



PA Ventiler AB
EN DEL AV BEI/ERTECH

VRIDSPJÄLLVENTIL Med elektriskt vridon

PA 209 EI don

LUGGAD TYP MED ELEKTRISKT VRIDDON FÖR VALFRI SPÄNNING

GO WITH OUR FLOW

APPLIKATION

PA 209-spjällventiler är avsedda för ON/OFF eller reglering i rörsystem för vätska eller tex. tryckluft
- Användningsområde: VVS, Industri etc.



-Media: kallt vatten, varmt vatten, avloppsvatten, syror etc.
«Inte lämplig för ånga»

GENERELA EGENSKAPER

STORLEK : Från DN40 till DN300.

- Design enligt NF EN 593.
- Fastvulkaniserat gummifoder i NBR
- Luggad typ med gängade hål
- Tätning i båda cirkulationsriktningarna för rören.
- Bearbetad skiva som garanterar en perfekt täthet.
- Förlängd hals som är kompatibel med rörisolering
- Reducerat manövreringsmoment.
- Spjällaxel monterad på skiva med konisk stift.
- Minskade tryckförluster
- Elektriskt vridon för valfri spänning Borstlöst elektriskt 90 graders ställon med justerbara gränslägesbrytare och antikondensvärmare som standard, IP67-kapsling. Visuell lägesindikering samt möjlighet till manuell manövrering.
- ISO 5211 monteringsplatta.



| | |
|-------------------|--|
| Design | Tillverkning enligt kraven i det europeiska direktivet 2014/68/UE «Utrustning under tryck»: modul H. |
| Bygglängd | Bygglängd enligt standarderna NF EN 558-1 serie 20, ISO 5272 serie 20, DIN 3202. |
| Anslutning | Montering mellan flänsar ISO PN10/16 enligt EN1092-2, BS450, AISI B16.1-5. Justerbar mellan flänsar ASME B16.5 Classe 150 och JIS 10K. GOST PN10/16. |
| Prestanda | Trycktest enligt standarderna EN12266-1, DIN 3230, BS 5154 och ISO 5208: -Hus : 24 bar -Säte :17.6 bar |

PRODUKT GODKÄNNANDE



På Förfrågan

PA VENTILER AB • Sagbäcksvägen 3B, 437 31
Lindome • Tel 031-99 25 00 • Fax 031-99 25 03 •
info@paventiler.se • paventiler.se

