

Aseptic Right Angle Valve 6051

with EHEDG-Certification

DN 15 up to DN 65

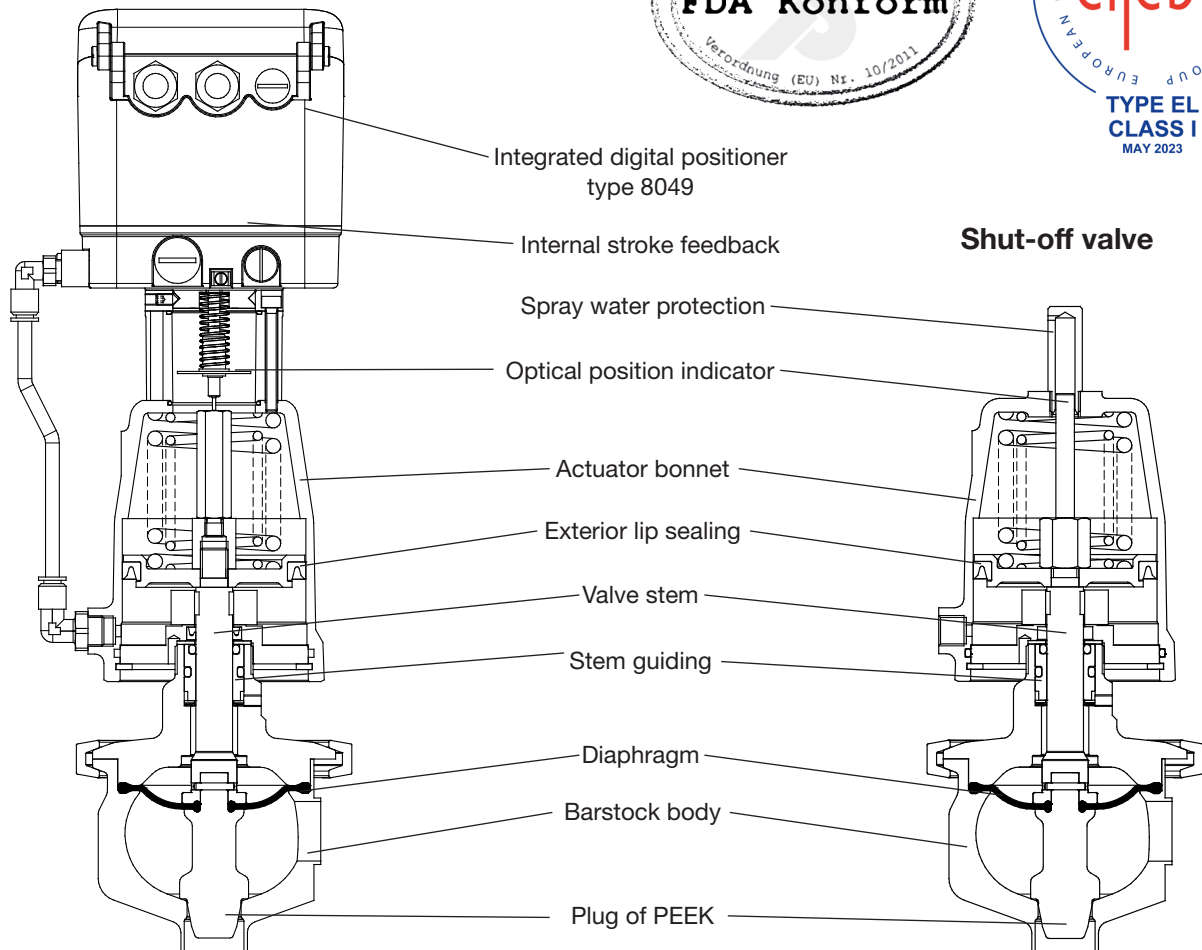


Pneumatic control valve in right angle design with integrated micro-processor positioner type 8049 or as a shut-off valve for applications in pharmaceutical and food industry.

- Perfect cleanability by optimised flow condition in relation to constant high wall shear stress
- EHEDG certified design for easy cleaning in place
- Body made from non-porous barstock material
- Medium is sealed by the diaphragm
- Solid design of the diaphragm for extreme variations in temperature
- High chemical resistance by a composite diaphragm made of PTFE and reinforced EPDM
- Simple and intelligent design
- Easy maintenance
- Parts are FDA conformant, comply with the USP class VI and Regulations (EG) 1935/2004 and (EU) 10/2011
- Suitable for vacuum applications



Control valve with positioner type 8049



Technical information valve

| | |
|------------------------|--|
| Body material | Stainless steel 1.4435 |
| Nominal sizes | DN 15 up to DN 65 |
| Connections | Welding ends DIN 11850 series 2 Welding ends ASME BPE Welding ends ISO 1127 Tri-clamp acc. Inch (DIN 32676-C) |
| Nominal pressure | PN 16 |
| Diaphragm | Reinforced EPDM diaphragm with PTFE-foil (fluidside) |
| Fluid temperature | -20°C up to +140°C |
| ambient temperature | digital positioner -10°C up to +75°C analog positioner -15°C up to +60°C |
| Rangeability | 50 : 1 |
| Vacuum | maximum 0,001bar abs |
| Hysteresis | < 0,5 % |
| Surface finish inside | Ra < 0,6 µm electropolished, Ra < 0,4 µm (optional for body) electropolished, Ra < 0,25 µm (optional for body) |
| Surface finish outside | Ra < 1,2 µm |

Materials

| | |
|-------------------------|--|
| Valve body | Stainless steel 1.4435 |
| Actuator | Stainless steel 1.4408 (optional: polished) |
| Diaphragm actuator | Stainless steel 1.4301 |
| Actuator springs | Stainless steel 1.4310 |
| Valve stem | Stainless steel 1.4571 |
| Control plug | PEEK |
| Clamp-connection | Stainless steel 1.4435 |
| Body positioner | Aluminium, filled PA, optional: stainless steel 1.4305 |
| Body position indicator | PA Polyamid (clear) |

Positioner

For technical information of our positioners, type 8049 or 8047, refer to the corresponding data sheets.

