



**ERHARD
VALVES**

ERU[®] Knife Gate Valves K1
DN 50 - 600
of cast iron



ERU[®] Knife Gate Valves K1

Versatile and Reliable Isolating and Control Valves

- ⇒ Face-to-face dimension to EN 558-1, basic series 20 (former DIN 3202, part 3, series K1).
- ⇒ Wafer type and end-of-line to be used for up to 10 bars without need of counter-flange.
- ⇒ Full flange design.
- ⇒ Any position of installation possible for technically pure flow media.
- ⇒ Leaktight in any flow direction.
- ⇒ High grade standard corrosion protection:
 - **EKB** epoxy coating with an average coat thickness of 250 µm.

Materials:

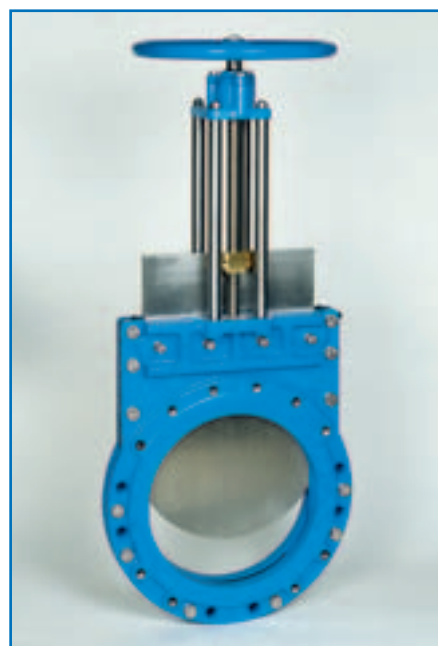
- Body components of Lamellar cast iron EN-JL1040
- Gate, stem, and connecting elements of stainless steel.
- Stud bolts of zinc-coated steel incl. organic cover coat.
- Stem nut of brass.
- Transverse seal profile of elastomer with incorporated guide tapes of PTFE-bronze.
- U-shaped sealing element.



DN 50-300

Numerous Fields of Application

- ⇒ **Sewage Treatment Plants**
Untreated waste water, untreated sludge, digested sludge, feces with suspended matter, air and return sludge flow control, etc.
- ⇒ **Power Stations, Steel Industry, Mining**
Scale-forming water, coal-water mixtures, coal dust, etc.
- ⇒ **Sugar Industry**
Beet washing plants, syrups, juices, etc.
- ⇒ **Chemical Industry**
Viscous pastes, colloids, granulated materials, swelling agents, chemically contaminated waste waters, etc.
- ⇒ **Food Industry, Breweries**
Washing and rinsing equipment, conveying systems for grain, vegetable, mash, etc.



DN 350-600

Scope of Supply

| Size DN | Pressure rating PN | Hydr. test pressure in bars on body | Hydr. test pressure in bars on seat | Max. admissible working pressure in bars at working temperature of up to 70° C |
|-----------|--------------------|-------------------------------------|-------------------------------------|--|
| 50 - 350 | 10 | 17 | 11 | 10 |
| 400 - 600 | 4 | 6 | 4,4 | 4 |

Flange connecting dimensions B DN 50 - 150, PN 16, GI, type 21, EN 1092-2, (DIN 2533, PN16) partially with threaded holes

