

rotork®



helping the
water and waste water industry



Rotork has more than 50 years experience in serving the water industry worldwide, which has culminated in products that have been developed and fine-tuned to meet the specific needs of our water company customers.

Rotork valve actuators are widely recognised as being the most technically advanced, reliable, long life, watertight, and user-friendly actuators in the business.

They also provide a number of unique cost saving benefits that particularly help water industry customers.

rotork®

Helping the water industry

At Rotork, we support the water and waste water industry worldwide, helping operating companies and their suppliers to run more **efficient, safe and reliable plants**, and to minimise their lifetime operating costs.

We help you maximise your use of resources, meet all your standards for quality, and maintain full and **effective control** of every part of your operations.

We are the world's largest independent manufacturer of heavy duty valve actuators, and our products control thousands of valves in water and sewage plants across the world.

www.rotork.com

rotork





Helping to meet your challenges

Whether you are managing a water company, or operating an individual plant, you face many challenges.

We understand what they are, and we are here to help you.

Specifying and Planning

Effective planning for future installations and upgrades

Cost efficiency

The most efficient equipment with the lowest cost of ownership

Central control

Monitoring and control of operations over a wide area from a central point

Information

A constant flow of information about the operation of the plant, to guide the control and the maintenance

Water safety

A completely reliable operation that always delivers water that meets environmental standards

Durability and Reliability

Equipment that you can completely rely on, with real durability, complete reliability, and very low maintenance requirements

Ongoing support

Suppliers that will support you at every stage, wherever you are in the world

Let's look at these core needs



Meeting your challenges

As a specialist in the water industry, Rotork is dedicated to meeting these 7 core needs with the actuators that we design and manufacture, and the services we provide

1 Specifying and Planning

- A full range of actuators
 - a wide choice of different types and sizes
 - different duties and applications
- Working with you and your contractors to define the specifications of your actuators and control systems
- Technical support in the design stage

Providing you with... a full choice of actuators designed for the water industry, correctly specified for your needs

2 Cost Efficiency

- The right actuator for each application and environment.
- All actuators are environmentally sealed to reduce long term maintenance requirements
- Standard interfaces for every type of application (valves and sluice gates)
- Easy to install and commission with infrared setting tool
- Full monitoring and control functionality within standard cost

Providing you with... low cost completely reliable operation of all your valves

3 Central Control

- Able to isolate or control the flow
- Simple integral controls for remote operation
- Digital electronics that respond quickly and reliably
- Remote control and reporting through Fieldbus Systems for every application
- Alternative of hard wiring and proportional control for some locations
- Actuator electronics can be used to facilitate control of other equipment
- Manual control in event of failure of central controls

Providing you with... efficient remote control of the flow in every part of your operations

4 Information

- Information on status of valves and actuators is available centrally and locally
- Full data capture of history of valve and actuator, for diagnosis and management
- Valve torque profiles and events log to help diagnose valve and control problems
- Valve, control system and actuator information to guide maintenance plans

Providing you with... complete information to manage your maintenance efficiently



5 Water Safety

- Our actuators are designed to meet international, national and industry standards for water safety
- TÜV approval for SIL 2 applications available
- Working together with process control instrumentation, our actuators have many features that are designed for water safety...
 - reliable remote operation
 - accurate positioning of valves and repeatability of valve position
 - immediate electronic feedback by actuator to confirm that action is in progress
- Configurable alarms
- Failsafe operation
- Manual override in event of power failure

Providing you with... a reliable operation that will operate continuously and help you achieve your standards



6 Durability and Reliability

- Designed to survive extreme weather and temperature conditions
- Long operating life with very low maintenance requirements. Depending on their usage, many of our actuators are still operational after 30 years or more, even in the most demanding environments and with minimal or no maintenance
- IP68 environmentally sealed from the factory
- With non-intrusive setting, so the covers do not ever need to be removed, even for commissioning
- Our watertight actuators have double O-ring sealed terminal compartments that can survive being submerged or water ingress through a conduit, so that actuator components are protected from environmental ingress

Providing you with... robust, long lasting equipment with minimal maintenance even in extreme environments

7 Ongoing support

- We provide technical support worldwide, via **Rotork** offices or **Rotork** representative companies
- We provide training on installation, commissioning, operation and maintenance
- We provide long term asset management

Providing you with... reliable support and long term security

Look at our product range

IQ

Our range of IQ actuators are completely watertight, and are specially designed for the water and waste water industries, with a wide range of specifications to suit every application in every part of your plant.

Look at these 10 key benefits...

