DATA SHEET

T 8066 EN

Series 250 · Type 3256-1 and Type 3256-7 Pneumatic Control Valves

Type 3256 Angle Valve

ANSI version

Application

Control valve for process engineering applications with high industrial requirements

Nominal size	**NPS ½ to 12**
Pressure rating	**Class 150 to 2500**
Temperatures	**-325 to +1022 °F (-196 to +550 °C)**



Fig. 1: *Type 3256-1 Control Valve with Type 3271 Pneumatic Actuator, positioner and solenoid valve*

Special features

Type 3256 Angle Valve with

- Type 3271 Pneumatic Actuator (Type 3256-1 Control Valve)
- Type 3277 Pneumatic Actuator (Type 3256-7 Control Valve) for integral positioner attachment

Valve body made of

- Cast steel
- Cast stainless steel, high-temperature cast steel or cast cold-resisting steel
- Special materials

Low-noise valve plug

- Metal seal
- Soft seal up to Class 300
- High-performance metal seal
- Balanced to handle high differential pressures

Optional with RFID tags with unique identification according to DIN SPEC 91406.

The control valves with their modular design can be equipped with various accessories, such as positioners, limit switches, solenoid valves and other devices according to DIN EN 60534-6-1[1)] and NAMUR Recommendation (see Information Sheet ▶ T 8350).

[1)] Accessories required. See associated actuator documentation.

A safety manual containing the safety-related data is optionally available for use in safety-instrumented systems (SIL requirements).

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Versions

Operating temperature (medium temperature) with PTFE packing for temperatures from 14 to 428 °F (-10 to +220 °C) or with adjustable high-temperature packing for 14 to 662 °F (-10 to +350 °C), nominal sizes NPS ½ to 20, pressure rating Class 150 to 2500 (see Table 1)

- **Type 3256-1** (Fig. 1) • Type 3256 Valve and Type 3271 Actuator with 350 to 2800 cm² actuator area (see Data Sheets ▶ T 8310-1, ▶ T 8310-2 and ▶ T 8310-3)
- **Type 3256-7** • Type 3256 Valve and Type 3277 Actuator with 350 to 750v2 cm² actuator area for integral positioner attachment (see Data Sheet ▶ T 8310-1)

Further versions

- **Welding or welding-neck ends** according to ASME B16.25
- **Flow divider** or **AC-1/AC-3 trim** for noise reduction · See Data Sheets ▶ T 8081, ▶ T 8082 and ▶ T 8083
- **Valve plug with pressure balancing** · See Table 4 to Table 7
- **Perforated plug** · See Data Sheet ▶ T 8086
- **Ceramic or carbide metal internal parts** · See Data Sheet ▶ T 8071
- **Special version for flashing service**
- **Insulating section or bellows seal** · See Technical data
- **Heating jacket** · On request
- **Additional handwheel** · See Data Sheet ▶ T 8310-1
- **DIN version** · DN 15 to 500, PN 16 to 400, see Data Sheet ▶ T 8065
- Type 3256 Control Valve **with Type 3273 Hand-operated Actuator** • For valves with max. 30 mm rated travel and side-mounted handwheel for travel >30 mm (see Data Sheet ▶ T 8312)
- **Type 3256-2 Electric Control Valve** · Details on request

Principle of operation

A seat and plug with plug stem are installed in the valve. The plug stem is connected to the actuator stem by the stem connector clamps and is sealed by a packing.

The medium flows through the valve in the direction indicated by the arrow. A rise in signal pressure causes the force acting on the diaphragm in the actuator to increase. The springs are compressed. Depending on the selected direction of action, the actuator stem retracts or extends. As a result, the position of the plug in the seat changes and determines the flow rate through the valve and the pressure p_2 with it.

The version with bellows seal (see Fig. 3) is fitted with a test connection to monitor the stainless steel bellows.

The valves can be equipped with a flow divider (see Data Sheet ▶ T 8081) for noise reduction.

Pressure balancing must be used when high pressures or differential pressures act on the plug (see Fig. 4).

