

## Series 240

# Pneumatic Control Valve Type 3241-1 and Type 3241-7 Globe Valve Type 3241



### Application

Control valve for process engineering and industrial applications

**Nominal size** DN 15 to DN 300

**Nominal pressure** PN 10 to PN 40

**Temperatures** -196 to 450 °C



Type 3241 Globe Valve operated with:

- Type 3271 Pneumatic Actuator (Type 3241-1 Control Valve) or
- Type 3277 Pneumatic Actuator (Type 3241-7 Control Valve)

Valve body made of:

- Cast iron
- Spheroidal graphite iron
- Cast steel, cast stainless steel or cast cold-resisting steel
- Forged steel or forged stainless steel
- Special materials

Undivided valve bonnet up to DN 150

Valve plug with:

- Metal sealing
- Soft sealing

The modular design of the control valves allows them to be equipped with various accessories:

Positioners, solenoid valves and other accessories according to IEC 60534-6 and NAMUR recommendation. See Information Sheet T 8350 EN for details.

### Versions

**Standard version** for temperatures ranging from -10 to 220 °C

- **Type 3241-1** (Figs. 1 and 3) · DN 15 to 300 with Type 3271 Pneumatic Actuator (see T 8310-1/-2 EN)
- **Type 3241-7** (Fig. 2) · DN 15 to 150 with Type 3277 Pneumatic Actuator for integral positioner attachment (see T 8310-1 EN)

### Additional versions with:

- **Welding ends**
- **Adjustable packing** · See Information Sheet T 8000-1 EN
- **Flow divider or AC-1/AC-2 Trim** for noise reduction · See Data Sheets T 8081 EN and T 8082 EN
- **Perforated plug** · On request
- **Valve plug with pressure balancing** · See Technical data
- **Extension bonnet or bellows seal** · See Technical data
- **Heating jacket** · On request
- **Stainless steel actuator** · See T 8310-1 EN
- **Additional handwheel** · See Data Sheet T 8310-1/-2 EN

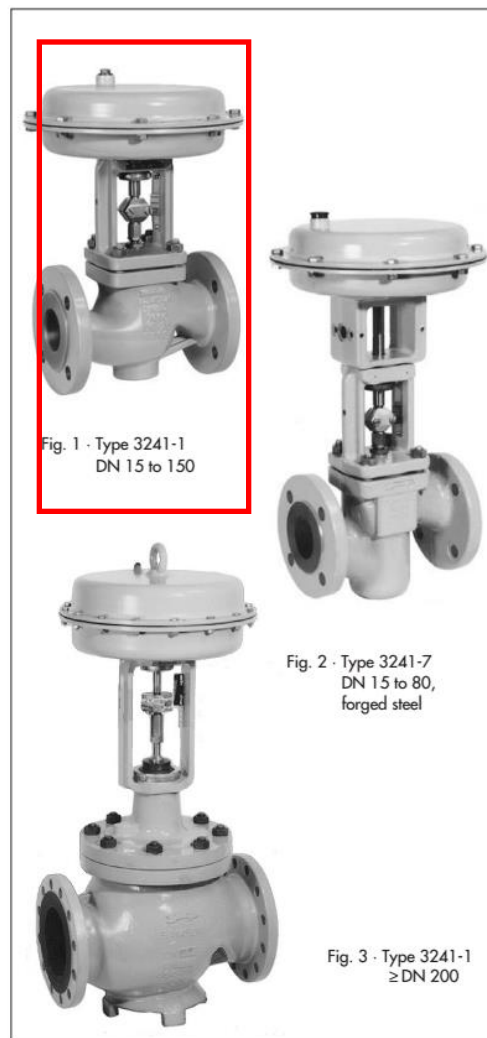


Fig. 1 · Type 3241-1  
DN 15 to 150

Fig. 2 · Type 3241-7  
DN 15 to 80,  
forged steel

Fig. 3 · Type 3241-1  
≥ DN 200

- **Type 3241 DWA** · Version for PSA plants (pressure swing adsorption) · See T 8012-1 EN and T 8015-1 EN
- **Typetested version** · For application in heating systems (see Data Sheet T 8016 EN), DIN/DVGW-tested version for gas (see Data Sheet T 8020 EN), liquid fuels and liquefied petroleum gas in the liquid phase (see Data Sheet T 8022 EN)
- **ANSI version** · See Data Sheet T 8012 EN
- **Versions with dimensions according to Japanese Industry Standard (JIS)** · Details on request

**Principle of operation**

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

**Fail-safe positions**

Depending on how the compression springs are arranged in the actuator (see Data Sheets T 8310-1 EN and T 8310-2 EN for details), the control valve has two different fail-safe positions which become effective upon supply air failure:

**Actuator stem extends (FA)**

The actuator springs close the valve when the supply air fails.

