

Series 240

Type 3347-1 and Type 3347-7 Pneumatic Control Valves Type 3347 Hygienic Angle Valve



Application

Control valve for hygienic applications in the food and pharmaceutical industries

Valve size	DN 6 to 125	·	NPS ¼ to 5
Maximum pressure	40 bar	·	580 psi
Medium temperature	0 to 150 °C	·	32 to 300 °F



Type 3347 Angle Valve with

- Type 3271 Pneumatic Actuator (Type 3347-1 Control Valve)
- Type 3277 Pneumatic Actuator (Type 3347-7 Control Valve) for integral positioner attachment

Special features

- Valve body free of dead space made of cast stainless steel
- Wetted sealing materials comply with FDA regulations
- Compliance with 3-A regulations with modified Type 3277 Pneumatic Actuator and approved valve accessories (see also Table 1.2)
- Metal or soft-seated valve plug
- 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. An additional steam line connection is available for stricter purity requirements.

The valves can be equipped with different accessories, directly attached positioners or positioners, solenoid valves and limit switches for attachment according to IEC 60534-6 and NAMUR recommendation (► T 8350).

Versions

Valves with welding ends for pipes according to DIN 11850, ISO 2037, BS 4825, AFNOR or JIS G 3447/3459 with internal surfaces turned to a fine finish and metal-seated plugs for medium temperatures between 0 and 150 °C (32 to 300 °F)

Bar stock body · DN 15 to 125 (NPS ½ to 5)

- **Type 3347-1** · With Type 3271 Actuator (with EHEDG approval)
- **Type 3347-7** (Fig. 2) · With Type 3277 Actuator · With EHEDG and 3-A approval
The 3-A approval is only available in combination with specially approved devices:
 - Type 3277 Pneumatic Actuator
 - Type 3730 Positioner
 - Type 3776 Limit Switch
 - Type 4708 Supply Pressure Regulator
 - Type 3963 or Type 3967 Solenoid Valve



Fig. 1: Type 3347-7 Valve, cast body with welding ends



Fig. 2: Type 3347-7 Valve, bar stock body with threaded connections, compliance with 3-A and EHEDG regulations

Cast body (Fig. 1) · DN 25 to 100 (NPS 1 to 4)

- **Type 3347-1** · With Type 3271 Actuator (▶ T 8310-1)
- **Type 3347-7** · With Type 3277 Actuator (▶ T 8310-1)

Further versions

- **Polished valve body** (internal and/or external surfaces)
- **Threaded couplings** according to DIN 11887 (11851), SMS or IDF
- **Clamp connection**, ISO 2852-2, DIN 32676, BS 4825 or JIS G 3447/3459
- **Flanges** with smooth raised face, dimensions acc. to DIN EN 1092-1
- Valve plug with **PEEK soft seal** (seat bore 6 and larger)
- **V-port plug** (without 3-A conformity, seat bore 6 and larger)
- **V-port plug with PEEK soft seal** (seat bore 12 and larger)
- Steam line connection (**not compliant with 3-A or EHEDG regulations**)
- **Body material 1.4435**
- Additional **FDA-compliant sealing materials** on request
- Bar stock body up to PN 40 with **flanged-on bonnet**
- **Heating jacket** · Details on request
- Bonnet with **special sealing system** (not compliant with 3-A or EHEDG regulations, Fig. 6)

Principle of operation (Fig. 3 to Fig. 6)

The process medium flows through the valve in the direction indicated by the arrow in the flow-to-open direction.

A PTFE bushing (5.1) is used to seal the plug stem. An additional bushing (5.3) guides the plug stem to the outside (see Fig. 4 and Fig. 5). In the EHEDG version, the plug stem is guided by a body and stem gasket (5.2) (see Fig. 3).

An optional steam or sterile fluid line connection (Fig. 5) for sterilization of the plug stem is available (except for version conforming to 3-A and EHEDG).

The valve bonnet is fixed to the body by a clamp connection (5.4) to allow the entire bonnet to be easily detached from the body. The valve bonnet is flanged onto the body using four bolts for versions with pressures above 16 bar as well with the special sealing system.

Mounting position

The valve must be installed in the upright position with the actuator on top. A valve installed with the valve outlet facing downwards does not guarantee drainage of the pipe.

Valve accessories

Any devices mounted on 3-A-compliant valves must also comply with 3-A regulations.

Fail-safe position

Depending on how the springs are arranged in the pneumatic actuator (▶ T 8310-1), the valve has two different fail-safe positions effective upon air supply failure:

- **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.