Fig. 2 to Fig. 4 show configuration examples:

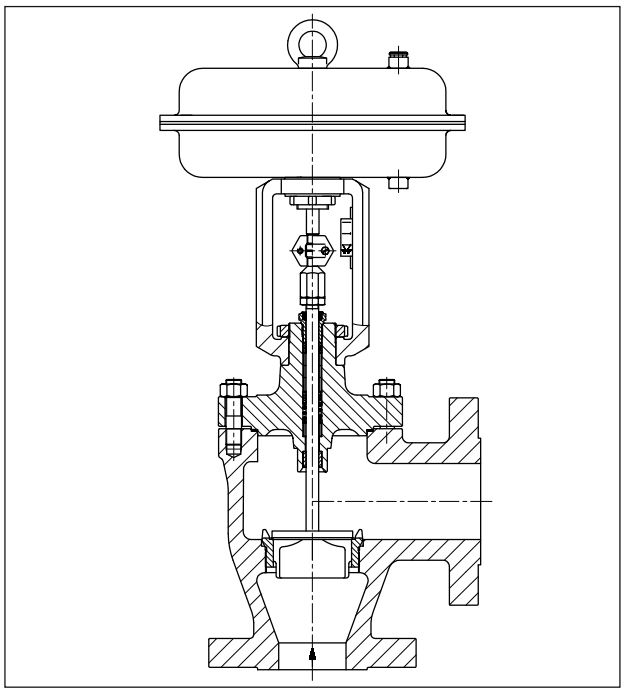


Fig. 2: *Type 3256-1 Control Valve with Type 3271 Actuator*

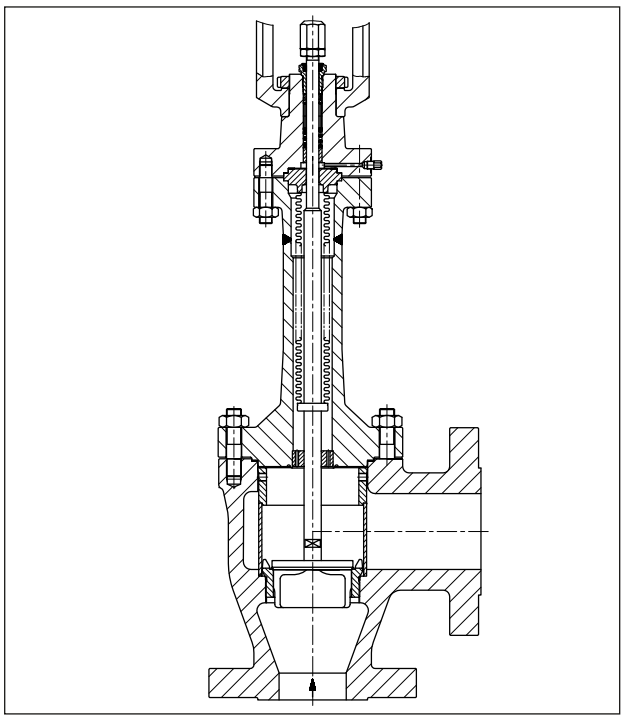


Fig. 3: *Type 3256 Valve with bellows seal and flow divider ST 1*

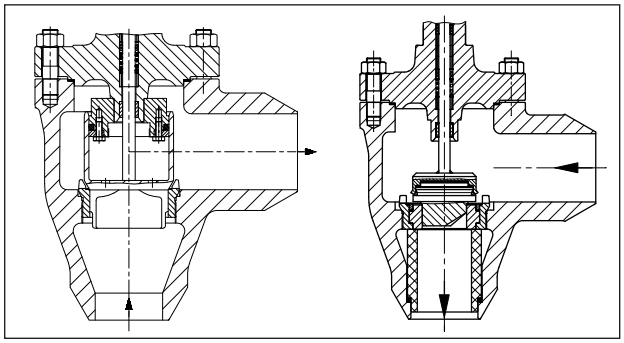


Fig. 4: *Left: Type 3256 Valve with balanced valve plug*
Right: Type 3256 Valve with ceramic trim and ceramic anti-wear pipe

Differential pressures

See Information Sheet ▶ T 8000-4 for permissible differential pressures.

Fail-safe positions

Depending on how the springs are arranged in the Type 3271 or Type 3277 Pneumatic Actuator (see Data Sheets ▶ T 8310-1, ▶ T 8310-2 and ▶ T 8310-3), the valve has two different fail-safe positions that become effective when the supply air fails:

- **Actuator stem extends (fail-close):**
  The valve is closed upon air supply failure.
- **Actuator stem retracts (fail-open):**
  The valve is opened upon air supply failure.

