

T 8026 EN

Type 3244-1 and Type 3244-7 Pneumatic Control Valves

Type 3244 Three-way Valve

DIN and ANSI versions



Application

Mixing or diverting valve for process engineering and industrial applications

Nominal size	DN 15 to 150 · NPS ½ to 6
Pressure rating	PN 10 to 40 · Class 150 and 300
Temperatures	–196 to +450 °C · –325 to +842 °F

Special features

Type 3244 Three-way Valve with

- Type 3271 Pneumatic Actuator (Fig. 1)
- Type 3277 Pneumatic Actuator (Fig. 2) for integral positioner attachment

Valve body made of

- Cast iron (DIN version only)
- Cast steel
- Cast stainless steel

Undivided valve bonnet 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:

Positioners, solenoid valves, limit switches and other accessories according to IEC 60534-6¹⁾ and NAMUR recommendation (see Information Sheet ▶ T 8350 for more details).

Versions

Standard version designed for temperatures from –10 to +220 °C (15 to 430 °F) with pneumatic actuator

- **Type 3244-1** (Fig. 1) · Type 3244 Valve with Type 3271 Actuator (see Data Sheet ▶ T 8310-1)
- **Type 3244-7** (Fig. 2) · Type 3244 Valve and Type 3277 Pneumatic Actuator for integral positioner attachment (see Data Sheet ▶ T 8310-1)

Further versions:

- **Insulating section or bellows seal** · See Technical data
- **Adjustable packing** · Details on request
- **Heating jacket**
- **Additional handwheel** · See Data Sheet ▶ T 8310-1
- **Type 3244-2 Electric Control Valve** · Details on request
- **Type 3244-3 Manually Operated Valve** with Type 3273 Hand-operated Actuator · See Data Sheet ▶ T 8312

¹⁾ Accessories required. See associated actuator documentation.

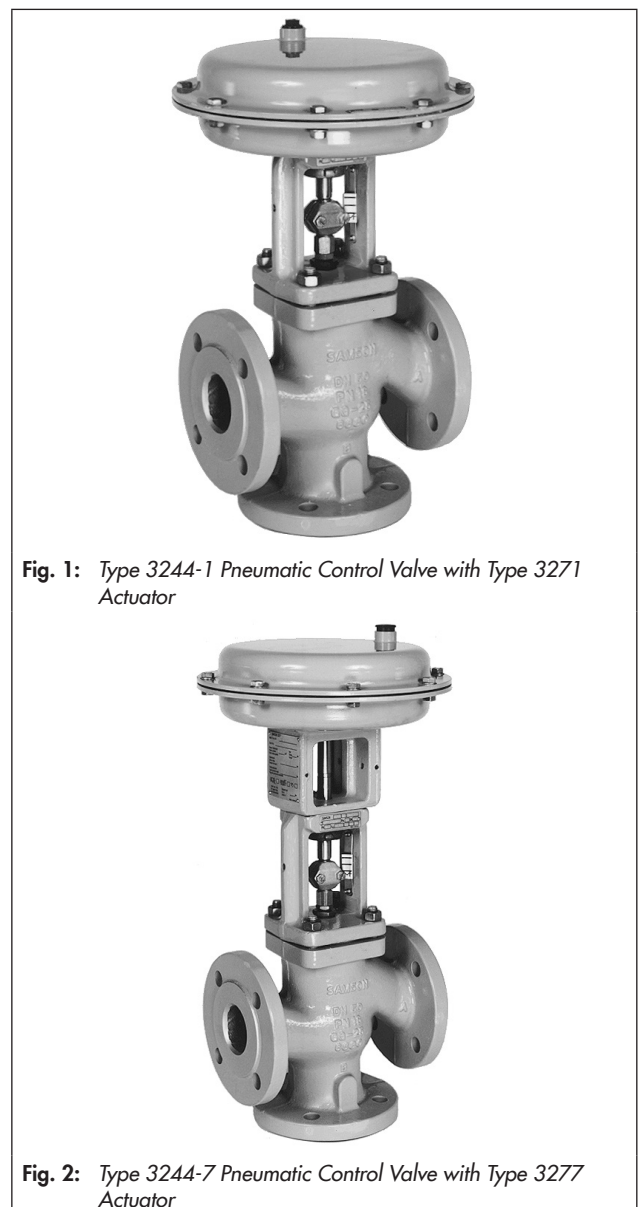


Fig. 1: Type 3244-1 Pneumatic Control Valve with Type 3271 Actuator

Fig. 2: Type 3244-7 Pneumatic Control Valve with Type 3277 Actuator

Principle of operation (Fig. 3 and Fig. 4)

Depending on the version, the three-way valve can be used either as a mixing or diverting valve.

In mixing valves, the process media to be mixed enter at valve ports **A** and **B**. The combined flow exits the valve at port **AB** (see Fig. 3). The flow rate from ports **A** or **B** to **AB** depends on the cross-sectional area of flow between the seats and plugs.

