

Pneumatic Control Valves Type 3251-1 and Type 3251-7 Globe Valve Type 3251

ANSI version

Application

Control valve for process engineering applications with high industrial requirements

Nominal sizes 1/2" to 8"
Nominal pressure ANSI Class 150 to Class 2500
Temperatures -200 to 500 °C (-325 to 930 °F)



Type 3251 Globe Valve optionally operated with a:

- Type 3271 Pneumatic Actuator (Type 3251-1 Control Valve)
- Type 3277 Pneumatic Actuator (Type 3251-7 Control Valve) for integrated positioner attachment

Valve body optionally made of:

- Carbon steel
- Stainless carbon steel or
- High-temperature (heat-treated) or cold-resisting carbon steel

Low-noise valve plugs optionally with:

- Metal sealing
- Soft sealing or
- Lapped-in metal sealing
- Balanced for handling large differential pressures

The control valves, designed according to the modular assembly principle, can be equipped with various accessories:

Positioners, limit switches, solenoid valves and other equipment according to IEC 60534-6 and NAMUR recommendation (see Information Sheet T 8350 EN for details).

Versions

Standard version with PTFE packing for temperatures from -10 to 220 °C (15 to 428 °F) or with adjustable high-temperature (HT) packing for temperatures for -10 to 350 °C (15 to 660 °F), nominal sizes 1/2" to 8", ANSI Class 150 to 900

Type 3251-1 (Fig. 1) · Type 3251 Valve and Type 3271 Actuator with 350 to 2800 cm² effective areas (see Data Sheet T 8310 EN)

Type 3251-7 · Type 3251 Valve with Type 3277 Actuator with 350 or 700 cm² effective areas (see Data Sheet T 8311 EN)

Further versions with

- **Class 1500 and 2500** · On request
- **Welding ends or welding-neck ends** acc. ANSI B16.25
- **Flow divider** · For noise level reduction, see T 8081 EN
- **AC Trim** · See Data Sheets T 8082 EN and T 8083 EN
- **Insulating section or bellows seal** · See Technical data
- **Heating jacket** · Details on request
- **Additional handwheel** · See T 8310 EN and T 8311 EN
- **Version according to DIN standards** · DN 15 to 200, nominal pressure PN 16 to 400, see Data Sheet T 8051 EN



Fig. 1 · Type 3251-1 Pneumatic Control Valve with Type 3271 Pneumatic Actuator

- **Type 3251-3 Hand-operated Valve** · With Type 3273 Hand-operated Actuator, for valves with max. 30 mm rated travel, see Data Sheet T 8312 EN
- **Type 3251-2 Electric Control Valve** · Details on request

Principle of operation

The process medium flows through the valve in the direction indicated by the arrow. The valve plug position determines the cross-sectional area of flow.

The version with the metal bellows seal (Fig. 4) is equipped with a test connection to allow the monitoring of the stainless steel bellows.

A pressure-balanced plug (Fig. 3) can be used when high pressures or differential pressures act on the valve plug and the force produced by the actuator is insufficient.

The control valves can be equipped with a St I or St III Flow Divider (Fig. 4, see Data Sheet T 8081 EN for details).

Fail-safe positions

Depending on how the compression springs are arranged in the actuator (see Data Sheets T 8310 EN and T 8311 EN for details), the control valve offers two different fail-safe positions effective upon air supply failure:

"Actuator stem extends" (fail-close):

Upon air supply failure, the force of the compression springs causes the valve to close.

"Actuator stem retracts" (fail-open):

Upon air supply failure, the force of the compression springs causes the valve to open.

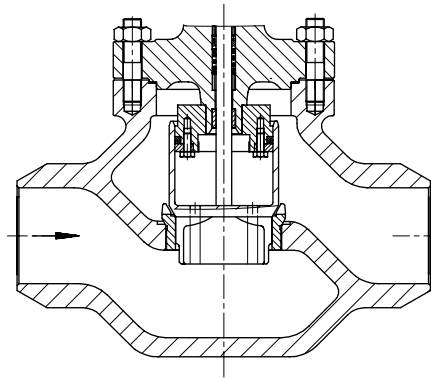


Fig. 3 · Type 3251 Globe Valve with welding ends and balanced valve plug

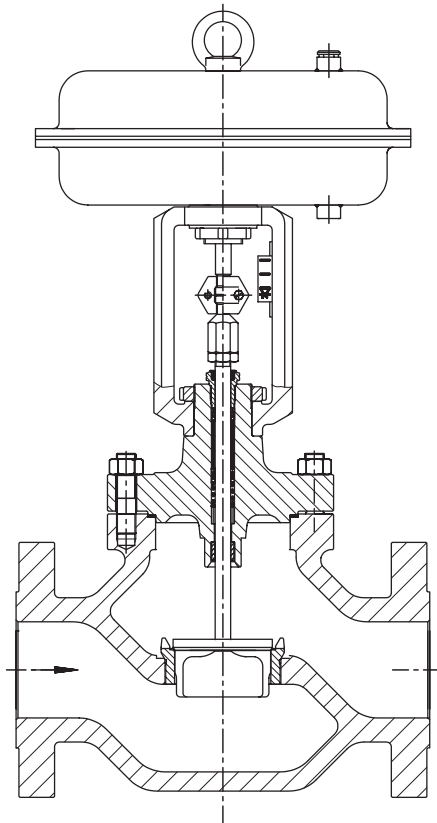


Fig. 2 · Type 3251-1 Control Valve with Type 3271 Pneumatic Actuator

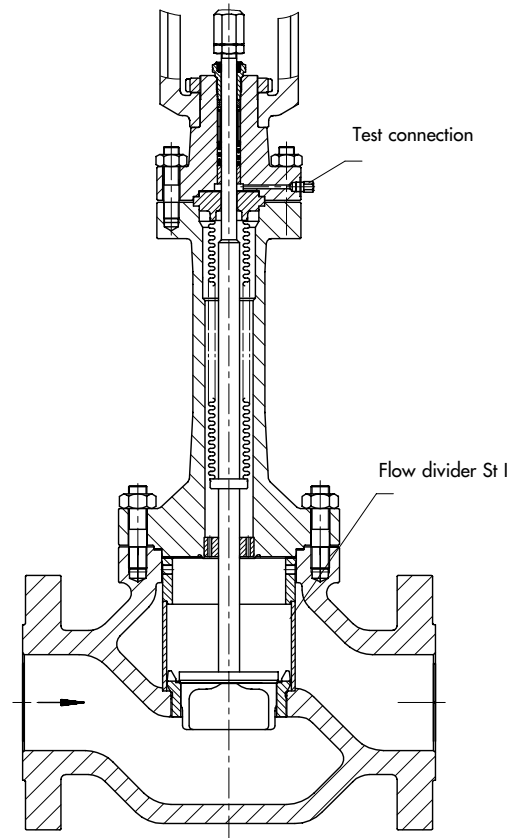


Fig. 4 · Type 3251 Globe Valve with St I Flow Divider and additional metal bellows seal with test connection

