and  $C_V$  coefficients with associated valve sizes**

$K_{VS}$	0.63	1.0	1.6	2.5	4.0	6.3	10	16	25	40	60	80
$C_V$	0.73	1.17	1.86	2.91	4.66	7.34	11.65	18.64	29.13	46.6	70	95
Seat bore in mm	6		12			24		31	38	48	63	80
Travel in mm	15											
<b>DN</b>	<b>NPS</b>											
15	½	•		•		•						
20	¾		•		•		•					
25	1	•		•		•		•				
32	–					•		•				
40	1½						•		•			
50	2							•		•		
65	2½								•		•	
80	3									•		•

**Table 4:** Permissible differential pressures  $\Delta p$  · Fail-close valve

DN	NPS	$K_{Vs}$	$C_v$	Type 3379 Actuator area in cm <sup>2</sup>	Bench range in bar	Supply air in bar	Differential pressure $\Delta p$ in bar
15, 25	½, 1	0.63	0.75	31	2.3 to 3.7	4	40
20	¾	1	1.2				
15, 25	½, 1	1.6	2	31	2.3 to 3.7	4	40
20	¾	2.5	3				
15, 25	½, 1	4	5				
20, 32	¾	6.3	7.5	31	2.3 to 3.7	4	11
				63	2.5 to 4.0	4.2	27
25, 40	1, 1½	10	12	31	2.3 to 3.7	4	11
				63	2.5 to 4.0	4.2	27
32, 50	2	16	20	31	2.3 to 3.7	4	6
				63	2.5 to 4.0	4.2	15
					3.3 to 5.6	5.9	21
				176	1.0 to 2.3	2.4	17
1.4 to 3.0	3.2	26					
40, 65	1½, 2½	25	30	63	2.5 to 4.0	4.3	10
					3.3 to 5.6	5.9	14
				176	1.4 to 3.0	3.2	16
					2.1 to 4.6	4.6	27
50, 80	2, 3	40	47	63	2.5 to 4.0	4.3	5
					3.3 to 5.6	5.9	8
				176	1.4 to 3.0	3.2	9
					2.1 to 4.6	4.6	16
65	2½	60	70	176	1.0 to 2.3	2.4	3
					1.4 to 3.0	3.2	5
					2.1 to 4.6	4.6	9
80	3	80	95	176	1.4 to 3.0	3.2	3
					2.1 to 4.6	4.6	5

**Table 5:** Permissible differential pressures  $\Delta p$  · Fail-open valve

DN	NPS	$K_{vs}$	$C_v$	Type 3379 Actuator area in cm <sup>2</sup>	Bench range in bar	Differential pressure $\Delta p$ in bar		
						With required supply pressure in bar		
						4.0	5.0	6.0
15, 25	½, 1	0.63	0.75	31	2.3 to 3.7	–	35	40
20	¾	1	1.2					
15, 25	½, 1	0.63	0.75	63	1.0 to 1.9	40	40	40
20	¾	1	1.2					
15, 25	½, 1	1.6	2	31	2.3 to 3.7	–	18	40
20	¾	2.5	3					
15, 25	½, 1	4	5					
15, 25	½, 1	1.6	2	63	1.0 to 1.9	40	40	40
20	¾	2.5	3					
15, 25	½, 1	4	5					
20, 32	¾	6.3	7.5	63	1.0 to 1.9	21	34	40
25, 40	1, 1½	10	12					
32, 50	2	16	20	63	1.0 to 1.9	12	20	27
				176	1.0 to 2.3	32	40	40
40, 65	1½, 2½	25	30	63	1.0 to 1.9	7	12	17
				176	1.0 to 2.3	20	35	40
50, 80	2, 3	40	47	63	1.0 to 1.9	4	7	10
				176	1.0 to 2.3	12	21	30
65	2½	60	70	176	1.0 to 2.3	7	12	17
80	3	80	95	176	1.0 to 2.3	4	7	10

