

Butterfly Valve

K4

PVDF

DATASHEET

Overview

| General | | |
|--------------------|--|---|
| Material | Body material Seal material Disc | PP-GF EPDM / FPM PVDF |
| Dimensions | DN65 – DN250 d75 – d280 2 ½" – 10" | |
| Connector types | Flange | DIN 2501 PN10 ANSI B 16,5 Class 150 JIS 10 K <small>[only DN65-DN150]</small> BS Table D&E |
| Operating pressure | DN65 – DN200 DN250 | PN10 PN8 |
| Insert material | | INOX A4 |
| Pin material | | INOX A2 |

Range summary



Hand operated



without actuation



Position Feedback












Pneumatic



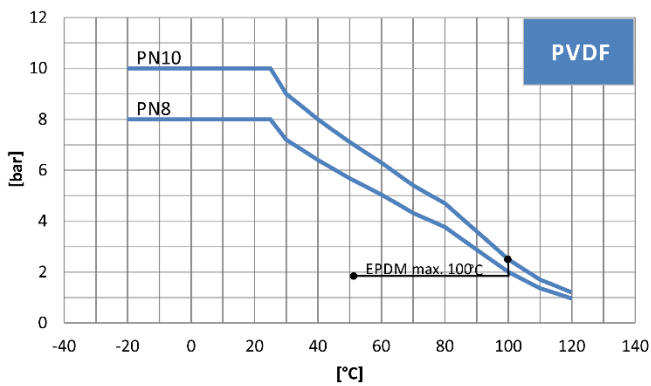
Electric

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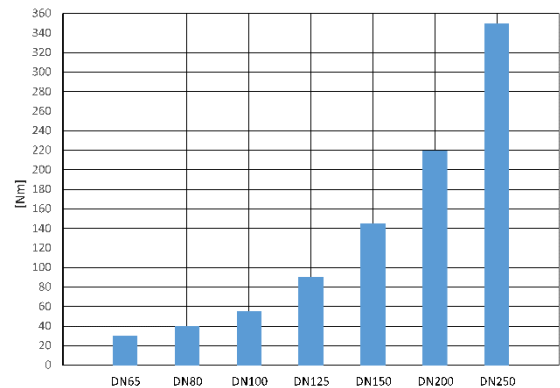
| | | |
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Technical data

Pressure – temperature – diagram

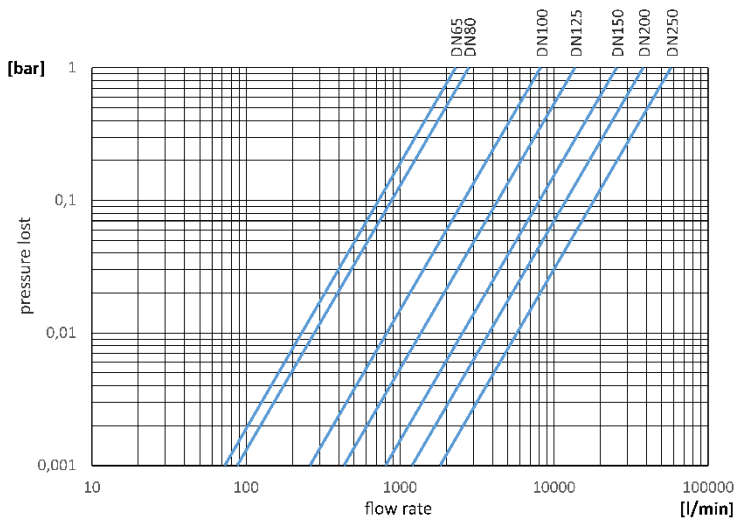


Torque at the shaft

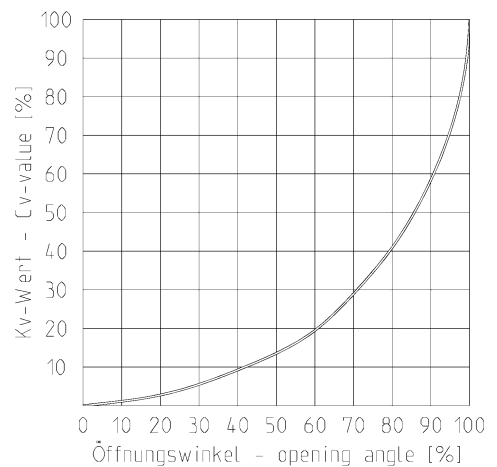


The values of the pressure-temperature-diagram are based on a service life of 25 years at static pressure load and apply to water or water-like media.

Flow rate – pressure loss



Flow characteristics



Kv-value-table

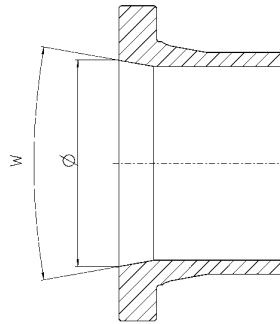
| pressure loss | DN65 | DN80 | DN100 | DN125 | DN150 | DN200 | DN250 |
|---------------|------|------|-------|-------|-------|-------|-------|
| 0,001 bar | 73 | 88 | 260 | 433 | 805 | 1200 | 1820 |
| 1,0 bar | 2300 | 2800 | 8200 | 13700 | 25500 | 38000 | 57600 |

specification in l/min (PN16 pipe)

Technical data

Installation in pipeline:

For a correct and complete opening of the damper it is necessary that the connection pieces have at least an inner diameter according to the table.



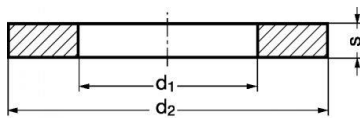
| DN | DN 50* | DN65 | DN80 | DN100 | DN125 | DN150 | DN200 | DN250 |
|--------|--------|------|------|-------|-------|-------|-------|-------|
| d | d 63* | d 75 | d 90 | D 110 | d 140 | d 160 | d 225 | d 280 |
| ø (mm) | 60 | 60 | 77 | 96,5 | 121,5 | 146,5 | 203 | 248 |
| w (°) | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |

* Only DIN DN50 d63 couplings or welding collars can be used.

General installation instructions:

Lug Type

- It is recommended to use the appropriate shims according to DIN125A:



| DN | DN65 | DN80 | DN100 | DN125 | DN150 | DN200 | DN250 |
|--------|------|------|-------|-------|-------|-------|-------|
| Thread | M16 | M16 | M16 | M16 | M20 | M20 | M20 |
| d1 | 17 | 17 | 17 | 17 | 21 | 21 | 21 |
| d2 | 30 | 30 | 30 | 30 | 37 | 37 | 37 |
| s | 3 | 3 | 3 | 3 | 3 | 3 | 3 |

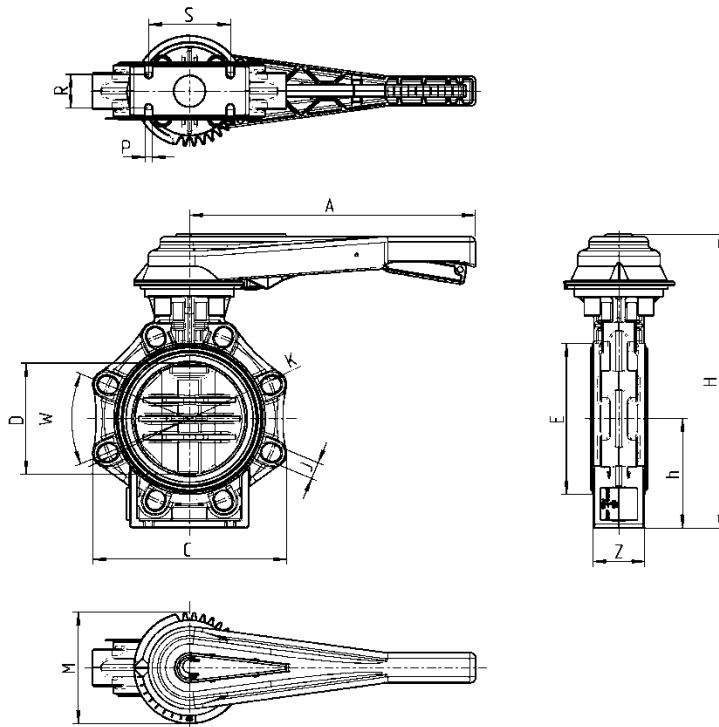
Dimensions in mm

- Adjust the bolt length to the flange or welding neck.
- In case of one-sided disassembly, check the torque of the bolts on the opposite side (see information on tightening torque of bolts for flange connections).

Dimensions hand lever

Connector types

Flange (dimensions in mm)



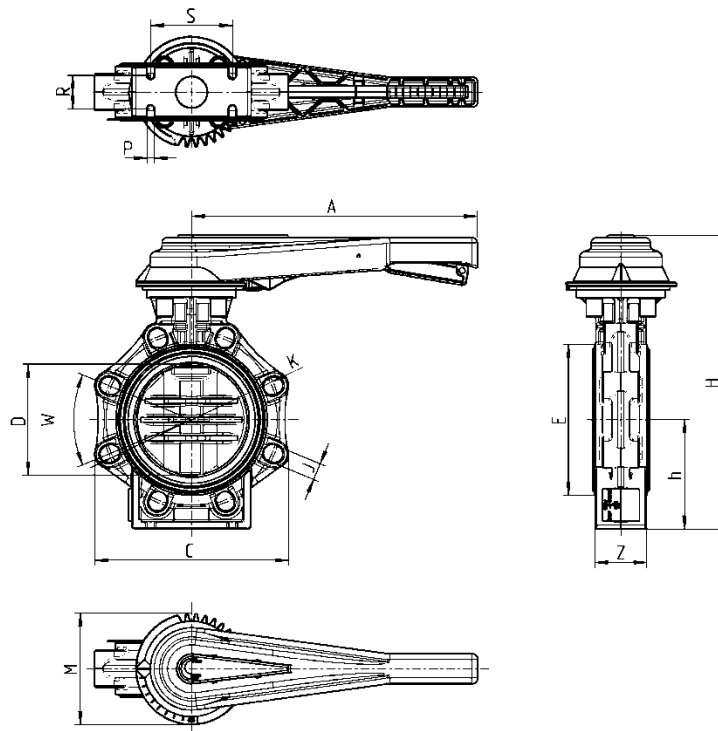
| DN | 65 | 80 | 100 | 125 | 150 | 200 |
|------|-----------|-----------|-------------|-------------|---------------|-------------|
| d | 75 | 90 | 110 | 140 | 160 | 225 |
| Zoll | 2 1/2" | 3" | 4" | 5" | 6" | 8" |
| A | 230 | 230 | 300 | 300 | 386 | 386 |
| D | 65 | 80 | 100 | 125 | 150 | 200 |
| C | 133 | 176 | 206 | 234,5 | 261 | 314 |
| W | 90° | 45° | 45° | 45° | 45° | 45° |
| J | 19 | 19 | 19 | 23 | 23 | 23 |
| K | 127 - 145 | 146 - 160 | 175 - 190,5 | 209,5 - 216 | 234,5 - 241,3 | 290 - 298,5 |
| H | 285 | 292 | 322 | 358 | 396 | 458 |
| h | 100 | 100 | 115 | 130 | 147,5 | 175 |
| E | 98 | 116 | 146 | 170 | 196 | 251 |
| M | 114 | 114 | 114 | 114 | 150 | 150 |
| Z | 46 | 49 | 56 | 64 | 70 | 71 |
| S | 55 | 70 | 85 | 100 | 110 | 145 |
| R | 25 | 30 | 35 | 45 | 45 | 40 |
| P | 7 | 9 | 9 | 9 | 9 | 9 |
| PN | 10 | 10 | 10 | 10 | 10 | 10 |

*DN 250 only with handwheel

Dimensions hand lever

Connector types

Flansch Lug Type (Dimensionen in mm)