Table 1 · Technical Data for Type 3251 Globe Valve

| Materials | | Carbon steel A 216 WCC | Carbon steel A 217 WC6 | Stainless carbon steel A 351 CF8M |
|--|-------------------------|--|-------------------------------|--------------------------------------|
| Nominal sizes | | 1/2" ... 6" · 8" in Class 600 | | |
| Nominal pressure ¹⁾ | Class | 150 ... 900 | | |
| End connection | Flanges | All ANSI versions | | |
| | Welding ends | Acc. to ANSI B 16.25 | | |
| Plug sealing | | Metal sealing, soft sealing or lapped-in metal sealing | | |
| Characteristic | | Equal percentage or linear | | |
| Rangeability | | 50 : 1 | | |
| Temperature ranges in °C (°F) · Permissible operating pressures acc. to pressure-temperature diagrams (see Information Sheet T 8000-2 EN) | | | | |
| Valve body without insulating section | | -10 ... 220 °C (14 ... 428 °F) · Up to 350 °C (660 °F) with high-temperature packing | | |
| Body with | Insulating section | -29...427 °C (-20...800 °F) | -29...500 °C (-20...930 °F) | -200...427 °C (-328...800 °F) |
| | Bellows seal | -29...427 °C (-20...800 °F) | -29...500 °C (-20...930 °F) | -200...427 °C (-328...800 °F) |
| Valve plug ²⁾ | Standard | Metal sealing | -200...500 °C (-325...930 °F) | |
| | | Soft sealing | -200...220 °C (-325...428 °F) | |
| | Balanced | PTFE ring | -200...220 °C (-325...428 °F) | |
| | | Graphite ring | 220...500 °C (428...930 °F) | |
| Leakage class according to DIN EN 1349: 2000 / ANSI/FCI 70-2-1991 | | | | |
| Valve plug | Standard | Metal sealing | IV | |
| | | Soft sealing | VI | |
| | | Lapped-in metal | IV-S2 · 4" and upwards: IV-S1 | |
| | Balanced, metal sealing | With PTFE ring: IV · With graphite ring: III | | |

¹⁾ Up to Class 2500 on request.

²⁾ Only in combination with a suitable body material.

Table 2 · Materials (WN = Material Number according to EN European standard)

| Standard version Valve body and flanges ¹⁾ | | Carbon steel A 216 WCC | Carbon steel A 217 WC6 | Stainless carbon steel A 351 CF8M | |
|--|----------------|---|---------------------------|--------------------------------------|-----------------------------|
| Seat and plug ²⁾ | Metal sealing | WN 1.4006/1.4008 | | WN 1.4571/1.4581 | |
| | Seal ring with | Soft sealing | | | PTFE with 15 % glass fiber |
| | | Balanced | | | PTFE with carbon · Graphite |
| Guide bushing | | WN 1.4112 | | WN 2.4610 | |
| Stuffing box packing | | V-ring packing, PTFE with carbon, spring of WN 1.4310 or high-temperature packing | | | |
| Body gaskets | | Metal | | | |
| Insulating section ³⁾ | | A 217 WC6/A 182 F12 | | A 351 CF8M/A 182 F316 | |
| Metal bellows seal | | | | | |
| Intermediate piece ³⁾ | | A 217 WC6/A 182 F12 | | A 351 CF8M/A 182 F316 | |
| Metal bellows | | WN 1.4571 | | | |
| Heating jacket | | WN 1.4541 | | | |

¹⁾ See also Pressure-Temperature Diagram (T 8000-2 EN); material for cryogenic service: A 352 LCC.

²⁾ All seats and plugs with metal sealing also with Stellite facing or plug of pure Stellite available.

³⁾ Depending on the valve bonnet material.

Table 3 · C_v and K_{vs} values · Versions in shaded areas also available with balanced plug

Table 3a · Overview with St I (C_v I/K_{vs} I) and St III (C_v III/K_{vs} III) Flow Divider

| 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 | |
|---------------------|------|------|------|-----|------|-----|------|-----|-----|-----|------|------|-------|----|----|-----|-------|-----|-----|-----|-----|
| K _{vs} | 0.1 | 0.16 | 0.25 | 0.4 | 0.63 | 1.0 | 1.6 | 2.5 | 4.0 | 6.3 | 10 | 16 | 25 | 40 | 63 | 100 | 160 | 250 | 360 | 630 | |
| C _v I | - | | | | | | 1.7 | 2.6 | 4.2 | 7 | 10.5 | 17 | 26 | 42 | 67 | 105 | 170 | 265 | 375 | 650 | |
| K _{vs} I | - | | | | | | 1.45 | 2.2 | 3.6 | 5.7 | 9 | 14.5 | 22 | 36 | 57 | 90 | 144 | 225 | 320 | 560 | |
| C _v III | - | | | | | | | | 3.5 | 5.6 | 9 | 14 | 23 | 35 | 55 | 90 | 140 | 220 | 315 | - | |
| K _{vs} III | - | | | | | | | | 3 | 4.8 | 7.5 | 12 | 20 | 30 | 47 | 75 | 120 | 190 | 270 | - | |
| Seat Ø mm | 6 | | | | | | 12 | | | 24 | | | 31 | 38 | 50 | 63 | 80 | 100 | 125 | 150 | 200 |
| Rated travel mm | 15 | | | | | | | | | | | | 30 | | | | 60 | | | | |
| in | 0.5" | | | | | | | | | | | | 1.18" | | | | 2.36" | | | | |

Table 3b · Versions without flow divider

| 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 |
|----------------|------|-----|-----|-----|------|-----|---|---|---|-----|----|----|----|----|----|-----|-----|-----|-----|-----|
| DN in/mm | | | | | | | | | | | | | | | | | | | | |
| 1/2" | 15 | • | • | • | • | • | • | • | • | | | | | | | | | | | |
| 1" | 25 | • | • | • | • | • | • | • | • | • | • | | | | | | | | | |
| 1 1/2" | 40 | • | • | • | • | • | • | • | • | • | • | • | • | | | | | | | |
| 2" | 50 | | | | | | | | • | • | • | • | • | • | | | | | | |
| 3" | 80 | | | | | | | | • | • | • | • | • | • | • | • | • | | | |
| 4" | 100 | | | | | | | | | | | | • | • | • | • | • | • | | |
| 6" | 150 | | | | | | | | | | | | | | • | • | • | • | • | • |
| 8" | 200 | | | | | | | | | | | | | | | | • | • | • | • |

Table 3c · Versions with St I Flow Divider

| C _v I | - | | | | | | 1.7 | 2.6 | 4.2 | 7 | 10.5 | 17 | 26 | 42 | 67 | 105 | 170 | 265 | 375 | 650 |
|------------------|-----|--|--|--|--|--|-----|-----|-----|---|------|----|----|----|----|-----|-----|-----|-----|-----|
| DN in/mm | | | | | | | | | | | | | | | | | | | | |
| 1/2" | 15 | | | | | | • | • | • | | | | | | | | | | | |
| 1" | 25 | | | | | | • | • | • | • | • | | | | | | | | | |
| 1 1/2" | 40 | | | | | | • | • | • | • | • | • | • | | | | | | | |
| 2" | 50 | | | | | | | | • | • | • | • | • | • | | | | | | |
| 3" | 80 | | | | | | | | • | • | • | • | • | • | • | • | • | | | |
| 4" | 100 | | | | | | | | | | | | • | • | • | • | • | • | | |
| 6" | 150 | | | | | | | | | | | | | | • | • | • | • | • | • |
| 8" | 200 | | | | | | | | | | | | | | | | • | • | • | • |

Table 3d · Versions with St III Flow Divider

| C _v III | - | | | | | | | | 3.5 | 5.6 | 9 | 14 | 23 | 35 | 55 | 90 | 140 | 220 | 315 | - |
|--------------------|-----|--|--|--|--|--|--|--|-----|-----|---|----|----|----|----|----|-----|-----|-----|---|
| DN in/mm | | | | | | | | | | | | | | | | | | | | |
| 2"* | 50 | | | | | | | | • | • | • | | | | | | | | | |
| 3" | 80 | | | | | | | | • | • | • | • | • | • | | | | | | |
| 4" | 100 | | | | | | | | | | | | • | • | • | | | | | |
| 6" | 150 | | | | | | | | | | | | | | • | • | • | • | • | |
| 8" | 200 | | | | | | | | | | | | | | | | • | • | | |

* 2" version (DN 50) and St III not available with metal bellows

Notes on differential pressure tables

The differential pressure tables were prepared under the following conditions:

- Process flow directed against the closing direction of the valve plug
- Valve plug version with metal sealing
- Version with PTFE packing
- Tables 4a and 4b apply to unbalanced valve plug with a downstream pressure $p_2 = 0$ bar (psi)
- For the maximum differential pressures listed and the previously mentioned conditions, the leakage rate stated in Table 1 is not exceeded
- All pressures mentioned are in bar and psi
- The differential pressure stated can be limited by the pressure-temperature diagram (see T 8000-2 EN).