In diverting valves, the process medium enters at the valve port **AB** and the partial flows exit at ports **A** and **B** (see Fig. 4).

Note: The design of the mixing and diverting valves in sizes DN 15 to 25 (NPS ½ to 1) is identical.

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 that become effective when the supply air fails.

- **Actuator stem extends:** when the supply air fails, port **B** is closed in mixing valves and port **A** is closed in diverting valves.

Port **B** of diverting valves in sizes DN 15 to 25 (NPS ½ to 1) is closed as these valves have the same construction as mixing valves.

- **Actuator stem retracts:** when the supply air fails, port **A** is closed in mixing valves and port **B** is closed in diverting valves.

Port **A** of diverting valves in sizes DN 15 to 25 (NPS ½ to 1) is closed as these valves have the same construction as mixing valves.

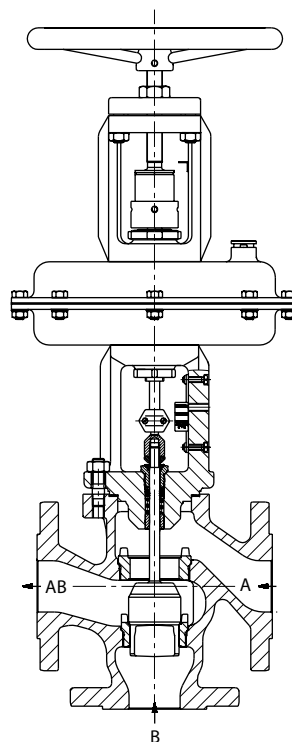


Fig. 3: Type 3244-1 Pneumatic Control Valve with Type 3244 Three-way Valve (plug arrangement for mixing service, DN 15 to 25 for diverting service as well and Type 3271 Actuator with additional handwheel)

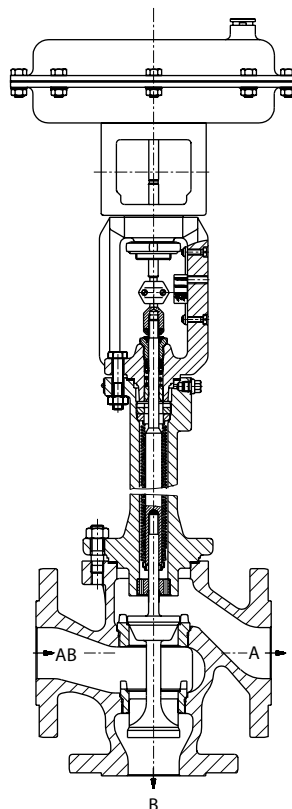



Fig. 4: Type 3244-7 Pneumatic Control Valve with Type 3244 Three-way Valve, DN 32 to 150 (plug arrangement for diverting service), additional bellows seal and Type 3277 Actuator

Table 1: Technical data

Version	DIN			ANSI	
Nominal size	DN 15 to 150			NPS ½ to 6	
Material	Cast iron EN-GJL-250 (EN-JL1040)	Cast steel 1.0619	Cast stainless steel 1.4408	Cast steel A216 WCC	Cast stainless steel A351 CF8M
Pressure rating	PN 10, 16, 25, 40			Class 150 or 300	
Type of end connections	All flange types acc. to DIN EN 1092-1/-2 ¹⁾			RF ²⁾	
Seat-plug seal	Metal seal			Metal seal	
Characteristic	Linear			Linear	
Rangeability	50:1 for DN 15 to 50 30:1 for DN 65 to 150			50:1 for NPS ½ to 2 30:1 for NPS 2½ to 6	
Temperature ranges in °C and °F · Permissible operating pressures acc. to pressure-temperature diagrams					
Body without insulating section	-10 to +220 °C			-10 to +220 °C (15 to 430 °F)	
Body with	Insulating section ³⁾	-10 to +300 °C	-10 to +400 °C ⁴⁾	-50 to +450 °C ⁴⁾	-29 to +425 °C (-20 to +800 °F)
	Bellows seal ³⁾	-10 to +300 °C	-10 to +400 °C ⁴⁾	-50 to +450 °C ⁴⁾	-29 to +400 °C (-20 to +750 °F)
Leakage class according to IEC 60534-4 or ANSI/FCI 70-2	I (0.05 % K _{Vs})			I (0.05 % K _{Vs})	
RFID tag (optional)	Application range according to the technical specifications and the explosion protection certificates. Documents ► www.samsongroup.com > Service & Support > Electronic nameplate Max. permissible operating temperature: 185 °F (85 °C)				
Conformity					

¹⁾ Except for tongue form D, groove form D and female face form F for DN 15

²⁾ Other versions for NPS ¾ and larger available on request

³⁾ Long insulating section or bellows seal for temperatures up to -196 °C (-325 °F) on request

