

Series 250

Type 3254-1 and Type 3254-7 Pneumatic Control Valves Type 3254 Globe Valve

ANSI version



Application

Control valve for process engineering applications with high industrial requirements, particularly for high pressures and temperatures

| | |
|------------------------|---|
| Valve size | NPS 3 to 20 |
| Pressure rating | Class 150 to 2500 |
| Temperatures | -325 to +1022 °F (-196 to +550 °C) |



Type 3254 Globe Valve operated with

- Type 3271 Pneumatic Actuator (Type 3254-1 Control Valve)
- Type 3277 Pneumatic Actuator (Type 3254-7 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
- Additional plug stem guide in the bottom body flange

The control valves, designed according to the modular assembly principle, can be equipped with various accessories: Positioners, limit switches, solenoid valves and other accessories according to IEC 60534-6 and NAMUR recommendation (see Information Sheet ▶ T 8350 for more details).

Versions

Standard version with PTFE packing for temperatures from 14 to 428 °F (-10 to +220 °C) or with adjustable high-temperature packing from 14 to 662 °F (-10 to +350 °C), valve size NPS 3 to 20, pressure rating Class 150 to 2500 (see Table 1)

- **Type 3254-1** (Fig. 1) · Type 3254 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 3254-7** · Type 3254 Valve and Type 3277 Pneumatic Actuator with 350 to 750v2 cm² diaphragm area for integral positioner attachment (see ▶ T 8310-1)

Further versions

- **Welding ends or welding-neck ends** · According to ANSI B16.25
- **Flow divider or AC-1/AC-2/AC-3 Trim** for noise reduction See Data Sheets ▶ T 8081, ▶ T 8082, and ▶ T 8083
- **Valve plug with pressure balancing** · See Table 3
- **Perforated plug** · See Data Sheet ▶ T 8086

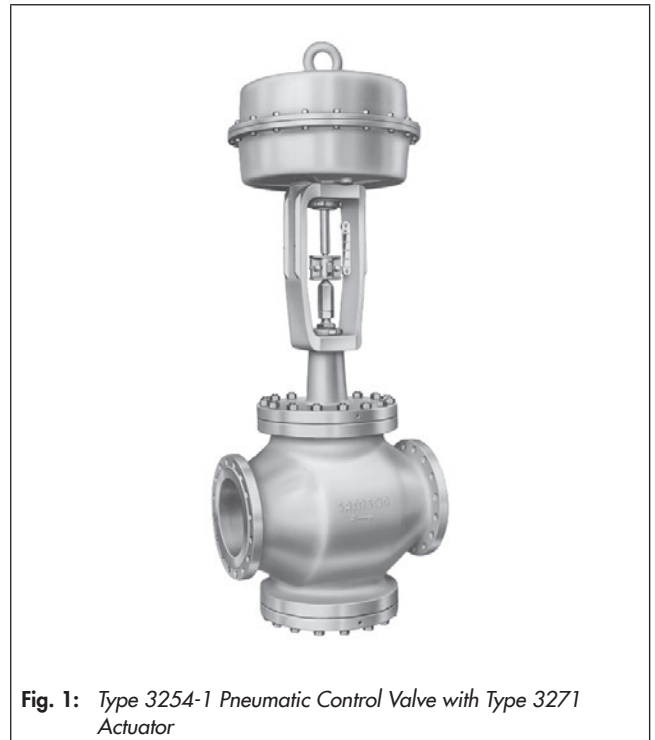


Fig. 1: Type 3254-1 Pneumatic Control Valve with Type 3271 Actuator

- **Insulating section or bellows seal** · See Technical data
- **Heating jacket** · Details on request
- **Additional handwheel** · See Data Sheet ▶ T 8310-1
- **DIN version** · DN 80 to 500, PN 16 to 400 · See Data Sheet ▶ T 8060
- **Type 3254 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 3254-2 Electric Control Valve** · Details on request

Principle of operation

The medium flows through the valve in the direction indicated by the arrow. The valve plug determines the cross-sectional area of flow. The additional stem guide is located in the bottom body flange.

The version with bellows seal (Fig. 4) is fitted with a test connection to monitor the stainless steel bellows.

The valves can be equipped with a flow divider (Fig. 4, see Data Sheet ▶ T 8081) for noise reduction.

Pressure balancing must be used when high pressures or differential pressures act on the plug (Fig. 3).

Fail-safe position

Depending on how the springs are arranged in the pneumatic actuator (see Data Sheets ▶ T 8310-1, ▶ T 8310-2, and ▶ T 8310-3), 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.

Differential pressures

The permissible differential pressures can be found in the Information Sheet ▶ T 8000-4.

Fig. 2 to Fig. 4 show configuration examples.

