Rotork Controls products include the group’s electric actuator range and network control systems. Rotork Controls has world class manufacturing facilities, with global locations including UK, USA, Germany, China, Malaysia and India.

Rotork Controls delivers state of the art cutting edge products to the valve industry including:

- Intelligent multi-turn and part-turn valve actuators
- Part-turn / rotary and linear control valve actuators
- Specialist products for HVAC, power station and pump metering applications
- Explosionproof actuators, sensors, switches and controls
- Network control systems

Research and Development
Rotork continually researches new technologies and develops innovative and industry leading products.

We have dedicated research and development centres around the world that all work together to produce the strongest line of valve actuation products available on the market today.

Testing and Quality Assurance
Rotork Controls is recognised for being quality driven and committed to providing our customers with robust and reliable products that meet or exceed their expectations.

We have test facilities located at all of our manufacturing centres. Every product is tested and qualified before shipment to the customer. Our products are manufactured to comply with stringent quality standards around the world.

All Rotork products are designed and manufactured in accordance with ISO 9001, achieving the highest levels of performance and reliability.

Customer Service - the Rotork Advantage
Rotork Controls provides unparalleled world-class service and support locally to you, wherever you are in the world.

Proud to be recognised as the leader in automation products for challenging critical applications.

Unrivalled record of reliability and assured operation in the harshest environments.
IQ multi-turn and part-turn electric actuators for arduous environments

Unrivalled industry leading reliability
- Continuous position tracking at all times, even without power
- On power loss, graphical interface, remote indication and datalogger are maintained and accessible
- Extended life and mounting in any orientation with oil bath lubrication
- Water ingress protection, not reliant on terminal cover or cable gland sealing – double-sealed to IP66/68
  20 m for 10 days
- Built-in protection by using independent torque and position sensing
- Safe, motor-independent, handwheel operation available at all times
- Explosion-proof and certified for safety applications (SIL2/3)
- Drive bush bearings sealed for life – no maintenance required

IQ Range performance data
- Multi-turn direct drive:
  14 to 3,000 Nm (10 to 2,200 lbf.ft)
- Multi-turn with IS or IB gearbox:
  up to 43,000 Nm (31,715 lbf.ft)
- Part-turn direct drive:
  20 to 3,000 Nm (14.8 to 2,200 lbf.ft)
- Part-turn with IW gearbox:
  up to 1,000,000 Nm (737,561 lbf.ft)
- Linear thrust range with linear output:
  up to 86 kN (19,333 lbf)

Power supply options
- Single-phase, 3-phase or DC supplies

Simple, secure commissioning and configuration
- Rapid and secure commissioning and configuration even without power via multilingual HMI display
- Non-intrusive setting in any environmental conditions – no cover removal required, using Rotork Bluetooth® intrinsically safe setting tool
- Easy installation and valve maintenance using detachable thrust bases
- Duplicate operation, configuration and commissioning up to 100 m from actuator with Remote Hand Station (RHS)
- Auto set up function on part-turn variants

Asset management and preventative maintenance
- Real-time valve and actuator performance information viewable on screen
- Safe and secure data download via non-intrusive and intrinsically safe setting tool
- Field upgradeable and configurable control and indication options using setting tool
- Compatible with Pakscan P4 digital control and monitoring system plus all leading field bus networks
- Detailed trend analysis, diagnostics and datalogger available, on-screen, downloadable and via Pakscan™ Plus network

IQ RHS

The Remote Hand Station enables duplicated operation, interrogation and configuration of the latest IQ actuators. For use when the actuator is located in a hazardous or inaccessible location.
- Installation using standard data cable, up to 100 m away from the actuator
- Full replication of actuator configuration, control, monitoring and downloadable data
- Powered from the attached actuator, no need for additional power supply

See PUB002-056 for further details.
**IQ 3-phase**

IQ 3-phase electric actuators for isolating, regulating or inching duties (S2 & S3 / Class A & B) of up to 60 starts / hour.

Direct torque output range from 14 to 3,000 Nm (10 to 2,200 lbf.ft). With second stage gearboxes, multi-turn output torque up to 43,000 Nm (31,715 lbf.ft) and quarter-turn up to 1,000,000 Nm (737,561 lbf.ft).

**IQS 1-phase**

IQS actuators are 1-phase versions of IQ actuators.

Direct torque range from 10 to 450 Nm (7.2 to 332 lbf.ft). With second stage gearboxes, multi-turn output torque up to 3,000 Nm (2,212 lbf.ft) and quarter-turn up to 203,000 Nm (149,725 lbf.ft).

**IQD direct current**

DC powered versions of IQ actuators. Voltage ranges available are 24, 48 and 110 VDC.