**Actuator stem retracts (FE)**

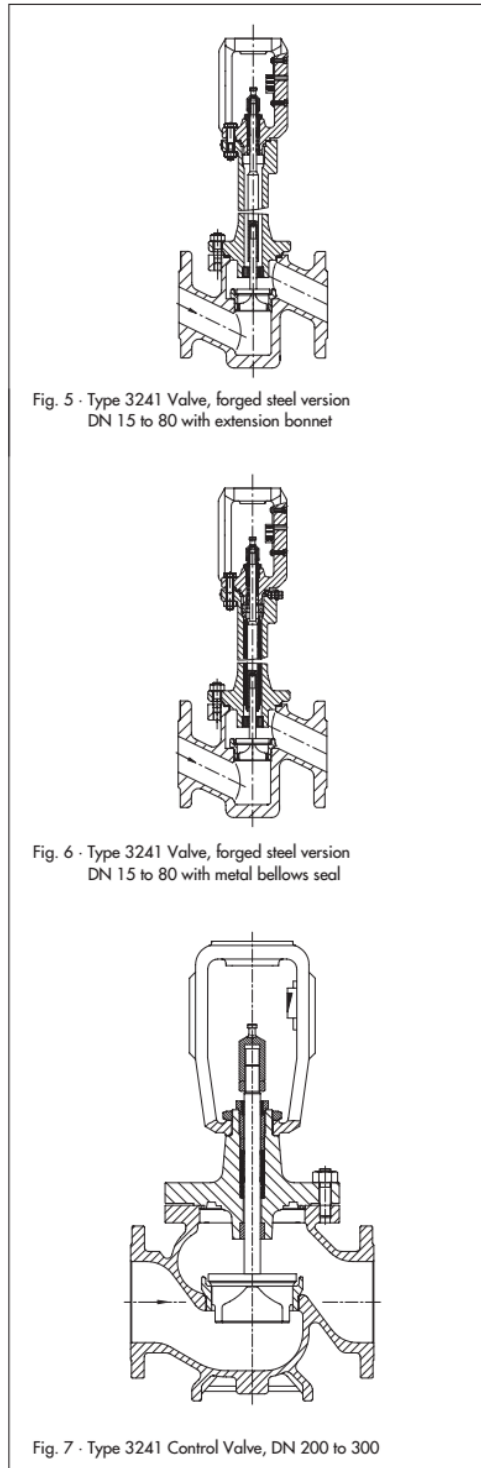
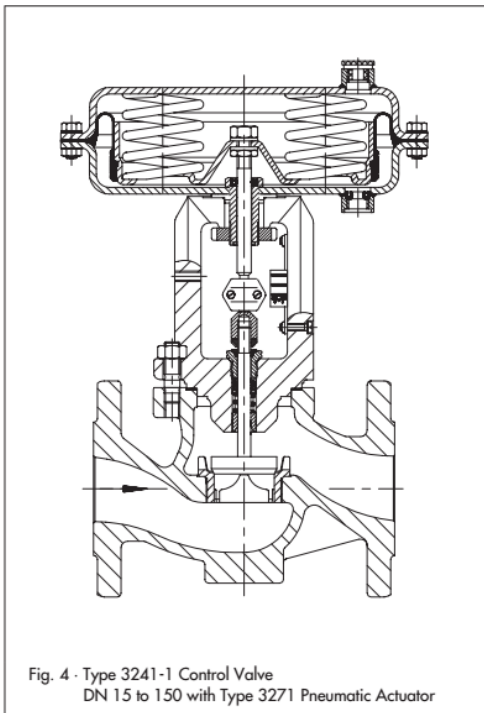
The actuator springs open the valve when the supply air fails.

**Differential pressures**

Permissible differential pressures are listed in Information Sheet T 8000-4 EN.

**Note**

Figs. 4 to 6 show configuration examples.