⁴⁾ Version for lower temperatures on request

Table 2: Materials

Standard version	DIN			ASTM	
Valve body ¹⁾	Cast iron EN-GJL-250 (EN-JL1040)	Cast steel 1.0619	Cast stainless steel 1.4408	Cast steel A216 WCC	Cast stainless steel A351 CF8M
Valve bonnet	1.0460/ EN-GJL-250 (EN-JL1040)	1.0460	1.4401/ 1.4404 ⁵⁾	A105	A182 F316/ A182 F316L ⁵⁾
Seat ²⁾	1.4006		1.4404	A182 F6a Class 2	A182 F316L
Plug ²⁾	1.4006		1.4404	A182 F6a Class 2	A182 F316L
Seat-plug seal	Metal seal			Metal seal	
Guide bushing	1.4104		1.4404	A582 430F	A182 F316L/ A182 F316
Packing ³⁾	V-ring packing: PTFE with carbon · Spring: 1.4310/A479 302				
Body gaskets	Graphite on metal core			Graphite on metal core	
Insulating section	1.0460		1.4401/ 1.4404 ⁵⁾	A105	A182 F316/ A182 F316L ⁵⁾
Bellows seal					
Intermediate piece	1.0460		1.4401/ 1.4404 ⁵⁾	A105	A182 F316/ A182 F316L ⁵⁾
Bellows seal	1.4571 ⁴⁾			316 Ti	

¹⁾ Special materials for applications with seawater: 1.4538, duplex 1.4470; nickel-based alloy: 9.4610; other special materials on request

²⁾ All seats and metal-seated plug also with Stellite® facing; for ≤DN 100 plug up to seat bore 38 made of solid Stellite® available.

³⁾ Other packings on request (see Information Sheet ► T 8000-1)

⁴⁾ Other materials on request

⁵⁾ Material double stamping

Notes on the differential pressures (Table 3.1 to Table 4.2)

- Differential pressures in parentheses refer to the values for half travel in parentheses in the bench range column
- The tables apply to both fail-safe positions.
- The springs in actuators with fail-safe action "actuator stem retracts" cannot be preloaded.
- v_2 is added to the diaphragm area (e.g. $175v_2 \text{ cm}^2$) to indicate actuators with a full diaphragm

Table 3: K_{Vs} and C_v coefficients as well as permissible differential pressures for Type 3244 Mixing Valve

Table 3.1: DIN version · Pressures in bar

				Actuator area	Bench range	Required supply pressure	Bench range	Required supply pressure	Bench range	Required supply pressure
				120 cm ²	0.4 to 2.0	2.4	1.4 to 2.3	3.7	2.1 to 3.3	4.4
				175v ₂ cm ²	0.4 to 2.0	2.4	0.5 to 2.5	3	1.3 to 2.9	4.2
				350 cm ²	0.4 to 2.0	2.4	1.4 to 2.3	3.7	2.1 to 3.3	5.4
				355v ₂ cm ²	0.4 to 2.0 (1.2 to 2.0)	2.4 (3.2)	1.4 to 2.6 (2.0 to 2.6)	4 (4.6)	1.9 to 3.3 (2.6 to 3.3)	5.2 (5.9)
				700 cm ²	0.4 to 2.0 (1.2 to 2.0)	2.4 (3.2)	1.4 to 2.3 (1.85 to 2.3)	3.7 (4.15)	2.1 to 3.3 (2.7 to 3.3)	5.4 (6)
				750v ₂ cm ²	0.4 to 2.0 (1.2 to 2.0)	2.4 (3.2)	1.4 to 2.4 (1.9 to 2.4)	3.8 (4.3)	1.9 to 3.1 (2.5 to 3.1)	5 (5.6)
DN	K_{Vs} for mixing valve	Seat Ø	Rated travel	Actuator area	Δp when $p_2 = 0$ bar					
15	2 · 4	24	15	120 cm ²	5	29	40			
20	2 · 4 · 6.3			175 v ₂ cm ²	9.5	13	40			
25	2 · 4 · 6.3 · 10			350 cm ²	23.5	40	40			
32 to 50	6.3 · 10 · 16	31		120 cm ²	2.5	17	27			
				175 v ₂ cm ²	5	7	24			
				350 cm ²	13.5	40	40			
40 and 50	25	38		120 cm ²	-	10.5	17.5			
				175 v ₂ cm ²	3.1	4.5	15.5			
				350 cm ²	8.5	36.5	40			
50	40	48		120 cm ²	-	6.5	10.5			
				175 v ₂ cm ²	-	2.5	9.5			
				350 cm ²	5	22.5	35			
				355 v ₂ cm ²	(19.5)	(33.5)	(40)			
				700 cm ²	(40)	-	-			
				750 v ₂ cm ²	(40)	-	-			
65 and 80	25 and 40	48	350 cm ²	5	22.5	35				
			355 v ₂ cm ²	(19.5)	(33.5)	(40)				
			700 cm ²	(40)	-	-				
	60	63	750 v ₂ cm ²	(40)	-	-				
			350 cm ²	2.7	12.5	20				
			355 v ₂ cm ²	(11)	(19)	(25.5)				
80	80	75	700 cm ²	(23)	(36)	(40)				
			750 v ₂ cm ²	(24.5)	(40)	(40)				
			350 cm ²	-	8.5	14				
			355 v ₂ cm ²	(7.5)	(13)	(17.5)				
				700 cm ²	(16)	(25.5)	(37.5)			
				750 v ₂ cm ²	(17)	(28)	(37)			