1 Models for every application

- Multi-turn or quarter-turn
- Isolating duty, regulating or modulating duty
- Range of sizes
- Wide range of torques, using gearboxes for larger applications

2 Easy to Install

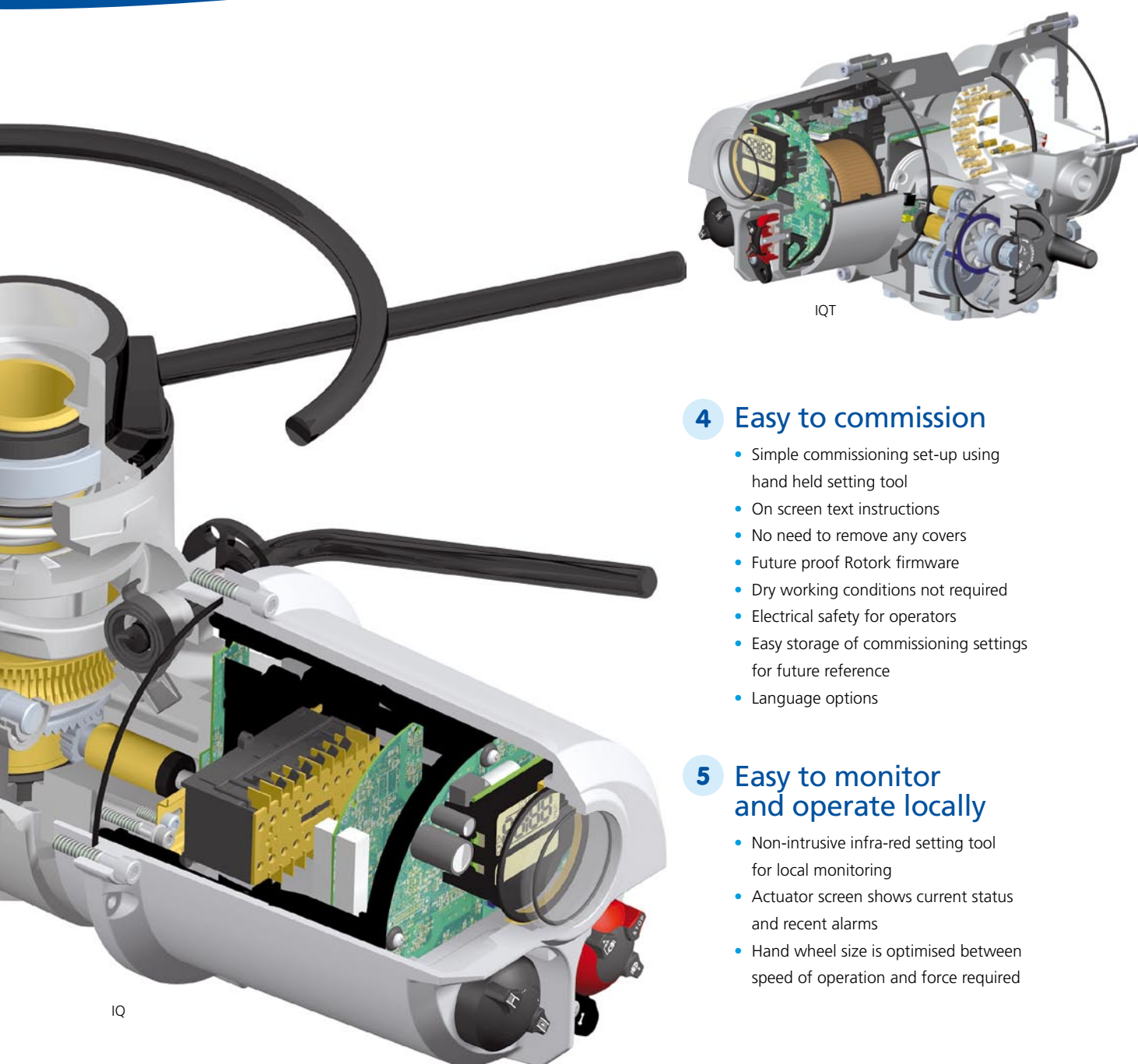
- Power supply options – single phase, three phase or DC
- 2 wire digital system simplifies control cabling
- Actuator can be mounted in any orientation
- Rotatable display

3 Accurate and reliable

- Accurate setting of open-close limits
- Digital control using contactless torque and position sensing provides reliable, accurate and repeatable valve operation
- Double sealed to IP68 (7days, 45metres)



The infra red setting tool provides full control without removing the access covers



4 Easy to commission

- Simple commissioning set-up using hand held setting tool
- On screen text instructions
- No need to remove any covers
- Future proof Rotork firmware
- Dry working conditions not required
- Electrical safety for operators
- Easy storage of commissioning settings for future reference
- Language options

5 Easy to monitor and operate locally

- Non-intrusive infra-red setting tool for local monitoring
- Actuator screen shows current status and recent alarms
- Hand wheel size is optimised between speed of operation and force required

Look at our product range

IQ

Our range of IQ actuators are specially designed for the water and waste water industries



6 Easy diagnosis and predictive maintenance

- On-board data logger stores historical operating data including valve torque profiles, starts and alarms
- On-board help screens
- Information can be downloaded using setting tool
- Events log can be analysed and presented using Rotork's free IQ-Insight software
- Data can help to optimise plant performance by identifying potential problems and guiding predictive maintenance