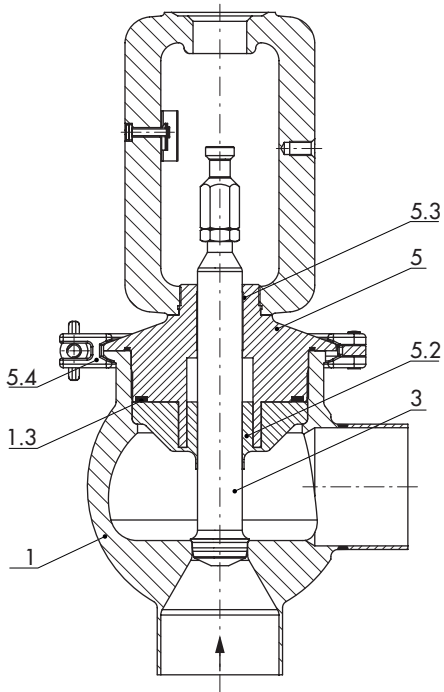


Fig. 3: Type 3347 Valve, bar stock body according to 3-A and EHEDG regulations

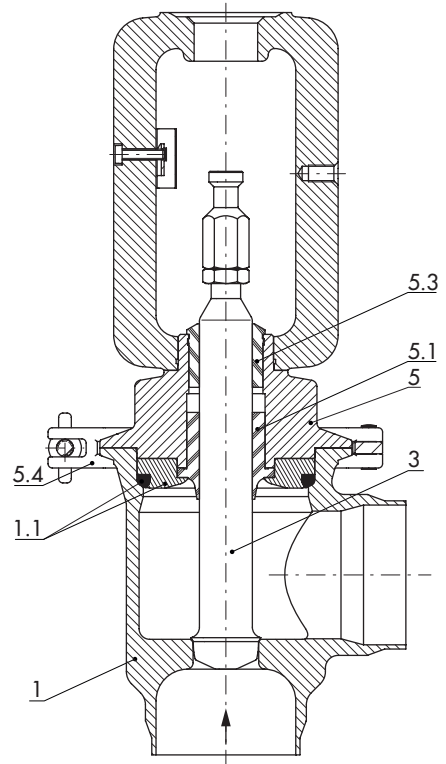
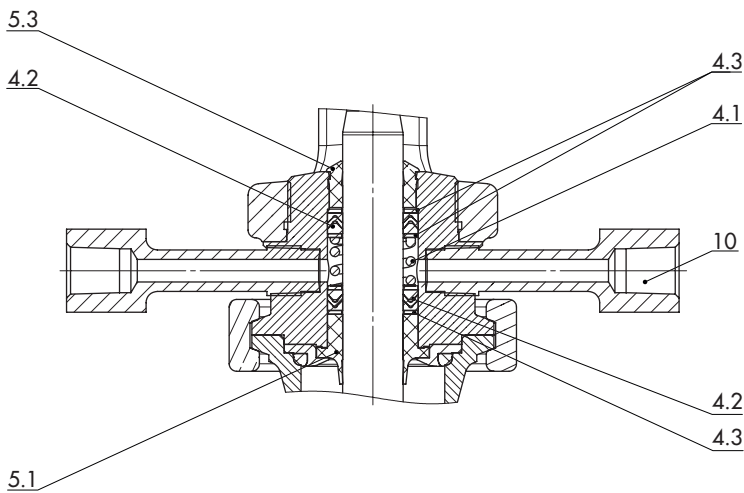


Fig. 4: Type 3347 Valve, cast body version



Legend for Fig. 3 to Fig. 6

- | | |
|-------------------------------------|-----------------------------------|
| 1 Valve body | 5.2 Body and stem seal |
| 1.1 Body gasket with centering ring | 5.3 Plug stem guide/guide bushing |
| 1.3 Compensating ring | 5.4 Clamp |
| 3 Plug | 10 Nipple |
| 4.1 Spring | 11 Metal centering sleeve |
| 4.2 PTFE V-ring packing | 12 EPDM O ring |
| 4.3 Washer | 13 Hard-chrome-plated plug stem |
| 5 Valve bonnet with yoke | |
| 5.1 Stem seal | |

Fig. 5: Type 3347 Valve, bar stock body

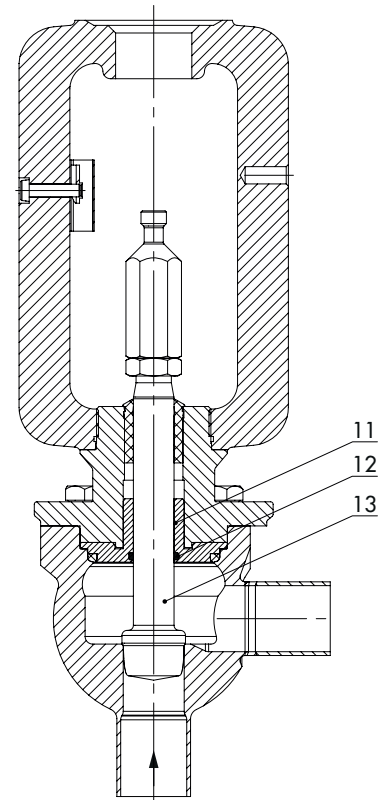


Fig. 6: Type 3347 Valve, version with special sealing system for media that crystallize or tend to form deposits

Table 1: Technical data

Table 1.1: Type 3347

Body version ¹⁾	Cast	Bar stock
Valve size	DN 25 to 100 (NPS 1 to 4)	DN 6 to 125 (NPS ¼ to 5)
Maximum pressure	16 bar (230 psi) with clamped valve bonnet and with restrictions according to Table 1.2 40 bar (580 psi) with bolted valve bonnet · On request	
Connections	According to Table 1.2	
Seat-plug seal	Metal seal · Soft seal (not compliant with 3-A regulations)	
Characteristic	Equal percentage or linear	
Rangeability	Refer to Table 3	
Permissible medium temperature (restrictions according to Table 1.2)	0 to 150 °C (32 to 300 °F)	
Leakage class acc. to IEC 60534-4	Metal seal	IV
	Soft seal	VI
Peak-to-valley height and surface finish	External	Glass bead blasted
		$R_a \leq 0.6 \mu\text{m}$ · Polished
	Internal	$R_a \leq 0.8 \mu\text{m}$ · Fine machine finish
		$R_a \leq 0.6 \mu\text{m}$ · Polished
		$R_a \leq 0.4 \mu\text{m}$ · Mirror finish
Certificates	CFR Title 21 FDA Regulation (EC) No. 1935/2004 Regulation (EU) No. 10/2011 Regulation (EC) No. 2023/2006 3-A approval, standard 53-06 (see Fig. 3) EHEDG (see Fig. 3) USP-VI 121 °C ²⁾ ADI free	
	ERC	
Compliance	ERC	

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

²⁾ Only for metal-seated plug with body and stem gasket (see Fig. 3)