Direct torque output range 10.8 to 305 Nm (8 to 225 lbf.ft). With second stage gearboxes, output torque up to 1,500 Nm (1,106 lbf.ft) and quarter-turn up to 132,000 Nm (97,358 lbf.ft).

**IQM / IQML modulating**

Modulating IQ 3-phase electric actuator with solid state reversing starter in place of the electro-mechanical contactors. Fast-response remote control circuits for rapid control. The solid state starter includes an electronic motor ‘brake’ feature.

The IQM is suitable for up to 1,200 starts per hour (S4/Class C). Direct seating torque output range from 10.8 to 544 Nm (8 to 400 lbf.ft). With second stage gearboxes, output seating torque up to 3,600 Nm (2,655 lbf.ft) and quarter-turn up to 58,000 Nm (42,778 lbf.ft).

IQML has a linear output drive providing modulating thrust output of up to 43 kN (9,667 lbf).

**IQH high speed**

IQH 3-phase electric actuators provide fast operation with positive seating without backdriving. High output speeds and generally irreversible operation provide a self-locking ability.

Speeds up to 259 rpm and torque range 75 to 397 Nm (55 to 293 lbf.ft).

**Special designs**

If you require an IQ or IQT actuator for duties that are not covered by our standard range, we are happy to discuss customised solutions.
IQT

IQT part-turn 1-phase, 3-phase and DC electric actuators are designed for isolating or regulating duties (S2 & S3 / Class A & B) of up to 1,200 starts per hour.

Direct torque output range from 50 to 3,000 Nm (37 to 2,214 lbf.ft).

IQTM modulating

IQTM 1-phase, 3-phase and DC electric modulating versions of the IQT actuator are designed for modulating duty up to 1,800 starts per hour (S4 / Class C). They feature fast-response remote control circuits for rapid control.

Torque range 50 to 3,000 Nm (37 to 2,214 lbf.ft).

IQTF full-turn modulating

IQTF 1-phase, 3-phase and DC electric modulating actuators are capable of multi-turn, rising output, linear output and direct rotary output. This option is typically used for slow, high torque applications. Includes special fast switching control inputs for hardwired control. Modulating duty cycle up to 1,800 starts per hour (S4 / Class C). For full IQTF data please refer to PUB002-006.

A = Torque range 20 to 250 Nm (14.8 to 184.5 lbf.ft)
B = Torque range 20 to 3,000 Nm (14.8 to 2,214 lbf.ft)
L = Thrust range 7.5 to 75.8 kN (1,693 to 17,036 lbf)

The drive outputs conform to actuator interface standards EN ISO 5210 for multi-turn and BS EN 15714-2 for linear.

The performances for the IQTF choke and control actuators are shown in Section 1.

IQTN compact

IQTN part-turn 1-phase, 3-phase and DC electric actuators are designed for maritime and naval applications where space is limited. They feature a customised compact design that has been tested for shock tolerance. For more information please refer to PUB002-012.

IQT battery backup

For applications requiring operation in the event of loss of mains electrical supply, IQT, IQTM and IQTF* are available with internal battery** or connection to an externally supplied 24 VDC supply. Actuators can be configured to automatically move to a preset position or remain available for control on loss of AC mains.

* Limited turns available.
** Non-explosionproof only.
### Advanced Modular Electric Actuators

#### CK range

Rotork watertight CK range actuators are suitable for all valves in non-hazardous locations and includes standard multi-turn actuators through to intelligent Centronik equipped actuators and remote operation solutions.

- Multi-turn output torque up to 10,800 Nm (8,000 lbf.ft)
- Part-turn output torque up to 205,600 Nm (151,600 lbf.ft)
- Modular design provides an off-the-shelf solution for spares and upgrading
- Plug and socket connection for easier field wiring
- Continuous valve position indication even during power loss

#### CK modular design electric valve actuators

- Non-intrusive setting via infra-red or optional Bluetooth® with the intelligent CKc - Centronik module
- Hollow output drive to accept rising valve stems
- Detachable thrust and non-thrust base options
- Secure manual handwheel drive fully independent of the motor drive train
- IP68 rating (8 m / 96 hrs) as standard provides enhanced environmental protection

See PUB111-001 for further details.

#### ExMax range

Compact, robust and lightweight electric part-turn actuator, designed for use in Ex areas for all gases, mists, vapours and dust.

