

PTFE-LINED BUTTERFLY VALVE T 211-A



Fully PTFE-lined wafer type valve for corrosive and aggressive media. The patented shaft seal design ensures reliability even with high-corrosive applications.

FEATURES

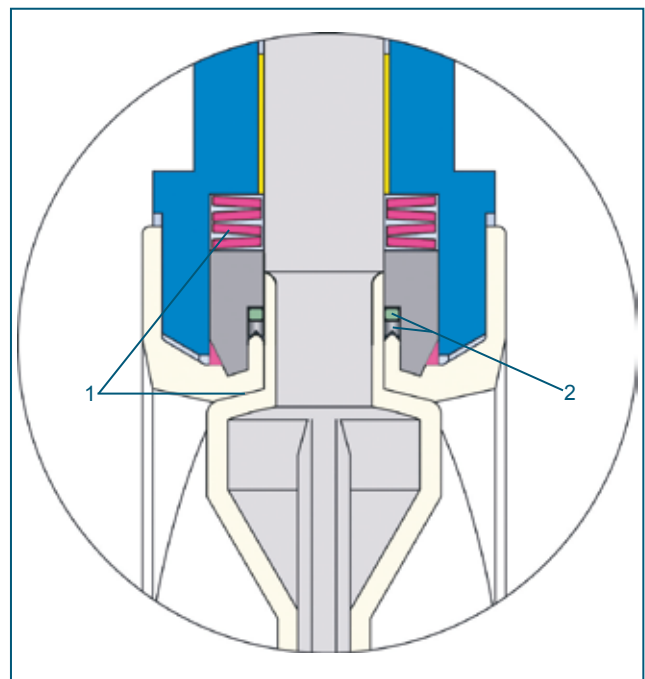
- PTFE-lined butterfly valve for chemically toxic and highly corrosive media
- Environmental protection via EBRO-Safety seal
- Splitted body design
- Isolation height according to plant prescription
- Can be installed in any desired position
- Maintenance-free
- Can be disassembled, material-specific recycling possible
- Material conform to FDA EG 1935/2004
- Optional: Special design RWTÜV certified to TA-Air/ VDI 2440

GENERAL APPLICATIONS

- Chemically highly corrosive and toxic media
- Purification plants
- Pharmaceutical industry
- Adhesives, paper industry, dissolver
- Paint manufacture and processing
- Food industry
- Transport of hazardous materials (EN 14432)
- Chlorine production
- Processing of ore

TECHNICAL DATA

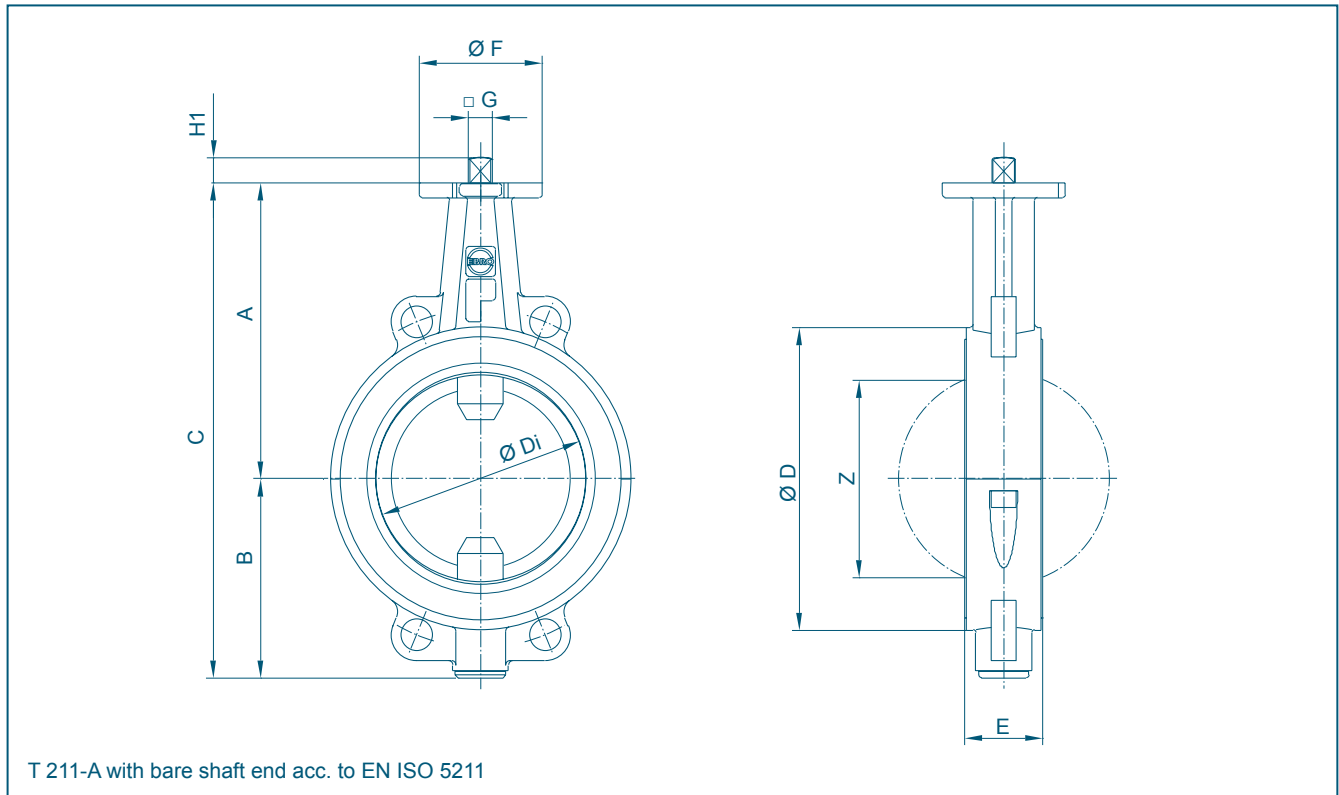
| | |
|------------------------|--|
| Nominal diameter: | DN(40) 50 - DN 300 |
| Face-to-face: | EN 558 Series 20 ISO 5752 Series 20 API 609 Table 2 |
| Flange accommodation: | EN 1092 PN 10/16 ASME Class 150 AS 4087 |
| Flange Surface Design: | EN 1092 Form A/B ASME RF, FF |
| Top flange: | EN ISO 5211 |
| Marking: | EN 19 |
| Tightness check: | EN 12266 (Leakage rate A) |
| Temperature range: | -40°C to +200°C (depending on operation pressure) |
| Operating pressure: | max. 10 bar (16 bar for special version) |
| Vacuum: | up to 1 mbar absolute (with silicon elastomer inserts) from -10°C bis +160°C |



