



FK DN 40÷300
PP-H

Butterfly valve

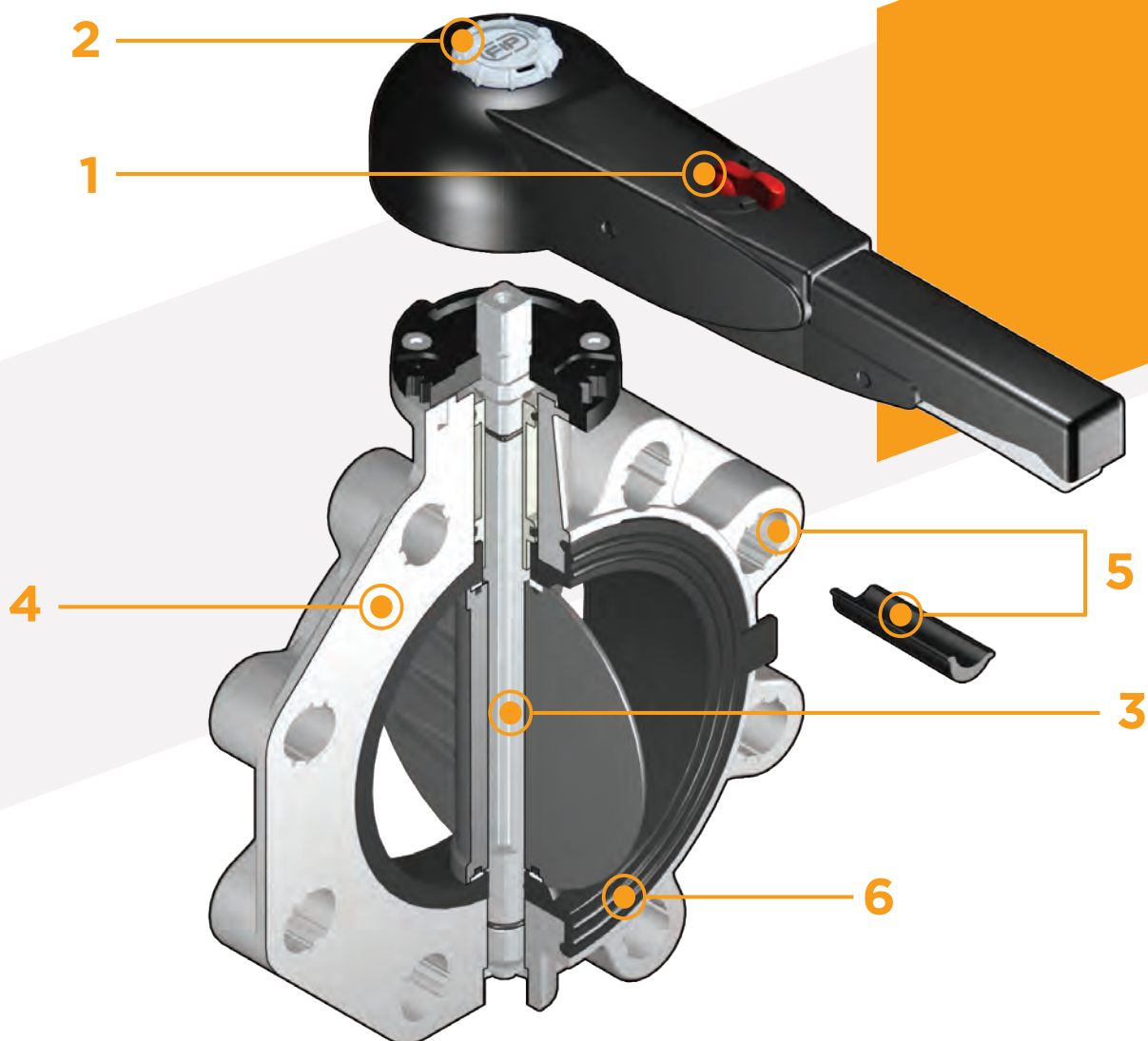
FK DN 40÷300

The FK is a butterfly valve for shutting off or regulating flow, with structural characteristics that make it ideal for industrial applications requiring high performance and long-term reliability. This valve is also equipped with the customisable Labelling System.

BUTTERFLY VALVE

- Interchangeable Disk in PP-H with through shaft, available in different thermoplastic materials: PVC-U, PVC-C, ABS, PVDF
- Overall dimensions of the valve in accordance with standard ISO 5752 (DN 40÷200 Medium series 25, DN 250÷ 300 Long Series16) and DIN 3202 K2 and ISO 5752 (DN DN 65÷200 K2, DN 250÷300 K3)
- Can also be installed as an end line valve, bottom discharge valve or tank dump valve
- **Special Lug version** PN 10 fully drilled according to DIN 2501 or ANSI B16.5 cl.150 **with molded-in AISI 316 stainless steel threaded inserts**
- **Valve material compatibility** (PP-H) with water conveyance, drinking water and other food substances according to **current regulations**
- Possibility of installing a gear box or pneumatic and/or electric actuators by applying ISO standard drilling PP-GR flanges. DN 40 ÷ 200 valve equipped with plate with rack in PP-GR. For actuated versions with flange drilled according to ISO 5211 F05, F07, F10. DN 250÷300 valve, equipped with one-piece top flange in high mechanical strength PP-GR with mounting flange for internal components drilled according to standard ISO 5211 F10, F12, F14

| Technical specifications | |
|----------------------------|--|
| Construction | Bi-directional centric butterfly valve |
| Size range | DN 40÷300 |
| Nominal pressure | Wafer version DN 40÷250: PN 10 with water at 20° C DN 300: PN 8 with water at 20° C Lug version DN 65÷200: PN 10 with water at 20° C DN 250÷300: PN 6 with water at 20° C |
| Temperature range | 0 °C ÷ 100 °C |
| Coupling standards | Flanging system: EN ISO 15494, DIN 2501, ISO 7005-1, EN 1092-1, ASTM B16.5 cl.150, JIS B 2220 |
| Reference standards | Construction criteria: EN ISO 16136, EN ISO 15494 Test methods and requirements: ISO 9393 Actuator couplings: ISO 5211 |
| Valve material | Body: PP-GR Disk: PP-H Stem: STAINLESS steel AISI 420. On request STAINLESS steel AISI 316 |
| Seal material | Liner: EPDM, FPM. On request NBR |
| Control options | Manual control (DN 40÷200); Gearbox, pneumatic actuator, electric actuator |



1 Ergonomic handle in HIPVC equipped with **locking and unlocking device, release, quick operation and graduated adjustment** in 10 intermediate positions (DN 40÷200). The operating range, starting from the first few degrees of valve opening, also guarantees extremely low pressure drops.

2 Customisable Labelling System: built-in module in the handle, made of a transparent protection plug and a customisable tag holder using the LSE set (available as an accessory). The **customisation** lets you **identify the valve on the system** according to specific needs

3 STAINLESS steel square section stem completely isolated from the fluid according to: ISO 5211:
 DN 40÷65: 11 mm
 DN 80÷100: 14 mm
 DN 125÷150: 17 mm
 DN 200: 22 mm
 DN 250÷300: 27 mm

4 Body in polypropylene based compound **reinforced with fibreglass (PP-GR) resistant to UV rays** and characterised by **high mechanical strength**

5 Drilling pattern using oval slots that allow coupling to flanges according to numerous international standards. The special **self-centring inserts in ABS supplied for DN 40÷200** guarantee the **correct axial alignment of the valve during installation.**

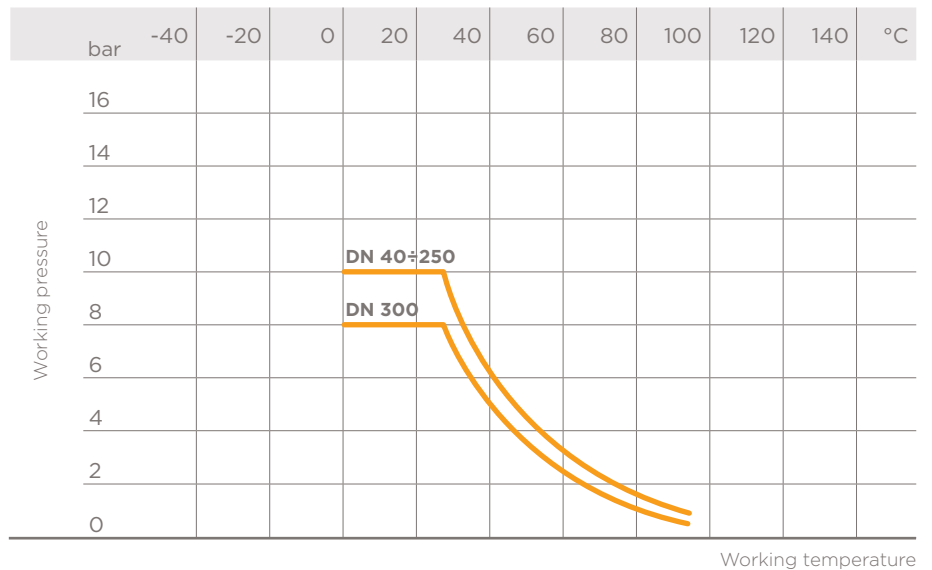
For DN 250÷300 valves, the drilling pattern for the self-centring system is of the traditional type according to DIN and ANSI standards