Note on fail-safe position "Valve CLOSED": Always use pre-tensioned spring ranges for actuators with reduced travels.

Overview: Valve versions of the Δp tables

Table 4a and 4b: Valve with **unbalanced** plug without metal bellows seal; fail-safe position "Valve CLOSED"

Table 5a and 5b: Valve with **balanced** plug with PTFE ring, without metal bellows seal; fail-safe position "Valve CLOSED" or "Valve OPEN"

Table 6a and 6b: Valve with **unbalanced** plug without metal bellows seal; "Valve OPEN"

Note: Permissible differential pressures for special versions with soft sealing or lapped-in metal plugs, with metal bellows seal or balanced plug with graphite ring are available on request.

Table 4a · Permissible differential pressures Δp for valves with unbalanced plug with metal sealing and without metal bellows seal; fail-safe position "Valve CLOSED" · Pressures in bar

The bench ranges in the shaded areas indicate normal operation, i.e. operation at rated travel · Values in non-shaded areas apply to springs pre-tensioned to maximum · Values in parentheses apply to half travel

| Fail-safe position "Valve CLOSED" (fail-close) | | | | | | | | | | | | |
|--|----------------|------------------------------------|--------------------------------------|-------------|-------------|--------------|--------------|--------------|--------------|------------|-----------|--------|
| Nominal bench range (bar) with actuator (cm ²) | 350 | 0.2...1.0 | 0.4...1.2 | 0.4...2.0 | 0.8...2.4 | 0.6...3.0 | 1.2...3.6 | 1.4...2.3 | 2.1...3.3 | – | – | |
| | 700 | | 0.4...1.2 | | 0.8...2.4 | | 1.2...3.6 | 1.4...2.3 | 2.1...3.3 | 2.35...3.8 | 2.6...4.3 | |
| | 1400 | (0.8...1.2) | (1.6...2.4) | (1.6...2.4) | (2.4...3.6) | (1.85...2.3) | (2.7...3.3) | (3.05...3.8) | (3.45...4.3) | | | |
| | 2800 | 0.4...1.2 | 0.8...2.4 | 1.0...3.0 | 1.2...3.6 | 1.0...3.0 | 1.4...2.7 | 1.3...2.8 | 1.7...3.2 | | | |
| | 2x2800 | (0.8...1.2) | (1.6...2.4) | (2.0...3.0) | (2.4...3.6) | 0.9...1.6 | (1.25...1.6) | 1.0...2.1 | 1.1...2.6 | 1.5...3.0 | | |
| Required supply pressure | | Upper spring range value + 0.2 bar | | | | | | | | | | |
| Nominal size | C _v | Actuator cm ² | Δp at p ₂ = 0 bar | | | | | | | | | |
| 1/2" to 1 1/2" | 0.12 to 1.2 | 350 | 46.1 | 102 | 102 | 213 | 158 | 325 | 380 | 400 | – | – |
| | 2 to 3 | 350 | 46.1 | 102 | 102 | 213 | 158 | 325 | 380 | 400 | – | – |
| | 5 to 12 | 350 | 8.7 | 22.4 | 22.4 | 50.5 | 36.6 | 78.4 | 92.3 | 141 | – | – |
| 700 | | – | (106) | – | (217) | – | (329) | (252) | (370) | (400) | – | |
| 2" | 12 | 350 | 8.1 | 22 | 22 | 49.9 | 35.9 | 77.7 | 91.7 | 140 | – | – |
| | | 700 | – | (105) | – | (217) | – | (328) | (252) | (370) | (400) | – |
| 1 1/2" to 3" | 20 | 350 | 4.3 | 12.7 | 12.7 | 29.4 | 21 | 45.1 | 54.4 | 83.6 | – | – |
| | | 700 | – | (62.7) | – | (129) | – | (196) | (150) | (221) | (250) | (284) |
| 1 1/2" to 4" | 30 | 350 | – | 8.1 | 8.1 | 19.2 | 13.6 | 30.3 | 35.8 | 55.3 | – | – |
| | | 700 | – | (41.4) | – | (85.8) | – | (130) | (99.7) | (147) | (166) | (188) |
| 2" to 4" | 47 | 700 | 4.3 | 10.7 | 10.7 | 23.6 | 17.1 | 36.4 | 42.8 | 65.3 | 73.3 | 81.3 |
| | | 1400 | – | (49.2) | – | (100) | – | (126) | – | (129) | – | (155) |
| 3" to 6" | 75 | 700 | – | 6.3 | 6.3 | 14.4 | 10.4 | 22.5 | 26.5 | 40.7 | 45.7 | 50.8 |
| | | 1400 | – | (30.6) | – | (62.9) | – | (79.1) | – | (81.1) | – | (97.3) |
| 3" to 6" | 120 | 700 | – | – | – | 8.7 | 6.2 | 13.7 | 16.3 | 25 | 28.2 | 31.3 |
| | | 1400 | – | (18.8) | – | (38.8) | – | (48.8) | – | (50.1) | – | (60.1) |
| 4" to 6" | 190 | 700 | – | – | – | 5.4 | – | 8.7 | 10.3 | 15.9 | 17.9 | 19.9 |
| | | 1400 | – | (11.9) | – | (24.7) | – | (31.1) | – | (31.9) | – | (38.3) |
| 8" | 190 | 700 | – | – | – | 5.4 | – | 8.6 | 10.2 | 15.8 | 17.8 | 19.8 |
| | | 1400 | – | (11.8) | – | (24.6) | – | (31) | – | (31.8) | – | (38.2) |
| 6" | 290 | 1400 | – | – | – | 7.5 | 4.4 | 9.5 | 10.5 | 13.6 | 12.6 | 16.7 |
| | | 2800 | (15.7) | (32.1) | (40.3) | (48.5) | – | (24.9) | – | (31.1) | – | (37.2) |
| | | 1400 | – | – | – | 7.4 | 4.3 | 9.5 | 10.5 | 13.6 | 12.5 | 16.6 |
| 8" | 290 | 2800 | (15.6) | (32) | (40.3) | (48.5) | – | (24.9) | – | (31) | – | (37.2) |
| | | 2x2800 | (31.2) | (64) | (80.6) | (97) | – | (49.8) | – | (62) | – | (74.4) |
| | | 1400 | – | – | – | 5.1 | – | 6.5 | 7.2 | 9.4 | 8.7 | 11.5 |
| 6" | 420 | 2800 | (10.8) | (22.2) | (27.9) | (33.6) | – | (17.2) | – | (21.5) | – | (25.8) |
| | | 1400 | – | – | – | 5.1 | – | 6.5 | 7.2 | 9.3 | 8.6 | 11.5 |
| | | 2800 | (10.7) | (22.2) | (27.9) | (33.6) | – | (17.2) | – | (21.5) | – | (25.7) |
| 8" | 420 | 2x2800 | (21.4) | (44.4) | (55.8) | (67.2) | – | (34.4) | – | 43 | – | (51.4) |
| | | 1400 | – | – | – | – | – | – | 4 | 5.2 | 4.7 | 6.4 |
| | | 2800 | (6) | (12.4) | (15.6) | (18.8) | – | (9.6) | – | (12) | – | (14.4) |
| 8" | 735 | 2x2800 | (12) | (24.8) | (31.2) | (37.6) | – | (19.2) | – | (24) | – | (28.8) |