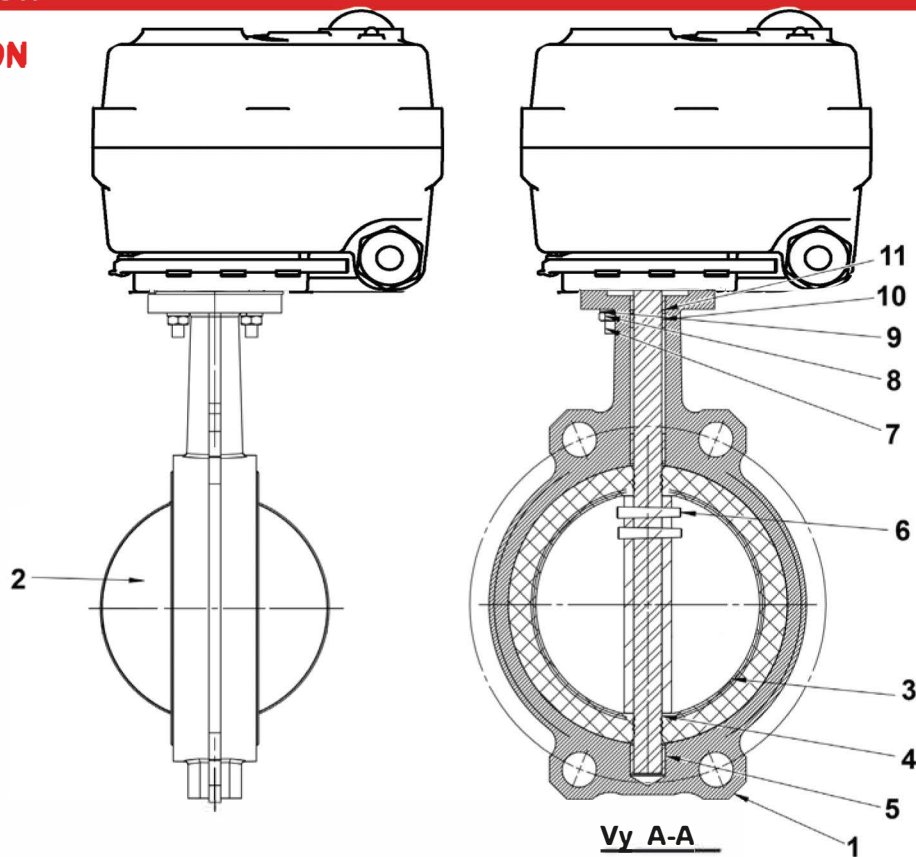




VRIDSPJÄLLVENTIL MED ELEKTRISKT VRIDDON FÖR VALFRI SPÄNNING

GO WITH OUR FLOW

KONSTRUKTION



Pulverlackerad epoxibelagt hus RAL 5015 tjocklek 150 μ

| Pos. | Antal | Beskrivning | Material | DIN |
|------|-------|-------------|--------------------|---------|
| 1 | 1 | Hus | Segjärn EN-GJS-400 | GGG40 |
| 2 | 1 | Skiva | Syrafaststål, CF8M | CF8M |
| 3 | 1 | Tätning | NBR | |
| 4 | 1 | Axel | Rostfritt stål 420 | X20Cr13 |
| 5 | 2 | Lagring | PTFE | |
| 6 | 2 | Nit | Rostfritt stål 420 | X20Cr13 |
| 7 | 2 | Skruv | Rostfritt stål 201 | |
| 8 | 2 | Mutter | Rostfritt stål 201 | |
| 9 | 2 | Bricka | Rostfritt stål 201 | |
| 10 | 2 | Lagring | PTFE | |
| 11 | 1 | O-ring | EPDM | |

VRIDSPJÄLLVENTIL MED ELEKTRISKT VRIDDON FÖR VALFRI SPÄNNING

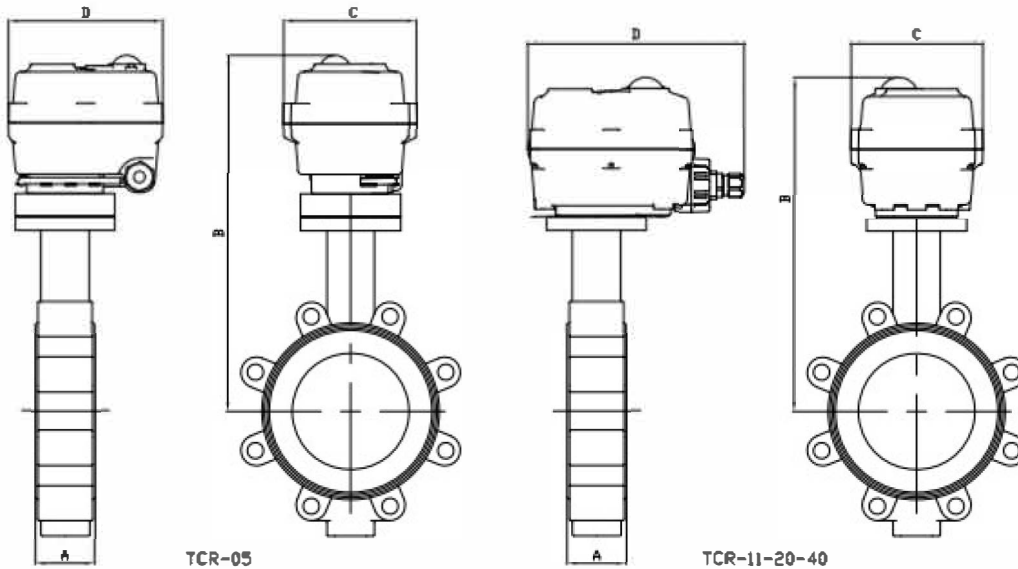


PA Ventiler AB
EN DEL AV BEJERTECH

PA 209 El don

GO WITH OUR FLOW

DIMENSIONER



| DN | 50 | 65 | 80 | 100 | 125 |
|-------|-------|-------|-------|-------|-------|
| SERVO | TCR05 | TCR05 | TCR05 | TCR11 | TCR11 |
| A | 43 | 46 | 46 | 52 | 56 |
| B | 283.5 | 289 | 305 | 328 | 340 |
| C | 111 | 111 | 111 | 115 | 115 |
| D | 132 | 132 | 132 | 165 | 165 |
| KG | 4.1 | 4.5 | 5.4 | 7.6 | 8.9 |

| DN | 150 | 200 | 250 | 300 |
|-------|-------|-------|-------|-------|
| SERVO | TCR20 | TCR40 | TCR40 | TCR40 |
| A | 56 | 60 | 68 | 78 |
| B | 413 | 429 | 532 | 582 |
| C | 160 | 160 | 160 | 160 |
| D | 270 | 270 | 270 | 270 |
| KG | 17.1 | 22.8 | 37.5 | 53 |

Teknisk Data

Teknisk Data

Maximalt arbetstryck: 16 bar
Maximalt vakumtryck: 0.8 bar i 10 minuter
Maximal arbetstemperatur : -15°C / +80°C

PA VENTILER AB • Sagbäcksvägen 3B, 437 31
Lindome • Tel 031-99 25 00 • Fax 031-99 25 03 •
info@paventiler.se • paventiler.se

ISO 9001
ISO 14001
BUREAU VERITAS
Certification



TCR-N ELECTRICAL ACTUATOR

FEATURES

The TCR-N electric actuators are intended for motorising ¼ turn valves with a torque of 15, 20, 50, 110, 200 or 400 Nm. With a compact construction and plastic housing, they are especially well suited for motorising ball valves and butterfly valves. Several variants offer advanced functions. IP67 leak-tightness: to be used indoors and, possibly, outdoors under a shelter. Possible installation in parallel. Manual control with a key.