6 Interchangeable liner with the dual function of forming a hydraulic seal and isolating the body from the fluid

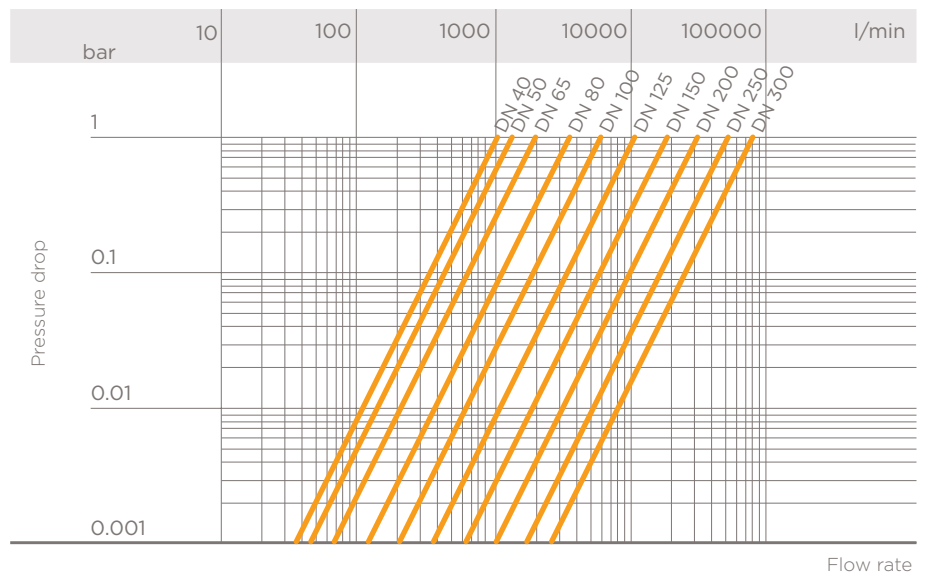
TECHNICAL DATA

PRESSURE VARIATION ACCORDING TO TEMPERATURE

For water and non-hazardous fluids to which the material is classified as CHEMICALLY RESISTANT. In other cases, a reduction of the nominal pressure PN is required (25 years with safety factor).



PRESSURE DROP GRAPH



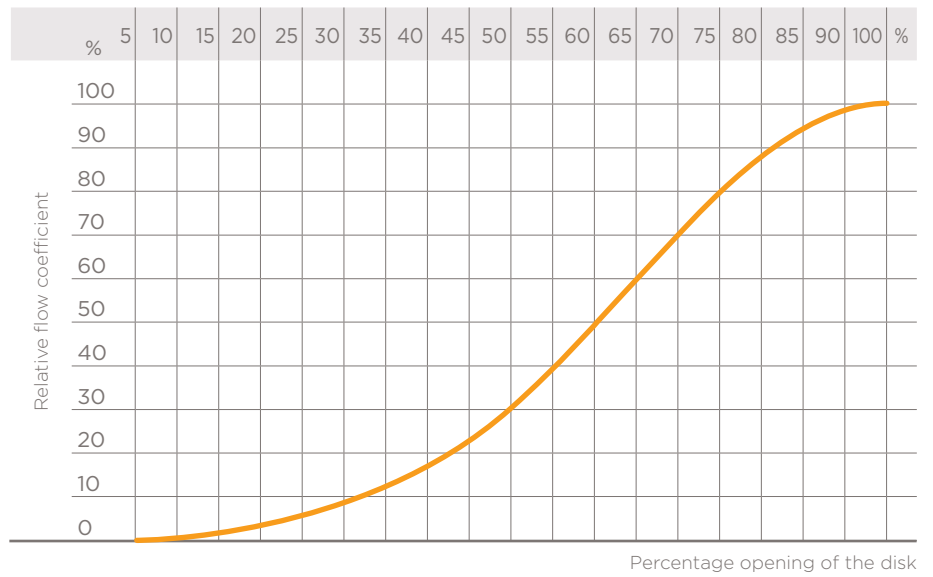
K_v100 FLOW COEFFICIENT

The K_v100 flow coefficient is the Q flow rate of litres per minute of water at a temperature of 20°C that will generate Δp= 1 bar pressure drop at a certain valve position.

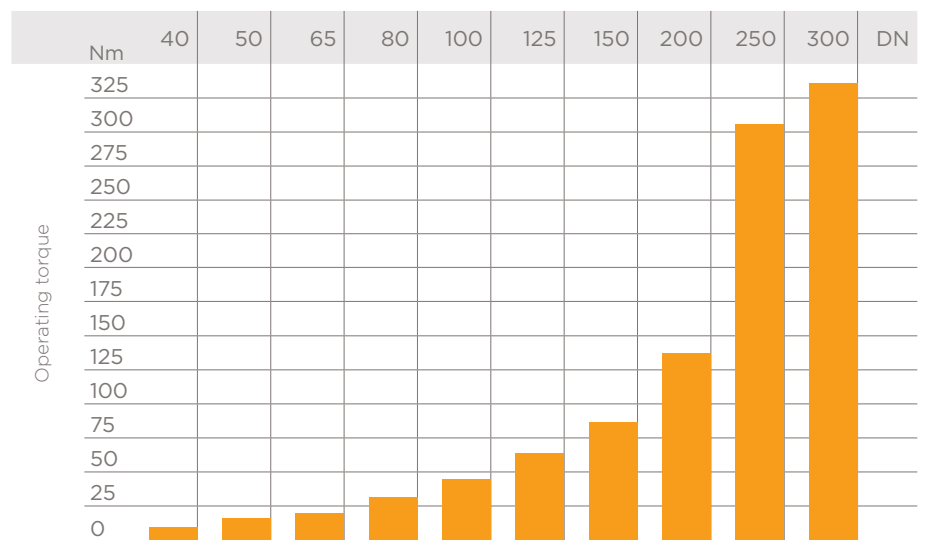
The K_v100 values shown in the table are calculated with the valve completely open.

| DN | 40 | 50 | 65 | 80 | 100 | 125 | 150 | 200 | 250 | 300 |
|--------------------------|------|------|------|------|------|------|-------|-------|-------|-------|
| K _v 100 l/min | 1000 | 1285 | 1700 | 3550 | 5900 | 9850 | 18700 | 30500 | 53200 | 81600 |

RELATIVE FLOW COEFFICIENT GRAPH

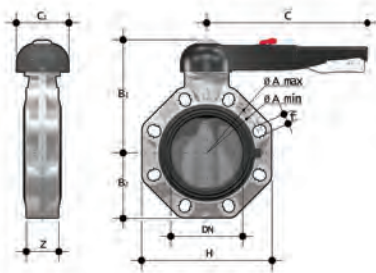


OPERATING TORQUE AT MAXIMUM WORKING PRESSURE



The information in this leaflet is provided in good faith. No liability will be accepted concerning technical data that is not directly covered by recognised international standards. FiP reserves the right to carry out any modification. Products must be installed and maintained by qualified personnel.

DIMENSIONS

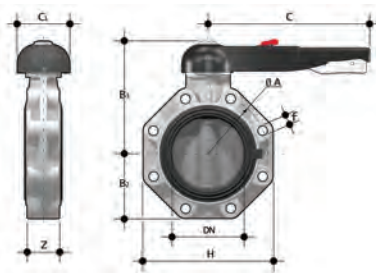


FKOM/LM
Hand operated Butterfly valve

| d - Size | DN | PN | A min | A max | B ₂ | B ₃ | C | C ₁ | H | U | Z | g | EPDM Code | FPM Code |
|---------------|-----|----|-------|-------|----------------|----------------|-----|----------------|-----|---|----|------|------------|------------|
| 50 - 1" 1/2 | 40 | 10 | 99 | 109 | 60 | 137 | 175 | 100 | 132 | 4 | 33 | 800 | FKOMLM050E | FKOMLM050F |
| 63 - 2" | 50 | 10 | 115 | 125.5 | 70 | 143 | 175 | 100 | 147 | 4 | 43 | 980 | FKOMLM063E | FKOMLM063F |
| 75 - 2" 1/2 | 65 | 10 | 128 | 144 | 80 | 164 | 175 | 110 | 165 | 4 | 46 | 1370 | FKOMLM075E | FKOMLM075F |
| 90 - 3" | 80 | 10 | 145 | 160 | 93 | 178 | 175 | 100 | 185 | 8 | 49 | 1770 | FKOMLM090E | FKOMLM090F |
| 110 - 4" | 100 | 10 | 165 | 190 | 107 | 192 | 272 | 110 | 211 | 8 | 56 | 2120 | FKOMLM110E | FKOMLM110F |
| 140 - 5" | 125 | 10 | 204 | 215 | 120 | 212 | 330 | 110 | 240 | 8 | 64 | 3000 | FKOMLM140E | FKOMLM140F |
| 160 - 6" | 150 | 10 | 230 | 242 | 134 | 225 | 330 | 110 | 268 | 8 | 70 | 3750 | FKOMLM160E | FKOMLM160F |
| 200*/225 - 8" | 200 | 10 | 280 | 298 | 161 | 272 | 420 | 122 | 323 | 8 | 71 | 6650 | FKOMLM225E | FKOMLM225F |