Table 1.2: End connections, maximum pressures, and 3-A conformity

Connection	Standard	Valve sizes DN/NPS	Max. operating pressure in bar or psi at a medium temperature of		3-A conformity
			0 to 20 °C (32 to 68 °F)	150 °C (300 °F)	
Welding ends	DIN 11866, Series A (DIN 11850 Series 2)	DN 15 to 125	16 bar		•
	DIN 11866, Series B	OD 10.2 to 139.7	16 bar		•
	DIN 11866, Series C; ASME BPE	NPS ¼ to 4	230 psi		•
	ISO 2037	DN 10 to 100	16 bar		•
	JIS G 3447	NPS 1 to 4	16 bar		•
	JIS G 3459	NPS ⅛ to 5	16 bar		•
Threaded couplings	DIN 11864-1 Form A Series A and DIN 11887 Series 1	DN 10 to 100	16 bar		•
	DIN 11864-1 Form A, Series B	OD 13.5 to 88.9	16 bar		•
	DIN 11864-1 Form A, Series C	NPS ½ to 4	230 psi		•
	DIN 11887 connection A, Series 1	DN 10 to 125	16 bar		•
	ISO 2853 (IDF)	NPS 1 to 4	90 psi		•
	SMS 1146	DN 25 to 100	6 bar		•
Clamp connections	DIN 11864-3 Form A, Series A	DN 10 to 100	16 bar		•
	DIN 11864-3 Form A, Series B	OD 13.5 to 88.9	16 bar		•
	DIN 11864-3 Form A, Series C	NPS ½ to 4	230 psi		•
	DIN 32676, Series A	DN 6 to 125	DN 6 to 50: 16 bar DN 65 to 125: 10 bar	14 bar 9 bar	•
	DIN 32676 Series B	OD 10.2 to 139.7	NPS 10.2 to 60.3: 16 bar NPS 72.1 to 139.7: 10 bar	14 bar 9 bar	•
	DIN 32676 Series C	NPS ¼ to 4	NPS ¼ to 2: 230 psi NPS 2½ to 4: 150 psi	175 psi 114 psi	•
	ISO 2852	DN 10 to 125	DN 10 to 50: 16 bar DN 65 to 125: 10 bar	14 bar 9 bar	•
	ASME BPE	NPS ¼ to 4	NPS ¼ to 2: 230 psi NPS 2½ to 4: 150 psi	175 psi 114 psi	•
	BS 4825 Part 3	NPS 1 to 4	NPS 1 to 2: 16 bar NPS 2½ to 4: 14 bar	14 bar 9 bar	•
	OSS for pipes acc. to JIS G 3447	NPS 1 to 4	NPS 1 to 2: 230 psi NPS 2½ to 4: 150 psi	175 psi 114 psi	•
	OSS for pipes acc. to JIS G 3459	NPS ⅛ to 5	NPS ⅛ to 2: 230 psi NPS 2½ to 5: 150 psi	175 psi 114 psi	•
	Flanges with smooth raised face, however with R _a ≤ 0.8	DIN 11864-2 Form A, Series A	DN 10 to 125	16 bar	
DIN 11864-2 Form A, Series B		OD 13.5 to 114.3	16 bar		•
DIN 11864-2 Form A, Series C		NPS ½ to 4	230 psi		•

Table 2: Materials

		DIN	ANSI
Body version with lathed seat	Cast	Cast stainless steel 1.4409	CF3M
	Bar stock	1.4404 · 1.4462 ¹⁾ · 1.4539 ¹⁾	316L
Bonnet		1.4404 · 1.4462 ¹⁾ · 1.4539 ¹⁾	316L
Plug		1.4404 · 1.4462 ¹⁾ · 1.4539 ¹⁾	316L
Centering ring		1.4404 · 1.4462 ¹⁾ · 1.4539 ¹⁾	316L
Clamp		1.4306	304L
Body and stem seal ²⁾		Pure PTFE/pure PEEK	
Guide bushing ²⁾		Pure PTFE for DN 50 (NPS 2) and smaller · PTFE-jacketed stainless steel for DN 65 (NPS 2½) and larger	

¹⁾ Available on request (3-A-compliant)

²⁾ On request also available in TECAPEEK MT (medical trial grade)

Table 3: K_{VS} coefficients and associated nominal sizes**Table 3.1: Standard version**

K_{VS}	0.4	0.63	1.0	1.6	2.5	4	6.3	10	16	25	40	60	80	100	160	200	
C_V	0.5	0.75	1.2	2	3	5	7.5	12	20	30	47	70	95	120	190	240	
Rangeability	50:1		25:1 ¹⁾ 50:1	50:1		25:1 ¹⁾ 50:1	50:1										
Seat Ø	mm	6	6 12 ¹⁾	12		12 24 ¹⁾	24 up to DN 25/NPS 1 31 for DN 32/ NPS 1¼ and larger		31	38	48	63	80		100	110	
Travel	mm	15												30			
DN	NPS																
15	½	•	•	•	•	•	•										
20	¾	•	•	•	•	•	•										
25	1	•	•	•	•	•	•	•	•								
32	1¼				•		•	•	•								
40	1½						•	•	•	•	•						
50	2							•	•	•	•	•					
65	2½										•	•	•				
80	3										•	•	•	•			
100	4													•	•		
125	5															•	

¹⁾ For version with V-port plug

Table 3.2: Micro-flow valve

K_{VS}	0.01	0.016	0.025	0.04	0.063	0.1	0.16	0.25
C_V	0.012	0.02	0.03	0.05	0.075	0.12	0.21	0.3
Rangeability	15:1	20:1	25:1	35:1	45:1	50:1		
Seat Ø	mm	3						
Travel	mm	7.5						
DN	NPS							
6	–	•	•	•	•	•	•	•
8	¼	•	•	•	•	•	•	•
10	⅜	•	•	•	•	•	•	•
15	½	•	•	•	•	•	•	•

Table 4: Operating ranges and required supply pressures for metal and soft-seated plugs

Note: We recommend using a V-port plug in nominal sizes DN 40 to 65 for pressures higher than 10 bar as well in nominal sizes DN 80 to 125 for pressures higher than 6 bar. A V-port plug is not required for nominal sizes smaller than DN 40.