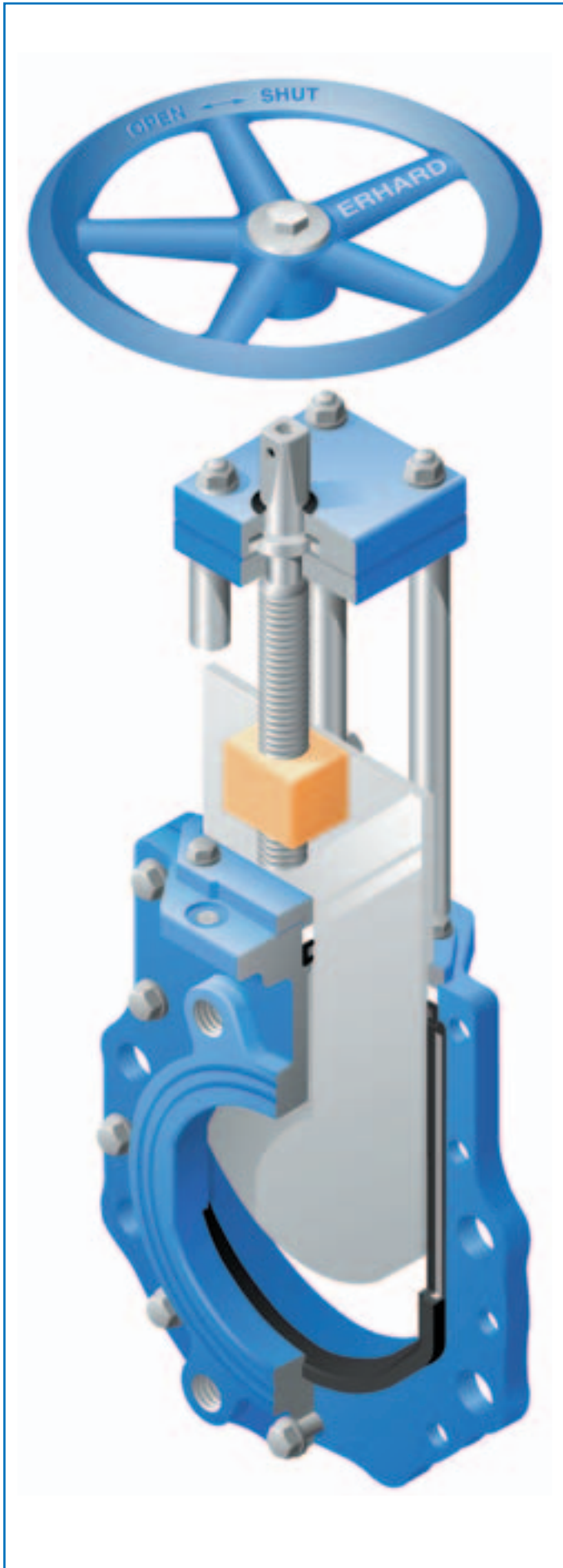
Flange connecting dimensions B DN 200 - 600, PN 10, GI, type 21, EN 1092-2, (DIN 2532, PN10) partially with threaded holes

Bolt holes off raised face

There are separate documents available for ECO Knife Gate Valves made of stainless steel.

ERU[®] Knife Gate Valves K1

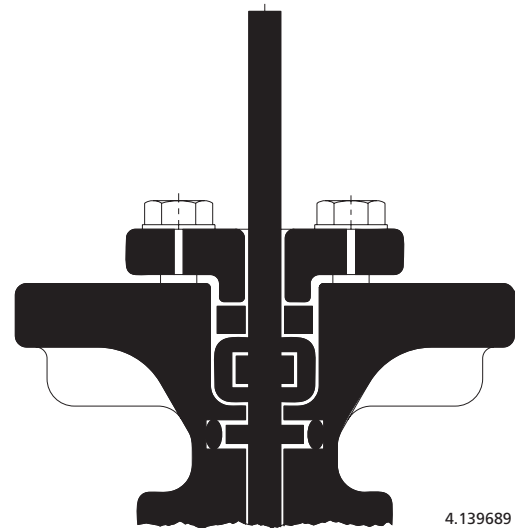
Convincing Advantages



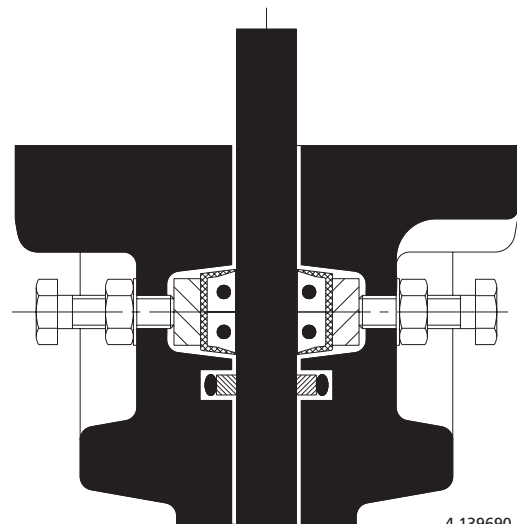
- Patented enclosed U-shaped sealing element of elastomer.
- Low operation forces even under max. working pressure.
- Transverse seal profile can easily be replaced without removing the Knife Gate Valve from the pipeline.
- Rolled threaded stem.

Gate Sealing in Detail

DN 50 - 300



DN 350 - 600



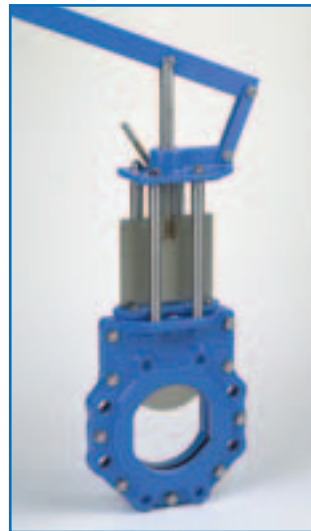
Various Types of **ERU**[®] Knife Gate Valve K1