Note: NBR liners are available for d75÷225

* The special chamfered stubs QBM from d160 to d315 are available for installation on pipes in PP-H SDR 11 and 17.6

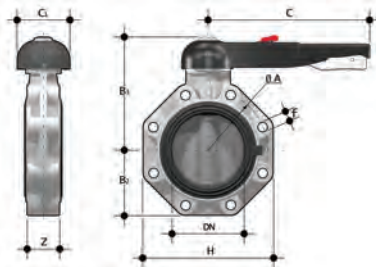


FKOM/LM LUG ISO-DIN
Hand operated Butterfly valve, version Lug ISO-DIN

| d | DN | PN | øA | B ₂ | B ₃ | C | C ₁ | f | H | U | Z | g | EPDM Code | FPM Code |
|----------|-----|----|-----|----------------|----------------|-----|----------------|-----|-----|---|----|------|-------------|-------------|
| 75 | 65 | 10 | 145 | 80 | 164 | 175 | 110 | M16 | 165 | 4 | 46 | 1770 | FKOLMLM075E | FKOLMLM075F |
| 90 | 80 | 10 | 160 | 93 | 178 | 175 | 100 | M16 | 185 | 8 | 49 | 2570 | FKOLMLM090E | FKOLMLM090F |
| 110 | 100 | 10 | 180 | 107 | 192 | 272 | 110 | M16 | 211 | 8 | 56 | 2920 | FKOLMLM110E | FKOLMLM110F |
| 140 | 125 | 10 | 210 | 120 | 212 | 330 | 110 | M16 | 240 | 8 | 64 | 4600 | FKOLMLM140E | FKOLMLM140F |
| 160 | 150 | 10 | 240 | 134 | 225 | 330 | 110 | M20 | 268 | 8 | 70 | 5350 | FKOLMLM160E | FKOLMLM160F |
| 200*/225 | 200 | 10 | 295 | 161 | 272 | 420 | 122 | M20 | 323 | 8 | 71 | 8250 | FKOLMLM225E | FKOLMLM225F |

Note: NBR liners are available for d75÷225

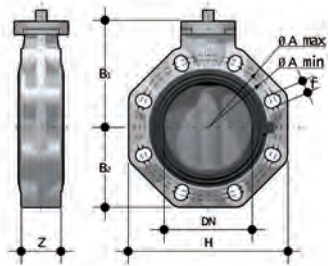
* The special chamfered stubs QBM from d160 to d315 are available for installation on pipes in PP-H SDR 11 and 17.6



FKOM/LM LUG ANSI
Hand operated Butterfly valve, version Lug ANSI

| Size | DN | PN | øA | B ₁ | B ₂ | C | C ₁ | f | H | U | Z | g | EPDM Code | FPM Code |
|-------|-----|----|-----|----------------|----------------|-----|----------------|------|-----|---|----|------|--------------|--------------|
| 2"1/2 | 65 | 10 | 140 | 119 | 80 | 175 | 110 | 5/8" | 165 | 4 | 46 | 1770 | FKOALMLM212E | FKOALMLM212F |
| 3" | 80 | 10 | 152 | 133 | 93 | 175 | 100 | 5/8" | 185 | 8 | 49 | 2570 | FKOALMLM300E | FKOALMLM300F |
| 4" | 100 | 10 | 191 | 147 | 107 | 272 | 110 | 5/8" | 211 | 8 | 56 | 2920 | FKOALMLM400E | FKOALMLM400F |
| 5" | 125 | 10 | 216 | 167 | 120 | 330 | 110 | 3/4" | 240 | 8 | 64 | 4600 | FKOALMLM500E | FKOALMLM500F |
| 6" | 150 | 10 | 241 | 180 | 134 | 330 | 110 | 3/4" | 268 | 8 | 70 | 5350 | FKOALMLM600E | FKOALMLM600F |
| 8" | 200 | 10 | 298 | 227 | 161 | 420 | 122 | 3/4" | 323 | 8 | 71 | 8250 | FKOALMLM800E | FKOALMLM800F |

Note: NBR liners are available for d 2 1/2" ÷ 8"



FKOM/FM

Butterfly valve with bare shaft

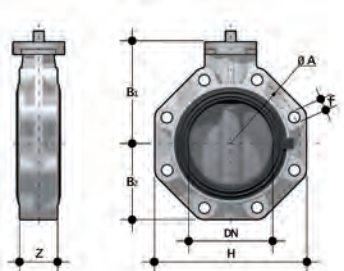
| d - Size | DN | PN | A min | A max | øA | B ₁ | B ₂ | f | H | U | Z | g | EPDM Code | FPM Code |
|---------------|--------|----|-------|-------|-----|----------------|----------------|------|-----|----|-----|-------|-------------|-------------|
| 50 - 1" 1/2 | 40 | 16 | 99 | 109 | - | 106 | 60 | 19 | 132 | 4 | 33 | 474 | FKOMFM050E | FKOMFM050F |
| 63 - 2" | 50 | 16 | 115 | 126 | - | 112 | 70 | 19 | 147 | 4 | 43 | 654 | FKOMFM063E | FKOMFM063F |
| 75 - 2" 1/2 | 65 | 10 | 128 | 144 | - | 119 | 80 | 19 | 165 | 4 | 46 | 900 | FKOMFM075E | FKOMFM075F |
| 90 - 3" | 80 | 10 | 145 | 160 | - | 133 | 93 | 19 | 185 | 8 | 49 | 1300 | FKOMFM090E | FKOMFM090F |
| 110 - 4" | 100 | 10 | 165 | 190 | - | 147 | 107 | 19 | 211 | 8 | 56 | 1650 | FKOMFM110E | FKOMFM110F |
| 140 - 5" | 125 | 10 | 204 | 215 | - | 167 | 120 | 23 | 240 | 8 | 64 | 2450 | FKOMFM140E | FKOMFM140F |
| 160 - 6" | 150 | 10 | 230 | 242 | - | 180 | 134 | 23 | 268 | 8 | 70 | 3200 | FKOMFM160E | FKOMFM160F |
| 200*/225 - 8" | 200 | 10 | 280 | 298 | - | 227 | 161 | 23 | 323 | 8 | 71 | 5900 | FKOMFM225E | FKOMFM225F |
| 250 | **250 | 10 | - | - | 350 | 248 | 210 | 22 | 405 | 12 | 114 | 11800 | FKOMFM280E | FKOMFM280F |
| 280 | **250 | 10 | - | - | 350 | 248 | 210 | 22 | 405 | 12 | 114 | 11800 | FKOMFM280E | FKOMFM280F |
| 315 | ***300 | 8 | - | - | 400 | 305 | 245 | 22 | 475 | 12 | 114 | 18700 | FKOMFM315E | FKOMFM315F |
| 10" | ***250 | 10 | - | - | 362 | 248 | 210 | 25.4 | 405 | 12 | 114 | 11800 | FKOAMFM810E | FKOAMFM810F |
| 12" | ***300 | 8 | - | - | 400 | 305 | 245 | 25.4 | 475 | 12 | 114 | 18700 | FKOAMFM812E | FKOAMFM812F |

Note: NBR liners are available for d75÷225

* The special chamfered stubs QBM from d160 to d315 are available for installation on pipes in PP-H SDR 11 and 17.6

**ISO-DIN

***ANSI B.16.5 150

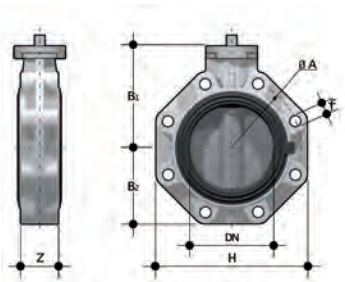


FKOM/FM LUG ISO-DIN

Butterfly valve with bare shaft, version Lug ISO-DIN

| d | DN | PN | øA | B ₁ | B ₂ | f | H | U | Z | g | EPDM Code | FPM Code |
|----------|-----|----|-----|----------------|----------------|-----|-----|---|----|------|-------------|-------------|
| 75 | 65 | 10 | 145 | 119 | 80 | M16 | 165 | 4 | 46 | 1300 | FKOLMFM075E | FKOLMFM075F |
| 90 | 80 | 10 | 160 | 133 | 93 | M16 | 185 | 8 | 49 | 2100 | FKOLMFM090E | FKOLMFM090F |
| 110 | 100 | 10 | 180 | 147 | 107 | M16 | 211 | 8 | 56 | 2450 | FKOLMFM110E | FKOLMFM110F |
| 140 | 125 | 10 | 210 | 167 | 120 | M16 | 240 | 8 | 64 | 4050 | FKOLMFM140E | FKOLMFM140F |
| 160 | 150 | 10 | 240 | 180 | 134 | M20 | 268 | 8 | 70 | 4800 | FKOLMFM160E | FKOLMFM160F |
| 200*/225 | 200 | 10 | 295 | 227 | 161 | M20 | 323 | 8 | 71 | 7500 | FKOLMFM225E | FKOLMFM225F |