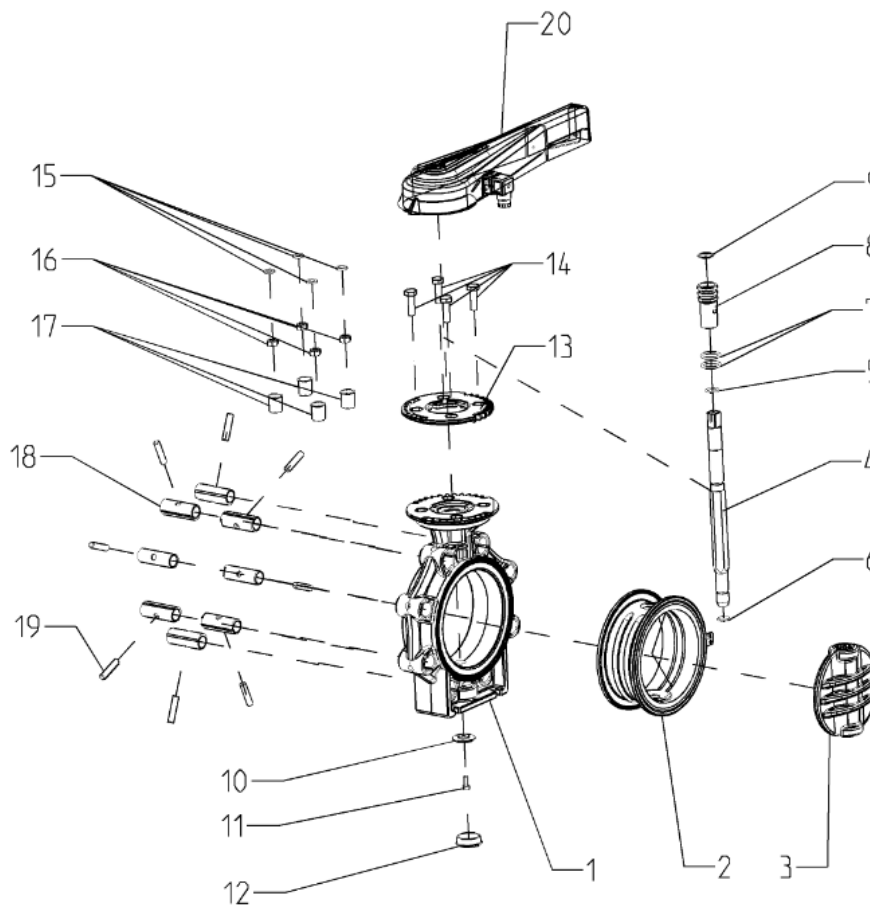


| DN | 65 | 80 | 100 | 125 | 150 | 200 |
|--------|-----------|-----------|-------------|-------------|---------------|--------------|
| d | 75 | 90 | 110 | 140 | 160 | 225 |
| Zoll | 2 1/2" | 3" | 4" | 5" | 6" | 8" |
| A | 230 | 230 | 300 | 300 | 386 | 386 |
| D | 65 | 80 | 100 | 125 | 150 | 200 |
| C | 133 | 176 | 206 | 234,5 | 261 | 314 |
| W | 90° | 45° | 45° | 45° | 45° | 45° |
| J | 19 | 19 | 19 | 23 | 23 | 23 |
| K | 127 – 145 | 146 – 160 | 175 – 190,5 | 209,5 – 216 | 234,5 – 241,3 | 290 – 298,45 |
| K-DIN | 145 | 160 | 180 | 210 | 240 | 295 |
| K-ANSI | 139,7 | 152,4 | 190,5 | 215,9 | 241,3 | 298,45 |
| H | 285 | 292 | 322 | 358 | 396 | 458 |
| h | 100 | 100 | 115 | 130 | 147,5 | 175 |
| E | 98 | 116 | 146 | 170 | 196 | 251 |
| M | 114 | 114 | 114 | 114 | 150 | 150 |
| Z | 46 | 49 | 56 | 64 | 70 | 71 |
| S | 55 | 70 | 85 | 100 | 110 | 145 |
| R | 25 | 30 | 35 | 45 | 45 | 40 |
| P | 7 | 9 | 9 | 9 | 9 | 9 |
| PN | 10 | 10 | 10 | 10 | 10 | 10 |

*DN 250 only with handwheel

www.praher-plastics.com

Exploded drawing hand lever

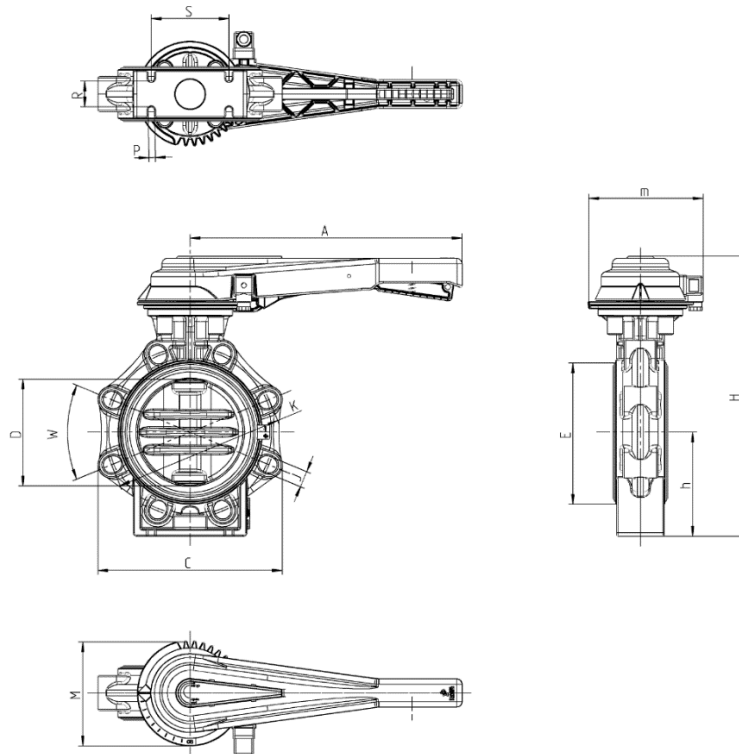


| Nr. | Description | Material |
|-----|--------------------|----------|
| 01. | Body | PP-GF |
| 02. | Sleeve | EPDM/FKM |
| 03. | Disc | PVDF |
| 04. | Shaft | A4 |
| 05. | Seal shaft above | FPM |
| 06. | Seal shaft below | FPM |
| 07. | Seal pilot bushing | FPM |
| 08. | Pilot bushing | PVDF |
| 09. | Retaining ring | A2 |
| 10. | Holding disc | 1.4305 |
| 11. | Screw | A4 |
| 12. | Cap | PVC |
| 13. | toothed washer | PP-GFK |
| 14. | Screw | A4 |
| 15. | washers | A4 |
| 16. | Nuts | A4 |
| 17. | cover cap | PE |
| 18. | inserts | INOX A4 |
| 19. | Pin | INOX A2 |
| 20. | Handle | PP-GFK |

Dimensions hand lever with position feedback

Connector types

Flange (dimensions in mm)

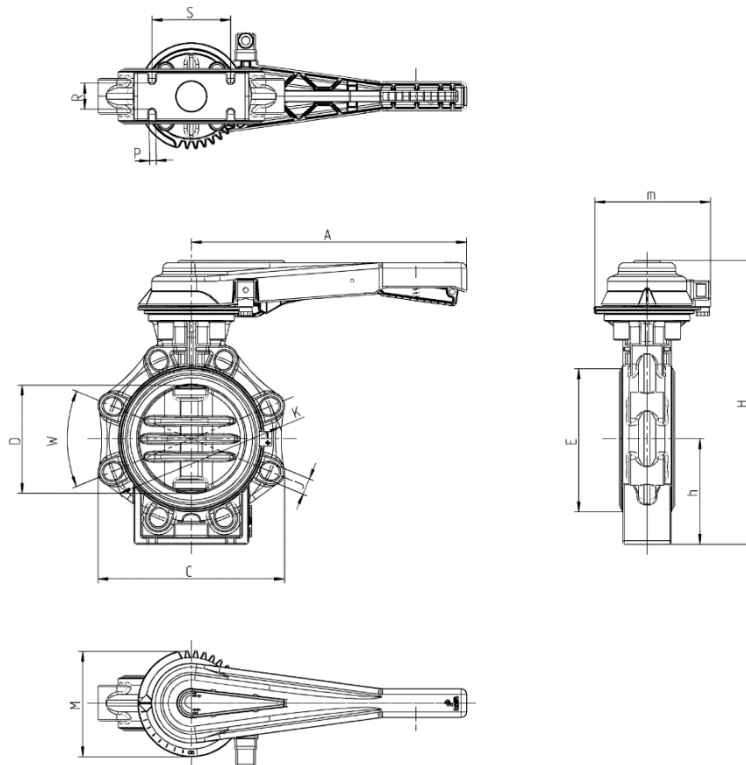


| DN | 65 | 80 | 100 | 125 | 150 | 200 |
|------|-----------|-----------|-------------|-------------|---------------|-------------|
| d | 75 | 90 | 110 | 140 | 160 | 225 |
| Zoll | 2 1/2" | 3" | 4" | 5" | 6" | 8" |
| A | 230 | 230 | 300 | 300 | 386 | 386 |
| D | 65 | 80 | 100 | 125 | 150 | 200 |
| C | 133 | 176 | 206 | 234,5 | 261 | 314 |
| W | 90° | 45° | 45° | 45° | 45° | 45° |
| J | 19 | 19 | 19 | 23 | 23 | 23 |
| K | 127 – 145 | 146 – 160 | 175 – 190,5 | 209,5 – 216 | 234,5 – 241,3 | 290 – 298,5 |
| H | 285 | 292 | 322 | 358 | 396 | 458 |
| h | 100 | 100 | 115 | 130 | 147,5 | 175 |
| E | 98 | 116 | 146 | 170 | 196 | 251 |
| M | 114 | 114 | 114 | 114 | 150 | 150 |
| m | 125 | 125 | 131 | 131 | 163 | 163 |
| Z | 46 | 49 | 56 | 64 | 70 | 71 |
| S | 55 | 70 | 85 | 100 | 110 | 145 |
| R | 25 | 30 | 35 | 45 | 45 | 40 |
| P | 7 | 9 | 9 | 9 | 9 | 9 |
| PN | 10 | 10 | 10 | 10 | 10 | 10 |

Dimensions hand lever with position feedback

Connector types

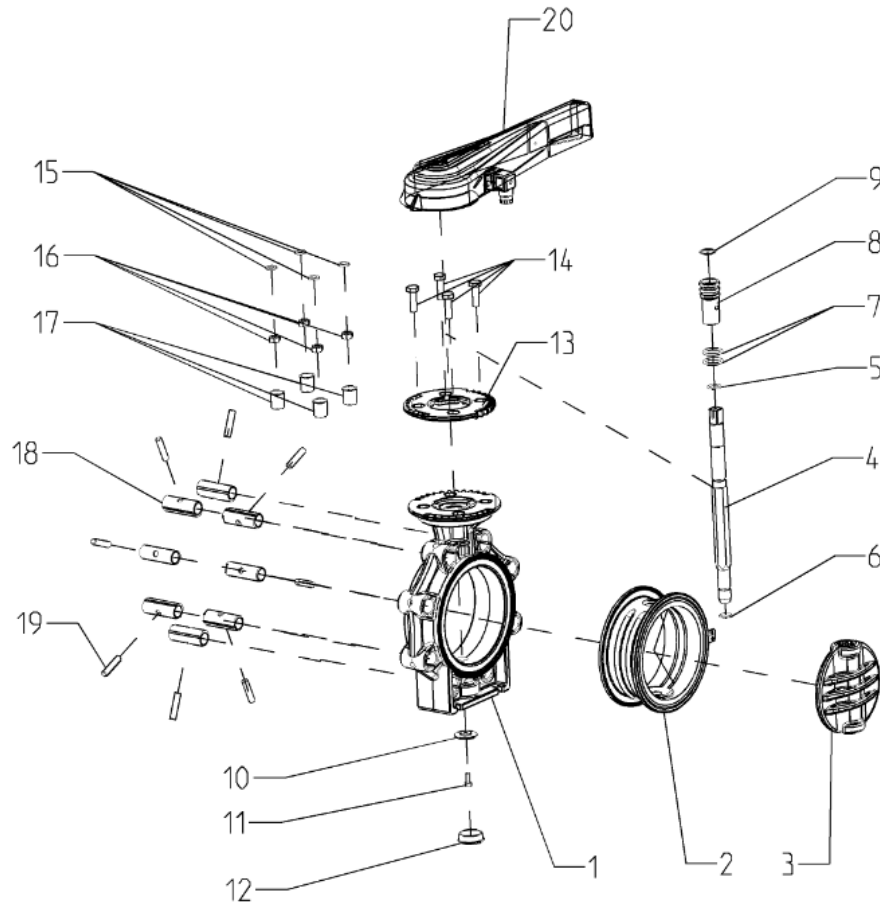
Flansch Lug Type (dimensions in mm)