				Actuator area	Bench range	Required supply pressure	Bench range	Required supply pressure	Bench range	Required supply pressure
				120 cm ²	0.4 to 2.0	2.4	1.4 to 2.3	3.7	2.1 to 3.3	4.4
				175v2 cm ²	0.4 to 2.0	2.4	0.5 to 2.5	3	1.3 to 2.9	4.2
				350 cm ²	0.4 to 2.0	2.4	1.4 to 2.3	3.7	2.1 to 3.3	5.4
				355v2 cm ²	0.4 to 2.0 (1.2 to 2.0)	2.4 (3.2)	1.4 to 2.6 (2.0 to 2.6)	4 (4.6)	1.9 to 3.3 (2.6 to 3.3)	5.2 (5.9)
				700 cm ²	0.4 to 2.0 (1.2 to 2.0)	2.4 (3.2)	1.4 to 2.3 (1.85 to 2.3)	3.7 (4.15)	2.1 to 3.3 (2.7 to 3.3)	5.4 (6)
				750v2 cm ²	0.4 to 2.0 (1.2 to 2.0)	2.4 (3.2)	1.4 to 2.4 (1.9 to 2.4)	3.8 (4.3)	1.9 to 3.1 (2.5 to 3.1)	5 (5.6)
DN	K _{VS} for mixing valve	Seat Ø	Rated travel	Actuator area	Δp when p ₂ = 0 bar					
100	100	80	30	355 cm ²	1.4	7.8	11			
	160	100			–	4.9	6.9			
125	140	90			1	6.1	8.9			
	200	110			–	3.9	5.6			
150	200	110			–	3.9	5.6			
	300	130			–	2.7	3.9			
150	200	110		700 cm ²	3.9	16.5	25			
	300	130			2.3	10	16			
125	140	90			3	13	20			
	200	110			–	8.5	13			
150	200	110			–	8.5	13			
	300	130			–	6	9			
100	100	80		750v2 cm ²	4.3	17.5	24.5			
	160	100			2.6	11	15.5			
125	140	90	3.3		14	19				
	200	110	2.1		9	12.5				
150	200	110	2.1		9	12.5				
	300	130	–		6.5	9				

Table 3.2: ANSI version · Pressures in psi

Nominal size		C _v for mixing valve	Seat Ø inch (mm)	Rated travel inch (mm)	Actuator area	Δp when p ₂ = 0 psi						
NPS	DN					Bench range	Required supply pressure	Bench range	Required supply pressure	Bench range	Required supply pressure	
					120 cm ²	5 to 29	34	20 to 33	53	30 to 47	63	
					175 v2cm ²	5 to 29	34	7 to 36	43	18 to 42	60	
					350 cm ²	5 to 29	34	20 to 33	53	30 to 47	78	
					355 v2cm ²	5 to 29 (17 to 29)	34 (46)	20 to 37 (29 to 37)	58 (66)	27 to 47 (37 to 47)	75 (85)	
					700 cm ²	5 to 29 (17 to 29)	34 (46)	20 to 33 (26 to 33)	53 (60)	30 to 47 (39 to 47)	78 (87)	
					750 v2cm ²	5 to 29 (17 to 29)	34 (46)	20 to 34 (27 to 34)	55 (62)	27 to 44 (36 to 44)	72 (81)	
1/2	15	2.3 · 5	0.94 (24)	0.59 (15)	120 cm ²							
3/4	20	2.3 · 5 · 7.5			175 v2cm ²	72		420		580		
1	25	2.3 · 5 · 7.5 · 12			350 cm ²	137		188		580		
1 1/2 and 2	40 and 50	7.5 · 12 · 20	1.22 (31)	0.59 (15)	120 cm ²							
					175 v2cm ²	36		246		391		
					350 cm ²	72		101		348		
2	50	47	1.89 (48)	0.59 (15)	120 cm ²							
					175 v2cm ²	–		152		253		
					350 cm ²	44		65		224		
2 1/2 and 3	65 and 80	30 and 47	1.89 (48)	0.59 (15)	120 cm ²							
					175 v2cm ²	123		529		580		
					350 cm ²	–		94		152		
3	80	95	2.95 (75)	0.59 (15)	120 cm ²							
					175 v2cm ²	–		36		137		
					350 cm ²	72		326		507		
2 1/2 and 3	65 and 80	70	2.48 (63)	0.59 (15)	355 v2cm ²	(282)		(485)		(580)		
					700 cm ²	(580)		–		–		
					750 v2cm ²	(580)		–		–		
2 1/2 and 3	65 and 80	70	2.48 (63)	0.59 (15)	350 cm ²	72		326		507		
					355 v2cm ²	(282)		(485)		(580)		
					700 cm ²	(580)		–		–		
2 1/2 and 3	65 and 80	70	2.48 (63)	0.59 (15)	750 v2cm ²	(580)		–		–		
					350 cm ²	39		181		290		
					355 v2cm ²	(159)		(275)		(369)		
2 1/2 and 3	65 and 80	70	2.48 (63)	0.59 (15)	700 cm ²	(333)		(522)		(580)		
					750 v2cm ²	(355)		(580)		(580)		
					350 cm ²	–		123		203		
3	80	95	2.95 (75)	0.59 (15)	355 v2cm ²	(108)		(188)		(253)		
					700 cm ²	(232)		(369)		(543)		
					750 v2cm ²	(246)		(406)		(536)		

