

“Fluid Under Control”

# TORK<sup>®</sup>

valve & automation

*high quality*



Electric Actuators



Electric Actuated Ball Valves



Electric Actuated Ball Valves



Electric Actuated Butterfly Valves



## ELECTRIC ACTUATORS

On-off and proportional control of Ball and Butterfly valves, Dampers.



## General Features

## REA 40 and REA60 Electric Actuators Standard Features:

- Specially designed for quarter turn operating applications such as Ball, Butterfly, Plug valves, Dampers and similar usages.
- Its variation in wide range of output of torque control options fit your specific requirement. High grade aluminum alloy for housing provides compact and low weight
- High corrosion resistance due to hard anodizing on inside & outside and polyester coating on external surface.
- Various output torque from 40 Nm to 3000 Nm
- Rugged construction with o-ring system supplying water and explosion proof.
- Easy mounting base standard to ISO 5211 (F03/F05/F07)
- Handwheel for manual operation.
- Standard 4 limit switches
- Space heater with thermostat for preventing overheat.
- LED lamps on indicator monitoring valve position and operation (option).
- Long Life - Cycle.



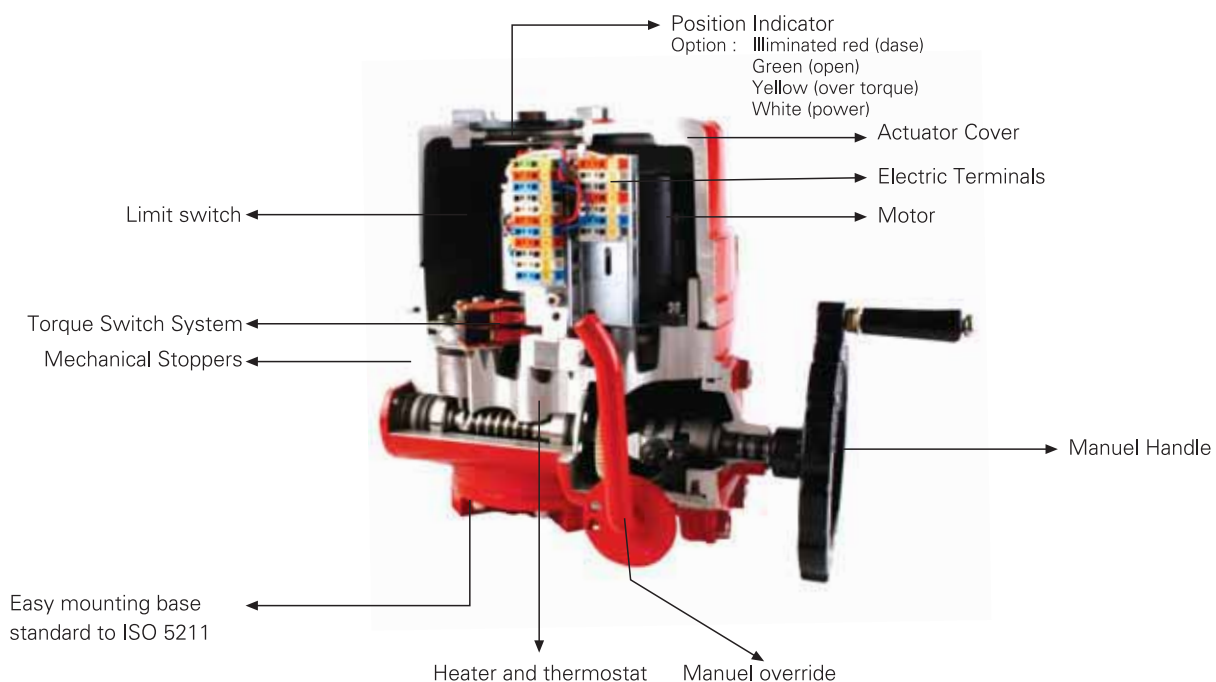
REA 40 and REA 60 microsection

## Option Features

- Proportional Control Unit(PCU), for REA Electric Actuators.
- Position Indication Unit (PIU) for REA Electric Actuators.
- Optional explosion proof/Eexd IIB T4, IP68
- Additional Torque switches (except for REA 80 and 100).
- 220 V AC / 110 V AC: for all REA Electric Actuators.
- 380 V AC / 440 V AC three-phase motor; for REA 80 and Upper Electric Actuators.
- 24 V DC: REA 40, 60, 80, 150, 200, 300 series.
- Duty Cycle: S2: %100 max. 30 min.; S4: %70-%100 300 ... 1600 hours
- Thanks to its battery, system can be controlled like a spring-return. REA 80,150, 200, 300 series.
- Smart type control unit: SICU (semi integral control unit), ICU (Intelligent Dijital Control Unit ): REA 150 and upper series.