KVS-Values with EHEDG Certification (body ASME-BPE)

| characteristic | linear | | | | | equal percentage | | | | |
|-----------------|---------------|------|------|------|----|------------------|-----|-----|------|----|
| | 15 | 20 | 25 | 40 | 50 | 15 | 20 | 25 | 40 | 50 |
| DN | | | | | | | | | | |
| 100% | 3,1 (2,35) | 3,5 | 8,1 | 19,2 | 35 | 2,3 (1,9) | 2,4 | 5,7 | 10,9 | - |
| reduced (63 %) | 1,9 | 1,9 | 4,7 | 14 | - | 1,4 | 1,4 | 2,8 | 6,7 | - |
| reduced (40 %) | 1 | 1 | 3,3 | 8,8 | - | 0,9 | 0,9 | 2,4 | - | - |
| reduced (25 %) | 0,88 | 0,88 | 1,9 | - | - | - | - | 1,4 | - | - |
| reduced (16 %) | 0,55 | 0,55 | 1 | - | - | - | - | 0,9 | - | - |
| reduced (10 %) | 0,35 | 0,35 | 0,88 | - | - | - | - | - | - | - |
| reduced (6,3 %) | 0,19 | - | 0,55 | - | - | - | - | - | - | - |
| reduced (4 %) | - | - | 0,35 | - | - | - | - | - | - | - |
| reduced (2,5 %) | 0,06 | 0,06 | - | - | - | - | - | - | - | - |
| stroke (mm) | 14 | | | | | 14 | | | | |

KVS-Values without EHEDG Certification (body ASME-BPE)

| characteristic | linear | | | | | | equal percentage | | | | |
|-----------------|-----------|------|------|------|----|----|------------------|-----|-----|------|----|
| | 15 | 20 | 25 | 40 | 50 | 65 | 15 | 20 | 25 | 40 | 50 |
| DN | | | | | | | | | | | |
| 100% | 3,6 (2,6) | 4 | 10 | 23,9 | 40 | 60 | 3,5 (2,5) | 4 | 9,9 | 18,3 | 32 |
| reduced (63 %) | 2,3 | 2,3 | 5,6 | 16 | - | - | 2,5 | 2,5 | 6,3 | 14,5 | - |
| reduced (40 %) | 1,25 | 1,25 | 4 | 10 | - | - | 1,6 | 1,6 | 4 | - | - |
| reduced (25 %) | 1 | 1 | 2,3 | - | - | - | - | - | 2,5 | - | - |
| reduced (16 %) | 0,63 | 0,63 | 1,25 | - | - | - | - | - | 1,6 | - | - |
| reduced (10 %) | 0,4 | 0,4 | 1 | - | - | - | - | - | - | - | - |
| reduced (6,3 %) | 0,25 | - | 0,63 | - | - | - | - | - | - | - | - |
| reduced (4 %) | - | - | 0,4 | - | - | - | - | - | - | - | - |
| reduced (2,5 %) | 0,1 | 0,1 | - | - | - | - | - | - | - | - | - |
| stroke (mm) | 16 | | | 24 | | | 16 | | | | |

Admissible differential pressures Control valves with electric actuator Type 2030

| DN | Actuator | Driving force | P2 | Max. Operating pressure P1 [bar] (depending on holding pressure P2 [bar]) | | | | | | | | | | | | | | | | | | | | |
|----|----------|---------------|---------|---|-----|----|-----|----|-----|----|-----|----|-----|----|-----|-----|-----|-----|-----|----|-----|-----|-----|----|
| | | | | 0 | 0,5 | 1 | 1,5 | 2 | 2,5 | 3 | 3,5 | 4 | 4,5 | 5 | 5,5 | 6 | 6,5 | 7 | 7,5 | 8 | 8,5 | 9 | 9,5 | 10 |
| 15 | Typ 2030 | 2 kN | max. P1 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 4,2 | | | | | | | | | | | |
| | | 5 kN | max. P1 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| 20 | Typ 2030 | 2 kN | max. P1 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 4,2 | | | | | | | | | | | |
| | | 5 kN | max. P1 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| 25 | Typ 2030 | 2 kN | max. P1 | 10 | 10 | 10 | 8,4 | 6 | 3,5 | | | | | | | | | | | | | | | |
| | | 5 kN | max. P1 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| 40 | Typ 2030 | 5 kN | max. P1 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 9,2 | | |
| | | 5 kN | max. P1 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 8,4 | 7,6 | 6,9 | 6,2 | | | | | | |
| 65 | Typ 2030 | 5 kN | max. P1 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 6 | 5,5 | 5 | | | | | | | | |

Example:

P1= 8bar, P2=4,6

| DN | Actuator | Springs | P _{Supply} [bar] | P2 | 0 | 0,1 | 0,2 | 0,4 | 0,6 | 0,8 | 1 | 1,2 | 1,4 | 1,6 | 1,7 | 2 | 2,1 | 4 | 4,2 | 4,4 | 4,6 | 4,8 | 5 | 5,1 | 6,4 | 6,5 | 6,6 | 6,7 | 6,9 | |
|----|----------|---------|---------------------------|---------|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|----|-----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 25 | D80 | 2 | 5 to 6 | max. P1 | 10 | 9,8 | 9,3 | 8,3 | 7,3 | 6,4 | 5,4 | 4,4 | 3,4 | 2,4 | 1,9 | | | | | | | | | | | | | | | |
| | D125 | 3 | 4 to 6 | max. P1 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 9,2 | 8,2 | 7,2 | 6,2 | 5,2 | | | | | | |
| | D250 | 6 | 3 to 6 | max. P1 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 9,7 | 9,2 | 8,7 | 7,7 |