Table 4b · Permissible differential pressures Δp for valves with unbalanced plug with metal sealing and without metal bellows seal; fail-safe position "Valve CLOSED" · Pressures in psi

The bench ranges in the shaded areas indicate normal operation, i.e. operation at rated travel · Values in non-shaded areas apply to springs pre-tensioned to maximum · Values in parentheses apply to half travel

| Fail-safe position "Valve CLOSED" (fail-close) | | | | | | | | | | | | |
|--|----------------|----------------------------------|--------------------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|--------|
| Nominal bench range (psi) with actuator (cm ²) | 350 | 3...15 | 6...18 | 6...30 | 12...36 | 9...45 | 18...52 | 20...34 | 30...48 | – | – | |
| | 700 | | 6...18 (12...18) | | 12...36 (23...36) | | 18...52 (35...52) | 20...34 (27...34) | 30...48 (39...48) | 35...55 (44...55) | 36...62 (50...62) | |
| | 1400 | | | | 7...36 | 15...45 (30...45) | 16...36 | 20...39 (30...39) | 19...41 | 25...46 (36...46) | | |
| | 2800 | 6...18 (12...18) | 12...36 (23...36) | 15...45 (30...45) | 18...52 (35...52) | 13...23 | 16...26 (18...23) | 15...30 | 18...34 (22...30) | 17...36 | 22...45 (27...36) | |
| | 2x2800 | | | | | | | | | | | |
| Required supply pressure | | Upper spring range value + 3 psi | | | | | | | | | | |
| Nominal size | C _v | Actuator cm ² | Δp at p ₂ = 0 psi | | | | | | | | | |
| 1/2" to 1 1/2" | 0.12 to 1.2 | 350 | 668 | 1479 | 1479 | 3088 | 2291 | 4712 | 5510 | 5800 | – | – |
| | 2 to 3 | 350 | 668 | 1479 | 1479 | 3088 | 2291 | 4712 | 5510 | 5800 | – | – |
| 2" | 5 to 12 | 350 | 126 | 325 | 325 | 732 | 530 | 1137 | 1338 | 2044 | – | – |
| | | 700 | – | (1537) | – | (3146) | – | (4770) | (3654) | (5365) | (5800) | – |
| 2" | 5 to 12 | 350 | 117 | 319 | 319 | 723 | 520 | 1126 | 1329 | 2030 | – | – |
| | | 700 | – | (1522) | – | (3146) | – | (4756) | (3654) | (5365) | (5800) | – |
| 1 1/2" to 3" | 20 | 350 | 62 | 184 | 184 | 426 | 304 | 654 | 789 | 1212 | – | – |
| | | 700 | – | (909) | – | (1870) | – | (2842) | (2175) | (3204) | (3625) | (4118) |
| 1 1/2" to 4" | 30 | 350 | – | 117 | 117 | 278 | 197 | 439 | 519 | 801 | – | – |
| | | 700 | – | (600) | – | (1244) | – | (1885) | (1445) | (2131) | (2407) | (2726) |
| 2" to 4" | 47 | 700 | 62 | 155 | 155 | 342 | 248 | 527 | 620 | 947 | 1063 | 1178 |
| | | 1400 | – | (713) | – | (145) | – | (1827) | – | (1870) | – | (2247) |
| 3" to 6" | 75 | 700 | – | 91 | 91 | 209 | 151 | 326 | 384 | 590 | 662 | 736 |
| | | 1400 | – | (443) | – | (912) | – | (1147) | – | (1176) | – | (1411) |
| 3" to 6" | 120 | 700 | – | – | – | 126 | 90 | 198 | 236 | 362 | 409 | 454 |
| | | 1400 | – | (272) | – | (562) | – | (707) | – | (726) | – | (871) |
| 4" to 6" | 190 | 700 | – | – | – | 78 | – | 126 | 149 | 230 | 259 | 288 |
| | | 1400 | – | (172) | – | (358) | – | (451) | – | (462) | – | (555) |
| 8" | 190 | 700 | – | – | – | 78 | – | 124 | 148 | 224 | 258 | 287 |
| | | 1400 | – | (171) | – | (356) | – | (449) | – | (461) | – | (554) |
| 6" | 290 | 1400 | – | – | – | 108 | 64 | 137 | 152 | 197 | 183 | 242 |
| | | 2800 | (227) | (465) | (584) | (703) | – | (361) | – | (451) | – | (539) |
| 8" | 290 | 1400 | – | – | – | 107 | 62 | 137 | 152 | 197 | 181 | 240 |
| | | 2800 | (226) | (464) | (584) | (703) | – | (361) | – | (449) | – | (539) |
| | | 2x2800 | (452) | (928) | (1168) | (1406) | – | (722) | – | (899) | – | (1079) |
| 6" | 420 | 1400 | – | – | – | 74 | – | 94 | 104 | 136 | 126 | 166 |
| | | 2800 | (156) | (322) | (404) | (487) | – | (249) | – | (312) | – | (374) |
| 8" | 420 | 1400 | – | – | – | 74 | – | 94 | 104 | 135 | 125 | 166 |
| | | 2800 | (155) | (322) | (404) | (487) | – | (249) | – | (312) | – | (372) |
| | | 2x2800 | (310) | (644) | (809) | (974) | – | (499) | – | (623) | – | (745) |
| 8" | 735 | 1400 | – | – | – | – | – | – | 58 | 75 | 68 | 93 |
| | | 2800 | (87) | (180) | (226) | (272) | – | (139) | – | (174) | – | (209) |
| | | 2x2800 | (174) | (359) | (452) | (545) | – | (278) | – | (348) | – | (417) |

Table 5a · Permissible differential pressures Δp for valves with balanced plug with metal sealing and PTFE ring, without metal bellows seal · Pressures in bar

The bench ranges in the shaded areas indicate normal operation, i.e. operation at rated travel · Values in non-shaded areas apply to springs pre-tensioned to maximum · Values in parentheses apply to half travel