## REA80 ... REA3000 Series

## Construction of the Electric Actuator



## On-Off and Proportional Electric Actuator

REA 40 and REA60 Electric Actuator Standard Features:

### Standard Features

<b>Materials</b>	: Steel, aluminium alloy, al-bronze, polycarbonate.
<b>Torque Output</b>	: 40 NM ... 60Nm
<b>Enclosure</b>	: Weatherproof enclosure IP67, NEMA 4 and 6
<b>Travel Angle</b>	: $90^\circ \pm 10^\circ$ ( $0^\circ \sim 110^\circ$ )
<b>Manuel Override</b>	: Declutching mechanism (8 cycles open and close)
<b>Power Supply</b>	: 220V AC, 1PH (on request 110V AC / 24 VCD), (0,4A ... 0,19A)
<b>Motor</b>	: Squirrel caged induction, reversible
<b>Limit Switches</b>	: 2 x open / close, SPDT, 250 V AC, 10A rating (on request additional +2 switches)
<b>Ambient Temp.</b>	: $-20^\circ\text{C} \sim +70^\circ\text{C}$ (except option electronic board)
<b>Cable Connection</b>	: 2 PG 13,5 fittings
<b>Flange Connection</b>	: ISO 5211 standard (F03/F05/F07)
<b>Open and Close Time</b>	: 12 - 14 seconds.
<b>Option Specification</b>	: PCU Proportional control unit (input, output 4~20mA DC)



On-Off Electric Actuator



Proportional Electric Actuator



## On-Off and Propontional Electric Actuator

REA 80 and REA1200 Electric Actuator Standard Features:

### Standard Features

<b>Materials</b>	: Steel, aluminium alloy, al-bronze, polycarbonate.
<b>Torque Output</b>	: 80 NM ... 3000Nm
<b>Enclosure</b>	: Weatherproof enclosure IP67, NEMA 4 and 6. space heater 7~10W (110/220V AC) anti-condensation. (Optional IP68)
<b>Travel Angle</b>	: $90^\circ \pm 10^\circ$ ( $0^\circ \sim 110^\circ$ )
<b>Manuel Override</b>	: Declutching mechanism located outside the body.
<b>Power Supply</b>	: 220V AC, 1PH (on request 110/380/440V AC three-phase circuit)
<b>Motor</b>	: Squirrel caged induction, reversible
<b>Limit Switches</b>	: 2 x open / close, SPDT, 250 V AC, 10A rating (on request additional +2 switches)
<b>Torque Switch</b>	: Open / close, SPDT, 250 V AC, 10A rating (except HQ-008 continuous position indicator)
<b>Indicator</b>	: 10A rating (except HQ-008 continuous position indicator)
<b>Mechanical Stopper</b>	: 2 x external adjustable screws
<b>Ambient Humidity</b>	: 90% RH Max. (non-condensing)
<b>Ambient Temp.</b>	: $-20^\circ\text{C} \sim +70^\circ\text{C}$ (except option electronic board)
<b>Cable Connection</b>	: 2 PG 13,5 fittings
<b>Flange Connection</b>	: ISO 5211 standard (F03/F05/F07)
<b>Open and Close Time</b>	: 13 - 37 seconds.



On-Off and Proportional Electric Actuator

## RBP Electric Actuator Standard Features

REA B Series

- Rechargeable battery Backup electric motors is for emergency applications when power failed at site
- Battery support acts as spring-return
- In an emergency or power failure situation, valve can be operated 5 times on-off
- For REA 80 ... REA 3000 series

