

# DATA SHEET



## T 8048-22 EN

### Type 3349/3379 Pneumatic Control Valve

### Type 3349 Aseptic Angle Valve

With USP-VI diaphragm



#### Application

Control valve for aseptic applications in the food and pharmaceutical industries according to DIN or ANSI standards with USP-VI diaphragm

<b>Valve size</b>	<b>DN 8 to 50 · NPS ¼ to 2</b>
<b>Maximum pressure</b>	<b>10 bar · 150 psi</b>
<b>Medium temperature</b>	<b>0 to 160 °C · 32 to 320 °F</b>



#### Type 3349 Angle Valve with Type 3379 Pneumatic Actuator

##### Special features

- Valve body made of stainless steel 1.4435 or 316L
- Wetted inside surfaces with a smooth or polished finish
- Categorized in conformity assessment module A of the Pressure Equipment Directive
- Wetted sealing materials comply with FDA regulations
- USP Class VI-121 °C compliance

The valve body is designed without cavities and can be fitted with various end connections (e.g. welding ends). It can be cleaned and sterilized using the CIP or SIP methods. The plug stem guide is sealed by a diaphragm. A test connection allows the diaphragm to be monitored for leakage. The valve is suitable for aseptic applications.

##### Versions

**Standard version** · Angle valve in bar stock with USP-VI certification · DN 15 to 50 (NPS ½ to 2) with welding ends according to DIN 11866 Series A (DIN 11850 Series 2) · Type 3379 Actuator, optionally with Type 3724 Positioner

Maximum operating pressure according to Table 1.3 · Valve with bolted-on bonnet with or without backup packing · Plug stem sealed by PTFE diaphragm.

##### Further versions

- **Welding ends** according to DIN 11866 Series B, (ISO 1127), DIN 11866 Series C (BS 4825/ASTM A-270/ASME BPE), ISO 2037, SMS 3008, JIS 3447/3459
- **Threaded connections** according to DIN 11864-1 GS form A, Series A, B, C
- **Clamp connections** according to DIN 11864-3 NKS Form A, Series A, B, C. Hygienic connections according to DIN 32676, BS 4825, JIS G 3447/3459, ISO 2852 as special version on request



**Fig. 1:** Compact automated unit with standard version of the Type 3349/3379 Control Valve with welding ends and Type 3724 Positioner

- **Aseptic flanges** according to DIN 11864-2 NF form A, Series A, B, C
- **Micro-flow valve version** · Version in bar stock, DN 8 to 25 (NPS ¼ to 1) · With Type 3379 Actuator with 31 cm<sup>2</sup> actuator area · Special version with packing · On request

- **With Type 3724 Positioner** (see Data Sheet ► T 8395)
- Valve plug with **PEEK soft seal** (seat bore 6 and larger)
- **V-port plug** (seat bore 6 and higher)
- **V-port plug with PEEK soft seal** (seat bore 12 and larger)

### Principle of operation

The process medium flows through the valve in the flow-to-close direction as indicated by the arrow. The position of the valve plug (2) determines the flow rate across the cross-sectional area of flow released between plug and lathed seat.

In the standard version, the plug stem (3) is sealed by the diaphragm (24). In the special version, an additional backup V-ring packing (23) is used.

The test connection (36) allows the diaphragm to be monitored for leakage.

In the version with backup packing, the test connection is sealed by a stopper.

The test connection of valves without a backup packing is fitted with a pipe (40) to allow the safe drainage of any medium that escapes.

### Actuator

The valve comes with the Type 3379 Pneumatic Actuator together with the Type 3724 Positioner to form a compact automated unit.

### 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:

- **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.

### Legend for Fig. 2 and Fig. 3

- 2 Plug
- 3 Plug stem
- 23 V-ring packing
- 24 USP-VI diaphragm
- 36 Screw plug (test connection) or nipple (pipe)
- 40 Pipe
- 41 Bearing