AVAILABLE MODELS

Supply voltages: 230V AC, 24V AC/DC, 12V DC.



LIMITS OF USE

| | |
|---------------------|-------------------------|
| IP Code | IP 67 |
| Ambient temperature | - 20°C / +60°C |
| Service factor | S4 - 50% (TCR 02-05-11) |
| | S3 - 85% (TCR 20-40) |

MECHANICAL FEATURES

| | |
|-------------------|-----------------------------------|
| Gear box | treated steel pinions |
| Torques | 15 - 20 - 50 - 110 - 200 - 400 Nm |
| Angle of rotation | 90° +/- 2° |
| Declutching | Without (TCR 02-05-11) |
| | With (TCR 20-40) |
| Override control | By key |



| Actuator | TCR 02N | | | TCR 05N | | |
|----------------------|-------------------|-----------|---------------|-------------------|-----------|---------------|
| | Torques (Nm) | 15 | 20 | 20 | 50 | |
| Voltage | 12V DC | 24V AC-DC | 95-265V AC-DC | 12VDC | 24V AC-DC | 95-265V AC-DC |
| Manoeuvring time (s) | 15 | 10 | 10 | 12 | 12 | 12 |
| ISO 5211: | F03/F05 - star 11 | | | F05/F07 - star 14 | | |

| Actuator | TCR 11N | | | TCR 20N | | | TCR 40N | | |
|----------------------|-------------------|-----------|---------------|-------------------|-----------|---------------|-------------------|-----------|---------------|
| | Torques (Nm) | 110 | | | 200 | | | 400 | |
| Voltage | 12V DC | 24V AC-DC | 95-265V AC-DC | 12VDC | 24V AC-DC | 95-265V AC-DC | 12V DC | 24V AC-DC | 95-265V AC-DC |
| Manoeuvring time (s) | 10 | 10 | 10 | 25 | 25 | 25 | 25 | 25 | 25 |
| ISO 5211: | F05/F07 - star 17 | | | F07/F10 - star 22 | | | F07/F10 - star 22 | | |

Information given as an indication only, and subject to possible modifications

| | | | |
|---|--|--|--|
|  PA Ventil AB <small>EN DEL AV BEIJERTECH</small> | | | |
| | | | |
| | | | |
| | | | |

TCR-N ELECTRICAL ACTUATOR

ELECTRICAL FEATURES

| Actuator | TCR 02N | TCR 05N |
|-----------------------|---------------------------|---------------------|
| Motor protection | Thermal switch | |
| Limit switches | 2 adjustable switches | |
| Auxiliary switches | 2 adjustable dry switches | |
| Anti-condensation | integrated | |
| Electrical connection | PE M10 + 1.5m cable | PE M20 + 1.5m cable |

| Actuator | TCR 02N | | | TCR 05N | | |
|---------------------|---------|-----------|---------------|---------|-----------|---------------|
| | 12V DC | 24V AC-DC | 95-265V AC-DC | 12V DC | 24V AC-DC | 95-265V AC-DC |
| Power (W) | 15 | 15 | 15 | 25 | 25 | 25 |
| Current (A) | 1,5 | 1,5 | 0,09 | 1,67 | 1,67 | 0,18 - 0,37 |
| Fuse Protection (A) | 5 | 5 | 1 | 8 | 8 | 1 - 2 |

| Actuator | TCR 11N | TCR 20N | TCR 40N |
|-----------------------|---------------------------|-------------------------|-------------------------|
| Motor protection | Thermal switch | | |
| Limit switches | 2 adjustable switches | | |
| Auxiliary switches | 2 adjustable dry switches | | |
| Anti-condensation | Integrated | | |
| Electrical connection | 2 x PE M14 + 1,5m cable | 2 x PE M20 + 1.5m cable | 2 x PE M20 + 1,5m cable |

| Actuator | TCR 11N | | | TCR 20N | | | TCR 40N | | |
|---------------------|---------|-----------|---------------|---------|-----------|---------------|---------|-----------|---------------|
| | 12V DC | 24V AC-DC | 95-265V AC-DC | 12V DC | 24V AC-DC | 95-265V AC-DC | 12V DC | 24V AC-DC | 95-265V AC-DC |
| Power (W) | 100 | 100 | 100 | 50 | 50 | 50 | 80 | 80 | 80 |
| Current (A) | 2,5 | | 0,3 - 0,6 | 2 | | 0,22 | 3,3 | | 0,36 |
| Fuse Protection (A) | 5 | | 2 - 3 | 3 | | 5 | 8 | | 2 |