<b>Materials</b>	: Steel, aluminium alloy, al-bronze, polycarbonate.
<b>Enclosure</b>	: Weatherproof enclosure IP67, NEMA 4 and 6. space heater 7~10W (110/220V AC) anti-condensation. (Optional IP68)
<b>Travel Angle</b>	: $90^\circ \pm 10^\circ$ ( $0^\circ \sim 110^\circ$ )
<b>Manuel Override</b>	: Declutching mechanism located outside the body.
<b>Power Supply</b>	: 220V AC 1PH (on request 110/380/ 440V AC three-phase circuit)
<b>Motor</b>	: Squirrel caged induction, reversible
<b>Limit Switch</b>	: 2 x open / close, SPDT, 250 V AC 10A rating (on request additional +2 switches)
<b>Torque Switch</b>	: Open / close, SPDT, 250 V AC, 10A rating
<b>Indicator</b>	(except HQ-008) continuous position indicator
<b>Mechanical Stopper</b>	: 2 x external adjustable screws
<b>Ambient Humidity</b>	: 90% RH Max. (non-condensing)
<b>Ambient Temp.</b>	: $-20^\circ\text{C} \sim +70^\circ\text{C}$ (except option electronic board)
<b>Cable Connection</b>	: 2 PG 13,5 fittings
<b>Flange Connection</b>	: ISO 5211 standard (F03/F05/F07)
<b>Open and Close Time</b>	: 13 - 37 seconds.



Rechargeable Battery Backup Electric Actuator

## Control Unit Electric Actuator

SICU Series

- Applied with REA 150 ... 3000 series
- 110 V AC / 220 V AC mono-phase application
- 220 V AC / 460 V AC three-phase application
- Phase protect monitoring by LED in case of wrong wiring
- Working led on SICU panel on actuator for monitoring on-off and failure mode.

<b>Materials</b>	: Steel, aluminium alloy, al-bronze, polycarbonate.
<b>Enclosure</b>	: Weatherproof enclosure IP67, NEMA 4 and 6. space heater 7~10W (110/220V AC) anti-condensation.
<b>Manuel Override</b>	: Declutching mechanism located outside the body.
<b>Power Supply</b>	: 220V AC 1PH (on request 110/380/ 440V AC three-phase circuit)
<b>Motor</b>	: Squirrel caged induction, reversible
<b>Limit Switch</b>	: 2 x open / close, SPDT, 250 V AC, 10A rating (on request additional +2 switches)
<b>Torque Switch</b>	: Open / close, SPDT, 250 V AC,
<b>Indicator</b>	10A rating (except HQ-008) continuous position indicator
<b>Flange Connection</b>	: ISO 5211 standard (F03/F05/F07)
<b>Open and Close Time</b>	: 13 - 37 seconds.



SICU Electric Actuator



SICU Electric Actuated Butterfly Valve



SICU Semi-Integral Control Unit



## Intelligent Digital Control Unit

ICU Series

- Applied with REA 150 ... 3000 series
- 220 V AC / 460 V AC three-phase application
- Light compact & intergrated design
- Built in auto phase discriminator (Easy & Convenient Wiring)
- Reliable against water, vibration, temperature etc.
- RS485 communication connection
- Automatic phase distribution
- Working led on ICU panel monitoring on-off and failure mode, with RS485 cable can be connected to the laptop.



Electric Actuated Butterfly Valve



REA Actuators

- Materials** : Steel, aluminium alloy, a-bronze, polycarbonate.
- Enclosure** : Weatherproof enclosure IP67, NEMA 4 and 6. space heater 7 ~10W (110/220V AC) anti-condensation.
- Manuel Override** : Declutching mechanism located outside the body.
- Power Supply** : 220V AC, 1PH (on request 110/380/440V AC three-phase circuit)
- Motor** : Squirrel caged induction, reversible
- Limit Switch** : 2 x open / close, SPDT, 250 V AC, 10A rating (on request additional +2 switches)
- Torque Switch Indicator** : Open / close, SPDT, 250 V AC, 10A rating (except REA 80) continuous position indicator
- Open and Close Time** : 13 - 37 seconds.



Control Unit



Control Unit Actuator Electric Terminal

## Electric Actuated Stainless Steel Ball Valves

EAV 901 Series / 902 Series

### Electric Actuator Features

- Control Type** : On-off (optional proportional)
- Power Supply** : 220 V AC, 50 Hz (Optional 110 V AC, 24 V DC)
- On-Off Time** : 13 / 14 sn.
- Output Torque** : 40 Nm, 60 Nm
- Enclosure** : IP67
- Ambient Temp.** : -20 ... 140°C / 180°C
- Optional** : Local control unit, PCI, position transmitter, proportional unit can be added.