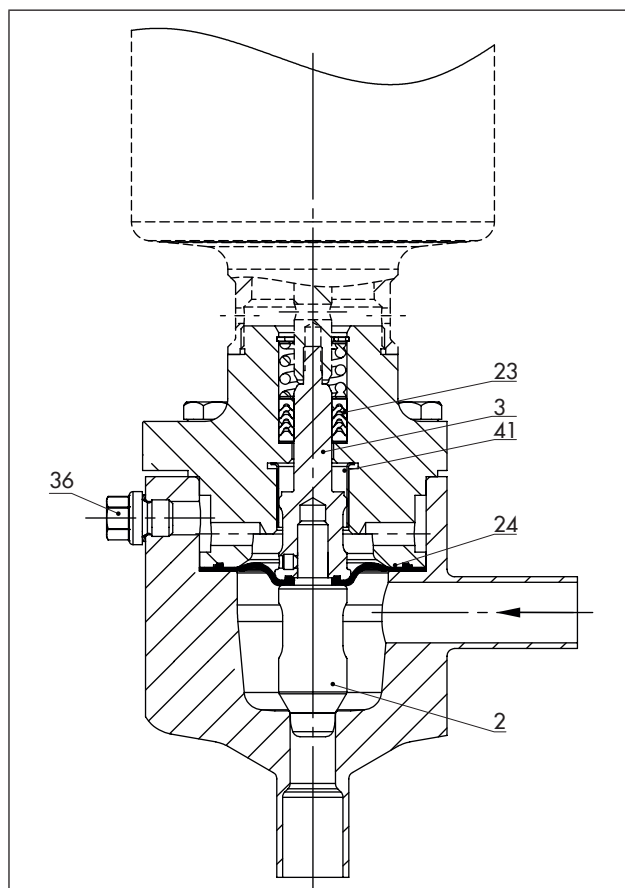


Fig. 2: Type 3349 Angle Valve, special version with packing

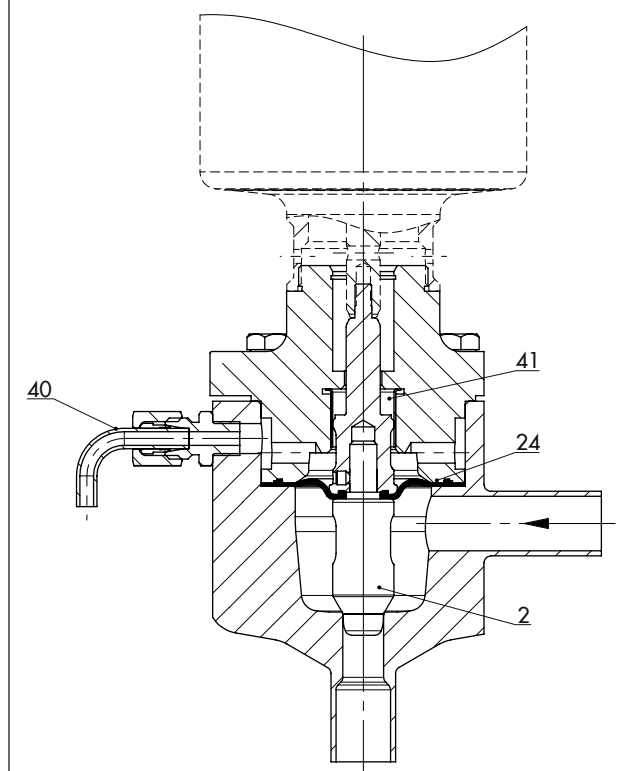



Fig. 3: Type 3349 Angle Valve, version with test connection

**Table 1: Technical data**

**Table 1.1: Type 3349 Angle Valve**

Version		DIN	ANSI
Valve size		DN 8 to 50	NPS ¼ to 2
Maximum pressure	Refer to Table 1.3	10 bar	150 psi
Type of connection		According to Table 1.3	
Seat-plug seal		Metal seal · Soft seal <sup>1)</sup>	
Characteristic		Equal percentage or linear	
Rangeability		Refer to Table 3	
Permissible temperatures	Operating temperature	0 to 160 °C	32 to 320 °F
	Sterilization temperature	180 °C for up to 30 min	356 °F for up to 30 min
Leakage class according to IEC 60534-4 or ANSI/FCI 70-2	Metal seal	IV	
	Soft seal (PEEK) <sup>1)</sup>	VI	
Cleaning		CIP (cleaning in place) or SIP (sterilization in place)	
Peak-to-valley height <sup>2)</sup> and surface finish	External	Standard: Shiny metallic	
		R <sub>a</sub> ≤ 0.6 µm · Polished	
	Internal	Standard: R <sub>a</sub> ≤ 0.8 µm · Fine machine finish	
		R <sub>a</sub> ≤ 0.4 µm · Mirror finish	
Internal	R <sub>a</sub> ≤ 0.6 µm · Polished		
	R <sub>a</sub> ≤ 0.4 µm · Satin 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 EHEDG USP-VI 121 °C <sup>3)</sup> ADI free	
Conformity			