Table 1: *Technical data for Type 3256 · ANSI version*

Material			**Cast steel A216 WCC**	**Cast steel A217 WC6**	**Cast stainless steel A351 CF8M**
Nominal size and pressure rating			NPS ½ to 12 in Class 150 to 2500 NPS 16 to 20 on request		
Type of end connections		Flanges	All ANSI versions		
		Welding ends	According to ASME B16.25		
Seat-plug seal			Metal seal · Soft seal · High-performance metal seal		
Characteristic			Equal percentage · Linear · On/off (▶ T 8000-3)		
Rangeability			50:1		
Optional RFID tag			Application range according to the technical specifications and the explosion protection certificates. These documents are available on our website: ▶ www.samsongroup.com > Products > Electronic nameplate The permissible range for temperatures at the RFID tag is between -40 and +185 °F (-40 and +85 °C).		
Conformity			CE		
Temperature ranges in °F (°C) · Permissible operating pressures according to pressure-temperature diagram (see Information Sheet ▶ T 8000-2)					
Body without insulating section			14 to 428 °F (-10 to +220 °C) · Up to 662 °F (350 °C) with high-temperature packing		
Body with		Insulating section or bellows seal	-20 to +800 °F (-29 to +425 °C)	-20 to +932 °F (-29 to +500 °C)	-325 to +1022 °F (-196 to +550 °C)
Valve plug[1]	Standard	Metal seal	-325 to +1022 °F (-196 to +550 °C)[2]		
		Soft seal	-325 to +428 °F (-196 to +220 °C)[2]		
	Balanced with PTFE ring		-58 to +428 °F (-50 to +220 °C)[3]		
	Balanced with graphite ring		428 to 932 °F (220 to 500 °C)[4]		
Leakage class according to ANSI FCI 70-2					
Valve plug	Standard	Metal seal	Standard: IV · High-performance metal seal: V		
		Soft seal	VI		
	Balanced, metal seal		With PTFE ring (standard): IV · High-performance metal seal: V		
			With graphite ring: IV		

1) Only in combination with suitable body material

2) Note: The temperature limits are not directly converted temperatures.

3) Lower temperatures on request

4) Higher temperatures on request

Note: The temperature limits for DIN and ANSI versions are not directly converted temperatures.

Table 2: *Materials for Type 3256 · ANSI version*

Standard version **Body[1]**		**Cast steel A216 WCC**	**Cast steel A217 WC6**	**Cast stainless steel A351 CF8M**
Valve bonnet		A216 WCC/A105	A217 WC6/A182 F12 Cl. 2	A351 CF8M/A182 F316
Seat and plug[2]	Metal seal	410-2/1.4008	410-2/1.4008	316L/CF3M
Seal ring for	Soft seal	PTFE with 15 % glass fiber		
	Pressure balancing	PTFE with carbon · Graphite		
Guide bushing		1.4112		2.4610
Packing[3]		V-ring packing: PTFE with carbon, spring: 302 or high-temperature packing		
Body gasket		Graphite seal on metal core		
Insulating section		A216 WCC/A105	A217 WC6/A182 F12 Cl. 2	A351 CF8M/A182 F316

Standard version Body[1]	Cast steel A216 WCC	Cast steel A217 WC6	Cast stainless steel A351 CF8M
Bellows seal[5]			
Intermediate piece	A216 WCC/A105	A217 WC6/A182 F12 Cl. 2	A351 CF8M/A182 F316
Metal bellows	1.4571[4]		
Heating jacket	A240 316L		

1) Other materials (e.g. for high-temperatures or low temperatures) as well as special materials for applications with seawater · 1.4538, duplex 1.4470, nickel-based alloy 9.4610 · See pressure-temperature diagrams in Information Sheet ▶ T 8000-2

2) Seats and metal-seated plug also with Stellite® facing or plug made of solid Stellite® available (up to max. C_V 735/K_{VS} 630)

3) Other packings on request (▶ T 8000-6)

4) Other bellows material on request

5) Bellows with both >NPS 8 and >Class 600 on request

C_V and K_{VS} coefficients

Terms for control valve sizing according to DIN IEC 60534-2-1 and DIN IEC 60534-2-2: F_L = 0.95, x_T = 0.75

Conversion of flow coefficients: C_V (US gallons/min) = 1.17 · K_{VS} (m^3/h) or K_{VS}/C_V = 0.865

Table 3: *Versions with flow divider ST 1 (C_V-1, K_{VS}-1), ST 2 (C_V-2, K_{VS}-2) or ST 3 (C_V-3, K_{VS}-3)*

C_V		**0.12 0.2 0.3 0.5**	**0.75**	**1.2**	**2**	**3**	**5**	**7.5**	**12**	**20**	**30**	**47**	**75**	**120**	**190**	**290**	**420**	**735**	**1150**	**1730**
K_{VS}		**0.1 0.16 0.25 0.4**	**0.63**	**1.0**	**1.6**	**2.5**	**4**	**6.3**	**10**	**16**	**25**	**40**	**63**	**100**	**160**	**250**	**360**	**630**	**1000**	**1500**
C_V-1		–			1.7	2.6	4.2	7	10.5	17	26	42	67	105	170	265	375	650	1040	1560
K_{VS}-1		–			1.45	2.2	3.6	5.7	9	14.5	22	36	57	90	144	225	320	560	900	1350
C_V-2		–					3.7	6	9.5	15	23	37	60	95	145	230	335	580	928	1392
K_{VS}-2		–					3.2	5	8	13	20	32	50	80	125	200	290	500	800	1200
C_V-3		–					3.5	5.6	9	14	23	35	55	90	140	220	315	560	880	–
K_{VS}-3		–					3	4.8	7.5	12	20	30	47	75	120	190	270	480	750	–
Seat Ø in	inch	0.24			0.47		0.94			1.22	1.5	1.97	2.48	3.15	3.94	4.92	5.91	7.87	9.84	11.81
	mm	6			12		24			31	38	50	63	80	100	125	150	200	250	300
Travel in	inch	0.59										1.18				2.36			4.72	
	mm	15										30				60			120	