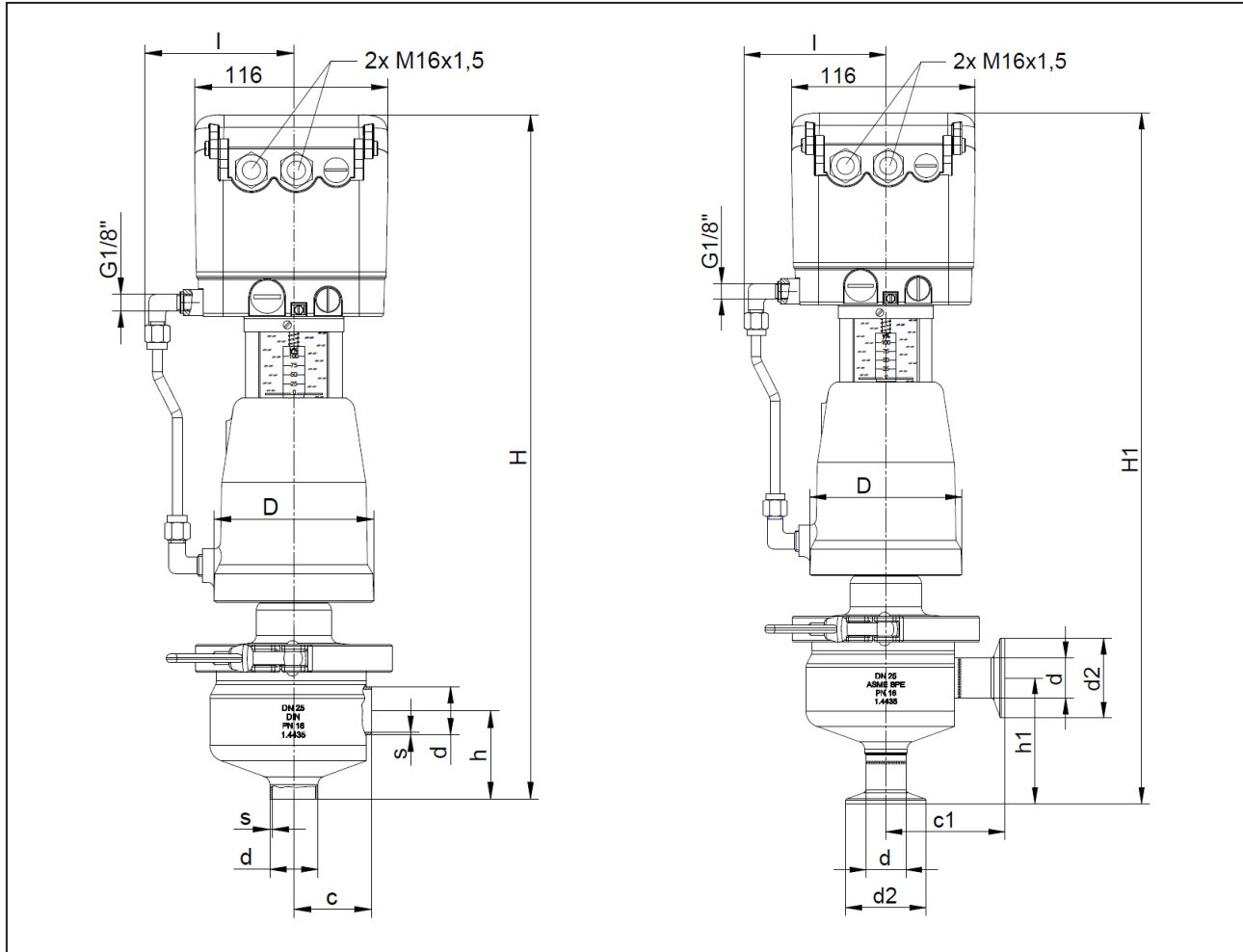
Result: Drive D125 is too small and can only be used up to P1=7,2 bar
Drive D250 is sufficient

Aseptic Right Angle Control Valve 6051



with integrated digital positioner type 8049

Dimensions and weights



| DN | Actuator ø | D | DIN | | | | ISO | | | | ASME BPE | | | | l | H | Weight (~kg) |
|----|---------------|-----|-----|----|------|------|-----|------|------|----|----------|-------|------|------|-----|-----|-----------------|
| | | | s | d | c | h | s | d | c | h | s | d | c | h | | | |
| 15 | 80 | 96 | 1,5 | 19 | 46,5 | 53,5 | 1,6 | 21,3 | 46,5 | 53 | 1,65 | 12,7 | 46,5 | 61,5 | 90 | 414 | 7 |
| 15 | 125 | 146 | 1,5 | 19 | 46,5 | 53,5 | 1,6 | 21,3 | 46,5 | 53 | 1,65 | 12,7 | 46,5 | 61,5 | 105 | 424 | 9,7 |
| 20 | 80 | 96 | 1,5 | 23 | 46,5 | 53,5 | 1,6 | 26,9 | 46,5 | 53 | 1,65 | 19,05 | 46,5 | 53,5 | 90 | 409 | 7 |
| 20 | 125 | 146 | 1,5 | 23 | 46,5 | 53,5 | 1,6 | 26,9 | 46,5 | 53 | 1,65 | 19,05 | 46,5 | 53,5 | 105 | 422 | 9,7 |
| 25 | 80 | 96 | 1,5 | 29 | 46,5 | 53,5 | 2 | 33,7 | 46,5 | 53 | 1,65 | 25,4 | 46,5 | 53,5 | 90 | 412 | 7,1 |
| 25 | 125 | 146 | 1,5 | 29 | 46,5 | 53,5 | 2 | 33,7 | 46,5 | 53 | 1,65 | 25,4 | 46,5 | 53,5 | 105 | 432 | 9,8 |
| 40 | 80 | 96 | 1,5 | 41 | 49,5 | 48 | 2 | 48,3 | 49,5 | 47 | 1,65 | 38,1 | 49,5 | 54,5 | 90 | 417 | 7,6 |
| 40 | 125 | 146 | 1,5 | 41 | 49,5 | 48 | 2 | 48,3 | 49,5 | 47 | 1,65 | 38,1 | 49,5 | 54,5 | 105 | 437 | 10,3 |
| 50 | 80 | 96 | 1,5 | 53 | 51 | 52 | 2 | 60,3 | 51 | 52 | 1,65 | 50,8 | 51 | 59 | 90 | 427 | 8 |
| 50 | 125 | 146 | 1,5 | 53 | 51 | 52 | 2 | 60,3 | 51 | 52 | 1,65 | 50,8 | 51 | 59 | 105 | 447 | 10,7 |
| 65 | 125 | 146 | 2 | 70 | 56 | 67 | 2 | 76,1 | 56 | 64 | 1,65 | 63,5 | 56 | 70 | 105 | 505 | 12,3 |