**Table 1 · Technical data for Type 3241**

| Nominal size  | DN                  | 15 to 250  | 15 to 150  | 15 to 300                  |  |                      |                                   | 15 · 25 · 40 · 50 · 80     |                                     |               |
|---|---------------------|--|--|----------------------------|--|----------------------|-----------------------------------|----------------------------|-------------------------------------|---------------|
| Material  |                     | Cast iron<br>EN-JL1040   | Sph. graphite<br>iron<br>EN-JS1049               | Cast steel<br>1.0619       | Stainless<br>cast steel<br>1.4408  | Cast steel<br>1.6220 | Stainless<br>cast steel<br>1.4308 | Forged steel<br>1.0460     | Stainless<br>forged steel<br>1.4571 |               |
| Nominal pressure  | PN                  | 10 · 16  | 16 · 25  | 10 · 16 · 25 · 40          |  |                      |                                   |                            |                                     |               |
| End connections   | Flanges             | All DIN versions   |  |                            |  |                      |                                   |                            |                                     |               |
|   | Welding ends        | -  |  |                            | DIN EN 12627 Fig. 2 only for<br>DN 25, 40, 50, 80, 100, 150, 200, 250, 300 |                      |                                   |                            | -                                   |               |
| Seat/plug sealing   |                     | Metal sealing · Soft sealing · High-performance metal sealing  |  |                            |  |                      |                                   |                            |                                     |               |
| Characteristic  |                     | Equal percentage · Linear  |  |                            |  |                      |                                   |                            |                                     |               |
| Rangeability  |                     | 50 : 1 for DN 15 to 50 · 30 : 1 for DN 65 to 150 · 50 : 1 for DN 200 and higher  |  |                            |  |                      |                                   |                            |                                     |               |
| Heating jacket  | Up to DN 100        | PN 25  |  |                            |  |                      |                                   |                            |                                     |               |
|   | ≥ DN 125            | PN 16  |  |                            |  |                      |                                   |                            |                                     |               |
| <b>Temperature ranges in °C · Permissible operating pressures acc. to pressure-temperature diagrams (see Information Sheet T 8000-2 EN)</b> |                     |  |  |                            |  |                      |                                   |                            |                                     |               |
| <b>Body without extension bonnet</b>  |                     | <b>-10 to 220 °C</b>   |  |                            |  |                      |                                   |                            |                                     |               |
| Body<br>with<br>Bellows<br>seal   | Extension<br>bonnet | Short  | -10...300 °C                                     | -10...350 °C               | -10...400 °C <sup>1)</sup>   | -50...450 °C         | -50...300 °C                      | -50...300 °C               | -10...400 °C <sup>1)</sup>          | -50...450 °C  |
|   |                     | Long   | -  | -                          | -  | -196...450 °C        | -                                 | -196...300 °C              | -                                   | -196...450 °C |
|   | Short               | -10...300 °C   | -10...350 °C                                     | -10...400 °C <sup>1)</sup> | -50...450 °C   | -50...300 °C         | -50...300 °C                      | -10...400 °C <sup>1)</sup> | -50...450 °C                        |               |
|   |                     | Long   | -  | -                          | -196...450 °C  | -                    | -196...300 °C                     | -                          | -196...450 °C                       |               |
| Valve<br>plug   | Standard            | Metal sealing  | -196 to 450 °C                                   |                            |  |                      |                                   |                            |                                     |               |
|   |                     | Soft sealing   | -196 to 220 °C                                   |                            |  |                      |                                   |                            |                                     |               |
|   | Balanced            | with PTFE ring   | -50 to 220 °C · Lower temperatures on request    |                            |  |                      |                                   |                            |                                     |               |
|   |                     | w. graphite ring   | 220 to 450 °C                                    |                            |  |                      |                                   |                            |                                     |               |
| <b>Leakage class according to IEC 60534-4</b>   |                     |  |  |                            |  |                      |                                   |                            |                                     |               |
| Valve<br>plug   | Balanced            | Metal sealing  | Standard: IV · High-performance metal sealing: V |                            |  |                      |                                   |                            |                                     |               |
|   |                     | Soft sealing   | VI   |                            |  |                      |                                   |                            |                                     |               |
|   | Metal sealing       | Standard: IV · With PTFE or graphite pressure-balancing ring<br>V · High-performance metal sealing: (only with PTFE balancing ring) on request |  |                            |  |                      |                                   |                            |                                     |               |

<sup>1)</sup> Down to -50 °C at  $p_{max} \leq 75\% \text{ PN}$  (acc. to AD W10)

**Table 2 · Materials**

| <b>Standard version</b>  |   |                                    |                      |                                   |                               |                                   |                               |                                     |  |
|--------------------------|---|------------------------------------|----------------------|-----------------------------------|-------------------------------|-----------------------------------|-------------------------------|-------------------------------------|--|
| Valve body <sup>1)</sup> | Cast iron<br>EN-JL1040  | Sph. graphite<br>iron<br>EN-JS1049 | Cast steel<br>1.0619 | Stainless<br>cast steel<br>1.4408 | Cast steel<br>1.6220          | Stainless<br>cast steel<br>1.4308 | Forged<br>steel<br>1.0460     | Stainless<br>forged steel<br>1.4571 |  |
| Valve bonnet             | 1.0460/<br>EN-JL1040  | 1.0460/1.0619                      |                      | 1.4408/<br>1.4401                 | 1.0566<br>1.6220              | 1.4308<br>1.4301                  | 1.0460                        | 1.4401                              |  |
| Seat <sup>2)</sup>       | 1.4006/1.4008   |                                    |                      | 1.4404/<br>1.4409                 | 1.4006/<br>1.4008             | 1.4301/<br>1.4308                 | 1.4006/<br>1.4008             | 1.4404/<br>1.4409                   |  |
| Plug <sup>2)</sup>       | 1.4006 (1.4404)/1.4008  |                                    |                      | 1.4404/<br>1.4409                 | 1.4006<br>(1.4404)/<br>1.4008 | 1.4301/<br>1.4308                 | 1.4006<br>(1.4404)/<br>1.4008 | 1.4404/<br>1.4409                   |  |
| Plug sealing             | Sealing ring for soft sealing: PTFE with glass fiber              |                                    |                      |                                   |                               |                                   |                               |                                     |  |
|                          | Sealing ring for balanced plug: PTFE with carbon or graphite ring |                                    |                      |                                   |                               |                                   |                               |                                     |  |
| Guide bushing            | 1.4104  |                                    |                      | 1.4571                            | 1.4571                        | 1.4301                            | 1.4104                        | 1.4571                              |  |
| Packing <sup>3)</sup>    | V-ring packing PTFE with carbon · Spring: 1.4310                  |                                    |                      |                                   |                               |                                   |                               |                                     |  |
| Body gasket              | Metal/graphite  |                                    |                      |                                   |                               |                                   |                               |                                     |  |
| <b>Extension bonnet</b>  | 1.0460  |                                    |                      | 1.4401                            | 1.0566                        | 1.4301                            | 1.0460                        | 1.4401                              |  |
| <b>Bellows seal</b>      |   |                                    |                      |                                   |                               |                                   |                               |                                     |  |
| Intermediate piece       | 1.0460  |                                    |                      | 1.4401                            | 1.0566                        | 1.4301                            | 1.0460                        | 1.4401                              |  |
| Metal bellows            | 1.4571 <sup>4)</sup>  |                                    |                      |                                   |                               | 1.4541                            | 1.4571 <sup>4)</sup>          |                                     |  |
| Heating jacket           | -   |                                    |                      | 1.4404                            |                               |                                   |                               |                                     |  |