Table 4: *Versions without flow divider · Class 150 to 2500*

C_V[4]		0.12 0.2 0.3 0.5	0.75	1.2	2	3	5 (4.2)	7.5 (–)	12 (10.5)	20 (–)	30 (26)	47 (42)	75 (–)	120 (105)	190 (170)	290 (–)	420 (375)	735 (650)	1150 (1040)	1730 (1560)
K_{VS}[4]		0.1 0.16 0.25 0.4	0.63	1.0	1.6	2.5	4 (3.6)	6.3 (–)	10 (9)	16 (–)	25 (22)	40 (36)	63 (–)	100 (90)	160 (144)	250 (–)	360 (320)	630 (560)	1000 (900)	1500 (1350)
NPS	**DN**																			
½	15	•	•	•	•	•	•[4]													
1	25	•	•	•	•	•	•	•	•[4]											
1½	40	•	•	•	•	•	•	•	•	•	•[4]									
2	50						•	•	•	•	•	•[4]								
3	80						•	•	•	•	•	•	•	•[1][4]						
4	100										•	•	•	•[1]	•[1][4]					
6	150												•	•	•[1]	•[1]	•[1][4]			
8	200													•	•	•[1][2]	•[1]	•[1][4]		
10	250													•	•	•[1][2]	•[1]	•[1]	•[1][4]	
12	300														•	•[1][3]	•[1]	•[1]	•[1]	•[1][4]

1) Version also available with balanced plug

2) Pressure balancing only for ≥ Class 600

3) Pressure balancing only for Class 600/900

4) Reduced C_V/K_{VS} coefficients with Class 900 to 2500 in parentheses

Table 5: *Versions with flow divider ST 1 (C_V-1, K_{VS}-1) · Class 150 to 900[4]*

C_V-1		–			1.7	2.6	4.2	7	10.5	17	26	42	67	105	170	265	375	650	1040	1560
K_{VS}-1		–			1.45	2.2	3.6	5.7	9	14.5	22	36	57	90	144	225	320	560	900	1350
NPS	**DN**																			
½	15				•	•	•													
1	25				•	•	•	•	•											
1½	40				•	•	•	•	•	•	•									
2	50						•	•	•	•	•	•								
3	80						•	•	•	•	•	•	•	•[1]						
4	100										•	•	•	•[1]	•[1]					
6	150												•	•	•[1]	•[1]	•[1]			
8	200													•	•	•[1][2]	•[1]	•[1]		
10	250													•	•	•[1][2]	•[1]	•[1]	•[1]	
12	300														•	•[1][3]	•[1]	•[1]	•[1]	•[1]

1) Version also available with balanced plug

2) Pressure balancing only for ≥ Class 600

3) Pressure balancing only for Class 600/900

4) Class 1500 to 2500 with flow divider ST 1 and pressure balancing on request

Table 6: *Versions with flow divider ST 2 (C_V-2, K_{VS}-2) · Class 150 to 900*[4)]

C_V-2		–					3.7	6	9.5	15	23	37	60	95	145	230	335	580	928	1392
K_{VS}-2		–					3.2	5	8	13	20	32	50	80	125	200	290	500	800	1200
NPS	**DN**																			
2	50						•	•	•	•	•	•	•							
3	80						•	•	•	•	•	•	•	•[1)]						
4	100										•	•	•	•[1)]	•[1)]					
6	150												•	•	•[1)]	•[1)]	•[1)]			
8	200													•	•	•[1)2)]	•[1)]	•[1)]		
10	250													•	•	•[1)2)]	•[1)]	•[1)]	•[1)]	
12	300														•	•[1)3)]	•[1)]	•[1)]	•[1)]	•[1)]

1) Version also available with balanced plug

2) Pressure balancing only for ≥ Class 600

3) Pressure balancing only for Class 600/900

4) Class 1500 to 2500 with flow divider ST 2 and pressure balancing on request

Table 7: *Versions with flow divider ST 3 (C_V-3, K_{VS}-3) · Class 150 to 900*[5)]