| DN | 65 | 80 | 100 | 125 | 150 | 200 |
|--------|-----------|-----------|-------------|-------------|---------------|--------------|
| d | 75 | 90 | 110 | 140 | 160 | 225 |
| Zoll | 2 1/2" | 3" | 4" | 5" | 6" | 8" |
| A | 230 | 230 | 300 | 300 | 386 | 386 |
| D | 65 | 80 | 100 | 125 | 150 | 200 |
| C | 133 | 176 | 206 | 234,5 | 261 | 314 |
| W | 90° | 45° | 45° | 45° | 45° | 45° |
| J | 19 | 19 | 19 | 23 | 23 | 23 |
| K | 127 – 145 | 146 – 160 | 175 – 190,5 | 209,5 – 216 | 234,5 – 241,3 | 290 – 298,45 |
| K-DIN | 145 | 160 | 180 | 210 | 240 | 295 |
| K-ANSI | 139,7 | 152,4 | 190,5 | 215,9 | 241,3 | 298,45 |
| H | 285 | 292 | 322 | 358 | 396 | 458 |
| h | 100 | 100 | 115 | 130 | 147,5 | 175 |
| E | 98 | 116 | 146 | 170 | 196 | 251 |
| M | 114 | 114 | 114 | 114 | 150 | 150 |
| m | 125 | 125 | 131 | 131 | 163 | 163 |
| Z | 46 | 49 | 56 | 64 | 70 | 71 |
| S | 55 | 70 | 85 | 100 | 110 | 145 |
| R | 25 | 30 | 35 | 45 | 45 | 40 |
| P | 7 | 9 | 9 | 9 | 9 | 9 |
| PN | 10 | 10 | 10 | 10 | 10 | 10 |

*DN 250 only with handwheel

Exploded drawing hand lever with position feedback



| Nr. | Description | Material |
|-----|-----------------------------------|----------|
| 01. | Body | PP-GF |
| 02. | Sleeve | EPDM/FKM |
| 03. | Disc | PVDF |
| 04. | Shaft | A4 |
| 05. | Seal shaft above | FPM |
| 06. | Seal shaft below | FPM |
| 07. | Seal pilot bushing | FPM |
| 08. | Pilot bushing | PVDF |
| 09. | Retaining ring | A2 |
| 10. | Holding disc | 1.4305 |
| 11. | Screw | A4 |
| 12. | Cap | PVC |
| 13. | toothed washer | PP-GFK |
| 14. | Screws | A4 |
| 15. | washers | A4 |
| 16. | Nuts | A4 |
| 17. | cover cap | PE |
| 18. | inserts | INOX A4 |
| 19. | pins | INOX A2 |
| 20. | Hand lever with position feedback | PP-GFK |

Technical data position feedback

| Limit switch mechanical | | |
|-------------------------|------------------------|----------------------|
| Type | (Ag-Ni) NO/NC* | (Au) NO*/NC* |
| Voltage max. | 15-250V AC (15-30V DC) | 5-250V AC (5-30V DC) |
| Current max. | 100mA-5A | 1mA-3A |
| Protection limit switch | IP67 | |
| Protection DIN-plug | IP65 | |
| Ambient temperature | -10°C bis +50°C | |
| Electric wiring | NO | NC |
| A pressed ... open | | |
| B pressed... closed | | |

* on request

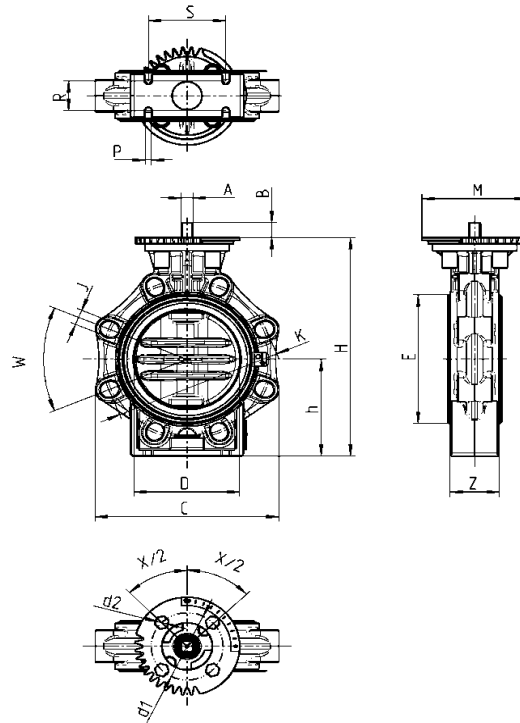
| Limit switch inductive | | |
|-------------------------|-----------------|--|
| Type | NPN*/PNP | NAMUR EMV acc. IEC / EN 60947-5-2:2004; NE 21 DIN EN 60947-5-6 |
| Voltage max. | 10-30V DC | 8V DC |
| Current max. | 0-100mA | NAMUR intrinsically safe |
| Protection limit switch | IP67 | |
| Protection DIN-plug | IP65 | |
| Ambient temperature | -10°C bis +50°C | |
| Electric wiring | | |

* on request

Dimensions without actuation

Connector types

Flange (dimensions in mm)

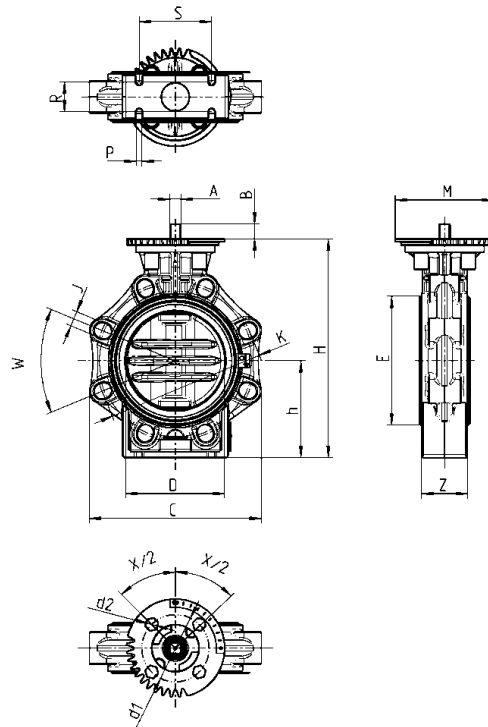


| | | | | | | | | | with adapter plate | |
|------|---------|---------|-----------|-----------|-------------|-----------|-----------|-------------|--------------------|--|
| DN | 65 | 80 | 100 | 125 | 150 | 200 | 250 | 150 | 200 | |
| d | 75 | 90 | 110 | 140 | 160 | 225 | 280 | 160 | 225 | |
| Zoll | 2 ½" | 3" | 4" | 5" | 6" | 8" | 10" | 6" | 8" | |
| A | 11 | 11 | 14 | 14 | 17 | 17 | 22 | 17 | 17 | |
| B | 17,5 | 17,5 | 19,5 | 19,5 | 23 | 23 | 23,5 | 23 | 23 | |
| C | 133 | 176 | 206 | 234,5 | 261 | 314 | 392 | 261 | 314 | |
| D | 65 | 80 | 100 | 125 | 150 | 200 | 231 | 150 | 200 | |
| E | 98 | 116 | 146 | 170 | 196 | 251 | 317 | 196 | 251 | |
| H | 232 | 239 | 269 | 303,5 | 333 | 395 | 333 | 333 | 395 | |
| h | 100 | 100 | 115 | 130 | 147,5 | 175 | 147,5 | 147,5 | 175 | |
| J | 19 | 19 | 19 | 23 | 23 | 23 | 22 / 25,4 | 23 | 23 | |
| K | 127-145 | 146-160 | 175-190,5 | 209,5-216 | 234,5-241,5 | 290-298,5 | 350-362 | 234,5-241,5 | 290-298,5 | |
| M | 114 | 114 | 114 | 114 | 150 | 150 | 125 | 138 | 138 | |
| P | 7 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | |
| R | 25 | 30 | 35 | 45 | 45 | 40 | 40 | 45 | 40 | |
| S | 55 | 70 | 85 | 100 | 110 | 145 | 160 | 110 | 145 | |
| W | 90° | 45° | 45° | 45° | 45° | 45° | 30° | 45° | 45° | |
| Z | 46 | 49 | 56 | 64 | 70 | 71 | 114 | 70 | 71 | |
| PN | 10 | 10 | 10 | 10 | 10 | 10 | 8 | 10 | 10 | |

Dimensions without actuation

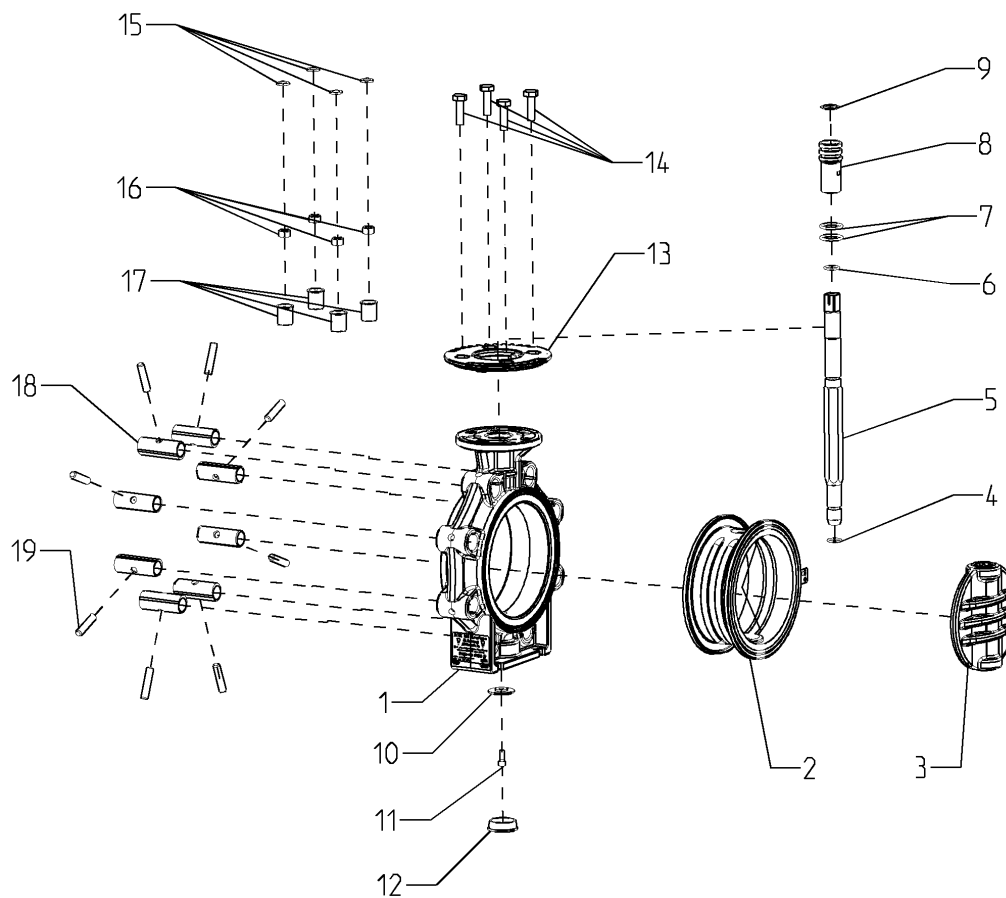
Connector types

Flansch Lug Type (Dimensionen in mm)