ERU Knife Gate K1
with handwheel



ERU Knife Gate Valve K1
with chainwheel



ERU Knife Gate Valve K1
with manual lever



ERU Knife Gate Valve K1
for extension stem



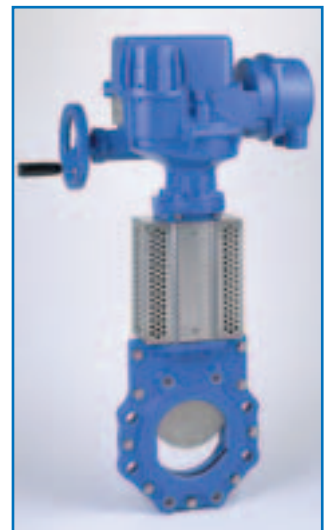
ERU Knife Gate Valve K1
with pneumatic actuator
with PET protective box
(on request)



ERU Knife Gate Valve K1
with AUMA electric actuator



ERU Knife Gate Valve K1
with EMG electric actuator



ERU Knife Gate Valve K1
with protective box
(on request)

The modular system of the **ERU**[®] Knife Gate Valve K1 makes further types possible:

- ⇒ with mounted electric limit switches for indicating the limit positions,
- ⇒ the Knife Gate Valve can be converted to any type of operation without requiring removal from the pipeline.
- ⇒ with pneumatic actuator and mounted control valve,
- ⇒ with pneumatic actuator and mounted positioner,
- ⇒ with scraper device for cleaning the gate,
- ⇒ with triangular or pentagonal regulating orifice for control purposes,
- ⇒ Extension options:
 - non-rising extension stem,
 - tie rod and slide-rod drive for submersible type.
- ⇒ Accessories:
 - support bracket,
 - wall bracket,
 - headstock,
 - protruding headstock,
 - mounting column.

Note:

For the prevention of accidents, any **ERU** Knife Gate Valve K1 may be equipped on request with a protective box covering the travelling range of the gate, according to EN 292 and EN 294.

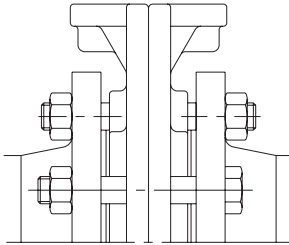
Identical Type for Wafer or End-of-Line Installation (with Counter-flange)

When mounted within the pipeline, ERU Knife Gate Valves K1 are clamped between two flanges of the pipeline and fastened with bolts from flange to flange as well as with bolts in the tapped blind holes of the body. In

order to avoid distortion of the Knife Gate Valve, the counter-flanges must be in true alignment with one another and all bolts have to be tightened evenly. The pipeline mustn't by any means be pulled up to the valve.

If the distance is too large for the Knife Gate Valve, thicker flange gaskets would have to be used in order to compensate for the difference.

Wafer Type Installation

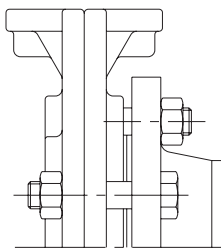


4.139687

Wafer Type Installation

| DN | Flange connection | | Threaded hole ● Through-going hole ○ | | | | | | | | |
|-----|-------------------|-----------------------|--------------------------------------|---------------|-----------------|------------------------------|---------------|------------------------------|---------------|--------------------------|------|
| | to DIN | Pitch circle diameter | External flange diameter | Threaded hole | Depth of thread | Hexagon bolt to DIN EN 24018 | | Hexagon bolt to DIN EN 24016 | | Hex. nut to DIN EN 24034 | |
| | | | | | | Qty. | Size x Length | Qty. | Size x Length | Qty. | Size |
| 50 | 2533 | 125 | 165 | M16 | 10 | 8 | M16x30 | - | - | - | - |
| 65 | | 145 | 185 | M16 | 12 | 8 | M16x30 | - | - | - | - |
| 80 | | 160 | 200 | M16 | 13 | 8 | M16x35 | 4 | M16x110 | 4 | M16 |
| 100 | | 180 | 220 | M16 | 15 | 8 | M16x35 | 4 | M16x120 | 4 | M16 |
| 125 | | 210 | 250 | M16 | 15 | 8 | M16x40 | 4 | M16x130 | 4 | M16 |
| 150 | | 240 | 285 | M20 | 15 | 8 | M20x40 | 4 | M20x130 | 4 | M20 |
| 200 | 2532 | 295 | 340 | M20 | 16 | 8 | M20x40 | 4 | M20x140 | 4 | M20 |
| 250 | | 350 | 395 | M20 | 17 | 16 | M20x45 | 4 | M20x150 | 4 | M20 |
| 300 | | 400 | 445 | M20 | 20 | 16 | M20x45 | 4 | M20x160 | 4 | M20 |
| 350 | | 460 | 505 | M20 | 30 | 20 | M20x45 | 6 | M20x160 | 6 | M20 |
| 400 | | 515 | 565 | M24 | 32 | 20 | M24x55 | 6 | M24x200 | 6 | M24 |
| 500 | | 620 | 670 | M24 | 38 | 28 | M24x65 | 6 | M24x220 | 6 | M24 |
| 600 | 725 | 780 | M27 | 55 | 28 | M27x80 | 6 | M27x250 | 6 | M27 | |