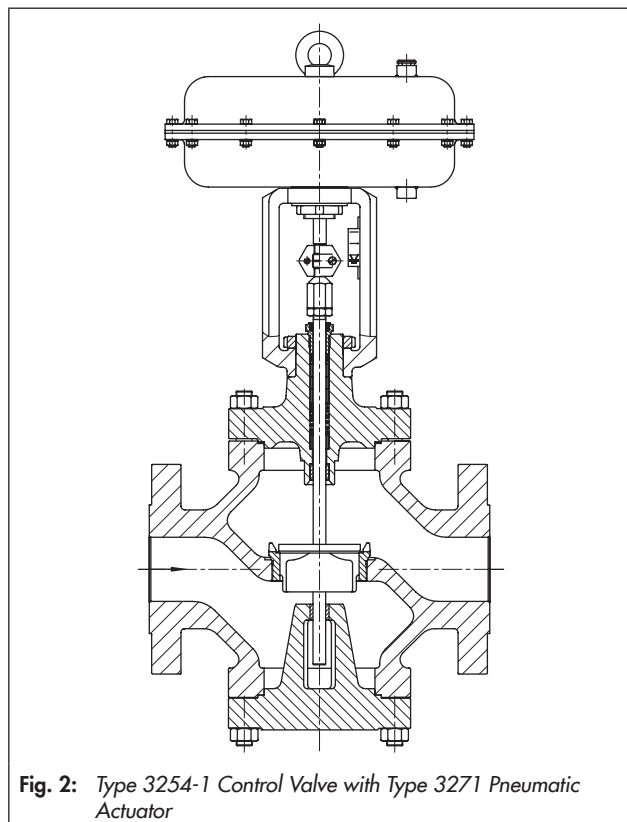


Fig. 2: Type 3254-1 Control Valve with Type 3271 Pneumatic Actuator

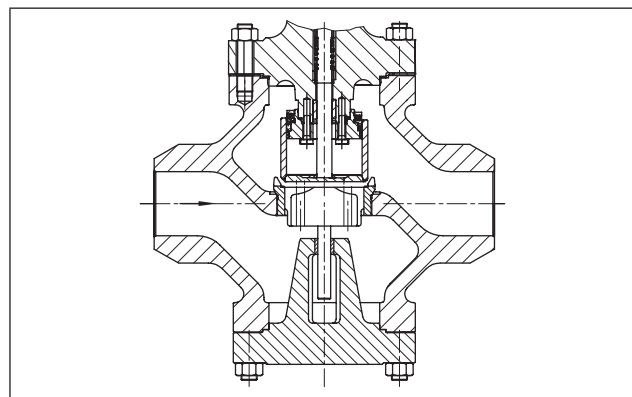


Fig. 3: Type 3254 Valve with welding ends and balanced plug

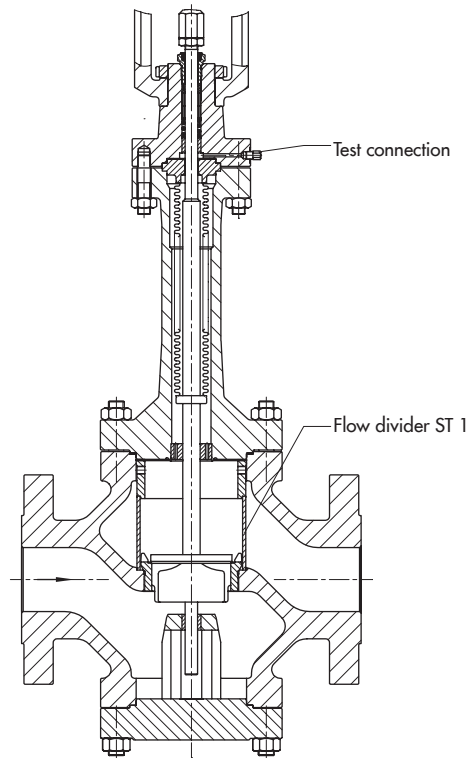


Fig. 4: Type 3254 Valve with flow divider ST 1 and additional bellows seal with test connection

Table 1: Technical data for Type 3254

| Material | | Cast steel A216 WCC | Cast steel A217 WC6 | Cast stainless steel A351 CF8M |
|--|-----------------------------|--|---|-----------------------------------|
| Valve size and pressure rating | | NPS 3 to 12 in Class 150 to 2500 NPS 16 to 20 in Class 150 to 1500 | | |
| Type of connection | Flanges | All ANSI versions | | |
| | Welding ends | According to ANSI B16.25 | | |
| Seat-plug seal | | Metal seal · Soft seal · High-performance metal seal | | |
| Characteristic | | Equal percentage · Linear · Quick opening (see Information Sheet ► T 8000-3) | | |
| Rangeability | | 50:1 | | |
| Compliance | | CE · EAC | | |
| Temperature ranges in °F (°C) · Permissible operating pressures according to pressure-temperature diagrams (see Information Sheet ► T 8000-2) | | | | |
| Body without insulating section | | 14 to 428 (-10 to +220) · Up to 662 (350) with high-temperature packing | | |
| Body with insulating section or bellows seal | | -20 to +800 (-29 to +427) | -20 to +932 (-29 to +500) | -325 to +1022 (-196 to +550) |
| Valve plug ¹⁾ | Standard | Metal seal | -325 to +1022 (-196 to +550) ²⁾ | |
| | | Soft seal | -325 to +428 (-196 to +220) ²⁾ | |
| | Balanced with PTFE ring | -58 to +428 (-50 to +220) ³⁾ | | |
| | Balanced with graphite ring | 428 to +932 (220 to +500) 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: IV · With graphite ring: III | | |