Note: NBR liners are available for d75÷225 *The special chamfered stubs QBM from d160 to d315 are available for installation on pipes in PP-H SDR 11 and 17.6

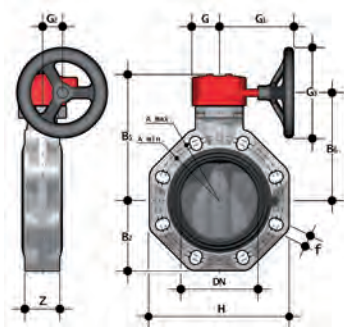


FKOM/FM LUG ANSI

Butterfly valve with bare shaft, version Lug ANSI

| Size | DN | PN | øA | B ₁ | B ₂ | f | H | U | Z | g | EPDM Code | FPM Code |
|-------|-----|----|-----|----------------|----------------|------|-----|----|-----|-------|--------------|--------------|
| 2"1/2 | 65 | 10 | 140 | 119 | 80 | 5/8" | 165 | 4 | 46 | 1300 | FKOALMFM212E | FKOALMFM212F |
| 3" | 80 | 10 | 152 | 133 | 93 | 5/8" | 185 | 8 | 49 | 2100 | FKOALMFM300E | FKOALMFM300F |
| 4" | 100 | 10 | 191 | 147 | 107 | 5/8" | 211 | 8 | 56 | 2450 | FKOALMFM400E | FKOALMFM400F |
| 5" | 125 | 10 | 216 | 167 | 120 | 3/4" | 240 | 8 | 64 | 4050 | FKOALMFM500E | FKOALMFM500F |
| 6" | 150 | 10 | 241 | 180 | 134 | 3/4" | 268 | 8 | 70 | 4800 | FKOALMFM600E | FKOALMFM600F |
| 8" | 200 | 10 | 298 | 227 | 161 | 3/4" | 323 | 8 | 71 | 7500 | FKOALMFM800E | FKOALMFM800F |
| 10" | 250 | 6 | 362 | 248 | 210 | 7/8" | 405 | 12 | 114 | 16600 | FKOALMFM810E | FKOALMFM810F |
| 12" | 300 | 6 | 432 | 305 | 245 | 7/8" | 475 | 12 | 114 | 23500 | FKOALMFM812E | FKOALMFM812F |

Note: NBR liners are available for d 2" 1/2÷ 8"

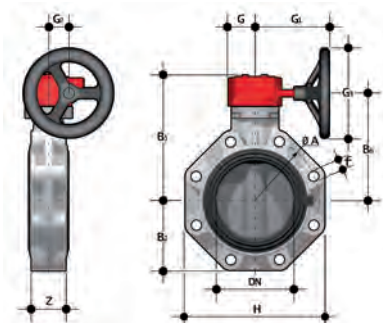


FKOM/RM

Gearbox operated Butterfly valve

| d - Size | DN | PN | A _{min} | A _{max} | øA | B ₂ | B ₅ | B ₆ | G | G ₁ | G ₂ | G ₃ | H | U | Z | g | EPDM Code | FPM Code |
|--------------|--------|----|------------------|------------------|-----|----------------|----------------|----------------|----|----------------|----------------|----------------|-----|----|-----|-------|-------------|-------------|
| 75 - 2" 1/2 | 65 | 10 | 128 | 144 | - | 80 | 174 | 146 | 48 | 135 | 39 | 125 | 165 | 4 | 46 | 2300 | FKOMRM075E | FKOMRM075F |
| 90 - 3" | 80 | 10 | 145 | 160 | - | 93 | 188 | 160 | 48 | 135 | 39 | 125 | 185 | 8 | 49 | 2700 | FKOMRM090E | FKOMRM090F |
| 110 - 4" | 100 | 10 | 165 | 190 | - | 107 | 202 | 174 | 48 | 135 | 39 | 125 | 211 | 8 | 56 | 3050 | FKOMRM110E | FKOMRM110F |
| 140 - 5" | 125 | 10 | 204 | 215 | - | 120 | 222 | 194 | 48 | 144 | 39 | 200 | 240 | 8 | 64 | 4350 | FKOMRM140E | FKOMRM140F |
| 160 - 6" | 150 | 10 | 230 | 242 | - | 134 | 235 | 207 | 48 | 144 | 39 | 200 | 268 | 8 | 70 | 5100 | FKOMRM160E | FKOMRM160F |
| 200/225 - 8" | 200 | 10 | 280 | 298 | - | 161 | 287 | 256 | 65 | 204 | 60 | 200 | 323 | 8 | 71 | 9200 | FKOMRM225E | FKOMRM225F |
| 250-280 | **250 | 10 | - | - | 350 | 210 | 317 | 281 | 88 | 236 | 76 | 250 | 405 | 12 | 114 | 18400 | FKOMRM250E | FKOMRM250F |
| 315 | **300 | 10 | - | - | 350 | 210 | 317 | 281 | 88 | 236 | 76 | 250 | 405 | 12 | 114 | 18400 | FKOMRM280E | FKOMRM280F |
| 10" | ***250 | 8 | - | - | 400 | 245 | 374 | 338 | 88 | 236 | 76 | 250 | 475 | 12 | 114 | 25450 | FKOAMRM315E | FKOAMRM315F |
| 12" | ***300 | 10 | - | - | 350 | 210 | 317 | 281 | 88 | 236 | 76 | 250 | 405 | 12 | 114 | 18400 | FKOAMRM810E | FKOAMRM810F |
| **12" | 300 | 8 | - | - | 400 | 245 | 374 | 338 | 88 | 236 | 76 | 250 | 475 | 12 | 114 | 25450 | FKOAMRM812E | FKOAFRM812F |

Note: NBR liners are available for d75÷225 *The special chamfered stubs QBM from d160 to d315 are available for installation on pipes in PP-H SDR 11 and 17.6
 **ISO-DIN
 ***ANSI B.16.5 150



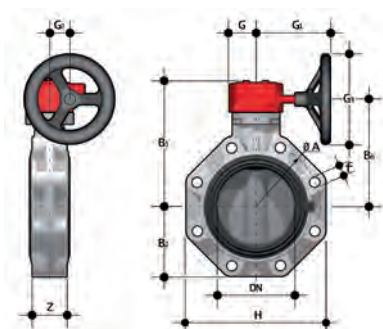
FKOM/RM LUG ISO-DIN

Gearbox operated Butterfly valve, version Lug ISO-DIN

| d | DN | PN | øA | B ₂ | B ₅ | B ₆ | f | G | G ₁ | G ₂ | G ₃ | H | U | Z | g | EPDM Code | FPM Code |
|----------|-----|----|-----|----------------|----------------|----------------|-----|----|----------------|----------------|----------------|-----|---|----|-------|-------------|-------------|
| 75 | 65 | 10 | 145 | 80 | 174 | 146 | M16 | 48 | 135 | 39 | 125 | 165 | 4 | 46 | 2700 | FKOLMRM075E | FKOLMRM075F |
| 90 | 80 | 10 | 160 | 93 | 188 | 160 | M16 | 48 | 135 | 39 | 125 | 185 | 8 | 49 | 3500 | FKOLMRM090E | FKOLMRM090F |
| 110 | 100 | 10 | 180 | 107 | 202 | 174 | M16 | 48 | 135 | 39 | 125 | 211 | 8 | 56 | 3850 | FKOLMRM110E | FKOLMRM110F |
| 140 | 125 | 10 | 210 | 120 | 222 | 194 | M16 | 48 | 144 | 39 | 200 | 240 | 8 | 64 | 5950 | FKOLMRM140E | FKOLMRM140F |
| 160 | 150 | 10 | 240 | 134 | 235 | 207 | M20 | 48 | 144 | 39 | 200 | 268 | 8 | 70 | 6700 | FKOLMRM160E | FKOLMRM160F |
| 200*/225 | 200 | 10 | 295 | 161 | 256 | 256 | M20 | 65 | 204 | 60 | 200 | 323 | 8 | 71 | 10800 | FKOLMRM225E | FKOLMRM225F |

Note: NBR liners are available for d75÷225

* The special chamfered stubs QBM from d160 to d315 are available for installation on pipes in PP-H SDR 11 and 17.6