7 Tough and durable in all environments

- Double sealed with spigot and O ring to prevent ingress of water, dirt or chemicals
- Tough polyester powder coated finish
- Non-intrusive set up
- Local controls operate via non-penetrating magnetic connections
- Completely sealed for life
- Withstands water and humidity
- Withstands chemicals, including chlorine and ozone
- Withstands temperatures from -30°C to +70°C
- Oil lubrication for life
- Tested in extreme environments
- Bearings are sealed for life, and do not require periodic maintenance

8 Operation of tight valves

- Torque can be controlled to protect valve and actuator, including hammer-blow effect and variations in torque levels

9 Safety and security

- Explosion proof (certified models available for working in hazardous areas)
- Hand wheel can operate valve in event of power failure
- Food grade oil available for specified applications
- Self test diagnostics at every power up
- Highway termination module allows removal of actuator without disrupting the highway
- Detachable thrust base allows removal of actuator without disturbing valve or penstock (IQ model only)
- Vandal proof kit to prevent unauthorised operation

10 Central control

- Compatible with network protocols
 - Rotork Pakscan
 - Profibus
 - DeviceNet
 - Foundation Fieldbus
 - Modbus

Skilmatic

Our Skilmatic range of actuators combine simple electric operation with the precision of self-contained hydraulic control and the reliability of spring powered failsafe action

- Linear and quarter turn actuators
- Compact and robust
- Reliable spring powered failsafe action
- Continuous modulation
- Accurate to within 0.25%



AWT

Our AWT range of actuators features the qualities of a robust 3-phase electric motor and a well proven mechanical drive of the utmost simplicity, combined with limit switching and a choice of indication options



Gearboxes

Our gearboxes are designed to adapt IQ actuators (both multi-turn and quarter-turn) for the high torque requirements of very large valves and penstocks



Working with network control systems



All our actuators are designed to work with the major process control systems, and can be fitted with the relevant network connectivity cards.

We have been producing certified network products for over 10 years and have a large number of installations worldwide. Rotork has independent test house certification for its open system network products, thus ensuring interoperability. This means that you can use different types of equipment in the same installation, which is ideal for water and waste water operations.



Rotork actuators and Open Systems working together – easy to set up, easy to operate, and highly efficient.

Here are the reasons ...

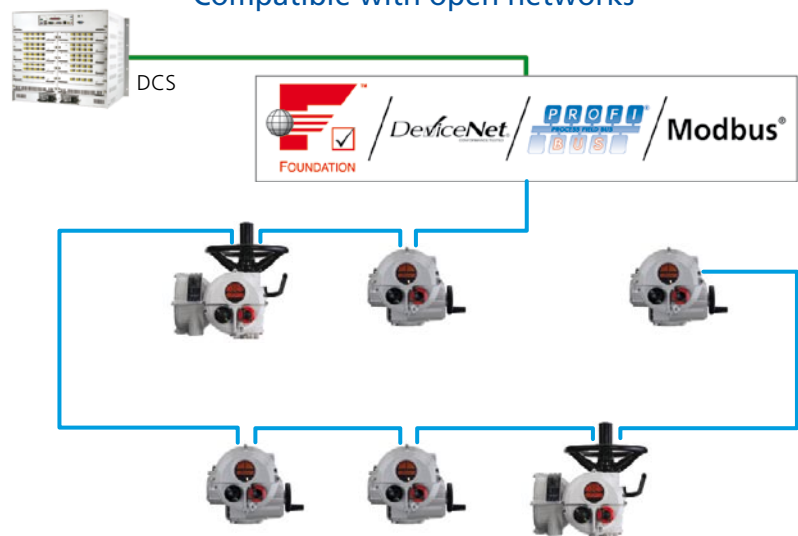
- The digital communications are more **versatile** than analogue, and allow for additional functionality in the future
- The twisted pair cable is **cheaper** than multicore, and is connected simply from device to device, reducing the installation costs
- With Rotork, additional devices such as pumps can be hard wired through the actuators enabling the devices to be **controlled and monitored**
- Using Rotork's device descriptor files and integral interface cards, network commissioning is **quick and easy**
- The IQ infra-red setting tool makes it **easy** to set up the actuator, without needing to remove the access covers
- **Additional devices** can easily be added to the system, with minimal wiring
- It is **easy to access** the data required for maintenance and asset management, using the IQ infra-red setting tool, without disrupting host communications
- Rotork provides **full control and monitoring** of the actuators, and enables remote re-tuning
- High speed communications provide **faster response** for large and complex operations
- Asset management **data** is available for every actuator

Rotork are continually monitoring ongoing network developments to give you the maximum benefits.

