

LUG TYPE BUTTERFLY VALVE Z 614-A



Resilient seated lug type butterfly valves for semi-corrosive media.

TECHNICAL DATA

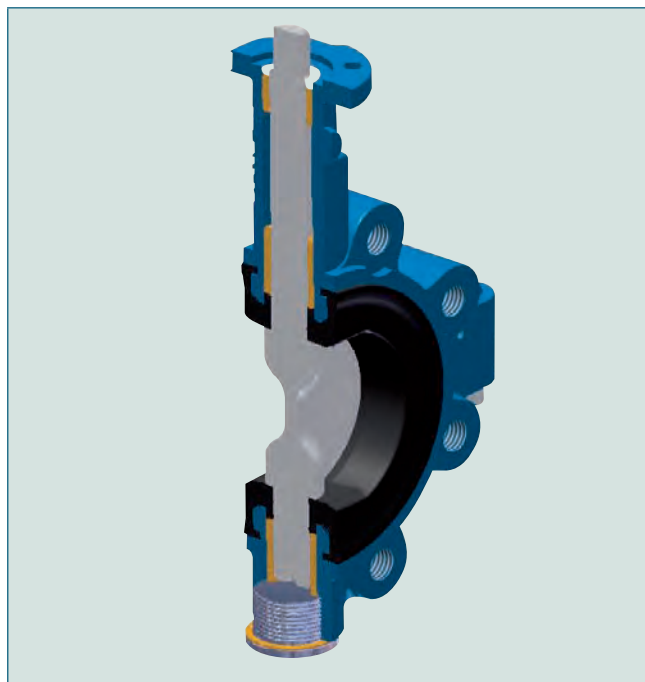
| | |
|------------------------------|--|
| Nominal diameter: | DN 50 - DN 300 |
| Face-to-face: | EN 558 Series 20 (DIN 3202 T3 K1) ISO 5752 Series 20 API 609 Table 1 BS 5155 Series 4 |
| Flange accommodation: | DINE EN 1092 PN 10/16 ANSI B 16.5, Class 150 |
| Flange surface design: | DIN 2526 Form A-E DIN 2642 ASME B 16.5 RF, FF |
| Top flange: | EN ISO 5211 |
| Marking: | DIN / EN 19 |
| Tightness check: | DIN EN 12266, Leakage rate A ISO 5208, Category 3 API 598 Table 5 ASME B 16-104, Class VI |
| Standard of fitness for use: | EN 593 (DIN 3354) |
| Temperature range: | -20 °C bis +160 °C (depending on pressure, medium and material) |
| Operating pressure: | max. 16 bar |
| Differential pressure: | max. Δp 10 bar |
| Vacuum: | 0,2 bar absolute (depending on medium and temperature) |

FEATURES

- One piece disc/shaft, centric bearing
- Split body with stainless steel screws
- Insulation height as per plant regulations
- Can be installed in any desired position
- Triple shaft bearing
- Disc's sealing surface mirror polished
- Materials complying with FDA standards available