- 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

Table 2: Materials

| Standard version Body and flanges ¹⁾ | | Cast steel A216 WCC | Cast steel A217 WC6 | Cast stainless steel A351 CF8M |
|--|--------------------|---|-------------------------|-----------------------------------|
| Valve bonnet | | A216 WCC/A 105 | A217 WC6/A182 F12 Cl. 2 | A351 CF8M/A 182 F316 |
| Seat and plug ²⁾ Seal ring for | Metal seal | 410-2/1.4008 | | 316 L/CF3M |
| | Soft seal | PTFE with 15 % glass fiber | | |
| | Pressure balancing | PTFE with carbon · Graphite | | |
| Guide bushings | | 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/A 105 | A217 WC6/A 182 F12 Cl.2 | A351 CF8M/A 182 F316 |
| Metal bellows seal | | | | |
| Intermediate piece | | A216 WCC/A 105 | A217 WC6/A 182 F12 Cl.2 | A217 WC6/A182 F12 |
| Metal bellows | | 1.4571 ⁴⁾ | | |
| Heating jacket | | 1.4541 | | |

- 1) Other materials (e.g. for high-temperatures or low temperatures) as well as special materials for applications with sea water, such as 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. K_{VS} 630)
3) Other packings on request (see Information Sheet ► T 8000-1)
4) Other bellows materials on request

Table 3: Available C_V coefficients · Versions highlighted in gray also available with balanced plug

Terms for control valve sizing according to IEC 60534, Parts 2-1 and 2-2: $F_L = 0.95$, $X_T = 0.75$

Table 3.1: Overview with flow divider ST 1 ($C_V1/K_{VS}1$), ST 2 ($C_V2/K_{VS}2$), and ST 3 ($C_V3/K_{VS}3$)

| | | | | | | | | | | | | |
|--------------------|----|------|------|------|------|------|------|------|-------|-------|-------|-------|
| C_V | | 75 | 120 | 190 | 290 | 420 | 735 | 1150 | 1730 | 2300 | 2900 | 4200 |
| K_{VS} | | 63 | 100 | 160 | 250 | 360 | 630 | 1000 | 1500 | 2000 | 2500 | 3600 |
| C_V1 | | 67 | 105 | 170 | 265 | 375 | 650 | 1040 | 1560 | 2080 | 2600 | 3700 |
| $K_{VS}1$ | | 57 | 90 | 144 | 225 | 320 | 560 | 900 | 1350 | 1800 | 2250 | 3200 |
| C_V2 | | 60 | 95 | 145 | 235 | 335 | 580 | 950 | 1400 | 1860 | 2300 | – |
| $K_{VS}2$ | | 50 | 80 | 125 | 200 | 290 | 500 | 800 | 1200 | 1600 | 2000 | – |
| C_V3 | | 55 | 90 | 140 | 220 | 315 | 560 | 880 | 1280 | 1730 | 2200 | – |
| $K_{VS}3$ | | 47 | 75 | 120 | 190 | 270 | 480 | 750 | 1100 | 1500 | – | – |
| Seat \varnothing | in | 2.48 | 3.15 | 3.94 | 4.92 | 5.91 | 7.87 | 9.84 | 11.81 | 13.78 | 15.75 | 19.69 |
| | mm | 63 | 80 | 100 | 125 | 150 | 200 | 250 | 300 | 350 | 400 | 500 |
| Rated travel | in | 1.18 | | | 2.36 | | | 4.72 | | | | |
| | mm | 30 | | | 60 | | | 120 | | | | |

Table 3.2: Versions without flow divider · Class 150 to 2500

| | | | | | | | | | | | | |
|---|----------|-----|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|------|-----------------|-----------------|
| C_V | | 75 | 120 | 190 | 290 | 420 | 735 | 1150 | 1730 | 2300 | 2900 | 4200 |
| K_{VS} | | 63 | 100 | 160 | 250 | 360 | 630 | 1000 | 1500 | 2000 | 2500 | 3600 |
| NPS | DN | | | | | | | | | | | |
| 3 | 80 | • | • ¹⁾ | | | | | | | | | |
| 4 | 100 | • | • | • ¹⁾ | | | | | | | | |
| 6 | 150 | • | • | • | • | • ¹⁾ | | | | | | |
| 8 | 200 | | • | • | • ²⁾ | • | • ¹⁾ | | | | | |
| 10 | 250 | | • | • | • ²⁾ | • | • | • ¹⁾ | | | | |
| 12 | 300 | | | • | • ³⁾ | • | • | • | • ¹⁾ | | | |
| 16 | 400 | | | | | • | • | • | • | • | • ¹⁾ | |
| 20 | 500 | | | | | | | • | • | • | • | • ¹⁾ |
| 1) Reduced C_V/K_{VS} coefficients with Class 900 to 2500: | C_V | 105 | 170 | – | 375 | 650 | 1040 | 1560 | – | 2600 | 3700 | |
| | K_{VS} | 90 | 144 | – | 320 | 560 | 900 | 1350 | – | 2250 | 3200 | |