<sup>1)</sup> Special version (not for micro-flow valve version)

<sup>2)</sup> Other peak-to-valley heights on request

<sup>3)</sup> Only for metal-seated plug

**Table 1.2: Type 3379 Pneumatic Piston Actuator**

Actuator area	cm <sup>2</sup>	31				63					
Rated travel	mm	15				15					
Permissible ambient temperature	°C (°F)	0 to 60 (32 to 140)									
Max. supply pressure	bar (psi)	7 (102)									
Hysteresis	bar (psi)	0.4 (5.8)		0.6 (8.7)		0.5 (7.3)		0.3 (4.4)			
Fail-safe position		Stem extends (FA)		Stem retracts (FE)		Stem extends (FA)		Stem retracts (FE)			
		1		1		2		1			
Number of springs		1		1		2		1			
Control pressure	bar (psi)	4 (58)		6 (87)		6 (87)		4.5 (65)			
Bench range	bar (psi)	2.3 to 3.7 (33.4 to 53.7)		2.3 to 3.7 (33.4 to 53.7)		3.3 to 5.6 (47.9 to 81.2)		2.5 to 4.0 (36.3 to 58)			
Travel	mm	15	7.5	15	7.5	15	7.5	15	7.5		
Thrust	N	720				2090		1590		2580	1320

**Table 1.3: End connections, operating range with maximum pressures and temperature limits**

Connection	Standard	Valve sizes	Max. operating pressure	Pressure-temperature diagram
Welding ends	DIN 11850 Series 2 (standard)	DIN version DN 8 to 50  ANSI version NPS ¼ to 2	10 bar	DIN
	DIN 11866, Series B			
	ISO 1127			
	ISO 2037		150 psi	ANSI
	SMS 3008			
	BS 4825			
ASTM A-270	10 bar	DIN		
Threaded connection			DIN 11864-1, form A	
Clamp connections			DIN 11864-3, form A	
Flanges	DIN 11864-2, form A			

**Table 2: Materials**

Version	DIN	ANSI
Body	1.4435	316 L
Bonnet	1.4404	316 L
Plug	1.4435	316 L
Plug stem guide		PTFE
Packing	Special version	PTFE
Diaphragm		PTFE

**Table 3:  $K_{VS}$  and  $C_V$  coefficients and associated valve 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
$C_V$	0.5	0.75	1.2	2	3	5	7.5	12	20	30	47
Rangeability	50:1		25:1 <sup>1)</sup> 50:1	50:1		25:1 <sup>1)</sup> 50:1	50:1				
Seat Ø [mm]	6		6 12 <sup>1)</sup>	12		12 24 <sup>1)</sup>	24 up to DN 25/ NPS 1 31 for DN 32/ NPS 1¼ and larger		31	38	48
Rated travel	Up to DN 25/NPS 1: 7.5 mm								-		
	-						DN 32/NPS 1¼ and larger: 15 mm				
<b>DN</b>	<b>NPS</b>										
15	½	•	•	•	•	•	•				
20	¾	•	•	•	•	•	•				
25	1	•	•	•	•	•	•	•	•		
32	1¼							•	•	•	
40	1½							•	•	•	•
50	2							•	•	•	•

<sup>1)</sup> For version with V-port plug

**Table 3.2:** *Micro-flow valve version*

$K_{vs}$	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	0.2	0.3	
Rangeability	15:1	20:1	25:1	35:1	45:1	50:1			
Seat $\varnothing$	3 mm								
Rated travel	7.5 mm								
DN	NPS								
8	–	•	•	•	•	•	•	•	
10	¼	•	•	•	•	•	•	•	
15	½	•	•	•	•	•	•	•	
25	1	•	•	•	•	•	•	•	

**Table 4:** *Operating ranges for Type 3349 with "actuator stem extends" fail-safe position · Valve closed with 0 bar/0 psi signal pressure***Table 4.1:** *All pressures stated in bar*