<sup>1)</sup> Special materials for applications with sea water: 1.4538, duplex 1.4470; nickel-based alloy: 9.4610; other special materials on request.

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

<sup>3)</sup> Other packings on request (refer to T 8000-1 EN)

<sup>4)</sup> Other materials on request

**Table 3 · K<sub>vS</sub> coefficients**

**Table 3a · Overview** (with Flow Divider St I (K<sub>vS</sub> I), St II (K<sub>vS</sub> II) or St III (K<sub>vS</sub> III))

| K <sub>vS</sub>    | 0.1<br>0.16<br>0.25 | 0.4 | 0.63 | 1.0  | 1.6 | 2.5 | 4.0 | 6.3 | 10   | 16 | 25 | 40 | 60 | 80 | 63 | 100 | 160 | 200 | 260 | 250 | 360 | 630 | 1000 | 1500 |  |
|--------------------|---------------------|-----|------|------|-----|-----|-----|-----|------|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|------|------|--|
| K <sub>vSI</sub>   | -                   |     |      | 1.45 | 2.2 | 3.6 | 5.7 | 9   | 14.5 | 22 | 36 | 54 | 72 | 57 | 90 | 144 | 180 | 234 | 225 | 320 | 560 | 900 | 1350 |      |  |
| K <sub>vSII</sub>  | -                   |     |      |      |     |     |     |     | 8    | 13 | 20 | 32 | 48 | 63 | 50 | 80  | 125 | 160 | 210 | 200 | 290 | 500 | 800  | -    |  |
| K <sub>vSIII</sub> | -                   |     |      |      |     |     |     |     | 7.5  | -  | 20 | 30 | -  | -  | 47 | 75  | 120 | -   | -   | 190 | 270 | 480 | 750  | -    |  |
| Seat Ø [mm]        | 3                   | 6   |      |      | 12  |     |     |     | 24   | 31 | 38 | 48 | 63 | 80 | 63 | 80  | 100 | 110 | 130 | 125 | 150 | 200 | 250  | 300  |  |
| Travel [mm]        | 15                  |     |      |      |     |     |     |     |      |    |    |    |    | 30 |    |     |     | 60  |     |     |     | 120 |      |      |  |

\* Not available with valve body made of cast iron (EN-JL1040)

Terms for control valve sizing according to IEC 60534, Parts 2-1 and 2-2: F<sub>L</sub> = 0.95, X<sub>T</sub> = 0.75

**Table 3b · Versions without flow divider** · Areas highlighted in gray indicate versions also with pressure balancing

| K <sub>vS</sub> | 0.1<br>0.16<br>0.25 | 0.4 | 0.63 | 1.0 | 1.6 | 2.5 | 4.0 | 6.3 | 10 | 16 | 25 | 40 | 60 | 80 | 63 | 100 | 160 | 200 | 260 | 250 | 360 | 630 | 1000 | 1500 |
|-----------------|---------------------|-----|------|-----|-----|-----|-----|-----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|------|------|
| DN              |                     |     |      |     |     |     |     |     |    |    |    |    |    |    |    |     |     |     |     |     |     |     |      |      |
| 15              | •                   | •   | •    | •   | •   | •   | •   |     |    |    |    |    |    |    |    |     |     |     |     |     |     |     |      |      |
| 20              | •                   | •   | •    | •   | •   | •   | •   | •   |    |    |    |    |    |    |    |     |     |     |     |     |     |     |      |      |
| 25              | •                   | •   | •    | •   | •   | •   | •   | •   | •  |    |    |    |    |    |    |     |     |     |     |     |     |     |      |      |
| 32              |                     | •   | •    | •   | •   | •   | •   | •   | •  | •  |    |    |    |    |    |     |     |     |     |     |     |     |      |      |
| 40              |                     | •   | •    | •   | •   | •   | •   | •   | •  | •  | •  |    |    |    |    |     |     |     |     |     |     |     |      |      |
| 50              |                     | •   | •    | •   | •   | •   | •   | •   | •  | •  | •  | •  |    |    |    |     |     |     |     |     |     |     |      |      |
| 65              |                     |     |      |     |     |     |     |     |    |    | •  | •  | •  |    |    |     |     |     |     |     |     |     |      |      |
| 80              |                     |     |      |     |     |     |     |     |    |    | •  | •  | •  | •  |    |     |     |     |     |     |     |     |      |      |
| 100             |                     |     |      |     |     |     |     |     |    |    |    |    |    |    | •  | •   | •   |     |     |     |     |     |      |      |
| 125             |                     |     |      |     |     |     |     |     |    |    |    |    |    |    | •  | •   | •   | •   |     |     |     |     |      |      |
| 150             |                     |     |      |     |     |     |     |     |    |    |    |    |    |    | •  | •   | •   |     | •   |     |     |     |      |      |
| 200             |                     |     |      |     |     |     |     |     |    |    |    |    |    |    |    | •   | •   |     |     | •   | •   | •   |      |      |
| 250             |                     |     |      |     |     |     |     |     |    |    |    |    |    |    |    | •   | •   |     |     | •   | •   | •   | •    | •    |
| 300             |                     |     |      |     |     |     |     |     |    |    |    |    |    |    |    | •   | •   |     |     | •   | •   | •   | •    | •    |

