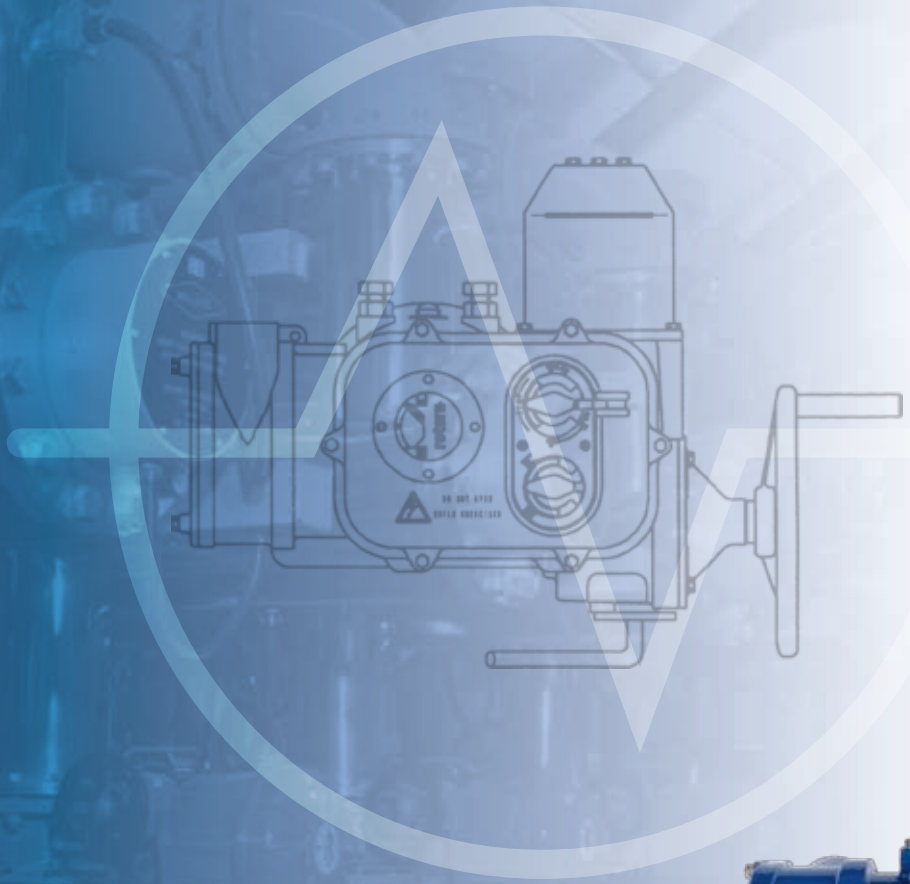
Electric Actuators and Control Systems

rotork®
Controls

**Established Leaders** in Valve Actuation



# **Q** Range

**Watertight Single-Phase**
**Electric Quarter-turn Actuators**
for part turn valves and dampers

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rotork®

**Rotork actuators have been in use all around the world for over 50 years. In this time Rotork has grown to become the leader in the valve automation industry. With manufacturing, service centres, offices and representatives throughout the world, Rotork is able to offer global service solutions to your company.**

In the 50 years since the company was founded, Rotork Actuation has become a byword for excellence in the field of valve, sluice gate and damper actuation products for the oil, gas, power, water and waste treatment industries - worldwide.

We owe our success to an uncompromising focus on quality at every stage - and at every level - of Rotork's operations.

From initial site survey, specification and design, through to materials, manufacturing and testing, installation, commissioning and after-sales service we accept nothing but the best.

At the heart of the company is an exceptional workforce - the highly trained, forward-thinking engineers, technicians and support staff who each have a crucial role to play in maintaining Rotork's unrivalled reputation for innovation, reliability and first class customer support.

The Rotork family of products also include pneumatic, hydraulic and electro-hydraulic actuators as well as a comprehensive range of gearboxes and valve accessories. Rotork's own Pakscan digital control system offers market leading features whilst all our actuators offer the ability to interface with other digital control systems.

**Rotork. Established leaders in valve actuation technology.**

# Contents





**This brochure provides a comprehensive overview of the applications and associated functions available with Rotork Q actuators - comprising Q Standard and Q Pak actuators.**

The new watertight 'Q' Range actuators have been designed using Rotork's world proven reliability in combination with the latest technology.