| Fail-safe position | | | "Valve CLOSED" (fail-close) | | | | | | "Valve OPEN" (fail-open) | | |
|--|----------------|--------------------------|--------------------------------------|-----------|--------------------------|-----------|--------------------------|------------------------------|--------------------------|-------|-------|
| Nominal bench range (bar) with actuator (cm ²) | 700 | 0.4...2.0 | 0.8...2.4 (1.6...2.4) | – | – | 0.6...3.0 | 1.2...3.6 | 0.4 ... 2.0 (0.4 ... 1.2) | | | |
| | 1400 | | | – | – | – | – | | | | |
| | 2800 | | | 0.5...2.5 | 1.0...3.0 (2.0...3.0) | 0.6...3.0 | 1.2...3.6 (2.4...3.6) | | | | |
| | 2x2800 | | | | | | | | | | |
| Required supply pressure | | | Upper spring range value + 0.2 bar | | | | | | 2.4 | 4.0 | 6.0 |
| Nominal size | C _v | Actuator cm ² | Δp at p ₂ = 0 bar | | | | | | | | |
| 3" 4" | 75 | 700 | 57.4 | 155 | – | – | 106 | 252 | 57.4 | 400 | – |
| | | 1400 | – | (400) | – | (400) | – | – | (400) | – | – |
| 6" | 75 | 700 | 22.2 | 62.1 | – | – | 42.2 | 102 | 22.2 | 182 | 382 |
| | | 1400 | – | (302) | – | (381) | – | – | (221) | (400) | – |
| 3" 4" | 120 | 700 | 48.1 | 146 | – | – | 96.8 | 243 | 48.1 | 400 | – |
| | | 1400 | – | (400) | – | (400) | – | – | (400) | – | – |
| 6" | 120 | 700 | 18.4 | 58.3 | – | – | 38.4 | 98.3 | 18.4 | 178 | 378 |
| | | 1400 | – | (298) | – | (378) | – | – | (218) | (400) | – |
| 4" | 190 | 700 | 37.2 | 135 | – | – | 85.9 | 232 | 37.2 | 400 | – |
| | | 1400 | – | (400) | – | (400) | – | – | (400) | – | – |
| 6" | 190 | 700 | 13.9 | 53.8 | – | – | 33.9 | 93.8 | 13.9 | 174 | 373 |
| | | 1400 | – | (293) | – | (373) | – | – | (213) | (400) | – |
| 8" | 190 | 700 | 4.6 | 20.2 | – | – | 12.4 | 35.8 | 4.6 | 67 | 145 |
| | | 1400 | – | (114) | – | (145) | – | – | (82.6) | (207) | (363) |
| 6" | 290 | 1400 | 48.3 | 128 | 68.2 | 168 | – | – | 48.3 | 368 | 400 |
| | | 2800 | – | (400) | – | (400) | – | (400) | (400) | – | – |
| 8" | 290 | 1400 | 18 | 49.2 | 25.8 | 64.8 | – | – | 18 | 143 | 299 |
| | | 2800 | – | (236) | – | (298) | – | (361) | (174) | (400) | – |
| | | 2x2800 | – | (400) | – | (400) | – | (400) | (348) | (400) | – |
| 6" | 420 | 1400 | 42.6 | 123 | 62.6 | 162 | – | – | 42.7 | 362 | 400 |
| | | 2800 | – | (400) | – | (400) | – | (400) | (400) | – | – |
| 8" | 420 | 1400 | 15.8 | 47 | 23.6 | 62.6 | – | – | 15.3 | 109 | 265 |
| | | 2800 | – | (234) | – | (296) | – | (359) | (172) | (400) | – |
| | | 2x2800 | – | (400) | – | (400) | – | (400) | (344) | (400) | – |
| 8" | 735 | 1400 | 11.4 | 42.6 | 19.2 | 58.2 | – | – | 11.4 | 136 | 292 |
| | | 2800 | – | (230) | – | (292) | – | (354) | (167) | (400) | – |
| | | 2x2800 | – | (400) | – | (400) | – | (400) | (334) | (400) | – |

Table 5b · Permissible differential pressures Δp for valves with balanced plug with metal sealing and PTFE ring, without metal bellows seal · Pressures in psi

The bench ranges in the shaded areas indicate normal operation, i.e. operation at rated travel · Values in non-shaded areas apply to springs pre-tensioned to maximum · Values in parentheses apply to half travel

| Fail-safe position | | | "Valve CLOSED" (fail-close) | | | | | | "Valve OPEN" (fail-open) | | |
|--|----------------|--------------------------|--------------------------------------|--------|----------------------|--------|----------------------|------------------------|--------------------------|--------|--------|
| Nominal bench range (psi) with actuator (cm ²) | 700 | 6...30 | 12...36 (23...36) | – | – | 9...45 | 18...52 | 6 ... 30 (6 ... 18) | | | |
| | 1400 | | | 7...36 | 15...44 (30...45) | – | – | | | | |
| | 2800 | | | | | 9...45 | 18...52 (36...52) | | | | |
| | 2x2800 | | | | | | | | | | |
| Required supply pressure | | | Upper spring range value + 3 psi | | | | | | 36 | 60 | 90 |
| Nominal size | C _v | Actuator cm ² | Δp at p ₂ = 0 psi | | | | | | | | |
| 3" 4" | 75 | 700 | 832 | 2247 | – | – | 1537 | 3654 | 832 | 5800 | – |
| | | 1400 | – | (5800) | – | (5800) | – | – | (5800) | – | – |
| 6" | 75 | 700 | 322 | 900 | – | – | 615 | 1479 | 322 | 2639 | 5539 |
| | | 1400 | – | (4379) | – | (5524) | – | – | (3204) | (5800) | – |
| 3" 4" | 120 | 700 | 697 | 2117 | – | – | 1403 | 2523 | 697 | 5800 | – |
| | | 1400 | – | (5800) | – | (5800) | – | – | (5800) | – | – |
| 6" | 120 | 700 | 267 | 845 | – | – | 557 | 1425 | 267 | 2581 | 5481 |
| | | 1400 | – | (4321) | – | (5481) | – | – | (3161) | (5800) | – |
| 4" | 190 | 700 | 539 | 1957 | – | – | 1245 | 3364 | 539 | 5800 | – |
| | | 1400 | – | (5800) | – | (5800) | – | – | (5800) | – | – |
| 6" | 190 | 700 | 201 | 780 | – | – | 491 | 1360 | 201 | 2523 | 5408 |
| | | 1400 | – | (4248) | – | (5408) | – | – | (3088) | (5800) | – |
| 8" | 190 | 700 | 66 | 293 | – | – | 179 | 519 | 66 | 971 | 2102 |
| | | 1400 | – | (1653) | – | (2102) | – | – | (1197) | (3001) | (5263) |
| 6" | 290 | 1400 | 700 | 1856 | 989 | 2436 | – | – | 700 | 5336 | 5800 |
| | | 2800 | – | (5800) | – | (5800) | – | (5800) | (5800) | – | – |
| 8" | 290 | 1400 | 261 | 713 | 374 | 939 | – | – | 261 | 2073 | 4335 |
| | | 2800 | – | (3422) | – | (4321) | – | (5234) | (2523) | (5800) | – |
| | | 2x2800 | – | (5800) | – | (5800) | – | (5800) | (5046) | (5800) | – |
| 6" | 420 | 1400 | 617 | 1783 | 907 | 2349 | – | – | 619 | 5249 | 5800 |
| | | 2800 | – | (5800) | – | (5800) | – | (5800) | (5800) | – | – |
| 8" | 420 | 1400 | 229 | 681 | 342 | 907 | – | – | 221 | 1580 | 3842 |
| | | 2800 | – | (3393) | – | (4292) | – | (5205) | (2494) | (5800) | – |
| | | 2x2800 | – | (5800) | – | (5800) | – | (5800) | (4988) | (5800) | – |
| 8" | 735 | 1400 | 165 | 617 | 278 | 844 | – | – | 165 | 1972 | 4234 |
| | | 2800 | – | (3335) | – | (4234) | – | (5133) | (2421) | (5800) | – |
| | | 2x2800 | – | (5800) | – | (5800) | – | (5800) | (4843) | (5800) | – |

Table 6 · Permissible differential pressures Δp for valves with unbalanced plug with metal sealing and without metal bellows seal · Fail-safe position "Valve OPEN"