C_V-3		–					3.5	5.6	9	14	23	35	55	90	140	220	315	560	880	–
K_{VS}-3		–					3	4.8	7.5	12	20	30	47	75	120	190	270	480	750	–
NPS	**DN**																			
2[5)]	50[5)]						•[4)]	•[4)]	•[4)]											
3	80						•[4)]	•[4)]	•[4)]	•[4)]	•[4)]	•								
4	100										•[4)]	•	•							
6	150												•	•	•[1)]	•[1)]				
8	200													•	•	•[1)2)]	•[1)]			
10	250														•	•[1)2)]	•[1)]	•[1)]		
12	300														•	•[1)3)]	•[1)]	•[1)]	•[1)]	

1) Version also available with balanced plug

2) Pressure balancing only for ≥ Class 600

3) Pressure balancing only for Class 600/900

4) Version not possible with bellows seal

5) Class 1500 to 2500 with flow divider ST 3 and pressure balancing on request

Dimensions

Specifications in inches and mm

Table 8: *Type 3256 Valve · ANSI version*

Valve		NPS	½	1	1½	2	3	4	6	8	10	12
		DN	15	20	40	50	80	100	150	200	250	300
Length L (flanges RF and welding ends)	Class 150	in	3.62	3.62	4.37	5	5.88	6.94	8.88	10.69	*)	*)
		mm	92	92	111	127	149	176	225	272	*)	*)
	Class 300	in	3.75	3.88	4.62	5.25	6.25	7.25	9.31	11.19	*)	*)
		mm	95	99	117	133	159	184	236	284	*)	*)
	Class 600	in	3.98	4.12	4.94	5.62	6.62	7.75	10	12	*)	*)
		mm	101	105	125	143	168	197	254	305	*)	*)
	Class 900	in	4.25	5	6	7.25	7.5	9	12	14.5	*)	*)
		mm	108	127	152	184	190	229	305	368	*)	*)
	Class 1500	in	4.25	5	6	7.25	7.5	9	12	14.5	*)	*)
		mm	108	127	152	184	235	273	353	416	*)	*)
	Class 2500	in	5.19	6.06	7.56	8.88	11.38	13.25	18	20.12	*)	*)
		mm	132	154	192	226	289	337	457	511	*)	*)
H8 for actuator	350 cm²	in	9.45	9.45	9.45	9.45	9.45	9.45	–	–	–	–
		mm	240	240	240	240	240	240	–	–	–	–
	350v2 cm²	in	9.45	9.45	9.45	9.45	9.45	9.45	16.46	–	–	–
		mm	240	240	240	240	240	240	418	–	–	–
	355v2 cm²	in	9.45	9.45	9.45	9.45	9.45	9.45	16.46	16.46	16.46	–
		mm	240	240	240	240	240	240	418	418	418	–
	750v2 cm²	in	9.45	9.45	9.45	9.45	9.45	9.45	16.46	16.46	16.46	–
		mm	240	240	240	240	240	240	418	418	418	–
	1000 cm²	in	–	–	–	11.61	11.61	11.61	16.46	16.46	*)	*)
		mm	–	–	–	295	295	295	418	418	*)	*)
	1400-60 cm²	in	–	–	–	11.61	11.61	11.61	16.46	16.46	*)	*)
		mm	–	–	–	295	295	295	418	418	*)	*)
	1400-120 cm²	in	–	–	–	18.9	18.9	18.9	19.8	19.8	19.8	25.6
		mm	–	–	–	480	480	480	503	503	503[1)]	650
	2800 cm²	in	–	–	–	18.9	18.9	18.9	19.8	19.8	19.80	25.6
		mm	–	–	–	480	480	480	503	503	503[1)]	650
	2 x 2800 cm²	in	–	–	–	18.9	18.9	18.9	19.8	19.8	19.80	25.6
		mm	–	–	–	480	480	480	503	503	503[1)]	650
With standard bonnet												
H4	Class 150 to 600	in	5.28	5.08	5.08	6.89	6.3	6.69	9.13	*)	*)	*)
		mm	134	129	129	175	160	170	210	*)	*)	*)
	Class 900	in	6.89	6.69	6.69	8.7	6.3	6.69	9.13	*)	*)	*)
		mm	175	170	170	221	160	170	210	*)	*)	*)
	Class 1500 to 2500	in	6.89	6.69	6.69	8.7	9.53	11.65	14.61	21.54	*)	*)
		mm	175	170	170	221	242	296	371	547	*)	*)
With insulating section												
H4	Class 150 to 600	in	13.19	12.99	13.03	17.52	16.93	17.32	22.05	*)	*)	*)
		mm	335	330	331	445	430	440	560	*)	*)	*)
	Class 900	in	14.57	14.41	14.41	19.13	16.93	17.32	22.05	*)	*)	*)
		mm	370	366	366	486	430	440	560	*)	*)	*)
	Class 1500 to 2500	in	14.57	14.41	14.41	19.13	19.69	21.5	28.23	*)	*)	*)
		mm	370	366	366	486	500	546	717	*)	*)	*)