Information given as an indication only, and subject to possible modifications

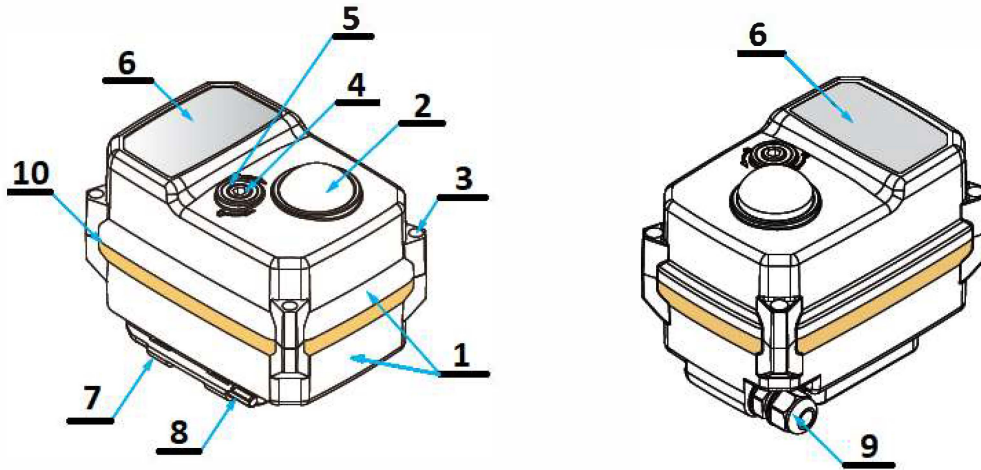
| | | | |
|---|--|--|--|
|  <p>PA Ventil AB EN DEL AV BEJERTECH</p> | | | |
| | | | |
| | | | |
| | | | |

TCR-N ELECTRICAL ACTUATOR

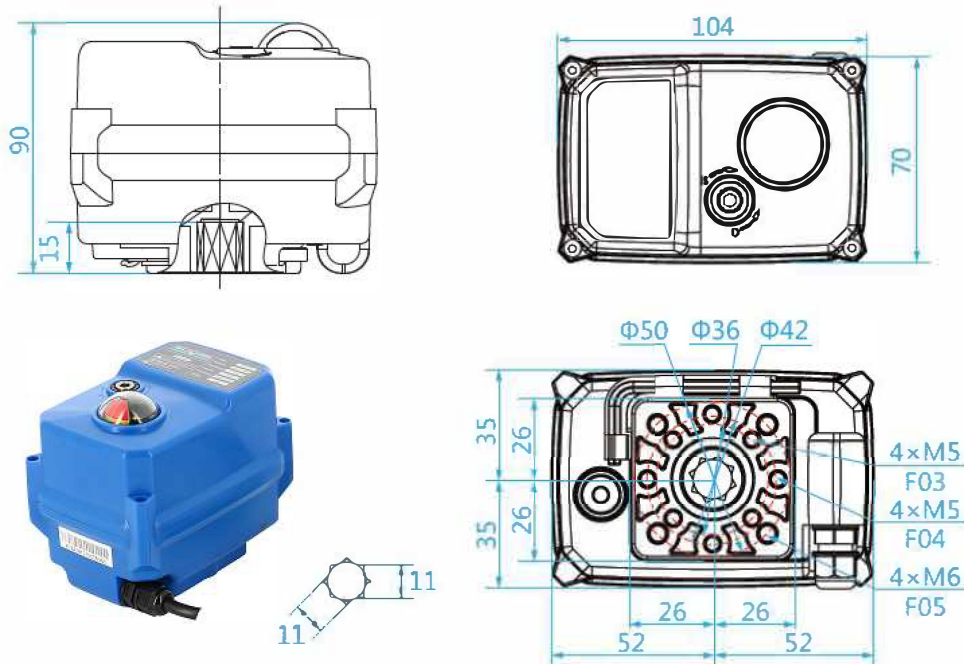
CONSTRUCTION (TCR-02N)

| TCR-02N | | | | | |
|---------|---------------------|-----------------------|-----|---------------|---------------|
| No. | Name | Material | No. | Name | Material |
| 1 | Casing + lid | Plastic (ABS) | 6 | Rating plate | PVC |
| 2 | Position indicator | Polycarbonate plastic | 7 | Key support | Plastic (ABS) |
| 3 | Screw x 4 | Aisi 304 | 8 | Hex key | Steel |
| 4 | Backup control stem | Aisi 304 | 9 | Packing gland | Nylon |
| 5 | Gasket | NBR | 10 | Cover gasket | NBR |

Weight (kg): 0.620



DIMENSIONS (mm)