| | 65 | 80 | 100 | 125 | 150 | 200 | 250 | with adapter plate | |
|--------|---------|---------|-----------|-----------|-------------|------------|-----------|--------------------|------------|
| DN | 65 | 80 | 100 | 125 | 150 | 200 | 250 | 150 | 200 |
| d | 75 | 90 | 110 | 140 | 160 | 225 | 280 | 160 | 225 |
| Zoll | 2 ½" | 3" | 4" | 5" | 6" | 8" | 10" | 6" | 8" |
| A | 11 | 11 | 14 | 14 | 17 | 17 | 22 | 17 | 17 |
| B | 17,5 | 17,5 | 19,5 | 19,5 | 23 | 23 | 23,5 | 23 | 23 |
| C | 133 | 176 | 206 | 234,5 | 261 | 314 | 392 | 261 | 314 |
| D | 65 | 80 | 100 | 125 | 150 | 200 | 231 | 150 | 200 |
| E | 98 | 116 | 146 | 170 | 196 | 251 | 317 | 196 | 251 |
| H | 232 | 239 | 269 | 303,5 | 333 | 395 | 460 | 333 | 395 |
| h | 100 | 100 | 115 | 130 | 147,5 | 175 | 215 | 147,5 | 175 |
| J | 19 | 19 | 19 | 23 | 23 | 23 | 22 / 25,4 | 23 | 23 |
| K | 127-145 | 146-160 | 175-190,5 | 209,5-216 | 234,5-241,5 | 290-298,45 | 350-362 | 234,5-241,5 | 290-298,45 |
| K-DIN | 145 | 160 | 180 | 210 | 240 | 295 | 350 | 240 | 295 |
| K-ANSI | 139,7 | 152,4 | 190,5 | 215,9 | 241,3 | 298,5 | 362 | 241,3 | 298,45 |
| M | 114 | 114 | 114 | 114 | 150 | 150 | 125 | 138 | 138 |
| P | 7 | 9 | 9 | 9 | 9 | 9 | 9 | 9 | 9 |
| R | 25 | 30 | 35 | 45 | 45 | 40 | 40 | 45 | 40 |
| S | 55 | 70 | 85 | 100 | 110 | 145 | 160 | 110 | 145 |
| W | 90° | 45° | 45° | 45° | 45° | 45° | 30° | 45° | 45° |
| Z | 46 | 49 | 56 | 64 | 70 | 71 | 114 | 70 | 71 |
| PN | 10 | 10 | 10 | 10 | 10 | 10 | 8 | 10 | 10 |

Exploded drawing without actuation



| Nr. | Description | Material |
|-----|--------------------|----------|
| 01. | Body | PP-GF |
| 02. | Sleeve | EPDM/FKM |
| 03. | Disc | PVDF |
| 04. | Seal shaft below | FPM |
| 05. | Shaft | A4 |
| 06. | Seal shaft above | FPM |
| 07. | Seal pilot bushing | FPM |
| 08. | Pilot bushing | PVDF |
| 09. | Retaining ring | A2 |
| 10. | Holding disc | 1.4305 |
| 11. | Screw | A4 |
| 12. | Cap | PVC |
| 13. | toothed washer | PP-GFK |
| 14. | Screw | A4 |
| 15. | washer | A4 |
| 16. | Nuts | A4 |
| 17. | Caps | PE |
| 18. | Inserts | INOX A4 |
| 19. | Pin | INOX A2 |

Technical data without actuation

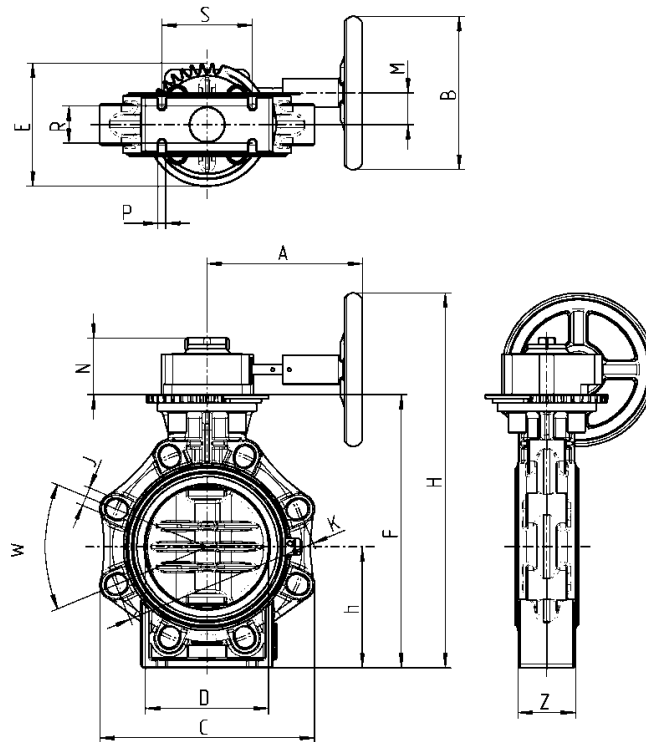
Butterfly valve connections- Flange dimensions

| DN | Flange type ISO 5211 | d1 | d2 | X/2 | A |
|--------------------|-------------------------|-----|-----|-----|----|
| 65 | F07 | 70 | M8 | 45° | 11 |
| 80 | F07 | 70 | M8 | 45° | 11 |
| 100 | F07 | 70 | M8 | 45° | 14 |
| 125 | F07 | 70 | M8 | 45° | 14 |
| 152 | F10 | 102 | M10 | 45° | 17 |
| 200 | F10 | 102 | M10 | 45° | 17 |
| 250 | F10 | 102 | M10 | 45° | 22 |
| with adapter plate | | | | | |
| 150 | F07 | 70 | M8 | 45° | 17 |
| 200 | F07 | 70 | M8 | 45° | 17 |

Dimensions handwheel

Connector types

Flange (dimensions in mm)

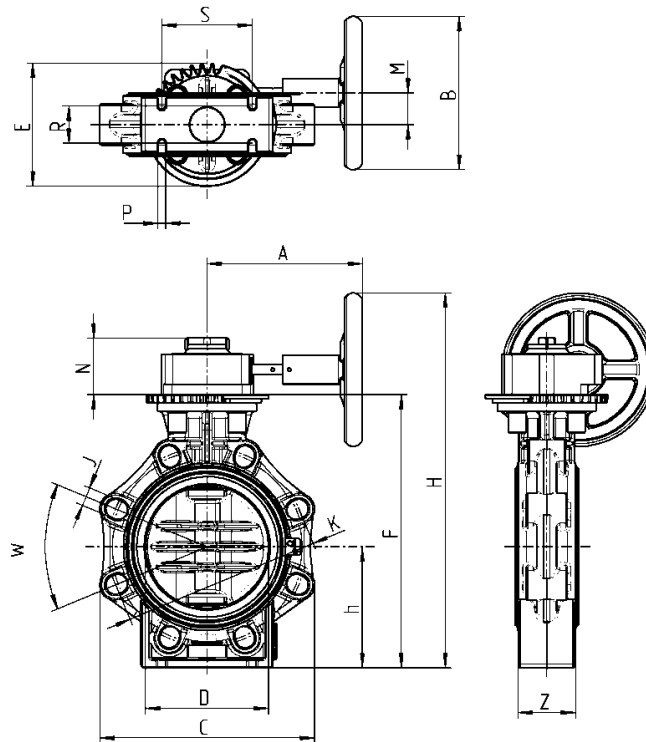


| DN | 65 | 80 | 100 | 125 | 150 | 200 | 250 |
|------|-----------|-----------|-------------|-------------|---------------|--------------|-----------|
| d | 75 | 90 | 110 | 140 | 160 | 225 | 280 |
| Zoll | 2 1/2" | 3" | 4" | 5" | 6" | 8" | 10" |
| A | 121 | 121 | 120 | 120 | 179 | 179 | 209,5 |
| D | 65 | 80 | 100 | 125 | 150 | 200 | 231 |
| C | 133 | 176 | 206 | 234,5 | 261 | 314 | 392 |
| W | 90° | 45° | 45° | 45° | 45° | 45° | 30° |
| J | 19 | 19 | 19 | 23 | 23 | 23 | 22 / 25,4 |
| K | 127 - 145 | 146 - 160 | 175 - 190,5 | 209,5 - 216 | 234,5 - 241,5 | 290 - 298,45 | 350-362 |
| H | 308,5 | 315,5 | 358 | 393 | 444,5 | 507 | 613 |
| h | 100 | 100 | 115 | 130 | 147,5 | 175 | 215 |
| E | 122 | 122 | 122 | 122 | 138 | 138 | 125 |
| M | 42,5 | 42,5 | 42,5 | 42,5 | 42,5 | 42,5 | 50 |
| Z | 46 | 49 | 56 | 64 | 70 | 71 | 114 |
| S | 55 | 70 | 85 | 100 | 110 | 145 | 160 |
| R | 25 | 30 | 35 | 45 | 45 | 40 | 40 |
| P | 7 | 9 | 9 | 9 | 9 | 9 | 9 |
| F | 231,5 | 238,5 | 268,5 | 303,5 | 337,5 | 400 | 460 |
| N | 53 | 53 | 53 | 53 | 60,5 | 60,5 | 68 |
| B | 100 | 100 | 125 | 125 | 160 | 160 | 250 |
| PN | 10 | 10 | 10 | 10 | 10 | 10 | 8 |

Dimensions handwheel

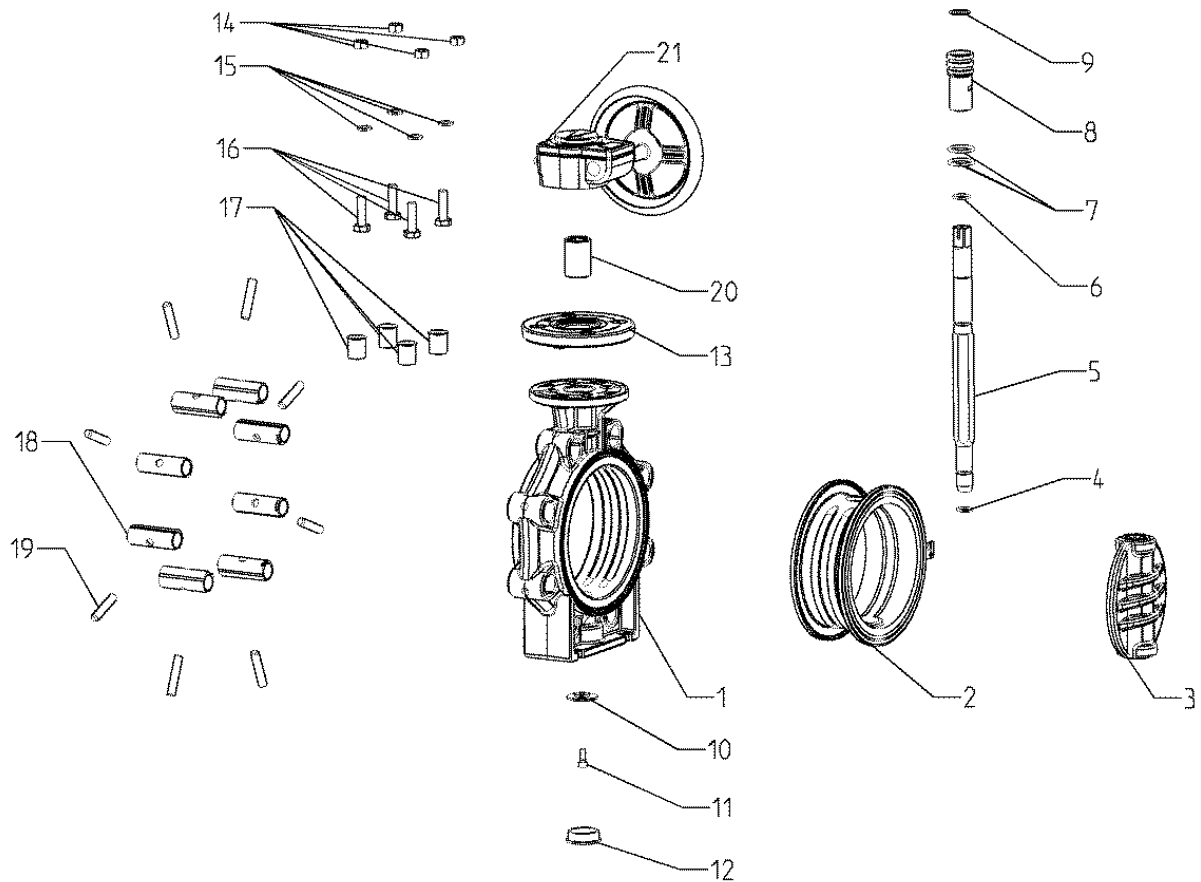
Connector types

Flansch Lug Type (Dimensionen in mm)