They provide a simple, cost-effective way of controlling small quarter-turn valves and dampers. Designed to meet industry's need for a compact and reliable watertight actuator, it is suitable for use in many areas where an IP68 (NEMA 6) enclosure is required. The 'Q' Range is a single-phase electric actuator which is available in two versions, both with the Rotork 'double-sealed' IP68 enclosure.

The Q-standard version is suitable for simple open/close duties where on/off control is required. This is achieved without the need for reversing contactors, giving simplified wiring. The designs of the motor and limit switch mechanism ensure combined ease of setting and reliability in use.

The Q-pak version benefits from the addition of a specially designed control interface module which enables it to operate from a wide variety of remote control signals and provides status monitoring outputs.

# Inside the Q Range Actuator

## Features

- Reliability of single-phase squirrel cage motors.
- Simple remote control for basic applications.
- Rugged compact double-sealed watertight enclosure providing environmental protection during plant construction and cabling.
- Positive travel limitation by externally adjustable mechanical stops.
- Simple action auxiliary switch setting.
- Declutchable handwheel with padlockable hand/auto selector arranged for power preference.
- Self locking electrical and manual drive.
- Q-pak version gives compatibility with standard Rotork control and monitoring configurations.

Q Range torque output and dimensional data are available directly from www.rotork.com

# Performance Summary

## Mechanical Data

| Model | Electrical supply volts | 90° Travel time seconds 50Hz | 60Hz | Torque† Nm / lbsft | Mounting base designation to ISO5211 Standard | imperial Optional | Maximum stem acceptance mm / ins bore/keyway | A/F square |
|---|---|---|---|---|---|---|---|---|
| **Q100** | 220, 240 | 27, 18, 9 | 23, 15, 8 | 135 | F05 | F07 | 22* | 16* |
| | | | | 100 | FA05 | FA07 | $^{13}/_{16}$* | $^{5}/_{8}$* |
| | 110, 115, 120 | 27, 18, 9 | 23, 15, 8 | 135 | F05 | F07 | 22* | 16* |
| | | | | 100 | FA05 | FA07 | $^{13}/_{16}$* | $^{5}/_{8}$* |
| **Q300** | 220, 240 | 54, 36, 18 | 45, 30,15 | 406 | F10 | F07 | 42** | 30** |
| | | | | 300 | FA10 | FA07 | $1^{5}/_{8}$ | $1^{1}/_{8}$ |
| **Q300** | 110, 115, 120 | 54, 36, 18 | 45, 30, 15 | 406 | F10 | F07 | 42** | 30** |
| | | | | 300 | FA10 | FA07 | $1^{5}/_{8}$ | $1^{1}/_{8}$** |

Q100/Q300 handwheel turns: 15
† Torque rating is maximum torque. Switch setting is in both directions.
Torque output is adjustable from 30% to 100% of rated torque

Drive sleeves are normally supplied blank for machining by valve supplier
* Maximum stem acceptance for both Q100 F05/FA05 and F07/FA07 bases
** These dimensions apply to F10/FA10 base. With Q300 F07/FA07 base, max. acceptance is 28 mm bore or 20 mm A/F square hole.

## Electrical Data

| Model | Electrical supply volts | Travel time seconds 50 Hz | 60 Hz | Starting current Amps | Run current Amps | Nominal kW | Power factor |
|---|---|---|---|---|---|---|---|
| **Q100** | 110, 115, 120 | 27 | 23 | 2.7 | 2.6 | 0.07 | 0.99 |
| | | 18 | 15 | 3.2 | 2.3 | 0.10 | 0.97 |
| | | 9 | 8 | 7.0 | 4.9 | 0.21 | 0.90 |
| | 220, 240 | 27 | 23 | 1.35 | 1.3 | 0.07 | 0.99 |
| | | 18 | 15 | 1.65 | 1.2 | 0.10 | 0.95 |
| | | 9 | 8 | 3.6 | 2.6 | 0.21 | 0.90 |
| **Q300** | 110, 115, 120 | 54 | 45 | 2.5 | 1.8 | 0.08 | 0.98 |
| | | 36 | 30 | 6.0 | 3.1 | 0.14 | 0.95 |
| | | 18 | 15 | 8.6 | 5.3 | 0.27 | 0.90 |
| | 220, 240 | 54 | 45 | 1.4 | 1.0 | 0.08 | 0.98 |
| | | 36 | 30 | 2.9 | 1.6 | 0.14 | 0.95 |
| | | 18 | 15 | 4.7 | 2.6 | 0.27 | 0.90 |

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