Valve size		Seat $\varnothing$ [mm]	$K_{vs}$	Actuator area in cm <sup>2</sup>	Bench range in bar	Operating range in bar	Max. value for $\Delta p$ in bar	
DN	NPS						Metal seal	Soft seal with PEEK
8 to 25 <sup>1)</sup>	¼ to 1 <sup>1)</sup>	3	0.01 to 0.25	31	2.3 to 3.7	2.3 to 3.0	10	–
15 to 25	½ to 1	6	0.1 to 1.0	31	2.3 to 3.7	2.3 to 3.0	7	7
15 to 25	½ to 1	6	0.1 to 1.0	63	2.5 to 4.0	2.5 to 3.3	10	10
15 to 25	½ to 1	12	1.6 to 4.0	31	2.3 to 3.7	2.3 to 3.0	7	6
15 to 25	½ to 1	12	1.6 to 4.0	63	2.5 to 4.0	2.5 to 3.3	10	10
25	1	24	6.3 to 10	31	2.3 to 3.7	2.3 to 3.0	7	–
25	1	24	6.3 to 10	63	2.5 to 4.0	2.5 to 3.3	10	8
25	1	24	6.3 to 10	63	3.3 to 5.6	3.3 to 4.5	–	10
32 to 50	1¼ to 2	31	6.3 to 10	63	3.3 to 5.6	3.3 to 5.6	7	4
40 to 50	1½ to 2	38	25	63	3.3 to 5.6	3.3 to 5.6	8	4
50	2	48	40	63	3.3 to 5.6	3.3 to 5.6	8	3

<sup>1)</sup> Micro-flow valve**Table 4.2:** *All pressures in psi*

Valve size		Seat $\varnothing$ [mm]	$C_v$	Actuator area in cm <sup>2</sup>	Bench range in psi	Operating range in psi	Max. value for $\Delta p$ in bar	
DN	NPS						Metal seal	Soft seal with PEEK
8 to 25 <sup>1)</sup>	¼ to 1 <sup>1)</sup>	3	0.01 to 0.3	31	33 to 53	33 to 43	145	–
15 to 25	½ to 1	6	0.12 to 1.2	31	33 to 53	33 to 43	102	102
15 to 25	½ to 1	6	0.12 to 1.2	63	36 to 58	36 to 47	145	145
15 to 25	½ to 1	12	2 to 5	31	33 to 53	33 to 43	102	87
15 to 25	½ to 1	12	2 to 5	63	36 to 58	36 to 47	145	145
25	1	24	7.5 to 12	31	33 to 53	33 to 43	102	–
25	1	24	7.5 to 12	63	36 to 58	36 to 47	145	116
25	1	24	7.5 to 12	63	47 to 81	47 to 65	–	145
32 to 50	1¼ to 2	31	7.5 to 12	63	47 to 81	47 to 81	102	58
40 to 50	1½ to 2	38	30	63	47 to 81	47 to 81	116	58
50	2	48	47	63	47 to 81	47 to 81	116	43

<sup>1)</sup> Micro-flow valve

**Table 5:** Supply pressure for Type 3349 with "actuator stem retracts" fail-safe position · Valve open with 0 bar/0 psi signal pressure

**Table 5.1:** All pressures stated in bar

Valve size		Seat Ø [mm]	K <sub>vs</sub>	Actuator area in cm <sup>2</sup>	Bench range in bar	Operating range in bar	Metal seal		Soft seal with PEEK	
DN	NPS						Required supply pressure	Max. Δp closed	Required supply pressure	Max. Δp closed
8 to 25 <sup>1)</sup>	¼ to 1 <sup>1)</sup>	3	0.01 to 0.25	31	2.3 to 3.7	3.0 to 3.7	6	9	–	–
15 to 25	½ to 1	6	0.1 to 1.0	31	2.3 to 3.7	3.0 to 3.7	6	7	6	7
15 to 25	½ to 1	6	0.1 to 1.0	63	1.0 to 1.9	1.5 to 1.9	3.4	10	3.6	10
15 to 25	½ to 1	12	1.6 to 4.0	31	2.3 to 3.7	3.0 to 3.7	6	7	6	6
15 to 25	½ to 1	12	1.6 to 4.0	63	1.0 to 1.9	1.5 to 1.9	3.4	10	3.8	10
25	1	24	6.3 to 10	31	2.3 to 3.7	3.0 to 3.7	6	7	–	–
25	1	24	6.3 to 10	63	1.0 to 1.9	1.5 to 1.9	3.9	10	4.8	10
32 to 50	1¼ to 2	31	6.3 to 10	63	1.0 to 1.9	1.0 to 1.9	5.6	7	6	5
							6	8		
40 to 50	1½ to 2	38	25	63	1.0 to 1.9	1.0 to 1.9	5.2	7	6	5
							5.6	8		
							6	9		
50	2	48	40	63	1.0 to 1.9	1.0 to 1.9	5.3	7	6	4
							5.7	8		
							6	9		