Rotork and Profibus

- Rotork's Profibus interface has a **zero stub length**, so preventing signal reflection and data distortion when operating at high speeds
- Using Rotork's DP_VI capabilities, asset management data is visible via standard **FDT** or **PDM** tools

Compatible with open networks



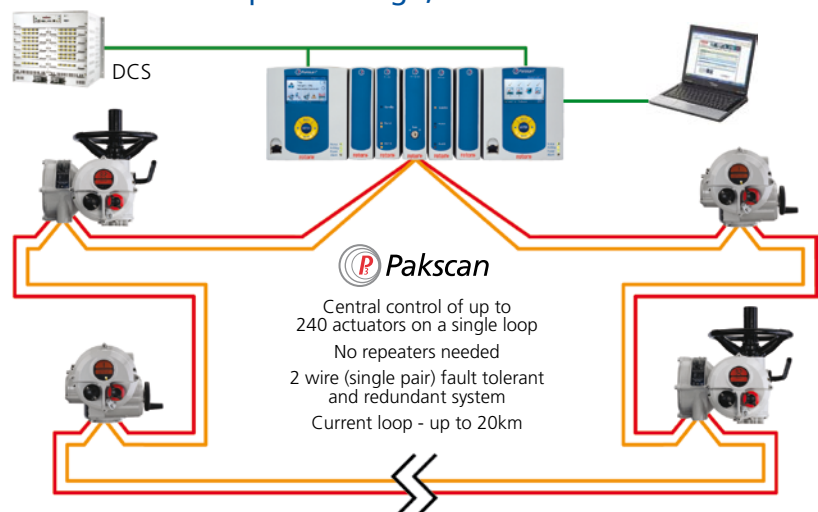
Rotork Pakscan

Includes many of the Open Systems features (see opposite)

plus

- Designed exclusively for **actuator control**
- **Fault tolerant** redundancy as standard
- Uses **low cost** twisted pair cable loop
- Provides **easy access** to asset management data and configuration via the **built-in web pages**
- The master station **communicates directly** with a PLC or DCS system
- Master station display shows system **status** and allows system **configuration**

Simple to design, install and use



Working with you...

We'll help you at every stage, to fulfil your business and operational needs, and provide you with reliability, efficiency and safety.

1 During the planning

We can work closely with you and your consultants, to discuss your objectives and your overall plans for the future

- We can look at your **existing installation**, advise you on any problems and make recommendations
- We will give you information and advice on **specifications**, and recommendations of the right actuator for each application
- We can offer a long term **supply agreement**
- We can offer a comprehensive **service agreement**
- We can prepare our proposals based on the whole life **ownership and operating costs** of the equipment



2 During installation

Having built your actuators to the agreed specifications, we will then test them and deliver them to the valve manufacturers

- We can provide **installation and commissioning** services worldwide, together with training on installation, commissioning, operation and maintenance
- We can **integrate** into your existing systems
- You can access a complete technical support network on www.rotork.com
- We will provide all the necessary **documentation** for every actuator



3 After the equipment is installed

Once everything's up and running, we'll ensure your equipment remains in top condition. Our customer base is global, and so too is our service and support network from Rotork offices and representative companies worldwide. Dedicated support teams ensure a quick response and fast efficient resolution should problems occur.

Planned maintenance

Depending on your needs, our engineers can check, maintain and certify your equipment regularly or on request. Every Rotork actuator is covered by our standard warranty programme, but we can design bespoke maintenance plans if necessary.

Field service – worldwide

We provide a worldwide field service response for our customers for all types of actuator. Our support can be planned or in response to an emergency situation.

Our field technicians perform a number of different tasks for our customers :

- Installation and commissioning of actuators to ensure they are correctly set up
- Upgrading actuators such as the installation of additional cards
- The installation and commissioning of network/bus systems
- The inspection and repair of damaged actuators

Training

We can train your plant operators and maintenance staff. And whatever language your staff speak, so will your Rotork engineer.

Availability of parts

We stock a full inventory of spare parts, and our worldwide delivery service ensures you receive them quickly and efficiently – wherever you are. So you can minimise your own parts inventories and cost.

...as part of your team

Managing your assets



Rotork actuators are designed to work for many years in every type of environment. This can be helped by an active programme of asset management...

Health checks and preventative maintenance

We can undertake a health check, especially of your older equipment in key areas, opening each actuator and reporting back to you on their condition. Then, if you wish, we will repair or upgrade them to the required standard. Based on the serial numbers, we can also give you a detailed inventory of all your actuators.

Retrofit solutions

We have a wealth of experience in fitting actuators to valves, penstocks or dampers that are already installed as part of existing plant. Whether you are replacing obsolete actuators, changing power source or motorising manual valves we are able to offer tailor made solutions designed to comply with your exact requirements.

Workshop overhaul

The installed base of Rotork's actuator products around the world stretches back over 50 years. A large portion of these actuators are still in service. However, depending on the environment and application some actuators may be in need of refurbishment. To satisfy this demand, we offer a certified workshop overhaul capability to bring Rotork products back to full functionality and capability.

Information and support

Whatever your enquiry, we can provide technical information and advice on all applications for actuators and control systems, and we can send you regular product updates. Rotork's website www.rotork.co.uk contains a detailed library of information on current equipment and services available.



Keeping ahead



**We continue to lead the way
in every aspect of our business...**

Developing our products

We continually monitor market trends and listen to our water customers' needs, so as to improve the quality, value and performance of our products for the water industry.