| DN | 65 | 80 | 100 | 125 | 150 | 200 | 250 |
|--------|-----------|-----------|-------------|-------------|---------------|--------------|-----------|
| d | 75 | 90 | 110 | 140 | 160 | 225 | 280 |
| Zoll | 2 1/2" | 3" | 4" | 5" | 6" | 8" | 10" |
| W | 90° | 45° | 45° | 45° | 45° | 45° | 30° |
| J | 19 | 19 | 19 | 23 | 23 | 23 | 22 / 25,4 |
| K | 127 - 145 | 146 - 160 | 175 - 190,5 | 209,5 - 216 | 234,5 - 241,5 | 290 - 298,45 | 350-362 |
| K-DIN | 145 | 160 | 180 | 210 | 240 | 295 | 350 |
| K-ANSI | 139,7 | 152,4 | 190,5 | 215,9 | 241,3 | 298,45 | 362 |
| D | 65 | 80 | 100 | 125 | 150 | 200 | 231 |
| C | 133 | 176 | 206 | 234,5 | 261 | 314 | 392 |
| Z | 46 | 49 | 56 | 64 | 70 | 71 | 114 |
| S | 55 | 70 | 85 | 100 | 110 | 145 | 160 |
| R | 25 | 30 | 35 | 45 | 45 | 40 | 40 |
| P | 7 | 9 | 9 | 9 | 9 | 9 | 9 |
| h | 100 | 100 | 115 | 130 | 147,5 | 175 | 215 |
| F | 232 | 239 | 269 | 303,5 | 337,5 | 399,5 | 460 |
| N | 52 | 52 | 52 | 52 | 60 | 60 | 68 |
| H | 308 | 315 | 357,5 | 392 | 447,5 | 509,5 | 613 |
| A | 120 | 120 | 121 | 121 | 122 | 122 | 209,5 |
| B | 100 | 100 | 125 | 125 | 160 | 160 | 250 |
| M | 42,5 | 42,5 | 42,5 | 42,5 | 50 | 50 | 50 |
| E | 114 | 114 | 114 | 114 | 137 | 137 | 125 |
| PN | 10 | 10 | 10 | 10 | 10 | 10 | 8 |

Exploded drawing handwheel



Nr. Description

- 01. Body
- 02. Sleeve
- 03. Disc
- 04. Seal shaft below
- 05. Shaft
- 06. Seal shaft above
- 07. Seal pilot bushing
- 08. Pilot bushing
- 09. Retaining ring
- 10. Holding disc
- 11. Screw
- 12. Cap
- 13. Cover plate
- 14. Nuts
- 15. washer
- 16. Screw
- 17. Caps
- 18. Inserts
- 19. Pin
- 20. Coupling
- 21. manual gearbox

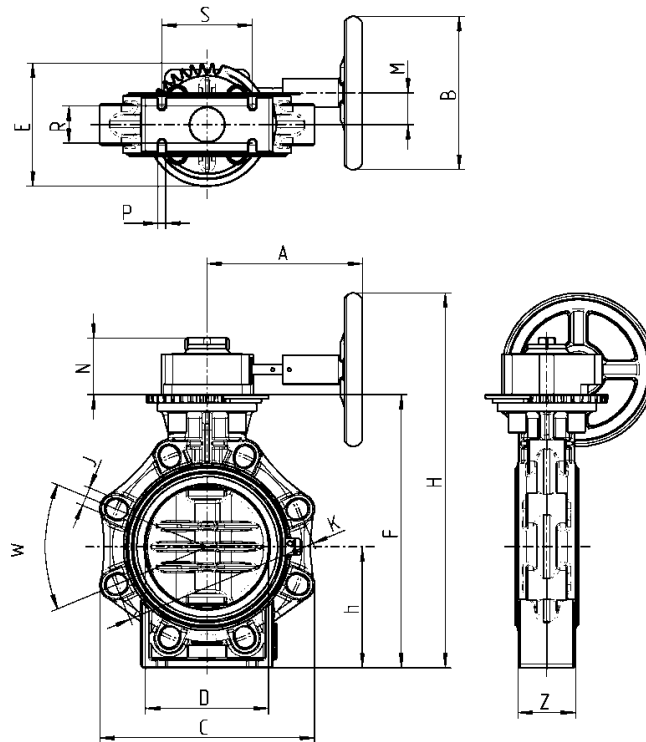
Material

- PP-GF
- EPDM/FKM
- PVC-U
- FPM
- A4
- FPM
- FPM
- PVDF
- A2
- 1.4305
- A4
- PVC
- PE
- A4
- A4
- A4
- PE
- INOX A4
- INOX A2

Dimensions handwheel with position feedback

Connector types

Flange (dimensions in mm)

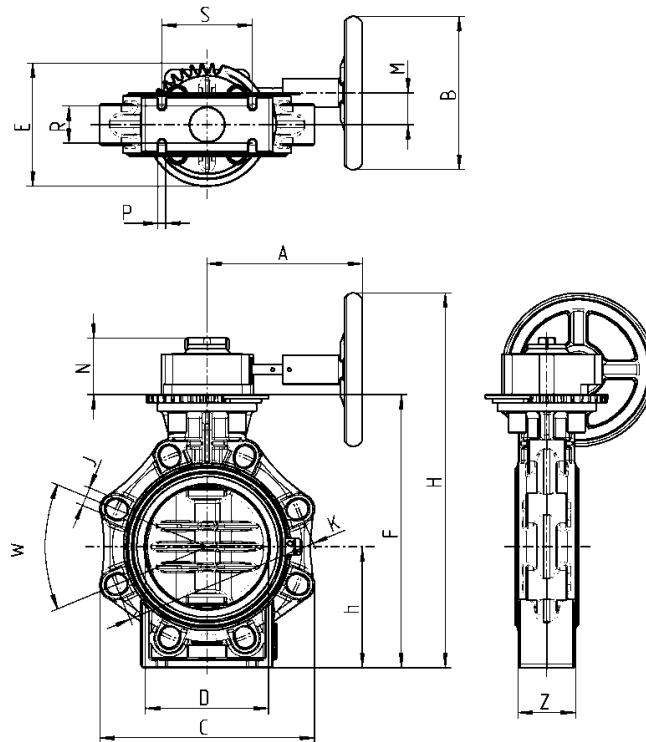


| DN | 65 | 80 | 100 | 125 | 150 | 200 | 250 |
|------|-----------|-----------|-------------|-------------|---------------|--------------|-----------|
| d | 75 | 90 | 110 | 140 | 160 | 225 | 280 |
| Zoll | 2 1/2" | 3" | 4" | 5" | 6" | 8" | 10" |
| A | 121 | 121 | 120 | 120 | 179 | 179 | 209,5 |
| D | 65 | 80 | 100 | 125 | 150 | 200 | 231 |
| C | 133 | 176 | 206 | 234,5 | 261 | 314 | 392 |
| W | 90° | 45° | 45° | 45° | 45° | 45° | 30° |
| J | 19 | 19 | 19 | 23 | 23 | 23 | 22 / 25,4 |
| K | 127 - 145 | 146 - 160 | 175 - 190,5 | 209,5 - 216 | 234,5 - 241,5 | 290 - 298,45 | 350-362 |
| H | 308,5 | 315,5 | 358 | 393 | 444,5 | 507 | 613 |
| h | 100 | 100 | 115 | 130 | 147,5 | 175 | 215 |
| E | 122 | 122 | 122 | 122 | 138 | 138 | 125 |
| M | 52,5 | 52,5 | 52,5 | 52,5 | 52,5 | 52,5 | 60 |
| Z | 46 | 49 | 56 | 64 | 70 | 71 | 114 |
| S | 55 | 70 | 85 | 100 | 110 | 145 | 160 |
| R | 25 | 30 | 35 | 45 | 45 | 40 | 40 |
| P | 7 | 9 | 9 | 9 | 9 | 9 | 9 |
| F | 231,5 | 238,5 | 268,5 | 303,5 | 337,5 | 400 | 460 |
| N | 59 | 59 | 59 | 59 | 59 | 59 | 75,5 |
| B | 100 | 100 | 125 | 125 | 160 | 160 | 250 |
| PN | 10 | 10 | 10 | 10 | 10 | 10 | 8 |

Dimensions handwheel with position feedback

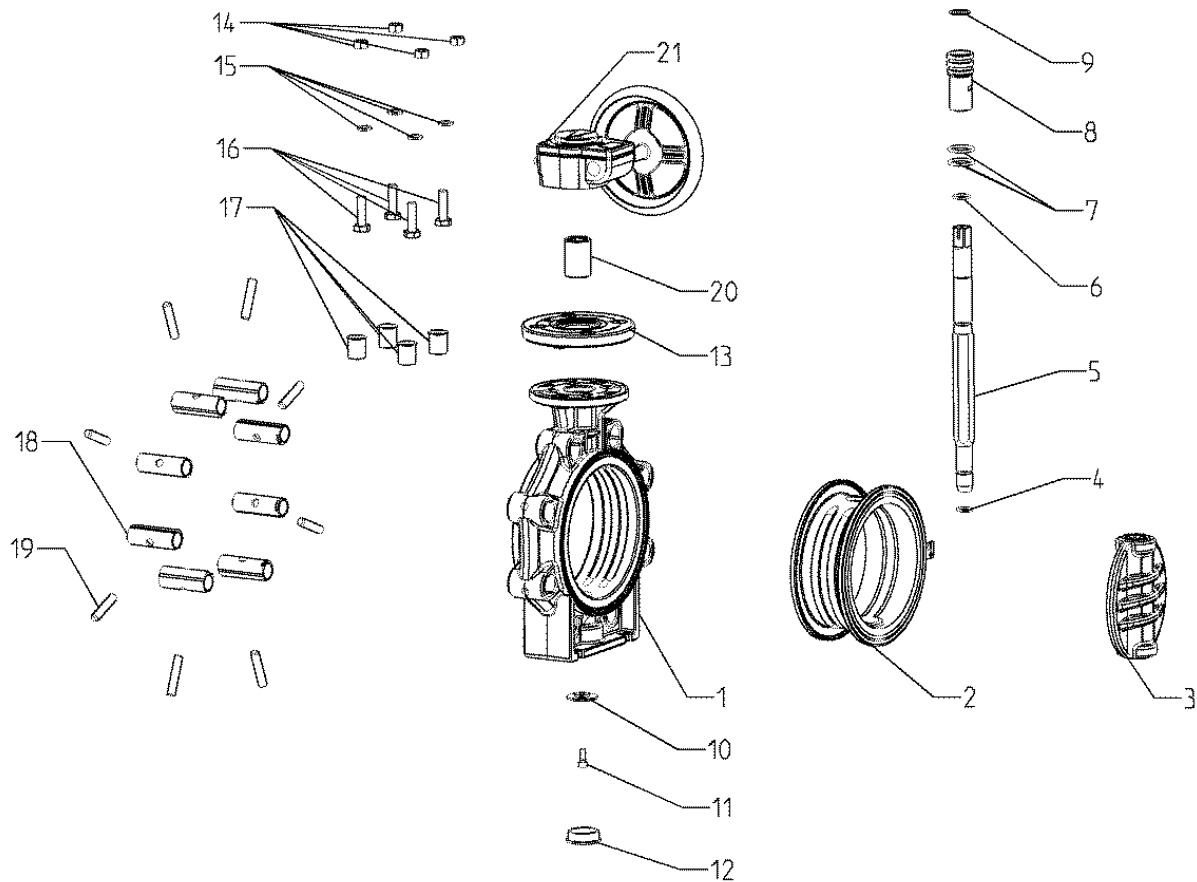
Connector types

Flansch Lug Type (Dimensionen in mm)



| DN | 65 | 80 | 100 | 125 | 150 | 200 | 250 |
|--------|-----------|-----------|-------------|-------------|---------------|--------------|-----------|
| d | 75 | 90 | 110 | 140 | 160 | 225 | 280 |
| Zoll | 2 1/2" | 3" | 4" | 5" | 6" | 8" | 10" |
| W | 90° | 45° | 45° | 45° | 45° | 45° | 30° |
| J | 19 | 19 | 19 | 23 | 23 | 23 | 22 / 25,4 |
| K | 127 - 145 | 146 - 160 | 175 - 190,5 | 209,5 - 216 | 234,5 - 241,5 | 290 - 298,45 | 350-362 |
| K-DIN | 145 | 160 | 180 | 210 | 240 | 295 | 350 |
| K-ANSI | 139,7 | 152,4 | 190,5 | 215,9 | 241,3 | 298,45 | 362 |
| D | 65 | 80 | 100 | 125 | 150 | 200 | 250 |
| C | 133 | 176 | 206 | 234,5 | 261 | 314 | 392 |
| Z | 46 | 49 | 56 | 64 | 70 | 71 | 114 |
| S | 55 | 70 | 85 | 100 | 110 | 145 | 160 |
| R | 25 | 30 | 35 | 45 | 45 | 40 | 40 |
| P | 7 | 9 | 9 | 9 | 9 | 9 | 9 |
| h | 100 | 100 | 115 | 130 | 147,5 | 175 | 215 |
| F | 232 | 239 | 269 | 303,5 | 337,5 | 399,5 | 460 |
| N | 52 | 52 | 52 | 52 | 60 | 60 | 75,5 |
| H | 308 | 315 | 357,5 | 392 | 447,5 | 509,5 | 613 |
| A | 120 | 120 | 121 | 121 | 122 | 122 | 209 |
| B | 100 | 100 | 125 | 125 | 160 | 160 | 160 |
| M | 42,5 | 42,5 | 42,5 | 42,5 | 50 | 50 | 50 |
| E | 114 | 114 | 114 | 114 | 137 | 137 | 137 |
| PN | 10 | 10 | 10 | 10 | 10 | 10 | 8 |