With 19 mm overtravel (not with bellows seal)

**Table 3c · Versions with Flow Divider St I (K<sub>vS</sub> I)** · Areas highlighted in gray indicate versions also with pressure balancing

| K <sub>vS</sub> I | - | 1.45 | 2.2 | 3.6 | 5.7 | 9 | 14.5 | 22 | 36 | 54 | 72 | 57 | 90 | 144 | 180 | 234 | 225 | 320 | 560 | 900 | 1350 |   |
|-------------------|---|------|-----|-----|-----|---|------|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|------|---|
| DN                |   |      |     |     |     |   |      |    |    |    |    |    |    |     |     |     |     |     |     |     |      |   |
| 15                |   |      |     | •   | •   | • |      |    |    |    |    |    |    |     |     |     |     |     |     |     |      |   |
| 20                |   |      |     | •   | •   | • |      |    |    |    |    |    |    |     |     |     |     |     |     |     |      |   |
| 25                |   |      |     | •   | •   | • |      |    |    |    |    |    |    |     |     |     |     |     |     |     |      |   |
| 32                |   |      |     |     |     | • | •    | •  |    |    |    |    |    |     |     |     |     |     |     |     |      |   |
| 40                |   |      |     |     |     | • | •    | •  | •  |    |    |    |    |     |     |     |     |     |     |     |      |   |
| 50                |   |      |     |     |     | • | •    | •  | •  | •  |    |    |    |     |     |     |     |     |     |     |      |   |
| 65                |   |      |     |     |     |   |      |    |    | •  | •  | •  |    |     |     |     |     |     |     |     |      |   |
| 80                |   |      |     |     |     |   |      |    |    | •  | •  | •  | •  |     |     |     |     |     |     |     |      |   |
| 100               |   |      |     |     |     |   |      |    |    |    |    |    | •  | •   | •   |     |     |     |     |     |      |   |
| 125               |   |      |     |     |     |   |      |    |    |    |    |    |    | •   | •   | •   | •   |     |     |     |      |   |
| 150               |   |      |     |     |     |   |      |    |    |    |    |    |    | •   | •   | •   |     | •   |     |     |      |   |
| 200               |   |      |     |     |     |   |      |    |    |    |    |    |    |     |     |     | •   | •   | •   | •   |      |   |
| 250               |   |      |     |     |     |   |      |    |    |    |    |    |    |     |     |     | •   | •   | •   | •   | •    | • |
| 300               |   |      |     |     |     |   |      |    |    |    |    |    |    |     |     |     | •   | •   | •   | •   | •    | • |

\* DN 250 with K<sub>vS</sub> I = 900 not available with valve body made of cast iron (EN-JL1040)

**Table 3d - Versions with Flow Divider St II (K<sub>VS</sub> II) - Areas highlighted in gray indicate versions also with pressure balancing**

| K <sub>VS</sub> II | - |    |    |    |    |   |    |    |     |     |     |     |     |     |     |      |
|--------------------|---|----|----|----|----|---|----|----|-----|-----|-----|-----|-----|-----|-----|------|
| DN                 | 8 | 13 | 20 | 32 | 48 | - | 50 | 80 | 125 | 160 | 210 | 200 | 290 | 500 | 800 | 1200 |
| 15                 |   |    |    |    |    |   |    |    |     |     |     |     |     |     |     |      |
| 20                 |   |    |    |    |    |   |    |    |     |     |     |     |     |     |     |      |
| 25                 |   |    |    |    |    |   |    |    |     |     |     |     |     |     |     |      |
| 32                 |   |    |    | •  | •  |   |    |    |     |     |     |     |     |     |     |      |
| 40                 |   |    |    | •  | •  | • |    |    |     |     |     |     |     |     |     |      |
| 50                 |   |    |    | •  | •  | • |    |    |     |     |     |     |     |     |     |      |
| 65                 |   |    |    |    | •  | • | •  |    |     |     |     |     |     |     |     |      |
| 80                 |   |    |    |    | •  | • | •  |    |     |     |     |     |     |     |     |      |
| 100                |   |    |    |    |    |   |    | •  | •   | •   |     |     |     |     |     |      |
| 125                |   |    |    |    |    |   |    |    | •   | •   |     |     |     |     |     |      |
| 150                |   |    |    |    |    |   |    | •  | •   | •   |     | •   |     |     |     |      |
| 200                |   |    |    |    |    |   |    |    | •   | •   |     |     | •   | •   |     |      |
| 250                |   |    |    |    |    |   |    |    | •   | •   |     |     | •   | •   | •   |      |
| 300                |   |    |    |    |    |   |    |    | •   |     |     |     | •   | •   | •   | •    |