Table 4.1: Fail-close valve · Valve closed with 0 bar signal pressure

The required supply pressure is 0.2 bar higher than the upper operating range value.

Valve size		K _{vs}	Actuator area in cm ²	Operating range in bar at Δp (valve closed)			
DN	NPS			5 bar	10 bar	16 bar	
15 20 25	½ ¾ 1	0.1/0.25/0.63	120	0.4 to 2.0	0.4 to 2.0	0.4 to 2.0	
			175v2	0.2 to 1.0	0.2 to 1.0	0.2 to 1.0	
			240	0.2 to 1.0	0.2 to 1.0	0.2 to 1.0	
		1	1.6/4	120	0.4 to 2.0	0.4 to 2.0	1.4 to 2.3
				175v2	0.4 to 1.2	0.4 to 1.2	0.4 to 1.2
				240	0.2 to 1.0	0.2 to 1.0	0.3 to 1.1
25	1	6.3/10	120	1.4 to 2.3	1.4 to 2.3	1.4 to 2.3	
			175v2	0.8 to 2.4	0.8 to 2.4	0.8 to 2.4	
			240	0.3 to 1.1	0.4 to 2.0	0.6 to 2.2	
32 40	1¼ 1½	16	120	1.4 to 2.3	1.4 to 2.3	2.1 to 3.3	
			175v2	0.8 to 2.4	0.8 to 2.4	1.3 to 2.9	
			240	0.4 to 2.0	0.6 to 2.2	0.9 to 3.3	
40	1½	25	120	1.4 to 2.3	2.1 to 3.3	–	
			175v2	0.8 to 2.4	1.3 to 2.9	1.7 to 3.3	
			240	0.6 to 2.2	0.9 to 3.3	–	
			350	0.4 to 1.2	0.8 to 2.4	0.8 to 2.4	
50	2	40	175v2	1.3 to 2.9	1.7 to 3.3	–	
			240	0.9 to 3.3	–	–	
			350	0.8 to 2.4	0.8 to 2.4	1.4 to 2.3	
65	2½	60	350	0.8 to 2.4	1.4 to 2.3	2.1 to 3.3	
80	3	80	350	1.4 to 2.3	2.1 to 3.3	1.6 to 2.4 (700 cm ²)	
			355v2	1.6 to 2.4	2.35 to 2.95	2.95 to 3.65	
100	4	100	700	0.8 to 2.4	1.4 to 2.3	2.1 to 3.3	
		160		1.4 to 2.3	2.1 to 3.3	2.6 to 4.3	
		100	750v2	0.8 to 2.4	1.4 to 2.4	1.4 to 2.4	
		160		0.8 to 2.4	1.4 to 2.4	2.1 to 3.8	
125	5	200	700	1.4 to 2.3	2.1 to 3.3	2.6 to 4.3	
			750v2	1.4 to 2.4	1.65 to 2.65	2.5 to 4.2	

Table 4.2: Comparison table: operating ranges and bench ranges for "actuator stem extends" fail-safe position

Actuator area in cm ²	Travel in mm	Operating range in bar (bench range, if different)				
120	15	0.4 to 2.0	1.4 to 2.3	2.1 to 3.3		
175v2	15	0.4 to 1.2 (0.2 to 1.0)	0.8 to 2.4 (0.4 to 2.0)	1.7 to 3.3 (1.3 to 2.9)		
240	15	0.3 to 1.1 (0.2 to 1.0)	0.6 to 2.2 (0.4 to 2.0)	0.9 to 3.3 (0.6 to 3.0)		
350	15	0.4 to 1.2 (0.2 to 1.0)	0.8 to 2.4 (0.4 to 2.0)	1.4 to 2.3	1.6 to 2.4	2.1 to 3.3
355v2	15		1.6 to 2.4 (0.4 to 2.0)	2.35 to 2.95 (1.4 to 2.6)	2.95 to 3.65 (1.9 to 3.3)	
700	30		0.8 to 2.4 (0.4 to 2.0)	1.4 to 2.3	2.1 to 3.3	2.6 to 4.3
750v2	30		0.8 to 2.4 (0.4 to 2.0)		1.65 to 2.65 (1.4 to 2.4)	2.5 to 4.2 (2.1 to 3.8)

Table 4.3: Fail-open valve · Valve closed with the required supply pressure

Valve size		K _{vs}	Actuator area in cm ²	Operating range	Required supply pressure in bar at Δp		
DN	NPS				5 bar	10 bar	16 bar
15 20 25	½ ¾ 1	0.1/0.25/0.63	120	0.4 to 2.0	2.4	2.4	2.4
			175v2	0.2 to 1.0	1.2	1.2	1.2
			240	0.2 to 1.0	1.2	–	1.2
		1.6/4	120	0.4 to 2.0	2.4	2.4	3.4
			175v2	0.2 to 1.0	1.4	1.4	1.4
			240	0.2 to 1.0	1.4	1.4	1.4
25	1	6.3/10	120	0.4 to 2.0	3.4	3.4	3.4
			175v2	0.2 to 1.0	1.5	1.6	1.8
			240	0.2 to 1.0	1.4	1.4	1.6
32 40	1¼ 1½	16	120	0.4 to 2.0	3.4	3.4	4.1
			175v2	0.2 to 1.0	1.6	1.8	2.1
			240	0.2 to 1.0	1.4	1.6	1.9
40	1½	25	120	0.4 to 2.0	3.4	4.1	–
			175v2	0.2 to 1.0	1.8	2.1	2.5
			240	0.2 to 1.0	1.6	1.9	–
			350		1.4	1.8	1.8
50	2	40	175v2	0.2 to 1.0	2.0	2.6	3.3
			240	0.2 to 1.0	1.9	–	–
			350		1.8	1.8	2.4
65	2½	60	350	0.2 to 1.0	1.8	2.4	3.1
80	3	80	350	0.2 to 1.0	2.4	3.1	4
			355v2	0.6 to 1.0	2.1	2.9	3.8
100	4	100	355v2	0.2 to 1.0	2.1	2.9	3.8
		160		0.2 to 1.0	2.6	3.8	5.3
		100	700	0.2 to 1.0	1.7	2.1	2.5
		160		0.2 to 1.0	2.4	3.1	3.6
		100	750v2	0.2 to 1.0	1.6	1.9	2.4
		160		0.2 to 1.0	1.8	2.4	3.1
125	5	200	355v2	0.2 to 1.0	2.9	4.4	–
			700	0.2 to 1.0	2.4	3.1	3.6
			750v2	0.2 to 1.0	1.9	2.6	3.5