### Ball Valve Features

- Body** : Full bore, AISI 316 stainless steel, 3 pieces.
- Port** : 2/2 way, 3/2 ways assembled on both position.
- Seal** : PTFE
- Pressure** : High / low pressure
- Operating Pressure** : PN 40 bar (1/2" ... 1 1/4"), 16 bar (1 1/2" ... 3")
- Operating Temp.** : -20 ... 140°C / 180°C
- Test** : All valves are tested at 20 bar for 48 hours  
\* On request 2 pieces ball valve



EAV 901, 2/2 way



EAV 902, 3/2 way

## Electric Actuated Brass Ball Valves

EAV 903 Series / 904 Series

### Electric Actuator Features

Control Type	: On-off (Optional proportional)
Power Supply	: 220 V AC, 50 Hz (Optional 110 V AC, 24 V DC)
On-Off Time	: 13 / 14 sn
Output Torque	: 40 Nm, 60 Nm
Enclosure	: IP67
Optional	: Local Control Unit, PCI, position transmitter, proportional unit can be added.



EAV 903, 2/2 way

### Ball Valve Features

Body	: Full bore, brass
Port	: 2/2 way, 3 ways assembled on both position.
Seal	: PTFE
Pressure	: High / low pressures
Operating Pressure	: PN 40 bar (1/2"..11/4"), 16 bar (11/2"...3")
Operating Temp.	: -20....130°C
Test	: All valves are tested at 20 bar for 48 hours.



EAV 904, 3/2 way

## Electric Actuated PVC Ball Valves

EAV 912 Series

### Electric Actuator Features

Control Type	: On-off (optional proportional)
Power Supply	: 220 V AC, 50 Hz (Optional 110 V AC, 24 V DC)
On-Off Time	: 13 / 14 sn
Output Torque	: 40 Nm, 60 Nm
Enclosure	: IP67
Optional	: Local control unit, PCI, position transmitter, proportional unit can be added.



EAV 912 Series, 2/2 way

### Butterfly Valve Features

Body	: Full bore, PP body (suitable for water and acid)
Port	: 2/2 way, 3/2 ways assembled on both position.
Seal	: EPDM and VITON
Operating Pressure	: PN 10 and PN 16
Operating Temp.	: 20°C ... 80 °C
Test	: All valves are tested at 20 bar for 48 hours



EAV 912 Series, 3/2 way

## Electric Actuated Flanged Ball Valves (Carbon Steel, Stainless Steel, Cast Iron Body)

### Electric Actuator Features

Control Type	: On-off (Optional proportional)
Power Supply	: 220 V AC, 50 Hz (Optional 110 V AC, 24 V DC) 380 V AC, three-phase
On-Off Time	: 13 / 14 / 25 / 31 / 37 / 93 sn
Output Torque	: 40 Nm, 60 Nm ... 3000 Nm
Enclosure	: IP67 (on request IP68, exproof)
Optional	: Local Control Unit, PCI, position transmitter, proportional unit can be added.



EAV 907, Cast Iron

### Ball Valve Features

Body	: Full bore, stainless steel, carbon steel and cast iron
Port	: 2/2 way, 3 ways assembled on both position.
Seal	: PTFE
Pressure	: High / low pressures
Operating Pressure	: PN 40 bar (1/2"..1 1/4"), 16 bar (1 1/2"..."3")
Operating Temp.	: -20....140/180°C
Test	: All valves are tested at 20 bar for 48 hours.



EAV 907 (Natural Gas, LPG)



AISI 316 Stainless Steel Body



Plug Valve



3/2 way carbon steel body

## Electric Actuated Butterfly Valve (Stainless Steel Body)

EAV 800 Series

### Electric Actuator Features

Control Type	: On-off (optional proportional)
Power Supply	: 220 V AC, 50 Hz (Optional 110 V AC, 24 V DC) 380 V AC three-phase
On-Off Time	: 13 / 14 / 25 / 31 / 37 / 93 sn
Output Torque	: 40 Nm, 60 Nm ... 3000 Nm
Enclosure	: IP67 (on request IP68, exproof)
Ambient Temp.	: -20°C...70°C (on request 250°C, exproof)
Optional	: Local control unit, PCI, position transmitter, proportional unit can be added.



Electric Actuated Butterfly Valves

### Butterfly Valve Features

Body	: GG 25 epoxy coated <b>Optional:</b> Rilsan coated, stainless steel body
Disc	: GGG 50 epoxy coated <b>Optional:</b> Rilsan coated On request: 304-316 stainless steel
Seal	: EPDM (-30...130°C) or NBR (-30....90°C), PTFE, VITON Optional: PTFE, viton, silicone
Operating Pressure	: PN 6 (optional: PN 10, PN 16)
Operating Temp.	: EPDM (-30...130°C), or NBR seal(-30....90°C)
Stem	: AISI 420 stainless steel



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