Committed to quality

We are dedicated to providing world class quality in our products and services, and we are independently assessed and approved to ISO9001:2000 standard.

Certified for Health and Safety

The health and safety of our staff, and of those with whom we work, is of the utmost importance.

The design of our working practices and the training of our staff are all planned to achieve a safe working environment.

We are assessed and certified for health and safety by the nationally recognised authorities, both in our factories and on your sites.

Protecting the environment

We are committed to protect the environment in every way we can, and to help our customers to achieve their own environmental objectives.

- At least 80% of the materials used to manufacture our current actuators are recyclable
- We give instructions on recycling, and mark components accordingly
- We design energy efficiency into our products.
- We can give you guidance on environmentally friendly disposal
- We have independent certification to ISO14001
- We monitor our carbon footprint very closely and reduce it wherever we can

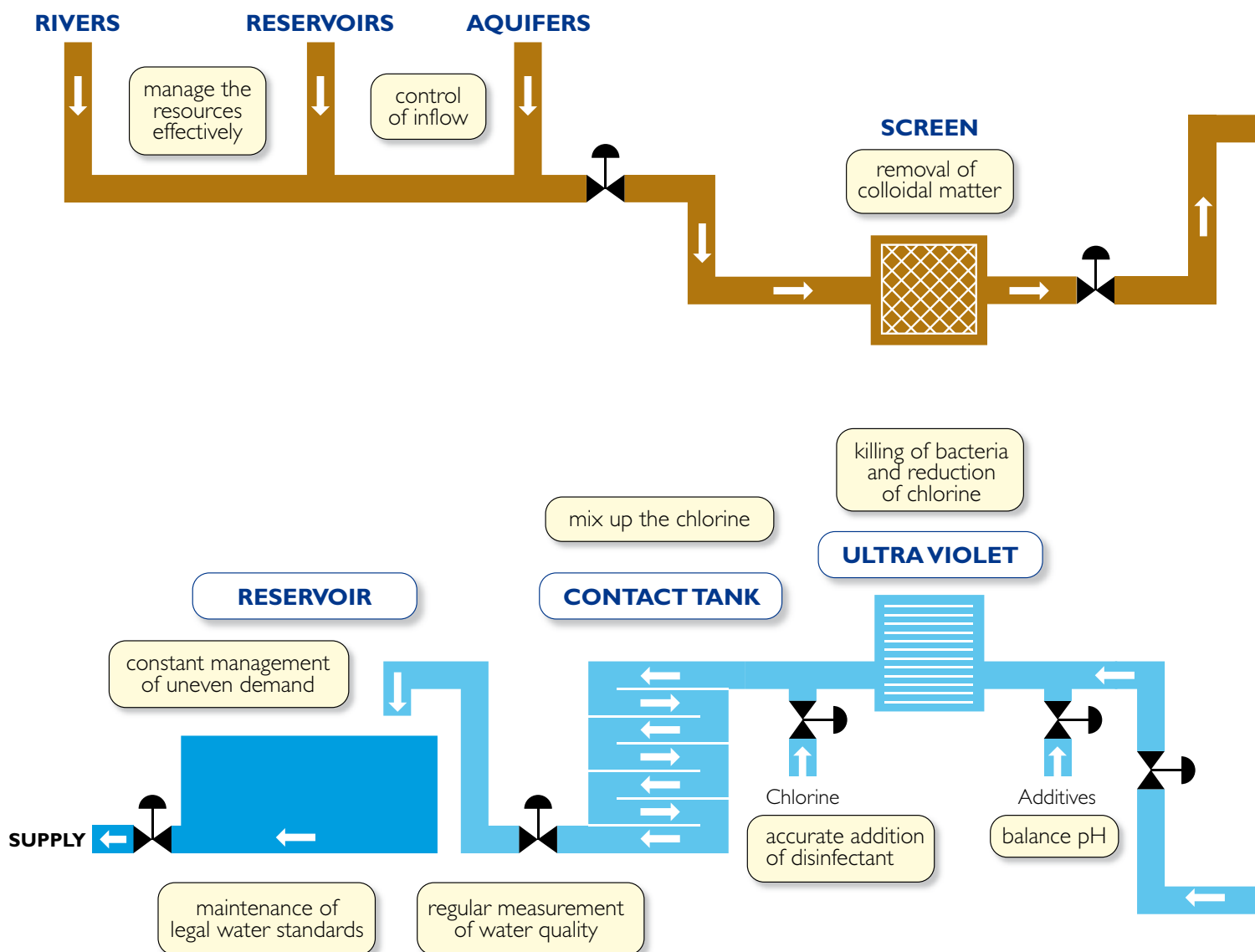
We publish a full annual environmental report.