End-of-line Type Installation



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End-of-line Installation

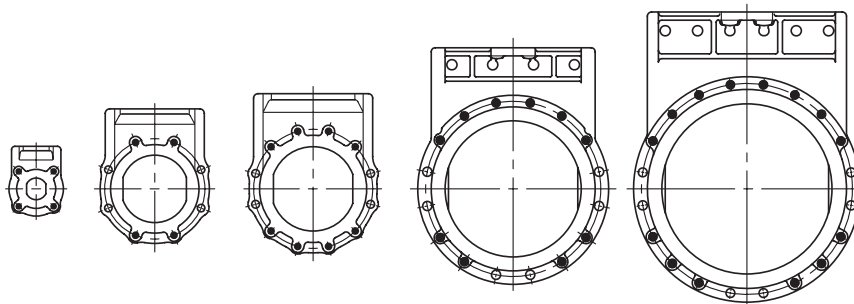
| | | | | | | | | | | | |
|-----|------|-----|-----|-----|----|--------|--------|---|---------|---|-------------------|
| 50 | 2533 | 125 | 165 | M16 | 10 | 4 | M16x30 | - | - | - | - |
| 65 | | 145 | 185 | M16 | 12 | 4 | M16x30 | - | - | - | - |
| 80 | | 160 | 200 | M16 | 13 | 4 | M16x35 | 4 | M16x 80 | 4 | M16 |
| 100 | | 180 | 220 | M16 | 15 | 4 | M16x35 | 4 | M16x 85 | 4 | M16 |
| 125 | | 210 | 250 | M16 | 15 | 4 | M16x40 | 4 | M16x 90 | 4 | M16 |
| 150 | | 240 | 285 | M20 | 15 | 4 | M20x40 | 4 | M20x 95 | 4 | M20 |
| 200 | 2532 | 295 | 340 | M20 | 16 | 4 | M20x40 | 4 | M20x100 | 4 | M20 |
| 250 | | 350 | 395 | M20 | 17 | 8 | M20x45 | 4 | M20x110 | 4 | M20 |
| 300 | | 400 | 445 | M20 | 20 | 8 | M20x45 | 4 | M20x120 | 4 | M20 |
| 350 | | 460 | 505 | M20 | 30 | 10 | M20x45 | 6 | M20x120 | 4 | M20 ¹⁾ |
| 400 | | 515 | 565 | M24 | 32 | 10 | M24x55 | - | - | - | - |
| 500 | | 620 | 670 | M24 | 38 | 14 | M24x65 | - | - | - | - |
| 600 | 725 | 780 | M27 | 55 | 14 | M27x80 | - | - | - | - | |

¹⁾ DN 350 is suitable for end-of-line installation without counterflange only for working pressure lower than 6 bars. For working pressure higher than 6 bars, a counterflange ring is needed.

Bolt lengths refer to welding neck flanges to DIN 2632, PN 10 and gaskets to DIN 2690, 3 mm thick.

threaded hole ● through-going hole ○

DN 50 - 65 DN 80 - 150 DN 200 - 300 DN 350 - 400 DN 500 - 600



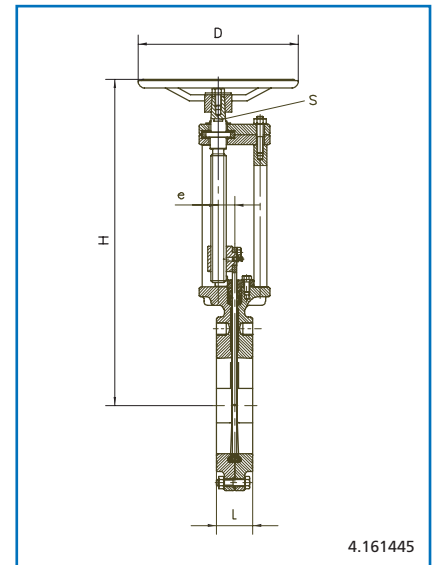
Note of installation: In case of flow media containing coarse solid matters (e. g. high sand content), the valve should be installed, if possible, into horizontal pipeline with upward stem. The inclination of the stem to the vertical should be approx 30° max.