Safety seal at both shaft ends:

1. Primary sealing by means of a Belleville spring washer, transmitting prestress on the spherical segment area.
2. Secondary sealing of the shaft by means of PTFE-Chevron and O-ring.

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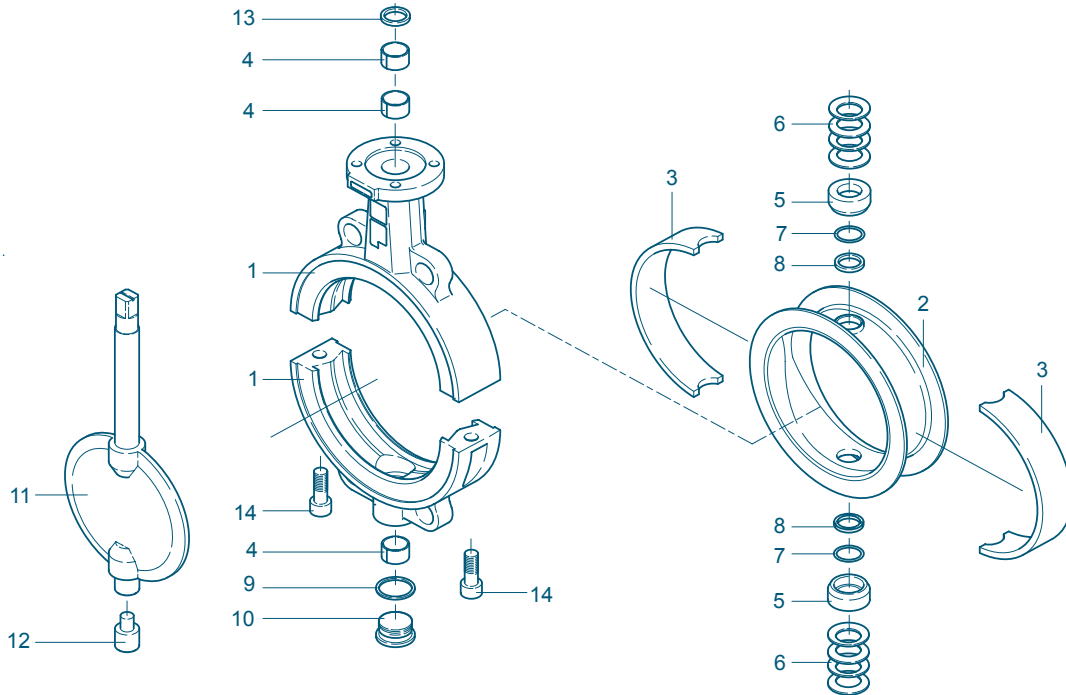
| DN [mm] | Size [in] | Dimensions [mm] | | | | | | | | | | | Weight [kg] |
|------------|--------------|-----------------|-----|-----|-----|-------|----|-----|--------|----|----|-----|----------------|
| | | A | B | C | D | Di | E | F | Flange | G | H1 | Z | |
| 40*/50 | 2 | 135 | 80 | 215 | 112 | 60,8 | 46 | 54 | F04 | 11 | 12 | 41 | 2,8 |
| 65 | 2½ | 150 | 82 | 232 | 120 | 60,8 | 46 | 54 | F04 | 11 | 12 | 41 | 3,4 |
| 80 | 3 | 157 | 108 | 265 | 138 | 79,5 | 46 | 65 | F05 | 14 | 16 | 66 | 4,5 |
| 100 | 4 | 180 | 118 | 298 | 160 | 99,0 | 52 | 65 | F05 | 14 | 16 | 85 | 5,9 |
| 125 | 5 | 195 | 130 | 325 | 190 | 124,5 | 56 | 90 | F07 | 17 | 19 | 112 | 8,1 |
| 150 | 6 | 210 | 142 | 352 | 215 | 150,5 | 56 | 90 | F07 | 17 | 19 | 141 | 9,5 |
| 200 | 8 | 240 | 169 | 409 | 269 | 195,5 | 60 | 90 | F07 | 17 | 19 | 187 | 15 |
| 250 | 10 | 275 | 217 | 492 | 324 | 247,5 | 68 | 125 | F10 | 22 | 24 | 239 | 24 |
| 300 | 12 | 300 | 240 | 540 | 374 | 292,5 | 78 | 125 | F10 | 22 | 24 | 283 | 34 |