Valve		NPS	½	1	1½	2	3	4	6	8	10	12
		DN	15	20	40	50	80	100	150	200	250	300
With bellows seal												
		Travel										
H4	Class 150	0.59 to 2.36	in	13.5	13.31	13.35	22.28	22.09	21.3	23.86	–	–	–
		15 to 60	mm	343	338	339	566	561	541	606	–	–	–
	Class 300 to 900	0.59 to 2.36	in	13.5	13.31	13.35	22.28	22.09	21.3	*)	–	–	–
		15 to 60	mm	343	338	339	566	561	541	*)	–	–	–
	Class 1500	0.59	in	24.45	24.29	24.02	20.63	19.69	*)	*)	–	–	–
		15	mm	621	617	610	524	500	*)	*)	–	–	–
		1.18	in	–	–	–	20.63	19.69	*)	*)	–	–	–
		30	mm	–	–	–	524	500	*)	*)	–	–	–
		2.36	in	–	–	–	–	–	–	*)	–	–	–
		60	mm	–	–	–	–	–	–	*)	–	–	–
	Class 2500	0.59	in	24.45	24.29	24.02	*)	*)	*)	*)	–	–	–
		15	mm	621	617	610	*)	*)	*)	*)	–	–	–
		1.18	in	–	–	–	*)	*)	*)	*)	–	–	–
		30	mm	–	–	–	*)	*)	*)	*)	–	–	–
		2.36	in	–	–	–	–	–	–	*)	–	–	–
		60	mm	–	–	–	–	–	–	*)	–	–	–
	Class 150 to 300	1.18 to 4.72	in	–	–	–	–	–	–	–	*)	*)	*)
		30 to 120	mm	–	–	–	–	–	–	–	*)	*)	*)
	Class 600 to 900	1.18 to 2.36	in	–	–	–	–	–	–	–	*)	*)	*)
		30 to 60	mm	–	–	–	–	–	–	–	*)	*)	*)
	Class 600	4.72	in	–	–	–	–	–	–	–	*)	*)	*)
		120	mm	–	–	–	–	–	–	–	*)	*)	*)

*) On request

1) H8 = 650 mm with 250 mm seat bore

Table 9: *Further dimensions[1] in combination with Type 3271 Pneumatic Actuator or Type 3277 Pneumatic Actuator*

Actuator area		cm²	350	350v2	355v2	750v2	1000	1400-60	1400-120	2800	2x 2800
Diaphragm ØD		in	11.02	11.02	11.02	15.51	18.19	20.87	21.02	30.32	30.32
Diaphragm ØD		mm	280	280	280	394	462	530	534	770	770
H[2]	Type 3271	in	3.23	3.62	5.16	9.29	15.87	13.27	23.54	28.07	47.76
H[2]	Type 3271	mm	82	92	131	236	403	337	598	713	1213
H[2]	Type 3277	in	3.23	3.23	4.76	9.29	–	–	–	–	–
H[2]	Type 3277	mm	82	82	121	236	–	–	–	–	–
H3[3]		in	4.33	4.33	4.33	7.48	24.02	24.02	25.59	25.59	25.59
H3[3]		mm	110	110	110	190	610	610	650	650	650
H5	Type 3277	in	3.98	3.98	3.98	3.98	–	–	–	–	–
H5	Type 3277	mm	101	101	101	101	–	–	–	–	–
Thread	Type 3271		M30x1.5	M30x1.5	M30x1.5	M30x1.5	M60x1.5	M60x1.5	M100x2	M100x2	M100x2
Thread	Type 3277		M30x1.5	M30x1.5	M30x1.5	M30x1.5	–	–	–	–	–

Actuator area		cm²	350	350v2	355v2	750v2	1000	1400-60	1400-120	2800	2x 2800
a	Type 3271		G ⅜ (⅜ NPT)	G ⅜ (⅜ NPT)	G ⅜ (⅜ NPT)	G ⅜ (⅜ NPT)	G ¾ (¾ NPT)	G ¾ (¾ NPT)	G 1 (1 NPT)	G 1 (1 NPT)	G 1 (1 NPT)
a2	Type 3277		G ⅜[4)]	G ⅜[4)]	G ⅜[4)]	G ⅜[4)]	–	–	–	–	–

1) The specified dimensions are theoretical maximum design values for a specific standard device configuration. They do not reflect every possible case of use. The actual values for individual devices may differ depending on the device configuration and the specific application.