Table 5: Operating ranges and required supply pressures for micro-flow valve

Table 5.1: Micro-flow valve with "actuator stem extends" fail-safe position

Actuator area in cm ²	Travel in mm	Operating range in bar at Δp (valve closed)		
		5 bar	10 bar	16 bar
120	7.5	0.4 to 0.8	0.4 to 0.8	0.4 to 0.8

Table 5.2: Micro-flow valve with "actuator stem retracts" fail-safe position

Actuator area in cm ²	Travel in mm	Operating range	Required supply pressure in bar at Δp		
			5 bar	10 bar	16 bar
120	7.5	0.4 to 0.8	1.2	1.2	1.2

Table 6: Dimensions in mm

Table 6.1: Type 3347 Valve with welding ends

Face-to-face dimensions of special versions on request

Valve	DN ³⁾	6	8	10	15	20	25	32	40	50	65	80	100	125
	(OD)	(10.2)	(13.5)	(17.2)	(21.3)	(26.9)	(33.7)	(42.4)	(48.3)	(60.3)	(76.1)	(88.9)	(114.3)	(139.7)
	NPS	¼	–	¾	½	¾	1	1¼	1½	2	2½	3	4	5
DIN 11866, Series A (DIN 11850 Series 2)	L ¹⁾ cast	–	–	–	–	–	50 ²⁾	56	67	72	85	98	110	–
	L ¹⁾ bar stock	–	–	–	70	70	70	70	70	85	105	105	130	130
	L bar stock, micro	50	50	50	50	–	–	–	–	–	–	–	–	–
	Ød2	8	10	13	19	23	29	35	41	53	70	85	104	129
	t	1.0	1.0	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	2	2	2
DIN 11866 Series B	L ¹⁾ cast	–	–	–	–	–	55	66	70	82	105	110	150	–
	L ¹⁾ bar stock	–	–	–	70	70	70	70	70	85	105	105	130	130
	L bar stock, micro	50	50	50	50	–	–	–	–	–	–	–	–	–
	Ød2	10.2	13.5	17.2	21.3	26.9	33.7	42.4	48.3	60.3	76.1	88.9	114.3	139.7
	t	1.6	1.6	1.6	1.6	1.6	2.0	2.0	2.0	2.0	2.0	2.3	2.3	2.6
DIN 11866 Series C ASME BPE	L ¹⁾ cast	–	–	–	–	–	55	–	70	82	105	110	150	–
	L ¹⁾ bar stock	–	–	–	70	70	70	–	70	85	105	105	130	130
	L bar stock, micro	40	–	50	50	–	–	–	–	–	–	–	–	–
	Ød2	6.35	–	9.53	12.7	19.05	25.4	–	38.1	50.8	63.5	76.2	101.6	–
	t	0.89	–	0.89	1.65	1.65	1.65	–	1.65	1.65	1.65	1.65	2.11	–
ISO 2037	L ¹⁾ cast	–	–	–	–	–	55	66	70	82	105	110	150	–
	L ¹⁾ bar stock	–	–	–	–	–	70	70	70	85	105	105	130	130
	L bar stock, micro	–	–	50	50	–	–	–	–	–	–	–	–	–
	Ød2	–	–	12	17.2	21.3	25	33.7	38	51	63.5	76.1	101.6	139.7
	t	–	–	1	1	1	1.2	1.2	1.2	1.2	1.6	1.6	2	2
JIS G 3447	L ¹⁾ cast	–	–	–	–	–	55	66	70	82	105	110	150	–
	L ¹⁾ bar stock	–	–	–	–	–	70	70	70	85	105	105	130	–
	L bar stock, micro	–	–	–	–	–	–	–	–	–	–	–	–	–
	Ød2	–	–	–	–	–	25.4	31.8	38.1	50.8	63.5	76.3	101.6	–
	t	–	–	–	–	–	1.2	1.2	1.2	1.5	2	2	2	–
JIS G 3459	L ¹⁾ cast	–	–	–	–	–	55	66	70	82	105	110	150	–
	L ¹⁾ bar stock	–	–	–	70	70	70	70	70	85	105	105	130	130
	L bar stock, micro	50	50	50	50	–	–	–	–	–	–	–	–	–
	Ød2	10.5	13.8	17.3	21.7	27.2	34	42.7	48.6	60.5	76.3	89.1	114.3	139.8
	t	1	1.2	1.2	1.65	1.65	1.65	1.65	1.65	1.65	2.1	2.1	2.1	2.8