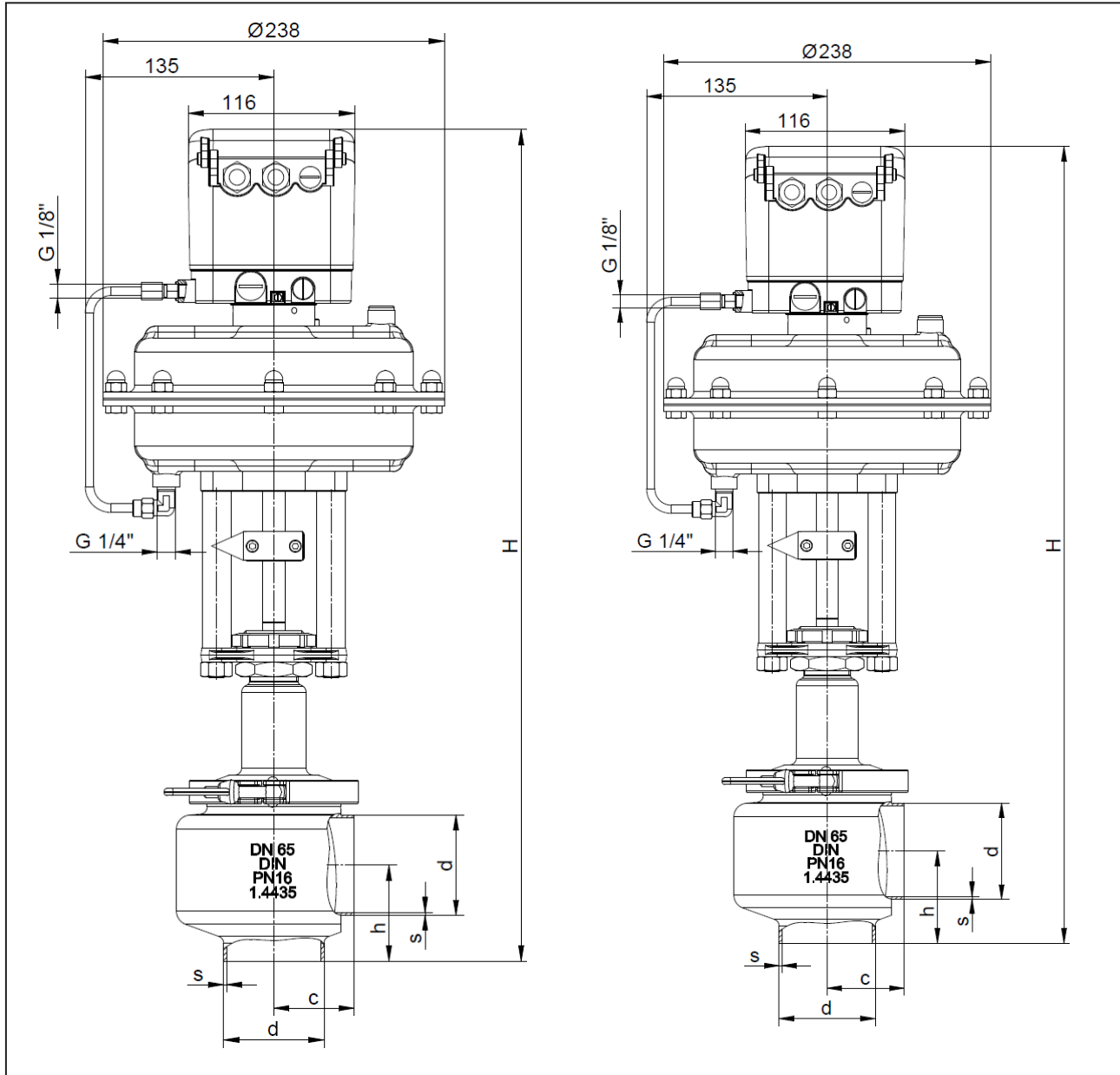
| DN | Actuator ø | D | Tri-clamp ASME BPE | | | | l | H1 | Weight (~kg) |
|----|---------------|-----|--------------------|------|------|------|-----|-----|-----------------|
| | | | d | d2 | c1 | h1 | | | |
| 15 | 80 | 96 | 12,7 | 25 | 71,5 | 85,5 | 90 | 438 | 7 |
| 15 | 125 | 146 | 12,7 | 25 | 71,5 | 85,5 | 105 | 459 | 9,7 |
| 20 | 80 | 96 | 19,05 | 25 | 71,5 | 83 | 90 | 438 | 7 |
| 20 | 125 | 146 | 19,05 | 25 | 71,5 | 83 | 105 | 459 | 9,7 |
| 25 | 80 | 96 | 25,4 | 50,5 | 75,2 | 79,5 | 90 | 438 | 7,2 |
| 25 | 125 | 146 | 25,4 | 50,5 | 75,2 | 79,5 | 105 | 458 | 9,9 |
| 40 | 80 | 96 | 38,1 | 50,5 | 87 | 99 | 90 | 462 | 8 |
| 40 | 125 | 146 | 38,1 | 50,5 | 87 | 99 | 105 | 482 | 10,7 |
| 50 | 80 | 96 | 50,8 | 64 | 88,9 | 88,9 | 90 | 458 | 8,2 |
| 50 | 125 | 146 | 50,8 | 64 | 88,9 | 88,9 | 105 | 478 | 11,3 |
| 65 | 125 | 146 | 63,5 | 77,5 | 88,9 | 88,9 | 105 | 525 | 13,6 |

Dimensions in mm

Aseptic Right Angle Control Valve 6051

with integrated digital positioner type 8049

Dimensions and weights



| DN | Actuator ø | DIN | | | | ISO | | | | ASME BPE | | | | H | Weight (~kg) |
|----|---------------|-----|----|------|------|-----|------|------|----|----------|-------|------|------|-----|-----------------|
| | | s | d | c | h | s | d | c | h | s | d | c | h | | |
| 15 | 250 | 1,5 | 19 | 46,5 | 53,5 | 1,6 | 21,3 | 46,5 | 53 | 1,65 | 12,7 | 46,5 | 61,5 | 510 | 15,5 |
| 20 | 250 | 1,5 | 23 | 46,5 | 53,5 | 1,6 | 26,9 | 46,5 | 53 | 1,65 | 19,05 | 46,5 | 53,5 | 505 | 15,5 |
| 25 | 250 | 1,5 | 29 | 46,5 | 53,5 | 2 | 33,7 | 46,5 | 53 | 1,65 | 25,4 | 46,5 | 53,5 | 508 | 15,7 |
| 40 | 250 | 1,5 | 41 | 49,5 | 48 | 2 | 48,3 | 49,5 | 47 | 1,65 | 38,1 | 49,5 | 54,5 | 513 | 16,5 |
| 50 | 250 | 1,5 | 53 | 51 | 52 | 2 | 60,3 | 51 | 52 | 1,65 | 50,8 | 51 | 59 | 523 | 16,7 |
| 65 | 250 | 2 | 70 | 56 | 67 | 2 | 76,1 | 56 | 64 | 1,65 | 63,5 | 56 | 70 | 581 | 18,3 |

| DN | Actuator ø | Tri-Clamp ASME BPE | | | | H1 | Weight (~kg) |
|----|---------------|--------------------|------|------|------|-----|-----------------|
| | | d | d2 | c1 | h1 | | |
| 15 | 250 | 12,7 | 25 | 71,5 | 85,5 | 533 | 15,5 |
| 20 | 250 | 19,05 | 25 | 71,5 | 83 | 533 | 15,7 |
| 25 | 250 | 25,4 | 50,5 | 75,2 | 79,5 | 533 | 16 |
| 40 | 250 | 38,1 | 50,5 | 87 | 99 | 557 | 16,5 |
| 50 | 250 | 50,8 | 64 | 88,9 | 88,9 | 553 | 16,7 |
| 65 | 250 | 63,5 | 77,5 | 88,9 | 88,9 | 600 | 19 |