*DN 50 drilled DN 40

Subject to change without notice

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MATERIAL SPECIFICATION AND PARTS LIST



PTFE-lined butterfly valve DN 80 - DN 200

| Pt. | Description | Material | Material-No. | ASTM | Pt. | Description | Material | Material-No. | ASTM |
|------------|----------------------------|------------------------|--------------|-------|--------------|---------------------------|------------------------|--------------|--------|
| 1 | Body | | | | 9 | Seal | | | |
| | Nodular Cast Iron | EN-JS 1025 | EN 1563 | A 395 | | Stainless Steel | X5CrNi18-10 | 1.4301 | 304 |
| 2** | Seat | | | | 10 | Plug screw DIN 908 | | | |
| | PTFE | Polytetrafluorethylene | PTFE | PTFE | | Stainless Steel | G-X6CrNiMo18-10 | 1.4408 | CF8M |
| | M.-PTFE | Polytetrafluorethylene | modified | | 11*** | Disc/Shaft | one-piece | | |
| | Cond.-PTFE | Polytetrafluorethylene | conductive | | | St.Steel/ St.Steel | G-X2CoNiMoN26-7-4 | 1.4469 | Duplex |
| 3** | Elastomer insert | | | | | St.Steel/ PTFE | G-X2CoNiMoN26-7-4 | 1.4469/ | Duplex |
| | Silicon | Silicon rubber | MVQ | VMQ | | | Polytetrafluorethylene | PTFE | PTFE |
| 4 | DU-bearing | | | | | St.Steel/ M.-PTFE | G-X2CoNiMoN26-7-4 | 1.4469/ | Duplex |
| | Steel / PTFE coated | | | | | | Polytetrafluorethylene | modified | |
| 5** | Trust collar | | | | | St.Steel/ Cond.-PTFE | G-X2CoNiMoN26-7-4 | 1.4469/ | Duplex |
| | Stainless Steel | X5CrNiMo17-12-2 | 1.4401 | 316 | | | Polytetrafluorethylene | conductive | |
| 6 | Bellev. spr. washer | | | | 12 | Lower shaft stub | | | |
| | Stainless Steel | X12CrNi177 | 1.4568 | 631 | | Stainless Steel | X39CrMo17-1 | 1.4122 | |
| 7** | O-ring | | | | 13 | Wiper ring | | | |
| | FPM | Fluorocarbon rubber | FPM | FKM | | PTFE | Polytetrafluorethylene | PTFE | PTFE |
| 8** | Chevron seal | | | | 14 | Screw | | | |
| | PTFE | Polytetrafluorethylene | PTFE | PTFE | | Stainless Steel | A4-70 | | |