1) Pressure balancing only for \geq Class 600

2) Pressure balancing only for Class 600/900

Table 3.3: Versions with flow divider ST 1 · Class 150 to 900¹⁾

| | | | | | | | | | | | | |
|-----------|-----|----|-----|-----|-----------------|-----|-----|------|------|------|------|------|
| C_V1 | | 67 | 105 | 170 | 265 | 375 | 650 | 1040 | 1560 | 2080 | 2600 | 3700 |
| $K_{VS}1$ | | 57 | 90 | 144 | 225 | 320 | 560 | 900 | 1350 | 1800 | 2250 | 3200 |
| NPS | DN | | | | | | | | | | | |
| 3 | 80 | • | • | | | | | | | | | |
| 4 | 100 | • | • | • | | | | | | | | |
| 6 | 150 | • | • | • | • | • | | | | | | |
| 8 | 200 | | • | • | • ²⁾ | • | • | | | | | |
| 10 | 250 | | • | • | • ²⁾ | • | • | • | | | | |
| 12 | 300 | | | • | • ³⁾ | • | • | • | • | | | |
| 16 | 400 | | | | | • | • | • | • | • | • | |
| 20 | 500 | | | | | | | • | • | • | • | • |

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

2) Pressure balancing only for \geq Class 600

3) Pressure balancing only for Class 600/900

Table 3.1: Overview with flow divider ST 1 (C_V1/K_{VS1}), ST 2 (C_V2/K_{VS2}), and ST 3 (C_V3/K_{VS3})

| | | | | | | | | | | | | |
|--------------|----|------|------|------|------|------|------|------|-------|-------|-------|-------|
| C_V | | 75 | 120 | 190 | 290 | 420 | 735 | 1150 | 1730 | 2300 | 2900 | 4200 |
| K_{VS} | | 63 | 100 | 160 | 250 | 360 | 630 | 1000 | 1500 | 2000 | 2500 | 3600 |
| C_V1 | | 67 | 105 | 170 | 265 | 375 | 650 | 1040 | 1560 | 2080 | 2600 | 3700 |
| K_{VS1} | | 57 | 90 | 144 | 225 | 320 | 560 | 900 | 1350 | 1800 | 2250 | 3200 |
| C_V2 | | 60 | 95 | 145 | 235 | 335 | 580 | 950 | 1400 | 1860 | 2300 | – |
| K_{VS2} | | 50 | 80 | 125 | 200 | 290 | 500 | 800 | 1200 | 1600 | 2000 | – |
| C_V3 | | 55 | 90 | 140 | 220 | 315 | 560 | 880 | 1280 | 1730 | 2200 | – |
| K_{VS3} | | 47 | 75 | 120 | 190 | 270 | 480 | 750 | 1100 | 1500 | – | – |
| Seat Ø | in | 2.48 | 3.15 | 3.94 | 4.92 | 5.91 | 7.87 | 9.84 | 11.81 | 13.78 | 15.75 | 19.69 |
| | mm | 63 | 80 | 100 | 125 | 150 | 200 | 250 | 300 | 350 | 400 | 500 |
| Rated travel | in | 1.18 | | | 2.36 | | | 4.72 | | | | |
| | mm | 30 | | | 60 | | | 120 | | | | |

Table 3.4: Versions with flow divider ST 2 · Class 150 to 900 ¹⁾

| | | | | | | | | | | | | |
|-----------|-----|----|----|-----|-----------------|-----|-----|-----|------|------|------|---|
| C_V2 | | 60 | 95 | 145 | 235 | 335 | 580 | 950 | 1400 | 1860 | 2300 | – |
| K_{VS2} | | 50 | 80 | 125 | 200 | 290 | 500 | 800 | 1200 | 1600 | 2000 | – |
| NPS | DN | | | | | | | | | | | |
| 3 | 80 | • | • | | | | | | | | | |
| 4 | 100 | • | • | • | | | | | | | | |
| 6 | 150 | • | • | • | • | • | | | | | | |
| 8 | 200 | | • | • | • ²⁾ | • | • | | | | | |
| 10 | 250 | | • | • | • ²⁾ | • | • | • | | | | |
| 12 | 300 | | | • | • ³⁾ | • | • | • | • | | | |
| 16 | 400 | | | | | • | • | • | • | • | • | |
| 20 | 500 | | | | | | | • | • | • | • | |

¹⁾ Class 1500 to 2500 with flow divider ST 2 and pressure balancing on request²⁾ Pressure balancing only for \geq Class 600³⁾ Pressure balancing only for Class 600/900**Table 3.5:** Versions with flow divider ST 3 · Class 150 to 900 ¹⁾

| | | | | | | | | | | | | |
|-----------|-----|----|----|-----|-----------------|-----|-----|-----|------|------|------|---|
| C_V3 | | 55 | 90 | 140 | 220 | 315 | 560 | 880 | 1280 | 1730 | 2200 | – |
| K_{VS3} | | 47 | 75 | 120 | 190 | 270 | 480 | 750 | 1100 | 1500 | 1900 | – |
| NPS | DN | | | | | | | | | | | |
| 4 | 100 | • | | | | | | | | | | |
| 6 | 150 | • | • | • | • | | | | | | | |
| 8 | 200 | | • | • | • ²⁾ | • | | | | | | |
| 10 | 250 | | | • | • ²⁾ | • | • | | | | | |
| 12 | 300 | | | • | • ³⁾ | • | • | • | | | | |
| 16 | 400 | | | | | • | • | • | • | • | | |
| 20 | 500 | | | | | | | • | • | • | • | |