**Table 6:** Dimensions and weights**Table 6.1:** Type 3321CT Valve

DN		15	20	25	32	40	50	65	80
NPS		½	¾	1	–	1½	2	2½	3
L	PN 16/40 mm	130	150	160	180	200	230	290	310
	Class 150 in <sup>1)</sup>	7.25	7.25	7.25	–	8.75	10	10.88	11.75
	Class 300 in <sup>1)</sup>	7.5	7.62	7.75	–	9.25	10.5	11.5	12.5
H1	mm	102			114			147	
	in <sup>1)</sup>	4.02			–	4.49		5.78	
H2	mm	44			72			98	
	in <sup>1)</sup>	1.73			–	2.83		3.86	
Weight	kg	5	6	7	11	12	16	28	32
	lbs <sup>1)</sup>	15	18	20	–	35	44	71	82

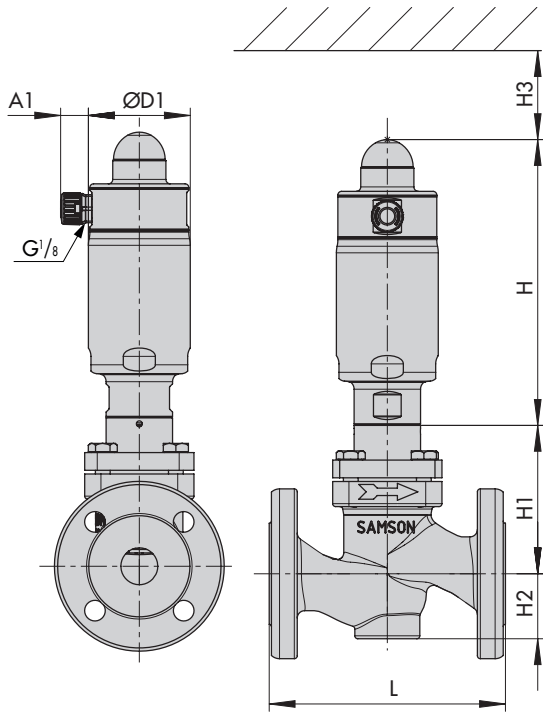
<sup>1)</sup> ANSI specifications

**Table 6.2:** Type 3379 Pneumatic Actuator

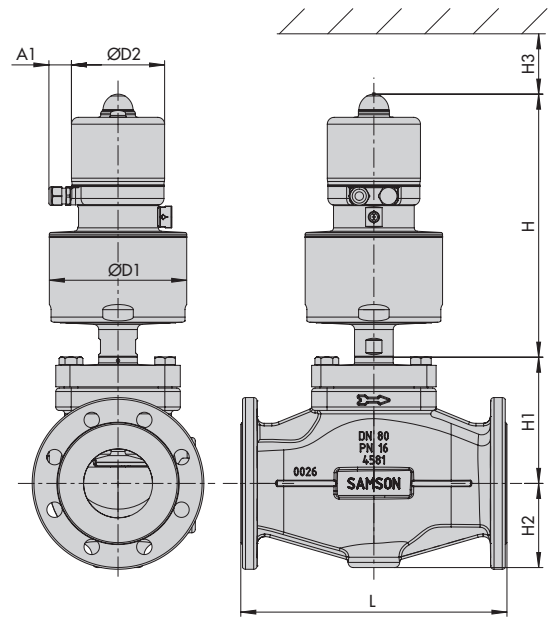
Piston diameter	mm	63	90	150	
Actuator area	cm <sup>2</sup>	31	63	176	
With Type 3724 Positioner	H	mm	285		310
	H3 <sup>1)</sup>	mm	150		
	A1	mm	30		
	ØD2	mm	108		
	ØD1	mm	69	96	160
	Weight	kg (approx.)	3.7	4.9	10.7
	Without positioner	H	mm	195	
H3 <sup>1)</sup>		mm	150		
A1		mm	20		
ØD1		mm	69	96	160
Weight		kg (approx.)	1.8	3.1	8.9

<sup>2)</sup> Minimum clearance required to remove the actuator

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/NPS ...
Pressure rating	PN/Class ...
Body material	Refer 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 <sup>3</sup> /h
Pressure	p1 and p2 in bar
Pressure/temperature design	
Valve accessories	Positioner/limit switch