- On/off modulating duty as standard
- 24-240 VAC/VDC universal power supply
- Standard ISO flanges available
- Torque range 5 to 150 Nm (3.7 to 110.6 lbf.ft)
- Explosionproof to international standards
- UL and CSA certified variants available

#### Explosionproof part-turn actuators

- Auto setup and selectable speeds
- Mechanical position indication
- Fail-safe option
- Ingress protection IP66/67
- Stainless steel housing (option)
- Temperature range: -40 to +50 °C (-40 to +122 °F)

See PUB113-003 for further details.
• Compact, viable alternative when good quality instrument air is not available in hazardous areas
• Low power, ultra-low energy consumption, suitable for solar powered applications
• 1-phase and DC power supply options
• Continuous, unrestricted modulation to S9, Class D (EN15714-2) duty
• Ability to fail-to-position on loss of power
• Unparalleled accuracy, repeatability, resolution and stiffness performance
• Perfect for demanding applications including, control valves, metering and dosing pumps and DC solar
• Comprehensive data logging
• Optional programmable fail-to-position option

CMA range

• Analogue, digital and network control options
• Pakscan, HART, Profinet, Foundation Fieldbus and Modbus available
• Optional hard-wired RIRO (Remote In Remote Out) control
• Watertight IP68, NEMA 4 & 6, and explosionproof enclosures
• Option of Intrinsically safe I/O connections
• Non-intrusive setup / calibration using Bluetooth wireless technology
• Optional manual override
• CVL Linear: thrust range 890 to 22,241 N (200 to 5,000 lbf)
• CVQ Part-turn: torque range 54.2 to 271 Nm (480 to 2,400 lbf.in)
See PUB094-001 for further details.

Multi-turn, part-turn and linear actuators

Compact, viable alternative when good quality instrument air is not available in hazardous areas. Modulation up to 2,000 starts per hour at 75% rated load, suitable for demanding applications including, control valves, metering and dosing pumps and DC solar.
• Option to fail-to-position on loss of power
• 1-phase and DC power supply options
• Excellent accuracy, repeatability, resolution and stiffness
• Analogue, digital and network control options
• IP66/67, NEMA 4 and explosionproof options
• Manual override, optional local controls and local display
• Linear: up to 5,004 N (1,125 lbf) seating thrust
• Part-turn: up to 124 Nm (1,100 lbf.in) seating torque
• Multi-turn: up to 45 Nm (400 lbf.in) rated torque with GB3
See PUB094-001 for further details.
Linear explosionproof actuators
ExMax + LIN and ExRun electric linear valve actuators are designed for use in Ex areas for all gases, mists, vapours and dust. ExMax + LIN with spring-return (safety function).

- Thrust range 500 to 10,000 N (112 to 2,248 lbf)
- Certificates: ATEX, IECEx, CSA, Inmetro, Kosha, EAC and others
- Optional spring-return configuration (3, 10 or 20 secs avail.)
- Control modes: On-off, 3 pos., modulating (0-10 VDC, 4 to 20 mA), depending on type
- 1-phase and DC power supply options
- Water and dust-tight IP66 rating
- Stainless steel housing (option for ExMax)
- Temperature range: -40 to +50 ºC (-40 to +122 ºF)
- Optional extras: Ex-d auxiliary switch with 2 adjustable contacts (2 mounting options available), Ex-e terminal box, manual override

See PUB113-001 for further details.

HVAC explosionproof sensors and switches
ExCos modulating sensors and ExBin binary switches are designed for direct use in hazardous locations. No additional modules in the panel required. No intrinsically safe wiring required. All parameters adjustable on site without additional tools or measuring devices. Sensors and switches for pressure, differential pressure, temperature and humidity available.

Exlosionproof design for all gases, mists, vapours and dust.

- Operating temperature range -20 to +50 ºC (-4 to +122 ºF)
- Measurement pressure range 0 to ±7,500 Pa
- Measurement temp. range -40 to +125 °C (-40 to +257 ºF)
- Measurement humidity range 0 to 100% rH
- DC power supply
- Stainless steel housing (option)
- Certificates: ATEX, IECEx, CSA, Inmetro, Kosha, EAC and others
- Water and dust-tight IP66 rating, integrated junction box

See PUB113-001 for further details.

ExReg controller system has been designed for use in Ex areas for all gases, mists, vapours and dust. In combination with Ex-Max actuators it is a closed loop control system for volume flow control (VAV, CAV), pressure, temperature and humidity.

- Operating temperature range -20 to +50 ºC (-4 to +122 ºF)
- Measurement differential pressure range 0 Pa to 300 Pa
- Measurement temp. range -40 to +125 ºC (-40 to +257 ºF)
- Measurement humidity range 0 to 100% rH
- 1-phase and DC power supply options
- Stainless steel housing (option)
- Certificates: ATEX, IECEx, CSA and others
- Water and dust-tight IP66 rating, integrated junction box
- Integral PID loop
- Pre-defined parameter sets for the most common control tasks
- Can be configured on site in the hazardous location

See PUB113-001 for further details.
Rotork’s NA, NE and ND ranges of electric actuators for the nuclear power industry are designed and tested to meet the latest plant specifications and industry standards such as IEEE, RCCE and IEC.