¹⁾ Class 1500 to 2500 with flow divider ST 3 and pressure balancing on request²⁾ Pressure balancing only for \geq Class 600³⁾ Pressure balancing only for Class 600/900

Table 4: Dimensions for Type 3254-1 and Type 3254-7 Pneumatic Control Valves in standard version

Table 4.1: Type 3254 Valve · Face-to face dimensions according to ANSI/ISA-75.08.01 for Class 600 and lower and according to ASME B16.10 for Class 900 and higher

| Valve | | NPS | 3 | 4 | 6 | 8 | 10 | 12 | 16 | 20 | |
|---|--------------------------|-------|-------|-------|-------|-------------------|---------------------|---------------|-----------------------------|-----------------------------|--|
| | | DN | 80 | 100 | 150 | 200 | 250 | 300 | 400 | 500 | |
| Length L (flanges RF and welding ends) | Class 150 | in | 11.75 | 13.88 | 17.75 | 21.38 | 26.50 | 29.00 | 40.00 | 49.88 ⁵⁾ | |
| | | mm | 298 | 352 | 451 | 543 | 673 | 737 | 1016 | 1267 ⁵⁾ | |
| | Class 300 | in | 12.50 | 14.50 | 18.62 | 22.38 | 27.88 | 30.50 | 41.62 | 51.50 ⁵⁾ | |
| | | mm | 318 | 368 | 473 | 568 | 708 | 775 | 1057 | 1308 ⁵⁾ | |
| | Class 600 | in | 13.25 | 15.50 | 20.00 | 24.00 | 29.62 | 32.25 | 43.62 | 54.02 ⁵⁾ | |
| | | mm | 337 | 394 | 508 | 610 | 752 | 819 | 1108 | 1372 ⁵⁾ | |
| | Class 900 | in | 15.00 | 18.00 | 24.00 | 29.00 | 33.00 | 38.00 | 44.50 | On request | |
| | | mm | 381 | 457 | 610 | 737 | 838 | 965 | 1130 | | |
| | Class 1500 | in | 18.50 | 21.50 | 27.75 | 32.75 | 39.00 | 44.50 | 54.50 | On request | |
| | | mm | 470 | 546 | 705 | 832 | 991 | 1130 | 1384 | | |
| | Class 2500 | in | 22.75 | 26.50 | 36.00 | 40.25 | 50.00 | 56.00 | - | | |
| | | mm | 578 | 673 | 914 | 1022 | 1270 | 1422 | | | |
| Height H4 | Class 150 to 600 | in | 8.74 | 9.53 | 12.37 | 15.24 | 17.41 ¹⁾ | 25.79 | 25.20 | 32.28 | |
| | | mm | 222 | 242 | 314 | 387 | 442 ¹⁾ | 655 | 640 | 820 | |
| | Class 900 | in | 8.74 | 9.53 | 12.37 | 15.24 | 20.43 ²⁾ | 25.79 | On request | On request | |
| | | mm | 222 | 242 | 314 | 387 | 519 ²⁾ | 655 | | | |
| | Class 1500 to 2500 | in | 11.34 | 13.7 | 17.56 | 22.44 | On request | On request | On request ³⁾ | On request ³⁾ | |
| | | mm | 288 | 348 | 446 | 570 | | | | | |
| H8 for actuator | 350 cm ² | in | 9.45 | 9.45 | - | | | | | | |
| | | mm | 240 | 240 | | | | | | | |
| | 355v2 cm ² | in | 9.45 | 9.45 | 16.46 | - | - | - | | | |
| | | mm | 240 | 240 | 418 | | | | | | |
| | 700 cm ² | in | 9.45 | 9.45 | 16.46 | 16.46 | 16.46 | - | | | |
| | | mm | 240 | 240 | 418 | 418 | 418 | | | | |
| | 750v2 cm ² | in | 9.45 | 9.45 | 16.46 | 16.46 | 16.46 | - | | | |
| | | mm | 240 | 240 | 418 | 418 | 418 | | | | |
| | 1000 cm ² | in | 11.61 | 11.61 | 16.46 | 16.46 | On request | | | | |
| | | mm | 295 | 295 | 418 | 418 | | | | | |
| | 1400-60 cm ² | in | 11.61 | 11.61 | 16.46 | 16.46 | On request | On request | | | |
| | | mm | 295 | 295 | 418 | 418 | | | | | |
| | 1400-120 cm ² | in | 18.90 | 18.90 | 19.80 | 19.80 | 19.80 | 25.59 | 25.59 | 25.59 | |
| | | mm | 480 | 480 | 503 | 503 | 503 ⁴⁾ | 650 | 650 | 650 | |
| 2800 cm ² | in | 18.90 | 18.90 | 19.80 | 19.80 | 19.80 | 25.59 | 25.59 | 25.59 | | |
| | mm | 480 | 480 | 503 | 503 | 503 ⁴⁾ | 650 | 650 | 650 | | |
| 2x2800 cm ² | in | 18.90 | 18.90 | 19.80 | 19.80 | 19.80 | 25.59 | 25.59 | 25.59 | | |
| | mm | 480 | 480 | 503 | 503 | 503 ⁴⁾ | 650 | 650 | 650 | | |
| H2 | Class 150 | in | 6.89 | 8.15 | 11.34 | 15.35 | 16.14 | 18.90 | 22.05 | 24.80 | |
| | | mm | 175 | 207 | 288 | 390 | 410 | 480 | 560 | 630 | |
| | Class 300 to 600 | in | 8.74 | 9.80 | 13.31 | 15.35 | 16.14 | 18.90 | 25.59 | 28.94 | |
| | | mm | 222 | 249 | 338 | 390 | 410 | 480 | 650 | 735 | |
| | Class 900 | in | 8.74 | 9.80 | 13.31 | 15.35 | 16.14 | 18.90 | On request | | |
| | | mm | 222 | 249 | 338 | 390 | 410 | 480 | | | |
| | Class 1500 | in | 11.02 | 12.24 | 17.40 | 20.87 | 26.77 | 29.92 | On request | | |
| | | mm | 280 | 311 | 442 | 530 | 680 | 760 | | | |
| | Class 2500 | in | 11.02 | 13.11 | 17.72 | On request | | | | | |
| | | mm | 280 | 333 | 450 | | | | | | |