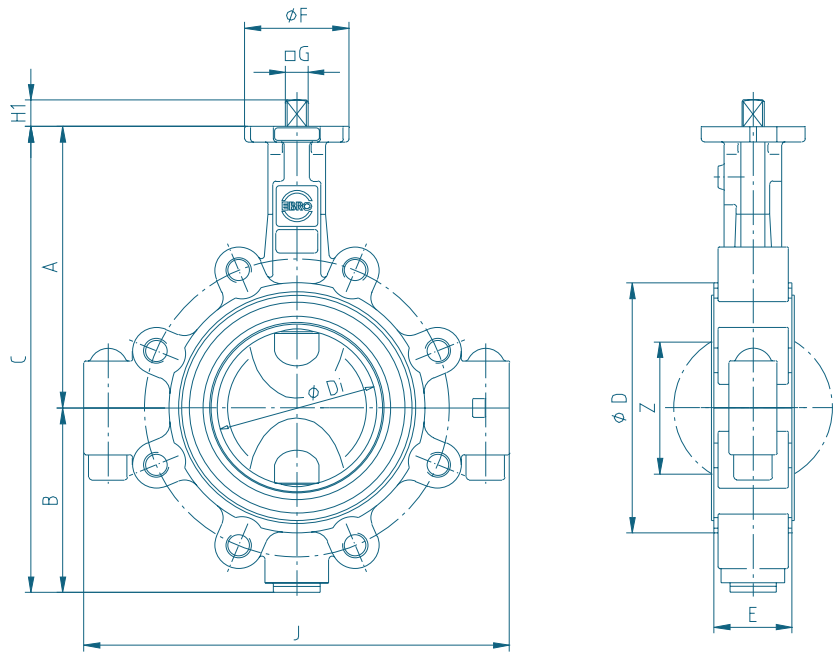
GENERAL APPLICATIONS

- Food and beverage industry
- Purifications plants
- Pharmaceutical industry
- Chemical and petrochemical industry
- Water and waste water industry
- Pneumatic materials handling technology
- Shipbuilding
- Power plants
- Civil engineering
- For paint and lacquers, a silicone-free version is available



The splitted body design allows quick and easy maintenance. Therefore this type is ideally suited for CIP applications.

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Z 614-A with bare shaft end according to EN ISO 5211

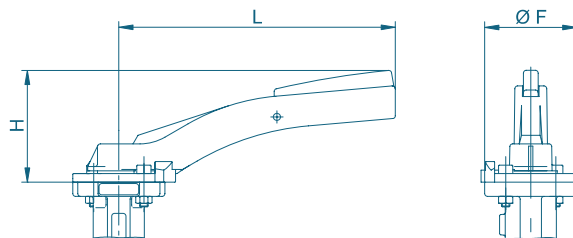
| DN [mm] | Size [in] | Dimensions [mm] | | | | | | | | | | | | Weight [kg] |
|---------|-----------|-----------------|-----|-----|-----|-----|----|-----|--------|----|------|-----|-----|-------------|
| | | A | B | C | D | Di | E | F | Flange | G | H1 | J | Z | |
| 50 | 2 | 126 | 84 | 210 | 112 | 49 | 43 | 54 | F04 | 11 | 13,5 | 167 | 25 | 4,9 |
| 65 | 2½ | 134 | 93 | 227 | 120 | 64 | 46 | 54 | F04 | 11 | 13,5 | 181 | 45 | 5,6 |
| 80 | 3 | 157 | 104 | 261 | 138 | 79 | 46 | 65 | F05 | 14 | 17 | 227 | 64 | 8,7 |
| 100 | 4 | 167 | 115 | 282 | 160 | 99 | 52 | 65 | F05 | 14 | 17 | 266 | 84 | 10,0 |
| 125 | 5 | 180 | 127 | 307 | 190 | 124 | 56 | 65 | F05 | 14 | 17 | 300 | 110 | 10,2 |
| 150 | 6 | 203 | 150 | 353 | 215 | 149 | 56 | 88 | F07 | 17 | 20 | 322 | 138 | 13,2 |
| 200 | 8 | 228 | 176 | 404 | 269 | 199 | 60 | 88 | F07 | 17 | 20 | 390 | 189 | 19,0 |
| 250 | 10 | 266 | 212 | 478 | 324 | 249 | 68 | 125 | F10 | 22 | 23,5 | 481 | 239 | 29,7 |
| 300 | 12 | 291 | 237 | 528 | 374 | 297 | 78 | 125 | F10 | 22 | 23,5 | 558 | 286 | 37,2 |

Subject to change without notice

ACTUATORS Z 614-A

HAND LEVER

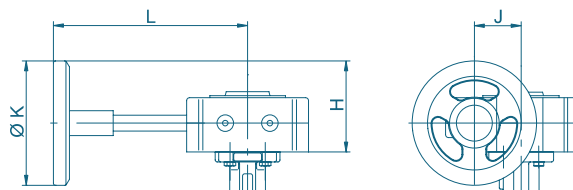
| DN [mm] | Size [in] | Hand lever | F | H | L | Weight [kg] |
|---------|-----------|------------|----|-----|-----|-------------|
| 50-65 | 2-2½ | Size I | 54 | 70 | 155 | 0,1 |
| 80-100 | 3-4 | Size II | 65 | 80 | 195 | 0,15 |
| 125 | 5 | Size III | 90 | 100 | 276 | 0,5 |