Dimensions

Dimensions of Valve with Handwheel

| Size | Face-to-face dimension | Height | Hand-wheel diameter | Turns per travel | Square | Hand-wheel displacement | Weight |
|------|------------------------|--------|---------------------|------------------|--------|-------------------------|------------|
| DN | L mm | H mm | D mm | | S mm | e mm | approx. kg |
| 50 | 43 | 323 | 200 | 12 | 14 | 19.5 | 10 |
| 65 | 46 | 348 | 200 | 16 | 14 | 19.5 | 11 |
| 80 | 46 | 378 | 200 | 20 | 14 | 19.5 | 13 |
| 100 | 52 | 416 | 225 | 25 | 17 | 22.0 | 17 |
| 125 | 56 | 456 | 225 | 31 | 17 | 22.0 | 20 |
| 150 | 56 | 509 | 250 | 30 | 19 | 25.5 | 26 |
| 200 | 60 | 600 | 320 | 40 | 19 | 25.5 | 39 |
| 250 | 68 | 713 | 320 | 50 | 19 | 32.0 | 64 |
| 300 | 78 | 832 | 400 | 60 | 24 | 35.0 | 93 |
| 350 | 78 | 935 | 400 | 70 | 24 | 26.0 | 135 |
| 400 | 102 | 1016 | 400 | 80 | 24 | 26.0 | 165 |
| 500 | 127 | 1265 | 500 | 84 | 27 | 35.9 | 255 |
| 600 | 154 | 1442 | 500 | 100 | 27 | 35.0 | 370 |

4605 1873¹⁾ 4655 1873¹⁾

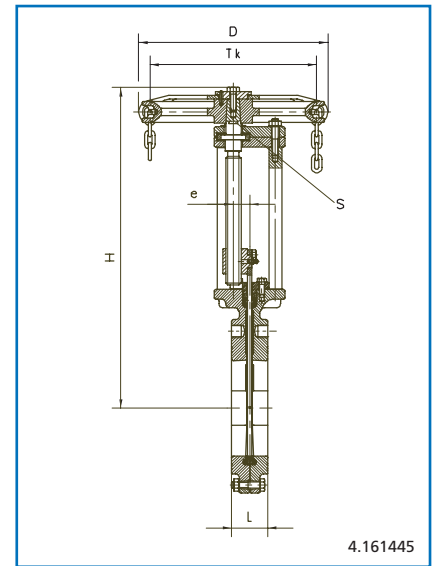


4.161445

Dimensions of Valve with Non-rising Stem and Chainwheel

| Size | Face-to-face dimension | Height | Chain-wheel diameter | Turns per travel | Square | Chain-wheel displacement | Weight |
|------|------------------------|--------|----------------------|------------------|--------|--------------------------|------------|
| DN | L mm | H mm | D mm | | S mm | e mm | approx. kg |
| 50 | 43 | 313 | 177 | 12 | 14 | 19.5 | 10 |
| 65 | 46 | 338 | 177 | 16 | 14 | 19.5 | 11 |
| 80 | 46 | 368 | 177 | 20 | 14 | 19.5 | 13 |
| 100 | 52 | 408 | 213 | 25 | 17 | 22.0 | 18 |
| 125 | 56 | 448 | 213 | 31 | 17 | 22.0 | 21 |
| 150 | 56 | 501 | 260 | 30 | 19 | 25.5 | 27 |
| 200 | 60 | 602 | 260 | 40 | 19 | 25.5 | 39 |
| 250 | 68 | 716 | 260 | 50 | 19 | 32.0 | 64 |
| 300 | 78 | 835 | 307 | 60 | 24 | 35.0 | 92 |
| 350 | 78 | 927 | 307 | 70 | 24 | 26.0 | 135 |
| 400 | 102 | 1024 | 307 | 80 | 24 | 26.0 | 165 |
| 500 | 127 | 1277 | 377 | 84 | 27 | 35.0 | 255 |
| 600 | 184 | 1455 | 377 | 100 | 27 | 35.0 | 370 |

4605 1851¹⁾ 4655 1851¹⁾



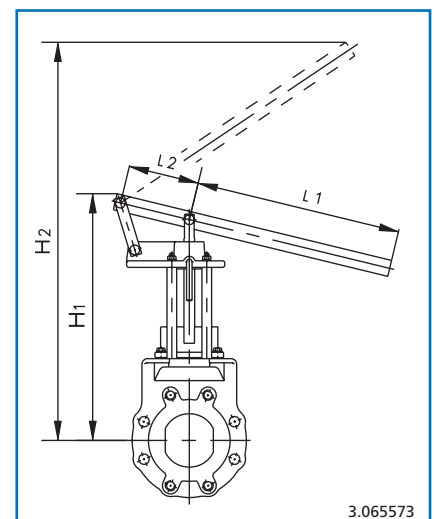
4.161445

¹⁾ Chainwheel profile for chain A5 to DIN 766.