Rotork are an internationally audited and approved nuclear actuator manufacturer, all nuclear actuators are manufactured in accordance with strict nuclear industry quality assurance requirements.

High torque electric actuators

- Torque up to 7,000 Nm and thrust up to 1,115 kN
- Water ingress protection, not reliant on terminal cover or cable gland sealing – double-sealed to IP66/68 1.2 m for 48 hrs.
- Standard wiring diagrams for any valve type
- 3-phase power supply
- Thrust or non-thrust mounting flange dimensions to International (ISO) valve standards
- Advanced counter switch mechanism featuring combined torque position limit switches at each end of travel
- Integral starter and control circuit option (Rotork Syncropak)
- Three base options for each size of actuator

See PUB009-001 for further details.
Combustion Air and Flue Gas Electric Actuators

**SM-6000 range**

Heavy-duty rotary actuators
- Up to 313° rotation
- Torque range up to 35,256 Nm (26,000 lbf.ft)
- Double o-ring sealing
- Continuous unrestricted modulating duty
- HART, Profibus and Foundation Fieldbus available
- Temperature range from -40 to 85 ºC (-40 to 185 ºF)
- Automatic torque limiting
- Self-locking drive system to hold in last position and prevent backdriving
- Manual override standard

See PUB052-001 for further details.

**1700/5000 range**

Heavy-duty rotary actuators
- Torques from 67 to 16,950 Nm (50 to 12,500 lbf.ft)
- Rotation 90° to 120°
- Modulating duty: 2,000 starts per hour
- Manual override standard
- Automatic torque limiting
- Self locking drive system to hold in last position and prevent back driving up to thrust rating
- AC input power (single- or 3-phase); DC input power version for 1700 only
- Temperature range from -40 to 85 ºC (-40 to 185 ºF)

See PUB050-001 for further details.

**LA-2000 series**

Heavy-duty linear actuators
- Stroke distance from 6” to 30” (152 to 762 mm)
- Thrust range up to 27,335 N (6,150 lbf)
- Modulating duty: 2,000 starts per hour
- HART available
- Temperature range from -40 to 65 ºC (-40 to 185 ºF)
- Automatic thrust limiting
- Self-locking drive system to hold in last position and prevent backdriving up to thrust rating
- ATEX approved for LA-2520
- Manual override standard

See PUB045-002 for further details.
High Performance Electric Actuators

**ROM range**

ROM mechanical part-turn actuators

Small, compact, lightweight part-turn actuator with mechanical and LED local position indication and efficient yet simple gearing.

- On/off duty; manual override; self-locking; ISO flanges
- Available with local controls and phase rotation correction
- Torque range 8 to 650 Nm (6 to 480 lbf.ft)
- Wide range of supply voltages available
- 1-phase, 3-phase and DC power supply options
- Watertight IP68 rating
- High speed variant available

**Options:** Bus communication, Analogue control and Feedback

See PUB008-001 for further details.

**Q range**

Q 1-phase part-turn actuators

Small, electro-mechanical part-turn actuator environmentally sealed to IP68.

- Torque range 30 to 406 Nm (22 to 300 lbf.ft)
- Rugged compact, double-sealed
- Positive travel limitation through externally adjustable mechanical stops
- 1-phase power supply
- Marine option
- Simple remote control for basic applications

**Options:** Bus communication, Analogue control and Feedback

See PUB007-001 for further details.

**A range**

A Range multi-turn actuators

Explosionproof, electro-mechanical, multi-turn actuator.

- Available with remote starter “SyncroSet” option
- Explosionproof
- Environmental sealing to IP68
- Torque range:
  - Direct drive 14 to 3,000 Nm (10 to 2,200 lbf.ft)
  - Part-turn up to 250,000 Nm (185,000 lbf.ft)
  - Multi-turn up to 40,800 Nm (30,000 lbf.ft)
- 1-phase, 3-phase and DC power supply options
- Isolating and regulating duty

See PUB003-001 for further details.

**AWT range**

AWT multi-turn actuators

Watertight, electro-mechanical, multi-turn actuator.

- Torque range:
  - Direct drive 14 to 3,000 Nm (10 to 2,200 lbf.ft)
  - Part-turn up to 250,000 Nm (185,000 lbf.ft)
  - Multi-turn up to 40,800 Nm (30,000 lbf.ft)
- Oil bath lubricated IP68 double-sealed option
- Complete integral motor control or customer supplied motor control. Separate motor control available where required (SyncroSet actuator)
- 3-phase power supply
- Isolating and regulating duty

See PUB005-001 for further details.