WORM GEAR

| DN [mm] | Size [in] | Gear | H | J | K | L | Weight [kg] |
|---------|-----------|----------|-----|----|-----|-----|-------------|
| 50-65 | 2-2½ | Size I | 89 | 39 | 125 | 152 | 1,9 |
| 80-125 | 3-5 | Size II | 89 | 39 | 125 | 159 | 1,4 |
| 150-200 | 6-8 | Size III | 129 | 47 | 200 | 202 | 2,3 |
| 250 | 10 | Size IV | 129 | 60 | 200 | 252 | 2,8 |
| 300 | 12 | Size V | 158 | 76 | 250 | 280 | 6,3 |

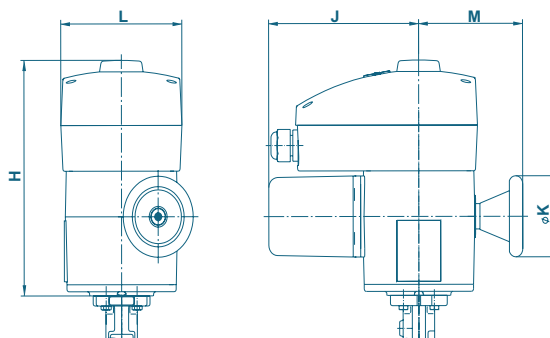
The dimensioning of actuators refers to an operating pressure of 10 bar.



ELECTRIC ACTUATOR

| DN [mm] | Size [in] | Actuator | H | J | K | L | M | Weight [kg] |
|---------|-----------|----------|-----|-----|-----|-----|-----|-------------|
| 50-150 | 2-6 | E 65 | 233 | 172 | 80 | 139 | 119 | 7,0 |
| 200-250 | 8-10 | E 110 | 251 | 245 | 125 | 139 | 134 | 14,0 |
| 300 | 12 | E 160 | 239 | 279 | 198 | 139 | 157 | 25,0 |

The dimensioning of actuators refers to an operating pressure of 10 bar.



Actuators for larger sizes: See documentation of the producer.

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ACTUATORS Z 614-A

PNEUMATIC DOUBLE ACTING

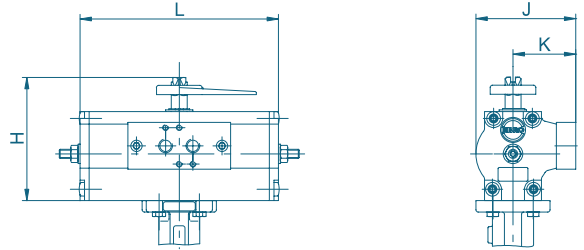
| DN [mm] | Size [in] | Actuator | H | J | K | L | Weight [kg] |
|---------|-----------|----------|-----|-----|----|-----|-------------|
| 50-65 | 2-2½ | EB4 | 96 | 74 | 49 | 145 | 1,1 |
| 80-125 | 3-5 | EB5 | 108 | 88 | 55 | 174 | 1,7 |
| 150 | 6 | EB6 | 123 | 103 | 62 | 208 | 2,6 |
| 200 | 8 | EB8 | 136 | 115 | 68 | 250 | 4,3 |
| 250-300 | 10-12 | EB10 | 155 | 135 | 79 | 312 | 6,8 |

The dimensioning of actuators refers to the following data:

Control pressure: 6 bar

Operating pressure: 10 bar

Actuator selection for deviating conditions upon request.