FKOM/RM LUG ANSI

Gearbox operated Butterfly valve, version Lug ANSI

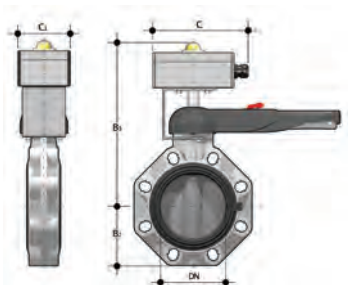
| Size | DN | PN | B ₂ | B ₅ | B ₆ | H | Z | øA | f | G | G ₁ | G ₂ | G ₃ | U | g | EPDM Code | FPM Code |
|--------|-----|----|----------------|----------------|----------------|-----|-----|-----|------|----|----------------|----------------|----------------|----|-------|--------------|--------------|
| 2 1/2" | 65 | 10 | 80 | 174 | 146 | 165 | 46 | 140 | 5/8" | 48 | 135 | 39 | 125 | 4 | 2700 | FKOALMRM212E | FKOALMRM212F |
| 3" | 80 | 10 | 93 | 188 | 160 | 185 | 49 | 152 | 5/8" | 48 | 135 | 39 | 125 | 8 | 3500 | FKOALMRM300E | FKOALMRM300F |
| 4" | 100 | 10 | 107 | 202 | 174 | 211 | 56 | 191 | 5/8" | 48 | 135 | 39 | 125 | 8 | 3850 | FKOALMRM400E | FKOALMRM400F |
| 5" | 125 | 10 | 120 | 222 | 194 | 240 | 64 | 216 | 3/4" | 48 | 144 | 39 | 200 | 8 | 5950 | FKOALMRM500E | FKOALMRM500F |
| 6" | 150 | 10 | 134 | 235 | 207 | 268 | 70 | 241 | 3/4" | 48 | 144 | 39 | 200 | 8 | 6700 | FKOALMRM600E | FKOALMRM600F |
| 8" | 200 | 10 | 161 | 287 | 256 | 323 | 71 | 298 | 3/4" | 65 | 204 | 60 | 200 | 8 | 10800 | FKOALMRM800E | FKOALMRM800F |
| 10" | 250 | 6 | 210 | 317 | 281 | 405 | 114 | 362 | 7/8" | 88 | 236 | 76 | 250 | 12 | 23200 | FKOALMRM810E | FKOALMRM810F |
| 12" | 300 | 6 | 245 | 374 | 338 | 475 | 114 | 432 | 7/8" | 88 | 236 | 76 | 250 | 12 | 30250 | FKOALMRM812E | FKOALMRM812F |

Note: NBR liners are available for d 2 1/2" ÷ 8", see IR price list

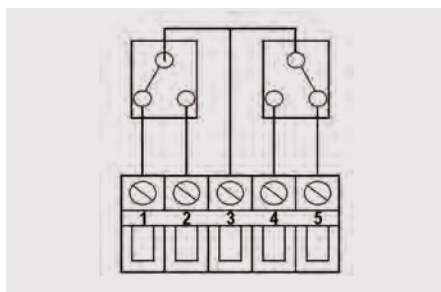
ACCESSORIES

FK MS

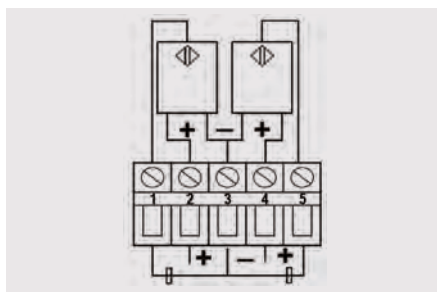
The MS kit lets you install a limit switch with electromechanical or inductive micro switches on a manual FK/LM valve to remotely signal the valve position (open-closed). The kit can be assembled on the valve even if already installed on the system.



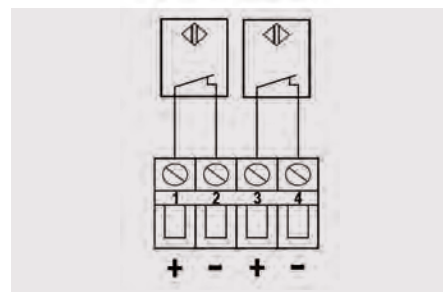
| DN | B ₂ | B ₃ | C ₁ | Protection rate | Code electromechanical | Code inductive | Code Namur |
|-----|----------------|----------------|----------------|-----------------|------------------------|----------------|------------|
| 40 | 60 | 248 | 80 | IP67 | FKMS0M | FKMS0I | FKMS0N |
| 50 | 70 | 254 | 80 | IP67 | FKMS0M | FKMS0I | FKMS0N |
| 65 | 80 | 261 | 80 | IP67 | FKMS0M | FKMS0I | FKMS0N |
| 80 | 93 | 275 | 80 | IP67 | FKMS1M | FKMS1I | FKMS1N |
| 100 | 107 | 289 | 80 | IP67 | FKMS1M | FKMS1I | FKMS1N |
| 125 | 120 | 309 | 80 | IP67 | FKMS1M | FKMS1I | FKMS1N |
| 150 | 134 | 322 | 80 | IP67 | FKMS1M | FKMS1I | FKMS1N |
| 200 | 161 | 369 | 80 | IP67 | FKMS2M | FKMS2I | FKMS2N |



Electromechanical



Inductive



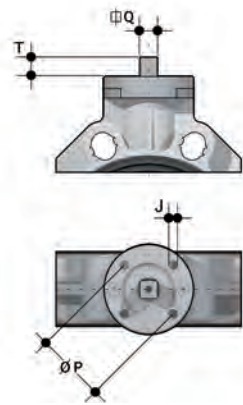
Namur

LSE

Customisation and label printing set for Easyfit handle made up of precut adhesive sheets and software for guided label creation



| DN | Code |
|-----|--------|
| 40 | LSE040 |
| 50 | LSE040 |
| 65 | LSE040 |
| 80 | LSE040 |
| 100 | LSE040 |
| 125 | LSE040 |
| 150 | LSE040 |
| 200 | LSE040 |



ACTUATOR MOUNTING FLANGE

The valve can be equipped with standard pneumatic or electric actuators and gearbox for heavy-duty operations, using a flange in PP-GR reproducing the drilling pattern provided for by standard ISO 5211.

| DN | J | P | Ø | T | Q |
|-----|----------|-------------|----------------|----|----|
| 40 | 7 | 50 | F 05 | 12 | 11 |
| 50 | 7 | 50 | F 05 | 12 | 11 |
| 65 | 7/9 | 50/70 | F 05/F 07 | 12 | 11 |
| 80 | 9 | 70 | F 07 | 16 | 14 |
| 100 | 9 | 70 | F 07 | 16 | 14 |
| 125 | 9 | 70 | F 07 | 19 | 17 |
| 150 | 9 | 70 | F 07 | 19 | 17 |
| 200 | 11 | 102 | F 10 | 24 | 22 |
| 200 | 11 | 102 | F 10 | 24 | 22 |
| 250 | 11/13/17 | 102/125/140 | F 10/F 12/F 14 | 29 | 27 |
| 300 | 11/13/17 | 102/125/140 | F 10/F 12/F 14 | 29 | 27 |

CUSTOMISATION

The FK valve is equipped with the customisable Labelling System.

This system lets you create special labels to insert in the handle. This makes it extremely easy to apply company logos, identification serial numbers or service indications such as, for example, the valve function in the system, the transported fluid, but also specific information for customer service, such as the customer name or installation date or location on the valves.

The specific LCE module is a standard supply and is made up of a rigid transparent water-resistant PVC plug (A-C) and white tag holder (B) made of the same material, one side of which bears the FIP logo (fig. 1).

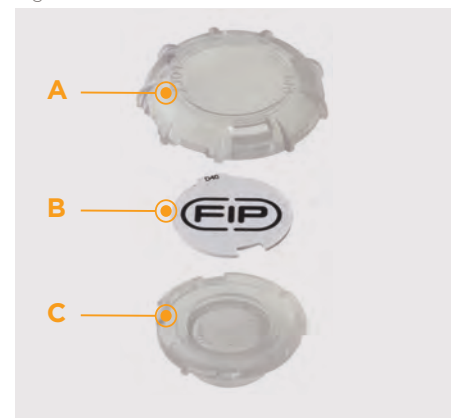
The tag holder, inserted in the plug, can be removed and, once overturned, used for customisation by applying labels printed with the software supplied with the LSE set. Proceed as follows to apply the label on the valve:

- 1) Remove the upper part of the transparent plug (A) rotating it counter-clockwise as indicated by the word "Open" on the plug and remove it.
- 2) Extract the tag holder from its housing on the lower part of the plug (C)
- 3) Apply the adhesive label on the holder (B) to align the profiles matching the tab position.
- 4) Reinsert the tag holder in its housing at the bottom of the plug.
- 5) Reposition the top of the plug in the housing rotating it clockwise; this way the label is protected against the elements.