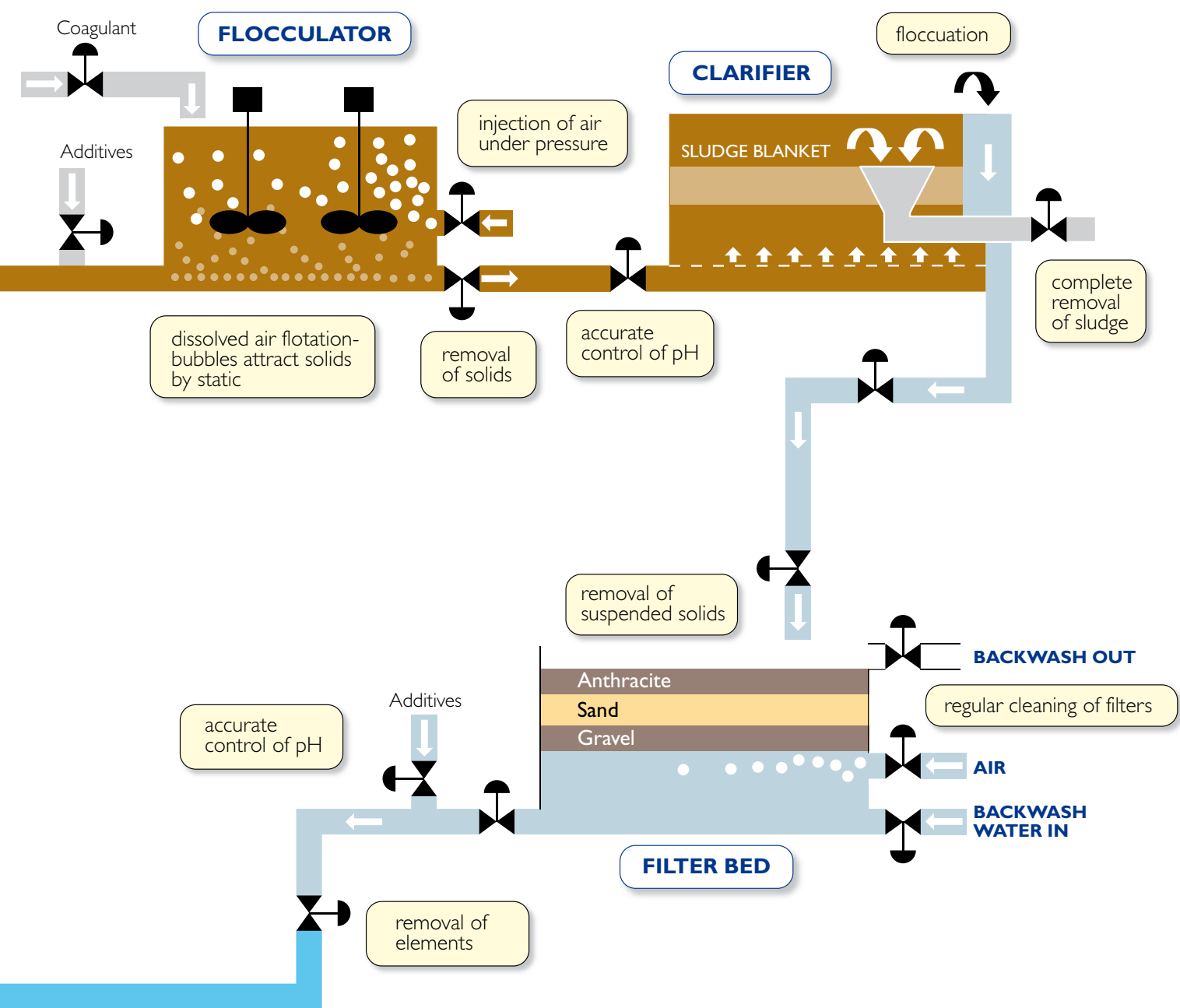
We are listed on the FTSE 4 Good index and we are a signatory to the Global Compact.