PNEUMATIC SINGLE ACTING

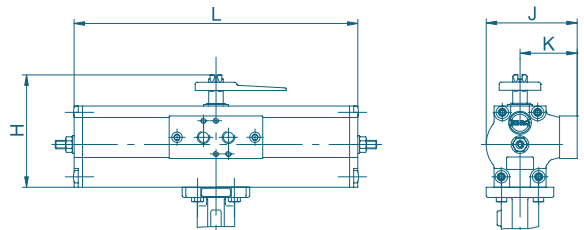
| DN [mm] | Size [in] | EBF Actuator | H | J | K | L | Weight [kg] |
|---------|-----------|--------------|-----|-----|----|-----|-------------|
| 50-65 | 2-2½ | EB5 | 108 | 88 | 55 | 273 | 3,0 |
| 80-125 | 3-5 | EB6 | 123 | 103 | 62 | 326 | 5,0 |
| 150 | 6 | EB8 | 136 | 115 | 68 | 389 | 7,7 |
| 200 | 8 | EB10 | 155 | 135 | 79 | 526 | 14,3 |
| 250 | 10 | EB12 | 182 | 159 | 94 | 658 | 25,4 |
| 300 | 12 | EB265 | 232 | 152 | 76 | 634 | 27,0 |

The dimensioning of actuators refers to the following data:

Control pressure: 6 bar

Operating pressure: 10 bar

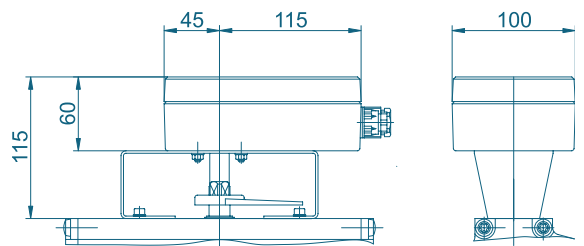
Actuator selection for deviating conditions upon request.



SWITCH BOX SERIES MSK/NSK

MSK: Switch box with integrated micro limit switches.

NSK: Switch box with integrated proximity switches.

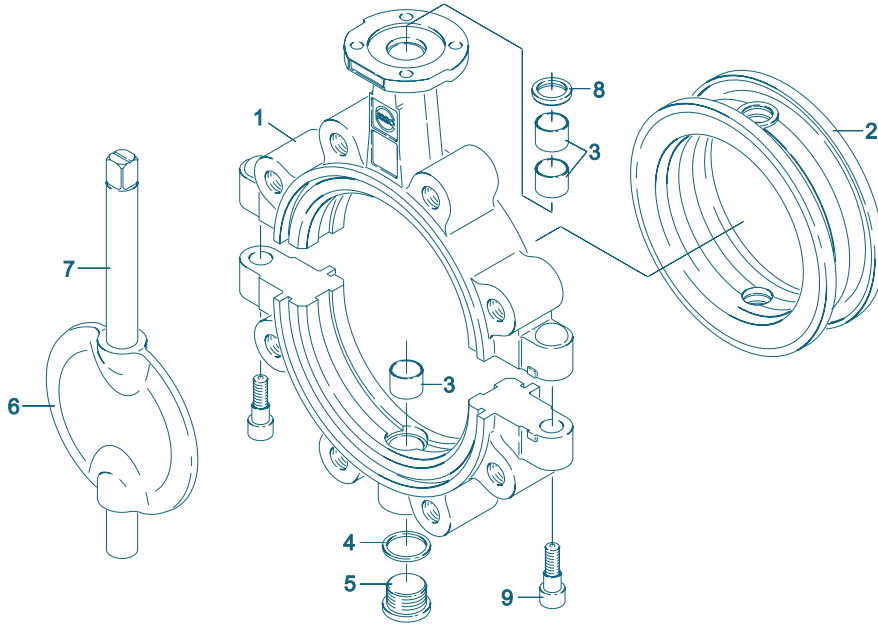


Actuators for larger sizes: See documentation of the producers.