Information given as an indication only, and subject to possible modifications

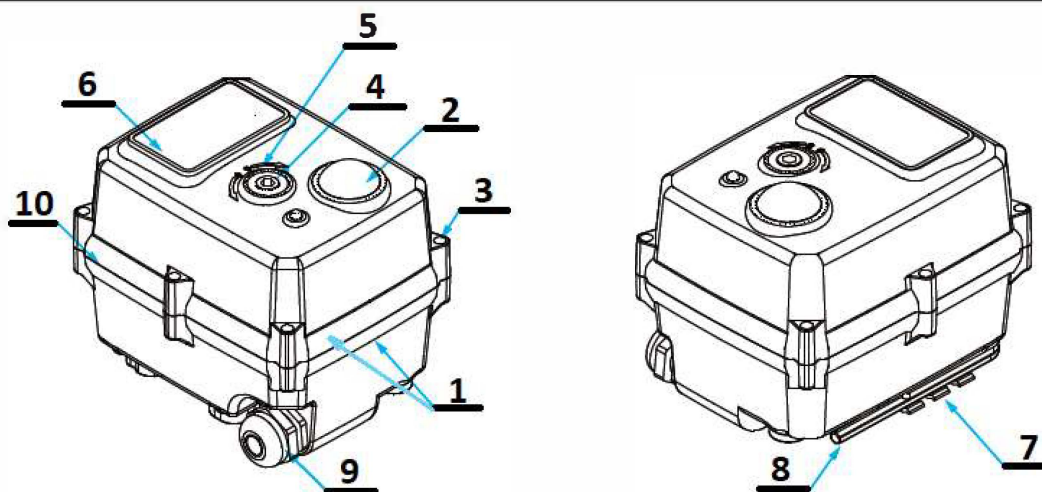
| | | | | |
|---|--|--|--|--|
|  PA Ventilator AB <small>EN DEL AV BEIJERTECH</small> | | | | |
| | | | | |
| | | | | |
| | | | | |

TCR-N ELECTRICAL ACTUATOR

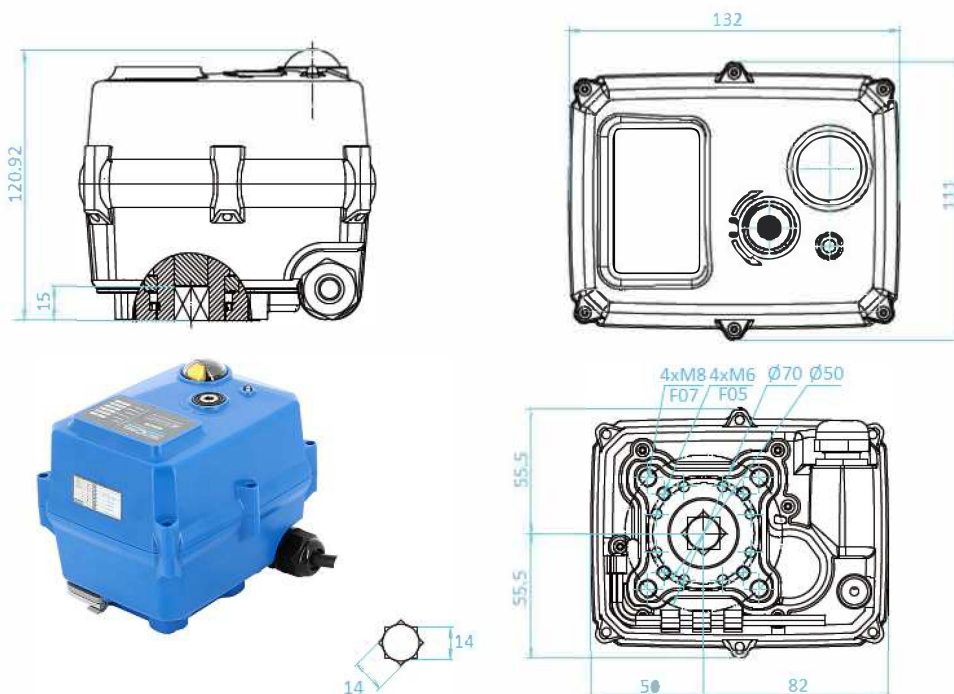
CONSTRUCTION (TCR-05N)

| TCR-05N | | | | | |
|---------|---------------------|-----------------------|-----|---------------|---------------|
| No. | Name | Material | No. | Name | Material |
| 1 | Casing + lid | Plastic (ABS) | 6 | Rating plate | PVC |
| 2 | Position indicator | Polycarbonate plastic | 7 | Key support | Plastic (ABS) |
| 3 | Screw x 6 | Aisi 304 | 8 | Hex key | Steel |
| 4 | Backup control stem | Aisi 304 | 9 | Packing gland | Nylon |
| 5 | Gasket | NBR | 10 | Cover gasket | NBR |

Weight (kg): 1.800



DIMENSIONS (mm)