					Actuator area	Bench range	Required supply pressure	Bench range	Required supply pressure	Bench range	Required supply pressure			
					120 cm ²	5 to 29	34	20 to 33	53	30 to 47	63			
					175 v2cm ²	5 to 29	34	7 to 36	43	18 to 42	60			
					350 cm ²	5 to 29	34	20 to 33	53	30 to 47	78			
					355 v2cm ²	5 to 29 (17 to 29)	34 (46)	20 to 37 (29 to 37)	58 (66)	27 to 47 (37 to 47)	75 (85)			
					700 cm ²	5 to 29 (17 to 29)	34 (46)	20 to 33 (26 to 33)	53 (60)	30 to 47 (39 to 47)	78 (87)			
					750 v2cm ²	5 to 29 (17 to 29)	34 (46)	20 to 34 (27 to 34)	55 (62)	27 to 44 (36 to 44)	72 (81)			
Nominal size		C _v for mixing valve	Seat Ø inch (mm)	Rated travel inch (mm)	Actuator area	Δp when p ₂ = 0 psi								
NPS	DN					355 cm ²		700 cm ²		750 v2cm ²				
4	100	120	3.15 (80)	1.18 (30)	355 cm ²	20	113	159	700 cm ²	56	239	362		
		190	3.93 (100)			-	71	100		33	145	232		
6	150	230	4.33 (110)			-	56	81		-	123	188		
		350	5.12 (130)			-	39	56		-	87	130		
4	100	120	3.15 (80)			750 v2cm ²	62	253		355	750 v2cm ²	62	253	355
		190	3.93 (100)				56	239		362		37	159	224
6	150	230	4.33 (110)		30		130	181	30	130		181		
		350	5.12 (130)		-		94	130	-	94		130		

Table 4: K_{VS} and C_V coefficients as well as permissible differential pressures for Type 3244 Diverting Valve

Table 4.1: DIN version · Pressures in bar

Valves in DN 65 to 150

- Direction of flow AB \Rightarrow A with maximum K_{VS}
- Direction of flow AB \Rightarrow B with reduced K_{VS}

					Actuator area	Bench range	Required supply pressure	Bench range	Required supply pressure	Bench range	Required supply pressure
					120 cm ²	0.4...2.0	2.4	1.4 to 2.3	3.7	2.1 to 3.3	4.4
					175 v2cm ²	0.4 to 2.0	2.4	0.5 to 2.5	3	1.3 to 2.9	4.2
					350 cm ²	0.4 to 2.0	2.4	1.4 to 2.3	3.7	2.1 to 3.3	5.4
					355 v2cm ²	0.4 to 2.0 (1.2 to 2.0)	2.4	1.4 to 2.6 (2.0 to 2.6)	4 (4.6)	1.9 to 3.3 (2.6 to 3.3)	5.2 (5.9)
					700 cm ²	0.4 to 2.0 (1.2 to 2.0)	2.4 (3.2)	1.4 to 2.3 (1.85 to 2.3)	3.7 (4.15)	2.1 to 3.3 (2.7 to 3.3)	5.4 (6)
					750 v2cm ²	0.4 to 2.0 (1.2 to 2.0)	2.4	1.4 to 2.4 (1.9 to 2.4)	3.8 (4.3)	1.9 to 3.1 (2.5 to 3.1)	5 (5.6)
DN	K_{VS} for diverting valve	Seat \varnothing	Rated travel	Actuator area	Δp when $p_2 = 0$ bar						
15	2 · 4	24	15	120	5	29	40				
20	2 · 4 · 6.3			175	9.5	13	40				
25	2 · 4 6.3 · 10			350	23.5	40	40				
32 to 50	6.3 · 10 · 16	31		120	2.5	17	27				
				175	5	7	24				
				350	13.5	40	40				
40 and 50	25	38		120	-	10.5	17.5				
				175	3.1	4.5	15.5				
				350	8.5	36.5	40				
50 to 80	40	48		120	-	6.5	10.5				
				175	-	2.5	9.5				
				350	5	22.5	35				
				355	(19.5)	(33.5)	(40)				
				700	(40)	-	-				
				750	(40)	-	-				
65 and 80	25 and 40	48	350	5	22.5	35					
			355	(19.5)	(33.5)	(40)					
			700	(40)	-	-					
			750	(40)	-	-					
65	60/40	63/48	350	2.7	12.5	20					
			355	(11)	(19)	(25.5)					
			700	(23)	(36)	(40)					
			750	(24.5)	(40)	(40)					
80	60	63	350	2.7	12.5	20					
			355	(11)	(19)	(25.5)					
			700	(23)	(36)	(40)					
			750	(24.5)	(40)	(40)					
80	80/60	75/63	350	-	8.5	14					
			355	(7.5)	(13)	(17.5)					
			700	(16)	(25.5)	(37.5)					
			750	(17)	(28)	(37)					