| | | | Table 6a · Pressures in bar | | | | Table 6b · Pressures in psi | | | |
|---|----------------|--------------------------|--------------------------------------|--------|--------|--------|--------------------------------------|--------|--------|--------|
| Nominal bench range in bar/psi with actuator (cm ²) | | | 0.2 ... 1.0 (0.2 ... 0.6) | | | | 3 ... 15 (3 ... 9) | | | |
| Required supply pressure | | | 1.4 | 2.4 | 4.0 | 6.0 | 20 | 36 | 60 | 90 |
| Nominal size | C _v | Actuator cm ² | Δp at p ₂ = 0 bar | | | | Δp at p ₂ = 0 psi | | | |
| 1/2" to 1 1/2" | 0.12 to 1.2 | 350 | 102 | 380 | 400 | – | 1479 | 5510 | 5800 | – |
| | 2 to 3 | 350 | 101 | 380 | 400 | – | 1464 | 5510 | 5800 | – |
| 2" | 5 to 12 | 350 | 22.4 | 92.1 | 203 | 343 | 325 | 1335 | 2943 | 4973 |
| | | 700 | (106) | (245) | (400) | – | (1537) | (3552) | (5800) | – |
| 2" | 5 to 12 | 350 | 21.6 | 91.3 | 203 | 342 | 313 | 1324 | 2943 | 4959 |
| | | 700 | (105) | (244) | (400) | – | (1522) | (3538) | (5800) | – |
| 1 1/2" to 3" | 20 | 350 | 12.4 | 54.2 | 121 | 204 | 180 | 786 | 1754 | 2958 |
| | | 700 | (62.5) | (146) | (280) | (400) | (906) | (2117) | (4060) | – |
| 1 1/2" to 4" | 30 | 350 | 7.9 | 35.7 | 80.1 | 136 | 114 | 517 | 1161 | 1972 |
| | | 700 | (41) | (97) | (185) | (297) | (594) | (2682) | (2682) | – |
| 2" to 4" | 47 | 700 | 10.6 | 42.7 | 94.1 | 158 | 153 | 619 | 1364 | 2291 |
| | | 1400 | (49) | (113) | (216) | (344) | (710) | (1638) | (3132) | – |
| 3" to 6" | 75 | 700 | 6.2 | 26.4 | 58.7 | 99.2 | 90 | 383 | 851 | 1438 |
| | | 1400 | (30.4) | (71) | (135) | (216) | (441) | (1029) | (1957) | – |
| 3" to 6" | 120 | 700 | – | 16.2 | 36.2 | 61.3 | – | 235 | 525 | 889 |
| | | 1400 | (18.7) | (43.7) | (84) | (134) | (271) | (633) | (1218) | (1943) |
| 4" to 6" | 190 | 700 | – | 10.2 | 23 | 39.1 | – | 148 | 333 | 567 |
| | | 1400 | (11.8) | (27.8) | (53.5) | (85) | (171) | (403) | (775) | (1232) |
| 8" | 190 | 700 | – | 10.0 | 22.9 | 38.9 | – | 145 | 332 | 564 |
| | | 1400 | (11.6) | (27.7) | (53.3) | (85) | (168) | (401) | (773) | (1232) |
| 6" | 290 | 1400 | – | 13.6 | 30 | 50.6 | – | 197 | 435 | 733 |
| | | 2800 | (15.6) | (36.2) | (69) | (110) | (226) | (525) | (1000) | – |
| 8" | 290 | 1400 | – | 13.5 | 29.9 | 50.4 | – | 195 | 433 | 731 |
| | | 2800 | (15.5) | (36.1) | (69) | (110) | (224) | (523) | (1000) | – |
| | | 2x2800 | (31) | (72) | (138) | (220) | (449) | (1044) | (2001) | – |
| 6" | 420 | 1400 | – | 9.4 | 20.8 | 35 | – | 136 | 301 | 507 |
| | | 2800 | (10.8) | (25) | (47.8) | (76.4) | (156) | (362) | (693) | – |
| 8" | 420 | 1400 | – | 9.3 | 20.7 | 34.9 | – | 135 | 300 | 506 |
| | | 2800 | (10.7) | (25) | (47.8) | (76.3) | (156) | (362) | (693) | – |
| | | 2x2800 | (21.4) | (50) | (95.6) | (152) | (310) | (725) | (1386) | – |
| 8" | 735 | 1400 | – | 5.1 | 11.5 | 19.5 | – | 74 | 166 | 282 |
| | | 2800 | (5.9) | (13.9) | (26.8) | (42.8) | (85) | (201) | (388) | (620) |
| | | 2x2800 | (11.8) | (27.8) | (53.6) | (85.6) | (171) | (403) | (777) | – |

Table 7 · Dimensions for Type 3251-1 and Type 3251-7 Pneumatic Control Valve as standard version

| Valve | | | ½" | 1" | 1½" | 2" | 3" | 4" | 6" | 8" | |
|-----------------------|----------------------|---------------|------|-------|-------|-------|-------|-------|-------|-------|-------|
| Length L | Class 150 | mm | 184 | 184 | 222 | 254 | 298 | 352 | 451 | 543 | |
| | | in | 7.24 | 7.24 | 8.74 | 10 | 11.73 | 13.83 | 17.75 | 21.37 | |
| | Class 300 | mm | 191 | 197 | 235 | 267 | 318 | 368 | 473 | 568 | |
| | | in | 7.52 | 7.75 | 9.25 | 10.52 | 12.52 | 14.49 | 18.62 | 22.36 | |
| | Class 600 | mm | 203 | 210 | 251 | 286 | 337 | 394 | 508 | 609 | |
| | | in | 7.99 | 8.26 | 9.88 | 11.26 | 13.26 | 15.51 | 20 | 23.97 | |
| | Class 900 | mm | 216 | 254 | 305 | 368 | 381 | 457 | 609 | 737 | |
| | | in | 8.5 | 10 | 12 | 14.49 | 15 | 17.99 | 23.97 | 29.01 | |
| H1 for actuator | 350 cm ² | Class 150/600 | mm | 392 | 392 | 404 | 457 | 462 | 482 | - | |
| | | | in | 15.43 | 15.43 | 15.9 | 17.99 | 18.19 | 18.97 | | |
| | | Class 900 | mm | 426 | 426 | 435 | 491 | 462 | 482 | | |
| | | | in | 16.77 | 16.77 | 17.12 | 19.33 | 18.19 | 18.97 | | |
| | 700 cm ² | Class 150/600 | mm | 392 | 392 | 404 | 457 | 462 | 482 | 732 | 805 |
| | | | in | 15.43 | 15.43 | 15.9 | 17.99 | 18.19 | 18.97 | 29.01 | 31.69 |
| | | Class 900 | mm | 426 | 426 | 435 | 491 | 462 | 482 | 732 | 805 |
| | | | in | 16.77 | 16.77 | 17.12 | 19.33 | 18.19 | 18.97 | 29.01 | 31.69 |
| | 1400 cm ² | Class 150/600 | mm | - | | | 512 | 517 | 537 | 732 | 805 |
| | | | in | | | | 20.16 | 20.35 | 21.14 | 29.01 | 31.69 |
| | | Class 900 | mm | | | | 546 | 517 | 537 | 732 | 805 |
| | | | in | | | | 21.49 | 20.35 | 21.14 | 29.01 | 31.69 |
| 2800 cm ² | Class 150/600 | mm | - | | | | | 722 | 817 | 890 | |
| | | in | | | | | | 28.42 | 32.16 | 35.04 | |
| | Class 900 | mm | | | | | | 722 | 817 | 890 | |
| | | in | | | | | | 28.42 | 32.16 | 35.04 | |
| H2 | Class 150 | mm | 50 | 60 | 80 | 90 | 100 | 160 | 220 | 250 | |
| | | in | 1.97 | 2.36 | 3.15 | 3.54 | 3.93 | 6.29 | 8.66 | 9.84 | |
| | Class 300/600 | mm | 60 | 70 | 90 | 100 | 120 | 180 | 235 | 270 | |
| | | in | 2.34 | 2.75 | 3.54 | 3.93 | 4.72 | 7.02 | 9.25 | 10.63 | |
| | Class 900 | mm | 70 | 80 | 100 | 110 | 120 | 180 | 235 | 270 | |
| | | in | 2.75 | 3.15 | 3.93 | 4.33 | 4.72 | 7.08 | 9.25 | 10.63 | |

| Actuator | cm ² | 350 | 700 | 1400 | 2800 | 2 x 2800 |
|------------------------------|-----------------|-------------|-------|-------|-------------|-------------|
| Diaphragm Ø | mm | 280 | 390 | 530 | 770 | |
| | in | 11.02 | 15.35 | 20.86 | 30.3 | |
| H ¹⁾ | mm | 82 | 196 | 287 | 620 | 1130 |
| | in | 3.23 | 7.71 | 11.3 | 24.41 | 44.49 |
| H3 ²⁾ | mm | 110 | 190 | 610 | 650 | |
| | in | 4.33 | 7.48 | 24 | 25.5 | |
| Thread | | M 30 x 1.5 | | | M 60 x 1.5 | M 100 x 2 |
| a (with Type 3271 Actuator) | | G ¾ (NPT ¾) | | | G ¾ (NPT ¾) | G 1 (NPT 1) |
| a2 (with Type 3277 Actuator) | | G ¾ (NPT ¾) | | | - | |