<sup>1)</sup> Micro-flow valve

**Table 5.2:** All pressures in psi

Valve size		Seat Ø [mm]	C <sub>v</sub>	Actuator area in cm <sup>2</sup>	Bench range in psi	Operating range in psi	Metal seal		Soft seal with PEEK	
DN	NPS						Required supply pressure	Max. Δp closed	Required supply pressure	Max. Δp closed
8 to 25 <sup>1)</sup>	¼ to 1 <sup>1)</sup>	3	0.01 to 0.3	31	33 to 53	43 to 53	87	130	–	–
15 to 25	½ to 1	6	0.12 to 1.2	31	33 to 53	43 to 53	87	102	87	102
15 to 25	½ to 1	6	0.12 to 1.2	63	14 to 27	21 to 27	49	145	52	145
15 to 25	½ to 1	12	2 to 5	31	33 to 53	43 to 53	87	102	87	87
15 to 25	½ to 1	12	2 to 5	63	14 to 27	21 to 27	49	145	55	145
25	1	24	7.5 to 12	31	33 to 53	43 to 53	87	102	–	–
25	1	24	7.5 to 12	63	14 to 27	21 to 27	56	145	69	145
32 to 50	1¼ to 2	31	7.5 to 12	63	14 to 27	21 to 27	81	102	87	72
							87	116		
40 to 50	1½ to 2	38	30	63	14 to 27	21 to 27	75	102	87	72
							81	116		
							87	130		
50	2	48	47	63	14 to 27	21 to 27	76	102	87	58
							82	116		
							87	130		

<sup>1)</sup> Micro-flow valve

**Table 6:** Dimensions for Type 3349/3379 Control Valve**Table 6.1:** Dimensions and weights for standard version of Type 3349 Angle Valve

Valve	DN	15	20	25	32	40	50
	NPS	½	¾	1	1¼	1½	2
Rated travel	mm	7.5			15		
H1	mm	68			101		
A	mm	84			112		
Weight with welding ends	kg	3.7			13		

**Table 6.2:** Dimensions and weights for micro-flow valve version of Type 3349 Angle Valve

Valve	DN	8	10	15	20	25
	NPS	–	¼	½	¾	1
Rated travel	mm	7.5				
DIN 11866, Series A						
H1	mm	61	61	65	65	70
A	mm	83				
Weight with welding ends	kg	1				
DIN 11866, Series B						
H1	mm	61	65	65	70	70
A	mm	83				
Weight with welding ends	kg	1				
DIN 11866, Series C						
H1	mm	–	61	61	65	70
A	mm	–	83			
Weight with welding ends	kg	–	1			

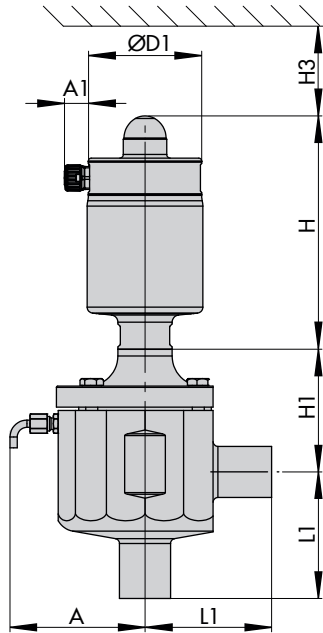
**Table 6.3:** Dimensions and weights for Type 3379 Pneumatic Actuator · Without positioner

Actuator area	mm	31	63
Actuator diameter ØD1	mm	69	96
Height H	mm	195	
Height H3	mm	150	150
Length A1	mm	20	
Weight	kg	1.8	3.1

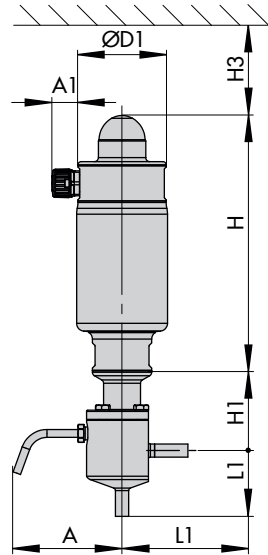
**Table 6.4:** Dimensions and weights for Type 3379 Pneumatic Actuator with Type 3724 Positioner