**Table 3e - Versions with Flow Divider St III (K<sub>VS</sub> III) - Areas highlighted in gray indicate versions also with pressure balancing**

| K <sub>VS</sub> III | -   |   |    |    |   |   |                 |    |     |   |   |     |     |     |     |   |
|---------------------|-----|---|----|----|---|---|-----------------|----|-----|---|---|-----|-----|-----|-----|---|
| DN                  | 7.5 | - | 20 | 30 | - | - | 47              | 75 | 120 | - | - | 190 | 270 | 480 | 750 | - |
| 15                  |     |   |    |    |   |   |                 |    |     |   |   |     |     |     |     |   |
| 20                  |     |   |    |    |   |   |                 |    |     |   |   |     |     |     |     |   |
| 25                  |     |   |    |    |   |   |                 |    |     |   |   |     |     |     |     |   |
| 32                  |     |   |    |    |   |   |                 |    |     |   |   |     |     |     |     |   |
| 40                  |     |   |    |    |   |   |                 |    |     |   |   |     |     |     |     |   |
| 50                  |     |   |    |    |   |   | • <sup>1)</sup> |    |     |   |   |     |     |     |     |   |
| 65                  |     |   |    |    |   |   | •               | •  |     |   |   |     |     |     |     |   |
| 80                  |     |   |    |    |   |   | •               | •  |     |   |   |     |     |     |     |   |
| 100                 |     |   |    |    |   |   |                 |    | •   |   |   |     |     |     |     |   |
| 125                 |     |   |    |    |   |   |                 |    |     | • |   |     |     |     |     |   |
| 150                 |     |   |    |    |   |   |                 |    | •   | • | • |     |     |     |     |   |
| 200                 |     |   |    |    |   |   |                 |    |     | • | • |     |     | •   | •   |   |
| 250                 |     |   |    |    |   |   |                 |    | •   | • | • |     |     | •   | •   | • |
| 300                 |     |   |    |    |   |   |                 |    |     | • |   |     |     | •   | •   | • |

<sup>1)</sup> Not with bellows seal

**Table 4 · Dimensions in mm for standard version of Type 3241-1 and Type 3241-7 with flanges or welding ends**

| Valve                                | DN                       | 15  | 20  | 25  | 32  | 40  | 50  | 65  | 80  | 100 | 125               | 150 | 200 | 250<br>cast<br>iron | 250-<br>60 <sup>1)</sup> | 250-<br>120 <sup>1)</sup> | 300                |
|--------------------------------------|--------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------------------|-----|-----|---------------------|--------------------------|---------------------------|--------------------|
| Length L                             | mm                       | 130 | 150 | 160 | 180 | 200 | 230 | 290 | 310 | 350 | 400               | 480 | 600 | 730                 | 730                      | 730                       | 850                |
| H1 <sup>2)</sup><br>for<br>actuators | ≤700 cm <sup>2</sup>     | 220 |     |     |     |     |     | 260 |     | 350 | 363               | 390 | -   |                     |                          |                           |                    |
|                                      | 1400-60 cm <sup>2</sup>  | -   |     |     |     |     |     |     |     |     |                   |     | 815 | 815                 | 870                      | -                         | 1185               |
|                                      | 1400-120 cm <sup>2</sup> | -   |     |     |     |     |     |     |     |     |                   |     | 902 | 902                 | 955                      | 1104                      | 1334               |
|                                      | 2800 cm <sup>2</sup>     | -   |     |     |     |     |     |     |     |     |                   |     | 902 | 902                 | 955                      | 1104                      | 1334 <sup>3)</sup> |
| H2 for                               | Cast steel               | 44  |     |     | 72  |     |     | 98  |     | 118 | 144 <sup>3)</sup> | 175 | 245 | 260                 | 270                      | 310                       | 350                |
|                                      | Forged steel             | 53  | -   | 70  | -   | 92  | 98  | -   | 128 | -   |                   |     |     |                     |                          |                           |                    |

1) Valve in DN 250-60 with 60 mm valve travel; DN 250-120 with 120 mm valve travel, not in cast iron

2) H1 increases by 170 mm for valves with Kvs 250, 360 or 630 and 60 mm rated travel operating with overtravel.