2) Height including lifting eyelet or female thread and eyebolt according to DIN 580. Height of the swivel hoist may differ. Actuators up to 355v2 cm² without lifting eyelet or female thread.

3) Minimum clearance required to remove the actuator

4) An adapter G ⅜ to ⅜ NPT is available for the a2 connection. It can be ordered separately using the following article number: 100160362

Dimensional drawings

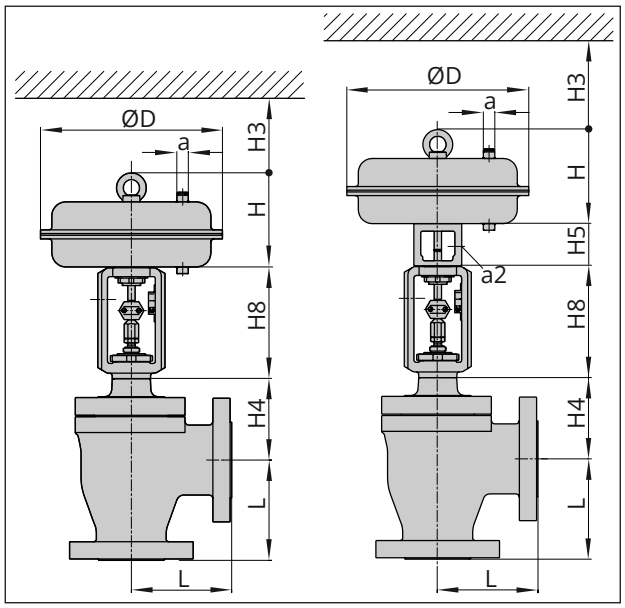


Fig. 5: *Left: Type 3256-1 · Right: Type 3256-7*

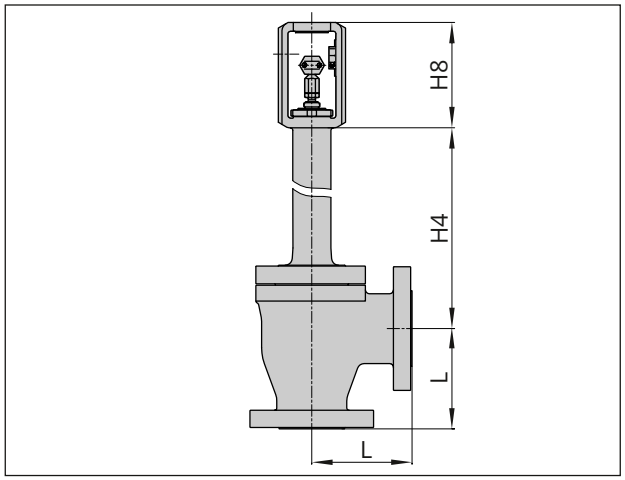


Fig. 6: *Type 3256 with bellows seal or insulating section*

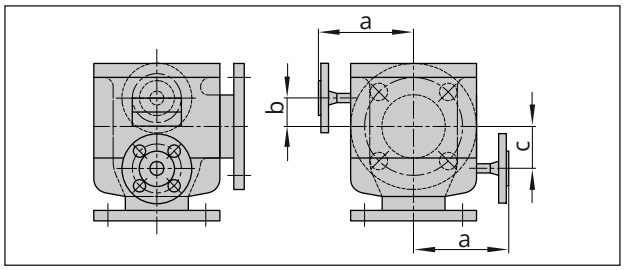


Fig. 7: *Type 3256 with heating jacket · Dimensions on request*

Weights

Specifications in lbs and kg

Table 10: *Type 3256 Valve · ANSI version*

Valve		NPS	½	1	1½	2	3	4	6	8	10	12
		DN	15	20	40	50	80	100	150	200	250	300
With standard bonnet												
Weight[1], approx. Without actuator	Class 150	lbs	26	33	49	77	128	165	419	*)	*)	*)
		kg	12	15	22	35	58	75	190	*)	*)	*)
	Class 300	lbs	*)	*)	*)	*)	*)	*)	*)	*)	*)	*)
		kg	*)	*)	*)	*)	*)	*)	*)	*)	*)	*)
	Class 600	lbs	*)	*)	*)	128	203	*)	*)	*)	*)	*)
		kg	*)	*)	*)	58	92	*)	*)	*)	*)	*)
	Class 900	lbs	*)	84	126	201	243	*)	*)	*)	*)	*)
		kg	*)	38	57	91	110	*)	*)	*)	*)	*)
	Class 1500 to 2500	lbs	*)	*)	*)	*)	*)	*)	*)	*)	*)	*)
		kg	*)	*)	*)	*)	*)	*)	*)	*)	*)	*)
With insulating section												
Weight[1], approx. Without actuator	Class 150/300	lbs	66	79	97	159	243	344	794	1411	*)	*)
		kg	30	36	44	72	110	156	360	640	*)	*)
	Class 600	lbs	*)	*)	*)	*)	*)	*)	*)	*)	*)	*)
		kg	*)	*)	*)	*)	*)	*)	*)	*)	*)	*)
	Class 900	lbs	95	108	150	231	287	397	882	1609	*)	*)
		kg	43	49	68	105	130	180	400	730	*)	*)
	Class 1500 to 2500	lbs	*)	*)	*)	*)	*)	*)	*)	*)	*)	*)
		kg	*)	*)	*)	*)	*)	*)	*)	*)	*)	*)
With bellows seal												
Weight[1], approx. Without actuator	Class 150/300	lbs	*)	*)	*)	*)	*)	*)	794	*)	*)	*)
		kg	*)	*)	*)	*)	*)	*)	360	*)	*)	*)
	Class 600	lbs	66	79	97	159	243	344	794	1411	*)	*)
		kg	30	36	44	72	110	156	360	640	*)	*)
	Class 900	lbs	95	108	150	231	287	397	882	1609	*)	*)
		kg	43	49	68	105	130	180	400	730	*)	*)
	Class 1500 to 2500	lbs	*)	*)	*)	*)	*)	*)	*)	*)	*)	*)
		kg	*)	*)	*)	*)	*)	*)	*)	*)	*)	*)

*) On request

1) The weights specified apply to a specific standard device configuration. Weights of other valve configurations may differ depending on the version (material, trim etc.).

Table 11: *Weights[1] for Type 3271 and Type 3277 Pneumatic Actuators*