Actuator area	mm	31	63
Actuator diameter ØD2	mm	107	
Height H4	mm	285	
Height H3	mm	150	
Length A2	mm	30	
Weight	kg	3.2	4.4

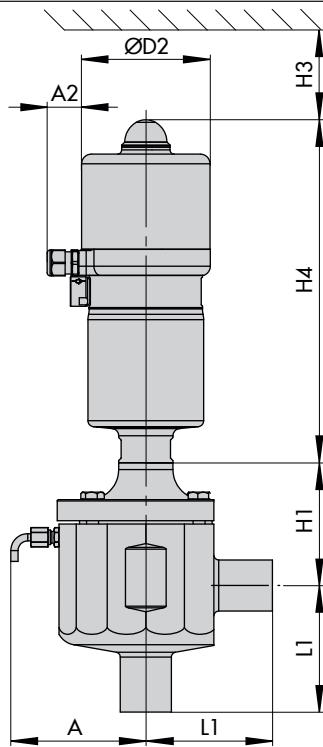
Dimension diagrams for the control valve (see Table 6)



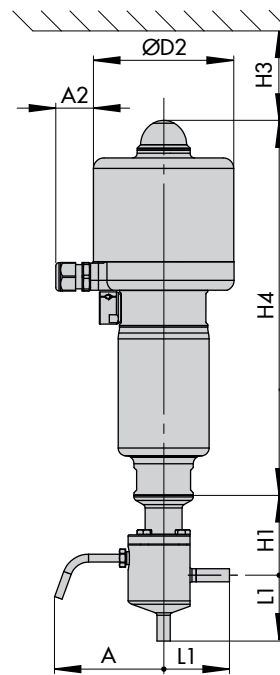
Type 3349 with welding ends and Type 3379 -  
Version with bar stock body



Type 3349 (micro-flow valve version) with welding ends and  
Type 3379 - Version with bar stock body



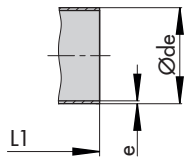
Type 3349 with welding ends, Type 3379 Actuator and Type 3724  
Positioner - Version with bar stock body



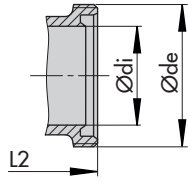
Type 3349 (micro-flow valve version) with welding ends, Type 3379  
Actuator and Type 3724 Positioner - Version with bar stock body



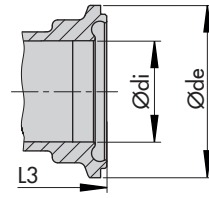
Dimensional drawings for end connections (see Table 7)



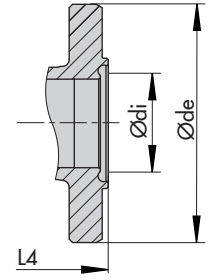
Welding end



Threaded connection



Clamp connections



Flanges

**Table 7:** Dimensions of end connections · All dimensions in mm

**Table 7.1:** Welding ends · Standard version (N) and micro-flow valve version (M) · Dimensions marked by an asterisk (\*) are not standardized