Fig. 1

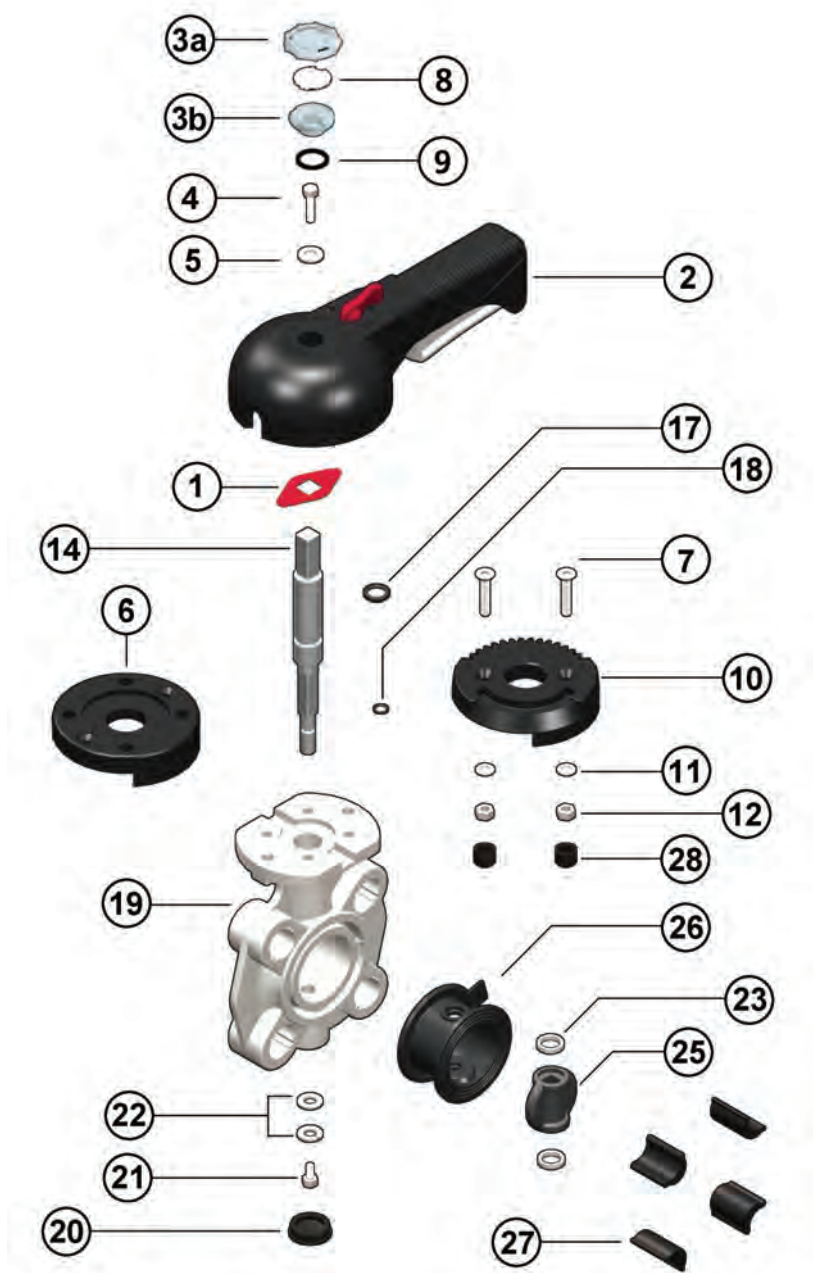


Fig. 2



COMPONENTS

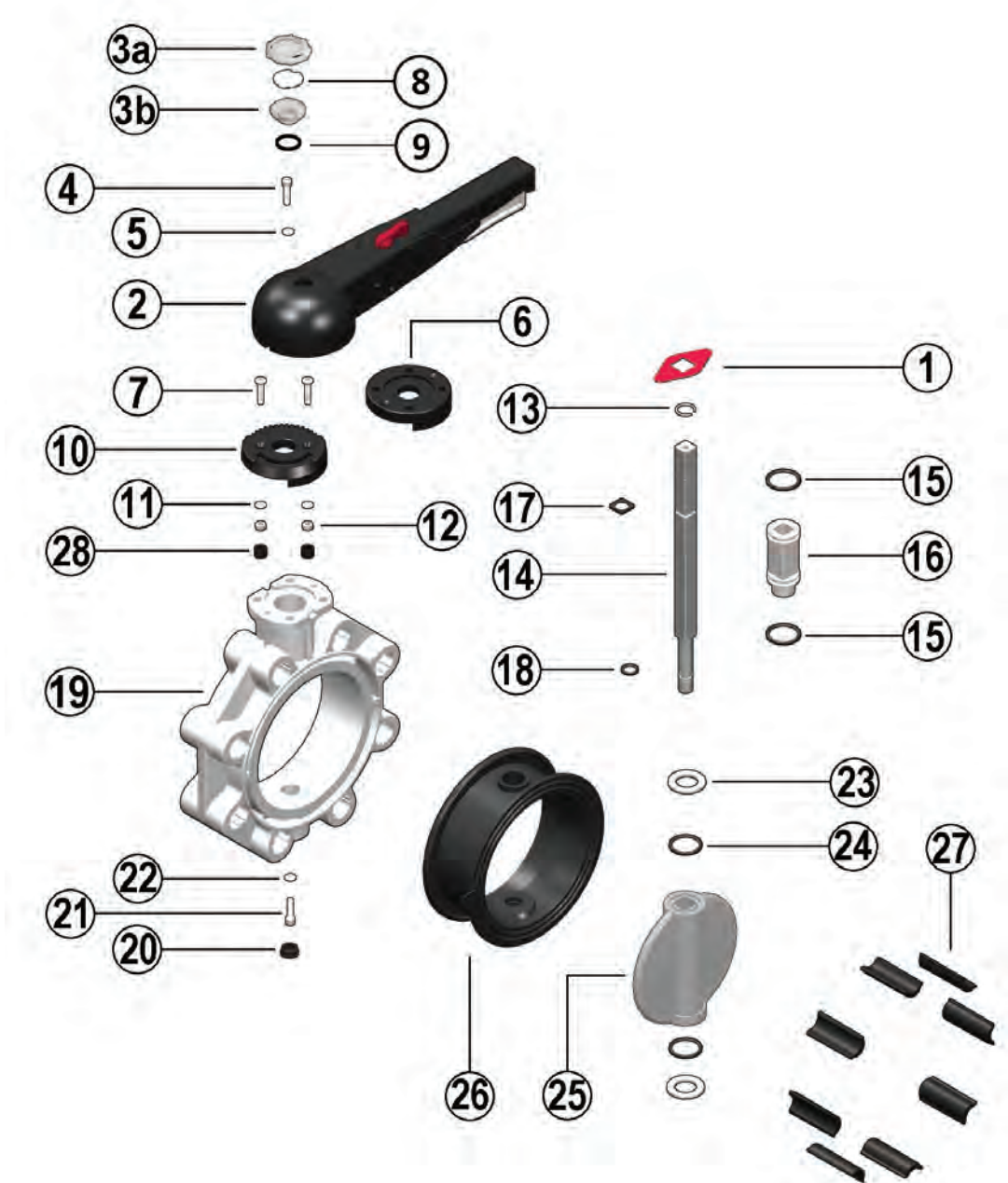
EXPLODED VIEW DN 40÷50



- | | | |
|---|---|---|
| 1 · Position indicator (PA - 1) | 9 · O-Ring (NBR - 1) | 20 · Protection plug (PE - 1) |
| 2 · Handle (HIPVC - 1) | 10 · Plate (PP-GR - 1) | 21 · Screw (STAINLESS steel - 1) |
| 3a/b · Transparent protection plug (PVC - 1) | 11 · Washer (STAINLESS steel - 2) | 22 · Washer (STAINLESS steel - 1) |
| 4 · Fastening screw (STAINLESS steel - 1) | 12 · Nut (STAINLESS steel - 2) | 23 · Anti-friction ring (PTFE - 2) |
| 5 · Washer (STAINLESS steel - 1) | 13 · Seeger ring (STAINLESS steel - 1) | 24 · Disk O-Ring (EPDM or FPM - 2) |
| 6 · Flange (PP-GR - 1) | 14 · Stem (STAINLESS steel - 1) | 25 · Disk (PP-H - 1) |
| 7 · Screw (STAINLESS steel - 2) | 15 · Bush O-Ring (EPDM or FPM - 2) | 26 · Liner (EPDM or FPM - 1) |
| 8 · Tag holder (PVC - 1) | 16 · Bush (Nylon - 1) | 27 · Inserts (ABS - 4-8) |
| | 17 · Stem O-Ring (EPDM or FPM - 1) | 28 · Plug (PE - 2) |
| | 18 · Stem O-Ring (EPDM or FPM - 1) | |
| | 19 · Body (PP-GR - 1) | |

The material of the component and the quantity supplied are indicated between brackets