1) Actuator 350 cm² without lifting ring

2) Minimum clearance for actuator disassembly

Table 8 · Weights for Type 3251 Globe Valve in standard version

| Valve | | | 1/2" | 1" | 1 1/2" | 2" | 3" | 4" | 6" | 8" |
|----------------------------------|------------|-----|------|------|--------|------|-----|-----|-----|------|
| Valve without actuator (approx.) | Cl 150/300 | kg | 15.5 | 17.5 | 21.5 | 38 | 59 | 78 | 201 | 427 |
| | | lbs | 34.2 | 38.6 | 47.4 | 83.8 | 130 | 172 | 443 | 1191 |
| | Class 600 | kg | 22 | 28 | 36 | 64 | 102 | 137 | 340 | 540 |
| | | lbs | 49 | 62 | 80 | 141 | 225 | 302 | 750 | 1191 |
| | Class 900 | kg | 35 | 41 | 60 | 97 | 120 | 160 | 380 | 650 |
| | | lbs | 77 | 90 | 132 | 214 | 265 | 353 | 838 | 1433 |

| Actuator | | cm ² | 350 | 700 | 1400 | 2800 | 2 x 2800 | | | |
|---------------------|----------------|-----------------|------|------|---|------|----------|---|--|--|
| Type 3271 (approx.) | Without | kg | 8 | 22 | 70 | 450 | 950 | | | |
| | | lbs | 17.6 | 48.5 | 154.5 | 992 | 2095 | | | |
| | With handwheel | kg | 13 | 27 | Only with side-mounted handwheel, see T 8310 EN | | | | | |
| | | lbs | 28.7 | 59.5 | | | | | | |
| Type 3277 (approx.) | Without | kg | 12 | 26 | | | | - | | |
| | | lbs | 26.5 | 57.6 | | | | | | |
| | With handwheel | kg | 17 | 31 | | | | | | |
| | | lbs | 37.5 | 68.5 | | | | | | |

1) Top row without handwheel, bottom row with handwheel

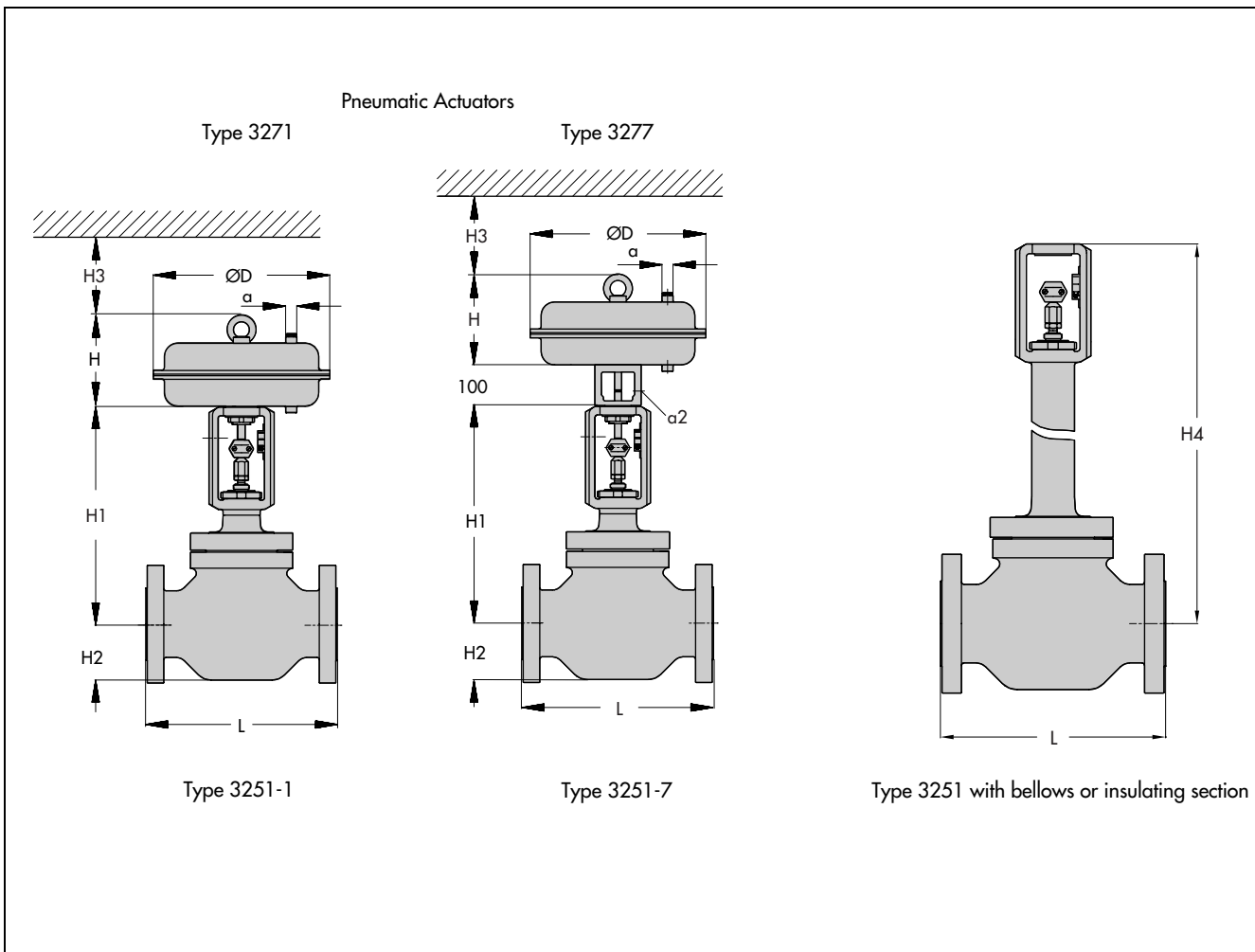
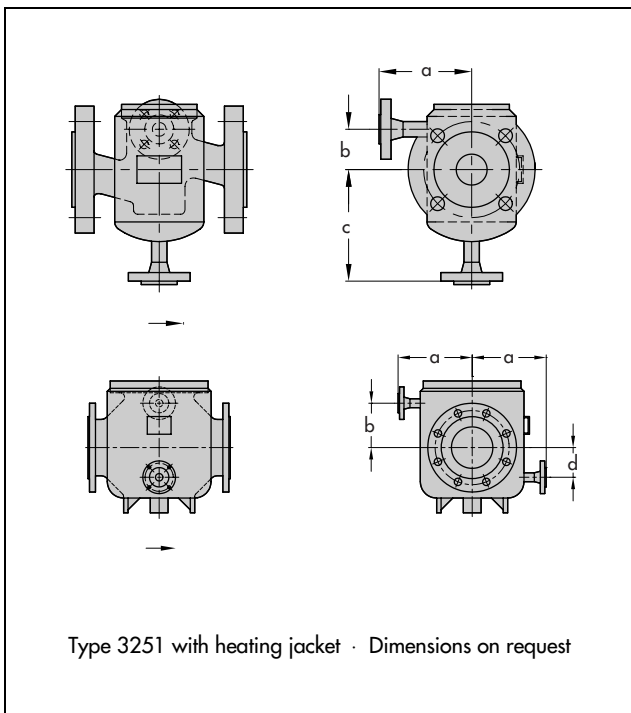