Dimensions for Valve with Manual Lever, Working Pressure 2 bar

| Size | Face-to-face dimensions | Height closed | Height open | | | Weight |
|------|-------------------------|-------------------|-------------------|-------------------|-------------------|------------|
| DN | L mm | H ₁ mm | H ₂ mm | L ₁ mm | L ₂ mm | approx. kg |
| 50 | 43 | 336 | 568 | 520 | 80 | 10 |
| 65 | 46 | 370 | 667 | 590 | 90 | 11 |
| 80 | 46 | 408 | 741 | 650 | 100 | 13 |
| 100 | 52 | 458 | 889 | 850 | 130 | 17 |
| 125 | 56 | 510 | 1025 | 910 | 140 | 21 |
| 150 | 56 | 564 | 1204 | 980 | 150 | 29 |
| 200 | 60 | 690 | 1754 | 1137 | 153 | 41 |

4657 1861

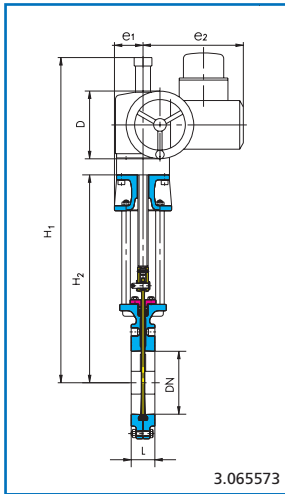


3.065573

¹⁾ 4655.... up to DN 350 4605.... DN 400 and larger.

Dimensions

4607 1812¹⁾ AUMA
4657 1812¹⁾ AUMA

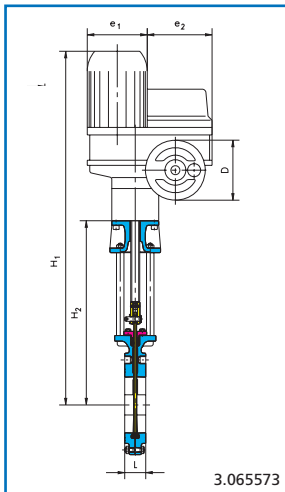


Dimensions for Valve with AUMA Electric Actuator

| Size DN | Face-to-face dimension L mm | Height | | Height | | Hand- wheel dia- meter DN mm | Turns per travel | Actua- tor Type | Closing time in sec. at actuator speed 1/min. | | | | Weight approx. kg |
|------------|--------------------------------------|----------------------|----------------------|----------------------|----------------------|---|------------------------|-----------------------|---|-----|-----|----|-------------------------|
| | | H ₁ mm | H ₂ mm | e ₁ mm | e ₂ mm | | | | 22 | 32 | 45 | 63 | |
| 50 | 43 | 599 | 311 | 62 | 237 | 140 | 12 | SA07.1 | 34 | 23 | 17 | 12 | 32 |
| 65 | 46 | 624 | 336 | 62 | 237 | 140 | 16 | SA07.1 | 44 | 30 | 22 | 16 | 33 |
| 80 | 46 | 654 | 366 | 62 | 237 | 140 | 20 | SA07.1 | 55 | 38 | 27 | 19 | 35 |
| 100 | 52 | 687 | 399 | 62 | 237 | 140 | 25 | SA07.1 | 68 | 47 | 33 | 24 | 39 |
| 125 | 56 | 727 | 439 | 62 | 237 | 140 | 31 | SA07.1 | 85 | 59 | 42 | 30 | 42 |
| 150 | 56 | 779 | 491 | 68 | 237 | 160 | 30 | SA07.5 | 82 | 56 | 40 | 29 | 48 |
| 200 | 60 | 879 | 591 | 68 | 237 | 160 | 40 | SA07.5 | 109 | 75 | 53 | 38 | 61 |
| 250 | 68 | 1089 | 712 | 80 | 237 | 160 | 50 | SA07.5 | 136 | 94 | 67 | 48 | 88 |
| 300 | 78 | 1198 | 821 | 80 | 237 | 160 | 60 | SA07.5 | 164 | 113 | 80 | 57 | 112 |
| 350 | 78 | 1305 | 808 | 65 | 247 | 200 | 58 | SA10.1 | 158 | 108 | 87 | 55 | 160 |
| 400 | 102 | 1405 | 908 | 65 | 247 | 200 | 80 | SA10.1 | 218 | 150 | 107 | 76 | 207 |
| 500 | 127 | 1715 | 1118 | 65 | 247 | 200 | 83 | SA10.1 | 227 | 156 | 111 | 80 | 285 |
| 600 | 154 | 2075 | 1322 | 90 | 285 | 315 | 100 | SA14.1 | 273 | 188 | 133 | 95 | 459 |

Electric Actuator can also be turned by 90°.