¹⁾ Dimensions are not standardized

²⁾ L according to DIN 11852

³⁾ Values in parentheses according to DIN 11866 Series B

Table 6.2: Type 3347 Valve with clamp connections

Face-to-face dimensions of special versions on request

Valve	DN ¹⁾	6	8	10	15	20	25	32	40	50	65	80	100	125
	(OD)	(10.2)	(13.5)	(17.2)	(21.3)	(26.9)	(33.7)	(42.4)	(48.3)	(60.3)	(76.1)	(88.9)	(114.3)	(139.7)
	NPS	¼	–	⅜	½	¾	1	1¼	1½	2	2½	3	4	5
DIN 11864-3 Form A, Series A	L3 cast	–	–	–	–	–	60.3	66	70	88.9	88.9	95.3	114.3	–
	L3 bar stock	–	–	–	60.3	60.3	60.3	60.3	70	88.9	88.9	95.3	114.3	–
	L3 bar stock, micro	–	–	50	50	–	–	–	–	–	–	–	–	–
	ØC3	–	–	34	34	50.5	50.5	50.5	64	77.5	91	106	130	–
	Ød1	–	–	10	16	20	26	32	38	50	66	81	100	–
DIN 11864-3 Form A, Series B	L3 cast	–	–	–	–	–	60.3	66	70	88.9	88.9	95.3	–	–
	L3 bar stock	–	–	–	60.3	60.3	60.3	60.3	70	88.9	88.9	95.3	–	–
	L3 bar stock, micro	–	–	50	50	–	–	–	–	–	–	–	–	–
	ØC3	–	–	34	34	50.5	50.5	64	64	91	106	119	–	–
	Ød1	–	–	10.3	18.1	23.7	29.7	38.4	44.3	56.3	72.1	84.3	–	–
DIN 11864-3 Form A, Series C	L3 cast	–	–	–	–	–	60.3	–	70	88.9	88.9	95.3	114.3	–
	L3 bar stock	–	–	–	60.3	60.3	60.3	–	70	88.9	88.9	95.3	114.3	–
	L3 bar stock, micro	–	–	–	50	–	–	–	–	–	–	–	–	–
	ØC3	–	–	–	34	34	50.5	–	64	77.5	91	106	130	–
	Ød1	–	–	–	9.4	15.75	22.1	–	34.8	47.5	60.2	72.9	97.38	–
DIN 32676, Series A	L3 cast	–	–	–	–	–	60.3	66	70	88.9	88.9	95.3	114.3	–
	L3 bar stock	–	–	–	60.3	60.3	60.3	60.3	70	88.9	88.9	95.3	114.3	130
	L3 bar stock, micro	50	50	50	50	–	–	–	–	–	–	–	–	–
	ØC3	25	25	34	34	34	50.5	50.5	50.5	64	91	106	119	155
	Ød1	6	8	10	16	20	26	32	38	50	66	81	100	125
DIN 32676 Series B	L3 cast	–	–	–	–	–	60.3	66	70	88.9	88.9	95.3	114.3	–
	L3 bar stock	–	–	60.3	60.3	60.3	60.3	60.3	70	88.9	88.9	95.3	114.3	130
	L3 bar stock, micro	50	50	50	50	–	–	–	–	–	–	–	–	–
	ØC3	25	25	25	50.5	50.5	50.5	64	64	77.5	91	106	130	155
	Ød1	7.0	10.3	14.0	18.1	23.7	29.7	38.4	44.3	56.3	72.1	84.3	109.7	134.5
DIN 32676 Series C	L3 cast	–	–	–	–	–	60.3	66	70	88.9	88.9	95.3	114.3	–
	L3 bar stock	–	–	–	60.3	60.3	60.3	–	70	88.9	88.9	95.3	114.3	–
	L3 bar stock, micro	40	–	50	50	–	–	–	–	–	–	–	–	–
	ØC3	25	–	25	25	25	50.5	–	50.5	64	77.5	91	119	–
	Ød1	4.57	–	7.75	9.4	15.75	22.1	–	34.8	47.5	60.2	72.9	97.38	–
ISO 2852	L3 cast	–	–	–	–	–	60.3	66	70	88.9	88.9	95.3	114.3	–
	L3 bar stock	–	–	–	60.3	60.3	60.3	60.3	70	88.9	88.9	95.3	114.3	130
	L3 bar stock, micro	–	–	50	50	–	–	–	–	–	–	–	–	–
	ØC3	–	–	34	34	34	50.5	50.5	50.5	64	77.5	91	119	155
	Ød1	–	–	10	15.2	19.3	22.6	31.3	35.6	48.6	60.3	72.9	97.6	135.7
ASME BPE	L3 cast	–	–	–	–	–	60.3	–	70	88.9	88.9	95.3	114.3	–
	L3 bar stock	–	–	–	60.3	60.3	60.3	–	70	88.9	88.9	95.3	114.3	–
	L3 bar stock, micro	40	–	50	50	50	–	–	–	–	–	–	–	–
	ØC3	25	–	25	25	25	50.5	–	50.5	64	77.5	91	119	–
	Ød1	4.57	–	7.75	9.4	15.75	22.1	–	34.8	47.5	60.2	72.9	97.38	–
BS 4825 Part 3	L3 cast	–	–	–	–	–	60.3	–	70	88.9	88.9	95.3	114.3	–
	L3 bar stock	–	–	–	–	–	60.3	–	70	88.9	88.9	95.3	114.3	130
	ØC3	–	–	–	–	–	50.5	–	50.5	64	77.5	91	119	155
	Ød1	–	–	–	–	–	22.2	–	34.9	47.6	60.3	73	97.6	135.7
OSS for pipes acc. to JIS G 3447	L3 cast	–	–	–	–	–	60.3	66	70	88.9	88.9	95.3	–	–
	L3 bar stock	–	–	–	–	–	60.3	60.3	70	88.9	88.9	95.3	–	–
	ØC3	–	–	–	–	–	50.5	50.5	50.5	64	77.5	91	119	–
	Ød1	–	–	–	–	–	23	29.4	35.7	47.8	59.5	72.3	97.6	–
OSS for pipes acc. to JIS G 3459	L3 cast	–	–	–	–	–	60.3	66	70	88.9	88.9	95.3	–	–
	L3 bar stock	–	–	–	–	–	60.3	60.3	70	88.9	88.9	95.3	–	–
	ØC3	–	–	–	–	–	50.5	50.5	50.5	64	77.5	91	119	–
	Ød1	–	–	–	–	–	30.7	39.4	45.3	57.2	72.1	84.9	110.1	–

¹⁾ Values in parentheses according to DIN 11864-3 Form A, Series B and DIN 32676 Series B