Exploded drawing handwheel with position



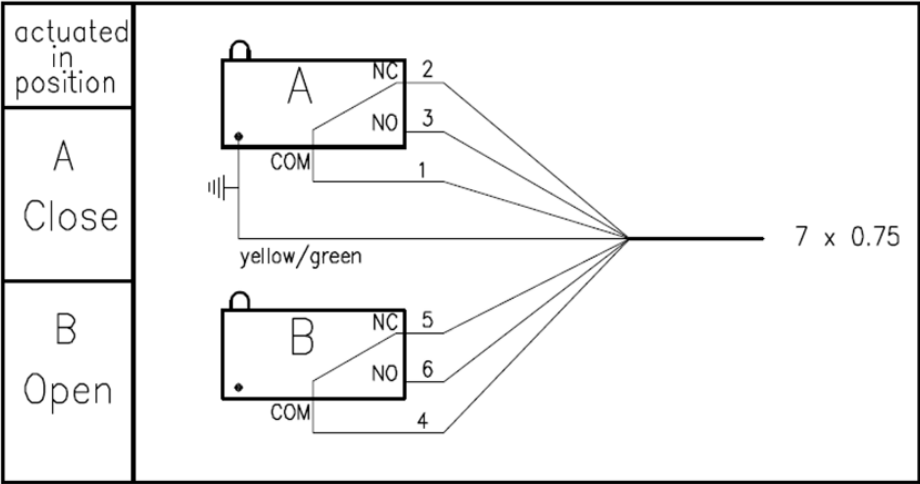
Nr. Description

- 01. Body
- 02. Sleeve
- 03. Disc
- 04. Seal shaft below
- 05. Shaft
- 06. Seal shaft above
- 07. Seal pilot bushing
- 08. Pilot bushing
- 09. Retaining ring
- 10. Holding disc
- 11. Screw
- 12. Cap
- 13. Cover plate
- 14. Nuts
- 15. disk
- 16. Screw
- 17. Caps
- 18. inserts
- 19. Pin
- 20. coupling
- 21. manual gearbox with position feedback

Material

- PP-GF
- EPDM/FKM
- PVDF
- FPM
- A4
- FPM
- FPM
- PVDF
- A2
- 1.4305
- A4
- PVC
- PE
- A4
- A4
- A4
- PE
- INOX A4
- INOX A2

Wiring diagram handwheel with position feedback

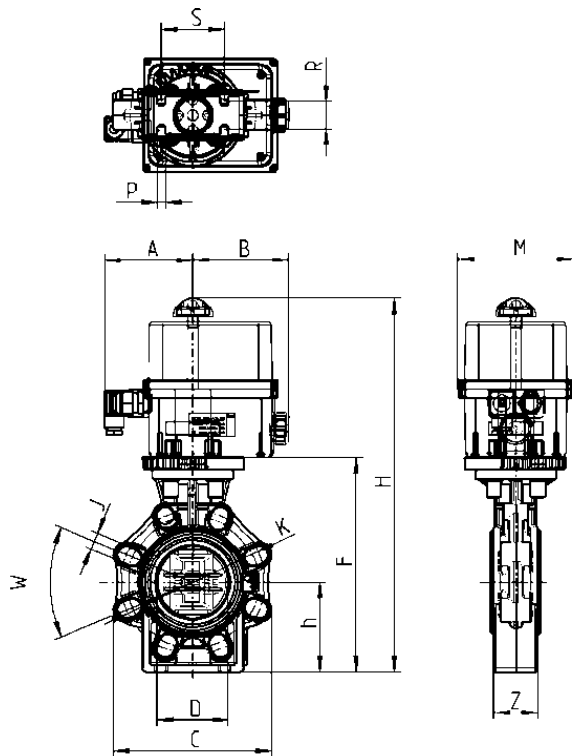


Dimensions electric actuator

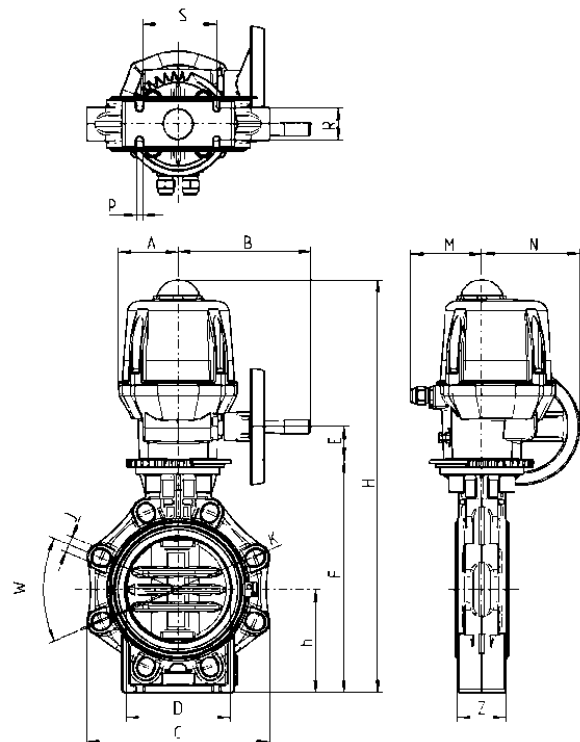
Connector types

Flange (dimensions in mm)

Actuator ER35 / ER60 / ER100



actuator VS150 / VS300 / VT400



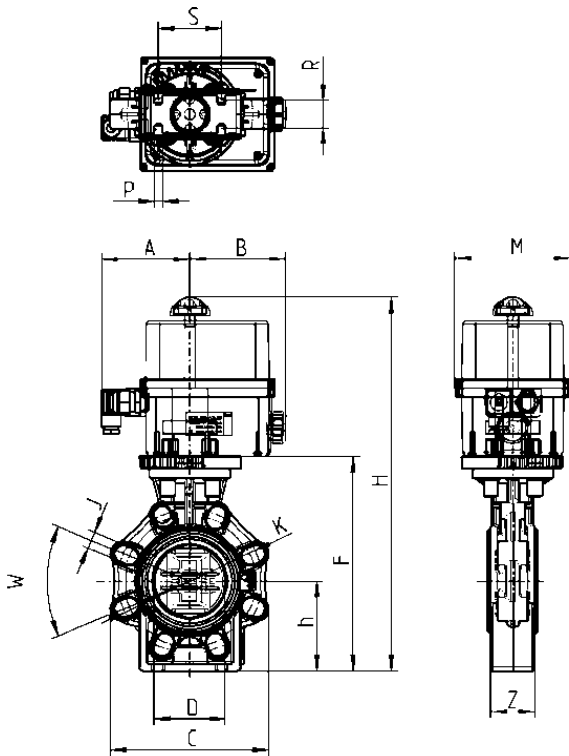
| DN | 65 | 80 | 100 | 125 | 150 | 200 | 250 |
|----------|---------|---------|-----------|-----------|-------------|-----------|-----------|
| d | 75 | 90 | 110 | 140 | 160 | 225 | 280 |
| Zoll | 2 ½" | 3" | 4" | 5" | 6" | 8" | 10" |
| actuator | ER35 | ER60 | ER60 | ER100 | VS150 | VS300 | VT400 |
| D | 65 | 80 | 100 | 125 | 150 | 200 | 250 |
| C | 133 | 176 | 206 | 234,5 | 261 | 314 | 392 |
| W | 90° | 45° | 45° | 45° | 45° | 45° | 30° |
| J | 19 | 19 | 19 | 23 | 23 | 23 | 22 / 25,4 |
| K | 127-145 | 146-160 | 175-190,5 | 209,5-216 | 234,5-241,3 | 290-298,5 | 350-362 |
| H | 409 | 416 | 446 | 480,5 | 591 | 653 | 772 |
| h | 100 | 100 | 115 | 130 | 147,5 | 175 | 215 |
| A | 98 | 98 | 98 | 98 | 85 | 85 | 155 |
| B | 107 | 107 | 107 | 107 | 190 | 190 | 274 |
| M | 128 | 128 | 128 | 128 | 94 | 94 | 165 |
| N | - | - | - | - | 140 | 140 | 118 |
| Z | 46 | 49 | 56 | 67 | 70 | 71 | 114 |
| S | 55 | 70 | 85 | 100 | 110 | 145 | 160 |
| R | 25 | 30 | 35 | 45 | 45 | 40 | 40 |
| P | 7 | 9 | 9 | 9 | 9 | 9 | 9 |
| F | 232 | 239 | 269 | 303,5 | 333 | 395 | 460 |
| E | - | - | - | - | 48 | 48 | 116 |
| PN | 10 | 10 | 10 | 10 | 10 | 10 | 8 |

Dimensions electric actuator

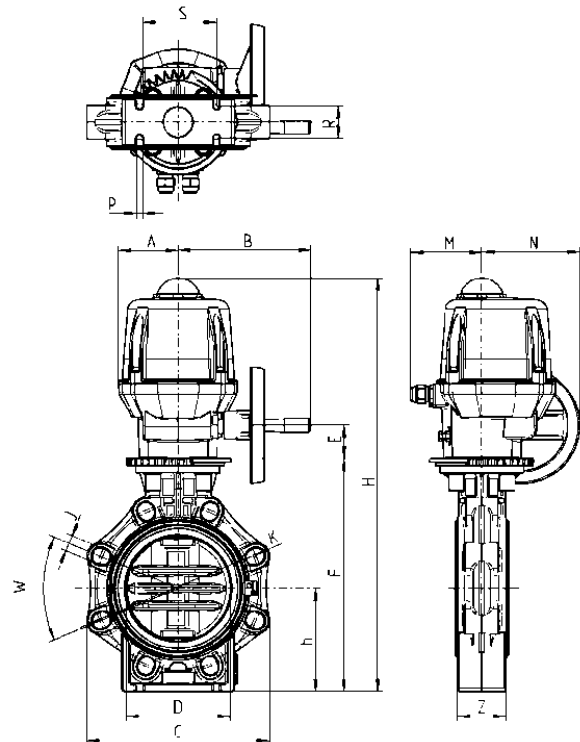
Connector types

Flansch Lug Type (Dimensionen in mm)