				Actuator area	Bench range	Required supply pressure	Bench range	Required supply pressure	Bench range	Required supply pressure
				120 cm ²	0.4...2.0	2.4	1.4 to 2.3	3.7	2.1 to 3.3	4.4
				175 v2cm ²	0.4 to 2.0	2.4	0.5 to 2.5	3	1.3 to 2.9	4.2
				350 cm ²	0.4 to 2.0	2.4	1.4 to 2.3	3.7	2.1 to 3.3	5.4
				355 v2cm ²	0.4 to 2.0 (1.2 to 2.0)	2.4	1.4 to 2.6 (2.0 to 2.6)	4 (4.6)	1.9 to 3.3 (2.6 to 3.3)	5.2 (5.9)
				700 cm ²	0.4 to 2.0 (1.2 to 2.0)	2.4 (3.2)	1.4 to 2.3 (1.85 to 2.3)	3.7 (4.15)	2.1 to 3.3 (2.7 to 3.3)	5.4 (6)
				750 v2cm ²	0.4 to 2.0 (1.2 to 2.0)	2.4	1.4 to 2.4 (1.9 to 2.4)	3.8 (4.3)	1.9 to 3.1 (2.5 to 3.1)	5 (5.6)
DN	K _{vs} for diverting valve	Seat Ø	Rated travel	Actuator area	Δp when p ₂ = 0 bar					
100	100	80	30	355	1.4	7.8	11			
	160/100	100/80			–	4.9	6.9			
125	140	90			1	6.1	8.6			
	200/140	110/90			–	3.9	5.6			
150	200	110			–	3.9	5.6			
	300/200	130/110			–	2.7	3.9			
100	100	80		700	3.9	16.5	25			
	160/100	100/80			2.3	10	16			
125	140	90			3	13	20			
	200/140	110/90			–	8.5	13			
150	200	110			–	8.5	13			
	300/200	130/110			–	6	9			
100	100	80		750	4.3	17.5	24.5			
	160/100	100/80			2.6	11	15.5			
125	140	90	3.3		14	19				
	200/140	110/90	2.1		9	12.5				
150	200	110	2.1		9	12.5				
	300/200	130/110	–		6.5	9				

Table 4.2: ANSI version · Pressures in psi

Valves in NPS 2½ to 6

- Direction of flow AB ⇒ A with maximum C_v
- Direction of flow AB ⇒ B with reduced C_v

				Actuator area	Bench range	Required supply pressure	Bench range	Required supply pressure	Bench range	Required supply pressure
				120 cm ²	5 to 29	34	20 to 33	53	30 to 47	63
				175 v2cm ²	5 to 29	34	7 to 36	43	18 to 42	60
				350 cm ²	5 to 29	34	20 to 33	53	30 to 47	78
				355 v2cm ²	5 to 29 (17 to 29)	34 (46)	20 to 37 (29 to 37)	58 (66)	27 to 47 (37 to 47)	75 (85)
				700 cm ²	5 to 29 (17 to 29)	34 (46)	20 to 33 (26 to 33)	53 (60)	30 to 47 (39 to 47)	78 (87)
				750 v2cm ²	5 to 29 (17 to 29)	34 (46)	20 to 34 (27 to 34)	55 (62)	27 to 44 (36 to 44)	72 (81)
Nominal size		C _v for diverting valve	Seat Ø inch (mm)	Rated travel inch (mm)	Actuator area	Δp when p ₂ = 0 psi				
NPS	DN									
½	15	2.3 · 5	0.94 (24)	0.59 (15)	120 cm ²	72	420	580		
¾	20	2.3 · 5 · 7.5			175 v2cm ²	137	188	580		
1	25	2.3 · 5 · 7.5 · 12			350 cm ²	340	580	580		
1½ and 2	40 and 50	7.5 · 12 · 20	1.22 (31)		120 cm ²	36	246	391		
					175 v2cm ²	72	101	348		
					350 cm ²	195	580	580		
2	50	47	1.89 (48)		120 cm ²	–	152	253		
					175 v2cm ²	44	65	224		
					350 cm ²	123	529	580		
2½ and 3	65 and 80	30 and 47	1.89 (48)		120 cm ²	–	94	152		
					175 v2cm ²	–	36	137		
					350 cm ²	72	326	507		
					355 v2cm ²	(282)	(485)	(580)		
					700 cm ²	(580)	–	–		
2½	65	47/70	1.89/2.48 (48/63)		750 v2cm ²	(580)	–	–		
				350 cm ²	39	181	290			
				355 v2cm ²	(159)	(275)	(369)			
				700 cm ²	(333)	(522)	(580)			
3	80	70	2.48 (63)	750 v2cm ²	(355)	(580)	(580)			
				350 cm ²	39	181	290			
				355 v2cm ²	(159)	(275)	(369)			
				700 cm ²	(333)	(522)	(580)			
3	80	95/70	2.95/2.48 (75/63)	750 v2cm ²	(355)	(580)	(580)			
				350 cm ²	–	123	203			
				355 v2cm ²	(108)	(188)	(253)			
				700 cm ²	(232)	(369)	(543)			
					750 v2cm ²	(246)	(406)	(536)		