3) Version in PN 10/16: 148 mm

| Actuator  | cm <sup>2</sup> | 120         | 240         | 350         | 700 | 1400-60     | 1400-120    | 2800 |
|---|-----------------|-------------|-------------|-------------|-----|-------------|-------------|------|
| Diaphragm<br>∅D   | mm              | 168         | 240         | 280         | 390 | 530         | 534         | 770  |
| H (700 cm <sup>2</sup> and larger<br>inc. lifting ring) |                 | 70          | 62          | 82          | 200 | 287         | 490         | 630  |
| H3 <sup>1)</sup>  | Type 3271       | 110         |             |             | 190 | 610         | 650         |      |
|   | Type 3277       | -           |             |             |     |             |             |      |
| H5  | Type 3277       | 88          | 101         |             |     | -           |             |      |
| Thread  | Type 3271       | M30x1.5     |             |             |     | M60x1.5     | M100x2      |      |
|   | Type 3277       | -           |             |             |     |             |             |      |
| α   | Type 3271       | G ¼ (¼ NPT) |             | G ⅜ (⅜ NPT) |     | G ¾ (¾ NPT) | G 1 (1 NPT) |      |
| α2  | Type 3277       | -           | G ⅜ (⅜ NPT) |             |     | -           |             |      |

1) Minimum clearance required to remove the actuator

**Table 5 · Weights in kg for standard version of Type 3241-1 and Type 3241-7**

| Valve                            | DN | 15 | 20 | 25 | 32 | 40 | 50 | 65 | 80 | 100 | 125 | 150 | 200 | 250<br>cast<br>iron | 250<br>-60/<br>-120 | 300 |
|----------------------------------|----|----|----|----|----|----|----|----|----|-----|-----|-----|-----|---------------------|---------------------|-----|
| Weight without actuator<br>in kg |    | 5  | 6  | 7  | 11 | 12 | 15 | 24 | 30 | 42  | 80  | 120 | 396 | 468                 | 608                 | 872 |

| Actuator     | cm <sup>2</sup>                 | 120 | 240 | 350 | 700 | 1400-60 | 1400-120 | 2800 |
|--------------|---------------------------------|-----|-----|-----|-----|---------|----------|------|
| Type<br>3271 | Without<br>handwheel            | 3   | 5   | 8   | 22  | 70      | 175      | 450  |
|              | W. handwheel<br>≤ 80 mm travel  | -   | 9   | 13  | 27  | 175     | 300      | 575  |
|              | W. handwheel<br>≤ 160 mm travel | -   |     |     |     |         | 425      | 700  |
| Type<br>3277 | Without<br>handwheel            | 5   | 9   | 12  | 26  | -       |          |      |
|              | With<br>handwheel               | -   | 13  | 17  | 31  | -       |          |      |

**Table 6a · Dimensions and weights for Type 3241 with extension bonnet or bellows seal DN 15 to 150 - without actuator**

| Nominal size | DN                                | 15  | 20 | 25 | 32  | 40 | 50 | 65  | 80 | 100 | 125 | 150 |
|--------------|-----------------------------------|-----|----|----|-----|----|----|-----|----|-----|-----|-----|
| Height H4    | Short ext. bonnet or bellows seal | 408 |    |    | 408 |    |    | 450 |    | 635 | 644 | 671 |
|              | Long ext. bonnet or bellows seal  | 710 |    |    | 712 |    |    | 754 |    | 883 | 885 | 912 |
| Weight in kg | Short/with bellows                | 8   | 9  | 10 | 17  | 18 | 21 | 32  | 38 | 60  | 105 | 150 |
|              | Long/long with bellows            | 12  | 13 | 14 | 21  | 22 | 25 | 26  | 42 | 68  | 113 | 158 |

**Table 6b · Dimensions and weights for Type 3241 with extension bonnet or bellows seal DN 200 to 300 - without actuator**