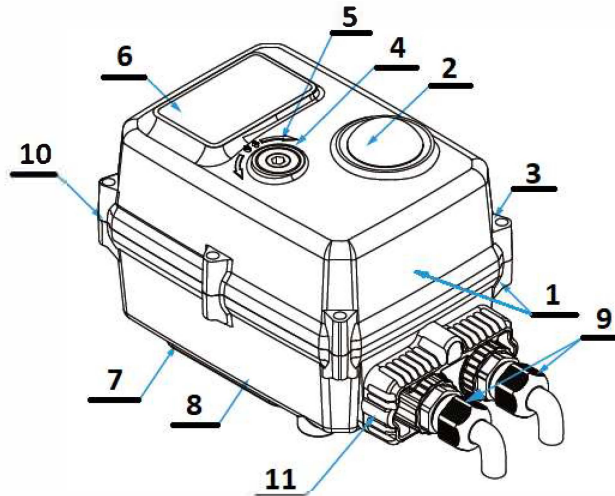
Information given as an indication only, and subject to possible modifications

| | | | | |
|--|--|--|--|--|
|  PA Ventilator AB <small>EN DEL AV BEJERTECH</small> | | | | |
| | | | | |
| | | | | |
| | | | | |

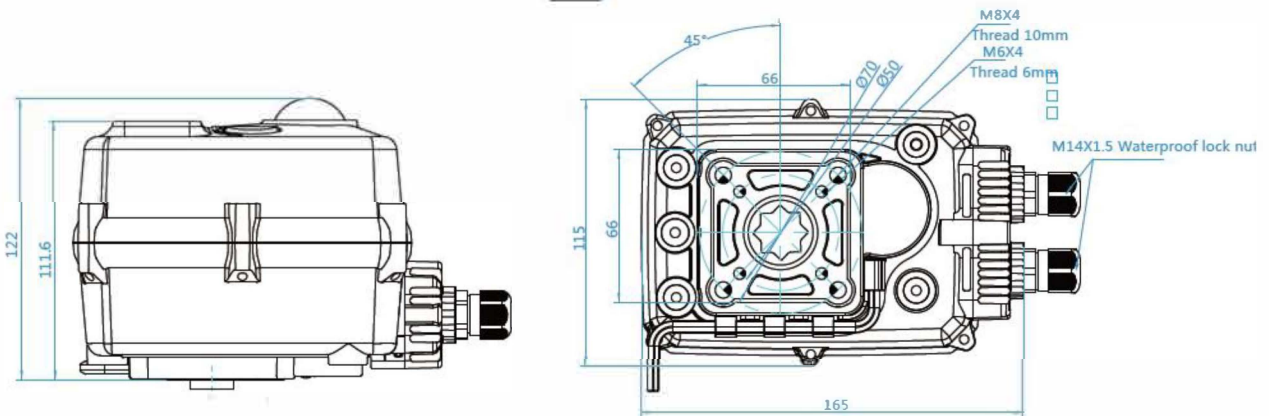
TCR-N ELECTRICAL ACTUATOR

CONSTRUCTION (TCR-11N)

| TCR-11N | | | | | |
|--------------------|---------------------|-----------------------|-----|-------------------|---------------|
| No. | Name | Material | No. | Name | Material |
| 1 | Casing + lid | Plastic (ABS) | 6 | Rating plate | PVC |
| 2 | Position indicator | Polycarbonate plastic | 7 | Key support | Plastic (ABS) |
| 3 | Screw x 6 | Aisi 304 | 8 | Hex key | Steel |
| 4 | Backup control stem | Aisi 304 | 9 | X 2 Packing gland | Nylon |
| 5 | Gasket | NBR | 10 | Cover gasket | NBR |
| Weight (kg): 2.200 | | | 11 | Cable gland unit | Plastic (ABS) |



DIMENSIONS (mm)



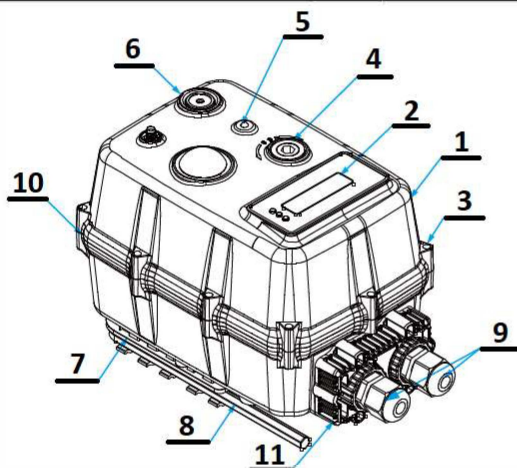
Information given as an indication only, and subject to possible modifications

| | | | |
|--|--|--|--|
|  PA Ventil AB <small>EN DEL AV BEJERTECH</small> | | | |
| | | | |
| | | | |
| | | | |