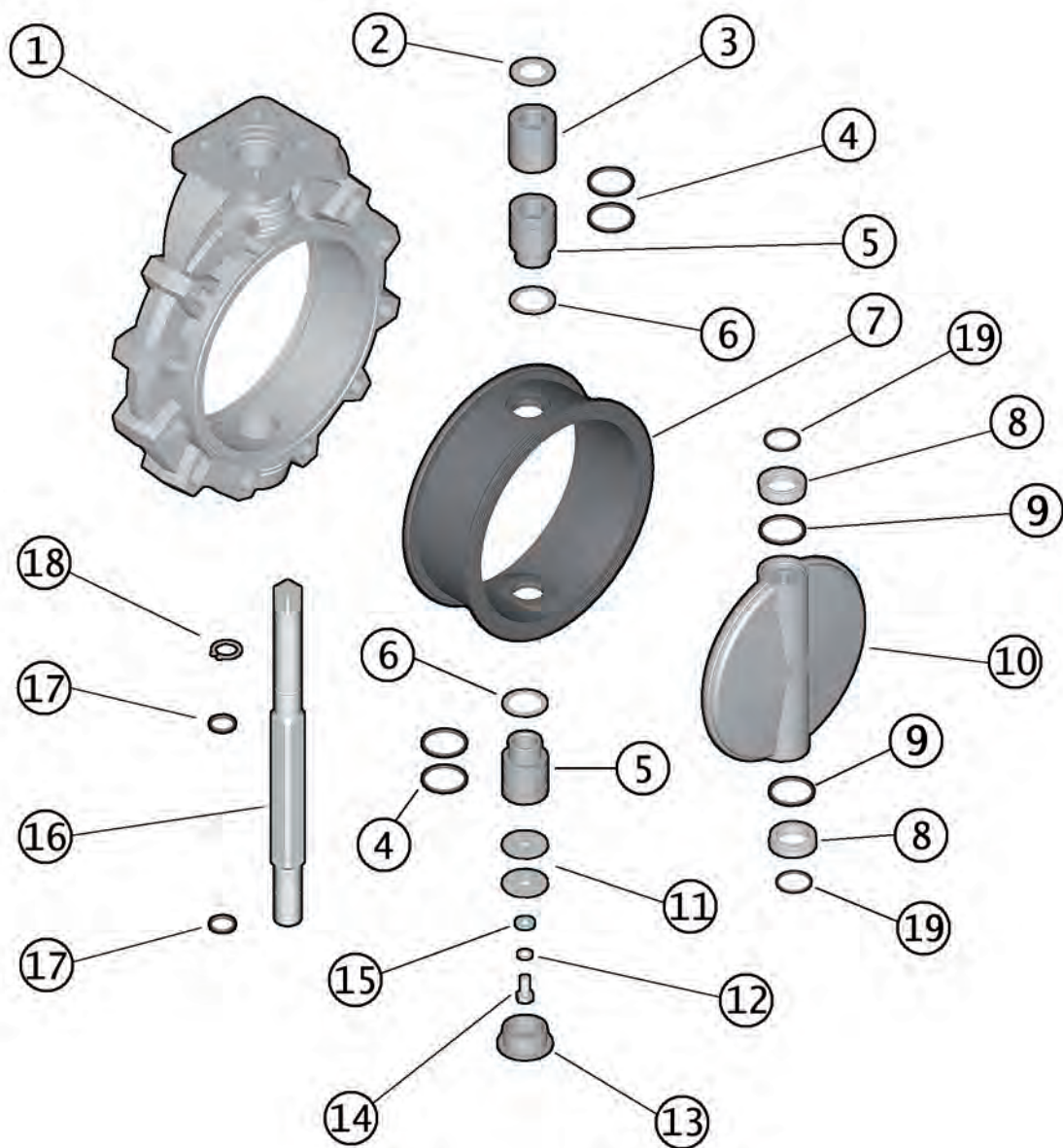
EXPLODED VIEW DN 65÷200



- | | | |
|---|---|---|
| 1 · Position indicator (PA - 1) | 9 · O-Ring (NBR - 1) | 20 · Protection plug (PE - 1) |
| 2 · Handle (HIPVC - 1) | 10 · Plate (PP-GR - 1) | 21 · Screw (STAINLESS steel - 1) |
| 3a/b · Transparent protection plug (PVC - 1) | 11 · Washer (STAINLESS steel - 2) | 22 · Washer (STAINLESS steel - 1) |
| 4 · Fastening screw (STAINLESS steel - 1) | 12 · Nut (STAINLESS steel - 2) | 23 · Anti-friction ring (PTFE - 2) |
| 5 · Washer (STAINLESS steel - 1) | 13 · Seeger ring (STAINLESS steel - 1) | 24 · Disk O-Ring (EPDM or FPM - 2) |
| 6 · Flange (PP-GR - 1) | 14 · Stem (STAINLESS steel - 1) | 25 · Disk (PP-H - 1) |
| 7 · Screw (STAINLESS steel - 2) | 15 · Bush O-Ring (EPDM or FPM - 2) | 26 · Liner (EPDM or FPM - 1) |
| 8 · Tag holder (PVC - 1) | 16 · Bush (Nylon - 1) | 27 · Inserts (ABS - 4-8) |
| | 17 · Stem O-Ring (EPDM or FPM - 1) | 28 · Plug (PE - 2) |
| | 18 · Stem O-Ring (EPDM or FPM - 1) | |
| | 19 · Body (PP-GR - 1) | |

The material of the component and the quantity supplied are indicated between brackets

EXPLODED VIEW DN 250÷300



- | | | |
|--|--|---|
| 1 · Body (PP-GR - 1) | 8 · Anti-friction ring (PTFE - 2) | 15 · Washer (STAINLESS steel - 1) |
| 2 · Washer (STAINLESS steel - 1) | 9 · Disk O-Ring (EPDM or FPM - 2) | 16 · Stem (STAINLESS steel - 1) |
| 3 · Bush (PP - 1) | 10 · Disk (PP-H - 1) | 17 · Stem O-Ring (EPDM or FPM - 2) |
| 4 · Bush O-Ring (EPDM or FPM - 4) | 11 · Washer (STAINLESS steel - 2) | 18 · Seeger ring (STAINLESS steel - 1) |
| 5 · Bush (PP - 2) | 12 · Washer (STAINLESS steel - 1) | 19 · O-Ring (EPDM or FPM - 2) |
| 6 · Washer (PTFE - 2) | 13 · Protection plug (PE - 1) | |
| 7 · Liner (EPDM or FPM - 1) | 14 · Screw (STAINLESS steel - 1) | |

The material of the component and the quantity supplied are indicated between brackets

DISASSEMBLY

DN 40÷200

- 1) Remove the LCE module consisting of the rigid transparent PVC plug (3a-3b) and white tag holder (8) and remove screw (2) and washer (3) (fig.3).
- 2) Remove the handle (2).
- 3) Remove the screws (7) and plate (10) from the body (19).
- 4) Remove the protection plug (20) and screw (21) with the washer (22).
- 5) Extract the stem (14) and disk (25).
- 6) Remove the anti-friction rings (23) and (DN 65÷200 only) O-Rings (24).
- 7) Remove the liner (26) from the body (19).
- 8) Remove the Seeger ring (13) and (DN 65÷200 only) guide bush (16).
- 9) Remove (DN 65÷200 only) the O-Rings (15) and (17, 18).

DN 250÷300

- 1) Remove the protection plug (13) and screw (14) with the washers (11-15).
- 2) Extract the stem (16) and disk (10).
- 3) Remove the seal (7) from the body (1).
- 4) Remove the Seeger ring (18) and guide bushes (5-3) with washer (2).
- 5) Extract the lower bush (5).
- 6) Remove O-Rings (4) and (17).

ASSEMBLY

DN 40÷200

- 1) Place the liner (26) on the body (19).
- 2) Insert the O-Rings (17) and (18) on the stem (14).
- 3) Insert the O-Rings (15) on the guide bush (16) and the bush on the stem. Lock the bush using the Seeger ring (13).
- 4) Position the O-Rings (24) and then the anti-friction rings (23) on the disk (25) and the disk inside the body, after having lubricated the liner (26).
- 5) Insert the through stem (14) in the body (19) and disk (25).
- 6) Tighten screw (21) with washer (22) and insert the protection plug (20).
- 7) Position the plate (10) on the body (19) and tighten screws (7).
- 8) Position the handle (2) on the stem (14).
- 9) Tighten screw (4) with washer (5) and replace the LCE module consisting of the rigid transparent PVC plug (3a-3b) and white tag holder (8).

DN 250÷300

- 1) Place the liner (7) on the body (1).
- 2) Insert the O-Rings (4) and washer (6) on bushes (5).
- 3) Insert the O-Rings (17) on the stem (16); insert the upper bush (5), bush (3), washer (2) on the stem and fix them with Seeger ring (18).
- 4) Insert the O-Rings (19-9) on the anti-friction rings (8).
- 5) Position the washers (8) in the seatings on the disk (10), and the disk inside the body (1) after having lubricated the liner (7).
- 6) Insert the through stem (16) in the body and disk.
- 7) Position the lower bush (5) from below.
- 8) Tighten screws (14) with washers (11-15) and insert the protection plug (13).