Actuators are vital in controlling every part of your water plant

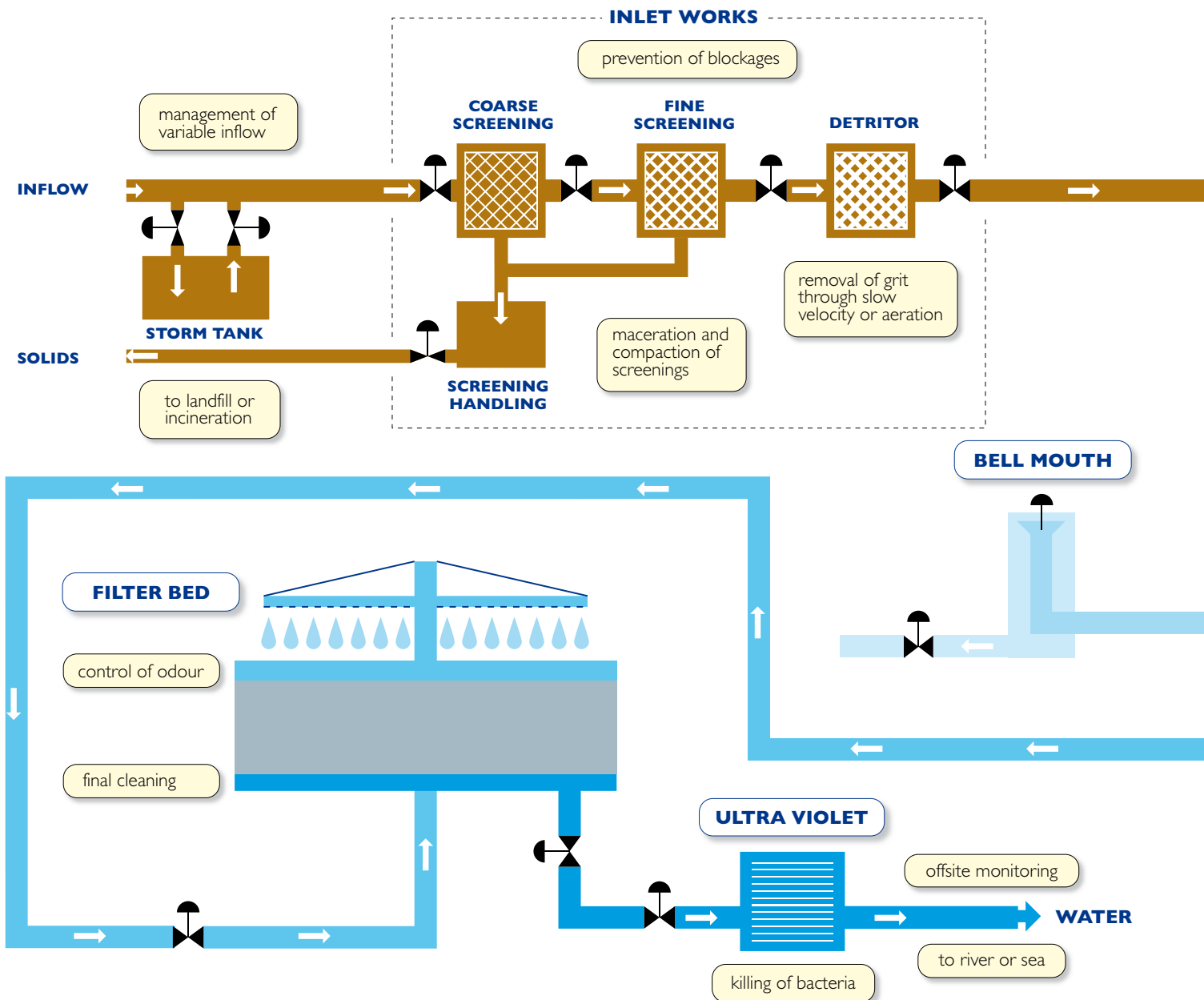
Managing a water plant is a complex operation, and safety and efficiency are paramount. Actuators are vital at every point. Here's an example...