Table 6.3: Type 3347 Valve with threaded couplings

Face-to-face dimensions of special versions on request

Valve	DN ¹⁾	6	8	10	15	20	25	32	40	50	65	80	100	125
	(OD)	(10.2)	(13.5)	(17.2)	(21.3)	(26.9)	(33.7)	(42.4)	(48.3)	(60.3)	(76.1)	(88.9)	(114.3)	(139.7)
	NPS	¼	–	⅜	½	¾	1	1¼	1½	2	2½	3	4	5
DIN 11864-1 Form A, Series A and DIN 11887 Series 1	L1 cast	–	–	–	–	–	64	70	80	85	100	115	130	–
	L1 bar stock	–	–	–	64	64	64	70	80	85	100	115	130	–
	L1 bar stock, micro	–	–	50	50	–	–	–	–	–	–	–	–	–
	ØC1	–	–	RD 28 x ⅛	RD 34 x ⅛	RD 44 x ⅛	RD 52 x ⅛	RD 58 x ⅛	RD 65 x ⅛	RD 78 x ⅛	RD 95 x ⅛	RD 110 x ¼	RD 130 x ¼	–
	Ød1	–	–	10	16	20	26	32	38	50	66	81	100	–
DIN 11864-1 Form A, Series B	L1 cast	–	–	–	–	–	64	70	80	85	100	115	130	–
	L1 bar stock	–	–	–	64	64	64	70	80	85	100	115	130	–
	L1 bar stock, micro	–	–	–	50	–	–	–	–	–	–	–	–	–
	ØC2	–	–	–	RD 44 x ⅛	RD 52 x ⅛	RD 58 x ⅛	RD 65 x ⅛	RD 78 x ⅛	RD 95 x ⅛	RD 110 x ¼	RD 130 x ¼	–	–
	Ød1	–	–	–	18.1	23.7	29.7	38.4	44.3	56.3	72.1	84.3	–	–
DIN 11864-1 Form A, Series C	L1 cast	–	–	–	–	–	64	–	80	85	100	115	130	–
	L1 bar stock	–	–	–	–	–	64	–	80	85	100	115	130	–
	ØC3	–	–	–	–	–	RD 52 x ⅛	–	RD 65 x ⅛	RD 78 x ⅛	RD 95 x ⅛	RD 110 x ¼	RD 130 x ¼	–
	Ød1	–	–	–	–	–	22.1	–	34.8	47.5	60.2	72.9	97.38	–
ISO 2853 (IDF)	L1 cast	–	–	–	–	–	55	66	70	82	105	110	150	–
	L1 bar stock	–	–	–	–	–	64	70	80	85	100	115	130	–
	ØC2	–	–	–	–	–	37.1 x ⅛	45.9 x ⅛	50.6 x ⅛	64.1 x ⅛	77.6 x ⅛	91.1 x ⅛	–	–
	Ød1	–	–	–	–	–	22.6	31.3	35.6	48.6	60.3	72.9	–	–
SMS 1146	L1 cast	–	–	–	–	–	55	66	70	82	105	110	150	–
	L1 bar stock	–	–	–	–	–	55	66	70	82	105	110	150	–
	ØC2	–	–	–	–	–	RD 40 x ⅛	RD 48 x ⅛	RD 60 x ⅛	RD 70 x ⅛	RD 85 x ⅛	RD 98 x ⅛	RD 125 x ¼	–
	Ød1	–	–	–	–	–	22.6	29.6	35.6	48.6	60.3	72.9	100	–

1) Values in parentheses according to DIN 11864-1 Form A, Series B

2) Dimensions are not standardized

3) Dimension must be clarified

Table 6.4: Type 3347 Valve with flanges

Face-to-face dimensions of special versions on request

Valve	DN ¹⁾	6	8	10	15	20	25	32	40	50	65	80	100	125
	(OD)	(10.2)	(13.5)	(17.2)	(21.3)	(26.9)	(33.7)	(42.4)	(48.3)	(60.3)	(76.1)	(88.9)	(114.3)	(139.7)
	NPS	¼	–	⅜	½	¾	1	1¼	1½	2	2½	3	4	5
DIN 11864-2 Form A, Series A	L4 cast	–	–	–	–	–	100	105	115	125	145	155	175	–
	L4 bar stock	–	–	–	90	95	100	105	115	125	145	155	175	200
	L4 bar stock, micro	–	–	90	90	–	–	–	–	–	–	–	–	–
	Ød1	–	–	10	16	20	26	32	38	50	66	81	100	125
DIN 11864-2 Form A, Series B	L4 cast	–	–	–	–	–	100	105	115	125	145	155	175	–
	L4 bar stock	–	–	–	90	95	100	105	115	125	145	155	175	–
	L4 bar stock, micro	–	90	90	90	–	–	–	–	–	–	–	–	–
	Ød1	–	10.3	14.0	18.1	23.7	29.7	38.4	44.3	56.3	72.1	84.3	109.7	–
DIN 11864-2 Form A, Series C	L4 cast	–	–	–	–	–	100	–	115	125	145	155	175	–
	L4 bar stock	–	–	–	90	95	100	–	115	125	145	155	175	–
	L4 bar stock, micro	–	–	–	–	–	–	–	–	–	–	–	–	–
	Ød1	–	–	–	9.4	15.75	22.1	–	34.8	47.5	–	–	–	–

1) Values in parentheses according to DIN 11864-2 Form A, Series B

Table 6.5: Types 3271 and 3277 Pneumatic Actuators

Actuator area	cm ²	120	175v2	240	350	355v2	700	750v2
Diaphragm ØD	mm	168	215	240	280	280	390	394
H ¹⁾	mm	69	78	62	82	121	199	236
H3 ²⁾	mm	110	110	110	110	110	190	190
H5	Type 3277 mm	88	101	101	101	101	101	101
Thread	Type 3271	M30 x 1.5						
	Type 3277	M30 x 1.5						
α	Type 3271	G 1/8 (1/8 NPT)	G 1/4 (1/4 NPT)	G 1/4 (1/4 NPT)	G 3/8 (3/8 NPT)	G 3/8 (3/8 NPT)	G 3/8 (3/8 NPT)	G 3/8 (3/8 NPT)
α2	Type 3277	–	G 3/8	G 3/8	G 3/8	G 3/8	G 3/8	G 3/8