Type ... Actuator	Actuator area in cm²		350	350v2	355v2	750v2	1000	1400-60	1400-120	2800	2x 2800
3271	Without handwheel	lbs	18	26	33	79	176	154	386	992	2095
3271	Without handwheel	kg	8	11.5	15	36	80	70	175	450	950
3271	With handwheel	lbs	29	37	44	90	397	386	661[2]/ 937[3]	1268[2]/ 1544[3]	*)
3271	With handwheel	kg	13	16.5	20	41	180	175	300[2]/ 425[3]	575[2]/ 700[3]	*)
3277	Without handwheel	lbs	27	33	42	89	–	–	–	–	–
3277	Without handwheel	kg	12	15	19	40	–	–	–	–	–

Type ... Actuator	Actuator area in cm²		350	350v2	355v2	750v2	1000	1400-60	1400-120	2800	2x 2800
3277	With handwheel	lbs	38	44	53	100	–	–	–	–	–
3277	With handwheel	kg	17	20	24	45	–	–	–	–	–

*) On request

1) The weights specified apply to a specific standard device configuration. Weights of other actuator configurations may differ depending on the version (material, number of actuator springs etc.).

2) Side-mounted handwheel up to 80 mm travel

3) Side-mounted handwheel with travel higher than 80 mm travel

Selection and sizing of the valve

1. Calculate C_V coefficient according to DIN EN 60534-1.
2. Select nominal size NPS and C_V coefficient from Table 3 and from Table 4 to Table 7.
3. Determine the permissible differential pressure Δp from the pressure-temperature diagrams in Information Sheet ▶ T 8000-4.
4. Select the valve body material from Table 1 and Table 2 as well as from the pressure-temperature diagrams (see Information Sheet ▶ T 8000-2).
5. Select accessories from Table 1 and Table 2.

Ordering text

The following specifications are required on ordering:

Type	3256
Nominal size	NPS ...
Pressure rating	Class ...
Body material	See Table 2
Bonnet	Standard bonnet, insulating section or bellows seal
Type of end connections	Flanges or welding ends
Plug	Standard or balanced Soft seal, metal seal or high-performance metal seal
Characteristic	Equal percentage, linear or on/off
Actuator	Type 3271 or Type 3277 (see Data Sheets ▶ T 8310-1, ▶ T 8310-2 and ▶ T 8310-3)
Fail-safe action	Actuator stem extends/retracts
Process medium	Density in lb/cu.ft or kg/m³ and temperature in °F or °C
Flow coefficients	lbs/h or kg/h or cu.ft/min or m³/h in standard or operating state
Pressure	p_1 and p_2 in bar or psi (absolute pressure p_{abs}), with minimum, normal and maximum flow rate
RFID tag	Yes/No
Valve accessories	Positioner and/or limit switch

Associated Information Sheets	▶ T 8000-X
Associated Data Sheets for Types 3271/3277 Pneumatic Actuators	▶ T 8310-1 to ▶ T 8310-3
Associated Mounting and Operating Instructions	▶ EB 8066