Actuator ER35 / ER60 / ER100

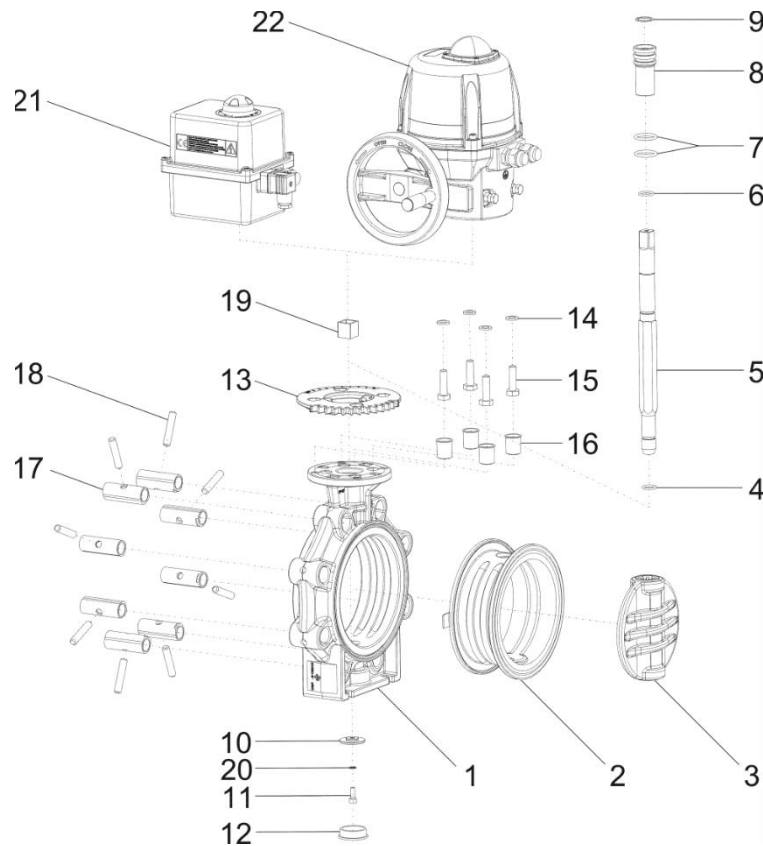


Actuator VS150 / VS300 / VT400



| DN | 65 | 80 | 100 | 125 | 150 | 200 | 250 |
|----------|---------|---------|-----------|-----------|-------------|------------|-----------|
| d | 75 | 90 | 110 | 140 | 160 | 225 | 280 |
| Zoll | 2 ½" | 3" | 4" | 5" | 6" | 8" | 10" |
| actuator | ER35 | ER60 | ER60 | ER100 | VS150 | VS300 | VT400 |
| D | 65 | 80 | 100 | 125 | 150 | 200 | 250 |
| C | 133 | 176 | 206 | 234,5 | 261 | 314 | 392 |
| W | 90° | 45° | 45° | 45° | 45° | 45° | 30° |
| J | 19 | 19 | 19 | 23 | 23 | 23 | 22 / 25,4 |
| K | 127-145 | 146-160 | 175-190,5 | 209,5-216 | 234,5-241,3 | 290-298,45 | 350-362 |
| K-DIN | 145 | 160 | 180 | 210 | 240 | 295 | 350 |
| K-ANSI | 139,7 | 152,4 | 190,5 | 215,9 | 241,3 | 298,45 | 362 |
| H | 409 | 416 | 446 | 480,5 | 591 | 653 | 772 |
| h | 100 | 100 | 115 | 130 | 147,5 | 175 | 215 |
| A | 98 | 98 | 98 | 98 | 85 | 85 | 155 |
| B | 107 | 107 | 107 | 107 | 190 | 190 | 274 |
| M | 128 | 128 | 128 | 128 | 94 | 94 | 165 |
| N | - | - | - | - | 140 | 140 | 118 |
| Z | 46 | 49 | 56 | 67 | 70 | 71 | 114 |
| S | 55 | 70 | 85 | 100 | 110 | 145 | 160 |
| R | 25 | 30 | 35 | 45 | 45 | 40 | 40 |
| P | 7 | 9 | 9 | 9 | 9 | 9 | 9 |
| F | 232 | 239 | 269 | 303,5 | 333 | 395 | 460 |
| E | - | - | - | - | 48 | 48 | 116 |
| PN | 10 | 10 | 10 | 10 | 10 | 10 | 8 |

Exploded drawing electric actuator



| Nr. | Description | Material |
|-----|---------------------------|----------|
| 01. | Body | PP-GF |
| 02. | Sleeve | EPDM/FKM |
| 03. | Disc | PVDF |
| 04. | Seal shaft below | FPM |
| 05. | Shaft | A4 |
| 06. | Seal shaft above | FPM |
| 07. | Seal pilot bushing | FPM |
| 08. | Pilot bushing | PVDF |
| 09. | Retaining ring | A2 |
| 10. | Holding disc | 1.4305 |
| 11. | Screw | A4 |
| 12. | CapPVC | |
| 13. | Cover plate | PE |
| 14. | Screw | A4 |
| 15. | Nuts | A4 |
| 16. | Caps | PE |
| 17. | inserts | INOX A4 |
| 18. | Pin | INOX A2 |
| 19. | coupling | |
| 20. | Toothed washer | A4 |
| 21. | ER-actuator | |
| 22. | VS-actuator / VT-actuator | |

Technical data Electric actuator

Electric drive ER

2 limit switches preset
 2 Feedback unit
 Mechanical stop at 90°
 180° or 270° without mechanical stop
 Duty cycle 30%
 Protection class IP65
 Ambient temperature -10°C to 50°C
 ISO connector F05-F07
 Octagon 22 mm
 Weight 2,1 kg

Electric drive VS

Integrated anti-condensation heating
 2 limit switches preset
 2 Feedback unit
 Mechanical stop at 90°
 180° or 270° without mechanical stop
 Duty cycle 50%
 Protection class IP67
 Ambient temperature -20°C to 70°C
 ISO connector F07-F10
 Octagon 22 mm
 Weight 5,6 kg

Electric drive VT

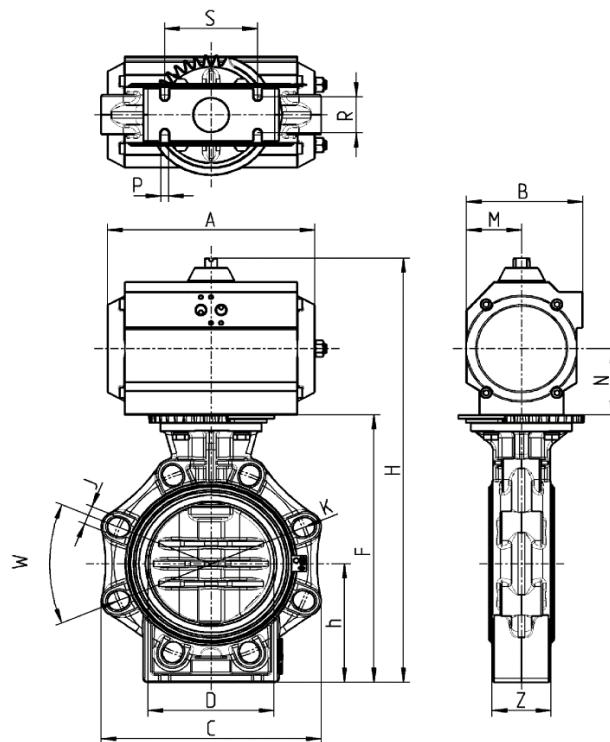
Integrated anti-condensation heating
 4 limit switches preset
 2 Feedback unit
 Mechanical stop at 90°
 180° or 270° without mechanical stop
 Duty cycle 50%
 Protection class IP68
 Ambient temperature -20°C to 70°C
 ISO connector F01-F12
 Octagon 36 mm
 Weight 25 kg

| Type | ER35 | ER60 | ER100 | VS150 | VS300 | VT+400 |
|----------------|------|-----------------------|-------|-------|------------------------|--------|
| Torque | 35Nm | 60Nm | 100Nm | 150Nm | 300Nm | 400NM |
| Tensions | | 24V AC/DC, 90-240V AC | | | 24V AC/DC, 100-240V AC | |
| Operating time | 10s | 15s | 24s | 30s | 50s | 35S |
| Power | 15W | 45W | 45W | 45W | 85W | 300w |

Dimensions pneumatic actuator

Connector types

Flange (dimensions in mm)



| | | | | | | | |
|-------|-----------|-----------|-------------|-------------|---------------|-------------|-----------|
| DN | 65 | 80 | 100 | 125 | 150 | 200 | 250 |
| d | 75 | 90 | 110 | 140 | 160 | 225 | 280 |
| Zoll | 2 ½" | 3" | 4" | 5" | 6" | 8" | 10" |
| W | 90° | 45° | 45° | 45° | 45° | 45° | 30° |
| J | 19 | 19 | 19 | 23 | 23 | 23 | 22 / 25,4 |
| K | 127 - 145 | 146 - 160 | 175 - 190,5 | 209,5 - 216 | 234,5 - 241,5 | 290 - 298,5 | 350-362 |
| D | 65 | 80 | 100 | 125 | 150 | 200 | 250 |
| C | 133 | 176 | 206 | 234,5 | 261 | 314 | 392 |
| Z | 46 | 49 | 56 | 64 | 70 | 71 | 114 |
| S | 55 | 70 | 85 | 100 | 110 | 145 | 160 |
| R | 25 | 30 | 35 | 45 | 45 | 40 | 40 |
| P | 7 | 9 | 9 | 9 | 9 | 9 | 9 |
| h | 100 | 100 | 115 | 130 | 147,5 | 175 | 215 |
| F | 232 | 239 | 269 | 303,5 | 333 | 395 | 460 |
| PN | 10 | 10 | 10 | 10 | 10 | 10 | 8 |
| drive | MT-25 SR | MT-30 SR | MT-35 SR | MT-40 SR | MT-45 SR | MT-50 SR | MT-60SR |
| H | 339 | 368 | 401 | 488,5 | 520,5 | 576 | 747 |
| A | 248 | 241 | 261 | 305 | 367 | 380 | 467 |
| B | 96 | 114 | 131 | 131 | 145 | 181 | 232 |
| N | - | - | - | - | - | - | - |
| M | 42 | 52 | 65 | 65 | 72 | 90 | 181 |
| drive | MT-17 DA | MT-20 DA | MT-25 DA | MT-30 DA | MT-35 DA | MT-40 DA | MT-50 DA |
| H | 344 | 368 | 325 | 354 | 390 | 477,5 | 677 |
| A | 207 | 186 | 248 | 241 | 261 | 305 | 380 |
| B | 81 | 96 | 96 | 114 | 131 | 131 | 181 |
| N | - | - | - | - | - | - | - |
| M | 34 | 42 | 42 | 52 | 65 | 65 | 90 |

*DA ... double acting (PO-DA)

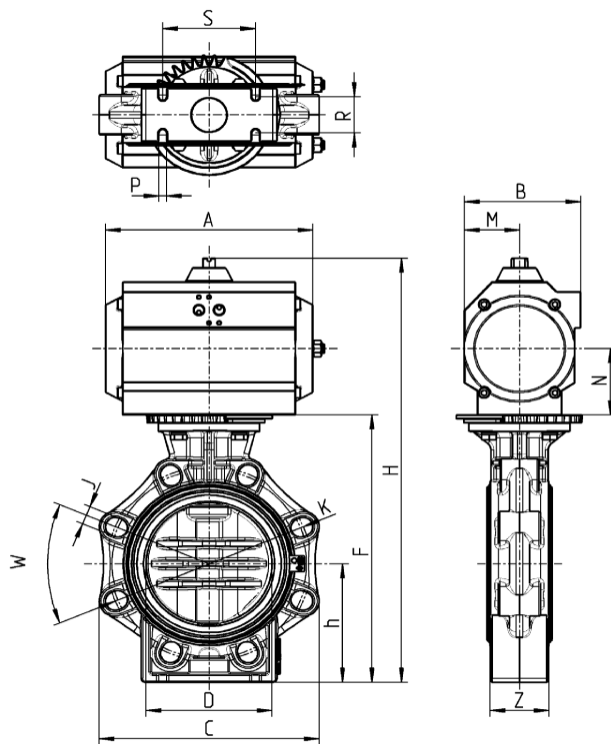
**SR ... spring return (PO-NC / PO-NO)

We recommend using a damper and supporting the actuator accordingly when installing the valve in a vertical position.
For additional information and dimensions for solenoid valve and position feedback see accessories and spare parts