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LUG TYPE BUTTERFLY VALVE Z 614-A

MATERIAL SPECIFICATION AND PARTS LIST



| Pos. | Description | Material | Material-No. | ASTM | Pos. | Description | Material | Material-No. | ASTM |
|----------|---------------------------|--------------------------------|--------------|----------|-------------------------------|-------------------|---------------------------------|--------------------------|------|
| 1 | Body | | | | Shaft/disc one piece | | | | |
| | Nodular cast iron | GGG-40 | 0.7040 | 60-40-18 | 6 | Disc | Stainless steel | G-X5CrNiMo19-11-2 1.4408 | CF8M |
| | NBR | Acrylonitrile butadiene rubber | | | | | | G-X2CrNiMoN26-7-4 1.4469 | A995 |
| | EPDM | Ethylene propylene caoutchouc | | | | Coating | Halar | | |
| | CSM | Chlorsulphonated polyethylene | | | | Surface quality | electropolished mirrow finished | | |
| | FPM | Flourocarbon caoutchouc | | | 7 Shaft | | | | |
| | VSI | Silicon rubber | | | | Stainless steel | G-X5CrNiMo19-11-2 1.4408 | CF8M | |
| | AU | Polyurethane elastomer | | | | | X2CrNiMoN22-5-3 1.4462 | F51 | |
| | | | | | | | X5CrNiMo17-12-2 1.4401 | 316 | |
| 3 | Bearing bush | | | | 8 | Wiper ring | | | |
| | Brass | MS 58 | 2.0401 | B45 | | PTFE | Polytetrafluorethylene PTFE | PTFE | PTFE |
| 4 | Seal DIN 7603 | | | | 9 | Screw | | | |
| | Copper | Cu | | Copper | | Stainless steel | A4-70 | 1.4401 | B8M |
| 5 | Plug screw DIN 908 | | | | Other materials upon request. | | | | |
| | Stainless steel | G-X5CrNiMo19-11-2 1.4408 | | CF8M | | | | | |

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TORQUE

- The torque values specified (Md) are based on liquid and lubricant media.
- Powdery (non-lubricant) media
Md x 1,3
- Dry gases/high viscous media
Md x 1,2
- The values specified are based on the initial breakaway torque.
- Dynamic torque specification available upon request.

| | | | | | | | | | |
|------------------|----|----|----|-----|-----|-----|-----|-----|-----|
| DN [mm] | 50 | 65 | 80 | 100 | 125 | 150 | 200 | 250 | 300 |
| Size [in] | 2 | 2½ | 3 | 4 | 5 | 6 | 8 | 10 | 12 |
| Md [Nm] | 7 | 15 | 18 | 28 | 45 | 110 | 140 | 200 | 280 |

Regarding the dimensioning of actuators, please contact our engineers.

K_v-VALUES

- The K_v-value [m³ per hour] is the flow of water at a temperature of 5 °C to 30 °C [41°F to 86°F] at Δp of 1 bar.
- The K_v-values specified are based on tests carried out by the Delfter Hydraulics Laboratories, the Netherlands.
- Permissible velocity of flow
V_{max} 4,5 m/s for liquids and
V_{max} 70 m/s for gases.
- The throttle function is linear at an angle 30° to 70°.
- Avoid cavitation!

| DN [mm] | Size [in] | Opening angle α° | | | | | | | |
|------------|--------------|------------------|-----|------|------|------|------|------|------|
| | | 20° | 30° | 40° | 50° | 60° | 70° | 80° | 90° |
| 50 | 2 | 1,2 | 8 | 13 | 22 | 38 | 50 | 65 | 85 |
| 65 | 2½ | 2 | 9 | 22 | 42 | 77 | 115 | 170 | 215 |
| 80 | 3 | 8 | 24 | 50 | 95 | 150 | 240 | 330 | 420 |
| 100 | 4 | 13 | 28 | 65 | 130 | 180 | 340 | 550 | 800 |
| 125 | 5 | 26 | 65 | 130 | 230 | 350 | 530 | 870 | 1010 |
| 150 | 6 | 35 | 90 | 200 | 360 | 640 | 900 | 1350 | 2100 |
| 200 | 8 | 43 | 180 | 350 | 580 | 1000 | 1600 | 3000 | 4000 |
| 250 | 10 | 125 | 360 | 660 | 1100 | 1800 | 3100 | 5300 | 6400 |
| 300 | 12 | 200 | 550 | 1000 | 1600 | 2600 | 5000 | 7500 | 8500 |

For further values, please contact our engineers.