¹⁾ NPS 10 in Class 150 to 300:
442 mm/17.40 in

²⁾ NPS 10 in Class 600 to 900:
519 mm/20.43 in

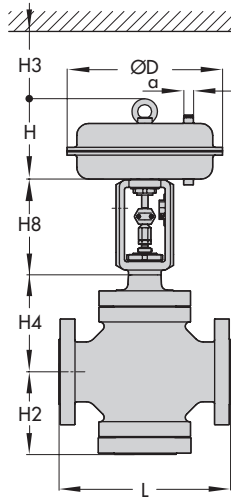
³⁾ Class 1500

⁴⁾ H8 = 650 mm with 250 mm seat bore

⁵⁾ Face-to-face dimensions according to SAMSON standard

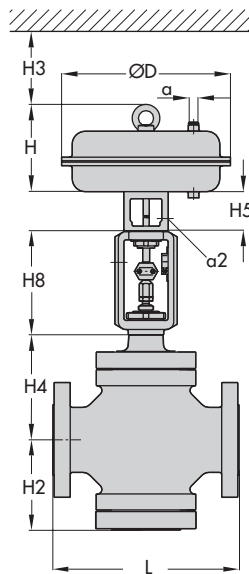
Dimensional drawings

Type 3271 Pneumatic Actuator

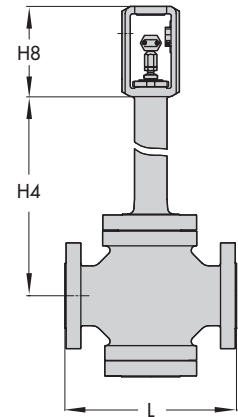


Type 3254-1

Type 3277 Pneumatic Actuator



Type 3254-7



Type 3254 with bellows seal or insulating section

Table 4.2: Types 3271 and 3277 Pneumatic Actuators

| Actuator area | cm ² | 350 | 355v2 | 700 | 750v2 | 1000 | 1400-60 | 1400-120 | 2800 | 2 x 2800 | |
|------------------|-----------------|-----------|-----------|-----------|-----------|-----------|-----------|----------|----------|----------|--|
| Diaphragm ØD | in | 11.02 | 11.02 | 15.35 | 15.51 | 18.19 | 20.87 | 21.02 | 30.32 | 30.32 | |
| | mm | 280 | 280 | 390 | 394 | 462 | 530 | 534 | 770 | 770 | |
| H ¹⁾ | in | 3.23 | 4.76 | 7.83 | 9.29 | 15.87 | 13.27 | 23.54 | 28.07 | 47.76 | |
| | mm | 82 | 121 | 199 | 236 | 403 | 337 | 598 | 713 | 1213 | |
| H3 ²⁾ | in | 4.33 | 4.33 | 7.48 | 7.48 | 24.02 | 24.02 | 25.59 | 25.59 | 25.59 | |
| | mm | 110 | 110 | 190 | 190 | 610 | 610 | 650 | 650 | 650 | |
| H5 | Type 3277 in | 3.98 | 3.98 | 3.98 | 3.98 | - | - | - | - | - | |
| | Type 3277 mm | 101 | 101 | 101 | 101 | - | - | - | - | - | |
| Thread | Type 3271 | M30 x 1.5 | | | | M60 x 1.5 | | | M100 x 2 | | |
| | Type 3277 | M30 x 1.5 | | | | - | - | - | - | - | |
| a | Type 3271 | G 3/8 | G 3/8 | G 3/8 | G 3/8 | G 3/4 | G 3/4 | G 1 | G 1 | G 1 | |
| | | (3/8 NPT) | (3/8 NPT) | (3/8 NPT) | (3/8 NPT) | (3/4 NPT) | (3/4 NPT) | (1 NPT) | (1 NPT) | (1 NPT) | |
| a2 | Type 3277 | G 3/8 | G 3/8 | G 3/8 | G 3/8 | - | - | - | - | - | |