Dimensions pneumatic actuator

Connector types

Flansch (Dimensionen in mm)



| DN | 65 | 80 | 100 | 125 | 150 | 200 | 250 |
|--------|-----------|-----------|-------------|-------------|---------------|--------------|-----------|
| d | 75 | 90 | 110 | 140 | 160 | 225 | 280 |
| Zoll | 2 ½" | 3" | 4" | 5" | 6" | 8" | 10" |
| W | 90° | 45° | 45° | 45° | 45° | 45° | 30° |
| J | 19 | 19 | 19 | 23 | 23 | 23 | 22 / 25,4 |
| K | 127 - 145 | 146 - 160 | 175 - 190,5 | 209,5 - 216 | 234,5 - 241,5 | 290 - 298,45 | 350-362 |
| K-DIN | 145 | 160 | 180 | 210 | 240 | 295 | 350 |
| K-ANSI | 139,7 | 152,4 | 190,5 | 215,9 | 241,3 | 298,45 | 362 |
| D | 65 | 80 | 100 | 125 | 150 | 200 | 250 |
| C | 133 | 176 | 206 | 234,5 | 261 | 314 | 392 |
| Z | 46 | 49 | 56 | 64 | 70 | 71 | 114 |
| S | 55 | 70 | 85 | 100 | 110 | 145 | 160 |
| R | 25 | 30 | 35 | 45 | 45 | 40 | 40 |
| P | 7 | 9 | 9 | 9 | 9 | 9 | 9 |
| h | 100 | 100 | 115 | 130 | 147,5 | 175 | 215 |
| F | 232 | 239 | 269 | 303,5 | 333 | 395 | 460 |
| PN | 10 | 10 | 10 | 10 | 10 | 10 | 8 |
| drive | MT-25 SR | MT-30 SR | MT-35 SR | MT-40 SR | MT-45 SR | MT-50 SR | MT-60SR |
| H | 339 | 368 | 401 | 488,5 | 520,5 | 576 | 747 |
| A | 248 | 241 | 261 | 305 | 367 | 380 | 467 |
| B | 96 | 114 | 131 | 131 | 145 | 181 | 232 |
| N | - | - | - | - | - | - | - |
| M | 42 | 52 | 65 | 65 | 72 | 90 | 181 |
| drive | MT-17 DA | MT-20 DA | MT-25 DA | MT-30 DA | MT-35 DA | MT-40 DA | MT-50 DA |
| H | 344 | 368 | 325 | 354 | 390 | 477,5 | 677 |
| A | 207 | 186 | 248 | 241 | 261 | 305 | 380 |
| B | 81 | 96 | 96 | 114 | 131 | 131 | 181 |
| N | - | - | - | - | - | - | - |
| M | 34 | 42 | 42 | 52 | 65 | 65 | 90 |

*DA ... double acting (PO-DA)

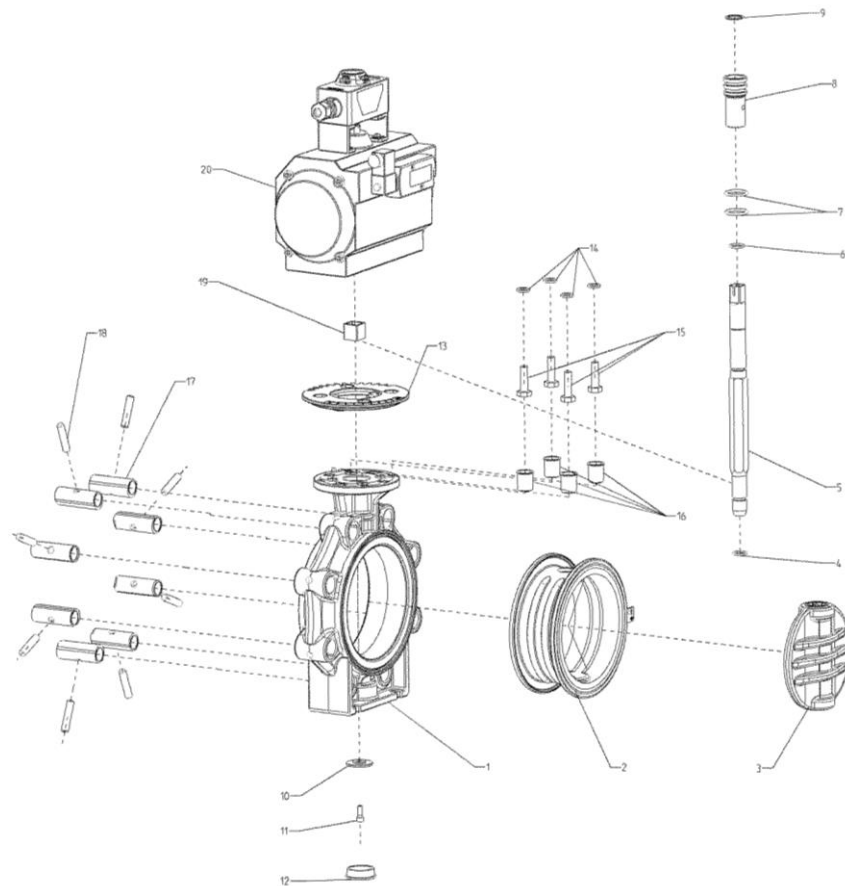
**SR ... spring return (PO-NC / PO-NO)

We recommend using a damper and supporting the actuator accordingly when installing the valve in a vertical position.

For additional information and dimensions for solenoid valve and position feedback see accessories and spare parts

www.praher-plastics.com

Exploded drawing pneumatic actuator



| Nr. | Description | Material |
|-----|--------------------|----------|
| 01. | Body | PP-GF |
| 02. | Sleeve | EPDM/FKM |
| 03. | Disc | PVDF |
| 04. | Seal shaft below | FPM |
| 05. | Shaft | A4 |
| 06. | Seal shaft above | FPM |
| 07. | Seal pilot bushing | FPM |
| 08. | Pilot bushing | PVDF |
| 09. | Retaining ring | A2 |
| 10. | Holding disc | 1.4305 |
| 11. | Screw | A4 |
| 12. | Cap | PVC |
| 13. | Cover plate | PE |
| 14. | Nuts | A4 |
| 15. | Screw | A4 |
| 16. | Caps | PE |
| 17. | inserts | INOX A4 |
| 18. | Pins | INOX A2 |
| 19. | Reduction | |
| 20. | pneumatic cylinder | |

Technical data pneumatic

Technical features of pneumatic actuator

Description actuator:

Piston actuation with two opposed pistons, power transmission with tooth rack, seal elastic

Material actuator:

- o Body: Aluminium anodized
- o End caps: Aluminium epoxy powder
- o Screws / nuts: Stainless steel

Ambient temperature: -20°C to +80°C

Control fluid:

Filtered air according to PNEUROP/ISO class 4 – Thread ¼"

Mounting: in every possible direction

Control function / control pressure:

DA: double acting / max. 10 bar

SR: spring return / max. 8 bar

Rotation angle:

90°; adjustment in both directions from -10° to +10° (MT15 and bigger)

Installation:

- o actuator – valve: ISO 5211
- o actuator – solenoid valve: NAMUR (VDI/VDE 3845)
- o actuator – limit switch box: NAMUR (VDI/VDE 3845)

AIR CONSUMPTION (FULL CYCLE)

DA DOUBLE ACTING

| Antrieb | MT-17 DA | MT-20 DA | MT-25 DA | MT-30 DA | MT-35 DA | MT-40 DA |
|---------|----------|----------|----------|----------|----------|----------|
| N. Lt. | 0,55 | 0,17 | 1,10 | 1,40 | 2,45 | 3,05 |

AIR CONSUMPTION (FULL CYCLE)

SR SPRING RETURN

| Antrieb | MT-25 SR | MT-30 SR | MT-35 SR | MT-40 SR | MT-45 SR | MT-50 SR |
|---------|----------|----------|----------|----------|----------|----------|
| N. Lt. | 0,48 | 0,65 | 1,2 | 1,6 | 1,85 | 2,90 |

Accessories / Spare parts

Hand lever

consisting of:

- Hand lever incl. safety handle
- Assembly screw
- Assembly instruction



Hand lever with position feedback

consisting of:

- Hand lever incl. limit switch mechanical, inductive or NAMUR
- Unit plug
- Mounting screw
- Assembly instructions



Handwheel

consisting of:

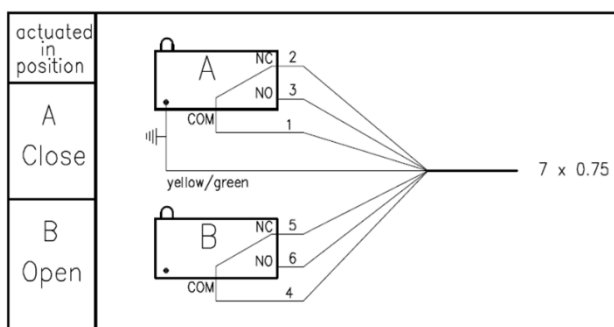
- Hand gear incl. handwheel and insert
- Mounting screws
- Assembly instructions



Handwheel with position feedback

consisting of:

- Handwheel incl. mechanical limit switch
- unit plug
- Mounting screws
- Assembly instructions



Accessories / Spare parts

PLS – Praher Labeling System

Features

- Unique permanent marking
- Reliable, indelible marking by paint pen or laser
- Standard version in the colours yellow, blue, green and red
- Labelling plates are easily exchangeable
- Corrosion resistant
- No effect on the function of the hand lever



Limit switch box for pneumatic rotary actuator

General

- Limit switch box with two mechanical limit switches
- Protection class IP65
- Cable gland M20*1.5

Material

- Housing: polycarbonate black
- Cover: polycarbonate clear
- Mounting bridge and screws: stainless steel
- Seals: EPDM

Voltage

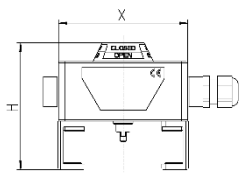
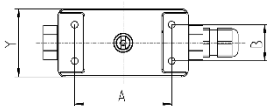
- 1 – 250V

Current

- 16 A (250V AC)
- 2,5 A (24 DC)

Dimensions in mm

| A | B | H | X | Y |
|----|----|-----|-----|----|
| 80 | 30 | 110 | 107 | 56 |



Accessories / Spare parts

Magnetic valve

General

- Solenoid valve Namur with combined 5/2- and 3/2-way function and standard coil
- easy switching from 5/2- to 3/2- way function due to innovative reversible seal
- with emergency actuation as standard
- Protection class IP65

Material

- Housing: Aluminium
- Piston: Aluminium
- Seals: NBR
- Screws and springs: Stainless steel

Voltage

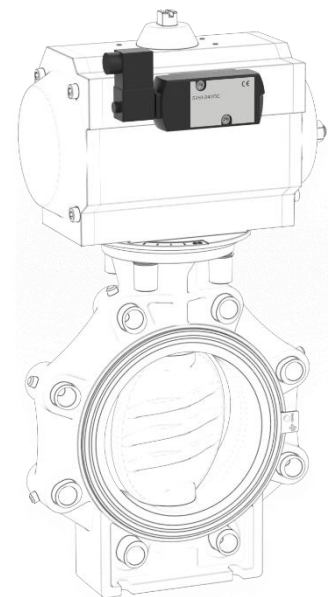
- 24V DC
- 110V AC
- 230V AC

Accessories

- Throttle silencer
- Silencer

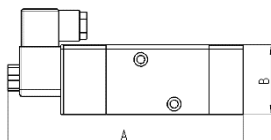
Versions

- Atex protected



Dimensions in mm

| A | B | C |
|-------|------|------|
| 168,3 | 49,8 | 31,8 |



Accessories / Spare parts

Adapterset

consisting of:

- Adapter plate
- hexagon head screws
- lock washers



Cover plate

Is required when retrofitting a hand lever with position feedback

consisting of:

- Cover plate



Flange set

consisting of:

- loose flange
- flange bushing
- bolts
- nuts
- washers



Sealing set

consisting of:

- Flap
- O-ring
- collar
- gasket
- supplementary sheet

Versions:

- PVC-U → EPDM or FPM
- PVC-C → EPDM or FPM
- PP → EPDM or FPM
- PVDF → FPM





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