Above-mentioned materials of the basic version, other materials upon request

** recommended spare parts

*** recommended for coated discs

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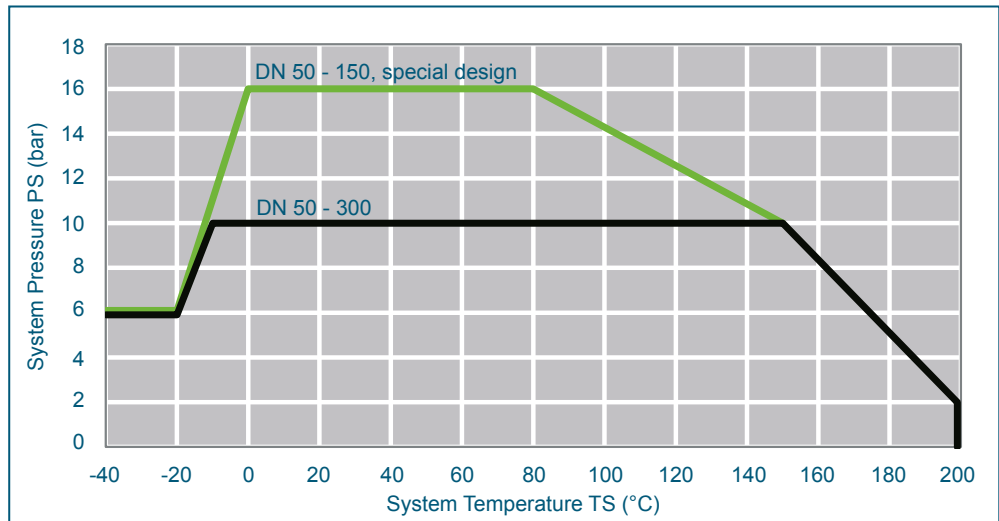
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TORQUE

- The torque values specified (Md) are based on dry media and are measured with air at a temperature of 20 °C
 - The values specified are based on the initial breakaway torque (disc disengages from seat, torque then drops)
 - Dynamic torque specification available upon request
- Regarding the dimensioning of actuators, please contact our engineers.

| | | | | | | | | | |
|------------------|-------|----|----|-----|-----|-----|-----|-----|-----|
| DN [mm] | 40/50 | 65 | 80 | 100 | 125 | 150 | 200 | 250 | 300 |
| Size [in] | 2 | 2½ | 3 | 4 | 5 | 6 | 8 | 10 | 12 |
| MD [Nm] | 40 | 40 | 70 | 95 | 130 | 170 | 230 | 350 | 480 |

PRESSURE/TEMPERATURE DIAGRAM



Pressure-Temperature-Diagram for valves with Silicone elastomer inserts
 Service limitation with EPDM elastomer inserts from -10°C up to +120°C
 Service limitation with Fluor carbon inserts (FPM) from -10°C up to +180°C
 Vacuum service to 1mbar absolute, from -10°C up to +160°C. Valve installation between flanges

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,
 V_{max} 70 m/s for gases
 - The throttle function is linear at an angle 30° to 70°
 - Avoid cavitation
- For further values, please contact our engineers.

| DN [mm] | Size [in] | Opening angle α° | | | | | | | |
|---|-----------|------------------|-----|-----|------|------|------|------|------|
| | | 20° | 30° | 40° | 50° | 60° | 70° | 80° | 90° |
| 1) K_V-values metal disc | | | | | | | | | |
| 40/50 | 2 | 4 | 2 | 11 | 28 | 53 | 84 | 121 | 161 |
| 65 | 2½ | 5 | 8 | 25 | 56 | 99 | 153 | 216 | 287 |
| 80 | 3 | 13 | 12 | 30 | 69 | 131 | 216 | 328 | 467 |
| 100 | 4 | 13 | 25 | 61 | 121 | 207 | 319 | 459 | 627 |
| 125 | 5 | 37 | 66 | 122 | 216 | 353 | 543 | 793 | 1111 |
| 150 | 6 | 50 | 94 | 171 | 303 | 509 | 810 | 1226 | 1778 |
| 200 | 8 | 137 | 149 | 344 | 696 | 1178 | 1764 | 2426 | 3137 |
| 250 | 10 | 178 | 291 | 562 | 1021 | 1699 | 2626 | 3832 | 5348 |
| 300 | 12 | 395 | 378 | 820 | 1638 | 2751 | 4079 | 5538 | 7049 |
| 2) K_V-values PTFE-disc | | | | | | | | | |
| 40/50 | 2 | 2 | 1 | 4 | 12 | 22 | 35 | 50 | 67 |
| 65 | 2½ | 3 | 9 | 26 | 48 | 74 | 98 | 117 | 126 |
| 80 | 3 | 4 | 14 | 38 | 71 | 108 | 143 | 171 | 186 |
| 100 | 4 | 6 | 16 | 48 | 95 | 151 | 209 | 262 | 303 |
| 125 | 5 | 12 | 40 | 110 | 217 | 356 | 525 | 718 | 933 |
| 150 | 6 | 18 | 60 | 161 | 317 | 526 | 787 | 1096 | 1452 |
| 200 | 8 | 125 | 176 | 395 | 756 | 1234 | 1807 | 2449 | 3136 |
| 250 | 10 | 138 | 333 | 644 | 1103 | 1744 | 2599 | 3702 | 5086 |
| 300 | 12 | 203 | 462 | 872 | 1479 | 2329 | 3471 | 4950 | 6814 |

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