					Actuator area	Bench range	Required supply pressure	Bench range	Required supply pressure	Bench range	Required supply pressure		
					120 cm ²	5 to 29	34	20 to 33	53	30 to 47	63		
					175 v2cm ²	5 to 29	34	7 to 36	43	18 to 42	60		
					350 cm ²	5 to 29	34	20 to 33	53	30 to 47	78		
					355 v2cm ²	5 to 29 (17 to 29)	34 (46)	20 to 37 (29 to 37)	58 (66)	27 to 47 (37 to 47)	75 (85)		
					700 cm ²	5 to 29 (17 to 29)	34 (46)	20 to 33 (26 to 33)	53 (60)	30 to 47 (39 to 47)	78 (87)		
					750 v2cm ²	5 to 29 (17 to 29)	34 (46)	20 to 34 (27 to 34)	55 (62)	27 to 44 (36 to 44)	72 (81)		
Nominal size		C _v for diverting valve	Seat Ø inch (mm)	Rated travel inch (mm)	Actuator area	Δp when p ₂ = 0 psi							
NPS	DN					355 cm ²		700 cm ²		750 v2cm ²			
4	100	120	3.15 (80)	1.18 (30)	355 cm ²	20	113	159	700 cm ²	56	239	362	
		190/120	3.93/3.15 (100/80)			-	71	100		33	145	232	
6	150	230	4.33 (110)			-	56	81		750 v2cm ²	62	253	355
		350/230	5.12/4.33 (130/110)			-	39	56			37	159	224
4	100	120	3.15 (80)			-	87	130		750 v2cm ²	30	130	181
		190/120	3.93/3.15 (100/80)			-	94	130			-	94	130
6	150	230	4.33 (110)		-	94	130	-	94	130			
		350/230	5.12/4.33 (130/110)		-	94	130	-	94	130			

Table 5: Dimensions**Table 5.1: Type 3244 Valve · DIN version**

Valve	DN	15	20	25	32	40	50	65	80	100	125	150
Length L	mm	130	150	160	180	200	230	290	310	350	400	480
H1	mm	235						270		360	375	
H2	mm	70	80	85	100	105	120	130	140	150	200	210

Table 5.2: Type 3244 Valve · ANSI version

Valve	NPS	½	¾	1	1½	2	2½	3	4	6	
	DN	15	20	25	40	50	65	80	100	150	
Length L	Class 150	mm	184	184	184	222	254	276	298	352	451
		in	7.25	7.25	7.25	8.75	10.00	10.88	11.75	13.88	17.75
	Class 300	mm	190	194	197	235	267	292	318	368	473
		in	7.50	7.62	7.75	9.25	10.50	11.50	12.50	14.50	18.62
H1	mm	235						270		360	375
	in	9.25						10.63		14.17	14.76
H2	Class 150	mm	92	92	92	111	127	138	149	176	225.50
		in	3.62	3.62	3.62	4.37	5.00	5.43	5.87	6.93	8.88
	Class 300	mm	95	97	98.50	117.50	133.50	146	159	184	236.50
		in	3.76	3.82	3.88	4.63	5.26	5.75	6.26	7.24	9.31

Table 5.3: Type 3271 and Type 3277 Actuators

Actuator area		cm ²	120	175v2	350	350v2	355v2	750v2
Diaphragm ØD	in		6.61	8.46	11.02	11.02	11.02	15.51
	mm		168	215	280	280	280	394
H ¹⁾	Type 3271	in	2.71	3.07	3.23	3.62	5.16	9.29
		mm	69	78	82	92	131	236
	Type 3277	in	2.71	3.07	3.23	3.23	4.76	9.29
		mm	69	78	82	82	121	236
H3 ²⁾	in		4.33	4.33	4.33	4.33	4.33	7.48
	mm		110	110	110	110	110	190
H5	Type 3277	in	3.46	3.98	3.98	3.98	3.98	3.98
		mm	88	101	101	101	101	101
Thread	Type 3271	M30x1.5						
	Type 3277	M30x1.5						
α	Type 3271	G ½ (½ NPT)	G ¼ (¼ NPT)	G ⅜ (⅜ NPT)	G ⅜ (⅜ NPT)	G ⅜ (⅜ NPT)	G ⅜ (⅜ NPT)	G ⅜ (⅜ NPT)
α2	Type 3277	–	G ⅜	G ⅜	G ⅜	G ⅜	G ⅜	G ⅜