Valve	DN (OD) <sup>1)</sup>	8 (13.5)	10 (17.2)	15 (21.3)	20 (26.9)	25 (33.7)	32 (42.4)	40 (48.3)	50 (60.3)
	NPS	–	¼	½	¾	1	1¼	1½	2
Welding ends for pipes acc. to DIN 11866 Series A (DIN 11850 Series 2)	L1 (N)	–	–	70*	70*	70*	105*	105*	105*
	L1 (M)	50	50	50	50	50	–	–	–
	Ød <sub>i</sub>	8	13	16	20	26	32	38	50
	Ød <sub>e</sub>	10	10	19	23	29	35	41	53
	e	1	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Welding ends for pipes acc. to DIN 11866 Series B	L1 (N)	–	–	70*	70*	70*	105*	105*	105*
	L1 (M)	50	50	50	50	50	–	–	–
	Ød <sub>i</sub>	10.3	14	18.1	23.7	29.7	38.4	44.3	56.3
	Ød <sub>e</sub>	13.5	17.2	21.3	26.9	33.7	42.4	48.3	60.3
	e	1.6	1.6	1.6	1.6	2	2	2	2
Welding ends for pipes acc. to DIN 11866 Series C (ASTM A-270/ ASME BPE)	L1 (N)	–	–	70*	70*	70*	–	105*	105*
	L1 (M)	–	50	50	50	50	–	–	–
	Ød <sub>i</sub>	–	7.75	9.4	15.75	22.1	–	34.8	47.5
	Ød <sub>e</sub>	–	9.53	12.7	19.05	25.4	–	38.1	50.8
	e	–	0.89	1.65	1.65	1.65	–	1.65	1.65
Welding ends for pipes acc. to ISO 1127 Series 1	L1 (N)	–	–	70*	70*	70*	105*	105*	105*
	L1 (M)	50	50	50	50	50	–	–	–
	Ød <sub>i</sub>	10.3	14	18.1	23.7	29.7	38.4	44.3	55.1
	Ød <sub>e</sub>	13.5	17.2	21.3	26.9	33.7	42.4	48.3	60.3
	e	1.6	1.6	1.6	1.6	2	2	2	2.6
Welding ends for pipes acc. to ISO 2037	L1 (N)	–	–	70*	70*	70*	105*	105*	105*
	L1 (M)	–	50	50	50	50	–	–	–
	Ød <sub>i</sub>	–	10	15.2	19.3	22.6	31.3	35.6	48.6
	Ød <sub>e</sub>	–	12	17.2	21.3	25	33.7	38	51
	e	–	1	1	1	1.2	1.2	1.2	1.2
Welding ends for pipes according to BS 4825	L1 (N)	–	–	–	–	70*	–	105*	105*
	L1 (M)	–	–	–	–	50	–	–	–
	Ød <sub>i</sub>	–	–	–	–	22.1	–	34.8	47.5
	Ød <sub>e</sub>	–	–	–	–	25.4	–	38.1	50.8
	e	–	–	–	–	1.65	–	1.65	1.65
Welding ends for pipes acc. to SMS 3008	L1 (N)	–	–	70*	–	70*	105*	105*	105*
	L1 (M)	–	50	50	–	50	–	–	–
	Ød <sub>i</sub>	–	10	16	–	22.6	31.3	35.6	48.6
	Ød <sub>e</sub>	–	12	18	–	25	33.7	38	51
	e	–	1	1	–	1.2	1.2	1.2	1.2
Welding ends according to JIS G 3447	L1 (N)	–	–	–	–	70*	105*	105*	105*
	L1 (M)	–	–	–	–	50	–	–	–
	Ød <sub>i</sub>	–	–	–	–	23	29.4	35.7	47.8
	Ød <sub>e</sub>	–	–	–	–	25.4	31.8	38.1	50.8
	e	–	–	–	–	1.2	1.2	1.2	1.5
Welding ends according to JIS G 3459	L1 (N)	–	–	70*	70*	70*	105*	105*	105*
	L1 (M)	50	50	50	50	50	–	–	–
	Ød <sub>i</sub>	11.4	14.9	18.4	23.9	30.7	39.4	45.3	57.2
	Ød <sub>e</sub>	13.8	17.3	21.7	27.2	34	42.7	48.6	60.5
	e	1.2	1.2	1.65	1.65	1.65	1.65	1.65	1.65

<sup>1)</sup> Values in parentheses according to DIN 11866 Series B

**Table 7.2:** Threaded connections · Standard version (N) and micro-flow valve version (M) · Dimensions marked by an asterisk (\*) are not standardized

Valve	DN (OD) <sup>1)</sup>	8 (13.5)	10 (17.2)	15 (21.3)	20 (26.9)	25 (33.7)	32 (42.4)	40 (48.3)	50 (60.3)
	NPS	–	¼	½	¾	1	1¼	1½	2
Threaded connections according to DIN 11864-1 GS form A, Series A	L2 (N)	–	–	70*	70*	70*	100*	100*	100*
	L2 (M)		50	50	50	50	–	–	–
	Ø <sub>d<sub>i</sub></sub>		10	16	20	26	32	38	50
	Ø <sub>d<sub>e</sub></sub>		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"
Threaded connections according to DIN 11864-1 GS form A, Series B	L2 (N)	–	–	70*	70*	70*	100*	100*	100*
	L2 (M)			50	50	50	–	–	–
	Ø <sub>d<sub>i</sub></sub>			18.1	23.7	29.7	38.4	44.3	56.3
	Ø <sub>d<sub>e</sub></sub>			Rd 44 x ⅛"	Rd 52 x ⅛"	Rd 58 x ⅛"	Rd 65 x ⅛"	Rd 78 x ⅛"	Rd 95 x ⅛"
Threaded connections according to DIN 11864-1 GS form A, Series C	L2 (N)	–	–	–	–	70*	–	100*	100*
	L2 (M)					50		–	–
	Ø <sub>d<sub>i</sub></sub>					22.1		34.8	47.5
	Ø <sub>d<sub>e</sub></sub>					Rd 52 x ⅛"		Rd 65 x ⅛"	Rd 78 x ⅛"

