# CAST BUTTERFLY VALVE WITH STANDARD 3 WIRE TCR 230V ELECTRICAL ACTUATOR

Reference(s) 10AF1E0-TCR



CE

IP 65

## 1. Standards

- ✓ 2014/68/EC Pressure Equipment Directive: DN40 toDN50: Cat I; DN65 to DN200: Cat II; DN250 to DN300: CAT III
- ✓ Face-to-face dimension: ISO 5752 série 20
- ✓ Flanges dimension : EN 1092-1
- ✓ Final test: API 598
- ✓ Conception: API 609
- ✓ Actuator pilot connection: NAMUR
- ✓ Limit switch box connection: VDI/VDE 3845
- ✓ Connection motorization: ISO 5211

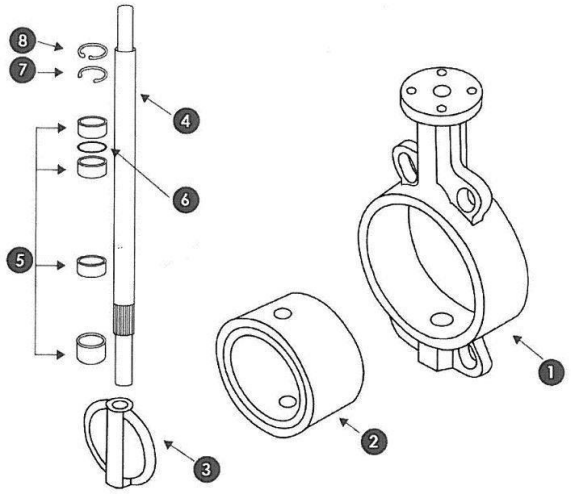
## 2. Features

| | |
|---|---|
| Use : | For cold and hot water. |
| Size : | DN40 to DN250 |
| Connection : | Between flanges PN10/16 connection |
| Min Temperature : | -10°C |
| Max Temperature : | +110°C |
| Max Pressure : | 16 Bar |
| Specifications : | Cast butterfly<br>EPDM sleeve |
| Materials : | EN-GJL-250 cast iron |

## 3. Flow coefficient Kvs (m3/h)

| DN | 40 | 50 | 65 | 80 | 100 | 125 | 150 | 200 | 250 |
|---|---|---|---|---|---|---|---|---|---|
| Kv | 78 | 98 | 167 | 258 | 512 | 872 | 1347 | 2675 | 4555 |

## 4. Materials

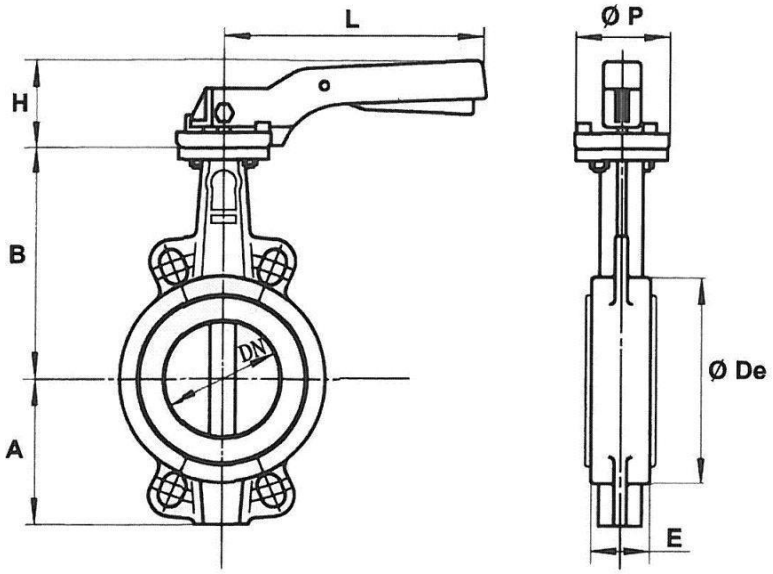



| N° | Designation | Materials |
|---|---|---|
| 1 | Body | Cast iron EN GJS-400-15 |
| 2 | Seat | EPDM |
| 3 | Butterfly | Nickel plated ductile iron EN GJS-400-15 |
| 4 | Stem | Inox 416 |
| 5 | Bearings | PTFE |
| 6 | O-ring | NBR |
| 7 | Circlips | Steel |
| 8 | Circlips | Steel |