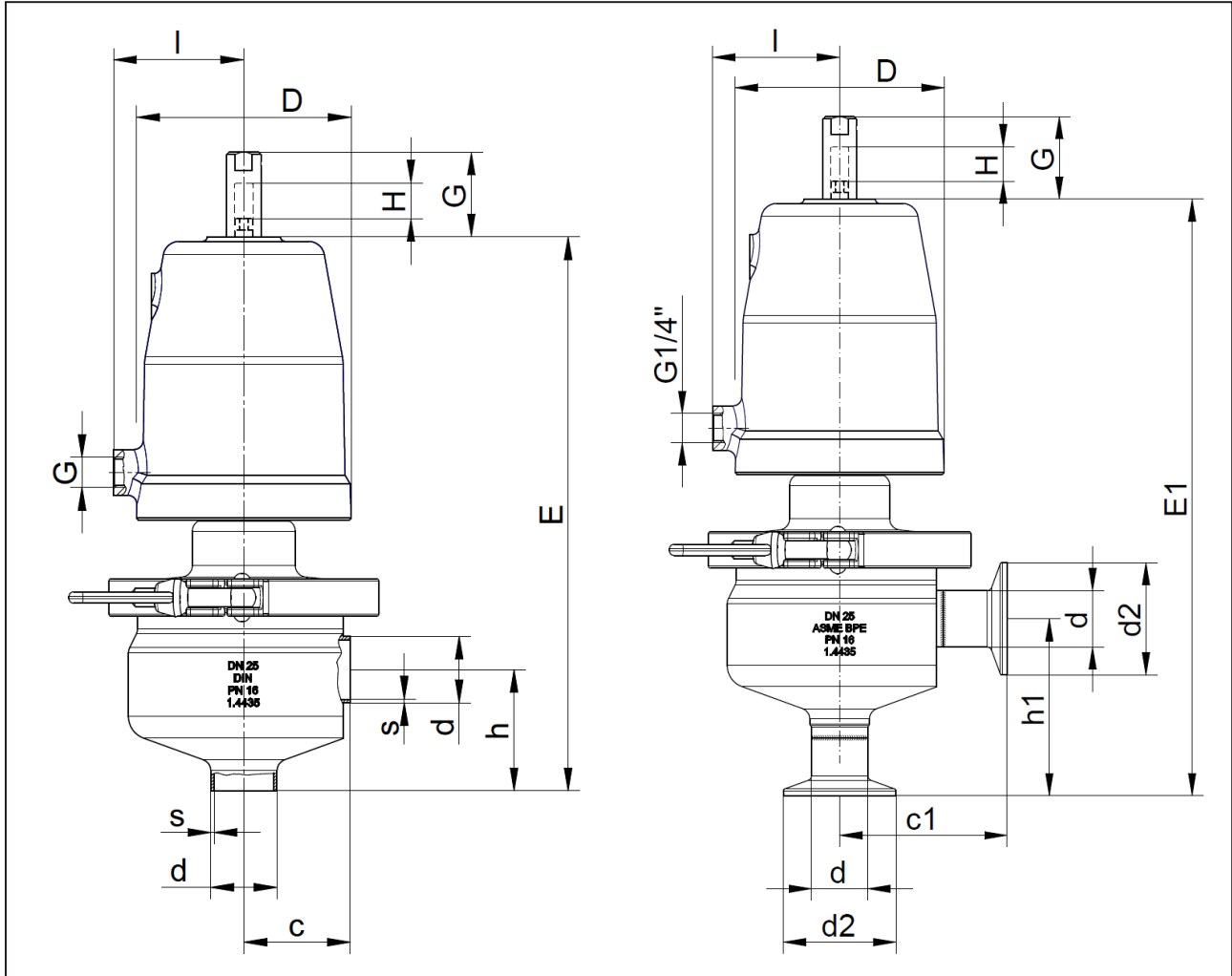
Dimensions in mm

Aseptic Right Angle Control Valve 6051



shut-off valve with piston actuator

Dimensions and weights



| DN | Actuator ø | D | DIN | | | | ISO | | | | ASME BPE | | | | I | H | E | G | Weight (~kg) |
|----|---------------|-----|-----|----|------|------|-----|------|------|----|----------|-------|------|------|----|----|-----|------|-----------------|
| | | | s | d | c | h | s | d | c | h | s | d | c | h | | | | | |
| 15 | 80 | 96 | 1,5 | 19 | 46,5 | 53,5 | 1,6 | 21,3 | 46,5 | 53 | 1,65 | 12,7 | 46,5 | 61,5 | 57 | 16 | 245 | 1,46 | 5,8 |
| 20 | 80 | 96 | 1,5 | 23 | 46,5 | 53,5 | 1,6 | 26,9 | 46,5 | 53 | 1,65 | 19,05 | 46,5 | 53,5 | 57 | 16 | 240 | 37 | 5,8 |
| 25 | 80 | 96 | 1,5 | 29 | 46,5 | 53,5 | 2 | 33,7 | 46,5 | 53 | 1,65 | 25,4 | 46,5 | 53,5 | 57 | 16 | 243 | 37 | 5,9 |
| 25 | 125 | 146 | 1,5 | 29 | 46,5 | 53,5 | 2 | 33,7 | 46,5 | 53 | 1,65 | 25,4 | 46,5 | 53,5 | 80 | 16 | 263 | 37 | 8,6 |
| 40 | 80 | 96 | 1,5 | 41 | 49,5 | 48 | 2 | 48,3 | 49,5 | 47 | 1,65 | 38,1 | 49,5 | 54,5 | 57 | 16 | 248 | 37 | 6,4 |
| 40 | 125 | 146 | 1,5 | 41 | 49,5 | 48 | 2 | 48,3 | 49,5 | 47 | 1,65 | 38,1 | 49,5 | 54,5 | 80 | 16 | 268 | 37 | 9,1 |
| 50 | 80 | 96 | 1,5 | 53 | 51 | 52 | 2 | 60,3 | 51 | 52 | 1,65 | 50,8 | 51 | 59 | 57 | 16 | 258 | 37 | 6,8 |
| 50 | 125 | 146 | 1,5 | 53 | 51 | 52 | 2 | 60,3 | 51 | 52 | 1,65 | 50,8 | 51 | 59 | 80 | 16 | 278 | 37 | 9,5 |
| 65 | 125 | 146 | 2 | 70 | 56 | 67 | 2 | 76,1 | 56 | 64 | 1,65 | 63,5 | 56 | 70 | 80 | 16 | 336 | 37 | 11,1 |