4607 1812¹⁾ EMG
4657 1812¹⁾ EMG

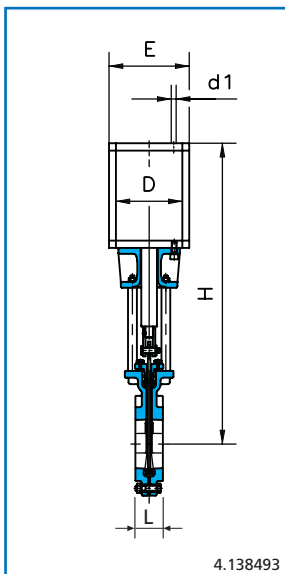


Dimensions for Valve with EMG Electric Actuator

| Size DN | Face-to-face dimension L mm | Height | | Height | | Hand- wheel dia- meter DN mm | Turns per travel | Actua- tor Type | Closing time in sec. at actuator speed 1/min. | | | | Weight approx. kg |
|------------|--------------------------------------|----------------------|----------------------|----------------------|----------------------|---|------------------------|-----------------------|---|-----|-----|----|-------------------------|
| | | H ₁ mm | H ₂ mm | e ₁ mm | e ₂ mm | | | | 22 | 32 | 45 | 63 | |
| 50 | 43 | 627 | 311 | 106 | 180 | 125 | 12 | D 30 | 30 | 23 | 19 | 15 | 28 |
| 65 | 46 | 652 | 336 | 106 | 180 | 125 | 16 | D 30 | 39 | 30 | 24 | 20 | 29 |
| 80 | 46 | 682 | 366 | 106 | 180 | 125 | 20 | D 30 | 48 | 38 | 30 | 24 | 31 |
| 100 | 52 | 715 | 399 | 106 | 180 | 125 | 25 | D 30 | 60 | 47 | 38 | 30 | 35 |
| 125 | 56 | 755 | 439 | 106 | 180 | 125 | 31 | D 30 | 75 | 59 | 47 | 38 | 38 |
| 150 | 56 | 813 | 491 | 106 | 180 | 160 | 30 | D 59 | 72 | 56 | 45 | 36 | 47 |
| 200 | 60 | 913 | 591 | 106 | 180 | 160 | 40 | D 59 | 96 | 75 | 60 | 48 | 60 |
| 250 | 68 | 1106 | 712 | 106 | 180 | 160 | 50 | D 59 | 120 | 94 | 75 | 60 | 87 |
| 300 | 78 | 1215 | 821 | 106 | 180 | 160 | 60 | D 59 | 144 | 113 | 90 | 72 | 117 |
| 350 | 78 | 1226 | 808 | 129 | 205 | 200 | 58 | D 120 | 348 | 139 | 87 | 43 | 160 |
| 400 | 102 | 1426 | 908 | 129 | 205 | 200 | 80 | D 120 | 480 | 192 | 120 | 60 | 207 |
| 500 | 127 | 1734 | 1118 | 129 | 205 | 200 | 83 | D 120 | 500 | 240 | 125 | 63 | 285 |
| 600 | 154 | 2050 | 1322 | 129 | 205 | 200 | 100 | D 200 | 600 | 288 | 150 | 75 | 423 |

Electric Actuator can also be turned by 90°.