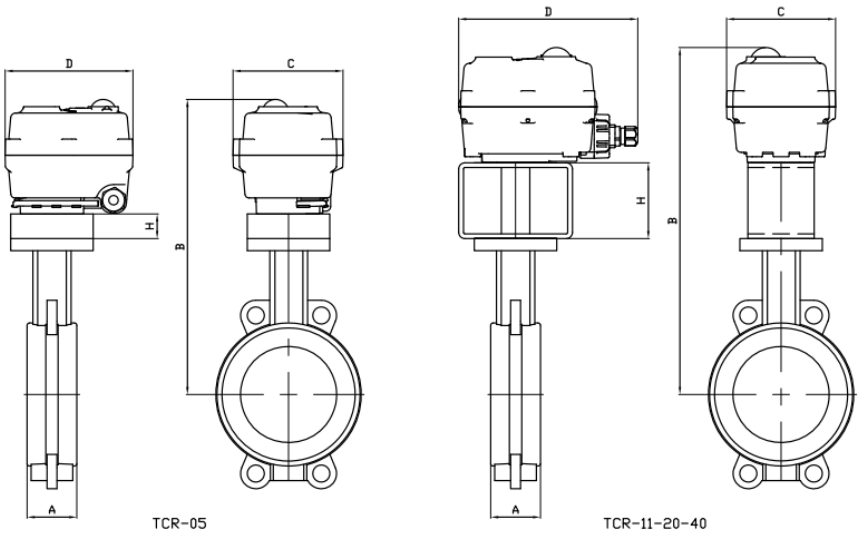
Information provided as an indication and subject to possible modification

## 5. Size (in mm)




| DN | 40 | 50 | 65 | 80 | 100 | 125 | 150 | 200 | 250 |
|---|---|---|---|---|---|---|---|---|---|
| A | 61 | 77 | 87,5 | 95 | 107 | 121,5 | 144 | 171 | 205 |
| B | 130 | 136,5 | 142 | 158 | 180 | 192 | 215 | 242 | 280 |
| Ø De | 82 | 95 | 109 | 121 | 152 | 180 | 207 | 260 | 315 |
| E | 33 | 43 | 46 | 46 | 52 | 56 | 56 | 60 | 68 |
| H | 70 | 70 | 70 | 70 | 70 | 71 | 71 | 40 | 44 |
| L | 195 | 195 | 195 | 195 | 195 | 278 | 278 | 355 | 507 |
| Ø P | 65 | 65 | 65 | 65 | 65 | 90 | 90 | 125 | 150 |
| Weight (kg) | 1,8 | 2,5 | 2,9 | 3,2 | 4,12 | 6,7 | 7,8 | 14,2 | 23,4 |

Sizes of the motorized valve




| DN | 40 | 50 | 65 | 80 | 100 | 125 | 150 | 200 | 250 |
|---|---|---|---|---|---|---|---|---|---|
| Electrical actuator | TCR05 | TCR05 | TCR05 | TCR05 | TCCR11 | TCR11 | TCR20 | TCR40 | TCR40 |
| A | 33 | 43 | 46 | 46 | 52 | 56 | 56 | 60 | 68 |
| B | 277 | 283.5 | 289 | 305 | 328 | 340 | 413 | 429 | 532 |
| C | 111 | 111 | 111 | 111 | 115 | 115 | 160 | 160 | 160 |
| D | 132 | 132 | 132 | 132 | 165 | 165 | 270 | 270 | 270 |
| H | 26 | 26 | 26 | 26 | 26 | 26 | 26 | 15 | 80 |
| Poids (kg) | 3.9 | 4.4 | 5 | 5.7 | 7.9 | 9.5 | 14.6 | 19.1 | 35.9 |


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## 6. Actuation

The standard TCR actuation includes:

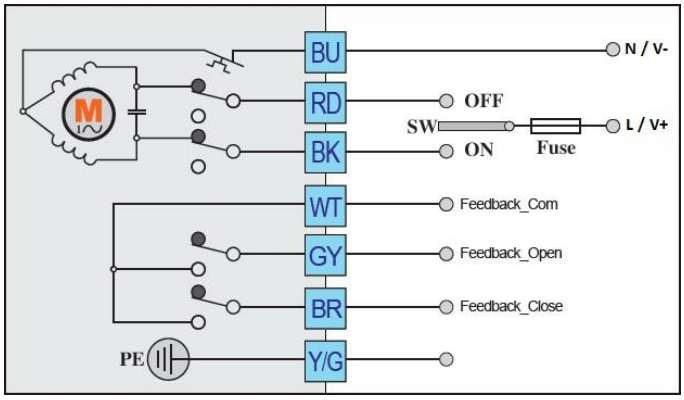
- ✓ IP67 plastic housing actuator with steel gearbox
- ✓ Minimum safety factor of 1.3 relative to the valve nominal torque
- ✓ Upstream/downstream differential pressure ΔP = max. 10 bar

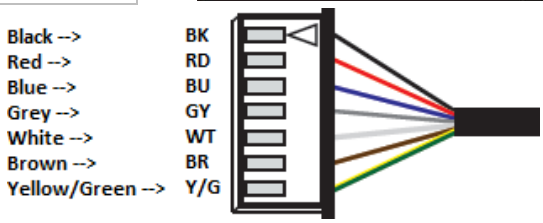
The actuator is directly mounted.

| DN | ACTUATOR | Power 230Vac | Time 230Vac | Current (A) | Fuse protection (A) | Electrical connection | Standard actuator equipment |
|---|---|---|---|---|---|---|---|
| 40 | TCR-05N | 25 W | 12 s | 0.18 – 0.37 | 1 – 2 | 1 x PE M20 + 1.5 m cable | 2 adjustable limit switches2 dry auxiliary contactsMotor thermal protection2–3 W regulated anti-condensation heaterManual override with key3D visual position indicator |
| 50 | TCR-05N | 25 W | 12 s | | | | |
| 65 | TCR-05N | 25 W | 12 s | | | | |
| 80 | TCR-05N | 25 W | 12 s | | | | |
| 100 | TCR-11N | 100 W | 10 s | 0.3 – 0.6 | 2 – 3 | 2 x PE M14 + 1.5 m cable | |
| 125 | TCR-11N | 100 W | 10 s | | | | |
| 150 | TCR-20N | 50 W | 25 s | 0.22 | 5 | 2 x PE M20 + 1.5 m cable | |
| 200 | TCR-40N | 80 W | 25 s | 0.36 | 2 | | |
| 250 | TCR-40N | 80 W | 25 s | | | | |

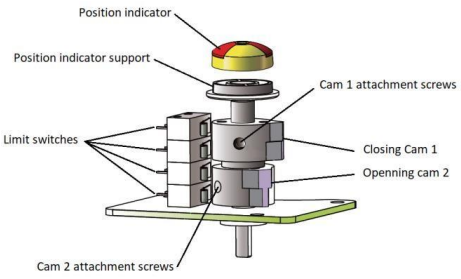
## 7. Wiring diagram

| | |
|---|---|
| BU | Neutral (Blue) |
| RD | Closing control (Red) |
| BK | Opening control (Black) |
| WT | Information return to common (White) Dry switch: 230V AC max 50 mA 230V DC max 500 mA |
| GY | Opening return information (Grey) Dry switch: 230V AC max 50 mA 230V DC max 500 mA |
| BR | Closing return information (Brown) Dry switch: 230V AC max 50 mA 230V DC max 500 mA |
| Y/G | Earth (Yellow / Green) |

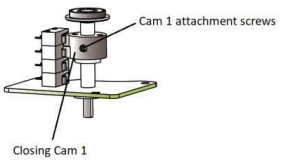


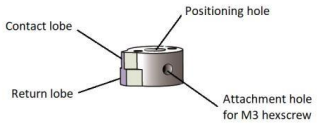

## 8. Switch setting



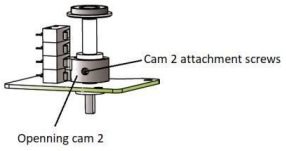

**GENERAL VIEW**




**CLOSING CAM ADJUSTMENT**




**CAM DETAIL**




**OPENING CAM ADJUSTMENT**


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