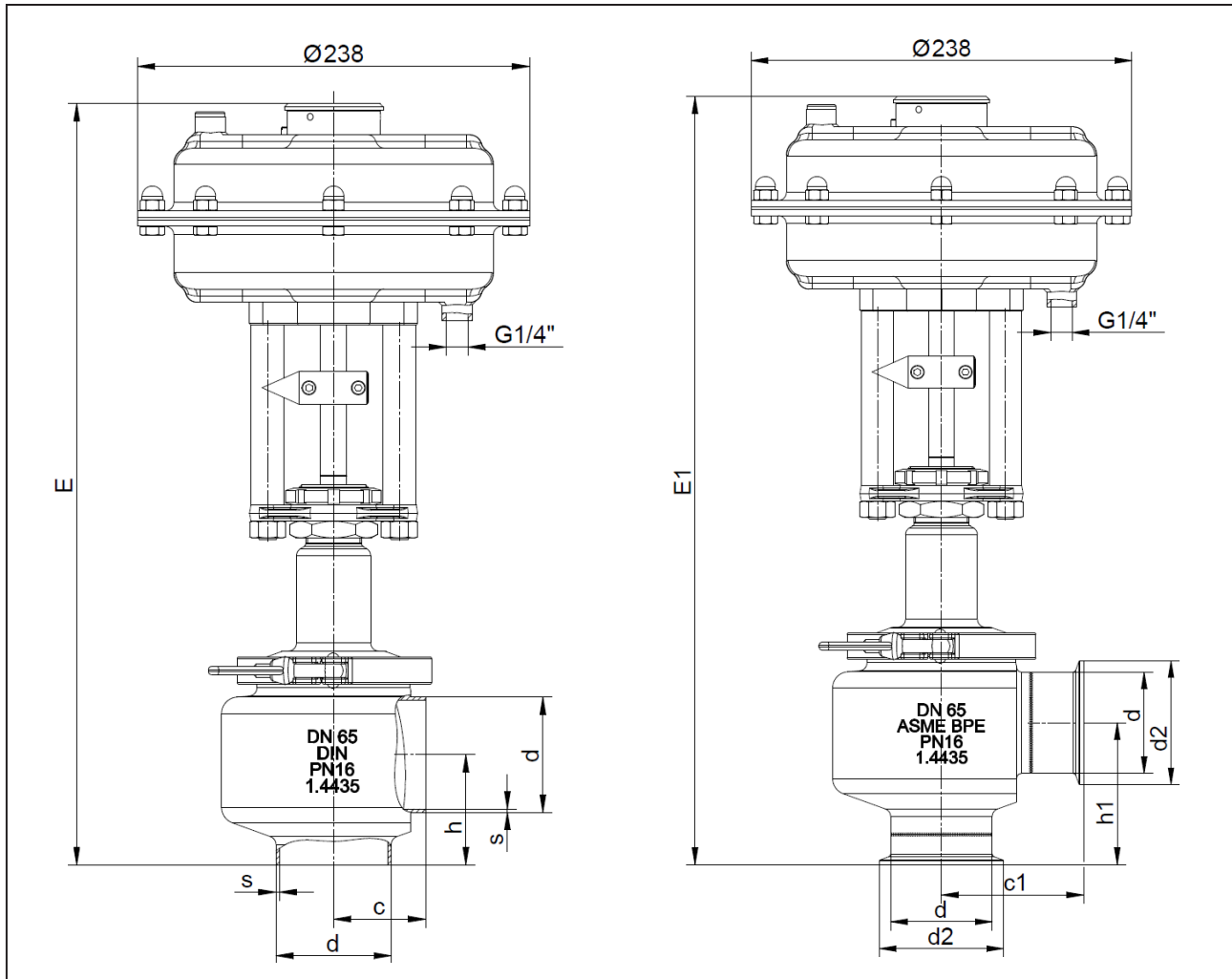
| DN | Actuator ø | D | Tri-Clamp ASME BPE | | | | I | H | E1 | G | Weight (~kg) |
|----|---------------|-----|--------------------|------|------|------|----|----|-----|----|-----------------|
| | | | d | d2 | c1 | h1 | | | | | |
| 15 | 80 | 96 | 12,7 | 25 | 71,5 | 85,5 | 57 | 16 | 269 | 37 | 5,8 |
| 20 | 80 | 96 | 19,05 | 25 | 71,5 | 83 | 57 | 16 | 269 | 37 | 5,8 |
| 25 | 80 | 96 | 25,4 | 50,5 | 75,2 | 79,5 | 57 | 16 | 269 | 37 | 6 |
| 25 | 125 | 146 | 25,4 | 50,5 | 75,2 | 79,5 | 80 | 16 | 289 | 37 | 8,7 |
| 40 | 80 | 96 | 38,1 | 50,5 | 87 | 99 | 57 | 16 | 293 | 37 | 6,8 |
| 40 | 125 | 146 | 38,1 | 50,5 | 87 | 99 | 80 | 16 | 313 | 37 | 9,5 |
| 50 | 80 | 96 | 50,8 | 64 | 88,9 | 88,9 | 57 | 16 | 289 | 37 | 7 |
| 50 | 125 | 146 | 50,8 | 64 | 88,9 | 88,9 | 80 | 16 | 309 | 37 | 10,2 |
| 65 | 125 | 146 | 63,5 | 77,5 | 88,9 | 88,9 | 80 | 16 | 356 | 37 | 12,5 |