Fig. 3

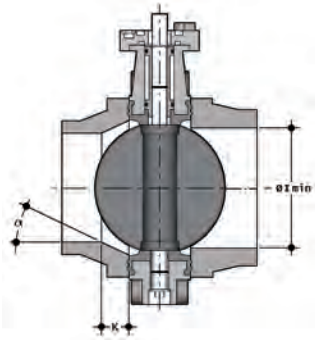


Note: during assembly, it is advisable to lubricate the

rubber seals. Mineral oils are not recommended for this task as they react aggressively with EPDM rubber.

INSTALLATION

JOINTS



Before proceeding with the installation of the stubs, check that the bore of the fittings has sufficient clearance to allow the valve disk to open correctly. Also check the maximum coupling distance for the liner. Before proceeding with the installation of the FK valve, check that the bore of the stub allows the correct opening of the disk.

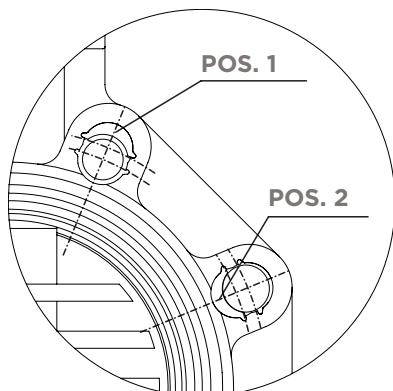
| DN | l min. |
|-----|--------|
| 40 | 25 |
| 50 | 28 |
| 65 | 47 |
| 80 | 64 |
| 100 | 84 |
| 125 | 108 |
| 150 | 134 |
| 200 | 187 |
| 250 | 225 |
| 300 | 280 |

For the installation of PP-PE stubs, for butt welding a short spigot or electrofusion/butt welding a long spigot, check the valve-stub-flange couplings and the K - a chamfer dimensions where necessary according to the different SDR's in the following table.

| d | DN | 50 40 | 63 50 | 75 65 | 90 80 | 110 100 | 125 100 | 140 125 | 160 150 | 180 150 | 200 200 | 225 200 | 250 250 | 280 250 | 315 300 |
|----------|---------|----------|----------|----------|---------------|---------------|------------|---------------|---------------|---------------|-----------------|---------------|-----------------|---------------|-----------------|
| FK valve | 50 | | | | | | | | | | | | | | |
| | 63 | | | | | | | | | | | | | | |
| | 75 | | | | | | | | | | | | | | |
| | 90 | | | | | | | | | | | | | | |
| | 110 | | | | | | | | | | | | | | |
| | 140 | | | | | | | | | | | | | | |
| | 160 | | | | | | | | | | | | | | |
| | 225 | | | | | | | | | | | | | | |
| | 280 | | | | | | | | | | | | | | |
| | 315 | | | | | | | | | | | | | | |
| SDR | 17/17.6 | | | | | | | | | | k=26.5 a=20° | | k=15.7 a=25° | | k=13.3 a=25° |
| | 11 | | | | | | | | k=35 a=20° | | k=35 a=25° | k=40 a=15° | k=32.5 a=25° | k=35 a=25° | k=34.5 a=25° |
| | 7.4 | | | | k=10 a=35° | k=15 a=35° | | k=20 a=30° | k=35 a=20° | k=15 a=35° | k=40 a=20° | k=35 a=30° | k=55 a=30° | k=35 a=30° | k=65 a=30° |

Short/long spigot stubs according to EN ISO 15494 and DIN 16962/16963 and flange

POSITIONING THE INSERTS



Place the inserts in the holes according to the positions indicated in the table, from the side corresponding to the letters D and DN in order to facilitate the insertion of the stud-bolts and the coupling with the flanges (DN 40 ÷ 200). The self-centring inserts must be inserted in the guides in the slots in the valve body on the side with the writing, with the writing facing upwards, and positioned according to the type of flange drilling, as indicated in the following table:

| DN | DIN 2501 PN6, EN 1092-1, BS 4504 PN6, DIN 8063 PN6 | DIN 2501 PN10/16, EN 1092-1, BS 4504 PN 10/16, DIN 8063 PN 10/16, EN ISO 15493, EN ISO 1452 | BS 10 table A-D-E Spec D-E | BS 1560 cl.150, ANSI B16.5 cl.150 * | JIS B 2220 K5 | JIS 2211 K10** |
|--------|--|---|----------------------------|-------------------------------------|---------------|----------------|
| DN 40 | Pos. 1 | Pos. 2 | Pos. 1 | Pos. 1 | Pos. 1 | - |
| DN 50 | Pos. 1 | Pos. 2 | Pos. 1 | - | N/A | - |
| DN 65 | Pos. 1 | Pos. 2 | Pos. 1 | Pos. 2 | Pos. 1 | Pos. 2 |
| DN 80 | Pos. 1 | Pos. 2 | Pos. 1 | Pos. 2 | Pos. 1 | Pos. 1 |
| DN 100 | Pos. 1 | Pos. 2 | Pos. 1 | Pos. 2 | Pos. 1 | Pos. 1 |
| DN 125 | Pos. 1 | Pos. 2 | Pos. 1 | Pos. 2 | Pos. 1 | - |
| DN 150 | Pos. 1 | Pos. 2 | Pos. 1 | Pos. 2 | Pos. 1 | Pos. 2 |
| DN 200 | Pos. 1 | PN 10 Pos. 2 | Pos. 2 | Pos. 2 | Pos. 1 | N/A |

* DN 50 without inserts
** DN 40, 50, 125 without inserts

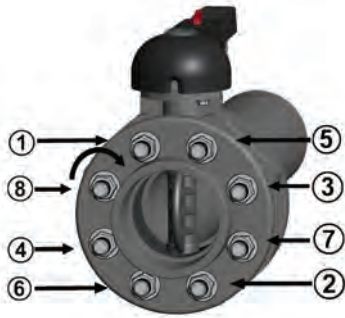
POSITIONING THE VALVE

Position the valve between two flanged stubs, taking care to respect the installation tolerances Z. It is advisable to always install the valve with the disk partially closed (it must not exit the body) and avoid any misalignment of the flanges, as this would cause leaks.

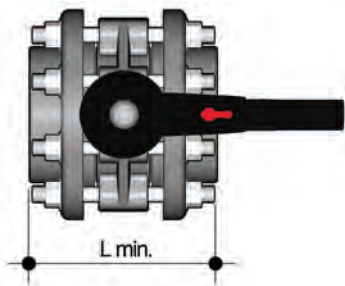
Where possible comply with the following requirements:

- Conveying dirty fluids: position the valve with the stem inclined at an angle of 45° to the pipe support plane.
- Conveying fluids with sediment: position the valve with the stem parallel to the pipe support plane.
- Conveying clean fluids: position the valve with the stem perpendicular to the pipe support plane.

TIGHTENING THE STUD-BOLTS



Before tightening the stud-bolts, it is advisable to open the disk in order to prevent damage to the seal. Tighten the stud-bolts in a uniform manner, in the order indicated in the figure, to the nominal operating torque value indicated in the table. The stud-bolts do not need to be excessively tightened in order to produce a perfect hydraulic seal. Overtightening could adversely affect the operating torque of the valve.



| DN | L min. | *Nm |
|-----|---------|-----|
| 40 | M16x150 | 9 |
| 50 | M16x150 | 12 |
| 65 | M16x170 | 15 |
| 80 | M16x180 | 18 |
| 100 | M16x180 | 20 |
| 125 | M16x210 | 35 |
| 150 | M20x240 | 40 |
| 200 | M20x260 | 55 |
| 250 | M20x310 | 70 |
| 300 | M20x340 | 70 |

* Tightening torques for nuts and bolts on couplings with backing rings. Values required to obtain the hydraulic test seal (1.5xPN at 20°C) (new or lubricated nuts and bolts)

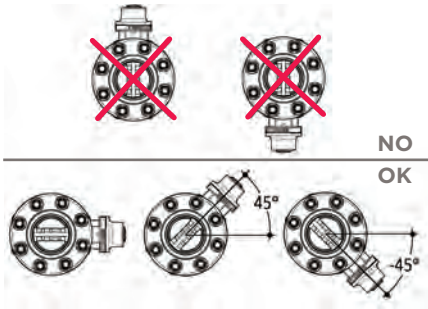
HANDLE LOCK



Thanks to the multifunctional handle and the red manoeuvre button on the lever, you can perform a 0°-90° operation and a graduated operation by means of the 10 intermediate positions and a stop lock: the handle can be locked in each of the 10 positions by simply pressing the Free-lock button. A lock can also be installed on the handle to protect the system against tampering.

The valve is two-way and can be installed in any position. It can also be installed at end line or tank.

WARNINGS



Make sure that the valves installed on the system are suitably supported for their weight.

Always avoid sudden closing manoeuvres and protect the valve from accidental operations. To this end, it is advisable to install a reduction gear, available on request.

In the case of dirty fluids or those with sediments, install the valve inclined as shown in the figure.