¹⁾ Height including lifting eyelet or female thread and eyebolt according to DIN 580. Height of the swivel lifting hook may differ. Actuators up to 350v2 cm² without lifting eyelet or female thread

²⁾ Minimum clearance required to remove the actuator

Table 5: Weights for Type 3254-1 and Type 3254-7 in standard version

Table 5.1: Type 3254 Valve

| Valve | NPS | DN | 3 | 4 | 6 | 8 | 10 | 12 | 16 | 20 | |
|-----------------------------------|------------|------------|------------|-----|-----|------|------|------|------|------------|--|
| | | | 80 | 100 | 150 | 200 | 250 | 300 | 400 | 500 | |
| Weight for valve without actuator | Class 150 | lbs | 130 | 179 | 410 | 948 | 2138 | 2381 | 4255 | On request | |
| | | kg | 59 | 81 | 186 | 430 | 970 | 1080 | 1930 | | |
| | Class 300 | lbs | 196 | 287 | 785 | 948 | 2138 | 2381 | 4255 | On request | |
| | | kg | 89 | 130 | 356 | 430 | 970 | 1080 | 1930 | | |
| | Class 600 | lbs | 196 | 287 | 785 | 1323 | 2509 | 3417 | 6173 | On request | |
| | | kg | 89 | 130 | 356 | 600 | 1138 | 1550 | 2800 | | |
| | Class 900 | lbs | 196 | 287 | 785 | 1415 | 3009 | 3902 | 6834 | On request | |
| | | kg | 89 | 130 | 356 | 642 | 1365 | 1770 | 3100 | | |
| | Class 1500 | lbs | On request | | | | | | | | |
| | | kg | | | | | | | | | |
| | | lbs | | | | | | | | | |
| | | kg | | | | | | | | | |
| Class 2500 | lbs | On request | | | | | | | | | |
| | kg | | | | | | | | | | |

Table 5.2: Types 3271 and 3277 Pneumatic Actuators

| Actuator | | cm ² | 350 | 355v2 | 700 | 750v2 | 1000 | 1400-60 | 1400-120 | 2800 | 2 x 2800 | |
|---------------------|-------------------|-----------------|-----|-------|-----|-------|------|---------|--------------------------------------|--|------------|--|
| Type 3271 (approx.) | Without handwheel | lbs | 18 | 33 | 49 | 80 | 187 | 154 | 386 | 992 | 2094 | |
| | | kg | 8 | 15 | 22 | 36 | 85 | 70 | 175 | 450 | 950 | |
| | With handwheel | lbs | 29 | 44 | 60 | 91 | 419 | 386 | 661 ¹⁾ /937 ²⁾ | 1268 ¹⁾ /1543 ²⁾ | On request | |
| | | kg | 13 | 20 | 27 | 41 | 190 | 175 | 300 ¹⁾ /425 ²⁾ | 575 ¹⁾ /700 ²⁾ | On request | |
| Type 3277 (approx.) | Without handwheel | lbs | 26 | 42 | 57 | 88 | - | - | | | | |
| | | kg | 12 | 19 | 26 | 40 | | | | | | |
| | With handwheel | lbs | 37 | 53 | 68 | 98 | - | | | | | |
| | | kg | 17 | 24 | 31 | 45 | | | | | | |

¹⁾ Side-mounted handwheel up to 80 mm travel

²⁾ Side-mounted handwheel above 80 mm travel

Table 6: Dimensions and weights for the standard version of Type 3254 with insulating section - Without actuator

| Valve size | NPS | DN | 3 | 4 | 6 | 8 | 10 | 12 | 16 | 20 | | |
|-----------------------------|--------------------|-----|------------|-------|-------|-------|------------|------------|-----------------------|------------|-----------------------|--|
| | | | 80 | 100 | 150 | 200 | 250 | 300 | 400 | 500 | | |
| Height H4 | Class 150 to 600 | in | 19.37 | 20.16 | 26.18 | 37.28 | 42.01 | 45.32 | 44.76 | On request | | |
| | | mm | 492 | 512 | 665 | 947 | 1067 | 1151 | 1137 | | | |
| | Class 900 | in | 19.37 | 20.16 | 26.18 | 37.28 | 42.01 | On request | | | | |
| | | mm | 492 | 512 | 665 | 947 | 1067 | | | | | |
| | Class 1500 to 2500 | in | 21.5 | 23.54 | 31.10 | 42.13 | On request | | Class 1500 On request | | | |
| | | mm | 546 | 598 | 790 | 1070 | | | | | | |
| Weight without actuator for | Class 150 | lbs | 174 | 223 | 454 | 1045 | 2271 | 2476 | 4350 | On request | | |
| | | kg | 79 | 101 | 206 | 474 | 1030 | 1123 | 1973 | | | |
| | Class 300 | lbs | 240 | 331 | 829 | 1045 | 2271 | 2476 | 4350 | | | |
| | | kg | 109 | 150 | 376 | 474 | 1030 | 1123 | 1973 | | | |
| | Class 600 | lbs | 240 | 331 | 829 | 1420 | 2641 | 3512 | 6268 | | | |
| | | kg | 109 | 150 | 376 | 644 | 1198 | 1593 | 2843 | | | |
| | Class 900 | lbs | 240 | 331 | 829 | 1512 | 3201 | 3997 | 6929 | | | |
| | | kg | 109 | 150 | 376 | 686 | 1452 | 1813 | 3143 | | | |
| | Class 1500 to 2500 | lbs | On request | | | | | | | | Class 1500 On request | |
| | | kg | On request | | | | | | | | Class 1500 On request | |