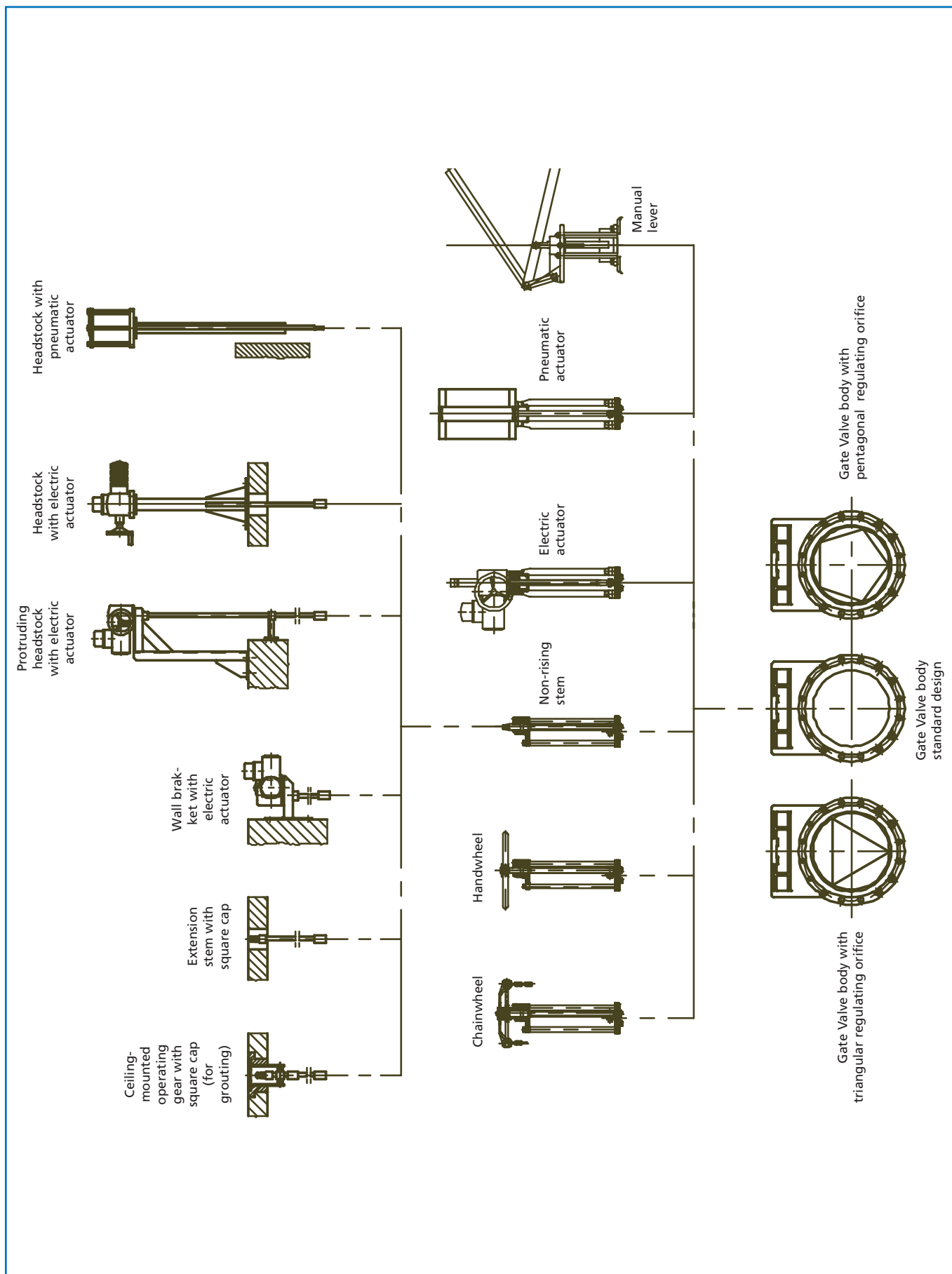
4607 1820
4657 1820



Dimensions for Valve with Festo-Copac Pneumatic Actuator

| Size DN | Face-to-face dimension L mm | Height H mm | Cylinder diameter D mm | Supply connection d1 DIN ISO228 | Cylinder volume bei 6 bar NI | Cylinder cover E mm | Weight approx. kg |
|------------|--------------------------------------|-------------------|---------------------------------|--|---------------------------------------|------------------------------|-------------------------|
| | | | | | | | |
| 65 | 46 | 501 | 80 | G 1/4 | 2,3 | 108 | 14 |
| 80 | 46 | 550 | 100 | G 1/4 | 4,4 | 131 | 18 |
| 100 | 52 | 603 | 100 | G 1/4 | 5,5 | 131 | 21 |
| 100 | 52 | 613 | 125 | G 1/4 | 8,6 | 163 | 22 |
| 125 | 56 | 668 | 100 | G 1/4 | 6,9 | 131 | 24 |
| 125 | 56 | 678 | 125 | G 1/4 | 10,8 | 163 | 25 |
| 150 | 56 | 755 | 125 | G 1/4 | 12,9 | 163 | 31 |
| 150 | 56 | 755 | 160 | G 1/4 | 21,2 | 199 | 34 |
| 200 | 60 | 905 | 160 | G 1/4 | 28,2 | 199 | 59 |
| 200 | 60 | 945 | 250 | G 1/4 | 68,8 | 308 | 61 |
| 250 | 68 | 1076 | 160 | G 1/4 | 35,3 | 199 | 82 |
| 250 | 68 | 1116 | 250 | G 1/4 | 86 | 308 | 84 |
| 300 | 78 | 1235 | 160 | G 1/4 | 42,3 | 199 | 114 |
| 300 | 78 | 1275 | 250 | G 1/4 | 103,2 | 308 | 116 |
| 350 | 78 | 1312 | 250 | G 1/4 | 120,4 | 308 | 162 |
| 400 | 102 | 1462 | 250 | G 1/4 | 137,6 | 308 | 207 |
| 500 | 127 | 1772 | 250 | G 1/4 | 172 | 308 | 275 |
| 600 | 154 | 2083 | 320 | G 1/4 | 337,8 | 378 | 470 |

1) 4657 ... up to DN 350 4607 DN 400 and larger.



Postfach 1280 · D-89502 Heidenheim
 Phone: +49(0)7321 320-0 · Fax: +49(0)7321 320-525
<http://www.erhard.de>
 e-mail: export@erhard.de

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