Dimensions in mm

Aseptic Right Angle Control Valve 6051

shut-off valve with diaphragm actuator

Dimensions and weights



| DN | Actuator ø | DIN | | | | ISO | | | | ASME BPE | | | | E | Weight (~kg) |
|----|---------------|-----|----|------|------|-----|------|------|----|----------|-------|------|------|-----|-----------------|
| | | s | d | c | h | s | d | c | h | s | d | c | h | | |
| 15 | 250 | 1,5 | 19 | 46,5 | 53,5 | 1,6 | 21,3 | 46,5 | 53 | 1,65 | 12,7 | 46,5 | 61,5 | 392 | 14,3 |
| 20 | 250 | 1,5 | 23 | 46,5 | 53,5 | 1,6 | 26,9 | 46,5 | 53 | 1,65 | 19,05 | 46,5 | 53,5 | 387 | 14,3 |
| 25 | 250 | 1,5 | 29 | 46,5 | 53,5 | 2 | 33,7 | 46,5 | 53 | 1,65 | 25,4 | 46,5 | 53,5 | 390 | 14,5 |
| 40 | 250 | 1,5 | 41 | 49,5 | 48 | 2 | 48,3 | 49,5 | 47 | 1,65 | 38,1 | 49,5 | 54,5 | 395 | 15,3 |
| 50 | 250 | 1,5 | 53 | 51 | 52 | 2 | 60,3 | 51 | 52 | 1,65 | 50,8 | 51 | 59 | 405 | 15,5 |
| 65 | 250 | 2 | 70 | 56 | 67 | 2 | 76,1 | 56 | 64 | 1,65 | 63,5 | 56 | 70 | 463 | 17,1 |

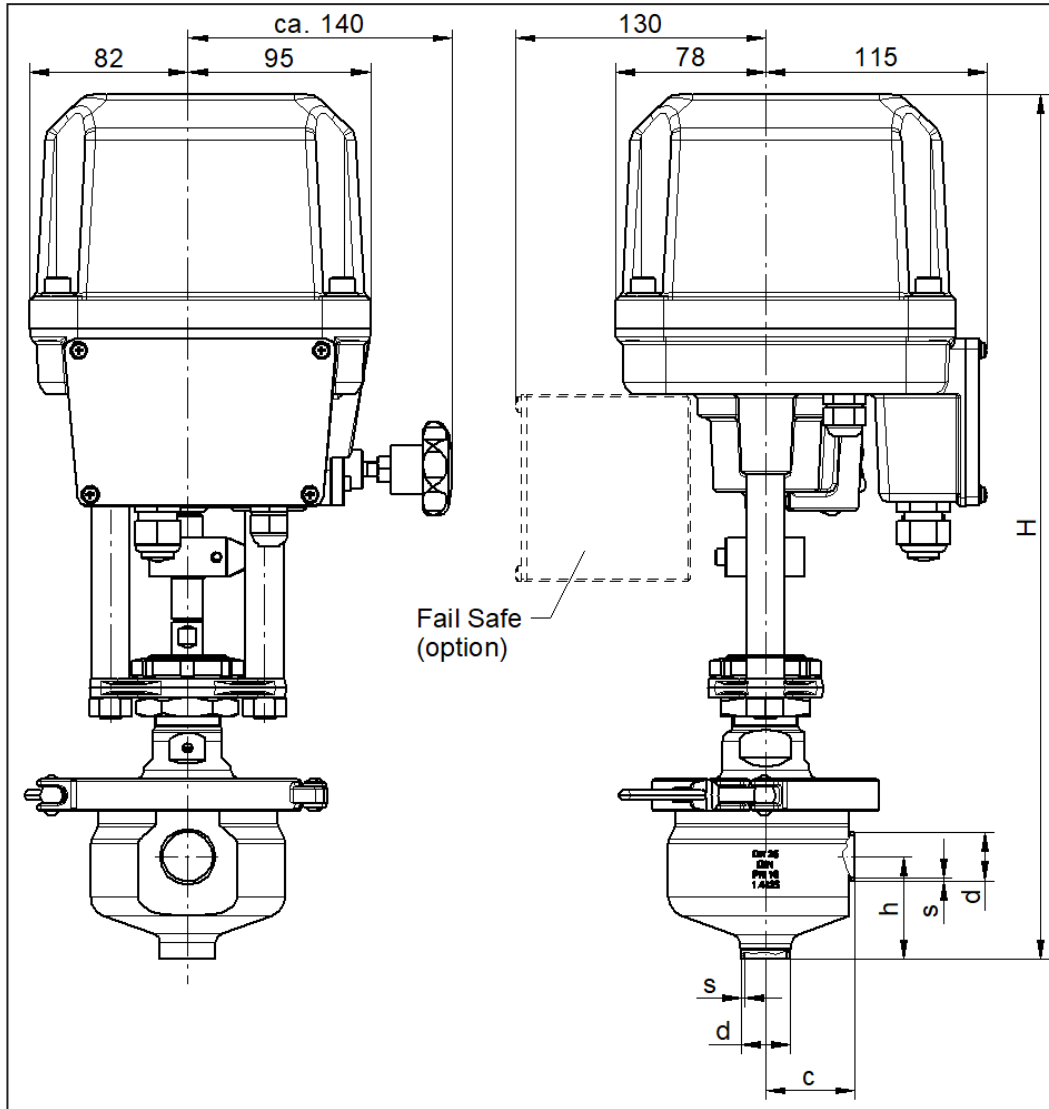
| DN | Actuator ø | Tri-Clamp ASME BPE | | | | E1 | Weight (~kg) |
|----|---------------|--------------------|------|------|------|-----|-----------------|
| | | d | d2 | c1 | h1 | | |
| 15 | 250 | 12,7 | 25 | 71,5 | 85,5 | 415 | 14,3 |
| 20 | 250 | 19,05 | 25 | 71,5 | 83 | 415 | 14,5 |
| 25 | 250 | 25,4 | 50,5 | 75,2 | 79,5 | 415 | 14,8 |
| 40 | 250 | 38,1 | 50,5 | 87 | 99 | 439 | 15,3 |
| 50 | 250 | 50,8 | 64 | 88,9 | 88,9 | 435 | 15,5 |
| 65 | 250 | 63,5 | 77,5 | 88,9 | 88,9 | 482 | 17,8 |