Table 7: Dimensions and weights for the standard version of Type 3254 with bellows seal · Without actuator

| Valve size | | NPS | 3 | 4 | 6 | 8 | 10 | 12 | 16 | 20 | |
|--|---------------------|-------------------|-----------------|------------|------------|------|-----------|-------|-------|---------------|------------|
| | | DN | 80 | 100 | 150 | 200 | 250 | 300 | 400 | 500 | |
| | | Travel | | | | | | | | | |
| Height H4 | Class 150 | 0.59" to 2.36" | 24.13 | 24.13 | 27.72 | | | | | | |
| | | | 613 | 613 | 704 | | | | | | |
| | Class 300 to 900 | 15 to 60 mm | 24.13 | 24.13 | 32.96 | | | | | | |
| | | | 613 | 613 | 837 | | | | | | |
| | in | 0.59 | 34.02 | On request | | | | | | | |
| | | mm | 15 | | | 864 | | | | | |
| | Class 1500 | in | 1.18 | 34.02 | On request | | | | | | |
| | | | mm | 30 | | | 864 | | | | |
| | in | 2.36 | - | | On request | | | | | | |
| | | mm | | | | | 60 | | | | |
| | Class 2500 | in | 0.59 | 40.16 | On request | | | | | | |
| | | | mm | 15 | | | 1020 | | | | |
| | in | 1.18 | 40.16 | On request | | | | | | | |
| | | mm | 30 | | | 1020 | | | | | |
| | in | 2.36 | - | | On request | | | | | | |
| | | mm | | | | | 60 | | | | |
| | Class 150 to 300 | in | 1.18 to 4.72 | - | | | 41.22 | 59.13 | 60.20 | 59.69 | 62.60 |
| | | | mm | | | | 30 to 120 | 1047 | 1502 | 1529 | 1516 |
| | Class 600 to 900 | in | 1.18 to 2.36 | - | | | 62.24 | 62.68 | 64.96 | On request | |
| | | | mm | | | | 30 to 60 | 1581 | 1592 | | |
| Class 600 | in | 4.72 | - | | | - | 94.65 | 91.42 | 90.16 | On request | |
| | | mm | | | | 120 | 2404 | 2322 | 2290 | | |
| Weight for valve with bellows seal (without actuator) for | Class 150 | lbs | 190 | 247 | 474 | 1146 | 2370 | 2575 | 4453 | On request | |
| | | kg | 86 | 112 | 215 | 520 | 1075 | 1168 | 2020 | | |
| | Class 300 | lbs | 262 | 353 | 882 | 1146 | 2370 | 2575 | 4453 | | |
| | | kg | 119 | 160 | 400 | 520 | 1075 | 1168 | 2020 | | |
| | Class 600 | lbs | 262 | 353 | 882 | 1521 | 2745 | 3616 | 6371 | | |
| | | kg | 119 | 160 | 400 | 690 | 1245 | 1640 | 2890 | | |
| | Class 900 | lbs | 262 | 353 | 882 | 1609 | 3307 | 4101 | 7033 | | |
| | | kg | 119 | 160 | 400 | 730 | 1500 | 1860 | 3190 | | |
| | Class 1500 | lbs | On request | | | | | | | | On request |
| | | kg | | | | | | | | | |
| | Class 2500 | lbs | On request | | | | | | | | - |
| | | kg | | | | | | | | | |

Selection and sizing of the control valve

1. Calculate the C_v (K_v) coefficient according to IEC 60534-6.
2. Select valve size NPS and C_v (K_{vs}) coefficient from Table 3.
3. Determine the permissible differential pressure from the 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.

Order specifications:

| | |
|--------------------|--|
| Valve size | NPS |
| Pressure rating | Class |
| Body material | According to Table 2 |
| Bonnet | Standard bonnet, insulating section or bellows seal |
| Type of connection | Flanges/welding ends |
| Plug | Standard or balanced Soft seal, metal seal or high-performance metal seal |
| Characteristic | Equal percentage, linear or quick opening |
| Actuator | Type 3271 or Type 3277 (see Data Sheets ► T 8310-1, ► T 8310-2, and ► T 8310-3) |
| Fail-safe position | Fail-close or fail-open |
| Process medium | Density in lb/cu.ft or kg/m ³ and temperature in °F (°C) |
| Flow rate | lbs/h or kg/h or cu.ft/min or m ³ /h in standard or operating state |
| Pressure | p_1 and p_2 in psi (bar) (absolute pressure p_{abs}) (with minimum, normal and maximum flow rate) |
| Valve accessories | Positioner and/or limit switch |

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

Specifications subject to change without notice



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