<sup>1)</sup> Values in parentheses according to DIN 11866 Series B

**Table 7.3:** Clamp connections · Standard version (N) and micro-flow valve version (M) · Dimensions marked by an asterisk (\*) are not standardized

Valve	DN (OD) <sup>1)</sup>	8 (13.5)	10 (17.2)	15 (21.3)	20 (26.9)	25 (33.7)	32 (42.4)	40 (48.3)	50 (60.3)	
	NPS	–	¼	½	¾	1	1¼	1½	2	
Clamp connections according to DIN 11864-3 NKS form A, Series A	L3 (N)	–	–	60.3*	60.3*	60.3*	88.9*	88.9*	88.9*	
	L3 (M)		50	50	50	50	–	–	–	
	Ø <sub>d<sub>i</sub></sub>		10	16	20	26	32	38	50	
	Ø <sub>d<sub>e</sub></sub>		34	34	50.5	50.5	50.5	64	77.5	
Clamp connections according to DIN 11864-3 NKS form A, Series B	L3 (N)	–	–	60.3*	60.3*	60.3*	88.9*	88.9*	88.9*	
	L3 (M)			50	50	50	–	–	–	
	Ø <sub>d<sub>i</sub></sub>			14	18.1	23.7	29.7	38.4	44.3	56.3
	Ø <sub>d<sub>e</sub></sub>			34	34	50.5	50.5	64	64	91
Clamp connections according to DIN 11864-3 NKS form A, Series C	L3 (N)	–	–	60.3*	60.3*	60.3*	–	88.9*	88.9*	
	L3 (M)			50	50	50		–	–	
	Ø <sub>d<sub>i</sub></sub>			9.4	15.75	22.1		34.8	47.5	
	Ø <sub>d<sub>e</sub></sub>			34	34	50.5		64	77.5	

<sup>1)</sup> Values in parentheses according to DIN 11866 Series B

**Table 7.4:** Flanges · Standard version (N) and micro-flow valve version (M)

Valve	DN (OD) <sup>1)</sup>	8 (13.5)	10 (17.2)	15 (21.3)	20 (26.9)	25 (33.7)	32 (42.4)	40 (48.3)	50 (60.3)
	NPS	–	¼	½	¾	1	1¼	1½	2
Flanges according to DIN 11864-2 NF form A, Series A	L4 (N)	–	–	90	95	100	105	115	125
	L4 (M)		90	90	95	100	–	–	–
	Ø <sub>d<sub>i</sub></sub>		10	16	20	26	32	38	50
	Ø <sub>d<sub>e</sub></sub>		54	59	64	70	76	82	94
Flanges according to DIN 11864-2 NF form A, Series B	L4 (N)	–	–	90	95	100	105	115	125
	L4 (M)			90	95	100	–	–	–
	Ø <sub>d<sub>i</sub></sub>			18.1	23.7	29.7	38.4	44.3	56.3
	Ø <sub>d<sub>e</sub></sub>			62	69	74	82	88	103
Flanges according to DIN 11864-2 NF form A, Series C	L4 (N)	–	–	–	–	100	–	115	125
	L4 (M)					100		–	–
	Ø <sub>d<sub>i</sub></sub>					22.1		34.8	47.5
	Ø <sub>d<sub>e</sub></sub>					66		79	92

<sup>1)</sup> Values in parentheses according to DIN 11866 Series B

## Ordering text

Control valve for aseptic service	Type 3349 with USP-VI diaphragm
Body version	Standard or special version with or without backup packing
Valve size	DN/NPS ... Micro-flow valve DN/NPS ...
$K_{VS}/C_V$ coefficient	Up to ...
Plug seal	Metal or soft seal
End connections	Welding ends, threaded connections, clamp connections or flanges
Characteristic	Equal percentage or linear
Actuator	Type 3379
Actuator area	31 or 63 cm <sup>2</sup>
Travel	7.5 or 15 mm
Fail-safe position	Fail-close or fail-open
Bench range	Up to ... bar or up to ... psi