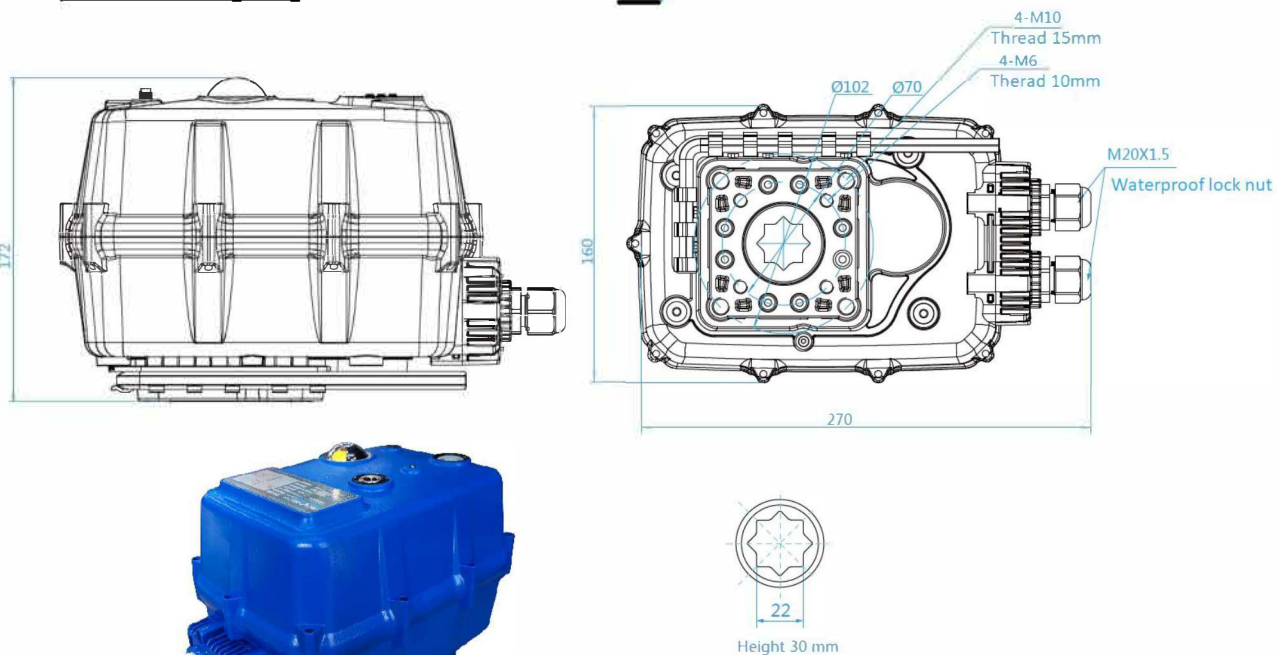
TCR-N ELECTRICAL ACTUATOR

CONSTRUCTION (TCR-20N / TCR-40N)

| TCR-20N / TCR-40N | | | | | |
|---------------------|---------------------|-----------------------|-----|------------------|----------------------|
| No. | Name | Material | No. | Name | Material |
| 1 | Casing + lid | PC + PET | 6 | Clutch | Polyoxymethylene POM |
| 2 | Position indicator | Polycarbonate plastic | 7 | Key support | Plastic ABS |
| 3 | Screw x 6 | Aisi 304 | 8 | Hex key | Steel |
| 4 | Backup control stem | Aisi 304 | 9 | X 2Packing gland | Nylon |
| 5 | LED | Transparent PC | 10 | Cover gasket | NBR |
| Weight (Kg) : 6,000 | | | 11 | Cable gland unit | Plastic ABS |



DIMENSIONS (mm)