¹⁾ Height with welded-on lifting eyelet or height of eyebolt according to DIN 580. Height of the swivel lifting hook may differ. Actuators up to 355v cm² without lifting eyelet

²⁾ Minimum clearance required to remove the actuator

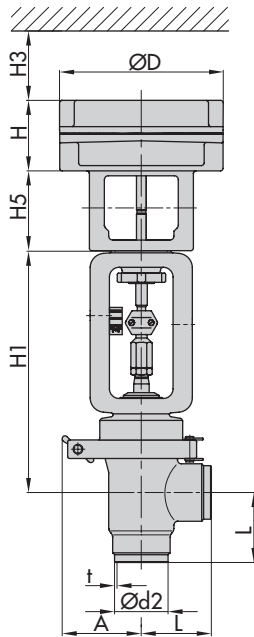
Table 7: General dimensions and weights

Valve	DN	6	8	10	15	20	25	32	40	50	65	80	100	125
	NPS	–	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	5
Common dimensions														
A	Cast	–	–	–	–	–	70	80	80	90	100	110	130	–
	Bar stock	–	–	–	80	80	80	80	80	90	110	110	130	130
Height H1		–	–	–	234	231	227	229	234	240	266	274	306	314
E (steam line connection)	Cast	–	–	–	–	–	162	164	164	164	192	203	178	–
	Bar stock	–	–	–	164	164	164	164	164	164	187	187	212	212
Valve weight in kg (approx.)														
With welding ends, threaded couplings, clamp connections for	Cast	–	–	–	–	–	5	5.5	6	7	11	14	19	–
	Bar stock	–	–	–	7	7	7	7.5	8	10	19	19	27	33
With flanges for body version	Cast	–	–	–	–	–	7.5	9	10	12	17	21	29	–
	Bar stock	–	–	–	8.5	9	9.5	11	12	15	25	27	37	46

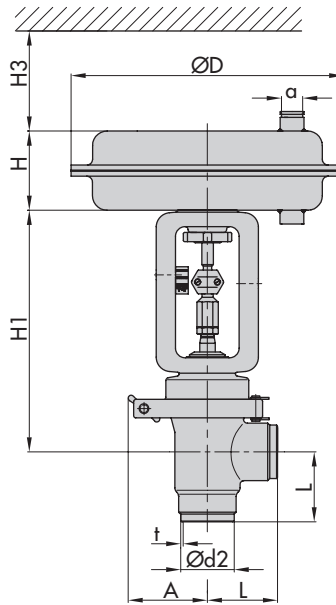
Table 8: Weights of Type 3271 and Type 3277 Pneumatic Actuators · With and without handwheel

Actuator	cm ²	120	175v2	240	350	355v2	700	750v2
Type 3271	Without handwheel kg	2.5	6	5	8	15	22	36
	With handwheel kg	–	10	9	13	20	27	41
Type 3277	Without handwheel kg	3.2	10	9	12	19	26	40
	With handwheel kg	–	14	13	17	24	31	45

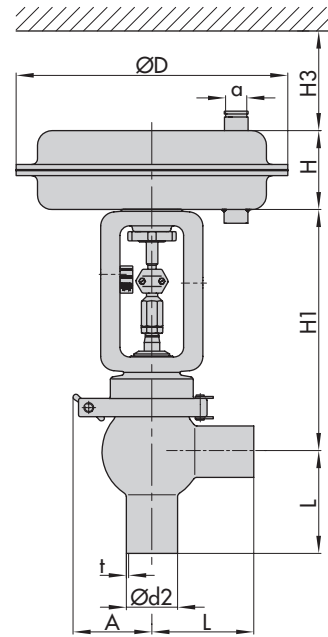
Dimensional drawings



Type 3347-7 Control Valve with welding ends

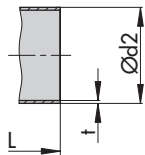


Type 3347-1 Control Valve with welding ends

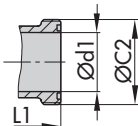
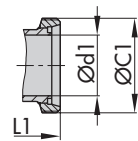


Type 3347-1 Control Valve with welding ends, body according to 3-A and EHEDG regulations

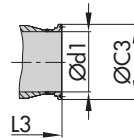
Threaded couplings according to DIN 11887 (11851) or IDF



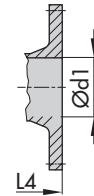
Welding ends



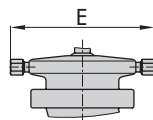
Threaded couplings according to SMS standard



Clamp connections according to ISO 2852



Flange according to DIN EN 1092-1



Steam line connection, G 1/4 connections (not for version compliant with 3-A or EHEDG regulations)

Ordering text

Pneumatic control valve	DN .../NPS ...
Materials according to	DIN/ANSI/AFNOR
Connections according to Table 1b	Welding ends Threaded couplings Clamp connections Flanges
Flow coefficient	K_{VS} .../ C_V ...
Characteristic	Equal percentage/linear
Seat-plug seal	Metal or soft seal (not for 3-A version)
Steam line connection	With or without (not for version compliant with 3-A or EHEDG regulations)
Body surface finish	Polished outside and/or inside R_a according to Table 1.1 ff.
Actuator	Type 3271 or Type 3277 (see ► T 8310-1)
Actuator area	... cm ²
Bench range	... bar
Fail-safe position	Fail-close or fail-open
Additional equipment	Positioner and/or limit switch (see ► T 8350)

Specifications subject to change without notice



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