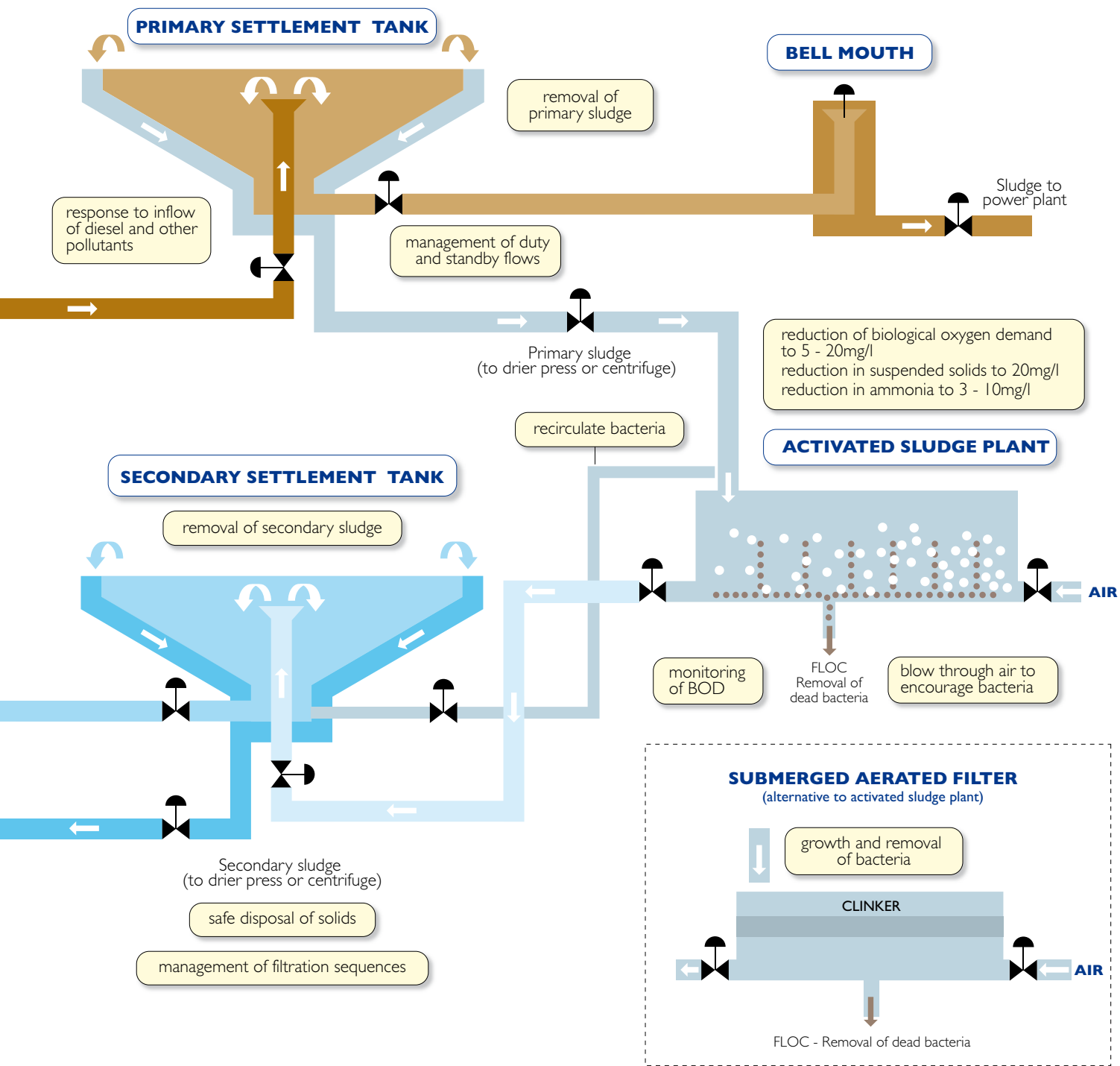




Controlling waste water plants

Managing a waste water plant is all about skilled supervision, to control the daily flow, supervise every process, and protect the environment. Actuators are vital at every point. Here's an example...





A complete team

Working with plant constructors,
valve and penstock manufacturers,
and distributors

Having good relationships with plant constructors, manufacturers and distributors is vital to our success. As an independent organisation, Rotork works effectively with all valve and component manufacturers. We understand the way they work, and the pressures they face and can help them honour their customer commitments.

Feedback from around the world shows that plant constructors and manufacturers enjoy working with us too – a company with a high reputation for **service quality** and **product reliability**. What's more, our **technological lead** allows us to offer them the versatility they need for every application.

Our global commercial and technical **support services** ensure that plant constructors and manufacturers are totally supported.

Our **fast quotation service**, **back-up warranties** and **international documentation** make plant constructors and manufacturers' lives easier. And our manufacturing facilities around the world ensure we can always produce our actuator and control systems within your project timescales.

“ We have to manage every aspect of this project within budget and on time, and we're glad to have suppliers who really support us ”

manager, plant constructor

“ It's always a challenge. This is a complex operation, and everything has to work perfectly. Efficiency is the key ”

water company plant manager

“ We've increased our efficiency and reduced our running costs. It's been a team effort, and it's worked. I'm grateful to all our suppliers ”

water company chief executive

“ Managing uneven inflow is always a challenge. Accurate control and quick response is key ”

water waste operations manager

helping the water industry

About Rotork



rotork®

Providing actuators and site service around the world

As the world's largest independent valve actuator manufacturer, we specialise in valve actuation and nothing else.

And because it's all we do, we can focus fully on delivering the totally reliable products and services that our diverse customers and worldwide markets demand of us.

At Rotork we firmly believe our reputation is based on reliability, backed by a proven and successful track record over more than 50 years.

As an **independent company**, we are able to work freely with every valve manufacturer without any constraints.

As a major manufacturer, we operate in **every sector** – water, sewage, power, petro-chemical and marine. And we're involved in all the key areas of the actuator field – **electrical, hydraulic and pneumatic** – as well as manual and automated gearboxes, mounting kits, control systems and other related services.

We don't mass produce actuators to meet potential market needs; rather, we manufacture them to satisfy our customers' **individual specifications** and requirements.

As a result, our range includes products that are simple and functional through to those with the latest sophisticated technology. Large or small, every actuator is designed to the very highest standards of **reliability**. Whatever you need, you have all the expertise available from one source.

We look forward to helping you

www.rotork.com



Controls

Electric Actuators and Control Systems

Fluid Systems

Fluid Power Actuators and Control Systems

Gears

Gearboxes and Gear Operators

Site Services

Projects, Services and Retrofit

Latest product information and a full listing of our worldwide sales and service network is available on our website

www.rotork.com



Rotork Controls Ltd, Bath UK

UK head office
Rotork Controls Limited
tel: +44 (0) 1225 733200
fax: +44 (0) 1225 333467
email: mail@rotork.co.uk



Rotork Controls Inc, Rochester, USA

USA head office
Rotork Controls Inc
tel: +1 585 247 2304
fax: +1 585 247 2308
email: info@rotork.com

your local Rotork agent

As part of a process of on-going product development, Rotork reserves the right to amend and change specifications without prior notice. Published data may be subject to change. The name Rotork is a registered trademark. Rotork recognises all registered trademarks. Published and produced in the UK by Rotork Controls Limited. Publication number GO10E Date of issue 03/08