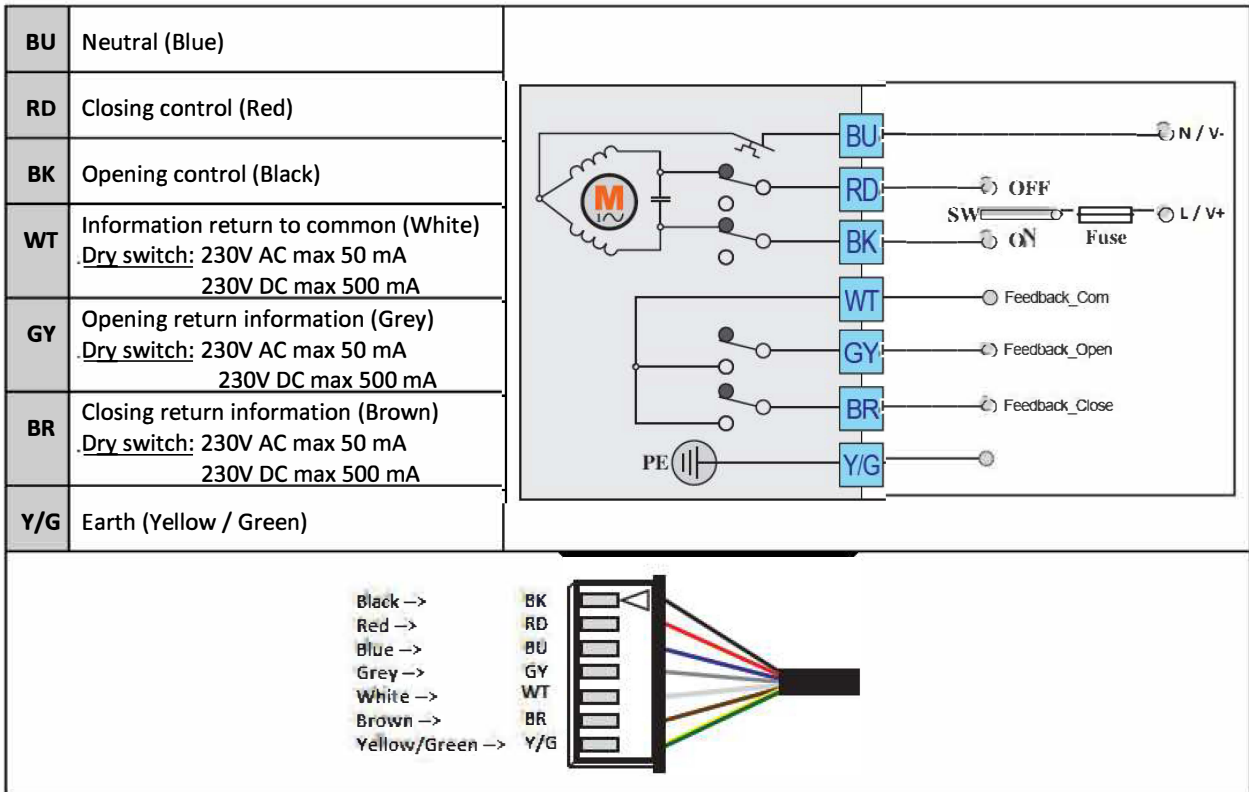


Information given as an indication only, and subject to possible modifications

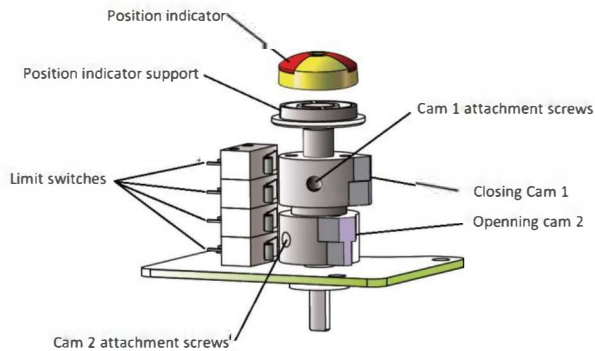
| | | | |
|--|--|--|--|
|  PA Ventiler AB <small>EN DEL AV BEJERTECH</small> | | | |
| | | | |
| | | | |
| | | | |

TCR-N ELECTRICAL ACTUATOR

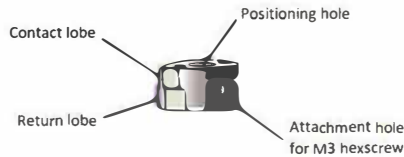
WIRING DIAGRAM



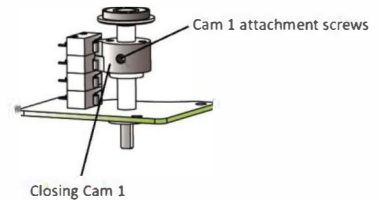
SWITCH SETTING



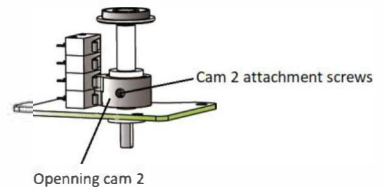
GENERAL VIEW



CAM DETAIL



CLOSING CAM ADJUSTMENT



OPENING CAM ADJUSTMENT

Information given as an indication only, and subject to possible modifications

| | | | |
|--|--|--|--|
| <p>PA Ventil AB EN DEL AV BEJERTECH</p> | | | |
| | | | |
| | | | |
| | | | |

TCR-N ELECTRICAL ACTUATOR

TROUBLESHOOTING

| Defect met | Cause of defect | Method of solving |
|---|--|---|
| Inactive actuator | Non-connected electrical grid. | Connect to the electrical grid. |
| | Wrong voltage. | Check the actuator's voltage. |
| | Motor overheating. | Check the torque on the valve. |
| | Faulty connection. | Check the connection to the terminal box. |
| | Damaged start capacitor. | Contact the supplier for repair. |
| No switch signal | Faulty connection. | Check the connections. |
| | Damaged microswitch | Change the microswitch |
| Valve that is not fully closed | Use the return signal from the actuator check. | Receiving a return signal does not mean that the actuator is fully closed, hence do not cut the power supply. |
| | The hysteresis increases due to wear or between the actuator and the valve's stem. | Readjust the limit cams. Contact the supplier for repair. |
| Presence of humidity or water in the actuator | Unsuitable cable cross-section being used. | Contact the supplier for repair. |
| | The cable connection is not leak-tight. | |
| | Worn sealing gaskets. | |
| | Loose cover screws. | Dry the internal parts and tighten the cover screws. |

Information given as an indication only, and subject to possible modifications

| | | | |
|---|--|--|--|
|  <p>PA Ventil AB EN DEL AV BEJERTECH</p> | | | |
| | | | |
| | | | |
| | | | |