Dimensions in mm

Aseptic Right Angle Control Valve 6051

control valve with butt weld ends according to DIN and motor drive type 2030

Dimensions and weights



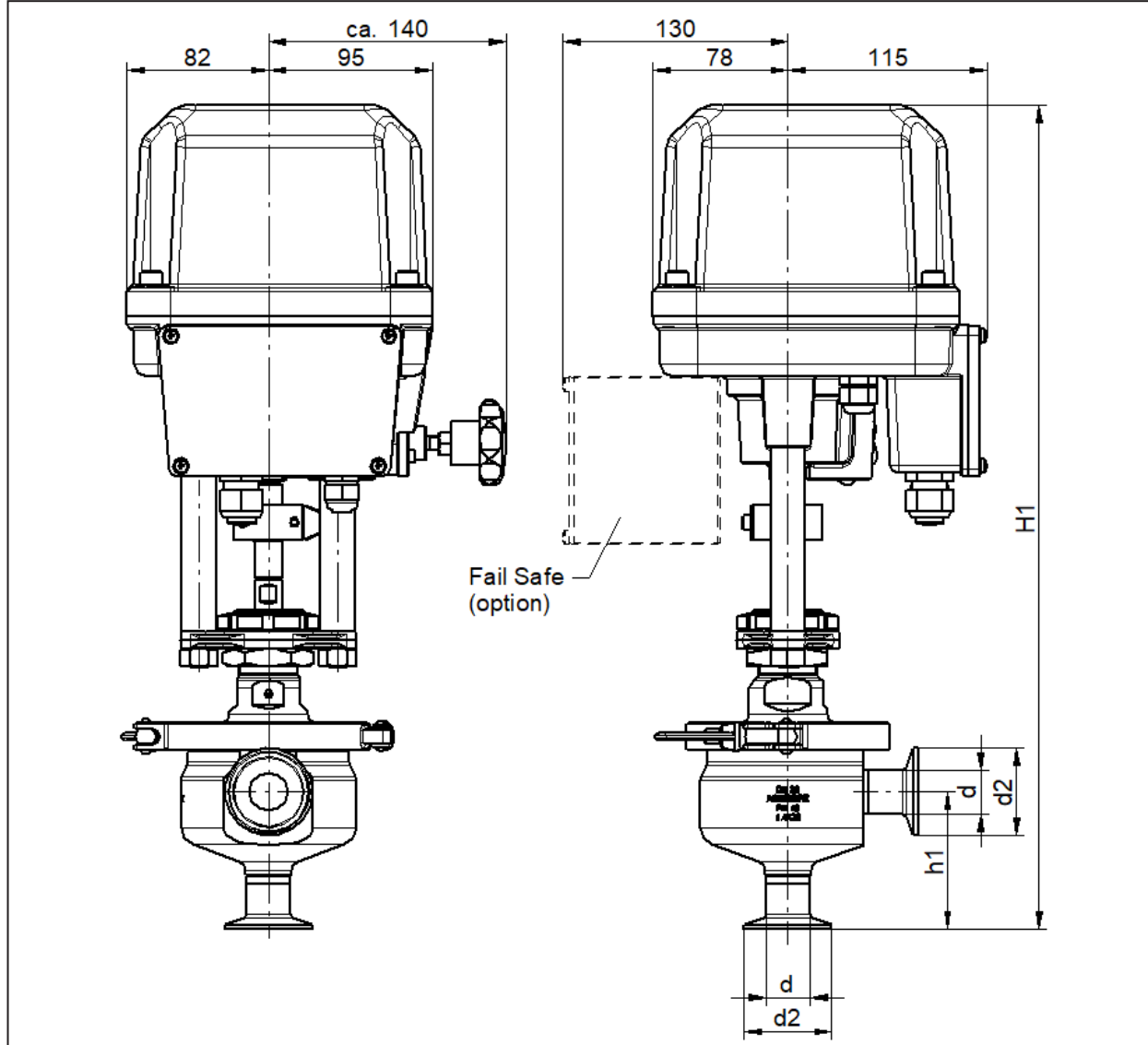
| DN | Connection acc. DIN | | | | Height H | | Weight 2 kN (~ kg) | | Weight 5 kN (~ kg) | |
|----|---------------------|----|------|------|----------|------|--------------------|----------------|--------------------|----------------|
| | s | d | c | h | 2 kN | 5 kN | without Fail-Save | with Fail-Save | without Fail-Save | with Fail-Save |
| 15 | 1,5 | 19 | 46,5 | 53,5 | 444 | 476 | 11,9 | 13,6 | 12,8 | 14,5 |
| 20 | 1,5 | 23 | 46,5 | 53,5 | 447 | 479 | 11,9 | 13,6 | 12,8 | 14,5 |
| 25 | 1,5 | 29 | 46,5 | 53,5 | 450 | 482 | 12,0 | 13,7 | 12,9 | 14,6 |
| 40 | 1,5 | 41 | 49,5 | 48 | 451 | 483 | 12,5 | 14,2 | 13,4 | 15,1 |
| 50 | 1,5 | 53 | 51 | 52 | 463 | 495 | 12,9 | 14,6 | 13,8 | 15,5 |

Dimensions in mm

Aseptic Right Angle Control Valve 6051

control valve with tri-clamp ends according to ASME-BPE and motor drive type 2030

Dimensions and weights



| DN | Tri-Clamp acc. ASME BPE | | | | Height H | | Weight 2 kN (~ kg) | | Weight 5 kN (~ kg) | |
|----|-------------------------|------|------|------|----------|-------|--------------------|----------------|--------------------|----------------|
| | d | d2 | c1 | h1 | 2 kN | 5 kN | without Fail-Save | with Fail-Save | without Fail-Save | with Fail-Save |
| 15 | 12,7 | 25 | 71,5 | 85,5 | 470,0 | 502,0 | 11,9 | 13,6 | 12,8 | 14,5 |
| 20 | 19,05 | 25 | 71,5 | 83 | 473,0 | 505,0 | 11,9 | 13,6 | 12,8 | 14,5 |
| 25 | 25,4 | 50,5 | 75,2 | 79,5 | 476,0 | 508,0 | 12,0 | 13,7 | 12,9 | 14,6 |
| 40 | 38,1 | 50,5 | 87 | 99 | 477,0 | 509,0 | 12,9 | 14,6 | 13,8 | 15,5 |
| 50 | 50,8 | 64 | 88,9 | 88,9 | 489,0 | 521,0 | 13,1 | 14,8 | 14,0 | 15,7 |

Dimensions in mm