Table 9 · Dimensions and weights for Type 3251 Globe Valve in standard version with insulating section · Without actuator

| Nominal size | | in | ½" | 1" | 1½" | 2" | 3" | 4" | 6" | 8" | |
|--|---------------------|----------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | | mm | 15 | 25 | 40 | 50 | 80 | 100 | 150 | 200 | |
| Class 150 ... 600 | 350 cm ² | mm | 593 | 593 | 605 | 727 | 732 | 752 | - | | |
| | | in | 23.34 | 23.34 | 23.82 | 28.62 | 28.82 | 29.6 | - | | |
| | 700 cm ² | mm | 593 | 593 | 605 | 727 | 732 | 752 | 1083 | 1365 | |
| | | in | 23.34 | 23.34 | 23.82 | 28.62 | 28.82 | 29.6 | 42.64 | 53.74 | |
| | H4 for actuator | 1400 cm ² | mm | - | | | 782 | 787 | 807 | 1083 | 1365 |
| | | | in | - | | | 30.78 | 30.98 | 31.77 | 42.62 | 53.74 |
| 2800 cm ² | mm | - | | | | | 992 | | 1168 | 1450 | |
| | in | - | | | | | 39.05 | | 45.98 | 57.08 | |
| Class 900 | 350 cm ² | mm | 622 | 622 | 631 | 756 | 732 | 752 | - | | |
| | | in | 24.48 | 24.48 | 24.84 | 29.76 | 28.82 | 29.6 | - | | |
| | 700 cm ² | mm | 622 | 622 | 631 | 756 | 732 | 752 | 1083 | 1365 | |
| | | in | 24.48 | 24.48 | 24.84 | 29.76 | 28.82 | 29.6 | 42.64 | 53.74 | |
| | H4 for actuator | 1400 cm ² | mm | - | | | 811 | 787 | 807 | 1083 | 1365 |
| | | | in | - | | | 31.93 | 30.98 | 31.77 | 42.64 | 53.76 |
| 2800 cm ² | mm | - | | | | | 992 | | 1168 | 1450 | |
| | in | - | | | | | 39.05 | | 45.98 | 57.08 | |
| Weight (kg) without actuator for | Cl 150...600 | kg | 30 | 36 | 44 | 72 | 110 | 156 | 360 | 640 | |
| | | lbs | 66.5 | 79.5 | 97 | 159 | 242.5 | 344 | 794 | 1411 | |
| | Class 900 | kg | 43 | 49 | 68 | 105 | 130 | 180 | 400 | 730 | |
| | | lbs | 95 | 108 | 150 | 231.5 | 287 | 397 | 882 | 1610 | |

Table 10 · Dimensions and weights for Type 3251 Globe Valve in standard version with metal bellows · Without actuator

| Nominal size | | in | ½" | 1" | 1½" | 2" | 3" | 4" | 6" | 8" | |
|-----------------------------------|---------------------|----------------------|-------|-------|-------|------|-------|-------|-------|-------|-------|
| | | mm | 15 | 25 | 40 | 50 | 80 | 100 | 150 | 200 | |
| Cl 150 | 350 cm ² | mm | 590 | 590 | 602 | 836 | 841 | 841 | - | | |
| | | in | 23.23 | 23.23 | 23.7 | 32.9 | 33.1 | 33.1 | - | | |
| | 700 cm ² | mm | 590 | 590 | 602 | 836 | 841 | 841 | 1139 | 1455 | |
| | | in | 23.23 | 23.23 | 23.7 | 32.9 | 33.1 | 33.1 | 44.85 | 57.3 | |
| | H4 for actuator | 1400 cm ² | mm | - | | | 891 | 896 | 896 | 1139 | 1455 |
| | | | in | - | | | 35.1 | 35.3 | 35.3 | 44.85 | 57.3 |
| 2800 cm ² | mm | - | | | | | 1081 | | 1224 | 1540 | |
| | in | - | | | | | 42.56 | | 48.2 | 60.63 | |
| Cl 300/600 | 350 cm ² | mm | 590 | 590 | 602 | 836 | 841 | 841 | - | | |
| | | in | 23.23 | 23.23 | 23.7 | 32.9 | 33.1 | 33.1 | - | | |
| | 700 cm ² | mm | 590 | 590 | 602 | 836 | 841 | 841 | 1271 | 1855 | |
| | | in | 23.23 | 23.23 | 23.7 | 32.9 | 33.1 | 33.1 | 50.04 | 73.03 | |
| | H4 for actuator | 1400 cm ² | mm | - | | | 891 | 896 | 896 | 1271 | 1855 |
| | | | in | - | | | 35.1 | 35.3 | 35.3 | 50.04 | 73.03 |
| 2800 cm ² | mm | - | | | | | 1081 | | 1356 | 1940 | |
| | in | - | | | | | 42.56 | | 53.4 | 76.4 | |
| Cl 900 | 350 cm ² | mm | 583 | 583 | 593 | 825 | 841 | 841 | - | | |
| | | in | 22.95 | 22.95 | 23.35 | 32.5 | 33.1 | 33.1 | - | | |
| | 700 cm ² | mm | 583 | 583 | 593 | 825 | 841 | 841 | 1271 | 1990 | |
| | | in | 22.95 | 22.95 | 23.35 | 32.5 | 33.1 | 33.1 | 50.04 | 78.35 | |
| | H4 for actuator | 1400 cm ² | mm | - | | | 880 | 896 | 896 | 1271 | 1990 |
| | | | in | - | | | 34.64 | 35.27 | 35.27 | 50.04 | 78.35 |
| 2800 cm ² | mm | - | | | | | 1081 | | 1356 | 2075 | |
| | in | - | | | | | 42.56 | | 53.4 | 81.7 | |
| Weight without actuator for | Class 150/300 | kg | - | | | | | | 360 | - | |
| | | lbs | - | | | | | | 794 | - | |
| | Class 600 | kg | 30 | 36 | 44 | 72 | 110 | 156 | 360 | 640 | |
| | | lbs | 66.5 | 95 | 97 | 159 | 243 | 344 | 794 | 1411 | |
| | Class 900 | kg | 43 | 49 | 68 | 105 | 130 | 180 | 400 | 730 | |
| | | lbs | 95 | 108 | 150 | 232 | 287 | 297 | 882 | 1610 | |



The following details are required on ordering

| | |
|--------------------|--|
| Nominal size | |
| Nominal pressure | ANSI Class |
| Body material | According to Table 2 |
| End connection | Flanges/welding ends |
| Plug | Standard/balanced Soft sealing, metal sealing or lapped-in metal |
| Characteristic | Equal percentage or linear |
| Actuator | Type 3271 or Type 3277 (see T 8310 EN or T 8311 EN) |
| Fail-safe position | Valve CLOSED or valve OPEN |
| Process medium | Density in lb/cu.ft or kg/m ³ and temperature in °C (°F) |
| Flow rate | lbs/h or kg/h or cu.ft/min or m ³ /h in standard or operating condition |
| Pressure | p ₁ and p ₂ in bar (psi) (absolute pressure p _{abs}), both with minimum, standard and maximum flow |
| Accessories | Positioner and/or limit switches |

Selection and sizing of the control valve

1. Calculate the C_v (K_v) value according to IEC 60534.
2. Select the nominal size and C_v (K_{vs}) value from Tables 3 to 5.
3. Determine the permissible differential pressure Δp from Tables 4 and 5.
4. Select the valve body material from Tables 1 and 2 as well as the pressure-temperature diagrams in the Information Sheet T 8000-2 EN.
5. Select additional equipment from Tables 1 and 2.

Specifications subject to change without notice.