1) Height with welded-on lifting eyelet or height of eyebolt according to DIN 580. Height of the swivel hoist may differ. Actuators up to 355v2 cm² without lifting eyelet

2) Minimum clearance required to remove the actuator

Table 5.4: Version with (long) insulating section or bellows seal

Valve	DN	15	20	25	32	40	50	65	80	100	125	150
	NPS	½	¾	1	–	1½	2	2½	3	4	–	6
H4	With insulating section or bellows seal	mm	420						455	645	655	
		in	16.54						17.91	25.39	25.79	
	With long insulating section or bellows seal	mm	725						760	895	900	
		in	28.54						29.92	35.24	35.43	

Table 6: Weights

Table 6.1: Type 3244 Valve

Valve	DN	15	20	25	32	40	50	65	80	100	125	150	
	NPS	½	¾	1	–	1½	2	2½	3	4	–	6	
Valve without actuator	kg	6	7	8	13	15	17	31	37	49	95	135	
	lbs	13	15.5	17.5	28.7	33	37.5	68	82	108	210	298	
Weight ¹⁾ with	Insulating section or bellows seal	kg	9	10	11	19	21	23	40	45	68	120	165
		lbs	20	22	24	42	46.3	50.7	88	99	150	265	364
	Long insulating section or bellows seal	kg	13	14	15	23	25	27	44	49	76	128	173
		lbs	28.7	30.9	33	50.7	55	59.5	97	108	168	282	382

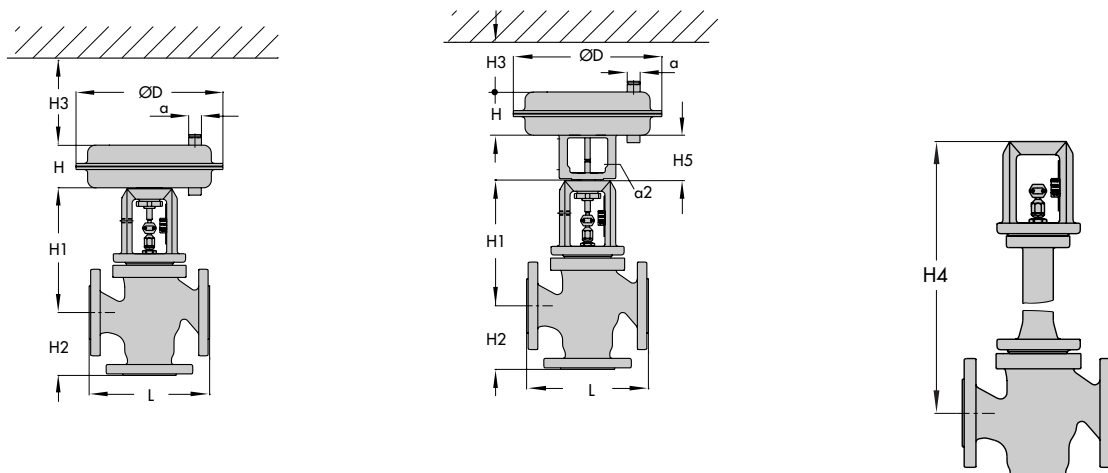
¹⁾ The weights specified apply to a specific standard device configuration. Weights of other valve configurations may differ depending on the version (material, trim etc.).

Table 6.2: Type 3271 and Type 3277 Actuators

Actuator area		cm ²	120	175v2	350	350v2	355v2	750v2	
Weight ¹⁾	Type 3271	Without handwheel	lbs (approx.)	6	13	18	26	33	79
			kg (approx.)	2.5	6	8	11.5	15	36
		With handwheel	lbs (approx.)	9	22	29	37	44	90
		kg (approx.)	4	10	13	16.5	20	41	
	Type 3277	Without handwheel	lbs (approx.)	7	22	27	33	42	89
			kg (approx.)	3.2	10	12	15	19	40
With handwheel		lbs (approx.)	10	31	38	44	53	100	
	kg (approx.)	4.5	14	17	20	24	45		

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.).

Dimensional drawings



Type 3244 Valve with Type 3271 Actuator

Type 3244 Valve with Type 3277 Actuator

Type 3244 Valve with insulating section or bellows seal

Ordering text

Mixing or diverting valve

Nominal size	DN .../NPS ...
Pressure rating	PN .../Class ...
Body material	See Table 2
Actuator	Type 3271 or Type 3277
Fail-safe position	Actuator stem extends or retracts
Process medium	
Density	in kg/m ³ or lb/ft ³
Temperature	in °C or °F
Flow coefficients	kg/h or cu. ft/min in standard or operating state
Upstream pressure	p_1 in bar or psi (absolute pressure p_{abs})
Downstream pressure	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

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