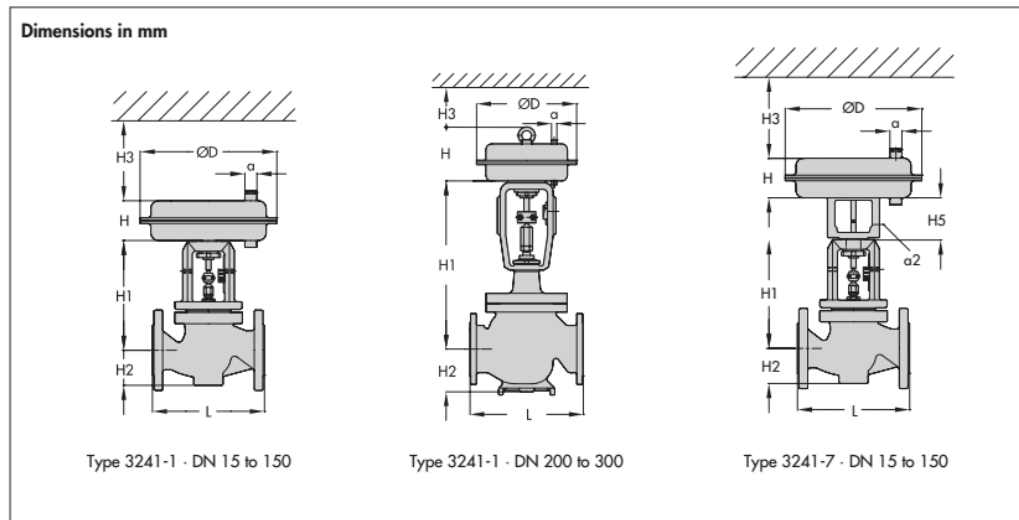
| Version with    |                      | Extension bonnet   |                    |      | Bellows seal       |                    |      |
|-----------------|----------------------|--------------------|--------------------|------|--------------------|--------------------|------|
| Actuator        | cm <sup>2</sup>      | 1400-60            | 1400-120           | 2800 | 1400-60            | 1400-120           | 2800 |
| Height H4 in mm | DN 200               | 1260 <sup>1)</sup> | 1345 <sup>1)</sup> |      | 1467 <sup>1)</sup> | 1552 <sup>1)</sup> |      |
|                 | DN 250               | 60 mm              | 1494               | 1579 | 1579               | 1924               | 2009 |
|                 | Travel = 120 mm      | -                  | -                  | 1728 | 1728               | -                  | 2158 |
|                 | DN 300               | 1683               | 1832               |      | 2055               | 2203               |      |
| Weight in kg    | DN 200               | 440                |                    |      | 485                |                    |      |
|                 | DN 250 <sup>2)</sup> | 666                |                    |      | 711                |                    |      |
|                 | DN 300               | 950                |                    |      | 1020               |                    |      |

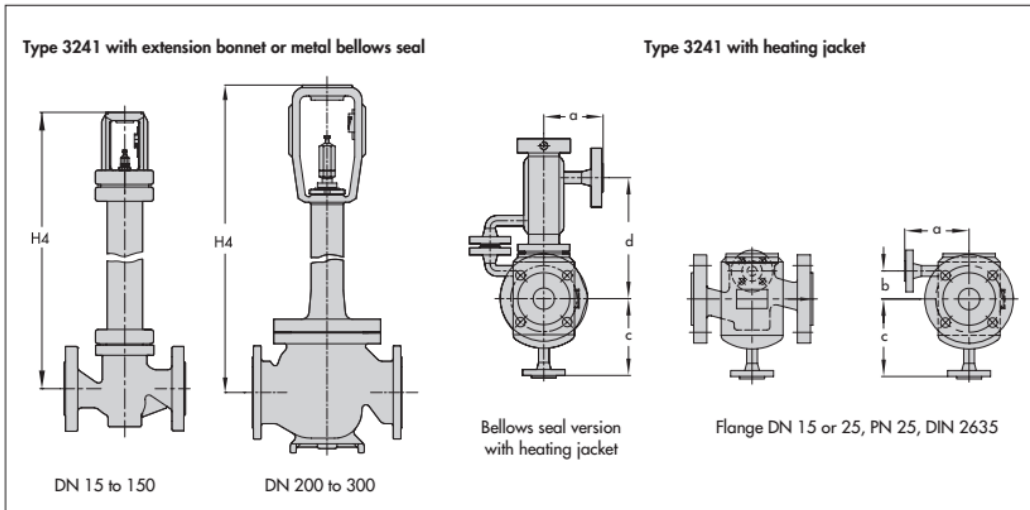
<sup>1)</sup> Also for DN 250 in cast iron (EN-JL1040)

<sup>2)</sup> For cast iron (EN-JL1040) minus 140 kg

**Table 6c · Dimensions in mm for Type 3241 with heating jacket - Not for valves with body materials EN-JL1040 or EN-JS1049**

| Nominal size | DN | 25  | 40/50 | 80  | 100 | 150 | 200 to 300 |
|--------------|----|-----|-------|-----|-----|-----|------------|
| a            |    | 110 | 140   | 180 | 200 | 265 | On request |
| b            |    | 15  | 20    | 35  | 50  | 80  |            |
| c            |    | 140 | 170   | 215 | 255 | 130 |            |
| d            |    | 190 | 190   | 230 | 320 | 355 |            |





**Ordering text**

|                     |   |        |
|---------------------|---|--------|
| Globe valve         | Type 3241, DN ...   | PN ... |
| Valve body material | According to Table 2  |        |
| End connections     | Flanges or welding ends                                       |        |
| Seat and plug       | Metal sealing/soft sealing/<br>high-performance metal sealing |        |
| Characteristic      | Equal percentage or linear                                    |        |
| Pneumatic actuator  | Type 3271 or Type 3277  |        |
| Fail-safe position  | Valve CLOSED or OPEN  |        |
| Process medium      | Density and temperature                                       |        |
| Maximum flow rate   | in kg/h or m <sup>3</sup> /h                                  |        |
| Pressure            | p <sub>1</sub> and p <sub>2</sub> in bar (absolute pressure)  |        |
| Accessories         | Positioner and/or limit switch                                |        |